

QUESTION: My site has several events with severe consequences that were not included in the spectrum of scenarios that determined the EPZ size. These scenarios project consequences in areas outside the EPZ. Are we required to have Protective Action Recommendations (PARs) for the areas outside the EPZ?

ANSWER:

Current DRAFT guidance (EMG, Vol. II Section 3.2) states that, “The designation of an EPZ and the related detailed planning and preparedness activities are not intended to ensure complete protection of all persons who might be affected by the largest conceivable hazardous material release under the most severe meteorological conditions. The EPA Manual of Protective Action Guides and Protective Actions for Nuclear Incidents states, ‘It is not appropriate to use the maximum distance where a PAG might be exceeded as the basis for establishing the boundary of the EPZ for a facility.’” [Note: Refers to the analyzed scenario with the maximum distance to PAG.] This is reflected in the methodology for developing the size of the EPZ described in the DRAFT EMG (Vol. II Section 3). The integrated facility EPZ, which is based on the spectrum of potential radioactive and chemical hazardous material releases, should be of sufficient size that:

1. a. Protective actions are not likely to be required beyond the EPZ for most analyzed events (excluding those that are “beyond design basis” natural phenomena events or which result from extreme malevolent acts)
2. b. Measures taken within the EPZ would provide for substantial reduction in early lethality for all analyzed events (excluding those which result from extreme malevolent acts)

Thus, extreme malevolent acts are excluded from general criteria that form the basis for the determination of the size of the EPZ. In addition, “beyond design basis” natural phenomena events are not considered when evaluating the application of the first criterion a, given above, which generally bounds the outer limit of the candidate EPZ in the methodology.

Hence, while all scenarios must be identified in the EPHA, not all scenarios must serve as the basis for special planning and be taken into consideration in determining the size of the EPZ. However, this does not mean that there should be no planning for those scenarios that are not the basis of the EPZ determination. An analyzed event with onsite and offsite impact should have a corresponding EAL with a predetermined Protective Action (PA)/Protective Action Recommendation (PAR) included in the facility EAL set. The key to response for scenarios whose consequences extend beyond the EPZ is that planning efforts within the EPZ provide a substantial basis for expansion of response efforts beyond the EPZ, if necessary.

The specific requirement for protective actions is contained in DOE O 151.1C,

DOE O 151.1C FAQ

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Attachment 2, Section 11.b (2): "Site/facility-specific Emergency Action Levels (EALs) must be developed for the spectrum of potential Operational Emergencies identified by the EPHA and must include protective actions corresponding to each EAL."

This requirement is supported by the DRAFT guidance in Volume II, Appendix E, specifically focused on the extreme malevolent event:

“Sites and facilities are not expected to include these extreme malevolent events in the technical planning basis or in determining the Emergency Planning Zone (EPZ). However, recognizing that such events may require response measures that exceed site and EPZ planning and could require the involvement of multi-jurisdictional and even State and Federal response authorities, these events should be part of the site-wide EAL set to ensure prompt recognition. In addition, as is the case for all events included in the EAL set, initial onsite Protective Actions (PAs) and offsite Protective Action Recommendations (PARs) should be developed for these analyzed extreme malevolent events.”