

# NEI NUREG 0654 Rev 2 Comment Submittal

## Part 1 – Comment Overview

### General Comment Themes

Several general themes were identified during the industry review and comment development process. These general themes are outlined below.

- **Inconsistent Wording and Terminology**

There are many instances where wording and terminology are not consistently used throughout the document. Examples include;

- Criterion content that is ‘described,’ ‘identified,’ ‘listed,’ or ‘discussed,’ or requires ‘provisions.’
- Actions that are ‘in conjunction with,’ ‘mutually agreeable,’ or ‘in coordination with.’
- Descriptors for areas - ‘key functional area,’ licensee functional area,’ or ‘principle functional area.’
- Descriptors for functions - ‘emergency plan functions,’ ‘response functions,’ ‘emergency functions,’ ‘ERO functions,’ ‘emergency response functions,’ and ‘basic functions.’

The lack of consistency could lead to confusion on the part of both the implementer and reviewer.

In addition, there are a number of terms and phrases used in NUREG-0654, Revision 2, that are different from those applied to the same subject/concept in another regulatory document. Terms and phrases should be consistent across all regulatory documents in order to promote uniform understanding and implementation of the evaluation criteria.

- **Key Skills**

The industry believes that the NRC has not provided a definitive listing of ERO key skills (e.g., the term is used in 10 CFR 50, Appendix E, and the EP Rule ISG, but a list is not specifically identified). To drive consistent understanding and implementation of several criteria in Planning Standard N, the NRC staff should provide a definitive listing of ERO ‘key skills,’ or the attributes necessary for a licensee to determine them (e.g., to distinguish them from non-key skills).

- **Performance-Based Approach to Scheduling Drills**

There are several criteria in Planning Standard N that address the demonstration and maintenance of ERO 'key skills.' For this reason, the staff should consider deleting sub-criteria N.4.a – N.4.j. All are legacy criteria from Revision 1 or proposed additions of a similar nature, and would appear to be subsumed by other drill requirements and guidance. 10 CFR 50, Appendix E, requires, among other things, the periodic demonstration of ERO key skills, and the various drill elements described in criteria N.4.a through N.4.j are likely considered to be key skills (individual and/or organizational). A licensee is responsible for ensuring that their ERO maintains key skills, and should have the flexibility to determine the required type and frequency of drills necessary to do that. This would allow a reasonable performance-based approach to drill scheduling.

Drills are critiqued and weaknesses/deficiencies entered into the corrective action program (CAP). The changes necessary to improve performance, including adjustments to drill types, frequencies and objectives would be addressed through the CAP. Given current drill and CAP requirements, licensees should have the flexibility to conduct drills at frequencies and using objectives that meet their particular ERO performance enhancement needs (e.g., apply drill and personnel resources where they are needed to maintain key skills rather than meeting arbitrary drill guidance).

## Part 2: Markup of Revision 2 Sections

Comments are provided in two formats depending on the section of the document.

- For sections Preface through section, H. Criteria for Emergency Planning in an Early Site Permit (ESP) application, the text from the NUREG is reproduced in its entirety section by section. NEI provides markups as applicable. Below each section NEI provides a basis for each markup.
- For criteria A through P, each criteria and sub-criteria are reproduced in the left hand column of a table. In the right hand column, NEI provides recommended revised text. Below each marked up criterion, NEI provides a basis for the revised criterion text.

### Preface

NUREG-0654/FEMA-REP-1, Revision 2, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants", integrates nearly 35 years of lessons learned within the Radiological Emergency Preparedness (REP) Program<sup>1</sup> and consolidates and clarifies previous guidance. This document is consistent with NRC and Department of Homeland Security's FEMA regulations<sup>2</sup>. For FEMA and its stakeholders, Revision 2 ~~supersedes in addition to~~ Revision 1 of this document, the appendices to Revision 1, the addenda to Revision 1, and Supplements 1-4 of Revision 1 of this document, the appendices to Revision 1, the addenda to Revision 1, and Supplements 1-4 of Revision 1 is an acceptable means of meeting the underlying regulatory requirements. Part B of the Introduction provides information on how NRC applicants and licensees<sup>3</sup> may use this document. Part B also provides information regarding the NRC's plans for using this document and how the NRC staff complies with section 50.109 of Title 10 of the Code of Federal Regulations (CFR), and any applicable finality provisions in 10 CFR Part 52. The decision to revise this document and maintain the joint ownership between NRC and FEMA was agreed upon by the NRC/FEMA Emergency Preparedness (EP) Steering Committee. This update aligns with NRC EP regulations and national preparedness doctrine as directed by the President in directives and supported by the National Preparedness System (NPS)<sup>4</sup>. Additionally, this revision incorporates the REP Program guidance into the NPS, thus ensuring that it is risk- and threat-informed and appropriate for the whole community.

#### Industry Comment:

In Section B, Scope, the document states, "NPP applicants and licensees may voluntarily use the guidance in this document to demonstrate compliance with the underlying NRC regulations. For currently approved emergency plans based on NUREG-0654/FEMA-REP-1, Revision 1, changes to these plans using Revision 1 will continue to be evaluated by the NRC using Revision 1." It is not clear how on-site and offsite emergency plans can be maintained fully integrated and consistent if FEMA takes the position stated above that "Revision 2 supersedes Revision 1 of this document." The FEMA position concerning the use of this document should be aligned with the NRC position.

The revised document is the product of a joint NUREG-0654/FEMA-REP-1 Task Force consisting of headquarters and regional staff members of both agencies. Multiple public meetings and call-in sessions were held to engage stakeholders, including Federal partners and state, local, tribal, non-governmental authorities, the public and industry representatives. Stakeholders provided constructive input to inform the writing process

and validate work products.

**Industry Comment:**

No recommendation for alternate approach or wording.

The Task Force responsible for this revision strived to achieve the same relevance that the original authors accomplished. The concepts within this document have served the radiological community well since first released in 1980 and were embraced by the Task Force during the rewrite process.

**Industry Comment:**

No recommendation for alternate approach or wording.

## Section I: Introduction

### A. Background

NRC and FEMA staff prepared this document as part of their responsibilities under the Atomic Energy Act, as amended.<sup>1</sup>

Following the March 1979 Three Mile Island accident, Executive Order 12148 and the President's Statement of December 7, 1979 transferred the Federal lead role in offsite radiological emergency planning and preparedness activities from the NRC to FEMA. FEMA received this assignment because of its responsibilities under Executive Order 12148 to establish Federal policies for and coordinate civil emergency planning, management, and assistance functions and to represent the President in working with state and local governments and the private sector to stimulate vigorous participation in civil emergency preparedness programs.<sup>2</sup> This assignment aligned with FEMA's statutory role in promoting, funding, coordinating, and providing technical assistance for disaster preparedness, as defined in Section 201 of the Disaster Relief Act of 1974.<sup>3</sup> Accordingly, FEMA established the REP program to manage its responsibility for offsite emergency planning and preparedness in areas around commercial NPPs. The NRC retained responsibility for onsite activities.

The NRC Authorization Act of 1980 (Public Law 96-295) directed the NRC to establish emergency preparedness as a criterion for licensing commercial NPPs.<sup>4</sup> Specifically, section 109 of Public Law 96-295 directed the NRC to establish through rulemaking (a) standards, developed with FEMA, for the evaluation of state and local government radiological emergency planning and preparedness and (b) a requirement that the NRC will issue operating licenses only if it determines that there is (i) a state or local emergency response plan compliant with the standards developed with FEMA or (ii) in absence of such a plan, a state, local, or utility emergency response plan that provides reasonable assurance that public health and safety is not endangered by the NPP's operation.<sup>5</sup> Section 109 emphasizes the NRC's overall regulatory responsibility for public health and safety as the licensing agency. The NRC revised its regulations in Part 50 of Title 10 of the CFR to incorporate additional emergency preparedness requirements, including 16 planning standards for onsite and offsite emergency plans as required by Public Law 96-295. FEMA mirrors these 16 planning standards in Part 350 of Title 44 of the CFR.

#### **Industry Comments:**

No recommendation for alternate approach or wording.

## **B. Scope**

The focus of this document is on incidents at NPPs that might impact public health and safety. The NRC and FEMA regard all of the planning standards identified within regulations as essential for adequate radiological emergency planning. The evaluation criteria in Section II address those elements and attributes of emergency plans and preparedness programs that are directly tied to meeting the planning standards in 10 CFR 50.47(b) and 44 CFR 350.5(a). The NRC and FEMA evaluate the adequacy of the emergency plans and preparedness programs based on these criteria.

If NRC and FEMA determine that all of the applicable criteria for a planning standard are met, then an emergency plan and preparedness program are considered adequate with regards to that planning standard. If any criteria for a particular planning standard are not met, then the licensee, applicant, or offsite response organization (ORO) needs to address NRC- and FEMA-identified issues with meeting the criteria, provide an acceptable alternative to the criteria, or justify why the criteria do not apply to its emergency plan and/or preparedness program.

This guidance describes, and makes available to the public, methods that the NRC and FEMA staff consider acceptable for use in implementing specific parts of each of the agencies' regulations. The guidance is not a substitute for regulations, and compliance with it is recommended but not required.

### **Use of This Document**

This document provides a common source of guidance for the following audiences:

1. NRC.
2. FEMA and other Federal agencies engaged in the review of state, local, and tribal government planning and preparedness.
3. OROs and tribal governments.
4. NPP applicants and licensees as defined herein.
5. Licensee OROs.

### **Use by NRC**

During regulatory discussions on plant-specific operational issues, the staff may discuss with licensees various actions consistent with staff positions in this document, as one acceptable means of meeting the underlying NRC regulatory requirement. However, unless this document is part of the licensing basis for a facility, the staff may not represent to the licensee that the licensee's failure to comply with the positions in this document constitutes a violation.

The NRC staff does not intend or approve any imposition or backfitting of the guidance in this document. The NRC staff does not expect any existing licensee to use or commit to using the guidance in this document, unless the licensee makes a change to its licensing basis. The NRC staff does not expect or plan to request licensees to voluntarily adopt this document to resolve a generic regulatory issue. The NRC staff does not expect or plan to initiate NRC regulatory action which would require the use of this document. Examples of such unplanned NRC regulatory actions include issuance of an order requiring the use of the document, requests for information under 10 CFR 50.54(f) as to whether a licensee intends to commit to use of this document, or promulgation of a rule requiring the use of this document without further backfit consideration.

If an existing licensee voluntarily seeks a license amendment or change and (1) the NRC staff's consideration of the request involves a regulatory issue directly relevant to this document and (2) the specific subject matter of this document is an essential consideration in the staff's determination of the acceptability of the licensee's request, then the staff may request that the licensee either follow the guidance in this document or provide an equivalent alternative process that demonstrates compliance with ~~the underlying~~ NRC regulatory requirements. This is not considered backfitting as defined in 10 CFR 50.109(a)(1) or a violation of any of the issue finality provisions in 10 CFR Part 52.

For new reactor applications, the NRC staff will use the revision of this document, if this implementation date is within ~~in place~~ six months ~~before of~~ the application docket date to conduct the staff's review, unless the applicant specifies and justifies a different revision to be used. Previous reviews, in progress or completed, for which a licensing decision has not yet been determined will continue to be based on ~~the revision of~~ whether this document was used at the start of the review process, unless an applicant requests otherwise.

If a licensee believes that the NRC is either using this document or requesting or requiring the licensee to implement the methods or processes in this document or requesting or requiring the licensee to implement the methods or processes in this document in a manner inconsistent with the discussion in this section, then the licensee may file a backfit appeal with the NRC in accordance with the guidance in NUREG-1409, "Backfitting Guidelines," dated July 1990 (Agencywide Documents Access and Management System [ADAMS] Accession No. ML032230247), and NRC Management Directive 8.4, "Management of Facility-Specific Backfitting and Information Collection," dated October 9, 2013 (ADAMS Accession No. ML12059A460).

#### **Use by FEMA**

FEMA, as well as other Federal agencies, use this document to review state, local, and tribal government emergency planning and preparedness.

Findings by FEMA, with regard to the adequacy of emergency preparedness, will be related to the capability of the OROs to respond in a coordinated manner to emergencies at, or related to, particular NPPs. Periodic reviews by FEMA will verify the capability of OROs to implement various aspects of the emergency plan. This will include observation and evaluation of exercises and certain drills.

#### **Use by OROs and Tribal Governments**

For OROs participating in the REP program, use of this guidance is recommended during the development and maintenance of radiological preparedness and emergency plans to protect public health and safety in the event of an incident at an NPP.

For a tribal government participating in the REP program, it is recommended that it enters into consultation with both the NRC and FEMA. In such situations where the tribal government determined it would act as an independent entity, it would be appropriate to meet the evaluation criteria marked as applicable for tribal governments. This document does not obligate the tribal governments to use the evaluation criteria to build its emergency plans; however, the tribal governments are highly encouraged to consider the evaluation criteria. Tribal government agreements

with states and local governments will dictate the degree to which evaluation criteria will apply. Additional information for tribal governments can be found in Part H.

### **Use by NPP Applicants and Licensees**

NPP applicants and licensees may voluntarily<sup>6</sup> use the guidance in this document to demonstrate compliance with the underlying NRC regulations. For currently approved emergency plans based on NUREG-0654/FEMA-REP-1, Revision 1, changes to these plans using Revision 1 will continue to be evaluated by the NRC using Revision 1. Licensees may also use guidance based on Revision 2 to make emergency plan changes. Any changes based on Revision 2 so used by these licensees will be evaluated by the NRC under Revision 2. Licensees should indicate the revision of NUREG-0654/ FEMA-REP-1 on which the changes are based. Applicants and licensees may seek approval of a new emergency plan based on Revision 1, Revision 2, or a combination of Revisions 1 and 2. The NRC will evaluate emergency plans submitted for initial approval using the revision(s) of NUREG-0654/ FEMA-REP-1 upon which the plans are based and, once the plans are approved, will evaluate any future emergency plan changes using the revision(s) of NUREG-0654/FEMA-REP-1 upon which each change is based.

Methods or solutions that differ from those described in this document may be deemed acceptable if an applicant or licensee makes available sufficient bases and information for the NRC staff to evaluate whether the proposed alternative(s) demonstrate compliance with the appropriate NRC regulations.

Licensees may use the information in this document for actions which do not require NRC review and approval. This would include, for example, changes to an emergency plan under 10 CFR 50.54(q) that do not require prior NRC review and approval. Licensees may use the information in this document or applicable parts to address regulatory issues.

Additional information for ESP applicants can be found in Part I.

### **Use by Licensee OROs**

For licensees fulfilling and/or conducting offsite emergency preparedness roles and responsibilities that would traditionally be addressed by state, local, and/or tribal OROs, it is recommended that the Licensee ORO address the evaluation criteria for any of the non-participating OROs within this document. FEMA will continue to evaluate the offsite portion of the planning standards regardless of whether the Licensee ORO or OROs are performing the offsite preparedness and response functions.

### **Document Hierarchy**

This document is a joint NRC/FEMA guidance document. It contains the planning standards solely as a means of referencing the regulations and organizing the evaluation criteria. This document is considered the main source of joint guidance and does not describe regulatory requirements.

The evaluation criteria address overall emergency preparedness program and preparedness capabilities. The level of detail that should be provided in emergency plans to describe these capabilities, and allow NRC/FEMA staff to determine whether the evaluation criteria are met, is further amplified in ~~the NRC EP Handbook (NUREG-  
[TBD]) and~~ the FEMA REP Program Manual. Additional information regarding various means by which evaluation criteria may be addressed, such as examples of

acceptable methods, is also provided in ~~NUREG-[TBD] and~~ the FEMA REP Program Manual.

This document is intended to work in concert with the NPS, as NPS principles and planning concepts are considered to be complementary to those mentioned within this document.

### **Alternative Approaches**

Alternative approaches provide an opportunity for state, local, and tribal governments, applicants, and licensees to meet the planning standards in a manner that is different from what the evaluation criteria recommend within this guidance document. While an alternate approach does not relax the requirements of the planning standards, it provides an opportunity to propose an alternative method for meeting the intent of the planning standards. The specific proposal and approval process is further explained within ~~NUREG-[TBD] and~~ the FEMA REP Program Manual.

### **Industry Comments:**

Recommend removal of references to NRC EP Handbook and NUREG-[TBD] for reasons discussed in NEI letter, *Emergency Preparedness Handbook: Amplifying Guidance for the Evaluation Criteria in NUREG-0654/FEMA-REP-1*, Pollock to Holian, dated June 15, 2015. A definitive response is not yet available.

## C. Planning Basis

### Background

The 1978 NRC/Environmental Protection Agency (EPA) Task Force Report on Emergency Planning, "Planning Basis for the Development of State and Local Government Radiological Emergency Response Plans in Support of Light Water Nuclear Power Plants, NUREG-0396, EPA 520/1-78-016," (herein referred to as NUREG-0396) provides a planning basis for offsite emergency preparedness efforts considered necessary and prudent for large power reactor facilities. Since the NRC's policy statement of October 23, 1979 (44 Federal Register [FR] 61123), the NRC staff has incorporated the guidance in the report into EP regulations and guidance documents.

The overall objective of emergency response planning is to provide dose savings for a spectrum of incidents that have the potential to produce offsite doses in excess of the current Federal protective action guides (PAGs). Plans should not be limited to a single specific accident sequence or incident, as each incident could have different consequences, both in nature and degree. Further, the range of options for a planning basis is very large, starting with the requirement for no planning when significant offsite radiological consequences are unlikely to occur, to planning for the worst possible incident, regardless of its extremely low likelihood. NUREG-0396 did not attempt to define a single accident sequence or even a limited number of sequences. Rather, it identified the bounds of the parameters for which planning is recommended, based on knowledge of the potential consequences, timing, and release characteristics for a spectrum of incidents-

Emergency preparedness is related to two predominant exposure pathways. They are the:

a. Plume exposure pathway – The principal exposure sources from this pathway are: (a) whole body external exposure to gamma radiation from the plume and from deposited material; and (b) inhalation exposure from the passing radioactive plume. The duration of the release leading to potential exposure could range from 30 minutes to days. For the plume exposure pathway, shelter and/or evacuation would likely be the principal immediate protective action recommended for the general public. Administration of a radioprotective drug may also be considered. The ability to best reduce potential exposure under the specific conditions during the course of an incident should determine the appropriate response.

b. Ingestion exposure pathway – The principal exposure from this pathway would be from ingestion of contaminated water or foods such as milk, fresh vegetables, or aquatic foodstuffs. The duration of potential exposure could range from hours to months or years. For the ingestion exposure pathway, the planning effort involves the identification of major exposure pathways from contaminated food and water and the associated control and interdiction points and methods. The ingestion pathway exposures in general would represent a longer-term concern, although some early protective actions to minimize subsequent contamination of milk or other supplies should be initiated.

Separate Federal guidance is provided for these two exposure pathways, although emergency plans for a particular site will include elements common to assessing or taking protective actions for both pathways.

## **Emergency Planning Zones (EPZs)**

EPZs are defined as the areas for which planning is needed to assure prompt and effective actions can be taken to protect the public in the event of an incident. The EPZs associated with each NPP must be defined both for the shorter-term plume exposure pathway and the longer-term ingestion exposure pathway. Plans for addressing incidents are applied by the response organizations in these zones as applicable. The choice of the size of the EPZs represents a judgment on the extent of detailed planning, which must be performed to ensure an adequate response base. During a particular incident, protective actions may be restricted to a small part of the EPZ, while the worst possible incidents may necessitate protective actions be taken outside the EPZs.

The current NRC EP policy, regulation, and guidance, as stated in the "EPA Policy Statement; Planning Basis for Emergency Responses to Nuclear Power Reactor Accidents," 45 FR 2893, is "The EPZ for airborne exposure has a radius of about 10 miles; the EPZ for contaminated food has a radius of about 50 miles. Predetermined protective action plans are needed for the EPZs. The exact size and shape of each EPZ will be decided by emergency planning officials after they consider the specific conditions at each site.

The size of the plume exposure pathway EPZ was based primarily on the following considerations:

- a. projected doses from the traditional design basis accidents would not exceed Federal PAG levels outside the EPZ.
- b. projected doses from most core melt sequences would not exceed Federal PAG levels outside the EPZ.
- c. for the worst core melt sequences, immediate life threatening doses would generally not occur outside the EPZ.
- d. detailed planning within 10 miles would provide a substantial base for expansion of response efforts in the event that this proved necessary.

The NRC/EPA Task Force concluded that it would be unlikely that any protective actions for the plume exposure pathway would be required beyond the plume exposure pathway EPZ. Also, the plume exposure pathway EPZ is of sufficient size for actions within this zone to provide substantial reduction in severe early-stage health effects in the event of a complete core melt.

The size of the ingestion exposure pathway EPZ was based on the following considerations:

- a. the downwind range within which contamination will generally not exceed the Federal PAGs is limited to about 50 miles from a NPP because of wind shifts during the release and travel periods.
- b. there may be conversion of atmospheric iodine to chemical forms which do not readily enter the ingestion pathway.
- c. much of any particulate material in a radioactive plume would have been deposited on the ground within about 50 miles from the facility.
- d. the likelihood of exceeding ingestion exposure pathway PAG levels at 50 miles is comparable to the likelihood of exceeding plume exposure pathway PAG levels at 10 miles.

## **Time Factors Associated with Releases**

~~Studies conducted since 1980 (i.e., NUREG-1935, NUREG/CR-7177, and NUREG-1953) have shown that core damage within 30 minutes is possible. Core damage by itself will result in a declaration of a General Emergency (GE) with or without a significant offsite release. This being the case, the EP planning basis that requires rapid response mobilization remains appropriate. Under extreme circumstances a release is possible within approximately an hour of event initiation (NUREG/CR-7160). NUREG-[TBD] provides guidance on developing protective action strategies to minimize public exposure in such events.~~

Time factors associated with releases can vary widely based on site-specific plant designs and accident/event mitigation strategies. Where such time factors are important in establishing a basis for a particular planning element (e.g., augmentation times), licensees and Offsite Response Organizations may establish criteria that consider information from site-specific accident/event analyses.

## **Radiological Characteristics of Releases**

Planners will need information on the characteristics of potential radiological releases in order to specify the characteristics of monitoring instrumentation, develop dose projections, and identify critical exposure modes.

For atmospheric releases from NPPs, three exposure modes have been identified. The three exposure modes are: (a) whole body (bone marrow) exposure from external gamma radiation and from ingestion of radioactive material; (b) thyroid exposure from inhalation or ingestion of radioiodines; and (c) exposure of other organs from inhalation or ingestion of radioactive materials.

Radioactive materials produced in the operation of NPPs include fission products, transuranics, and activation products generated by neutron exposure of the structural and other materials within and immediately around the reactor core. The fission products consist of a very large number of different kinds of nuclides, almost all of which are initially radioactive. The amounts of these fission products and their potential for escape from their normal places of confinement represent the dominant potential for consequences to the public. Radioactive fission products exist in a variety of physical and chemical forms of varied volatility. Virtually all activation products and transuranic elements exist as non-volatile solids. The characteristics of these materials show quite clearly that the potential for releases to the environment decreases dramatically in this order: (a) gaseous materials, (b) volatile solids, and (c) non-volatile solids. For this reason, guidance for source terms representing a hypothetical fission product release from an NPP emphasizes the development of plans relating to the release of noble gases and/or volatiles such as cesium. Consideration of particulate materials, however, should not be completely neglected. For example, the capability to determine the presence or absence of particulate radionuclides will be needed to identify requirements for additional resources.

## **Continuing Assessment of the Planning Basis for Emergency Preparedness and Response**

Accident phenomena and offsite consequences of severe reactor incidents have been the subject of considerable research over the last several decades resulting in more detailed, integrated, and realistic studies. The NRC initiated the State-of-the-Art Reactor Consequence Analyses (SOARCA) project to develop best estimates of the offsite radiological health consequences for potential severe reactor incidents. By applying modern analytic tools and techniques, the SOARCA project evaluated plant improvements and changes not reflected in earlier studies, including improvements in training,

emergency procedures, mitigation efforts, offsite emergency response, and security-related improvements. The SOARCA analyses show that emergency response programs, implemented as planned and practiced, reduce the risk of health consequences among the public during a severe reactor incident.

**Industry Comments:**

Recommend alternate approach to “Time Factors Associated with Releases.”

This section currently states that “core damage within 30 minutes is possible,” and that “a release is possible within approximately an hour of event initiation.” The industry believes that the cited supporting references in this section do not provide an appropriate technical basis for the proposed time factors and, as a consequence, the specified times are overly conservative. Further, the development of a technical basis for these time factors should consider the recent enhancements to accident mitigation capabilities being implemented by licensees in response to the NRC Orders associated with the Fukushima Near-Term Task Force (NTTF) Report (e.g., EA-12-049).

Two of the cited supporting references for the proposed time factors are:

- NUREG/CR-7177, *Compendium of Analyses to Investigate Select Level 1 Probabilistic Risk Assessment End-State Definition and Success Criteria Modeling Issues*, and
- NUREG-1953, *Confirmatory Thermal-Hydraulic Analysis to Support Specific Success Criteria in the Standardized Plant Analysis Risk Models—Surry and Peach Bottom*.

These documents are not suitable as technical bases for establishing time factors associated with radiological emergency preparedness. Their content was intended to support NRC staff work in the area risk assessment modeling and not to provide a technically appropriate, risk-informed basis for regulatory actions. The analyses described in the documents were performed to confirm Level 1 PRA and SPAR model success criteria; they were not conducted to analyze realistic outcomes of postulated severe reactor accidents or to develop best estimates of the offsite radiological health consequences from those accidents. When applied to areas outside their stated purpose, the results from these documents lead to excessively conservative conclusions.

The other two cited supporting references for the proposed time factors are:

- NUREG/CR-7160, *Emergency Preparedness Significance Quantification Process: Proof of Concept*, and
- NUREG-1935, *State-of-the-Art Reactor Consequence Analyses (SOARCA) Report*.

NUREG/CR-7160 was developed to aid in the determination of risk significance of Emergency Preparedness (EP) program elements with the goal of increasing effectiveness and efficiency through improved prioritization of regulatory activities. The process described in the document makes use of credible accident scenarios selected by a review of existing probabilistic risk analyses for two reference sites. It appears that the authors relied mostly on accident scenario information derived from NUREG-1935. The following points were noted after a review of both documents.

- The analyses described in NUREG-1935 considered a spectrum of accidents,

including severe accidents, as illustrated by the statement: “the [SOARCA] project team elected to analyze sequences with a CDF greater than  $10^{-6}$  per reactor-year. In addition, the SOARCA team included sequences that have an inherent potential for higher consequences (and risk) with a lower CDF (i.e., those with a frequency greater than  $10^{-7}$  per reactor-year). Such sequences would be associated with events involving containment bypass or leading to an early failure of the containment. By adopting these criteria, the SOARCA team is reasonably assured that the more probable and important core melt sequences will be captured. Further, SOARCA includes certain scenarios that had CDFs lower than the screening criteria, because of their historical significance.”

- The SOARCA analyses considered internal and external initiating events and chose those which produced the shortest timelines to core damage and a release of radioactivity to the environment. NUREG-1935 states that, “During the consequence analysis, the core damage groups for station blackouts were analyzed as if they were initiated by a seismic event. This approach was taken because seismically induced equipment failures occur immediately following the seismic event, which produces the most severe challenge to the plant.”
- The SOARCA assessed the effect of operator actions and the use of portable equipment (i.e., 10 CFR 50.54(hh) equipment) on the ability to mitigate an accident. Therefore, each scenario was analyzed twice: a “mitigated” case assuming mitigative equipment was available and operable and operators were completely successful in implementing mitigative actions; and an “unmitigated” case assuming mitigation was not available, was not implemented, or was not effective. It should be kept in mind that 10 CFR 50.54(hh) equipment is intended to support mitigation strategies that would be employed under circumstances associated with loss of large areas of the plant due to explosions or fire. The initiating events chosen for the SOARCA did not include those addressed by 10 CFR 50.54(hh), therefore, this equipment would have been used in an improvised manner in response to the accidents postulated in the analyses.

Because of the timing of SOARCA completion relative to the accident at Fukushima Daiichi, the analyses did not assess the effects of newly available strategies for the mitigation of beyond design basis (BDB) events required by NRC Orders issued in 2012 and 2013. The BDB events addressed by these orders include the initiating event used in the SOARCA analyses to produce the shortest timelines to core damage and a release of radioactivity to the environment (i.e., a seismic event). In particular, NRC Order EA-12-049 requires licensees to have strategies to maintain or restore core cooling, containment and spent fuel pool cooling capabilities following a BDB external event resulting in an extended loss of AC power affecting all onsite units. The industry refers to these strategies as Diverse and Flexible Mitigation or FLEX strategies. Given the initiating event and accident sequence postulated by each of the SOARCA analysis cases, FLEX strategies would provide a more timely and effective mitigative capability than implementation of 10 CFR 50.54(hh) equipment. In addition to BDB events, these strategies could also be employed anytime that operators needed them to compensate for a failure of design basis accident mitigation strategies (e.g., equipment failures leading to a total loss of all feedwater flow to steam generators).

It is reasonable to expect that the SOARCA results would have been different (i.e., less consequential) had the analyses assumed that both reference sites were in

compliance with NRC Order EA-12-049 (and related NRC Orders). While the results for the “mitigated” cases would have been improved (e.g., no core damage in either short-term SBO case for Surry since portable power sources are now available for instrumentation and equipment), there likely would have been no credible “unmitigated” cases because operators and the plant staff would be following their FLEX support guidelines to implement FLEX strategies. With safety functions maintained on an indefinite basis, there would be no core damage or radiological release.

Turning to security-related events, the likelihood of an attack on a nuclear power plant leading to core damage is not quantifiable but can reasonably be assumed to be very low. As a result of compliance with NRC regulations governing security at power reactors, a site’s security force, supported by local law enforcement, would almost certainly neutralize the threat before the adversaries could create the conditions necessary for core damage and a release path. Even if an attack were successful, the consequences would likely take several hours to unfold and thus could be mitigated through response measures taken in a post-attack environment (e.g., as demonstrated in HAB exercises). Mitigation measures could make use of FLEX and/or 10 CFR 50.54(hh) strategies.

In conclusion, NUREG-0654 R2 should acknowledge that the “Time Factors Associated with Releases” can vary widely based on site-specific plant designs and accident/event mitigation strategies. Where such time factors are important in establishing a basis for a particular planning element (e.g., augmentation times), licensees and Offsite Response Organizations should have flexibility to establish criteria that consider information from site-specific accident/event analyses. Should the staff wish to specify generic minimum time factors (i.e., no site-specific justification would be necessary to use as a planning basis), then such criteria should be informed by the capability of BDB event mitigation strategies to prevent core damage and a radiological release (e.g., strategies required by NRC Order EA-12-049 and 10 CFR 50.54[hh]).

#### **D. Coordinated Government Emergency Planning**

The concept of radiological emergency planning emphasizes a coordinated response process involving several levels of government – Federal, state, local, and tribal – located (wholly or partially) within the plume and/or ingestion exposure pathway EPZs. For the purposes of this document, it is not necessary to outline the varied governmental and jurisdictional structures that exist throughout the United States, nor is it necessary to describe in detail the varied emergency planning and preparedness mechanisms that can be developed among these governmental entities. Additional information regarding integrating and synchronizing efforts across various levels of government can be found in CPG 101, “Developing and Maintain Emergency Operations Plans.”

#### **Threat and Hazard Identification and Risk Assessment (THIRA) Considerations**

State, local, and tribal officials have the primary legal authority and responsibility to protect their citizens or members and respond to disasters and emergencies. These officials are encouraged to use the THIRA process detailed in CPG 201, “Threat and Hazard Identification and Risk Assessment Guide” to develop an understanding of a jurisdiction’s risks and inform decisions about manage those risks. The THIRA

process standardizes the risk analysis process that emergency managers and homeland security professionals use every day through the normal course of their work. The THIRA process builds on existing state, local, and tribal THIRAs generally by:

Broadening the threats and hazards considered to include human-caused threats and technological hazards.

Incorporating the whole community into the planning process, including individuals, families, businesses, faith-based and community organizations, nonprofit groups, schools and academia, media outlets, and all levels of government, including state, local, tribal, and Federal partners.

Providing increased flexibility to account for community-specific factors.

Organizations that participate in the REP Program have identified a nuclear/radiological threat as part of their jurisdictional THIRA. The planning guidance that follows in Section II provides additional detail and considerations regarding a nuclear/radiological threat and should be used to inform plans on this specific hazard.

**Industry Comments:**

No recommendation for alternate approach or wording.

### **E. Integrated Guidance Criteria**

NRC and FEMA have created and integrated guidance in this document intended for use by applicants/licensees and state, local, and tribal governments to guide their integrated emergency planning and preparedness activities. An integrated approach to the development of emergency plans is the most effective way to protect the health and safety of the public. NRC and FEMA recognize that applicants/licensees and state, local, and tribal government emergency plans should not be developed independently. If a nuclear incident occurs, the public is best protected when efforts by all response organizations are fully integrated. Each organization involved must have a clear understanding of the role it will play in the response to a nuclear incident, and associated level of preparedness to build and sustain. This understanding is best achieved through integrated plan development and evaluation. Each organization must have a clear recognition of its portion of the overall shared responsibility for safeguarding public health and safety. This integrated guidance also allows each organization to understand the capabilities, responsibilities, and obligations of the other organizations.

This integrated guidance provides reviewers the basis to conduct a thorough analysis of each organization's plan and to understand the relationship of all plans in the integrated effort.

#### **Industry Comments:**

No recommendation for alternate approach or wording.

## **F. Form and Content of Plans**

This guidance does not specify a format for emergency plans, but it is important that the evaluation criteria are addressed fully and clearly, as outlined in “Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants” (NUREG-0654/FEMA-REP-1). The plans should address what is to be done in an emergency, how it is to be done, and by whom.

The NPS contains a number of concepts that assist applicants/licensees and state, local, and tribal government agencies with their planning. CPG 201 and CPG 101 are NPS resources that can be used as conduits to the National Response Framework (NRF) and National Disaster Recovery Framework (NDRF). CPG 201 provides communities with additional guidance for conducting a THIRA and presents the basic steps of the process. CPG 101 provides guidance for developing emergency plans and promotes understanding of risk-informed planning and preparedness. Together, these two CPGs provide a risk-informed basis for the offsite planning effort, as well as encourage the engagement of the whole community to address all risks that might impact a jurisdiction and allow for the radiological emergency plan to be integrated with all-hazards plans.

The NRF, Nuclear/Radiological Incident Annex (NRIA) identifies Federal assets that are available for OROs. OROs are encouraged to incorporate Federal assets that may be used in state, local, and tribal emergency plans. Details of Federal roles, responsibilities, and assets are provided in the NRF as well as individual agency plans and manuals.

NPP licensees have a primary responsibility for planning and implementing emergency measures within owner controlled areas. These emergency measures include mitigative actions at the site and protective measures and aid for onsite personnel. Because licensees may not have sufficient resources to do this alone, licensee emergency plans should address advanced arrangements with state, local, and tribal organizations for special emergency assistance.

Long-term, licensees and OROs are responsible for recovery from any radiological incident and return to affected areas. Emergency plans should identify the organizations responsible for recovery actions, which would include a combination of Federal and private entities.

### **Industry Comments:**

No recommendation for alternate approach or wording.

**G. Tribal Governments**

A historic relationship exists between the Federal government and tribal governments. FEMA acknowledges the inherent sovereignty of Indian and Alaska Native tribal governments. Indian and Alaska Native tribal governments are not political subdivisions of states, but are recognized by the United States as distinct sovereign entities. Each tribal government establishes its own priorities and goals for the welfare of its membership. FEMA encourages cooperation and partnership between and among Federal, state, local, and tribal governments and public and private entities.<sup>7</sup>

NRC interaction with tribal governments is addressed in 10 CFR 61.71, "State and Tribal government consultation," which states: "Upon request of a State or tribal governing body, the Director shall make available Commission staff to discuss with representatives of the State or tribal governing body information submitted by the applicant, applicable Commission regulations, licensing procedures, potential schedules, and the type and scope of State activities in the license review permitted by law. In addition, staff shall be made available to consult and cooperate with the State or tribal governing body in developing proposals for participation in the license review."

**Industry Comments:**

No recommendation for alternate approach or wording.

## H. Criteria for Emergency Planning in an Early Site Permit (ESP) application

### Emergency Planning Provisions of the Rule

The NRC promulgated 10 CFR Part 52 to govern the issuance of ESPs, standard design certifications, combined licenses (COLs), standard design approvals, and manufacturing licenses for NPPs. Part A of the rule sets out the requirements and procedures applicable to NRC issuance of ESPs for approval of a site or sites for one or more NPPs separate from the filing of an application for a construction permit or COL for such a facility. Subpart A includes provisions for addressing emergency planning issues before any construction permit or COL proceeding.

After meeting the mandatory requirement of 10 CFR 52.17(b)(1), the applicant may also exercise one of the two following options:

Option 1: Propose major features of the emergency plans, such as the exact sizes of the EPZs, for review and approval by NRC, in consultation with FEMA, in the absence of complete and integrated emergency plans. Major features are defined in 10 CFR 52.1(a).

Option 2: Propose complete and integrated plans for review and approval by the NRC, in consultation with FEMA, in accordance with the applicable provisions of 10 CFR 50.47.

For the mandatory requirement and Option 1, the application must include a description of contacts and arrangements made with Federal, state, local, and tribal governmental agencies with emergency planning responsibilities. Under Option 2, the applicant shall make good faith efforts to obtain from the same government agencies certifications that: (1) the proposed emergency plans are practicable; (2) these agencies are committed to participating in any further development of the plans, including any required field demonstrations; and (3) that these agencies are committed to executing their responsibilities under the plans in the event of an emergency. The application must contain any certifications that have been obtained. If these contracts, arrangements, or certifications cannot be obtained, the application must contain information, including a utility plan as specified in 10 CFR 50.47(c)(1), sufficient to show that the proposed plans provide reasonable assurance that adequate protective measures will be taken in the event of a radiological emergency at the site.

Subpart B of 10 CFR Part 52 addresses the requirements and procedures applicable to standard design certifications. Emergency planning requirements under Subpart B are limited primarily to the specification of an onsite Technical Support Center (TSC) and an onsite Operations Support Center (OSC) within the design bases of the standard plant design. Subpart C of the rule addresses the requirements and procedures applicable to the issuance of a COL for an NPP. Under Subpart C, the application must contain emergency plans which meet the emergency planning standards of 10 CFR 50.47 and the requirements of Appendix E to 10 CFR Part 50, and thus provide reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency at the site. If the application for a COL references an ESP, the application may incorporate by reference emergency plans, or major features of emergency plans, approved in conjunction with the issuance of the permit.

## **Identification of Physical Characteristics**

The ESP application must identify physical characteristics unique to the proposed site, such as egress limitations from the area surrounding the site that could pose a significant impediment to the development of emergency plans. An ESP applicant may identify such unique physical characteristics by performing a preliminary analysis of the time required to evacuate various sectors and distances within the plume exposure pathway EPZ for transient and permanent populations, noting major impediments to the evacuation or other protective actions.

The evacuation time estimate (ETE) analysis is an emergency planning tool that can be used to assess, in an organized and systematic fashion, the feasibility of developing emergency plans for a site. The process for developing an ETE analysis, including specific guidance for ESP and COL applicants, is provided in NUREG/CR-7002, "Criteria for Development of Evacuation Time Estimate Studies." Such an ETE analysis serves to demonstrate if any physical characteristics or combination of physical characteristics of the site, egress limitations in particular, could pose impediments to the development of emergency plans. It is important to note that the value of the ETE analysis is in the methodology required to perform the analysis rather than in the calculated ETE times. While lower ETEs may reflect favorable site characteristics from an emergency planning standpoint, there is no minimum required evacuation time in the regulations which a licensee or an applicant has to meet. Accordingly, the ETE analysis should not focus on the numerical time estimates, but on the site factors that are considered to be impediments to emergency planning and preparedness. The reasons should be given for ETEs that appear unduly high. Any major difficulties for an evacuation or the taking of other protective actions, such as sheltering in the plume exposure pathway EPZ, should be discussed.

## **Major Features of Emergency Plans**

### **Emergency Planning Zones (EPZs)**

An ESP applicant that chooses the option of proposing major features of the emergency plans (i.e., applicant, state, local, and tribal plans) should give special emphasis to the exact sizes of the EPZs. The exact size and configuration of the EPZs surrounding a particular NPP should be determined in relation to local emergency response needs and capabilities as they are affected by such conditions as demography, topography, land characteristics, access routes, and jurisdictional boundaries [10 CFR 50.47(c)(2)]. Plume exposure pathway EPZ boundaries that run through the middle of schools or hospitals, or that arbitrarily carve out small portions of governmental jurisdictions should be avoided [CLI 89-12, 26 NRC 383 (1987)]. Additional information concerning EPZs is contained in Part C of this document and 44 CFR 350.7.

### **Planning Standards and Evaluation Criteria**

An ESP application that includes major features of emergency plans will be evaluated against the emergency planning standards and evaluation criteria in Section II of this document. The evaluation criteria for each of the planning standards should be fully addressed. If the applicant cannot or chooses not to address any of the evaluation criteria associated with a particular planning standard, the resolution of those evaluation criteria should be addressed in the ESP application (e.g., stating that the missing evaluation criteria will be addressed at the COL application stage). While the regulations do not address the use of inspections, tests, analyses, and acceptance

criteria (ITAAC) for emergency planning for the ESP major features option, the inclusion of a limited set of EP ITAAC in the application, associated with evaluation criteria that are not addressed, is not prohibited. The guidance in NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR Edition," Section 14.3.10, including generic EP ITAAC Table 14.3.10-1, may be used by the applicant to identify a limited set of possible EP ITAAC that may be appropriate for an ESP major features application.

### **Complete and Integrated Plans**

An ESP application that includes complete and integrated emergency plans will be evaluated against the emergency planning standards and evaluation criteria in Section II of this document. The application must also include any proposed EP ITAAC information required under 10 CFR 52.17(b) (3). The guidance in NUREG-0800, Section 14.3.10, including generic EP ITAAC Table 14.3.10-1, may be used by the applicant to identify a set of possible EP ITAAC that may be appropriate for an ESP complete and integrated emergency plan application.

### **Industry Comments:**

No recommendation for alternate approach or wording.

<b>INTRODUCTION</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
<p>Section II of NUREG-0654/FEMA-REP-1 contains evaluation criteria for each planning standard of 10 CFR 50.47(b) and 44 CFR 350.5(a) that provide specific guidance for developing radiological emergency plans. The colored boxes to the left of each criterion's text indicate applicability, which has been divided into four categories that represent (1) NRC applicants/licensees and organizations at the (2) state, (3) local, and (4) tribal government levels. When a box is colored in and labeled, it indicates that the corresponding criterion may be applicable to organizations in that category. Although a category box may be highlighted for a certain criterion, there can be exceptions or variations to the actual implementation within emergency plans. Users of this document may reference the more specific guidance found in NUREG-[TBD] and the FEMA REP Program Manual for further details and clarification.</p>	<p>Section II of NUREG-0654/FEMA-REP-1 contains evaluation criteria for each planning standard of 10 CFR 50.47(b) and 44 CFR 350.5(a) that provide specific guidance for developing radiological emergency plans. The colored boxes to the left of each criterion's text indicate applicability, which has been divided into four categories that represent (1) NRC applicants/licensees and organizations at the (2) state, (3) local, and (4) tribal government levels. When a box is colored in and labeled, it indicates that the corresponding criterion may be applicable to organizations in that category. Although a category box may be highlighted for a certain criterion, there can be exceptions or variations to the actual implementation within emergency plans. Users of this document may reference the more specific guidance found in <del>NUREG-[TBD]</del> and the FEMA REP Program Manual for further details and clarification.</p>
<p><b>Basis for industry proposal/alternate approach:</b>  Recommend deletion of reference to proposed EP Handbook. Refer to NEI letter, <i>Emergency Preparedness Handbook: Amplifying Guidance for the Evaluation Criteria in NUREG-0654/FEMA-REP-1</i>, Pollock to Holian, dated June 15, 2015.</p>	

<b>Evaluation Criteria: A.1</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
The Federal, state, local, tribal, licensee, and other private sector organizations that comprise the overall response for the EPZs are identified.	The Federal, state, local, tribal, licensee, and other private sector organizations that comprise the overall response for the EPZs are identified.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: A.1.a</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
The organizations having an operational role specify their concept of operations and relationship to the total effort.	The organizations having an operational role specify their concept of operations and relationship to the total effort.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: A.1.b</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Each organization’s emergency plan illustrates these interrelationships in a block diagram.	Each organization’s emergency plan illustrates these interrelationships in a block diagram.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: A.1.c</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Each organization identifies the individual, by title/position, who will be in charge of the emergency response.	Each organization identifies the individual, by title/position, who will be in charge of the emergency response.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: A.2</b>	
<b>Applicability: State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
References to the applicable acts, codes, or statutes that provide the legal basis for emergency response-related authorities, including those that delegate responsibility and authority to state, local and tribal governments are included. Each emergency plan indicates who may declare a “State of Emergency” and the powers that ensue.	References to the applicable acts, codes, or statutes that provide the legal basis for emergency response-related authorities, including those that delegate responsibility and authority to state, local and tribal governments are included. Each emergency plan indicates who may declare a “State of Emergency” and the powers that ensue.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: A.3</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Each organization specifies the key individual(s), by title/position, responsible for the following functions applicable to their organizations: command and control, alerting and notification, communications, public information, accident assessment, public health and sanitation, social services, fire and rescue, traffic control, emergency medical services, law enforcement, transportation, protective response (including authority to request Federal assistance and to initiate other protective actions), and radiological exposure control.	Each organization specifies the key individual(s), by title/position, responsible for the following functions:
<b>Basis for industry proposal/alternate approach:</b> Recommend maintaining a separation between licensee and State, Local and Tribal responsibilities in Section A.3 in order to provide clarity on the applicability of specific functions. Added criteria specific to Licensees (A.3.a) and developed A.3.b for the functions applicable to State, Local and Tribal organizations.	

<b>Evaluation Criteria: A.3.a</b>	
<b>Applicability: <a href="#">Licensee</a></b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
	<a href="#">Command and control, alerting and notification, communications, public information, accident assessment, and radiological exposure control.</a>
<b>Basis for industry proposal/alternate approach:</b> Recommend maintaining a separation between licensee and State, Local and Tribal responsibilities in Section A.3 in order to provide clarity on the applicability of specific functions. Added criteria specific to Licensees (A.3.a) and developed A.3.b for the functions applicable to State, Local and Tribal organizations.	

<b>Evaluation Criteria:</b> <a href="#">A.3.b</a>	
<b>Applicability:</b> State, Local, Tribal	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
	<a href="#">Command and control, alerting and notification, communications, public information, public health and sanitation, social services, fire and rescue, traffic control, emergency medical services, law enforcement, transportation, protective response (including authority to request Federal assistance and to initiate other protective actions), and radiological exposure control.</a>
<p><b>Basis for industry proposal/alternate approach:</b>  Recommend maintaining a separation between licensee and State, Local and Tribal responsibilities in Section A.3 in order to provide clarity on the applicability of specific functions. Added criteria specific to Licensees (A.3.a) and developed A.3.b for the functions applicable to State, Local and Tribal organizations.</p>	

<b>Evaluation Criteria: A.4</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Written agreements with the support organizations having an emergency response role within the EPZs are included. The agreements describe the concept of operations, emergency measures to be provided, mutually acceptable criteria for their implementation, and arrangements for exchange of information.	Written agreements with the support organizations having an emergency response role within the EPZs are <u>referenced</u> <del>included</del> . The agreements describe the concept of operations, emergency measures to be provided, mutually acceptable criteria for their implementation, and arrangements for exchange of information.
<b>Basis for industry proposal/alternate approach:</b> Recommend use of 'referenced' vs 'included' at the end of the first sentence. 'Referenced' is consistent with Appendix E and EP FAQ 2013-003 wording. Inclusion of LOAs in their entirety is not advisable since they may contain individual names and contact information, or other sensitive information. A reference to the LOAs meets the intent of the requirement in Appendix E, and this approach would reduce the administrative burden associated with updating the emergency plan and LOAs, as well as redacting information. Copies of the LOAs are maintained on file such that they can be readily inspected.	

<b>Evaluation Criteria: A.5</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Each principal response organization is capable of continuous operations for a protracted period. The principal response organization specifies the individual, by title/position, who is responsible for ensuring continuity of resources (technical, administrative, and material).	Each principal response organization is capable of continuous operations for a protracted period. The principal response organization specifies the individual, by title/position, who is responsible for ensuring continuity of resources (technical, administrative, and material).
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: B.1</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Each licensee, and applicant, specify how they will meet the requirements of 10 CFR 50.47(b)(2) and the associated sections of Appendix E to 10 CFR Part 50.	Each licensee, and applicant, specify how they will meet the requirements of 10 CFR 50.47(b)(2) and the associated-sections of Appendix E to 10 CFR Part 50.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: B.1.a</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Licensees develop the onsite emergency response organization (ERO). Note that while other site programs, such as operations, fire response, rescue and first aid, and security, may be controlled via other licensing documents, it is only when these personnel are assigned ERO functions do they become part of this regulatory standard. Consideration is given to ensure that ERO functions are not assigned to individuals who may have difficulties performing their ERO function(s) simultaneously with their other assigned (non-ERO) functions. Appendix E to 10 CFR Part 50 requires licensees to perform a shift staffing analysis to ensure on-shift staff can support the ERO functions assigned, as well as other assigned duties.	Licensees develop <del>an the onsite</del> emergency response organization (ERO). Note that while other site programs, such as operations, fire response, rescue and first aid, and security, may be controlled via other licensing documents, it is only when these personnel are assigned ERO functions do they become part of this regulatory standard. Consideration is given to ensure that ERO functions are not assigned to individuals who may have difficulties performing their ERO function(s) simultaneously with their other assigned (non-ERO) functions. Appendix E to 10 CFR Part 50 requires licensees to perform a shift staffing analysis to ensure on-shift staff can support the ERO functions assigned, as well as other assigned duties.
<b>Basis for industry proposal/alternate approach:</b> Recommend removal of the term 'onsite' from this criterion. It is the industry's understanding that this criterion applies to the development of a licensee ERO for on-shift, and onsite and offsite facilities. Removal of the 'onsite' reference clarifies this application of the criterion. This change does not alter the intent of the Note.	

<b>Evaluation Criteria: B.2</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
An individual is designated as emergency coordinator (individual title may vary) who is on-shift at all times and who has the authority and responsibility to immediately and unilaterally initiate any emergency actions, including providing protective action recommendations (PARs) to authorities responsible for implementing offsite emergency measures.	An individual is designated as emergency coordinator (individual title may vary) who is on-shift at all times and who has the authority and responsibility to immediately and unilaterally initiate any emergency actions, including providing protective action recommendations (PARs) to authorities responsible for implementing offsite emergency measures.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: B.2.a</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
The functional responsibilities assigned to the emergency coordinator are established and the responsibilities that may not be delegated to other members of the ERO are clearly specified. Examples of the responsibilities that should not be delegated are the decision to notify and to recommend protective actions to responsible offsite authorities.	The functional responsibilities assigned to the emergency coordinator are established and the responsibilities that may not be delegated to other members of the ERO are clearly specified. Examples of the responsibilities that should not be delegated are the decision to notify and to recommend protective actions to responsible offsite authorities.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: B.3</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Each licensee and applicant develop a table depicting the site-specific on-shift staffing plan, as well as the ERO staffing augmentation plan. Table B-1, "Emergency Response Organization (ERO) Staffing and Augmentation Plan," provides a model for licensees to consider.	Each licensee and applicant develop a table depicting the site-specific on-shift staffing plan, as well as the ERO staffing augmentation plan. Table B-1, "Emergency Response Organization (ERO) Staffing and Augmentation Plan," provides a model for licensees to consider.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: B.4</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
The interfaces between and among the licensee functional areas of emergency activity, local services support, and state local, and tribal government response organizations are identified. The information includes all the licensee emergency response facilities.	The interfaces between and among the licensee functional areas of emergency activity, local services support, and state local, and tribal government response organizations are identified. The information includes all the licensee emergency response facilities. <a href="#"><u>This should be illustrated in a block diagram.</u></a>
<b>Basis for industry proposal/alternate approach:</b> Recommend the re-insertion of the reference to the block diagram as currently noted in NUREG-0654 Revision 1 so that the expected end product is clear.	

<b>Evaluation Criteria: B.5</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
The contractor and private organizations that may be requested to provide technical assistance to and augmentation of the emergency organization, as applicable, are specified.	<del>The contractor and private o</del> <u>External</u> organizations that may be requested to provide technical assistance, <u>resources to or other support to</u> <del>and augmentation of</del> the emergency <u>response</u> organization, as applicable, are specified.
<p><b>Basis for industry proposal/alternate approach:</b>  Replaced reference to 'contractor and private' sources with 'External;' this terms subsumes 'contractor and private' and is consistent with wording used in other criteria. Replaced reference to 'augmentation' with 'resources and other support' to improve clarity; 'augmentation' is subsumed by 'technical assistance, resources or other support.' These changes do not alter the intent of the Note.</p>	

<b>NUREG-0654 Revision 2 Table B-1</b>	
<b>Note (1)</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
The minimum number of personnel assigned ERO functions (minimum staffing) is dependent on specific licensee requirements and is as approved by the NRC for the site-specific emergency plan. Control of the site-specific emergency plan is regulated via 10 CFR 50.54(q).	The minimum number of <u>on-shift</u> personnel assigned <u>emergency response</u> <del>ERO</del> functions <del>(minimum staffing)</del> is dependent on specific licensee requirements and is as approved by the NRC for the site-specific emergency plan. Control of the site-specific emergency plan is regulated via 10 CFR 50.54(q).
<p><b>Basis for industry proposal/alternate approach:</b>  Recommend replacement of 'ERO functions' with 'emergency response functions' to maintain consistency with Notes (6), (8) and (9); consistent terms should be used throughout this criterion.  'Minimum staffing' is a term more commonly used to describe criteria by which ERO facilities such as the TSC or EOF become activated as stated in NSIR/DPR-ISG-01, Section IV.D, p. 16, and Inspection Procedure 71114.03 step 03 (p. 2). Use of the term in context with on-shift staffing may to lead to confusion. Addressed by replacing 'minimum staffing' with 'on-shift.'  These changes do not alter the intent of the note.</p>	

NUREG-0654 Revision 2 Table B-1	
Note (2)	
Revision 2 Proposed Wording	Industry Proposed Wording
This table lists the basic functions needed to implement the typical emergency plan. It is intended to provide a model for applicants and licensees to consider in the development of their site-specific emergency plan. The minimum on-shift staffing and ERO augmentation needs of a specific licensee should be described. The emergency plan should describe only one onshift and ERO augmentation staffing plan.	This table lists the <u>emergency response</u> <del>basic</del> functions needed to implement the typical emergency plan. It is intended to provide a model for applicants and licensees to consider in the development of their site-specific emergency plan. The <del>minimum</del> -on-shift <u>and augmented ERO</u> staffing <del>and ERO augmentation</del> needs of a specific licensee should be described. The emergency plan should describe only one on-shift and ERO augmentation staffing plan.
<p><b>Basis for industry proposal/alternate approach:</b>  Recommend replacement of 'basic functions' with 'emergency response functions' to maintain consistency with Notes (6), (8) and (9); consistent terms should be used throughout this criterion. If 'basic' is retained, then also recommend that the term 'basic functions' be defined, or a clarification provided for how and why it is used here (e.g., contrast with 'non-basic functions').  Delete 'minimum' – this term is more commonly used to describe criteria by which ERO facilities such as the TSC or EOF become activated as stated in NSIR/DPR-ISG-01, Section IV.D, p. 16, and Inspection Procedure 71114.03 step 03 (p. 2). Use of the term as proposed here may lead to confusion.  Editorial changes to improve clarity.  These changes do not alter the intent of the note.</p>	

NUREG-0654 Revision 2 Table B-1	
Note (3)	
Revision 2 Proposed Wording	Industry Proposed Wording
The augmentation times listed are intended to provide a model for applicants and licensees to consider in the development of their site-specific emergency plan.	The augmentation times listed are intended to provide a model for applicants and licensees to consider in the development of their site-specific emergency plan.
<p><b>Basis for industry proposal/alternate approach:</b>  No recommendation for alternate approach or wording.</p>	

<b>NUREG-0654 Revision 2 Table B-1</b>	
<b>Note (4)</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
The titles of the positions are as defined in the site-specific emergency plan.	The titles of the positions are as defined in the site-specific emergency plan.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>NUREG-0654 Revision 2 Table B-1</b>	
<b>Note (5)</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
The locations of these positions are intended to provide a model for applicants and licensees to consider in the development of their site-specific emergency plan. Licensees may choose to have these positions, or functions, at other facilities and/or activated at different emergency classification levels (ECLs).	The locations of these positions are intended to provide a model for applicants and licensees to consider in the development of their site-specific emergency plan. Licensees may choose to have these positions, or functions, at other facilities and/or activated at different emergency classification levels (ECLs).
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

**NUREG-0654 Revision 2 Table B-1**

**Note (6)**

**Revision 2 Proposed Wording**

**Industry Proposed Wording**

Many of these functions may be assigned as additional duties, but the licensee is required to support the position that no credible accident scenario(s) can occur which would detract a given position from the performance of its assigned emergency response function(s).

Many of these [emergency response](#) functions may be assigned as additional [\(collateral\)](#) duties [to positions other than those indicated provided that](#), ~~but the licensee is required to support the position that no credible accident scenario(s) can occur which would detract a~~the given positions [s can](#) ~~from the performance~~ [all of its](#) assigned [emergency response](#) functions ~~(s)~~ [in a timely manner](#).

**Basis for industry proposal/alternate approach:**

Reworded Note to improve clarity and align with terminology in 10 CFR 50, Appendix E, IV.A.9 (i.e., inserted 'timely'). Deleted reference to 'credible accident scenario(s)' since these are undefined in this document and there is no reference to a source document for these scenarios. The industry understands that the EP Rule ISG may be retired with the implementation of NUREG-0654 Revision 2. That being the case, it is important that the information contained in the ISG related to 'credible accident scenarios' be carried forward to this document. If that occurs, then the Note could be revised to reference the scenarios and their location within this document.

Added '(collateral)' to promote correct understanding of 'additional.'

Editorial changes made to improve clarity.

NUREG-0654 Revision 2 Table B-1	
Note (7)	
Revision 2 Proposed Wording	Industry Proposed Wording
The development of on-shift and ERO staffing levels should be performance-based, as much as possible, as long as the capabilities of the listed functions are constantly maintained. Once developed, and approved by the NRC, changes to the on-shift and ERO staffing are evaluated and controlled in accordance with 10 CFR 50.54(q).	The development of on-shift and <u>augmented</u> ERO staffing levels should <u>use a <del>be</del> performance-based approach, - to the degree practicable. The licensee will need to demonstrate that <del>as much as possible, as long as the capabilities of</del> the listed <u>emergency response</u> functions are constantly maintained. Once developed, and approved by the NRC, changes to the on-shift and ERO staffing are evaluated and controlled in accordance with 10 CFR 50.54(q).</u>
<p><b>Basis for industry proposal/alternate approach:</b>            Added 'augmented' to clarify applicability – applies to on-shift and augmenting ERO personnel (i.e., those called-in). Replaced 'as much as possible' with 'to the degree practicable' which is a more reasonable and workable standard. Changed 'capabilities' to 'emergency response functions' to promote consistent use of terminology. Editorial changes made to improve clarity.</p>	

NUREG-0654 Revision 2 Table B-1	
Note (8)	
Revision 2 Proposed Wording	Industry Proposed Wording
The number of operations staff on-shift is controlled by the site-specific Technical Specifications or other licensing documents; however, the normal plant operating organization should be described in sufficient detail to determine if adding emergency response functions to existing operations staff creates situations where competing priorities could preclude timely emergency response action(s).	The number of operations staff on-shift is controlled by the site-specific Technical Specifications or other licensing documents; however, the normal plant operating organization should be described in sufficient detail to determine if adding emergency response functions to existing operations staff <u>requires a detailed analysis in accordance with 10 CFR 50, Appendix E, IV.A.9, -creates situations where competing priorities could preclude timely emergency response action(s).</u>
<p><b>Basis for industry proposal/alternate approach:</b>            Recommend replacing 'creates situations where competing priorities could preclude timely emergency response action(s)' with 'requires a detailed analysis in accordance with 10 CFR 50, Appendix E, IV.A.9,' which seems to be goal of the note. This change does not alter the intent of the note.</p>	

NUREG-0654 Revision 2 Table B-1	
Note (9)	
Revision 2 Proposed Wording	Industry Proposed Wording
The fire brigade is controlled by the site-specific Technical Specifications or other licensing documents; however, the normal plant fire brigade organization should be described in sufficient detail to determine if adding emergency response functions creates situations where competing priorities could preclude timely emergency response action(s).	The fire brigade is controlled by the site-specific Technical Specifications or other licensing documents; however, the normal plant fire brigade organization should be described in sufficient detail to determine if adding emergency response functions <u>to existing fire brigade staff requires a detailed analysis in accordance with 10 CFR 50, Appendix E, IV.A.9.</u> <del>creates situations where competing priorities could preclude timely emergency response action(s).</del>
<p><b>Basis for industry proposal/alternate approach:</b>  Recommend replacing 'creates situations where competing priorities could preclude timely emergency response action(s)' with 'requires a detailed analysis in accordance with 10 CFR 50, Appendix E, IV.A.9,' which seems to be goal of the note. Also added 'to existing fire brigade staff' to make sentence structure match the Note above for Operations staff. These changes do not alter the intent of the note.</p>	

Emergency <del>Preparedness</del> <b>Response</b> Function	On Shift	Technical Support Center (TSC) / Operations Support Center (OSC)		Emergency Operations Facility (EOF)/ Joint Information Center (JIC)/ <del>Joint Information System (JIS)</del>
		Alert or Greater  Augment w/in 60-min <sup>1,2</sup> / <u>90-min<sup>1,2,6</sup></u>	Alert or Greater  Augment w/in 90-min <sup>1,2</sup>	Site Area Emergency (SAE) or Greater  Augment w/in 60 min <sup>3</sup> / <u>90-min<sup>3,6</sup></u>
<b>Command &amp; Control</b> <ul style="list-style-type: none"> <li>Provide overall ERO command and control until relieved.</li> <li>Approve emergency action level (EAL) and/or PAR classifications until relieved</li> <li>Authorize personnel dose extensions until relieved</li> </ul>	Operations Shift Manager	Emergency Coordinator (1)	Not applicable	Emergency Director (1)
<b>Communications</b> <ul style="list-style-type: none"> <li>Communicate EAL and PAR classifications to offsite agencies, including NRC, until relieved.</li> </ul>	Communicator <sup>1</sup>	Communicators (TSC) (2)  <i>One communicator for the NRC and one communicator for offsite response agencies.</i>	As needed.  <i>One Communicator staffed for NRC communications if needed.</i>	Communicator (1)
<b>Radiation Protection</b> <ul style="list-style-type: none"> <li>Provide qualified radiation protection coverage for responders accessing potentially unknown radiological environments during emergency conditions</li> <li>Provide in-plant surveys <del>onsite surveys and offsite surveys</del></li> <li><del>Support offsite field monitoring teams (FMTs)<sup>†</sup></del></li> <li>Control dosimetry and access control</li> </ul>	<del>HRP Personnel<sup>†</sup></del>	Additional <del>HRP</del> Technicians [In addition to personnel on-shift] (OSC) (3)	Additional <del>HRP</del> Technicians [In addition to personnel on-shift and those responding within 60 minutes] (OSC) ( <del>13</del> )	Not applicable

Emergency <del>Preparedness</del> <u>Response</u> Function	On Shift	Technical Support Center (TSC) / Operations Support Center (OSC)		Emergency Operations Facility (EOF)/ Joint Information Center (JIC)/ <del>Joint Information System (JIS)</del>
		Alert or Greater  Augment w/in 60-min <sup>1,2</sup> / <u>90-min<sup>1,2,6</sup></u>	Alert or Greater  Augment w/in 90-min <sup>1,2</sup>	Site Area Emergency (SAE) or Greater  Augment w/in 60 min <sup>3</sup> / <u>90-min<sup>3,6</sup></u>
<b>Supervision of Radiation Protection</b> <ul style="list-style-type: none"> <li>Evaluate and assess plant and offsite radiological data in the development of onsite protective actions and offsite PARs, until relieved</li> <li>Recommend onsite protective actions and offsite PARs to the applicable decision maker, until relieved</li> <li>Direct all radiation protection activities, until relieved</li> <li>Provide relevant information to applicable communicators in support of protective action recommendations to offsite agencies, until relieved.</li> </ul>	Operations Shift Manager	Site Radiation Protection Coordinator (SRPC) (1) (TSC)	Not applicable	Radiation Protection Manager (1) (EOF)
<b>Dose Assessments / Projections</b> <ul style="list-style-type: none"> <li>Perform dose assessments/projections and provide input to applicable PAR decision maker, until relieved</li> </ul>	Dose Assessment/ Projection Staff <sup>1</sup>	Dose Assessment/ Projection Staff (1) (TSC)	Not applicable	Dose Assessment/ Projection Staff (1) (EOF)

Emergency <del>Preparedness</del> <u>Response</u> Function	On Shift	Technical Support Center (TSC) / Operations Support Center (OSC)		Emergency Operations Facility (EOF)/ Joint Information Center (JIC)/ <del>Joint Information System (JIS)</del>
		Alert or Greater  Augment w/in 60-min <sup>1,2</sup> / <u>90-min<sup>1,2,6</sup></u>	Alert or Greater  Augment w/in 90-min <sup>1,2</sup>	Site Area Emergency (SAE) or Greater  Augment w/in 60 min <sup>3</sup> / <u>90-min<sup>3,6</sup></u>
<b>Emergency Classifications</b> <ul style="list-style-type: none"> <li>Evaluate plant conditions and recommend emergency classifications, until relieved</li> </ul>	Emergency Classification Advisor <sup>1</sup>	Emergency Classification Advisor (1) (TSC) <i>Licenses should consider having a liaison between Operations (Control Room) and the TSC to perform this function</i>	Not applicable	Not applicable
<b>Engineering</b> <ul style="list-style-type: none"> <li>Provide engineering coverage related to the specific discipline of the assigned engineer, until relieved</li> </ul>	<b>Core/Thermal Hydraulics Engineer<sup>1</sup></b> <ul style="list-style-type: none"> <li>Evaluate reactor conditions</li> </ul>	<b>TSC Engineering Staff</b> <ul style="list-style-type: none"> <li>Electrical/ Instrumentation and Control (I&amp;C): Provide engineering coverage for the ERO related to electrical or I&amp;C equipment.</li> <li>Mechanical: Provide engineering coverage for the ERO related to mechanical equipment.</li> <li>Core/Thermal Hydraulics: Evaluate reactor conditions.</li> </ul>	As needed	Not applicable

Emergency <b>Response Preparedness</b> Function	On Shift	Technical Support Center (TSC) / Operations Support Center (OSC)		Emergency Operations Facility (EOF)/ Joint Information Center (JIC)/ <b>Joint Information System (JIS)</b>
		Alert or Greater  Augment w/in 60-min <sup>1,2</sup> / <u>90-min<sup>1,2,6</sup></u>	Alert or Greater  Augment w/in 90-min <sup>1,2</sup>	Site Area Emergency (SAE) or Greater  Augment w/in 60 min <sup>3</sup> / <u>90-min<sup>3,6</sup></u>
<b>Security</b>	Security staffing is per the site Security Plan	<u>Site-specific Security Position Supervisor</u> (TSC) (1) <ul style="list-style-type: none"> <li>Coordinate security related activities and information with the Emergency Coordinator.</li> </ul>	Not applicable	Not applicable

Emergency <del>Preparedness</del> <u>Response</u> Function	On Shift	Technical Support Center (TSC) / Operations Support Center (OSC)		Emergency Operations Facility (EOF)/ Joint Information Center (JIC)/ <del>Joint Information System (JIS)</del>
		Alert or Greater  Augment w/in 60-min <sup>1,2</sup> / <u>90-min<sup>1,2,6</sup></u>	Alert or Greater  Augment w/in 90-min <sup>1,2</sup>	Site Area Emergency (SAE) or Greater  Augment w/in 60 min <sup>3</sup> / <u>90-min<sup>3,6</sup></u>
<b>Repair Team Activities</b>	<b>Operations Staff</b> <ul style="list-style-type: none"> <li>Limited <del>maintenance repair</del> capability needed on-shift<sup>5</sup>. This is typically limited to minor electrical and/or mechanical work <u>which does not require work planning or implementation of lockout/tagout controls to complete.</u> <del>to restore power and/or emergency core cooling system (ECCS) flow, as well as possibly filling and venting instrumentation on lines.</del></li> </ul>	<b>Maintenance Personnel (OSC) (1 electrician, 1 mechanic)</b> <ul style="list-style-type: none"> <li>Electrician: Provide electrical support for <del>ECCS equipment,</del> event mitigation, and equipment repair.</li> <li>Mechanic: Provide mechanical support for <del>ECCS equipment,</del> event mitigation, and equipment repair.</li> </ul>	<b>Maintenance Personnel (OSC)</b> <ul style="list-style-type: none"> <li>I&amp;C Technician: Provide assistance with logic manipulation, support for event mitigation and equipment repair, and support of digital I&amp;C if applicable. Additional I&amp;C staff may be called out if needed.</li> <li>Electricians – As needed.</li> <li>Mechanics – As needed.</li> </ul>	Not applicable

Emergency <del>Preparedness</del> <u>Response</u> Function	On Shift	Technical Support Center (TSC) / Operations Support Center (OSC)		Emergency Operations Facility (EOF)/ Joint Information Center (JIC)/ <del>Joint Information System (JIS)</del>
		Alert or Greater  Augment w/in 60-min <sup>1,2</sup> / <u>90-min<sup>1,2,6</sup></u>	Alert or Greater  Augment w/in 90-min <sup>1,2</sup>	Site Area Emergency (SAE) or Greater  Augment w/in 60 min <sup>3</sup> / <u>90-min<sup>3,6</sup></u>
Supervision of Repair Team Activities	Repair Team Supervisor <sup>1</sup>	<p><b>Lead OSC Supervisor (1)</b></p> <ul style="list-style-type: none"> <li>Supervise OSC activities as directed by Emergency Coordinator.</li> </ul>	<p><b>OSC Supervisors</b></p> <ul style="list-style-type: none"> <li>Electrical: Supervise OSC activities related to electrical equipment.</li> <li>Mechanical: Supervise OSC activities related to mechanical equipment.</li> <li>I&amp;C: Supervise OSC activities related to I&amp;C equipment. May be combined with Electrical Supervisor.</li> <li><del>HRP</del>: Supervise OSC activities related to radiation protection.</li> </ul>	Not applicable

<p><u>Field Monitoring</u><del>s</del></p>	<p>Not applicable</p>	<p><b>Onsite FMT</b></p> <ul style="list-style-type: none"> <li>(1) <del>Radiation Monitor</del> <u>Qualified individual</u> to assess environmental radiation/<del>contamination</del> and provide input to the SRPC. <u>Responsible for</u> <del>Also provide</del> <u>radiation protection of field team (independently or as directed)</u><del>HP coverage for team.</del></li> <li>(1) Driver to provide transportation, if applicable.</li> </ul> <p><b>Offsite FMT A</b></p> <ul style="list-style-type: none"> <li>(1) Qualified individual to perform environmental radiation/contamination assessments and radioactive plume tracking. Communicate and coordinate with applicable ERO supervision-<del>R</del>responsible for the radiation protection of the field team <u>(independently or as directed)</u>.</li> <li>(1) Driver to provide transportation, if applicable.</li> </ul>	<p><b>Offsite FMT B</b></p> <ul style="list-style-type: none"> <li>(1) Qualified individual to perform environmental radiation/contamination assessments and radioactive plume tracking. Communicate and coordinate with applicable ERO supervision-<del>R</del>responsible for the radiation protection of the field team <u>(independently or as directed)</u>.</li> <li>(1) Driver to provide transportation, if applicable.</li> </ul>	<p>Not Applicable</p>
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Emergency <del>Response Preparedness</del> Function	On Shift	Technical Support Center (TSC) / Operations Support Center (OSC)		Emergency Operations Facility (EOF)/ Joint Information Center (JIC)/ <del>Joint Information System (JIS)</del>
		Alert or Greater  Augment w/in 60-min <sup>1,2</sup> / <del>90-min</del> <sup>1,2,6</sup>	Alert or Greater  Augment w/in 90-min <sup>1,2</sup>	Site Area Emergency (SAE) or Greater  Augment w/in 60 min <sup>3</sup> / <del>90-min</del> <sup>3,6</sup>
<b>Media Information</b> <ul style="list-style-type: none"> <li>Manage and coordinate media information related to the event.</li> </ul>	Not applicable	JIC/ <del>JIS</del> staff to address media inquiries <sup>6</sup>	Not applicable	Staff to perform JIC/ <del>JIS</del> -related tasks
<b><del>Information Technology (IT)</del></b> <ul style="list-style-type: none"> <li><del>If emergency plan functions rely on computer-based equipment, provide IT support.</del></li> </ul>	Not applicable	Not applicable	<del>IT Lead (TSC) (1)<sup>+</sup></del> <ul style="list-style-type: none"> <li><del>Qualified individual to ensure IT equipment is operable.</del></li> </ul>	<del>IT Lead (EOF/JIC/JIS) (1)<sup>+</sup></del> <ul style="list-style-type: none"> <li><del>Qualified individual to ensure IT equipment is operable.</del></li> </ul>

<sup>1</sup>Other personnel may be assigned this function if no collateral duties are assigned to an individual that are beyond the capability of that individual to perform at any given time. A 10 CFR Part 50, Appendix E shift staffing evaluation must be performed to support assignment of multiple roles to individual responders on-shift. ~~For augmented ERO positions, a~~ similar performance-based approach is acceptable for evaluating whether augmented personnel can adequately perform multiple functions without having competing priorities.

<sup>2</sup> Specified TSC/OSC personnel should be capable of performing their required functions within 60(90)-minutes of an Alert or higher EAL classification.

<sup>3</sup> Specified EOF/JIC/~~JIS~~ personnel should be capable of performing their required functions within 60-minutes of a SAE or higher EAL classification.

<sup>4</sup> Two qualified HRP personnel for a single unit site or one per unit for a multi-unit site.

<sup>5</sup> ~~The ability to get ECCS equipment operational is the primary need while on shift.~~

<sup>6</sup> May not be performed in the TSC/OSC, but needs to be established at this point.

<sup>6</sup> Augmentation times greater than 60 minutes require a technical basis.

NUREG-0654 Revision 2 Table B-1			
Heading			
Revision 2 Proposed Wording			
<b>Alert or Greater Augment w/in 60-min<sup>1,2</sup></b>	<b>Alert or Greater Augment w/in 60-min<sup>1,2</sup> <u>/90-min<sup>1,2,6</sup></u></b>	<b>Site Area Emergency (SAE) or Greater Augment w/in 60 min<sup>3</sup></b>	<b>Site Area Emergency (SAE) or Greater Augment w/in 60 min<sup>3</sup> <u>/90-min<sup>3,6</sup></u></b>
<p><b>Basis for industry proposal/alternate approach:</b>            NUREG 0654 Table B-1 requires 60 minute augmentation capability for most TSC and EOF positions, with a limited number of positions responding within 90 minutes of event declaration. Although a detailed technical basis has not been establish for proposed augmentation response, the criterion is related to Section I, Time Factors Associated with Releases. In this section it is stated that “core damage within 30 minutes is possible,” and that “a release is possible within approximately an hour of event initiation.” The industry believes that the cited supporting references in this section do not provide an appropriate technical basis for the proposed time factors and, as a consequence, the specified times are overly conservative. As a result, the augmentation timeframes listed in Table B-1 are also overly conservative. NUREG-0654 R2 should acknowledge that the “Time Factors Associated with Releases” can vary widely based on site-specific plant designs and accident/event mitigation strategies. Where such time factors are important in establishing a basis for a particular planning element (e.g., augmentation times), licensees and Offsite Response Organizations should have flexibility to establish criteria that consider information from site-specific accident/event analyses. Should the staff wish to specify generic minimum time factors (i.e., no site- specific justification would be necessary to use as a planning basis), then such criteria should be informed by the capability of BDB event mitigation strategies to prevent core damage and a radiological release (e.g., strategies required by NRC Order EA-12-049 and 10 CFR 50.54[hh]).</p> <p>The industry proposes that the distinction be made that 60 minute augmentation response does not require a basis for its use. For response times greater than 60 minutes may be acceptable if a technical basis is provided to support its use by licensees.</p>			

<b>NUREG-0654 Revision 2 Table B-1</b>	
<b>Heading</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Emergency Preparedness Function	Emergency <u>Response</u> <del>Preparedness</del> Function
<p><b>Basis for industry proposal/alternate approach:</b>  Recommend replacement of 'basic functions' with 'emergency response functions' to maintain consistency with Notes (6), (8) and (9); consistent terms should be used throughout this criterion.</p>	

<b>NUREG-0654 Revision 2 Table B-1</b>	
<b>Heading</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Emergency Operations Facility (EOF) / Joint Information Center (JIC)/ Joint Information System (JIS)	Emergency Operations Facility (EOF) / Joint Information Center (JIC) <del>-Joint Information System (JIS)</del>
<p><b>Basis for industry proposal/alternate approach:</b>  Recommend removal of Joint Information System (JIS) from Table B-1. The JIS is more appropriately captured in Section G, Public Education and Information, as there is no augmentation activity associated with this process. Media relations personnel could accomplish this function from any location (work, home, etc.). Reference to the JIC in Table B-1 maintains alignment across emergency response facilities which include a physical reporting location.</p>	

NUREG-0654 Revision 2 Table B-1	
Radiation Protection	
Revision 2 Proposed Wording	Industry Proposed Wording
<ul style="list-style-type: none"> <li>• Provide qualified radiation protection coverage for responders accessing potentially unknown radiological environments during emergency conditions</li> <li>• Provide in-plant surveys, onsite surveys and offsite surveys</li> <li>• Support offsite field monitoring teams (FMTs)<sup>1</sup></li> <li>• Control dosimetry and access control</li> </ul>	<ul style="list-style-type: none"> <li>• Provide qualified radiation protection coverage for responders accessing potentially unknown radiological environments during emergency conditions</li> <li>• Provide in-plant surveys, <del>onsite surveys and offsite surveys</del></li> <li>• <del>Support offsite field monitoring teams (FMTs)<sup>1</sup></del></li> <li>• Control dosimetry and access control</li> </ul>
<p><b>Basis for industry proposal/alternate approach:</b>  Recommend relocating references to onsite surveys, offsite surveys and support of offsite field monitoring teams from this emergency response functional area to the Field Monitoring area where they are more appropriately addressed (i.e., places all out-of-plant monitoring activities together).</p>	

NUREG-0654 Revision 2 Table B-1	
Radiation Protection	
Revision 2 Proposed Wording	Industry Proposed Wording
<p>HP Personnel <sup>4</sup>  Additional HP Technicians [In addition to personnel on-shift] (OSC) (3)  Additional HP Technicians [In addition to personnel on-shift and those responding within 60-minutes] OSC) (3)</p>	<p><del>H</del>RP Personnel <sup>4</sup>  Additional <del>H</del>RP Technicians [In addition to personnel on-shift] (OSC) (3)  Additional <del>H</del>RP Technicians [In addition to personnel on-shift and those responding within 60-minutes] OSC) (<del>1</del>3)</p>
<p><b>Basis for industry proposal/alternate approach:</b>  Recommend replacement of references to ‘HP’ with ‘RP’ to maintain consistent use of terminology within this table and with other criteria.  Proposed different augmented staffing; the recommended minimum number of onsite RP technicians would be 6 for each ERO work shift. They would be comprised of 2 on-shift + 3 augmented within 60 min. + 1 augmented within 90 min. Industry operating experience has indicated that an ERO can effectively perform required emergency response functions with 6 onsite RP technicians per ERO work shift. If needed, additional RP technicians could be called-out, or otherwise obtained from fleet or alliance resources, or arranged through INPO.</p>	

NUREG-0654 Revision 2 Table B-1	
Security	
Revision 2 Proposed Wording	Industry Proposed Wording
Security Supervisor (TSC) (1) <ul style="list-style-type: none"> <li>Coordinate security related activities and information with the Emergency Coordinator</li> </ul>	<u>Site-specific</u> Security <del>Position</del> <del>Supervisor</del> (TSC) (1) Coordinate security related activities and information with the Emergency Coordinator
<b>Basis for industry proposal/alternate approach:</b> Recommend use of a generic title for the TSC Security function. The Security Supervisor is a Security Department position that would typically have overall responsibility for implementation of the Physical Security Plan. Use of a generic title would provide greater flexibility for staffing the position and still meet the intent of the function.	

NUREG-0654 Revision 2 Table B-1	
Repair Team Activities	
Revision 2 Proposed Wording	Industry Proposed Wording
<p>Operations Staff</p> <ul style="list-style-type: none"> <li>Limited maintenance capability needed on-shift<sup>5</sup>. This is typically limited to minor electrical and/or mechanical work to restore power and/or emergency core cooling system (ECCS) flow, as well as possibly filling and venting instrumentation lines.</li> </ul> <p>Maintenance Personnel (OSC) (1 electrician, 1 mechanic)</p> <ul style="list-style-type: none"> <li>(1) Electrician: Provide electrical support for ECCS equipment, event mitigation, and equipment repair.</li> <li>(1) Mechanic: Provide mechanical support for ECCS equipment, event mitigation, and equipment repair.</li> </ul> <p>Maintenance Personnel (OSC)</p> <ul style="list-style-type: none"> <li>(1) I&amp;C Technician: Provide assistance with logic manipulation, support for event mitigation and equipment repair, and support of digital I&amp;C if applicable. Additional I&amp;C staff may be called out if needed.</li> <li>Electricians – As needed.</li> <li>Mechanics – As needed.</li> </ul> <p>Not applicable</p>	<p>Operations Staff</p> <ul style="list-style-type: none"> <li>Limited <del>maintenance</del> <u>repair</u> capability needed on-shift<sup>5</sup>. This is typically limited to minor electrical and/or mechanical work <u>which does not require work planning or implementation of lockout/tagout controls to complete</u> <del>to restore power and/or emergency core cooling system (ECCS) flow, as well as possibly filling and venting instrumentation lines.</del></li> </ul> <p>Maintenance Personnel (OSC) (1 electrician, 1 mechanic)</p> <ul style="list-style-type: none"> <li>(1) Electrician: Provide electrical support for <del>ECCS equipment,</del> event mitigation, and equipment repair.</li> <li>(1) Mechanic: Provide mechanical support for <del>ECCS equipment,</del> event mitigation, and equipment repair.</li> </ul> <p>Maintenance Personnel (OSC)</p> <ul style="list-style-type: none"> <li>(1) I&amp;C Technician: Provide assistance with logic manipulation, support for event mitigation and equipment repair, and support of digital I&amp;C if applicable. <del>Additional I&amp;C staff may be called out if needed.</del></li> <li>Electricians – As needed.</li> <li>Mechanics – As needed.</li> </ul> <p>Not applicable</p>
<p><b>Basis for industry proposal/alternate approach:</b></p> <p>Recommend replacement of 'maintenance' with 'repair' in the first bullet so the activity description is aligned with the title of the emergency response functional area of Repair Team Activities, and better reflects what the teams actually perform (repairs vs. maintenance).</p> <p>Recommend adding the applicable descriptive criterion for the scope of on-shift repair work from endorsed guidance NEI 10-05, Assessment of On-Shift ERO Staffing and Capabilities, Section 2.5 – '...which does not require work planning or implementation of lockout/tagout controls to complete.' This will promote consistent licensee understanding and implementation since it will align terminology in this table with material in on-shift staffing analyses. References to specific repair activities such as power or ECCS flow restoration, or filling and venting, are unnecessary as they are subsumed in the proposed wording.</p> <p>Recommend deleting "ECCS equipment" since the remainder of the sentence subsumes the ECCS and all other systems as well, i.e., these personnel will support 'event mitigation and equipment repair,' including actions affecting any plant system, structure and component, not just ECCS.</p>	

**NUREG-0654 Revision 2 Table B-1**

**Supervision of Repairs Team Activities**

Revision 2 Proposed Wording	Industry Proposed Wording
Repair Team Supervisor <sup>1</sup> Lead OSC Supervisor (1) • Supervise OSC activities as directed by Emergency Coordinator. OSC Supervisors • (1) Electrical: Supervise OSC activities related to electrical equipment. • (1) Mechanical: Supervise OSC activities related to mechanical equipment. • (1) I&C: Supervise OSC activities related to I&C equipment. May be combined with Electrical Supervisor. • (1) HP: Supervise OSC activities related to radiation protection. Not applicable	Repair Team Supervisor <sup>1</sup> Lead OSC Supervisor (1) • Supervise OSC activities as directed by Emergency Coordinator. OSC Supervisors • (1) Electrical: Supervise OSC activities related to electrical equipment. • (1) Mechanical: Supervise OSC activities related to mechanical equipment. • (1) I&C: Supervise OSC activities related to I&C equipment. May be combined with Electrical Supervisor. • (1) <del>HP</del> RP: Supervise OSC activities related to radiation protection. Not applicable

**Basis for industry proposal/alternate approach:**  
 Recommend replacement of reference to 'HP' with 'RP' to maintain consistent use of terminology throughout the document. The use of 'RP' is also consistent with the emergency response functional area of Radiation Protection.

**NUREG-0654 Revision 2 Table B-1**

**Field Monitoring~~Ts~~**

Revision 2 Proposed Wording	Industry Proposed Wording
<p>Onsite FMT</p> <ul style="list-style-type: none"> <li>• (1) Radiation Monitor to assess environmental radiation/ contamination and provide input to the SRPC. Also provide HP coverage for team.</li> <li>• (1) Driver to provide transportation, if applicable.</li> </ul> <p>Offsite FMT A</p> <ul style="list-style-type: none"> <li>• (1) Qualified individual to perform environmental radiation/ contamination assessments and radioactive plume tracking. Communicate and coordinate with applicable ERO supervision. Responsible for the radiation protection of the field team.</li> <li>• (1) Driver to provide transportation, if applicable.</li> </ul> <p>Offsite FMT B</p> <ul style="list-style-type: none"> <li>• (1) Qualified individual to perform environmental radiation/ contamination assessments and radioactive plume tracking. Communicate and coordinate with applicable ERO supervision. Responsible for the radiation protection of the field team.</li> <li>• (1) Driver to provide transportation, if applicable.</li> </ul>	<p>Onsite FMT</p> <ul style="list-style-type: none"> <li>• (1) <u>Qualified individual</u> <del>Radiation Monitor</del> to assess environmental radiation/<del>contamination</del> and provide input to the SRPC. <u>Responsible for radiation protection</u> <del>Also provide HP coverage for</del> of the field team <u>(independently or as directed)</u>.</li> <li>• (1) Driver to provide transportation, if applicable.</li> </ul> <p>Offsite FMT A</p> <ul style="list-style-type: none"> <li>• (1) Qualified individual to perform environmental radiation/ contamination assessments and radioactive plume tracking. Communicate and coordinate with applicable ERO supervision- <del>R</del> responsible for the radiation protection of the field team.</li> <li>• (1) Driver to provide transportation, if applicable.</li> </ul> <p>Offsite FMT B</p> <ul style="list-style-type: none"> <li>• (1) Qualified individual to perform environmental radiation/ contamination assessments and radioactive plume tracking. Communicate and coordinate with applicable ERO supervision- <del>R</del> responsible for the radiation protection of the field team <u>(independently or as directed)</u>.</li> <li>• (1) Driver to provide transportation, if applicable.</li> </ul>

**Basis for industry proposal/alternate approach:**

Recommend spelling out of 'Field Monitoring' to better reflect the emergency response functional area; 'Teams' is not necessary for understanding.

Relocated 'Onsite FMT' to this emergency response functional area from the Radiation Protection area because it is more appropriately addressed here (i.e., places all out-of-plant monitoring activities together).

For Onsite FMT, replaced 'Radiation Monitor' with 'Qualified individual' to align with term used for Offsite FMTs. This allows licensees greater flexibility in staffing and event response while still meeting the functional requirement. Deleted 'contamination' as this parameter is not necessary for the initial phase emergency response (i.e., dose rate measurements are the necessary parameter for assessing EALs, formulating PARs and determining/confirming the status of a release. Contamination readings can be gathered later by the same or other personnel. Changed 'HP coverage' to 'radiation protection' to maintain consistency with terminology used in the Offsite FMT descriptions.

For Onsite and Offsite FMTs, added '(independently or as directed)' to account for individuals who are qualified to make independent RP decisions (e.g., an RP Technician) and individuals who are not but can implement directions provided by a qualified individual (e.g., the SRPC or an Offsite FMT Coordinator).

NUREG-0654 Revision 2 Table B-1	
Media Information	
Revision 2 Proposed Wording	Industry Proposed Wording
Not applicable JIC/JIS staff to address media inquiries <sup>6</sup> Not applicable Staff to perform JIC/JIS-related tasks	Not applicable JIC/ <del>JIS</del> staff to address media inquiries <sup>6</sup> Not applicable Staff to perform JIC/ <del>JIS</del> -related tasks
<p><b>Basis for industry proposal/alternate approach:</b>  Recommend removal of Joint Information System (JIS) from Table B-1. The JIS is more appropriately captured in Section G, Public Education and Information, as there is no augmentation activity associated with this process. Media relations personnel could accomplish this function from any location (work, home, etc.). Reference to the JIC in Table B-1 maintains alignment across emergency response facilities which include a physical reporting location.</p>	

NUREG-0654 Revision 2 Table B-1	
Information Technology	
Revision 2 Proposed Wording	Industry Proposed Wording
Information Technology (IT) If emergency plan functions rely on computer-based equipment, provide IT support.	<del>Information Technology (IT) If emergency plan functions rely on computer-based equipment, provide IT support.</del>
<p><b>Basis for industry proposal/alternate approach:</b>  Recommend removal of the line item.  The industry considers 'information technology' to be a support function that is called out on an as needed basis. Maintenance and testing is in place to ensure reliability of computer and other IT systems. Call out of personnel would only be required to address specific issues should they arise.</p>	

NUREG-0654 Revision 2 Table B-1	
Information Technology	
Revision 2 Proposed Wording	Industry Proposed Wording
Not applicable Not applicable IT Lead (TSC) (1)1 • Qualified individual to ensure IT equipment is operable. IT Lead (EOF/JIC/JIS) (1)1 • Qualified individual to ensure IT equipment is operable.	<del>Not applicable</del> <del>Not applicable</del> <del>IT Lead (TSC) (1)1</del> <del>• Qualified individual to ensure IT equipment is operable.</del> <del>IT Lead</del> <del>(EOF/JIC/JIS) (1)1</del> <del>• Qualified individual to ensure IT equipment is operable.</del>
<b>Basis for industry proposal/alternate approach:</b> Recommend removal of the line item. The industry considers 'information technology' to be a support function that is called out on an as needed basis. Maintenance and testing is in place to ensure reliability of computer and other IT systems. Call out of personnel would only be required to address specific issues should they arise.	

NUREG-0654 Revision 2 Table B-1	
Foot Note 1	
Revision 2 Proposed Wording	Industry Proposed Wording
<p><sup>1</sup> Other personnel may be assigned this function if no collateral duties are assigned to an individual that are beyond the capability of that individual to perform at any given time. A 10 CFR Part 50, Appendix E shift staffing evaluation must be performed to support assignment of multiple roles to individual responders on-shift. For augmented ERO positions, a similar approach is acceptable for evaluating whether personnel can adequately perform multiple functions without having competing priorities.</p>	<p><sup>1</sup> Other personnel may be assigned this function if no collateral duties are assigned to an individual that are beyond the capability of that individual to perform at any given time. A 10 CFR Part 50, Appendix E shift staffing evaluation must be performed to support assignment of multiple roles to individual responders on-shift. <del>For augmented ERO positions, A</del> <u>similar performance-based</u> approach is acceptable for evaluating whether <u>augmented</u> personnel can adequately perform multiple functions without having competing priorities.</p>
<p><b>Basis for industry proposal/alternate approach:</b>  Recommend revision of the second sentence to better align with wording included in Note (7). Use of the term 'performance-based' from Note (7) clarifies the reference to 'a similar approach' while maintaining consistency within the document. Also, the methodology in NEI 10-05 was specifically designed for application to on-shift EROs; it would not work well for augmented EROs without extensive revision. As proposed, this would have to be done on a site-by-site basis. Given this, referencing its use introduces the potential for inconsistent evaluations and inspection of those evaluations. A performance-based approach will provide more reliable and consistent evaluations (e.g., a mini-drill for a given position to assess the ability to perform assigned tasks with results documented).</p>	

<b>NUREG-0654 Revision 2 Table B-1</b>	
<b>Foot Note 3</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
<sup>3</sup> Specified EOF/JIC/JIS personnel should be capable of performing their required functions within 60-minutes of a SAE or higher EAL classification.	<sup>3</sup> Specified EOF/JIC/ <del>JIS</del> personnel should be capable of performing their required functions within 60-minutes of a SAE or higher EAL classification.
<p><b>Basis for industry proposal/alternate approach:</b>  Recommend removal of Joint Information System (JIS) from Table B-1. The JIS is more appropriately captured in Section G, Public Education and Information, as there is no augmentation activity associated with this process. Media relations personnel could accomplish this function from any location (work, home, etc.). Reference to the JIC in Table B-1 maintains alignment across emergency response facilities which include a physical reporting location.</p>	

<b>NUREG-0654 Revision 2 Table B-1</b>	
<b>Foot Note 4</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
<sup>4</sup> Two qualified HP personnel for a single unit site or one per unit for a multi-unit site.	<sup>4</sup> Two qualified <del>HP</del> RP personnel for a single unit site or one per unit for a multi-unit site.
<p><b>Basis for industry proposal/alternate approach:</b>  Recommend replacement of references to 'HP' with 'RP' to maintain consistent use of terminology with emergency response function title.</p>	

<b>NUREG-0654 Revision 2 Table B-1</b>	
<b>Foot Note 5</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
<sup>5</sup> The ability to get ECCS equipment operational is the primary need while on-shift.	<del><sup>5</sup> The ability to get ECCS equipment operational is the primary need while on-shift.</del>
<p><b>Basis for industry proposal/alternate approach:</b>  Recommend removal of Footnote 5 based on proposed change to language under Repair Team Activities of the table '...which does not require work planning or implementation of lockout/tagout controls to complete.' This will promote consistent licensee understanding and implementation since it will align terminology in this table with material in on-shift staffing analyses. References to specific repair activities such as power or ECCS flow restoration, or filling and venting, are unnecessary as they are subsumed in the proposed wording. With the proposed wording, Footnote 5 is no longer necessary.</p>	

<b>NUREG-0654 Revision 2 Table B-1</b>	
<a href="#"><u>Foot Note 6</u></a>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
	<a href="#"><u><sup>6</sup> Augmentation times greater than 60 minutes require a technical basis.</u></a>
<p><b>Basis for industry proposal/alternate approach:</b>  The industry proposes that the distinction be made such that 60 minute augmentation response does not require a basis for its use and that augmentation greater than 60 minutes may be acceptable if a technical basis is provided to support its use by licensees.</p>	

<b>Evaluation Criteria: C.1</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Organizations provide emergency response support and resources, as agreed upon, to the licensee's EOF.	Organizations provide emergency response support and resources, as agreed upon, to the licensee's EOF.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: C.2</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Provisions are made for additional assistance and resources relied upon in an emergency, to include the following:	Provisions are made for additional assistance and resources relied upon in an emergency, to include the following:
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: C.2.a</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
The individual(s), by title/position, authorized to request resources from responding organizations.	The individual(s), by title/position, authorized to request resources from responding organizations.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: C.2.b</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
<p>(1) Each organization from which assistance may be requested,  (2) the circumstance(s) in which the support would be required,  (3) the process for obtaining needed assistance and resources,  (4) each resource or capability expected to be provided,  (5) when the expected resources would be available once requested  (6) how integration will occur</p>	<p>(1) Each organization from which assistance may be requested,  (2) the circumstance(s) in which the support would be required;  (3) the process for <del>obtaining</del><u>requesting</u> needed assistance and resources,  (4) <del>each</del><u>categories of</u> resources<u>s</u> or capabilities<u>s</u> expected to be provided,  <del>(5) when the expected resources would be available once requested</del>  <del>(6) how integration will occur</del></p>
<p><b>Basis for industry proposal/alternate approach:</b>  <b>General discussion</b> - 10 CFR 50 Appendix E.IV.A.7 requires, “..identification of and a description of the assistance expected...”. NSIR/DPR-ISG-01, informed by RIS 2004-15, states that licensees should verify the type of assistance to be provided is “identified and described to support onsite response activities”. FAQ 2013-003 provides an example of acceptable wording which includes “agency name, a clear concise summary of its responsibilities, emergency measures or support to be provided, and its concept of operation as applicable.”  <b>Item #3</b> – Recommend removal of the word ‘obtaining’ and use of the term ‘requesting’ for this item. In the examples provided in FAQ 2013-003, ‘requested’ is the terminology used. Additionally, during an event leading to large offsite impacts, deployment of ORO resources will be prioritized by senior officials. The site may not be able to obtain the resources and assistance but the Plan should address the means for requesting them.  <b>Item #4</b> – Recommend use of the term ‘categories’ rather than ‘each’. ‘Categories’ better reflects the FAQ wording relating to a ‘summary of....measures or support..’ A specific list of ‘each resource’ could introduce a level of detail not sustainable by either the license or the OROs, and the list could frequently change. There are cases where some offsite agencies will not commit to specific resources. Additionally, the proposed wording would facilitate the addition or upgrading of equipment, or use of different equipment without the unnecessary regulatory burden of revising the emergency plan.  <b>Item #5</b> – Recommend removal of item #5. The direction and control of external resources are determined at the time of the event and based on various factors. The dispatch and arrival time of a resource is beyond the licensee’s control.  <b>Item #6</b> – Recommend removal of item #6. Discussion on the process to address integration of onsite and offsite resources is better suited to procedure-level documents than the Emergency Plan.</p>	

<b>Evaluation Criteria: C.2.c</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Coordination of site access for external organizations that have agreed to provide requested assistance and resources.	Coordination of site access for external organizations that have agreed to provide requested assistance and resources.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: C.2.d</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Provisions to ensure coordination of ORO support onsite with the licensee.	Provisions to ensure coordination of ORO support onsite with the licensee.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: C.2.e</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Agreements are established with local agencies for various situations that may arise. These situations may require police, medical, ambulance, fire, and/or hospital support.	Agreements are established with local agencies such for <del>various situations that may arise. These situations may require</del> police, medical and ambulance services, fire <u>response</u> , and/or hospital support.
<b>Basis for industry proposal/alternate approach:</b> Reworded sentence for clarity – the term “various situations” was unnecessary since it was defined by the example listed agencies. Added word “response” to reflect common terminology. The proposed wording does not change the intent of the criterion.	

<b>Evaluation Criteria: C.3</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
The capability of each organization to coordinate with other principal organizations participating in the emergency response is described.	The capability of each organization to coordinate with other principal organizations participating in the emergency response is described.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: C.4</b>	
<b>Applicability: Licensee, State, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Radiological laboratories, their general capabilities, and expected availability to provide radiological monitoring and analyses services that can be used in an emergency are identified. Provisions to augment the identified radiological laboratories are identified.	Radiological laboratories, their general capabilities, and expected availability to provide radiological monitoring and analyses services that can be used in an emergency are identified. <del>Provisions to augment the identified radiological laboratories are identified.</del>
<b>Basis for industry proposal/alternate approach:</b> Recommend removal of the last sentence. The term ‘provision’ as used in the last sentence is unclear; need to distinguish between radiological laboratories for which detailed planning is necessary and a “provision” for a radiological laboratory. A ‘provision to augment’ could imply that backup capability through additional agreements or contracts is required. ERO and State/Tribal staffs are capable of identifying additional resources if planned and available resources are inadequate (e.g., request additional resources through INPO, interstate compacts, Federal agencies, etc.) Inclusion of this provision adds unnecessary regulatory burden.	

<b>Evaluation Criteria: C.5</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Arrangements are described for integrating the licensee's response with the NRC Headquarters and regional incident response centers and, when dispatched, the NRC's site team.	Arrangements are described for integrating the licensee's response with the NRC Headquarters and regional incident response centers and, when dispatched, the NRC's site team.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: C.5.a</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Provisions for activating the NRC's Emergency Response Data System (ERDS) during an emergency are described.	Provisions for <u>use of activating</u> the NRC's Emergency Response Data System (ERDS) during an emergency are described.
<b>Basis for industry proposal/alternate approach:</b> Recommended wording change to accommodate sites that "activate" ERDS as an emergency action as well as sites that maintain an ERDS connection at all times (i.e., it's an open connection and not activated following an emergency declaration). The proposed wording does not change the intent of the criterion.	

<b>Evaluation Criteria: C.5.b</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Provision to continuously maintain open communications lines with the NRC, when requested, are described.	Provision to continuously maintain open communications lines with the NRC, when requested, are described.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: D.1</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
A standard emergency classification and action level scheme is established and maintained. The scheme provides detailed EALs for each of the four ECLs as defined in Section IV.C.1 of Appendix E to 10 CFR Part 50.	A standard emergency classification and action level scheme is established and maintained. The scheme provides detailed EALs for each of the four ECLs as defined in Section IV.C.1 of Appendix E to 10 CFR Part 50.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: D.1.a</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
The EALs are developed using guidance provided or endorsed by the NRC as applicable to the reactor design.	The EALs are developed using guidance provided or endorsed by the NRC as applicable to the reactor design.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: D.1.b</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
The initial emergency classification and action level scheme is discussed and agreed to by the licensee and OROs. Thereafter, the scheme is reviewed with OROs on an annual basis.	The initial emergency classification and action level scheme is discussed and agreed to by the licensee and OROs. Thereafter, the scheme is reviewed with OROs on an annual basis.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: D.2</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
The capability to assess, classify, and declare the emergency condition within 15 minutes after the availability of indications to plant operators that an EAL has been exceeded is described.	The capability to assess, classify, and declare the emergency condition within 15 minutes after the availability of indications to plant operators that an EAL has been exceeded is described.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: D.3</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Procedures include immediate actions to be taken which are consistent with the ECL declared by the licensee.	Procedures include immediate actions to be taken which are consistent with the ECL declared by the licensee.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: D.4</b>	
<b>Applicability: State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Procedures include implementing immediate actions based on the ECL declared by the licensee and applicable offsite conditions.	Procedures include implementing immediate actions based on the ECL declared by the licensee and applicable offsite conditions.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: E.1</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
The mutually agreeable bases for direct and prompt notification of response organizations for emergency declarations are described.	The <del>mutually agreeable</del> <u>process</u> bases for direct and prompt notification of response organizations for emergency declarations are described.
<b>Basis for industry proposal/alternate approach:</b> Recommend removal of term 'mutually agreeable'. This is an unnecessary descriptor since all planning arrangements between organizations, such as the licensee and OROs, are expected to be 'mutually agreeable.' Recommend replacement of the word 'bases' with 'process'. 'Process' describes how the notification is to be accomplished. The bases for the notification is the regulatory requirement as stated in 10 CFR 50 Appendix E.IV.D.1.	

<b>Evaluation Criteria: E.1.a</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Provisions for notification of response organizations are established, including the means for verification of messages.	Provisions for notification of response organizations are established, including the means for verification of messages.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: E.2</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
The means for alerting, notifying, and mobilizing emergency response personnel are described.	The means for alerting, notifying, and mobilizing emergency response personnel are described.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: E.3</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
The licensee, in conjunction with State, local, and Tribal organizations, establishes the contents of the initial and follow-up emergency notifications to be sent from the NPP.	The licensee, <del>in conjunction</del> <u>coordinates</u> with State, local, and Tribal organizations, <del>to</del> <u>establis</u> es the contents of the initial and follow-up emergency notifications to be sent from the NPP.
<b>Basis for industry proposal/alternate approach:</b> Recommend replacement of the term 'in conjunction' with 'coordinates'. Editorial change to improve clarity. The proposed change does not alter the intent of this criterion.	

<b>Evaluation Criteria: E.4</b>	
<b>Applicability: State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Each organization establishes the contents of the initial and follow-up messages to the public including, as applicable, instructions for protective actions.	Each organization establishes the contents of the initial and follow-up messages to the public including, as applicable, instructions for protective actions.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: E.5</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Provisions are made to provide supplemental information periodically throughout the incident to inform the public.	Provisions are made to provide supplemental information periodically throughout the incident to inform the public.
<b>Basis for industry proposal/alternate approach:</b> The term 'supplemental information' is not used in NRC regulations or in the FEMA REP Manual, and no definition has been provided in this document. The term needs to be defined or this criterion deleted. If the criterion is retained, the 'Licensee' should be removed from applicability. Information provided to the public, beyond that required by the Public Information planning standard, is the responsibility of 'State, Local, Tribal' OROs and not the licensee.	

<b>Evaluation Criteria: E.6</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
The administrative means and the time required for alerting, notifying, and providing prompt instructions to the public within the plume exposure pathway EPZ are established. The organizations or titles/positions responsible for activating the system are identified.	The administrative means and the time required for alerting, notifying, and providing prompt instructions to the public within the plume exposure pathway EPZ are established. The organizations or titles/positions responsible for activating the system are identified.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: F.1</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Each principal response organization establishes redundant means of communication and addresses the following provisions:	Each principal response organization establishes redundant means of communication and addresses the following provisions:
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: F.1.a</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Continuous capability for notification to, and activation of, the emergency response network, including a minimum of two independent communication links.	Continuous capability for notification to, and activation of, the emergency response network, including a minimum of two independent communication links.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: F.1.b</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Communication with applicable organizations to include a description of the methods that may be used when contacting each organization.	Communication with applicable organizations to include a description of the methods that may be used when contacting each organization.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<del><b>Evaluation Criteria: F.1.c</b></del>	
<del><b>Applicability: Licensee, State, Local, Tribal</b></del>	
<del><b>Revision 2 Proposed Wording</b></del>	<b>Industry Proposed Wording</b>
Systems for alerting or activating emergency personnel in each response organization.	<del>Systems for alerting or activating emergency personnel in each response organization.</del>
<b>Basis for industry proposal/alternate approach:</b> Recommend deletion of this criterion as it addressed by criterion E.2.	

<b>Evaluation Criteria: F.2</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
The systems used to alert and notify the general public within the plume exposure pathway EPZ and methods of activation are described.	The systems used to alert and notify the general public within the plume exposure pathway EPZ, and methods of activation are <del>described</del> <u>listed and/or the emergency plan includes a referenced to these systems and methods in the FEMA-approved alert and notification design report.</u>
<p><b>Basis for industry proposal/alternate approach:</b>  Change “described” to “listed;” a description level of detail for a system is more appropriate to a procedure or a design report document than an emergency plan.  Recommend inclusion of an alternate approach for providing this information by allowing a reference to the FEMA-approved ANS design report. The approach is consistent with the allowance to incorporate ETE information by reference as specified in criterion J.8.</p>	

<b>Evaluation Criteria: F.3</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Systems for coordinated communication methods for applicable fixed and mobile medical support facilities are described.	Systems for coordinated communication methods for applicable fixed and mobile medical support facilities are described.
<p><b>Basis for industry proposal/alternate approach:</b>  No recommendation for alternate approach or wording.</p>	

<b>Evaluation Criteria: F.4</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
The testing method and periodicity for each communication system used for the functions identified in Evaluation Criteria F.1, F.2 and F.3 are described.	The testing method and periodicity for each communication system used for the functions identified in Evaluation Criteria F.1, F.2 and F.3 are described.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: G.1</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Provisions are made for a coordinated annual dissemination of information to the public, including transient populations and those with disabilities and access/functional needs, regarding how they will be notified and what their actions should be in an emergency. The information is disseminated using multiple methods, to include non-English translations per current Federal guidance.	Provisions are made for a coordinated annual dissemination of information to the public, including transient populations and those with disabilities and access/functional needs, regarding how they will be notified and what their actions should be in an emergency. The information is disseminated using multiple methods, to include non-English translations per current Federal guidance.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: G.2</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Methods, consistent with JIS concepts, are established for coordinating and disseminating information to the public and media. Plans include the physical location(s) for interacting with the media.	Methods, <del>consistent with JIS concepts</del> , are established for coordinating and disseminating information to the public and media, <u>and may include JIS concepts</u> . Plans include the physical location(s) for interacting with the media.
<b>Basis for industry proposal/alternate approach:</b> Recommend rewording first sentence to stress that use of JIS concepts are permissible. It is unnecessary to specify the 'consistent with' aspect if JIS concepts are one of the established methods; clearly, all the methods would be designed to work together.	

<b>Evaluation Criteria: G.3</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Organizations designate news media points of contact and a spokesperson(s) with access to necessary information.	Organizations designate news media points of contact and a spokesperson(s) with access to necessary information.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: G.3.a</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Arrangements are made for the timely exchange of information among designated spokespersons representing the entities involved in incident response.	Arrangements are made for the timely exchange of information among designated spokespersons representing the entities involved in incident response.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: G.4</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Organizations establish coordinated arrangements for identifying and addressing public inquiries and inaccurate information.	Organizations establish coordinated arrangements for identifying and addressing public inquiries and inaccurate information.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: G.5</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Organizations coordinate programs to acquaint news media with the emergency plans at least annually.	Organizations <u>offer opportunities</u> <del>coordinate programs</del> to acquaint news media with the emergency plans at least annually.
<b>Basis for industry proposal/alternate approach:</b> Recommend replacing the term 'coordinate programs' with 'offer opportunities.' The suggested term more accurately reflects how licensees and OROs currently meet this criterion. This change does not alter the intent of the criterion.	

<b>Evaluation Criteria: G.6</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Each organization creates a public messaging plan that addresses how information is coordinated with other organizations and shared with the public. The public messaging plan is consistent with Joint Information System (JIS) concepts.	Each organization creates a public messaging plan that addresses how information is coordinated with other organizations and shared with the public. The public messaging plan <u>may utilize</u> <del>is consistent with</del> Joint Information System (JIS) concepts.
<b>Basis for industry proposal/alternate approach:</b> Recommend rewording second sentence to stress that use of JIS concepts are permissible. It is unnecessary to specify the 'consistent with' aspect if JIS concepts are one element of a public messaging plan; clearly, the plan would ensure that all messaging methods would be designed to work together.	

<b>Evaluation Criteria: H.1</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
A TSC is established from which plant conditions are evaluated and corrective actions are developed to mitigate accident conditions.	A TSC is established from which plant conditions are evaluated and <del>corrective</del> actions are developed to mitigate accident conditions
<b>Basis for industry proposal/alternate approach:</b> Recommend deletion of the term 'corrective' for clarity. The term 'corrective actions' typically refers to Appendix B and corrective action program criteria whereas the actions being addressed here are emergency response actions associated with accident mitigation. The change does not alter the intent of the criterion.	

<b>Evaluation Criteria: H.2</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
An OSC is established from which repair team activities are planned and teams are dispatched to implement corrective actions developed by the TSC.	An OSC is established from which repair team activities are planned and teams are dispatched to implement <del>corrective</del> actions developed by the TSC.
<b>Basis for industry proposal/alternate approach:</b> Recommend deletion of the term 'corrective' for clarity. The term 'corrective actions' typically refers to Appendix B and corrective action program criteria whereas the actions being addressed here are emergency response actions associated with accident mitigation. The change does not alter the intent of the criterion.	

<b>Evaluation Criteria: H.3</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
An EOF is established from which evaluation and coordination of licensee activities related to an emergency are to be carried out and from which the licensee can provide information to Federal, state, local, and tribal authorities responding to a radiological emergency.	An EOF is established <u>as the primary base of emergency operations for the</u> <del>from which evaluation and coordination of</del> licensee <u>in a radiological incident. The EOF facilitates the management and coordination of the overall</u> <del>activities related to an</del> emergency <u>response, including</u> <del>are to be carried out and from which</del> the <u>sharing of</u> <del>licensee can provide</del> information <u>with</u> <del>to</del> Federal, state, local, and tribal authorities responding to a radiological emergency.
<b>Basis for industry proposal/alternate approach:</b> Reworded the criterion to align with the definition of the Emergency Operations Facility provided in the Glossary. This change does not alter the intent of the criterion.	

<b>Evaluation Criteria: H.3.a</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
For an EOF that is located more than 25 miles away from the NPP, provisions are made for locating NRC and offsite responders closer to the NPP.	For an EOF that is located more than 25 miles away from the NPP, provisions are made for locating NRC and offsite responders closer to the NPP.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: H.4</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
An alternative facility (or facilities) is established that would be accessible even if the site is under threat of or experiencing hostile action.	An alternative facility (or facilities) is established that would be accessible even if the site is under threat of or experiencing hostile action.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: H.5</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
A JIC is established to coordinate communication from Federal, state, local, and tribal authorities with the public and the media. The location of the JIC has the same requirements as the location of the EOF (i.e., within 25 miles of the plant). If the JIC is located at a consolidated EOF that is located more than 25 miles from the site, then a facility is provided within 25 miles of the site, which is agreed upon by State, local, and Tribal stakeholders, to provide information to public and media.	A JIC is established to coordinate communication from Federal, State, local, and Tribal authorities with the public and the media. <del>The location of the JIC has the same requirements as the location of the EOF (i.e., within 25 miles of the plant). If the JIC is located at a consolidated EOF that is located more than 25 miles from the site, then a facility is provided within 25 miles of the site, which is agreed upon by State, local, and Tribal stakeholders, to provide information to public and media.</del>
<p><b>Basis for industry proposal/alternate approach:</b>  Recommend deletion of the second and third sentences from this criteria. Specifying the location does not facilitate coordination with Federal, State, local and Tribal counterparts. The location should be mutually agreeable by all participants.  The regulatory references to joint information centers, include:</p> <ul style="list-style-type: none"> <li>• 10 CFR 50.47(b)(7) identifies a requirement to "...establishing points of contact (including physical location or locations)..” and does not specify any requirement associated with distance from the site or in relation to the EPZ as a whole.</li> <li>• Appendix E IV.F(2)(j) requires that, “Each exercise must provide the opportunity to demonstration of key skills specific to emergency response duties in the control room, TSC, OSC, EOF and joint information center.”</li> <li>• 10 CFR 50.47 Appendix E IV.E.8.b, addresses facility location for only the EOF.</li> </ul> <p>Inclusion of a location requirement as listed here represents an increase in program scope without the appropriate regulatory basis. Moreover, in accordance with FEMA 517, Basic Guidance for Public Information Officers, “The JIC is a central location that facilitates operation of the JIS.” There are circumstances where a pre-designated facility is not optimum or necessary for immediate transmission of public information/instructions. Licensees need flexibility to establish a center that works best for coordinating with all stakeholders and comports with the NIMS principles of public information. As an example, during a hostile action response event, the licensee would likely coordinate public information via the Incident Command Center.</p>	

<b>Evaluation Criteria: H.6</b>	
<b>Applicability: State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Each organization establishes an emergency operations center (EOC) for use in directing and controlling response functions. For an EOC located within the plume exposure pathway EPZ, and alternate EOC or location outside the plume exposure pathway EPZ is identified to continue response functions in the event of an evacuation.	Each organization establishes an emergency operations center (EOC) for use in directing and controlling response functions. For an EOC located within the plume exposure pathway EPZ, and alternate EOC or location outside the plume exposure pathway EPZ is identified to continue response functions in the event of an evacuation.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: H.7</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Onsite monitoring systems used to initiate emergency measures in accordance with the emergency classification scheme, as well as those to be used for conducting assessment, are identified. Monitoring systems consist of:	Onsite monitoring systems used to initiate emergency measures in accordance with the emergency classification scheme, as well as those to be used for conducting assessment, are identified. Monitoring systems consist of:
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: H.7.a</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Geophysical phenomena monitors, including meteorological, hydrologic, and seismic instrumentation.	Geophysical phenomena monitors, including meteorological, hydrologic, and seismic instrumentation.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: H.7.b</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Radiological monitors, including process, area, emergency, effluent, wound, and portable monitors, and sampling equipment.	Radiation <del>ological</del> monitors, <del>including process, area, emergency, effluent, wound, and portable monitors,</del> and sampling equipment.
<b>Basis for industry proposal/alternate approach:</b> Recommend use of the term 'Radiation Monitor' as this is the commonly used term in the industry. Delete references to example types of monitors as the list is incomplete. The licensee is capable of identifying the necessary monitors (e.g., from a review of the emergency classification scheme [i.e., in the EALs], dose assessment and protective action decision-making methodologies, related program documents [e.g., the Radiation Protection program or ODCM], etc.).	

<b>Evaluation Criteria: H.7.c</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Process monitors, including reactor coolant system pressure and temperature, containment pressure and temperature, liquid levels, flow rates, status or lineup of equipment components.	<u>Plant p</u> Process monitors, <del>including reactor coolant system pressure and temperature, containment pressure and temperature, liquid levels, flow rates, status or lineup of equipment components.</del>
<p><b>Basis for industry proposal/alternate approach:</b>  Recommend use of the term 'Plant process monitors' to clearly differentiate these monitors from process radiation monitors.  Delete references to example types of monitors as the list is incomplete. The licensee is capable of identifying the necessary monitors (e.g., from a review of the emergency classification scheme [i.e., in the EALs], dose assessment and protective action decision-making methodologies, related program documents [e.g., EOPs or Critical Safety Function Status Tress], etc.).</p>	

<b>Evaluation Criteria: H.7.d</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Fire and combustion products detectors.	Fire and combustion products detectors.
<p><b>Basis for industry proposal/alternate approach:</b>  No recommendation for alternate approach or wording.</p>	

<b>Evaluation Criteria: H.8</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Provisions are made to acquire data from, or for emergency access to, offsite monitoring and analysis equipment including:	Provisions are made to acquire <a href="#">information on geophysical phenomena that may affect the site (e.g., meteorological, hydrologic, and seismic) and radiological data (e.g., from field monitoring teams and laboratory analyses)</a> <del>data from, or for emergency access to, from offsite sources, monitoring and analysis equipment including:</del>
<p><b>Basis for industry proposal/alternate approach:</b></p> <p>The expectations in the Rev. 2 proposed wording are unclear and could lead to unnecessary requirements. The criterion should be focused on the information that a licensee would obtain to support emergency assessment activities, and not the type or form of information (e.g., a qualitative statement summarizing or characterizing an event vs. the data on the event). In addition, the term ‘access’ is ambiguous as used here – physical access to equipment, electronic access to raw data, or voice access to personnel/organizations that can provide results or summaries of the event and related analyses. The access needs could vary by information type. The proposed wording provides flexibility in defining the types of information acquired from offsite sources, the methods for doing so and the type or form of information.</p> <p>For simplicity, incorporated criteria from H.8.a, H.8.b and H.8.c.</p>	

<b>Evaluation Criteria: H.8.a</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Geophysical phenomena monitors, including meteorological, hydrologic, and seismic instrumentation.	<del>Geophysical phenomena monitors, including meteorological, hydrologic, and seismic instrumentation.</del>
<b>Basis for industry proposal/alternate approach:</b> Recommend deletion of this criterion. References to geophysical monitors are subsumed by the proposed wording in criterion H.8.	

<b>Evaluation Criteria: H.8.b</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Radiological monitors, including ratemeters, sampling devices, and environmental dosimeters.	<del>Radiological monitors, including ratemeters, sampling devices, and environmental dosimeters.</del>
<b>Basis for industry proposal/alternate approach:</b> Recommend deletion of this criterion. References to radiological monitors are subsumed by the proposed wording in criterion H.8	

<b>Evaluation Criteria: H.8.c</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Laboratory facilities, fixed or mobile.	<del>Laboratory facilities, fixed or mobile.</del>
<b>Basis for industry proposal/alternate approach:</b> Recommend deletion of this criterion. References to laboratory facilities are subsumed by the proposed wording in criterion H.8	

<b>Evaluation Criteria: H.9</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Organizations directly responsible for offsite radiological monitoring, provide for radiological monitoring equipment in the vicinity of the nuclear facility.	Organizations directly responsible for offsite radiological monitoring, provide for radiological monitoring equipment in the vicinity of the nuclear facility.
<b>Basis for industry proposal/alternate approach:</b> No recommendation at this time for alternate approach or wording.	

<b>Evaluation Criteria: H.10</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Instrumentation is provided to obtain current meteorological information and additional provisions are made to get representative meteorological information from other sources. Monitoring systems provide the following information:	Instrumentation is provided to obtain current meteorological information and additional provisions are made to <del>get</del> <u>obtain</u> representative meteorological information from other sources. <del>Monitoring systems provide the following information.</del> <u>Meteorological information is provided to:</u>
<b>Basis for industry proposal/alternate approach:</b> Editorial change - replace 'get' with 'obtain.' Recommend change in second sentence to improve clarity. These changes do not alter the intent of the criterion.	

<b>Evaluation Criteria: H.10.a</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Site meteorological information to the control room, TSC, EOF, and NRC (via ERDS).	<del>Site meteorological information to t</del> <u>h</u> e control room, TSC, EOF, and NRC (via ERDS).
<b>Basis for industry proposal/alternate approach:</b> Editorial change to support recommended change to criterion H.10. This change does not alter the intent of the criterion.	

<b>Evaluation Criteria: H.10.b</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Meteorological instrumentation inputs needed by the facility's emergency radiological assessment models for site-specific characterization of plume dispersion and transport.	<del>Meteorological instrumentation inputs needed by the facility's</del> <u>Personnel running</u> emergency radiological assessment models for site-specific characterization of plume dispersion and transport.
<p><b>Basis for industry proposal/alternate approach:</b>  Editorial change to support recommended change to criterion H.10. This change does not alter the intent of the criterion.  Alternate comment – licensees run emergency radiological assessment models in the Control Room, TSC and EOF. Those facilities are listed in criterion H.10.a. For this reason, criterion H.10.b could be deleted, and H.10.a combined with H.10.</p>	

<b>Evaluation Criteria: H.11</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Each organization makes provisions to inspect, inventory, and operationally check emergency equipment/instruments at least once each calendar quarter. This includes:	<del>Each organization makes p</del> Provisions <u>are made to ensure that emergency equipment and supplies are tested and maintained, and available and functional in sufficient quantities when needed during emergency conditions. inspect, inventory, and operationally check emergency equipment/instruments at least once each calendar quarter. This includes:–</u> <u>The organization(s) responsible for the testing and maintenance of radiological equipment and supplies are identified.</u>
<b>Basis for industry proposal/alternate approach:</b> Reworded to align with the requirement of 10 CFR 50, Appendix E, Section G. The emergency plan should contain a high-level description of the program(s) that ensure the readiness of emergency response facilities and equipment. Implementing details of inspections, inventories, operational checks and frequencies are more appropriately addressed in testing/maintenance-level procedures, guidelines or operator aids. Including this detail in an emergency plan imposes an unnecessary administrative and regulatory burden.	

<b>Evaluation Criteria: H.11.a</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Provisions to operationally check emergency equipment/instruments prior to each use.	<del>Provisions to operationally check emergency equipment/instruments prior to each use.</del>
<p><b>Basis for industry proposal/alternate approach:</b>  Delete this criterion. The emergency plan should contain a high-level description of the program(s) that ensure the readiness of emergency response facilities and equipment. Implementing details of inspections, inventories, operational checks and frequencies are more appropriately addressed in testing/maintenance-level procedures, guidelines or operator aids. Including this detail in an emergency plan imposes an unnecessary administrative and regulatory burden.</p>	

<b>Evaluation Criteria: H.11.b</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Sufficient reserves of instruments/equipment to replace those which are removed from emergency kits for calibration or repair.	<del>Sufficient reserves of instruments/equipment to replace those which are removed from emergency kits for calibration or repair.</del>
<p><b>Basis for industry proposal/alternate approach:</b>  Delete this criterion. The emergency plan should contain a high-level description of the program(s) that ensure the readiness of emergency response facilities and equipment. Implementing details associated with reserves of instruments and equipment are more appropriately addressed in testing/maintenance-level procedures, guidelines or operator aids. Including this detail in an emergency plan imposes an unnecessary administrative and regulatory burden.</p>	

<b>Evaluation Criteria: H.11.c</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Calibrating equipment at intervals recommended by the supplier of the equipment/instruments.	<del>Calibrating equipment at intervals recommended by the supplier of the equipment/instruments.</del>
<p><b>Basis for industry proposal/alternate approach:</b>  Delete this criterion. The emergency plan should contain a high-level description of the program(s) that ensure the readiness of emergency response facilities and equipment. Implementing details associated with calibration of equipment are more appropriately addressed in testing/maintenance-level procedures, guidelines or operator aids. Including this detail in an emergency plan imposes an unnecessary administrative and regulatory burden.</p>	

<b>Evaluation Criteria: H.11.d</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Identifying the organization(s) responsible for the maintenance and storage of radiological equipment/instruments.	<del>Identifying the organization(s) responsible for the maintenance and storage of radiological equipment/instruments.</del>
<b>Basis for industry proposal/alternate approach:</b> Delete this criterion - incorporated into criterion H.11.	

<b>Evaluation Criteria: H.12</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Emergency kits are identified by general category. Contents and quantity of each emergency kit are specified in the emergency plan or other document(s) referenced in the emergency plan.	Emergency kits are identified by general category, <u>as if applicable.</u> <del>Contents and quantity of each emergency kit are specified in the emergency plan or other document(s) referenced in the emergency plan.</del>
<b>Basis for industry proposal/alternate approach:</b> Recommend the addition of 'if applicable.' Many sites no longer use emergency kits. If utilized, the contents of kits should be documented in sub-tier documents rather than the Emergency Plan in order to reduce the administrative and regulatory burden of changing kit contents (upgrades, dealing with obsolescence, etc.). It should be sufficient to state the purpose of a particular kit (i.e., identified) without the need to list the contents. Information pertaining to kit contents are appropriate for implementing documents such as a procedure or operator aid.	

<b>Evaluation Criteria: H.13</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Each organization establishes a central point for the receipt and analysis of field monitoring data and coordination of sample media, and identifies the organization(s) responsible for assessing radiological data.	Each organization <u>identifies</u> <del>establishes a central location(s) point</del> for the receipt and analysis of field monitoring data and coordination of sample media., <del>and identifies the organization(s) responsible for assessing radiological data.</del>
<p><b>Basis for industry proposal/alternate approach:</b>  Recommend changing 'establishing a central point' to 'identification of location(s).' Locations are agreed upon by licensee and ORO organizations, and a 'a central point' approach may not be utilized. The proposed wording allows for one or more locations to be specified.  Recommend deletion of the second half of the criterion since this element, identification of 'organization(s) responsible for assessing radiological data' is addressed by the criteria in Planning Standard I. Organizational aspects of assessing radiological data should be addressed in Planning Standard I criteria since Planning Standard H covers facilities and equipment.</p>	

<b>Evaluation Criteria: I.1</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Capabilities for performing radiological assessment for each reactor on the site, individually and collectively, including response to events occurring simultaneously at all units on the site, are described. These capabilities include:	Capabilities for performing radiological assessment <del>for each reactor on the site, individually and collectively, including response to events occurring simultaneously at all units on the site,</del> are described. These capabilities include:
<p><b>Basis for industry proposal/alternate approach:</b>          To align with the applicable pending requirement in the Mitigation of Beyond Design Basis Events Rule, recommend relocating the phrase 'for each reactor on the site, individually and collectively, including response to events occurring simultaneously at all units on the site' to criterion I.1.b where it is more appropriate.</p>	

<b>Evaluation Criteria: I.1.a</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
A methodology for determining the magnitude and isotopic composition of potential or ongoing releases of radioactive material through waterborne or airborne release pathways.	<del>A methodology</del> <u>Methods</u> for determining the magnitude and isotopic composition of <del>an potential or</del> ongoing releases of radioactive material through waterborne or airborne release pathways, <u>or estimating these parameters for a potential release.</u>
<p><b>Basis for industry proposal/alternate approach:</b>          Change 'A methodology' to 'Methods' since one or more means may be used to assess radiological releases. Revised wording to accommodate difference between an actual release and a potential release. Characteristics of an actual release can be 'determined' but parameters associated with a potential release must be estimated.</p>	

<b>Evaluation Criteria: I.1.b</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
A radiological assessment model for airborne releases that provides realistic estimates of onsite and offsite radiation exposures and contamination levels using a dispersion model that is representative of the plant release point configuration, topographical features, and meteorological regimes at the plant site.	A radiological assessment model for airborne releases <u>from each reactor on the site, and collectively from all onsite units. The model</u> <del>that</del> provides <del>realistic</del> estimates of <del>onsite and</del> offsite radiation exposures and contamination levels using a dispersion model that is representative of the plant release point configuration, topographical features, and meteorological regimes at the plant site.
<p><b>Basis for industry proposal/alternate approach:</b>  Added text was relocated from criterion I.1 as discussed above; text is more appropriate in this criterion and reflects the applicable pending requirement in the Mitigation of Beyond Design Basis Events Rule.  Delete 'realistic' – this is an undefined and subjective term.  Delete 'onsite' – Some site models do not provide projections for portions of the Owner Controlled Area. In these cases, sites use other methods such as surveys and posted TLDs for determining on-site radiological consequences.</p>	

<b>Evaluation Criteria: I.1.c</b>	
<b>Applicability:</b> <del>Licensee</del> <u>State, Local, Tribal</u>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
A methodology for assessing contamination of drinking water by waterborne releases for sites located on bodies of water from which public drinking water is drawn.	A methodology for assessing contamination of drinking water by waterborne releases for sites located on bodies of water from which public drinking water is drawn.
<p><b>Basis for industry proposal/alternate approach:</b>  Recommend removal of 'Licensee' from applicability. Licensee monitoring of drinking water is managed under the Offsite Dose Calculation Manual (ODCM) and is governed under a separate regulation. Licensee monitoring of drinking water under this regulation applies to routine sampling rather than sampling completed from an event response perspective.  Recommend the additional of 'State, Local, Tribal' under applicability. EPA has established enforceable drinking water standards for radionuclides under the Safe Drinking Water Act (SDWA). EPA recommends that, to the extent practicable, emergency measures for drinking water be based on the National Primary Drinking Water Regulations (NPDWR) for Radionuclides. The Radionuclides Rule provides states with flexibility when responding to radiological events. If a public water system exceeds the radionuclides standard it must work to get back into compliance as soon as feasible. States have the authority and responsibility for determination as to whether other corrective actions are needed (e.g. providing alternative water). Guidance on monitoring, notification and protective actions is provided in Chapter 3, along with several online resources for drinking water system operators and is the responsibility of State, Local and Tribal organizations.  Additionally, criterion for assessing contamination of onsite sources as the responsibility of the Licensee are addressed in criterion K.1.d and so do not need to be repeated here.</p>	

<b>Evaluation Criteria: I.1.d</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
A capability to coordinate and implement in-field radiological assessments by field monitoring and/or sampling teams and to assess the data obtained.	A capability to coordinate and implement in-field radiological assessments by field monitoring <del>and/or sampling</del> teams, and <u>provisions</u> to assess the data obtained. <u>A means is established for relating the various measured parameters (e.g., exposure rates, contamination levels, and air activity levels) to dose or dose rates.</u>
<p><b>Basis for industry proposal/alternate approach:</b>  Recommend removal of the reference to 'sampling teams'. 'Field Monitoring' is the term typically used by the industry to describe this function (i.e., FMTs also perform sampling activities).  Recommend the addition of 'provisions' to reflect that assessments of field monitoring data and samples may occur at different locations and by different organizations, depending upon the organization collecting the data or samples, and the data or sample type.  Recommend including last sentence which is text relocated from criterion I.7 because this location seems more appropriate.</p>	

<b>Evaluation Criteria: I.2</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
<p>The capability and responsibility for continually assessing the following parameters, that provide input to radiological assessments during an emergency, are described:</p> <ol style="list-style-type: none"> <li>1. Fraction of reactor fuel that has been damaged (e.g., clad failure, core melt),</li> <li>2. Status of containment integrity.</li> <li>3. Identification of leakage of radioactive material from plant systems, storage tanks, spent fuel pools, and onsite dry fuel storage casks.</li> <li>4. Status of engineered safety systems to mitigate the release of radioactive material to the environment (e.g., filters, containment spray, etc.).</li> <li>5. Onset and duration of actual or potential release of radioactive material to the environment.</li> </ol>	<p>The capability and responsibility for <del>continually assessing</del> <u>monitoring</u> the following parameters, that provide input to radiological assessments during an emergency, are described:</p> <ol style="list-style-type: none"> <li>1. <u>Status</u> <del>Fraction</del> of reactor fuel <del>that has been damaged</del> (e.g., <u>no fuel damage</u>, clad failure, core melt),</li> <li>2. Status of containment integrity.</li> <li>3. <del>Identification of</del> <u>leakage</u> of radioactive material from plant systems, <u>structures and components</u> <del>storage tanks, spent fuel pools, and onsite dry fuel storage casks</del>.</li> <li>4. Status of engineered safety <u>features used</u> <del>systems</del> to mitigate the release of radioactive material to the environment (e.g., filters, containment spray, etc.).</li> <li>5. Onset and duration of <u>an</u> actual <del>or potential</del> release of radioactive material to the environment, <u>or estimating these parameters for potential releases</u>.</li> </ol>
<p><b>Basis for industry proposal/alternate approach:</b>          Replace ‘continually assessing’ with ‘monitoring’ which a more accurate and widely-used term.          Reworded statement 1 to reflect that an ERO can monitor the status of the reactor fuel and characterize it in a qualitative manner (e.g., using core exit thermocouples, RPV water level, radiation monitors, etc.). Determining the fraction of damage requires sampling and analyses. Depending upon radiation levels, this may be done after the initial phase of the emergency response. Added ‘no fuel damage’ as an example of a fuel state.          In statement 3, deleted ‘Identification of’ – editorial change. The words are unnecessary. Replaced ‘storage tanks, spent fuel pools, and onsite dry fuel storage casks’ with more encompassing wording ‘structures and components.’          In statement 4, changed ‘systems’ to ‘features’ to align with common industry terminology (i.e., ESF).          In statement 5, revised wording to accommodate difference between an actual release and a potential release.          Parameters associated with an actual release can be monitored but those for a potential release must be estimated.</p>	

<b>Evaluation Criteria: I.3</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
The methods, techniques, and responsibility for determining the source term present in reactor coolant, containment (including drywell and wet well) air spaces, and fuel storage area air spaces are described.	The methods, <del>techniques</del> , and responsibility for determining the source term present in reactor coolant, containment <del>(including drywell and wet well) air spaces</del> <u>atmosphere</u> , and <u>spent</u> fuel <u>pool storage</u> area <u>atmosphere</u> <del>air spaces</del> are described.
<p><b>Basis for industry proposal/alternate approach:</b>  Deleted ‘techniques’ – while a description of methods is appropriate, ‘techniques’ are implementing details of a method and more appropriately addressed in sampling and analysis procedures, guidelines or operator aids. Including this detail in an emergency plan imposes an unnecessary administrative and regulatory burden.  Deleted ‘(including drywell and wet well)’ – specifying the term ‘containment’ is adequate to understand the criterion as a BWR containment is defined in site licensing and design basis documents.  Changed ‘fuel storage area’ to ‘spent fuel pool area’ to reflect common industry terminology.  In both locations, replaced ‘air spaces’ with ‘atmosphere’ to reflect common industry terminology.</p>	

<b>Evaluation Criteria: I.3.a</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
The contingency arrangements to obtain and analyze highly radioactive samples from the reactor coolant system, containment, containment (including drywell and wet well) atmosphere, and sump are described.	The contingency arrangements to obtain and analyze highly radioactive samples from the reactor coolant system, <u>and</u> containment, <del>containment (including drywell and wet well)</del> atmosphere, and sump are described.
<b>Basis for industry proposal/alternate approach:</b> Editorial changes to correct sentence structure. Deleted '(including drywell and wet well)' – specifying the term 'containment' is adequate to understand the criterion as a BWR containment is defined in site licensing and design basis documents. These documents will also identify the locations from which post-accident samples can be obtained.	

<b>Evaluation Criteria: I.4</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
The organization with the primary responsibility for field monitoring activities, including the necessary resources, is identified.	The organizations <del>with the primary responsibility</del> <u>responsible</u> for field monitoring activities, <del>and including</del> <u>the necessary resources, is are</u> identified.
<b>Basis for industry proposal/alternate approach:</b> Delete 'primary' - this term presumes the existence of an inter-organizational structure or hierarchy that may not exist. Reworded sentence to allow identification of all organizations that conduct field monitoring activities, and for improved readability..	

<b>Evaluation Criteria: I.5</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Each organization, where appropriate, provides methods, equipment, and expertise to make rapid assessments of the actual or potential magnitude and locations of any radiological hazards through liquid or gaseous release pathways.	Each organization, where appropriate, provides methods, equipment, and expertise to make <del>rapid</del> timely assessments of the actual or potential magnitude and locations of <del>any</del> radiological hazards through liquid or gaseous release pathways. <u>In addition, provisions are established to verify these assessments with field data and compare projections with other organizations also performing assessments.</u>
<b>Basis for industry proposal/alternate approach:</b> Within the context used, recommend changing 'rapid' to 'timely' as this is a more accurate and less subjective term. Delete 'any' – this is an unnecessary qualifier. Recommend including last sentence which is text relocated from criterion I.7 because this location seems more appropriate.	

<b>Evaluation Criteria: I.6</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
The capability to detect and measure radioiodine concentrations in air in the plume exposure pathway EPZ as low as 10 <sup>-7</sup> μCi/cc (microcuries per cubic centimeter) under field conditions is described. The sample collection process takes into account the sample flow rate, collection efficiency of the sample media used to collect the sample, duration of the sample, counter efficiency, and background radiation, including interference from the presence of noble gases.	The capability to detect and measure radioiodine concentrations in air in the plume exposure pathway EPZ as low as 10 <sup>-7</sup> μCi/cc (microcuries per cubic centimeter) under field conditions is described. <del>The sample collection process takes into account the sample flow rate, collection efficiency of the sample media used to collect the sample, duration of the sample, counter efficiency, and background radiation, including interference from the presence of noble gases.</del>
<b>Basis for industry proposal/alternate approach:</b> Recommend removal of the second half of this criterion; this level of detail is not appropriate for inclusion in an emergency plan. The implementing techniques for performing sample collection and analysis are more appropriately addressed in procedures, guidelines or operator aids. Including this detail in an emergency plan imposes an unnecessary administrative and regulatory burden.	

<b>Evaluation Criteria: I.7</b>	
<b>Applicability: Licensee, State, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
A means is established for relating the various measured parameters (e.g., exposure rates, contamination levels, and air activity levels) to dose or dose rates. Provisions are made for estimating integrated dose from the projected and actual dose rates and for comparing these estimates with current Federal guidance. In addition, provisions are established to verify dose projections with field data and compare projections with other organizations also calculating dose projections. The detailed provisions are described in separate procedures.	<del>A means is established for relating the various measured parameters (e.g., exposure rates, contamination levels, and air activity levels) to dose or dose rates.</del> Provisions are made for estimating integrated dose from the projected and actual dose rates and for comparing these estimates with current Federal guidance. <del>In addition, provisions are established to verify dose projections with field data and compare projections with other organizations also calculating dose projections.</del> The detailed provisions are described in <del>separate</del> <a href="#">implementing</a> procedures.
<b>Basis for industry proposal/alternate approach:</b> Recommend deleting first sentence and relocating to criterion I.1.d which seems to be a more appropriate location. Recommend deleting third sentence and relocating to criterion I.5 which seems to be a more appropriate location. Editorial change to clarify that the Emergency Plan is not a procedure and that “detailed provisions” belong in <a href="#">implementing procedures</a> .	

<b>Evaluation Criteria: I.8</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Arrangements to locate and track the airborne radioactive plume are made using available resources, which includes Federal, state, and/or licensee resources. Provisions are made to characterize the plume including taking peak plume measurements. Identification of the plume includes determining a measurement that is high enough to be reasonably above background radiation readings and sufficient enough to indicate submersion within the plume.	Arrangements to locate and track the airborne radioactive plume are made using available resources, which includes Federal, State, and/or Licensee resources. <del>Provisions are made to characterize the plume including taking peak plume measurements. Identification of the plume includes determining a measurement that is high enough to be reasonably above background radiation readings and sufficient enough to indicate submersion within the plume.</del>
<p><b>Basis for industry proposal/alternate approach:</b>  Delete Licensee from the applicability for this criterion. The licensee arrangements for plume tracking are addressed by criteria I.1.d and I.4. The term ‘State’ is not needed in the criterion wording because the criterion is already applicable to a State. It is noted that ‘Tribal’ is included under applicability, however, is not referenced in the body of the criterion. It is not clear whether this is intentional.</p> <p>The remainder of the criterion’s first sentence focuses on Federal resources which is understood to be the FRMAC. State and Tribal agencies are the primary interface point with the FRMAC. For this reason, and because local agencies typically do not perform plume tracking, ‘Local’ should be deleted from the applicability for this criterion.</p> <p>Recommend removal of the second half of the criterion as details regarding plume characterization are more reflective of procedure level content and so should not be detailed here.</p>	

<b>Evaluation Criteria: I.9</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Organizations directly responsible for radiological monitoring, analysis, and dose projections describe the capability for coordinating monitoring efforts, tracking and trending data, and sharing analytical results with other organizations performing radiological assessment functions.	Organizations directly responsible for radiological monitoring, analysis, and dose projections describe the capability for coordinating monitoring efforts, tracking and trending data, and sharing analytical results with other organizations performing radiological assessment functions.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: J.1</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
The means and time required to alert, notify, and provide a range of protective actions for onsite individuals and individuals who may be in areas controlled by the licensee (including members of the public) during an incident are described.	The means and time required to alert, notify, and provide a range of protective actions for <a href="#">individuals located in the Owner Controlled Area</a> <del>onsite individuals and individuals who may be in areas controlled by the licensee (including members of the public)</del> during an incident are described.
<b>Basis for industry proposal/alternate approach:</b> Recommended wording change to terminology commonly used in the industry. 'Owner Controlled Area' is a defined term commonly used in site plans and documents. The term 'Owner Controlled Area' subsumes 'onsite individuals and individuals who may be in areas controlled by the licensee (including members of the public)'. The proposed change simplifies wording and improves clarity and does not alter meaning or intent of the criterion.	

<b>Evaluation Criteria: J.1.a</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Provisions are made for evacuation of onsite non-essential personnel at SAE/GE.	Provisions are made for evacuation of onsite non-essential personnel at SAE/GE.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: J.2</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Provisions are made and coordinated with appropriate offsite entities for evacuation routes and transportation for onsite individuals to a suitable offsite location. Selection of location considers the potential for inclement weather, high traffic density, and potential radiological conditions. Alternate location(s) and route(s) are identified.	Provisions are made and coordinated with appropriate offsite entities for evacuation routes and transportation for onsite individuals to a suitable offsite location. Selection of location considers the potential for inclement weather, high traffic density, and potential radiological conditions. Alternate location(s) and route(s) are identified.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: J.3</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Radiological monitoring and decontamination, if necessary, of personnel evacuated from the site are provided.	<u>Provisions for</u> Radiological monitoring and decontamination, if necessary, of personnel evacuated from the site are <u>described</u> . <del>provided.</del>
<b>Basis for industry proposal/alternate approach:</b> Recommended wording change to better address intent of the criteria. Use of 'Provision for' and 'described' are consistent with wording used in other criteria.	

<b>Evaluation Criteria: J.4</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
The capability to account for all individuals inside the plant Protected Area following declaration of a SAE or GE is described. The names of missing individuals are ascertained within 30 minutes following the emergency declaration and accountability is maintained continuously thereafter.	The capability to account for all individuals inside the plant Protected Area following declaration of a SAE or GE is described. The names of missing individuals are ascertained within 30 minutes following the <a href="#">notification of personnel</a> <del>emergency declaration</del> and accountability is maintained continuously thereafter. <a href="#">The description should address provisions for performing accountability under circumstances that would preclude completion within 30 minutes due to concerns for personnel safety (e.g., a Hostile Action).</a>
<p><b>Basis for industry proposal/alternate approach:</b>  There does not appear to be a regulatory or technical basis for imposing a requirement for starting the 30-minute accountability clock with the declaration of the emergency. Recommend starting the 30-minute accountability clock at the point that personnel are notified. Many sites employ this approach and there have been no performance or safety issues identified that would indicate why it is no longer acceptable.</p> <p>Recommend adding last sentence to address operating experience from Hostile Action-Based (HAB) drills and exercises. Given the requirement of 10 CFR 50, Appendix E, Section I, and the need to protect plant personnel from security-related threats and physical attacks, there may be conditions present that would prevent the performance of accountability within the normally expected 30-minute period. The emergency plan should broadly discuss the key decision-making considerations for conducting accountability once HAB protective measures can be modified or ended (e.g., after lifting a “duck and cover” order in a post-attack environment). For some sites, provisions may also be needed to address severe weather conditions.</p>	

<b>Evaluation Criteria: J.5</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Provisions are made for personal radiological protection for individuals arriving or remaining onsite during the incident.	Provisions are made for personal radiological protection for individuals arriving or remaining onsite during the incident.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: J.6</b>	
<b>Applicability: Licensee, State, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
The basis and methodology are established for the development of PARs to the responsible OROs, including evacuation, sheltering, and, if appropriate, radioprotective drug use, for the plume exposure pathway EPZ.	The basis and methodology are established for the development of PARs to the responsible OROs, including evacuation, sheltering, and, if appropriate, radioprotective drug use, for the plume exposure pathway EPZ.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: J.7</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
A site-specific protective action strategy, informed by the ETE study, is developed, maintained, and coordinated between the licensee and OROs. Currently accepted and/or endorsed Federal methodologies are used.	A site-specific protective action strategy, informed by the ETE study, is developed, maintained, and coordinated between the licensee and OROs. Currently accepted and/or endorsed Federal <a href="#">guidance is considered</a> . <del>methodologies are used.</del>
<b>Basis for industry proposal/alternate approach:</b> Recommend changing 'Federal methodologies are used' to 'Federal guidance is considered' to better reflect how Federal-level documents are used to guide/inform the development of protection action strategies. 'Are used' implies that methodologies in guidance documents are requirements.	

<b>Evaluation Criteria: J.8</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
The latest ETEs are incorporated by reference or in their entirety in the emergency plan.	The latest ETEs are incorporated by reference or in their entirety in the emergency plan.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: J.9</b>	
<b>Applicability: Licensee, State, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
PARs are provided directly to the designated ORO(s) responsible for making protective action decisions (PADs) within the plume exposure pathway EPZ.	PARs are provided <b>directly</b> to the designated ORO(s) responsible for making protective action decisions (PADs) within the plume exposure pathway EPZ.
<b>Basis for industry proposal/alternate approach:</b> Recommended removal of the term 'directly' as it is unnecessarily restrictive and arbitrary. Licensees and OROs have developed diverse methods for transmitting PARs. There are examples in which a State receives the information from the licensee, and then provide the PAR information to the local municipalities who are responsible for making the PAD based on their knowledge of local conditions. Communications arrangements are a negotiated item between licensees and OROs. As long as the timing aspects of PARs and PADs are acceptable, and the appropriate decisions are made, there is no need to, or basis for, imposing requirements on information flowpaths.	

<b>Evaluation Criteria: J.10</b>	
<b>Applicability: State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
A capability for implementing protective actions based upon current Federal guidance is established. The process ensures coordinated implementation of PADs with all appropriate jurisdictions.	A capability for implementing protective actions based upon current Federal guidance is established. The process ensures coordinated implementation of PADs with all appropriate jurisdictions.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: J.11</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
The process for implementing protective actions for the plume exposure pathway EPZ is described including the following:	The process for implementing protective actions for the plume exposure pathway EPZ is described including the following:
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: J.11.a</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Maps, charts, or other information showing evacuation routes, evacuation areas, reception centers in host areas, and shelter areas. This includes identifying the organization responsible for updating and maintaining maps, charts, and other information.	Maps, charts, or other information showing evacuation routes, evacuation areas, reception centers in host areas, and shelter areas. This includes identifying the organization responsible for updating and maintaining maps, charts, and other information.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: J.11.b</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Maps, tables, or other information showing population distribution around the nuclear facility by evacuation areas.	Maps, tables, or other information showing population distribution around the nuclear facility by evacuation areas.
<b>Basis for industry proposal/alternate approach:</b> Recommend removal of “Licensee” from applicability. This information is included in the ETE for licensees and is therefore addressed by criterion J.8.	

<b>Evaluation Criteria: J.11.c</b>	
<b>Applicability: State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Means for identifying and protecting access/functional needs groups such as: transportation-dependent residents; those within special facilities or correctional facilities whose mobility may be impaired; or residents who would have difficulty in implementing protective actions without assistance. These means include notification, support, and assistance in implementing protective actions where appropriate.	Means for identifying and protecting access/functional needs groups such as: transportation-dependent residents; those within special facilities or correctional facilities whose mobility may be impaired; or residents who would have difficulty in implementing protective actions without assistance. These means include notification, support, and assistance in implementing protective actions where appropriate.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: J.11.d</b>	
<b>Applicability: State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
The decision-making methodologies for use of radioprotective drugs and the provisions for administration to the general public, emergency workers, and institutionalized persons within the plume exposure pathway EPZ. This includes the means of determining quantities, maintaining and managing supplies, communicating recommendations, and distributing.	The decision-making methodologies for use of radioprotective drugs and the provisions for administration to the general public, emergency workers, and institutionalized persons within the plume exposure pathway EPZ. This includes the means of determining quantities, maintaining and managing supplies, communicating recommendations, and distributing.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: J.11.e</b>	
<b>Applicability: State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Means of evacuation are informed by the updated ETES. The evacuation routes and transportation resources to be utilized are described and include projected traffic capacities of evacuation routes under emergency conditions and implementation of traffic control schemes during evacuation.	Means of evacuation are informed by the updated ETES. The evacuation routes and transportation resources to be utilized are described and include projected traffic capacities of evacuation routes under emergency conditions and implementation of traffic control schemes during evacuation.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: J.11.f</b>	
<b>Applicability: State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
The locations of pre-identified reception centers beyond the boundaries of the plume exposure pathway EPZ, organizations responsible for managing reception centers, arrangements for handling service animals and pets, and provisions for radiological monitoring/decontamination.	The locations of pre-identified reception centers beyond the boundaries of the plume exposure pathway EPZ, organizations responsible for managing reception centers, arrangements for handling service animals and pets, and provisions for radiological monitoring/decontamination.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: J.11.g</b>	
<b>Applicability: State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Means for the initial and ongoing control of access to evacuated areas and organizational responsibilities for such control, including identifying pre-selected control points.	Means for the initial and ongoing control of access to evacuated areas and organizational responsibilities for such control, including identifying pre-selected control points.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: J.11.h</b>	
<b>Applicability: State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Identification of and means for dealing with potential impediments to the use of evacuation routes (e.g., seasonal impassability of roads) and contingency measures. The resources available to clear impediments and responsibility for re-routing traffic, as necessary, are described.	Identification of and means for dealing with potential impediments to the use of evacuation routes (e.g., seasonal impassability of roads) and contingency measures. The resources available to clear impediments and responsibility for re-routing traffic, as necessary, are described.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: J.11.i</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Identification of any pre-planned precautionary actions (e.g., at SAE) and means for implementation.	Identification of any pre-planned precautionary actions (e.g., at SAE) and means for implementation.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: J.12</b>	
<b>Applicability: State, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Protective actions to be used for the ingestion exposure pathway EPZ are specified, including the methods for protecting the public from consumption of contaminated foodstuffs.	Protective actions to be used for the ingestion exposure pathway EPZ are specified, including the methods for protecting the public from consumption of contaminated foodstuffs.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: J.13</b>	
<b>Applicability: State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
The means for registering, monitoring, and decontaminating evacuees, service animals, pets, vehicles, and possessions at reception centers in host areas are described. The personnel and equipment available are capable of monitoring 20 percent of the plume exposure pathway EPZ population, including transients, assigned to each facility within a 12-hour period.	The means for registering, monitoring, and decontaminating evacuees, service animals, pets, vehicles, and possessions at reception centers in host areas are described. The personnel and equipment available are capable of monitoring 20 percent of the plume exposure pathway EPZ population, including transients, assigned to each facility within a 12-hour period.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: J.14</b>	
<b>Applicability: State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
General plans for the removal or continued exclusion of individuals from restricted areas are developed. Relocation plans include:	General plans for the removal or continued exclusion of individuals from restricted areas are developed. Relocation plans include:
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: J.14.a</b>	
<b>Applicability: State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Process for implementing current Federal guidance for relocation.	Process for implementing current Federal guidance for relocation.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: J.14.b</b>	
<b>Applicability: State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Means to identify and determine the boundaries of relocation areas, including a buffer zone.	Means to identify and determine the boundaries of relocation areas, including a buffer zone.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: J.14.c</b>	
<b>Applicability: State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Prioritization of relocation based on projected dose to an individual and the timeframe for relocation.	Prioritization of relocation based on projected dose to an individual and the timeframe for relocation.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: J.14.d</b>	
<b>Applicability: State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Control of access to and egress from relocation areas and security provisions for depopulated areas.	Control of access to and egress from relocation areas and security provisions for depopulated areas.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: J.14.e</b>	
<b>Applicability: State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Contamination control during relocation.	Contamination control during relocation.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: J.14.f</b>	
<b>Applicability: State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Means for coordinating and providing assistance during relocation.	Means for coordinating and providing assistance during relocation.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: K.1</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
The radiation protection program for emergency workers to be implemented during emergencies is described. This program addresses the following aspects:	The radiation protection <del>controls</del> <del>program</del> for emergency workers to be implemented during emergencies <del>are</del> <del>is</del> described. Th <del>ese</del> <del>controls</del> <del>is</del> <del>program</del> addresses the following aspects:
<p><b>Basis for industry proposal/alternate approach:</b>  Recommend replacing the word 'program' with 'controls'. There may not a stand-alone program which addresses all aspects of radiation protection for emergency workers. Rather, controls from one or more programs may be used during an emergency (e.g., controls from the Radiation Protection Program and others specified in the Emergency Preparedness Program). The salient point for the purpose of this criterion is describing the radiation protection controls employed during an emergency.  Recommend the term 'emergency worker' be added to the glossary to ensure consistent application throughout the document.</p>	

<b>Evaluation Criteria: K.1.a</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Onsite exposure guidelines, including limits for internal and external radiation contamination, for emergency workers consistent with their assigned duties and current Federal guidance and the conditions under which the emergency controls apply.	Onsite <u>emergency</u> exposure guidelines, <del>including limits for internal and external radiation contamination,</del> for emergency workers consistent with their assigned duties and current Federal guidance and the conditions under which the <del>emergency controls</del> <u>guidelines</u> apply.
<p><b>Basis for industry proposal/alternate approach:</b>  Added 'emergency' to clarify that the criterion applies to onsite exposure guidelines that are implemented during a declared emergency (i.e., non-emergency guidelines need not be described in the emergency plan).  Deleted 'including limits for internal and external radiation contamination' as these elements are subsumed by the use of 'emergency exposure guidelines'.  Editorial change to improve clarity – the sentence subject should remain consistent by not substituting "emergency controls" for 'guidelines'.</p>	

<b>Evaluation Criteria: K.1.b</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
The capability to monitor emergency worker exposures (i.e., total effective dose equivalent [TEDE]) at the time of exposure when direct measurement of the TEDE components is not feasible.	The capability to monitor emergency worker exposures (i.e., total effective dose equivalent [TEDE]) at the time of exposure when direct measurement of the TEDE components is not feasible.
<p><b>Basis for industry proposal/alternate approach:</b>  No recommendation for alternate approach or wording.  Recommend the term 'emergency worker' be added to the glossary to ensure consistent application throughout the document.</p>	

<b>Evaluation Criteria: K.1.c</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
The capability to continuously monitor and assess the radiation doses received by emergency workers.	The capability to <del>continuously</del> monitor and assess the radiation doses received by emergency workers.
<b>Basis for industry proposal/alternate approach:</b> Recommend deletion of the word 'continuously.' This term implies the use of telemetry technology. Industry and ORO OE indicates that the monitoring of emergency worker doses can be effectively accomplished without the use of telemetry.	

<b>Evaluation Criteria: K.1.d</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
The capability to implement onsite contamination control measures.	The capability to implement onsite contamination control measures.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: K.1.e</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
The capability to decontaminate emergency workers, equipment, vehicles, and other material.	The capability to decontaminate emergency workers, <del>and,</del> equipment, <del>vehicles, and other material.</del>
<p><b>Basis for industry proposal/alternate approach:</b>  Recommend removal 'vehicles and other material' – these items are subsumed by the term 'equipment'. Also, 'other material' is an undefined and subjective term; its inclusion in the criterion could lead to confusion.  Recommend the term 'emergency worker' be added to the glossary to ensure consistent application throughout the document.</p>	

<b>Evaluation Criteria: K.1.f</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Appropriate radiation protection briefings for (1) repair teams that are being dispatched into the plant, and (2) FMTs being sent onsite and offsite, the scope of which is consistent with the expected risk to the team.	Appropriate radiation protection briefings for (1) repair teams that are being dispatched into the plant, and (2) FMTs being sent onsite and offsite, the scope of which is consistent with the expected risk to the team.
<p><b>Basis for industry proposal/alternate approach:</b>  No recommendation for alternate approach or wording.</p>	

<b>Evaluation Criteria: K.1.g</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
The process for site access and dosimetry issuance to personnel from OROs arriving to assist with the onsite response.	The process for site access and dosimetry issuance to personnel from OROs arriving to assist with the onsite response.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: K.2</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Individual(s) that can authorize personnel to receive radiation doses in excess of the occupational annual dose limits in 10 CFR Part 20 or 29 CFR 1910.1096, as applicable to the organization, are identified by title/position. Such authorizations are documented.	Individual(s) that can authorize personnel to receive radiation doses in excess of the occupational annual dose limits in 10 CFR Part 20 or 29 CFR 1910.1096, as applicable to the organization, are identified by title/position. Such authorizations are documented.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: K.2.a</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
The process for allowing onsite volunteers to receive radiation exposures in the course of carrying out lifesaving and other emergency activities is described.	The process for allowing onsite volunteers to receive radiation exposures in the course of carrying out lifesaving and other emergency activities is described.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: K.3</b>	
<b>Applicability: State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Provisions for the continuous capability to determine the doses received by emergency workers involved in any commercial NPP incident are described. Each organization makes provisions for distribution of direct-reading dosimeters (DRDs) and permanent record dosimeters (PRDs).	Provisions for the <del>continuous</del> capability to determine the doses received by emergency workers involved in any commercial NPP incident are described. Each organization makes provisions for distribution of direct-reading dosimeters (DRDs) and permanent record dosimeters (PRDs).
<b>Basis for industry proposal/alternate approach:</b> Recommend deletion of the word 'continuous' as applied to monitoring of dose. Use of the word 'continuous' gives the connotation of telemetry usage. The ability to monitor doses should not imply the sole use of telemetry in order to compete this activity as this would be an unnecessary requirement given industry operating experience with monitoring of doses. Recommend the term 'emergency worker' be added to the glossary to ensure consistent application throughout the document.	

<b>Evaluation Criteria: K.3.a</b>	
<b>Applicability: State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Provisions to ensure that DRDs are read at appropriate intervals and dose records are maintained for emergency workers are described.	Provisions to ensure that DRDs are read at appropriate intervals and dose records are maintained for emergency workers are described.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: K.23.b</b>	
<b>Applicability: State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
The process for authorizing emergency workers to incur exposures in excess of the current Federal guidance is described.	The process for authorizing emergency workers to incur exposures in excess of the current Federal guidance is described.
<b>Basis for industry proposal/alternate approach:</b> Recommend this criteria be grouped under the K.2 series which addresses exposures in excess of federal guidance. Recommend the term 'emergency worker' be added to the glossary to ensure consistent application throughout the document.	

<b>Evaluation Criteria: K.4</b>	
<b>Applicability: State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Action levels for determining the need for decontamination are specified and the means for radiological decontamination are established for emergency workers and the general public, as well as equipment, vehicles, and personal possessions. The means for disposal of contaminated waste are also established.	Action levels for determining the need for decontamination are specified and the means for radiological decontamination are established for emergency workers and the general public, as well as equipment, vehicles, and personal possessions. The means for disposal of contaminated waste are also established.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: L.1</b>	
<b>Applicability: State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Arrangements are established with primary and backup hospitals (one hospital is located outside the plume exposure pathway EPZ) and medical services. These facilities have the capability for evaluation of radiation exposure and uptake. The persons providing these services are adequately trained and prepared to handle contaminated and/or injured emergency workers and members of the general public.	Arrangements are established with primary and backup hospitals (one hospital is located outside the plume exposure pathway EPZ) and medical services. These facilities have the capability for evaluation of radiation exposure and uptake. The persons providing these services are adequately trained and prepared to handle contaminated and/or injured emergency workers and members of the general public.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: L.2</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Arrangements for the medical treatment of contaminated injured onsite personnel and those onsite personnel who have received significant radiation exposures and/or significant uptakes of radioactive material are described. These arrangements include the following components:	Arrangements for the medical treatment of contaminated injured onsite personnel and those onsite personnel who have received significant radiation exposures and/or significant uptakes of radioactive material are described. These arrangements include the following components:
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: L.2.a</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
A continuous, onsite first aid capability with adequate medical equipment and supplies available onsite to perform this capability.	A continuous, onsite first aid capability with adequate medical equipment and supplies <u>is available</u> ; <del>onsite to perform this capability</del> .
<b>Basis for industry proposal/alternate approach:</b> Recommend removal of 'onsite to perform this capability' at the end of the sentence as this is redundant wording. Minor editorial changes to improve sentence structure.	

<b>Evaluation Criteria: L.2.b</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Primary and backup offsite medical facilities to treat contaminated, injured personnel on a continuous basis.	Primary and backup offsite medical facilities to treat contaminated, injured personnel on a continuous basis.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: L.2.c</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Radiological controls capability, including the isolation of contamination, assessment of contamination levels, radiation exposure monitoring for medical facility staff, collection of contaminated waste, and decontamination of treatment areas.	<a href="#">Offsite medical facilities have provisions for</a> <del>R</del> radiological controls <del>capability</del> , including the isolation of contamination, assessment of contamination levels, radiation exposure monitoring for medical facility staff, collection of contaminated waste, and decontamination of treatment areas.
<p><b>Basis for industry proposal/alternate approach:</b>  Recommended wording change to clarify that the referenced controls apply to offsite medical facilities. It is the industry's understanding that this criterion is based on the requirements for control of contamination for medical facilities and staff as outlined in FEMA Guidance Memorandum, GM MS-1, Medical Services, November 13, 1986. Inclusion of the proposed wording provides additional clarity on this point.</p>	

<b>Evaluation Criteria: L.2.d</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Provisions are made for the evaluation of injured personnel for radiological contamination prior to transport to a medical facility.	Provisions are made <del>to for the evaluation of</del> injured personnel for radiological contamination <del>either</del> prior to transport to a medical facility <u>or after arrival</u> .
<p><b>Basis for industry proposal/alternate approach:</b>  Reworded criterion to allow flexibility in when a contamination assessment is performed. If a medical emergency is serious enough and occurring in the radiologically controlled area, licensee personnel may simply assume that the individual is contaminated and handle the individual accordingly (i.e., employ contamination controls) in order to expedite transport to a hospital. This approach minimizes the time between the onset of the medical emergency and receipt of medical treatment by allowing the contamination assessment to be performed at the hospital.</p>	

<b>Evaluation Criteria: L.3</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
The capability for the treatment of radiation sickness due to exposure to radioactive material is described.	The capability <del>to for the treatment of radiation sickness due to</del> <u>a potentially life-threatening over</u> -exposure to radioactive material is described.
<b>Basis for industry proposal/alternate approach:</b> Recommend removal of the term 'radiation sickness' – the event of interest for this criterion is an 'overexposure.' Included the term 'potentially life-threatening' to qualify the level of overexposure for which a treatment capability should be maintained.	

<b>Evaluation Criteria: L.4</b>	
<b>Applicability: State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Supplemental lists are developed that indicate the location of the closest public, private, and military hospitals and other emergency medical facilities within the state or contiguous states considered capable of providing medical support for any contaminated individual.	Supplemental lists are developed that indicate the location of the closest public, private, and military hospitals and other emergency medical facilities within the state or contiguous states considered capable of providing medical support for any contaminated individual.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: L.5</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Each organization arranges for the means to control contamination while transporting victims of radiological accidents to medical support facilities and the decontamination of transport vehicle following use.	Each organization arranges for the means to control contamination while transporting victims of radiological accidents to medical support facilities. <del>and the decontamination of transport vehicle following use.</del>
<b>Basis for industry proposal/alternate approach:</b> Recommend removal of reference to 'decontamination of transport vehicle following use'. The purpose of the criterion is to ensure contamination controls as needed are in effect during transport. The process for returning vehicles to service is outside this purview.	

<b>Evaluation Criteria: M.1</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
General recovery, reentry, and return plans and procedures are developed, as appropriate.	General recovery, reentry, and return plans <del>and</del> <del>procedures</del> are developed, as appropriate. <u>The plans should include:</u>
<p><b>Basis for industry proposal/alternate approach:</b>  Recommend removal of references to procedures from this criterion. While general recovery, reentry, and return plans may be developed, that is not the case for procedures. The scope and content of recovery, reentry, and return implementing procedures would be highly dependent upon the nature of the accident/event and the resulting consequences. Any procedures developed in advance would need to be comprehensively reviewed and revised to address contemporaneous onsite and offsite conditions, both prevailing and anticipated. There is no advantage to attempting procedure development in advance of the accident/event and imposing this requirement is an unnecessary administrative and regulatory burden.  Recommend re-structuring of criterion to utilize examples provided in M.4 and M.5 as sub-criteria to M.1</p>	

<b>Evaluation Criteria:</b> M.1.a4	
<b>Applicability:</b> Licensee	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Provisions for allowing reentry into the owner controlled area are described. Reentry planning includes evaluation of the controls necessary for reentry under post-incident conditions.	Provisions for allowing reentry into the owner controlled area are described. Reentry planning includes evaluation of the controls necessary for reentry under post-incident conditions.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate wording. Recommend relocation of the criterion from M.4 to a sub-criteria under M.1 to address licensee specific element of Recovery Planning.	

<b>Evaluation Criteria:</b> M.1.b5	
<b>Applicability:</b> State, Local, Tribal	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Provisions for reentry into restricted areas, including exposure and contamination control, are addressed as appropriate. A method for coordinating and implementing decisions regarding temporary reentry into restricted areas is addressed.	Provisions for reentry into restricted areas, including exposure and contamination control, are addressed as appropriate. A method for coordinating and implementing decisions regarding temporary reentry into restricted areas is addressed.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate wording. Recommend relocation of the criterion from M.5 to a sub-criteria under M.1 to address State, Local and Tribal specific element of Recovery Planning.	

<b>Evaluation Criteria: M.2</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Individuals that will comprise the facility's recovery organization are identified by title/ position. The recovery organization includes technical personnel with responsibilities to develop, evaluate, and direct recovery and reentry operations.	Individuals that will comprise the facility's recovery organization are identified by title/ position. The recovery organization includes technical personnel with responsibilities to develop, evaluate, and direct recovery and reentry operations.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate wording.	

<b>Evaluation Criteria: M.3</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
The process for initiating recovery actions is described and includes the criteria for terminating the emergency. Provisions ensure continuity during transfer of responsibility from the emergency phase to the recovery phase and that a chain of command is established.	The process for initiating recovery actions is described and includes the criteria for terminating the emergency. Provisions ensure continuity during transfer of responsibility from the emergency phase to the recovery phase and that a chain of command is established.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate wording.	

<b>Evaluation Criteria: M.46</b>	
<b>Applicability: State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
The criteria for relaxing protective actions and allowing for return are described. Prioritization is given to restoring access to vital services and facilities.	The criteria for relaxing protective actions and allowing for return are described. Prioritization is given to restoring access to vital services and facilities.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate wording. Recommend renumbering of this criterion from M.6 to M.4 based on comments relative to establishing sub-criteria for M.1.	

<b>Evaluation Criteria: M.57</b>	
<b>Applicability: State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
The organization(s) responsible for developing and implementing cleanup operations is identified.	The organization(s) responsible for developing and implementing cleanup operations is identified.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate wording. Recommend renumbering of this criterion from M.7 to M.5 based on comments relative to establishing sub-criteria for M.1.	

<b>Evaluation Criteria: M.6<del>8</del></b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Provisions for developing and modifying sampling plans are established. Provisions for laboratory analysis of samples are included in the plan.	Provisions for developing and modifying sampling plans are established. Provisions for laboratory analysis of samples are included in the plan.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate wording. Recommend renumbering of this criterion from M.8 to M.6 based on comments relative to establishing sub-criteria for M.1.	

<b>Evaluation Criteria: N.1</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Exercises and drills are conducted, observed, and critiqued/evaluated as set forth in NRC and FEMA regulations and guidance.	Exercises and drills are conducted, observed, and critiqued/evaluated <del>as set forth in NRC and FEMA regulations and guidance</del> , <u>and include the following:-</u>
<b>Basis for industry proposal/alternate approach:</b> Recommend deletion of the phrase 'as set forth in NRC and FEMA regulations and guidance' as it is unnecessary to understanding the criterion and not used in other criteria. Criterion should be re-worded to direct the user to the sub-criteria below for additional information.	

<b>Evaluation Criteria: N.1.a</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
The process to critique/evaluate exercises and drills is described.	The process to critique/evaluate exercises and drills is described.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: N.1.b</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Responsibility for implementing corrective actions is assigned. Organizations are assigned responsibility establish means to ensure that corrective actions are implemented.	<u>The process used to track issues identified by drill and exercise critiques/evaluations, including the assignment and completion of</u> <del>Responsibility for implementing corrective actions is assigned. Organizations are assigned responsibility establish means to ensure that corrective actions are implemented</del> <u>described.</u>
<b>Basis for industry proposal/alternate approach:</b> Criterion reworded to reflect the way that these corrective actions are actually addressed by licensees. For a licensee, the emergency plan does not assign responsibility for corrective actions; that is a function of the corrective action program (CAP). The CAP will ensure that the appropriate organization is assigned ownership of issue evaluations and corrective actions, and the resources necessary for completion are provided. The emergency plan should describe the program's interface with the CAP (e.g., how issues are identified and entered). Given the 10 CFR 50, Appendix B, requirements applicable to licensees, it may be necessary to split this criterion into one for Licensees and one for OROs.	

<b>Evaluation Criteria: N.1.c</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
A drill or exercise starts between 6:00 p.m. and 4:00 a.m. at least once every eight-year exercise cycle.	A drill or exercise starts between 6:00 p.m. and 4:00 a.m. at least once every eight-year exercise cycle.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: N.1.d</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
At least one drill or exercise in every eight-year cycle is unannounced.	At least one drill or exercise in every eight-year cycle is unannounced <u>or announced to occur within a time window of no less than 14 days.</u>
<p><b>Basis for industry proposal/alternate approach:</b>  Recommend adding a provision for a time window during which the drill will take place. This approach allows the EP Department to distribute typical pre-drill information (e.g., drill initial conditions, extent-of-play instructions, etc.) and safety reminders to the ERO prior to the start of the drill window, and also precludes pre-staging or “leaning forward” to meet drill objectives. Many sites have used this approach and it does not compromise the integrity of the drill.</p>	

<b>Evaluation Criteria: N.2</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Exercises are designed to enable the response organizations’ demonstration of the key skills necessary to implement the principal functional areas of emergency response. The following two types of exercises are conducted at the frequency noted:	Exercises are designed to enable the response organizations’ demonstration of the key skills necessary to implement the principal functional areas of emergency response. The following two types of exercises are conducted at the frequency noted:
<p><b>Basis for industry proposal/alternate approach:</b>  No recommendation for alternate approach or wording.  The industry believes that the NRC has not provided a definitive listing of ERO key skills (e.g., the term is used in 10 CFR 50, Appendix E, and the EP Rule ISG, but a list is not specifically identified). To drive consistent understanding and implementation of this criterion and related criteria, the NRC staff should provide a definitive listing of ERO ‘key skills,’ or the attributes necessary for a licensee to determine them (e.g., to distinguish them from non-key skills).</p>	

<b>Evaluation Criteria: N.2.a</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Exercises that include mobilization of licensee, state, local, and tribal (as appropriate) personnel and resources and implementation of emergency plans to demonstrate response capabilities within the plume exposure pathway EPZ to a NPP incident biennially.	Exercises that include mobilization of licensee, state, local, and tribal (as appropriate) personnel and resources and implementation of emergency plans to demonstrate response capabilities within the plume exposure pathway EPZ to a NPP incident biennially.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: N.2.b</b>	
<b>Applicability: State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Exercises that include mobilization of state, local, and tribal (as appropriate) personnel and resources and implementation of emergency plans to demonstrate response capabilities to a release of radioactive materials requiring post-plume phase protective actions beyond the plume exposure pathway EPZ during each eight-year exercise cycle.	Exercises that include mobilization of state, local, and tribal (as appropriate) personnel and resources and implementation of emergency plans to demonstrate response capabilities to a release of radioactive materials requiring post-plume phase protective actions <del>beyond</del> <u>within</u> the <del>plume</del> <u>ingestion</u> exposure pathway EPZ during each eight-year exercise cycle.
<b>Basis for industry proposal/alternate approach:</b> Recommend wording change to improve clarity. Proposed wording better specifies the EPZ area of interest for this type of Exercise.	

<b>Evaluation Criteria: N.3</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Exercise scenario content is varied to provide the opportunity to demonstrate the key skills necessary to respond to the following scenario elements during each eight-year exercise cycle:	Exercise scenario content is varied to provide the opportunity to demonstrate the key skills necessary to respond to the following scenario elements during each eight-year exercise cycle:
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording. The industry believes that the NRC has not provided a definitive listing of ERO key skills (e.g., the term is used in 10 CFR 50, Appendix E, and the EP Rule ISG, but a list is not specifically identified). To drive consistent understanding and implementation of this criterion and related criteria, the NRC staff should provide a definitive listing of ERO 'key skills,' or the attributes necessary for a licensee to determine them (e.g., to distinguish them from non-key skills).	

<b>Evaluation Criteria: N.3.a</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
<b>Hostile Action-Based (HAB).</b> Hostile action directed at the plant site. The HAB exercise scenario may be combined with either a radiological release scenario or no/ minimal radiological release scenario, but a no/minimal radiological release scenario should not be included in consecutive HAB exercises at a NPP site.	<b>Hostile Action-Based (HAB).</b> Hostile action directed at the plant site. The HAB exercise scenario may be combined with either a radiological release scenario or no/ minimal radiological release scenario, but a no/minimal radiological release scenario should not be included in consecutive HAB exercises at a NPP site.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: N.3.b</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
<b><u>Rapid Escalation</u></b> . An initial classification of, or rapid escalation to, a SAE or GE.	<b><u>Rapid Escalation</u></b> . An initial classification of, or rapid escalation to, a SAE or GE.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: N.3.c</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
<b><u>No/Minimal Release of Radioactive Materials</u></b> . No release or an unplanned minimal release of radioactive material which does not require public protective actions.	<b><u>No/Minimal Release of Radioactive Materials</u></b> . No release or an unplanned minimal release of radioactive material which does not require public protective actions. <a href="#"><u>Participation in this exercise by State, Tribal and local response organizations is optional; however, if an offsite organization elects not to participate in the licensee exercise, it remains obligated to meet the biennial exercise requirements specified in 44 CFR § 350.9.</u></a>
<b>Basis for industry proposal/alternate</b> Recommend incorporating criterion N.3.c.3 into N.3.c to highlight the relationship between these two regulatory requirements; this will improve clarity (i.e., the related requirements for no/minimal release scenarios are in one criterion).	

<b>Evaluation Criteria: N.3.c.1</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
The licensee is required to demonstrate the ability to respond to a no/minimal radiological release scenario at least once within the eight-year exercise cycle. State, Tribal and local response organizations have the option, and are encouraged, to participate jointly in this demonstration.	<del>The licensee is required to demonstrate the ability to respond to a no/minimal radiological release scenario at least once within the eight-year exercise cycle. State, Tribal and local response organizations have the option, and are encouraged, to participate jointly in this demonstration.</del>
<p><b>Basis for industry proposal/alternate approach:</b>  This criterion reflects offsite exercise planning and implementing guidance, and is not appropriate for inclusion in a licensee emergency plan. Since the criterion is already addressed in Federal exercise guidance, it is not necessary to describe it in any emergency plan. This criterion should be deleted or reassigned to "State, Local, Tribal" only.</p>	

<b>Evaluation Criteria: N.3.c.2</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
When planning for a joint no/minimal radiological release exercise, affected State, Tribal and local jurisdictions, the licensee, and FEMA will identify offsite capabilities that may still need to be evaluated and agree upon appropriate alternative evaluation methods to satisfy FEMA's biennial criteria requirements. Alternative evaluation methods that could be considered during the extent of play negotiations include expansion of the exercise scenario, out of sequence activities, plan reviews, staff assistance visits or other means as described in FEMA guidance.	<del>When planning for a joint no/minimal radiological release exercise, affected State, Tribal and local jurisdictions, the licensee, and FEMA will identify offsite capabilities that may still need to be evaluated and agree upon appropriate alternative evaluation methods to satisfy FEMA's biennial criteria requirements. Alternative evaluation methods that could be considered during the extent of play negotiations include expansion of the exercise scenario, out of sequence activities, plan reviews, staff assistance visits or other means as described in FEMA guidance.</del>
<b>Basis for industry proposal/alternate approach:</b> This criterion reflects offsite exercise planning and implementing guidance, and is not appropriate for inclusion in a licensee emergency plan. Since the criterion is already addressed in Federal exercise guidance, it is not necessary to describe it in any emergency plan. This criterion should be deleted or reassigned to "State, Local, Tribal" only.	

<b>Evaluation Criteria: N.3.c.3</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
If the offsite organizations elect not to participate in the licensee required minimal or no-release exercise, they will still be obligated to meet the exercise requirements as specified in 44 CFR § 350.9.	<del>If the offsite organizations elect not to participate in the licensee required minimal or no-release exercise, they will still be obligated to meet the exercise requirements as specified in 44 CFR § 350.9.</del>
<b>Basis for industry proposal/alternate approach:</b> Recommend incorporating this criterion into N.3.c as discussed above.	

<b>Evaluation Criteria: N.3.d</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
<b>10 CFR 50.54(hh)(2) Strategies.</b> Demonstration of the use of equipment, procedures, and strategies developed in compliance with 10 CFR 50.54(hh)(2).	<del><b>10 CFR 50.54(hh)(2) Strategies.</b> Demonstration of the use of equipment, procedures, and strategies developed in compliance with 10 CFR 50.54(hh)(2).</del>
<b>Basis for industry proposal/alternate approach:</b> Recommend deletion of this criterion. As discussed in SECY-15-0065, the requirements of 10 CFR 50.54(hh)(2) are being relocated to a new section, 10 CFR 50.155, Mitigation of Beyond-Design-Basis Events. The new regulation will include a requirement for drills or exercises involving strategies and guidelines used to maintain or restore core cooling, containment and spent fuel cooling capabilities under the circumstances associated with loss of large areas of the plant due to explosions or fire. In addition, the reference to 10 CFR 50.54(hh)(2) currently contained in 10 CFR 50, Appendix E, is being deleted. The guidance associated with conducting these drills and exercises is provided in DG-1319, Integrated Response Capabilities for Beyond-Design-Basis Events. It is not necessary to describe beyond-design-basis event drills in the site emergency plan as they will be governed under other NRC regulations.	

<b>Evaluation Criteria: N.3.e</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
<b><u>Resource Integration</u></b> . Integration of offsite resources with onsite response.	<b><u>Resource Integration</u></b> . Integration of offsite resources with onsite response.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: N.4</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Drills are designed to enable an organization's demonstration and maintenance of key skills necessary to fulfill functional roles. Drills include, but are not limited to, the following at their noted frequencies:	Drills are designed to enable an organization's demonstration and maintenance of key skills necessary to fulfill functional roles. Drills include, but are not limited to, the following at their noted frequencies:
<p><b>Basis for industry proposal/alternate approach:</b>  No recommendation for alternate approach or wording.</p> <p>1) The industry believes that the NRC has not provided a definitive listing of ERO key skills (e.g., the term is used in 10 CFR 50, Appendix E, and the EP Rule ISG, but a list is not specifically identified). To drive consistent understanding and implementation of this criterion and related criteria, the NRC staff should provide a definitive listing of ERO 'key skills,' or the attributes necessary for a licensee to determine them (e.g., to distinguish them from non-key skills).</p> <p>2) As other criteria already address the demonstration and maintenance of ERO 'key skills', consideration should be given to the need for sub-criteria N.4.a – N.4.j (i.e., they could be deleted). All are legacy criteria from Revision 1 or proposed additions of a similar nature that would appear to be subsumed by current requirements and guidance. 10 CFR 50 Appendix E requires, among other things, the periodic demonstration of ERO key skills and, the comment above notwithstanding, the various drill elements described in criteria N.4.a through N.4.j are likely considered to be key skills (individual and/or organizational). A licensee is responsible for ensuring that their ERO maintains key skills, and should have the flexibility to determine the required type and frequency of drills necessary to do that. This would allow a reasonable performance-based approach to drill scheduling. Drills are critiqued and weaknesses/deficiencies entered into the corrective action program (CAP). The changes necessary to improve performance, including adjustments to drill types, frequencies and objectives would be addressed through the CAP. Given current drill and CAP requirements, licensees should have the flexibility to conduct drills at frequencies and using objectives that meet their particular ERO performance enhancement needs (e.g., apply drill and personnel resources where they are needed to maintain key skills rather than meeting arbitrary drill guidance).</p>	

<b>Evaluation Criteria: N.4.a</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
<b>Emergency Medical Drills.</b> An emergency medical drill involving a simulated contaminated individual and contains provisions for participation by support services agencies (i.e., ambulance and offsite medical treatment facility) is conducted annually.	<b>Medical Emergency <del>Medical</del> Drills.</b> An <u>medical</u> emergency_ <del>medical</del> drill involving a simulated contaminated individual and <u>which</u> contains provisions for participation by support services agencies (i.e., ambulance and offsite medical treatment facility) is conducted annually.
<b>Basis for industry proposal/alternate approach:</b> Recommend wording change for improved clarity. Use of the term 'Medical Emergency Drill' better defines the scope of the drill. The proposed change does not alter the intent of the criterion.	

<b>Evaluation Criteria: N.4.b</b>	
<b>Applicability: State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
<b>Medical Services Drills.</b> An emergency medical drill involving a simulated contaminated emergency worker and/or member of the general public and contains provisions for participation by support services agencies (i.e., ambulance and offsite medical treatment facility) is conducted annually.	<b>Medical Services Drills.</b> An <u>medical</u> emergency <del>medical</del> drill involving a simulated contaminated emergency worker and/or member of the general public and <u>which</u> contains provisions for participation by support services agencies (i.e., ambulance and offsite medical treatment facility) is conducted annually.
<b>Basis for industry proposal/alternate approach:</b> Recommend wording change for improved clarity. Use of the term 'medical emergency drill' better defines the scope of the drill. The proposed change does not alter the intent of the criterion.	

<b>Evaluation Criteria: N.4.c</b>	
<b>Applicability: State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
<b>Laboratory Drills.</b> A laboratory drill is conducted biennially that involves demonstration of handling, documenting, and analyzing air, soil, and food samples as well as quality control and quality assurance programs. This drill also involves an assessment of the laboratory's capacity to handle daily and weekly samples and the volume of samples that can be processed daily or weekly.	<b>Laboratory Drills.</b> A laboratory drill <del>is conducted biennially</del> that involves demonstration of <u>the</u> handling, documenting, and analyzing <u>of</u> air, soil, and food samples <u>is conducted biennially</u> <del>as well as quality control and quality assurance programs. This drill also involves an assessment of the laboratory's capacity to handle daily and weekly samples and the volume of samples that can be processed daily or weekly.</del>
<b>Basis for industry proposal/alternate approach:</b> Recommend deletion of text as indicated in the industry proposed wording. A drill is a supervised instruction period aimed at improving individual and group performance, and not an appropriate activity to assess a QA or QC program, or the capacity of a laboratory. These types of assessments are planning-related and should be performed under other programmatic controls, e.g., a periodic self-assessment, an annual plan review, etc. Minor editorial changes are suggested to improve clarity.	

<b>Evaluation Criteria: N.4.d</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
<b>Environmental Monitoring Drills.</b> Environmental monitoring drills are conducted annually. These drills include direct radiation measurements in the environment, collection and analysis of all sample media (e.g., water, vegetation, soil, and air), and provisions for communications and record keeping.	<b>Environmental Monitoring Drills.</b> <u>An e</u> Environmental monitoring drills <del>is</del> <u>are</u> conducted annually. <del>This</del> <u>ese</u> drills <del>includes</del> <u>s</u> direct radiation measurements in the environment, collection and analysis of all sample media (e.g., water, vegetation, soil, and air), and provisions for communications and record keeping.
<b>Basis for industry proposal/alternate approach:</b> Editorial changes to improve clarity. The proposed change does not alter the intent of the criterion.	

<b>Evaluation Criteria: N.4.e</b>	
<b>Applicability: State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
<b><u>Ingestion Pathway Drills.</u></b> An ingestion pathway drill is conducted biennially that involves sample plan development, analysis of lab results from samples, assessment of the impact on food and agricultural products, protective decisions for relocation, and food/crop embargo.	<del><b><u>Ingestion Pathway Drills.</u></b> An ingestion pathway drill is conducted biennially that involves sample plan development, analysis of lab results from samples, assessment of the impact on food and agricultural products, protective decisions for relocation, and food/crop embargo.</del>
<b>Basis for industry proposal/alternate approach:</b> The regulatory or technical basis for this proposed criterion is unclear. The industry is unaware of any performance deficiencies significant enough to warrant the imposition of this requirement (particularly ones that would necessitate increasing the exercise cycle drill frequency by a factor of 4).	

<b>Evaluation Criteria: N.4.f</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
<b>Post-Accident Sampling Drills.</b> Post-accident sampling capabilities including analysis of in-plant liquid samples with simulated or actual elevated radiation levels are to be demonstrated annually.	<b>Post-Accident Sampling Drills.</b> <u>A drill is conducted to demonstrate p</u> Post-accident sampling capabilities, including analysis of <del>in-plant liquid</del> samples with simulated <del>or actual</del> elevated radiation levels, <del>are to be demonstrated</del> annually. <u>[This criterion is not applicable if the unit(s) does not have a licensing basis requirement for a post-accident sampling system.]</u>
<b>Basis for industry proposal/alternate approach:</b> Deleted “in-plant liquid” to facilitate application of this criterion to units with more than one post-accident sampling point – this will allow a licensee to periodically rotate through the different post-accident sampling locations (e.g., RCS, RHR, containment sump, containment atmosphere, plant vent grab sample, etc.). Deleted “actual” as that would seem to run counter to radiation protection ALARA requirements and conducting a drill in the presence of elevated radiation levels would not demonstrate sound operational decision-making. Added bracketed qualifier at end, ‘[This criterion is not applicable if the unit(s) does not have a licensing basis requirement for a post-accident sampling system.]’ Many plants have eliminated licensing basis requirements for post-accident sampling systems through the Consolidated Line Item Improvement Process (CLIIP). Refer to Technical Specification Task Force (TSTF) issue numbers 366 (Westinghouse and Combustion Engineering), 413 (General Electric) and 442 (Babcock and Wilcox), and the associated model safety evaluations. With respect to the potential usefulness in responding to a reactor accident or making decisions regarding actions to protect the public from possible releases of radioactive materials, the NRC staff concluded that information provided by a PASS is either unnecessary or is effectively provided by other indications of process parameters or measurement of radiation levels. The staff also determined that contingency plans should be developed to obtain and analyze highly radioactive samples. Because these are contingency plans, the staff concluded that the plans must be available to be used by the licensees during an accident; however, they did not have to be performed in emergency plan drills or exercises.	

<b>Evaluation Criteria: N.4.g</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
<b>Off-Hours Report-In Drills.</b> Off-hours report-in drills are unannounced and conducted at least biennially.	<del><b>Off-Hours Report-In Drills.</b> Off-hours report-in drills are unannounced and conducted at least biennially.</del>
<b>Basis for industry proposal/alternate approach:</b> The industry's proposed provisions in criterion N.4.h are sufficient to provide reasonable assurance that ERO augmentation commitments can be met without the need to do more frequent report-in drills. This criterion can be deleted as it would impose an unnecessary administrative and regulatory burden.	

<b>Evaluation Criteria: N.4.h</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
<p><b>Off-Hours Call-In Drills.</b> Off-hours call-in drills are conducted at least quarterly, such that each ERO member’s response time is validated at least biennially. Some drills are unannounced.</p>	<p><b>Off-Hours Call-In Drills.</b> Off-hours call-in drills are conducted <del>at least quarterly</del> <u>semi-annually and assessed to determine if the required level of ERO augmentation was achieved (i.e., staff and timing)</u>, <del>such that each ERO member’s response time is validated at least biennially.</del> Some drills are unannounced <u>or announced to occur within a time window of no less than 14 days.</u></p>
<p><b>Basis for industry proposal/alternate approach:</b>  Changed this criterion such that implementation would provide a reasonable level of assurance that ERO augmentation commitments can be met.  Deleted “at least” – unnecessary term since the criterion is imposing a minimum drill frequency and a licensee can always conduct more if needed.  Added wording to establish a performance-based approach for the periodic assessment of ERO augmentation capability, i.e., the licensee assesses the drill results to determine if augmentation commitments/goals were achieved. The assessment of the augmented response would necessitate that each notified individual provide an estimated transit or arrival time to their assigned response location, i.e., given the responder’s location when the call-in drill notification was received, what is the person’s estimate for a response time. Personnel response times are assessed to determine if augmentation drill objectives were met. This action, coupled with criterion N.1.b, will ensure that issues are identified and corrective actions taken where needed.  Deleted ‘such that each ERO member’s response time is validated at least biennially’ – under the proposed approach, this action is unnecessary since the ability of the ERO to augment the on-shift staff will be assessed semi-annually. It was also noted that ‘validation’ of normally expected response times (e.g., from an individual’s home) is an ERO maintenance activity and not suitable for assessment in a call-in drill since individuals could be anywhere when they receive the drill notification.  Recommend adding a provision for a time window during which the drill will take place. This approach allows the EP Department to distribute typical pre-drill information (e.g., extent-of-play instructions) and safety reminders to the ERO prior to the start of the drill window, and also precludes pre-staging or “leaning forward” to meet drill objectives. Many sites have used this approach and it does not compromise the integrity of the drill.</p>	

<b>Evaluation Criteria: N.4.i</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
<b>Onsite Protective Actions Drills.</b> Protective actions drills are conducted during every eight year exercise cycle to demonstrate the site’s ability to implement and coordinate protective actions for onsite personnel during hostile action.	<b>Onsite Protective Actions Drills.</b> <del>A Protective actions drills are conducted during every eight year exercise cycle</del> to demonstrate the site’s ability to implement and coordinate protective actions for onsite personnel during <u>a hostile action is conducted in each eight-year exercise cycle.</u>
<b>Basis for industry proposal/alternate approach:</b> Reworded criterion to improve clarity. Also reworded to make clear that at least one drill is needed in each eight-year cycle. These changes do not alter the intent of the criterion.	

<b>Evaluation Criteria: N.4.j</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
<b>Aircraft Threat/Attack Response Drills.</b> Drills are conducted during every eight-year exercise cycle on the use of procedures and protective measures developed per 10 CFR 50.54(hh)(1) for responding to hostile action involving aircraft threat or attack,	<b>Aircraft Threat/Attack Response Drills.</b> <del>A dDrills to demonstrate are conducted during every eight-year exercise cycle on</del> the use of procedures and protective measures developed per 10 CFR 50.54(hh)(1) <del>for responding to hostile action involving aircraft threat or attack,</del> <u>is conducted in each eight-year exercise cycle.</u>
<b>Basis for industry proposal/alternate approach:</b> Reworded criterion to improve clarity. By saying “50.54(hh)(1),” the phrase “for responding to hostile action involving aircraft threat or attack” is unnecessary. Also reworded to make clear that at least one drill is needed in each eight-year cycle. These changes do not alter the intent of the criterion.	

<b>Evaluation Criteria: O.1</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Each organization ensures the training of emergency responders and other appropriate individuals with an operational role described in the emergency plan. Initial training and annual retraining are provided.	Each organization ensures the training of emergency responders and other appropriate individuals with an operational role described in the emergency plan. Initial training and <u>continuing</u> <del>annual re</del> training are provided.
<b>Basis for industry proposal/alternate approach:</b> Recommend replacement of the term ‘annual retraining’ with the term ‘continuing training’. Continuing training is the term more commonly used in the industry. This change does not alter the intent of the criterion.	

<b>Evaluation Criteria: O.1.a</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Site-specific emergency response training is provided for those offsite organizations that may be called upon to provide onsite assistance in the event of an emergency.	Site-specific emergency response training is <del>provided</del> <u>developed and offered to</u> <del>for</del> those offsite organizations that may be called upon to provide onsite assistance in the event of an emergency.
<b>Basis for industry proposal/alternate approach:</b> Recommend changing “provided for” to “developed and offered to.” A licensee can develop and offer training to offsite organizations but cannot compel individuals to attend.”	

<b>Evaluation Criteria: O.2</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
The ERO training program consists of desired learning objectives to develop and maintain key skills. This includes a systematic analysis of jobs and tasks to be performed from which learning objectives are derived.	The ERO training program consists of <del>desired</del> learning objectives <u>that are used</u> to develop and maintain key skills. <del>This includes a systematic analysis of jobs and tasks to be performed from which learning objectives are derived.</del>
<p><b>Basis for industry proposal/alternate approach:</b>  Recommend deletion of 'desired' – this term is unnecessary. Added 'that are used' to improve readability.  Recommend removal of references to "systematic analysis." A systematic analysis is one component of the "systematic approach to training" (also referred to as a "systems approach to training" in 10 CFR 55.4). It is unclear how a site could formally apply one element of the systematic approach training, as required by this criterion, but not the rest. There is no regulatory requirement to apply a systematic approach to EP training programs; however, most licensees currently use some aspects of a systematic approach where doing so adds value to their EP training. Operating experience demonstrates that current training methods are generally effective in preparing ERO members to perform their assigned duties. The imposition of a systematic approach to training requirement, via this criterion, would impose unnecessary administrative and regulatory burden.  The industry believes that the NRC has not provided a definitive listing of ERO key skills (e.g., the term is used in 10 CFR 50, Appendix E, and the EP Rule ISG, but a list is not specifically identified). To drive consistent understanding and implementation of this criterion and related criteria, the NRC staff should provide a definitive listing of ERO 'key skills,' or the attributes necessary for a licensee to determine them (e.g., to distinguish them from non-key skills).</p>	

<b>Evaluation Criteria: O.2.a</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
The ERO training program is reviewed and revised as necessary.	The ERO training program is reviewed and revised as necessary.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: P.1</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
The initial and periodic retraining program of individuals responsible for the planning effort is described.	The initial and <a href="#">continuing</a> <del>periodic</del> retraining program of individuals responsible for the planning effort is described.
<b>Basis for industry proposal/alternate approach:</b> Recommend replacement of the term 'periodic retraining' with the term 'continuing training'. Continuing training is the term more commonly used in the industry. This change does not alter the intent of the criterion.	

<b>Evaluation Criteria: P.2</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
The individual with the overall authority and responsibility for radiological emergency response planning is identified by title/position.	The individual with the overall authority and responsibility for radiological emergency response planning is identified by title/position.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: P.3</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
The individual with the responsibility for the development, maintenance, review, and updating of emergency plans, as well as the coordination of these plans with other response organizations, is identified by title/position.	The individual(s) with the responsibility for the development, maintenance, review, <del>and</del> updating <u>and distribution</u> of emergency plans, as well as the coordination of these plans with other response organizations, is identified by title/position.
<b>Basis for industry proposal/alternate approach:</b> Added '(s)' to individual reflecting that fact that different individuals may hold these responsibilities. Recommend relocating an element of criterion P.5 – the individual responsible for plan distribution. This places all the individual responsibilities under one criterion.	

<b>Evaluation Criteria: P.4</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
The program for reviewing annually, and updating as necessary, the emergency plan, implementing procedures, and agreements is described. The program includes a method for recording changes made to documents and, when appropriate, how these changes are retained.	The <del>process</del> <del>program</del> for reviewing annually, and updating <u>and distributing</u> as necessary, the emergency plan, implementing procedures, and agreements is described. The <del>program</del> <del>process</del> includes a method for recording changes made to documents and, when appropriate, how these changes are retained.
<b>Basis for industry proposal/alternate approach:</b> Recommend use of the word 'process' instead of 'program' to employ a more accurate term. Recommend relocating an element of criterion P.5 – provisions for distributing documents. This places all elements of the document maintenance process under one criterion.	

<b>Evaluation Criteria: P.5</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
Provisions for distributing the emergency plan and implementing procedures to all organizations and appropriate individuals with responsibility for implementation of the plan/procedures is described.	<del>Provisions for distributing the emergency plan and implementing procedures to all organizations and appropriate individuals with responsibility for implementation of the plan/procedures is described.</del>
<p><b>Basis for industry proposal/alternate approach:</b>  Recommend relocating one element of this criterion to criterion P.3 – the individual responsible for plan distribution. This places all the individual responsibilities under one criterion.  Recommend relocating the other element of this criterion to criterion P.4 – provisions for distributing documents. This places all elements of the document maintenance process under one criterion.</p>	

<b>Evaluation Criteria: P.6</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
A listing of annexes, appendices, and supporting plans and their source is included.	A listing of annexes, appendices, and supporting plans <del>and their source</del> is included.
<p><b>Basis for industry proposal/alternate approach:</b>  Recommend removal of the term “and their source” as this phrase is not defined. The industry suggests that this term be defined if maintained within the criterion.</p>	

<b>Evaluation Criteria: P.7</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
An appendix contains a listing by title of the procedures required to maintain and implement the emergency plan. The listing includes the section(s) of the emergency plan to be implemented by each procedure.	An appendix contains a listing by title of the procedures required to maintain and implement the emergency plan. The listing includes the section(s) of the emergency plan to be implemented by each procedure.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: P.8</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
A table of contents and a cross reference index to each of the NUREG-0654/FEMA-REP-1, Rev.2 evaluation criteria are included. The evaluation criteria which do not apply are also identified.	A table of contents and a cross reference index to each of the NUREG-0654/FEMA-REP-1, Rev.2 evaluation criteria are included. The evaluation criteria which do not apply are also identified.
<b>Basis for industry proposal/alternate approach:</b> No recommendation for alternate approach or wording.	

<b>Evaluation Criteria: P.9</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
The program for conducting independent reviews performed on all emergency preparedness program elements, including a review of the adequacy of interfaces with OROs is described.	<del>The program</del> <a href="#">Provisions for addressing the requirements of 10 CFR 50.54(t)</a> <del>conducting independent reviews performed on all emergency preparedness program elements, including a review of the adequacy of interfaces with OROs is</del> <a href="#">are</a> described.
<b>Basis for industry proposal/alternate approach:</b> Recommend replacing the abridged text taken from regulation with a reference to the applicable regulation. Change 'The program' to 'Provisions' – there typically is not a stand-alone program for conducting 10 CFR 50.54(t) reviews. These changes do not alter the intent of the criterion.	

<b>Evaluation Criteria: P.10</b>	
<b>Applicability: Licensee, State, Local, Tribal</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
The process for reviewing and updating contact information identified in the emergency plan and implementing procedures is described and implemented quarterly.	<del>The process for reviewing and updating contact information identified in the emergency plan and implementing procedures is described and implemented quarterly.</del>
<p><b>Basis for industry proposal/alternate approach:</b>  Recommend deletion of this criteria as it is legacy in nature. Section E, criterion E.2 addresses the means for alerting, notifying mobilizing emergency response personnel. Contact information related to this aspect of response is subsumed by that criterion. Other contact information related to vendors or external support organizations is typically maintained in phone directories or web links outside of the plan and procedures in order to facilitate the frequency in which the information is subject to change. The frequency used for review and updating of contact information is administrative in nature and should not be included in the emergency plan.</p>	

<b>Evaluation Criteria: P.11</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
The process for tracking and addressing emergency preparedness program-related issues that could reduce the effectiveness of the emergency plan into the site-wide corrective action program for evaluation, tracking and correction is described.	The process for <del>tracking and addressing</del> <u>entering</u> emergency preparedness program-related issues that could reduce the effectiveness of the emergency plan into the site-wide corrective action program <del>for evaluation, tracking and correction</del> is described.
<b>Basis for industry proposal/alternate approach:</b> Editorial change to improve clarity – the way the sentence is constructed, ‘entering’ should replace ‘tracking and addressing.’ The phrase ‘for evaluation, tracking and correction’ is unnecessary as those are all required elements for handling issues within a corrective action program. These changes do not alter the intent of the criterion.	

<b>Evaluation Criteria: P.12</b>	
<b>Applicability: Licensee</b>	
<b>Revision 2 Proposed Wording</b>	<b>Industry Proposed Wording</b>
The process for how changes, both temporary and permanent, in plant configuration are evaluated for their impact on the effectiveness of the emergency plan is described.	<u>Provisions are made to evaluate changes</u> <del>The process for how changes, both temporary and permanent,</del> in plant configuration for their impact on the effectiveness of the emergency plan <del>is described.</del>
<b>Basis for industry proposal/alternate approach:</b> Recommend use of ‘provisions’ instead of process – there are many different plant change control processes. The emergency plan should discuss the provisions employed within these processes to identify changes that may affect the emergency plan. The term ‘changes’ encompasses both ‘temporary and permanent;’ therefore, this phrase is unnecessary.	

## Section III – Glossary

### A

**Activation (ERO)** - the process of initiating actions to notify and mobilize Emergency Response Organization (ERO) personnel following an event classification under the emergency plan.

**Activation (Facility):** An Emergency Response Facility (ERF) is activated when the minimum staff in the facility per the site emergency plan is available and the facility is ready to assume its assigned functions under the Emergency Plan and relieve the on-shift staff of those functions. Although the facility may be ready, the on-shift relief may be postponed in the interest of completing critical tasks prior to turnover. Activation time is measured from the time of event classification until the time the lead in the facility declares the facility activated.

~~**Alert and notification:** the process of providing a warning signal to the public at risk indicating the need to seek additional information regarding an emergency event in progress (alerting), followed by informing the public about the nature of the event and any protective actions (notification).~~

~~**Alert and notification system (ANS):** the system used to alert and notify the public, including the physical means (equipment and methods) and administrative means (organizational responsibility and interaction of responsible organizations for alert and notification).~~

**Alert:** an ECL indicating that events are in progress or have occurred which involve an actual or potential substantial degradation of the level of safety of the plant or a security event that involves probable life threatening risk to site personnel or damage to site equipment because of hostile action~~intentional malicious dedicated efforts of a hostile act.~~ Any releases are expected to be limited to small fractions of the EPA PAG exposure levels.

**Annual:** once every calendar year as applied to drill frequencies.

**Applicant:** an entity that has applied for a NPP construction permit/operating license under 10 CFR Part 50, COL under 10 CFR Part 52, or a certain type of ESP under 10 CFR Part 52.

### Industry Comments –

Activation (ERO) - Added definitions to provide clarity for their use in Section B Note 5 of the document. The facility activation definition meets the definition as noted in NSIR/DPR-ISG-01.

Activation (Facility) - Added definitions to provide clarity for their use in Section B Note 5 of the document. The facility activation definition meets the definition as noted in NSIR/DPR-ISG-01.

Alert – reworded to more closely reflect the wording used in NEI 99-01 Revision 6.

Alert and notification/alert and notification system – deleted. Terms are not utilized in this document.

Added clarification of applicability for ‘Annual’ as different definitions apply to completion of 54t and ETE requirements per 10 CFR 50 - Appendix E

## B - C

**Buffer zone:** an area adjacent to a restricted zone where residents may temporarily re-enter, but for which protective measures are recommended to minimize exposure to radiation. The buffer zone serves as an area in which response and recovery efforts are staged and coordinated, and provides an area to conduct decontamination efforts to prevent the spread of contamination to unrestricted areas.

**Combined license (COL):** a ~~combined~~<sup>joint</sup> construction permit and operating license with conditions for a nuclear power facility issued under Subpart C of 10 CFR Part 52.

**Command and control:** management of emergency [response](#) functions within a particular context (e.g., an EOC) through leadership and use of authority.

**Commercial nuclear power plant (NPP):** a facility licensed by the NRC to use a nuclear reactor to produce electricity.

~~The Commission: a collegial body that formulates policies, develops regulations, and issues orders regarding U.S. nuclear reactor and nuclear material safety. The Commission is made up of five Commissioners appointed by the President and confirmed by the Senate for five-year terms.~~

**Concept of operations:** delineation of an organization's roles and responsibilities and how the organization will function to accomplish those responsibilities.

**Containment:** [the structure or vessel that encloses the components of the reactor coolant pressure boundary and serves as an essentially leak-tight barrier against the uncontrolled release of radioactivity to the environment.](#)~~the provision of a gas-tight shell or other enclosure around a reactor that confines fission products and prevents their release to the environment in an accident.~~

**Contamination:** radioactive material present in an unintended area or location.

**Continuous:** action carried out without stopping or interruption.

**Control room:** the area in a NPP from which most of the plant power production and emergency safety equipment can be operated [remotely](#).~~by remote control.~~

**Corrective action:** concrete, actionable steps that are intended to resolve ~~emergency preparedness~~ program gaps and shortcomings experienced in exercises or actual events.

**Curie (Ci):** a unit used to measure the intensity of radioactivity in a sample of material, equal to 37 billion ( $3.7 \times 10^{10}$ ) disintegrations per second.

### Industry Comments –

Combined License – revised to directly reflect Part 52 definition

Command and Control – added wording for consistency in reference to emergency response function in Section B

The Commission - deleted as the Nuclear Regulatory Commission is defined elsewhere in the glossary.

Containment – proposed an alternate definition taken from 10 CFR 50, Appendix J

Control Room – Wording change for ease of reading

Corrective Action – reworded to reflect applicability to programs other than emergency preparedness.

## D

**Decontamination:** a process used to reduce, remove, or neutralize radiological, chemical, or biological contamination to reduce the risk of exposure.

**Direct-reading dosimeter (DRD):** a small ionization detection instrument that indicates radiation exposure directly. An auxiliary charging device is usually necessary. A DRD can be read in real time by the user. A DRD is also referred to as a “pocket dosimeter.”

**Dose rate:** the amount of energy that ionizing radiation sources deposit in materials through which they pass per unit of time. Dose rate is measured in units of radiation-absorbed dose (rad) per unit of time. The dose rate may be expressed numerically in rads per second or rads per hour.

**Dosimeter:** a small portable instrument (such as a film badge, thermoluminescent dosimeter, or pocket dosimeter) used to measure and record the total accumulated personal dose of ionizing radiation.

**Dosimetry:** the theory and application of the principles and techniques involved in measuring and recording doses of ionizing radiation.

**Drill:** [a coordinated supervised activity usually employed to validate a specific function or capability in a single agency or organization.](#) ~~n event involving organizational responses to a simulated incident used to develop and maintain key skills for emergency response.~~

~~**Drywell:** the containment structure enclosing the vessel and recirculation system of a boiling water reactor. The drywell provides both a pressure suppression system and a fission product barrier under accident conditions.~~

### Industry Comments –

Deleted derived intervention level as this term is not used elsewhere in the document.

Drill – revised to align with definition in REP Program Manual. July 2015

Drywell – recommend deleting this term as it is subsumed by the definition of containment for a BWR unit (as is the wetwell or suppression pool). In the event of a pipe break in the reactor coolant system inside a BWR drywell, pressurized coolant escaping from inside the reactor coolant system will flash to steam and begin to pressurize and heat the drywell atmosphere. As the pressure rises in the drywell, the downcomer vent system (or horizontal vents in Mk III containments) will also pressurize, eventually forcing the steam into the wetwell below the water level. The steam contacting the water condenses in the wetwell. This reduces (suppresses) the pressure in the primary containment following the loss of coolant accident by condensing the steam. In some designs and other usage contexts, a BWR wetwell may also be referred to as the torus or suppression pool.

## Ea - Em

**Early site permit (ESP):** a permit through which the NRC resolves site safety, environmental protection, and emergency preparedness issues, in order to approve one or more proposed sites for a nuclear power facility, independent of a specific nuclear plant design or an application for a construction permit or COL. An ESP is valid for 10 to 20 years, but can be renewed for an additional 10 to 20 years.

**Emergency action level (EAL):** a pre-determined, site-specific, observable threshold for an initiating condition that, when met or exceeded, places the plant in a given ECL.

**Emergency classification level (ECL):** one of a set of names or titles established by the NRC for grouping off-normal events or conditions according to potential or actual effects or consequences and resulting onsite and offsite response actions. The four ECLs used for commercial NPPs, in ascending order of severity, are: Notification of Unusual Event (NOUE), Alert, SAE, and GE.

**Emergency operations center (EOC):** a facility that is the primary base of emergency operations for an ORO in a radiological ~~emergency~~ ~~incident~~.

**Emergency operations facility (EOF):** a facility that is the primary base of emergency operations for the licensee in a radiological incident to facilitate the management and coordination of overall emergency response.

**Emergency planning zone (EPZ):** a geographic area surrounding a commercial NPP for which emergency planning is needed to ensure that prompt and effective actions can be taken by OROs to protect public health and safety in the event of a radiological incident. The plume exposure pathway EPZ is approximately 10 miles in radius, while the ingestion exposure pathway EPZ has a radius of approximately 50 miles.

**Emergency Response Data System (ERDS):** a direct near real-time electronic data link between the licensee's onsite computer system and the NRC Operations Center that provides for the automated transmission of a limited data set of selected plant parameters. The ERDS ~~data~~ is ~~required~~ ~~activated by the facility~~ upon declaration of an Alert or higher ECL.

**Emergency response network:** generic term used to refer to communications systems including the hardwired and wireless telephone networks, broadcast and cable television, radio, Public Safety Land Mobile Radio, satellite systems, and increasingly the Internet.

**Emergency response organization (ERO):** the personnel assigned to perform tasks and activities associated with implementation of a licensee's emergency plan for coping with radiological incidents.

## Industry Comments –

EOC – revised to align with definition in REPP Manual

Emergency Response Data System – Reworded to reflect requirement rather than mechanics of operation.

## En - Ez

**Environmental Protection Agency (EPA):** the organization responsible for coordinating Federal environmental response and cleanup for nuclear/ radiological incidents.

**Emergency Planning Functions:** Capability or resource necessary to prepare for and respond to a radiological emergency as required by Appendix E IV. and the planning standards of 10 CFR 50.47(b).

**Emergency Response Functions:** The functions listed in Table B-1 which include:

- Command and Control
- Communications
- Radiation Protection
- Supervision of Radiation Protection
- Dose Assessment/Projections
- Emergency Classifications
- Engineering
- Security
- Repair Team Activities
- Supervision of Repair Team Activities
- Field Monitoring

**Evacuation time estimate (ETE):** a calculation of the time it would take to evacuate the public within the plume exposure pathway EPZ under emergency conditions.

**Evaluation:** the process of observing exercise performance to identify strengths and opportunities for improvement in an entity's emergency preparedness and response capabilities.

**Exclusion area:** the area surrounding the reactor where the licensee has the authority to determine all activities, including exclusion or removal of personnel and property.

**Exercise:** an instrument to train for, assess, practice, and improve performance in prevention, protection, mitigation, response, and recovery capabilities in a risk-free environment. Exercises can be used for testing and validating policies, plans, procedures, training, equipment, and interagency agreements; clarifying and training personnel in roles and responsibilities; improving interagency coordination and communications; improving individual performance; identifying gaps in resources; and identifying opportunities for improvement. ~~an event involving a simulated commercial NPP incident that tests the integrated organizational response capabilities and a major portion of the basic elements of emergency plans~~

### Industry Comments –

Emergency Planning Functions – added definition based on Section 3.2 of Reg Guide 1.219 in order to distinguish its use from emergency response functions

Emergency Response Functions – term is used in reference to Key Skills in Section B but was not defined. Definition based on industry recommended changes to Section B.

Exercise – Revised definition to align with July 2015 REPP Manual

## F - H

**(FEMA):** the agency responsible for establishing Federal policies for and coordinating emergency planning, management, mitigation, and assistance functions of executive agencies. FEMA assists state, local, and tribal agencies in their emergency planning. Its primary role is one of coordinating Federal, state, local, tribal, and volunteer response actions. FEMA became part of the U.S. Department of Homeland Security (DHS) in 2003.

**Federal organization:** an agency or department of the U.S. Federal government, or its component(s), having a role in emergency planning and preparedness.

**Federal Radiological Monitoring and Assessment Center (FRMAC):** a center usually located near the scene of a radiological emergency from which the Department of Energy conducts the NRF response. This center need not be located near the licensee or Federal-state operations centers as long as its operation can be coordinated with them.

**Field monitoring team (FMT):** a group used to detect and monitor radiation in the environment (e.g., measure radiation levels in the air, water, vegetation, soil, etc.).

**Federal Radiological Preparedness Coordinating Committee (FRPCC):** the National-level coordination mechanism to provide technical assistance to OROs (see 44 CFR Part 351).

**General Emergency (GE):** ~~an ECL indicating that e~~Events are in process or have occurred which involve actual or imminent substantial core degradation or melting with potential for loss of containment integrity or ~~hostile action~~security events that results in an actual loss of physical control of the facility. Releases can be reasonably expected to exceed EPA PAG exposure levels offsite for more than the immediate site area.

**Hostile action:** an act directed toward a NPP 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.

**Health physics (HP):** the science concerned with recognizing and evaluating the effects of ionizing radiation on the health and safety of people and the environment, monitoring radiation exposure, and controlling the associated health risks and environmental hazards to permit the safe use of technologies that produce ionizing radiation.

### Industry Comments –

General Emergency – reworded to better align with definition from NEI 99-01, Revision 6

## I - J

**Implementing procedure:** instructions that provide a detailed description, often including checklists, of the operations that are to be conducted by either a specific group of individuals or a designated position.

**Incident:** an occurrence, natural or man-made, ~~occurrence~~ that requires a response to protect life or property. Incidents can include major disasters, emergencies, terrorist attacks, terrorist threats, civil unrest, wildland and urban fires, floods, hazardous materials spills, nuclear accidents, aircraft accidents, earthquakes, hurricanes, tornadoes, tropical storms, tsunamis, war-related disasters, public health and medical emergencies, and other occurrences requiring an emergency response.

**Ingestion exposure pathway:** the principal exposure from this pathway would be from ingestion of contaminated water or foods, such as milk or fresh vegetables. The duration of potential exposure could range in length from hours to months to even years.

**Ingestion exposure pathway emergency planning zone:** a geographic area, approximately 50 miles in radius surrounding a commercial NPP, in which the health and safety of the general public could be adversely affected through the ingestion of water or food that has been contaminated through exposure to radiation, primarily from the deposition of radioisotopes after a radiological accident.

**Initiating condition:** a plant state or situation that indicates a radiological emergency, or event(s) that could lead to a radiological emergency, has occurred.

**Institutionalized individual:** ~~a person~~ individuals who resides ~~in-an~~ institutions, such as a nursing homes s or correctional facilities iesy, and who may need to depend on others for assistance with ~~taking~~ protective actions. ~~An-I~~ Institutionalized individuals may or may not have disabilities and access/functional needs.

**Joint information center (JIC):** a ~~centralized~~ location available for news media ~~at or near the scene of a NPP incident~~ to obtain information regarding details of the event, onsite/ offsite conditions, response organization activities, and any public protective actions; ~~under specific circumstances, the JIC may be a virtual location. News media representatives are kept informed of activities and events via public information officials from the licensee and participating Federal, state, local, and tribal agencies, which ideally are collocated at the JIC.~~

**Joint information system (JIS):** ~~a structured approach that integrates incident information and public affairs into a cohesive organization designed to provide consistent, coordinated, accurate, accessible, timely, and complete information during a crisis or incident. The purpose of a JIS is to provide~~ a structure and mechanism system for organizing, developing, integrating and delivering coordinated interagency messages; developing, recommending and executing and delivering coordinated interagency messages; developing, recommending, and executing public information plans/procedures and strategies on behalf of senior emergency response officials; the Incident Commander; advising the incident command concerning public affairs issues that could affect a response effort; and controlling rumors and inaccurate information that could undermine public confidence in the emergency response effort. ~~The JIC is a central location that facilitates operation of the JIS.~~

### Industry Comments –

Incident – reworded to better reflect July 2015 REPP Manual wording  
Institutionalized individual - reworded to better reflect July 2015 REPP Manual wording  
Joint Information Center – reworded to reflect accepted industry description  
Joint Information System – reworded to align with NEI 12-11 wording

## K - M

**Key skill:** ~~a capability necessary for implementing emergency response functions to protect public health and safety. For applicants/licensees a listing of ERO key skills is provided in Appendix E of 10 CFR Part 50. [Definition needed.](#)~~

**Letter of agreement (LOA):** a document executed between two or more parties outlining specific arrangements relating to the accomplishment of an action. Letters of agreement may cover personnel, equipment, or other types of emergency support, and may take the form of letters, contracts, purchase orders, or other procurement mechanisms.

**Licensee:** the utility or organization that has received from the NRC (1) a license to construct or operate a commercial NPP, (2) an ESP for a commercial NPP, (3) a combined license for a commercial NPP, or (4) any other NRC license that is now or may become subject to requirements for radiological emergency planning and preparedness activities.

**Licensee ORO:** refers to a situation in which a licensee develops plans for and would implement offsite emergency response activities and functions because state, local, and/or tribal organizations have declined to participate in the REP program.

**Local organization:** a municipal, county, or regional government agency or office having a role in radiological emergency planning and preparedness, as defined in radiological emergency response plans.

**Medical services drill:** a drill in which OROs demonstrate the ability of the transportation services and medical facilities to handle a contaminated individual without spreading contamination.

**Memorandum of understanding (MOU):** a document which details the respective authorities and responsibilities of the signatory organizations for specified radiological emergency response planning, preparedness, or response.

**Microcurie ( $\mu\text{Ci}$ ):** one millionth part of a curie (see curie).

**Mitigation:** the capabilities necessary to reduce the loss of life and property by lessening the impact of a NPP incident or other disaster.

## Industry Comments –

Key Skill – Recommend deletion of the reference to Appendix E for this definition. Although the term is used in Appendix E, it is not defined there. The term is also used in NSIR/DPR-ISG-01, however, is not specifically defined. The industry requests that the NRC provide a clear definition of ‘key skills’.

## N - Op

**National Preparedness Goal:** the objective to provide for a secure and resilient Nation with the capabilities required across the whole community to prevent, protect against, mitigate, respond to, and recover from the threats and hazards that pose the greatest risk.

**National Preparedness System (NPS):** an integrated set of guidance, programs, and processes to enable the Nation to meet the National Preparedness Goal.

**National Response Framework (NRF):** the guiding principles, roles, and structures that enable all domestic incident response partners to prepare for and provide a unified national response to disasters and emergencies. It describes how the Federal government, states, tribal governments, communities, and private sector work together to coordinate a national response. The framework builds upon the NIMS, which provides a template for managing incidents.

**Non-participating organization:** an ORO that is not participating in emergency planning and preparedness for incidents at a commercial NPP.

**Notification of Unusual Event (NOUE):** an ECL indicating that events are in progress or have occurred which indicate a potential degradation of the level of safety of the plant or indicate a security threat to facility protection. No releases of radioactive material requiring offsite response or monitoring are expected unless further degradation of safety systems occurs. This term is sometimes shortened to Unusual Event (UE) or other similar site-specific terminology. The terms Notification of Unusual Event, NOUE, Unusual Event, and UE are used interchangeably.

**NRC site team:** NRC regional personnel who may be activated for onsite assessment and face-to-face coordination with licensee, state, and Federal responders.

**Nuclear Regulatory Commission (NRC):** the Federal agency that regulates commercial NPPs and other uses of nuclear materials, such as in nuclear medicine, through licensing, inspection, and enforcement of its requirements.

**NUREG:** reports or brochures on regulatory decisions, results of research, results of incident investigations, and other technical and administrative information.

**Offsite:** outside the boundaries of the OCA.

**Offsite response organization (ORO):** any state, local, or tribal governmental organization; private or voluntary organization; or licensee ORO formed when state, local, and tribal governments choose not to participate in the REP Program; that is responsible for carrying out emergency response functions during a radiological emergency.

**Onsite:** the OCA of a commercial NPP.

**Operations support center (OSC):** a licensee onsite emergency response facility provided for maintenance and other support personnel to gather as a ready resource to support emergency response actions.

## Industry Comments –

Notification of Unusual Event – revised to more closely reflect the wording used in NEI 99-01 Revision 6.

## Ow - PI

**Owner controlled area (OCA):** all areas contiguous to the commercial NPP that are owned or leased by the licensee (or by any of its associated business units) over which the licensee exercises control. The OCA is usually larger than, and encompasses, the exclusion area.

**Performance Based – Desired, measurable outcomes which lead to defined results without specific direction regarding how the results are obtained. Results which are based on response-related performance.**

**Pet:** a domesticated animal, such as a dog, cat, bird, rabbit, rodent, or turtle that is traditionally kept in the home for pleasure rather than for commercial purposes, can travel in commercial carriers, and be housed in temporary facilities. Household pets do not include reptiles (except turtles), amphibians, fish, insects/arachnids, farm animals (including horses), and animals kept for racing purposes.

**Person with disabilities and access/functional needs:** an individual within a community that may have additional needs before, during, and/or after an incident in one or more of the following functional areas: maintaining independence, communication, transportation, supervision, and medical care. Individuals in need of additional response assistance may include those who have disabilities (sensory, motor skills, mental/emotional); who live in institutionalized settings; who are elderly; who are children; who are from diverse cultures; who have limited or no English-speaking proficiency; or who are transportation-disadvantaged.

**Planning standard:** One of the 16 standards established in 10 CFR 50.47(b) that a plan must meet which are supported by the corresponding sections of Appendix E, "Emergency Planning and Preparedness for Production and Utilization Facilities," to 10 CFR Part 50. "Domestic Licensing of Production and Utilization Facilities."~~an emergency planning element or attribute that must be met in onsite and offsite emergency plans and preparedness programs. The planning standards are found in NRC regulations at 10 CFR 50.47 and FEMA regulations at 44 CFR 350.5.~~

**Plans/Procedures:** an organization's documented concept of operations and implementing instructions for managing its internal response to emergencies and coordinating its external response with other organizations. The term plans/procedures as used in this document includes REP/response plans, associated implementing procedures, and other supporting and referenced materials.

**Plume exposure pathway:** a term describing the means by which whole body radiation exposure occurs as a result of immersion in a gaseous release of radioactive material. The principal exposure sources from this pathway are: (a) whole body external exposure to gamma radiation from the plume and from deposited materials, and (b) inhalation exposure from the passing radioactive plume. The duration of principal potential exposures could range in length from 30 minutes to days.

## Industry Comments –

Performance Based – added definition based on NRC Glossary and SECY-14-0038, Performance Based Framework for Nuclear Power Plant Emergency Preparedness Oversight .April 4, 2014 to add clarity to the use of this term in Section B.  
Planning Standard – Reworded to reflect definition as provided in IMC 0609, Appendix B

## PI - Pr

**Plume exposure pathway emergency planning zone:** a geographic area approximately 10 miles in radius surrounding a commercial NPP within which the health and safety of the general public could be adversely affected by direct whole body external exposure to gamma radiation from the plume and from deposited materials, as well as inhalation exposure from the passing radioactive plume during a radiological accident.

**Post-plume phase:** includes response activities (such as limiting exposure from ingestion of contaminated food and water, relocation, reentry, and return) that occur after a release has been terminated.

**Potassium iodide (KI):** a prophylactic compound containing a stable (i.e., non-radioactive) form of iodine that can be used effectively to block the uptake of radioactive iodine by the thyroid gland in a human being.

### **Principal Functional Areas: activities such as**

- [Management and coordination of emergency response](#)
- [Accident assessment](#)
- [Event classification](#)
- [Notification of offsite authorities](#)
- [Assessment of the onsite and offsite impact of radiological releases](#)
- [Protective action recommendation development](#)
- [Protective action decision making](#)
- [Plant system repair](#)
- [Mitigative action implementation](#)

**Principal organization:** the nuclear utility (licensee) and any Federal, state, local, and tribal agency, department, or executive office having a major or lead role in emergency planning and preparedness.

**Private sector organization:** an industry group or entity, volunteer group, quasi-governmental body, etc. having a role in emergency planning and preparedness.

**Projected dose:** ~~an~~the estimated ~~or calculated of the~~ amount of radiation ~~dose~~exposure ~~which affected to an~~ individuals ~~s from exposure to the plume and/or deposited materials.~~ ~~over a period of time, in the absence of~~~~could potentially receive if~~ protective action~~s are not taken.~~

**Protective action:** an action taken to avoid or reduce projected dose. See also protective measure.

**Protective action decision (PAD):** measures taken in anticipation of, or in response to, a release of radioactive material to the environment. The purpose of PADs is to provide dose savings by avoiding or minimizing the radiation exposure received by individuals, thereby minimizing the health risks resulting from radiation exposure. Sheltering and evacuation are the two PADs most often relied upon for limiting the direct exposure of the general public within the plume exposure EPZ. Preventive and emergency PADs are two categories of PADs relied upon for limiting exposure from contaminated food and water in the ingestion exposure EPZ.

## **Industry Comments –**

Principal functional areas – added per NSIR/DPR-ISG-01 to add clarity to criterion N.2  
Projected dose – reworded to better align with definition in the July 2015 REPP Manual

**Pr - Pu**

**Protective action guide (PAG):** a projected dose to an individual in the general population that warrants the implementation of protective action.

**Protective action recommendation (PAR):** a formal advisement from a NPP licensee to state, local, and/or tribal government officials, or from state officials to other offsite officials, concerning emergency measures that should be taken to protect the public from exposure to radiation.

**Protective measure:** an action taken in the event of a radiological emergency at a NPP to protect the public from exposure to radiation.

**Public information:** information provided to the general public on a periodic basis concerning what they should know about radiation and how to respond to a radiological emergency. This would include topics such as educational information about radiation, who to contact for additional information, and what their actions should be in an actual emergency.

**Industry Comments –**

No recommendation for alternate approach or wording.

## Ra - Ree

**Rad:** ~~radiation absorbed dose, the basic~~ the special unit of absorbed ~~radiation~~ dose. One rad is equal to an absorbed dose of 100 ergs per gram or 0.01 joule/kilogram. ~~of the absorbing material or tissue.~~

**Radioisotope:** an unstable isotope of an element that decays or disintegrates spontaneously, emitting radiation. Approximately 5000 natural and artificial radioisotopes have been identified.

**Radiological Emergency Preparedness (REP) Program:** ~~refers to both~~ the FEMA ~~and NRC~~ programs that administer s emergency preparedness for all commercial nuclear sites, ~~and surrounding areas and encompasses the plans, training, exercises, and resources necessary to prepare emergency personnel to rapidly identify, evaluate, and respond to emergencies.~~

**Radiological Emergency Preparedness (REP) exercise:** an event involving organizational responses to a simulated commercial NPP incident with radiological and other offsite consequences. The purpose of an exercise is to test the integrated capabilities of onsite and offsite response organizations to implement emergency functions set forth in their radiological emergency response plans/ procedures.

**Radioprotective drug:** a chemical compound or substance serving to protect or aid in protecting against the injurious effects of radiation.

**Reasonable assurance:** a determination that state, local, tribal government, and utility offsite plans and preparedness are adequate to protect public health and safety in the emergency planning areas of commercial NPPs.

**Reception/relocation center:** a pre-designated facility located outside the plume exposure pathway EPZ (at a minimum distance of 15 miles from the NPP) at which the evacuated public can register; receive radiation monitoring and decontamination; receive assistance in contacting others; receive directions to congregate care centers; reunite with others; and receive general information. It generally refers to a facility where monitoring, decontamination, and registration of evacuees are conducted. A reception/relocation center is also referred to as a registration center or public registration and decontamination center.

**Recovery:** the process of reducing radiation exposure rates and concentrations of radioactive material in the environment to acceptable levels for return by the general public for unconditional occupancy or use after the emergency phase of a radiological emergency. ~~More broadly, recovery is accomplished through the timely restoration, strengthening, and revitalization of infrastructure, housing, and a sustainable economy, as well as the health, social, cultural, historic, and environmental fabric of communities affected by a catastrophic incident.~~

**Re-entry:** ~~the provisions for the return of the public after evacuation, when the radiation risk has been reduced to acceptable levels.~~ The provisions for allowance of certain individuals who have been evacuated or relocated from a restricted zone to reenter, under controlled conditions, to perform additional emergency response activities or carry out specific types of personal business.

## Industry Comments –

Rad – revised definition to agree with 10 CFR 20.1004.

REP Program – reworded to better align with July 2015 REPP Manual definition.

Recovery – Reworded to better align with July 2015 REPP Manual definition.

Re-entry – Reworded to better align with July 2015 REPP Manual definition.

## Ref - Rz

**Regional Assistance Committee (RAC):** a committee of representatives from a number of Federal agencies that have agreed to assist the FEMA Region in providing technical assistance to OROs and to evaluate radiological emergency response plans/procedures and exercises on the basis of their special authorities, missions, and expertise.

**Relocation:** the removal or continued exclusion of people (households) from contaminated areas to avoid chronic radiation exposure.

**Relocation center:** see reception/relocation center.

**Return:** reoccupation of areas cleared for unrestricted residence/use by previously evacuated or relocated populations.

~~**Roentgen (r):** a unit of exposure of gamma (or X-ray) radiation in field dosimetry. One roentgen is essentially equal to one rad (see "rad"). A unit for measuring the amount of radiation energy imparted to a volume of air. The roentgen can be used only to measure X-rays or gamma rays.~~

~~**Roentgen equivalent man/mammal (rem):** the quantity of ionizing radiation of any type which, when absorbed by man or other mammals, produces a physiological effect equivalent to that produced by the absorption of 1 roentgen of X-ray or gamma radiation.~~

## Industry Comments –

Roentgen – deleted as it is not used elsewhere in the document

Roentgen equivalent man/mammal – deleted as it is not used in the elsewhere in the document

## S

**Service animal:** any guide dog, signal dog, or other animal individually trained to provide assistance to an individual with a disability including, but not limited to, guiding individuals with impaired vision, alerting individuals with impaired hearing to intruders or sounds, providing minimal protection or rescue work, pulling a wheelchair, or fetching dropped items.

**Site Area Emergency (SAE):** an ECL indicating that events are in progress or have occurred which involve an actual or likely major failure of plant functions needed for protection of the public or ~~hostile action~~ security events that results in intentional damage or malicious acts: 1) toward site personnel or equipment that could lead to the likely failure of, or; 2) that prevent effective access to, equipment needed for the protection of the public. Any releases are not expected to result in exposure levels which exceed EPA PAG exposure levels beyond the site boundary.

**Site boundary:** the line beyond which the land or property is not owned, leased, or otherwise controlled by the licensee.

**Spent fuel pool:** a structure that provides onsite storage for spent nuclear fuel. These pools are robust constructions made of reinforced concrete several feet thick, with steel liners. The water is typically about 40 feet deep, and serves both to shield the radiation and cool the fuel rods.

**State organization:** the state government agency or office having the principal or lead role in emergency planning and preparedness. There may be more than one state involved, resulting in application of the evaluation criteria separately to more than one state. To the extent possible, however, one state should be designated as lead.

**State of emergency:** a situation of national danger or disaster in which a government suspends normal constitutional procedures in order to regain control.

**Support organization:** any organization, such as an agency, department, office, or local jurisdiction, having a supportive role to the principal or lead organization(s) in emergency planning and preparedness.

### Industry Comments –

Site Area Emergency – Reworded to better align with definition in NEI 99-01, Revision 6

**T**

**Technical support center (TSC):** a licensee onsite facility that provides plant management and technical support during an emergency and performs EOF functions until the EOF is functional.

**Threat and Hazard Identification and Risk Assessment (THIRA):** a comprehensive guide to identifying and addressing risks and impacts through the whole community approach; this is a joint effort between Federal, state, local, tribal, and territorial organizations.

**Timely (timely manner):** performing appropriate actions with a sense of urgency and without undue delay.

**Total effective dose equivalent (TEDE):** the sum of the deep dose equivalent (for external exposures) and committed effective dose equivalent (for internal exposures).

**Transient person:** a person who does not permanently reside in the plume exposure pathway EPZ, but may be present during an emergency.

**Tribal government:** a Federally-recognized American Indian and Alaska Native tribal government. Tribal governments do not have the authority to directly request Stafford Act assistance and must seek assistance under Presidential Declarations for the states in which they are located. A listing of Federally-recognized Indian tribal entities can be found in the Tribal Directory maintained on the US Department of the Interior, Indian Affairs' webpage ([www.bia.gov](http://www.bia.gov)).

**Industry Comments –**

No recommendation for alternate approach or wording.