Emergency Planning Zone Sizing

April 2019
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Emergency Planning Zones (EPZs)

- “EPZs are designated as the areas for which planning is recommended to assure that prompt and effective actions can be taken to protect the public in the event of an accident.” NUREG 0396, page 11

- “Detailed planning within 10 miles would provide a substantial base for expansion of response efforts in the event that this proved necessary.” NUREG 0654 FEMA REP 1
EPZs

- Kemeny Commission Report, states: “[t]he fact that too many individuals and organizations were not aware of the **dimensions of** serious accidents at nuclear power plants accounts for a great deal of the lack of preparedness and the poor quality of the response.” (Report of the President's Commission on the Accident at Three Mile Island, p. 17).

- Making individuals and offsite response organizations aware of the **dimensions of** serious accidents goes a long way in having an effective and appropriate response.
EPZs

- Trained federal agency personnel expect to respond to a REP competent community capable of providing their most knowledgeable, best trained, and interactive support to positively blend with responding federal assets thus insuring the health and safety of the public.
Post Three Mile Island History: “The proposed rule is predicated on the Commission's considered judgment in the aftermath of the accident at Three Mile Island that safe siting and design-engineered features alone do not optimize protection of the public health and safety. . . . The accident showed clearly that the protection provided by siting and engineered safety features must be bolstered by the ability to take protective measures during the course of an accident.” [44 FR 75167, 75169 (December 19, 1979)].
EPZs

- Consideration of a reduced EPZ size, from the current 10-mile plume exposure pathway and 50-mile ingestion exposure pathway EPZ models, “may be reasonable” for some SMRs.

- A site boundary (zero mile) EPZ for SMRs would be “problematic” because of the absence of an established offsite EPZ, associated emergency planning, and accomplished radiological EP emergency preparedness oversight program.
EPZs

- “In the wake of the accident at Three Mile Island, the logic of low probability can no longer be allowed to justify less than priority treatment of emergency preparedness.” (S. Rep. No. 96-176, at 27 (1979) accompanying Pub. L. 96-295).

- This in part led Congress to mandate that offsite planning and preparedness be taken into consideration in the licensing of commercial nuclear power plants.
EPA PAGS

- The PAG recommendations do not represent the boundary between safe and unsafe conditions. EPA-400/R-17/001, p. 12, January 2017

- PAGs are guides to help officials select protective actions under emergency conditions during which exposures would occur for relatively short time periods. EPA-400/R-17/001, p. 1, January 2017

- They are not meant to be applied as strict numeric criteria, but rather as guidelines to be considered in the context of incident-specific factors. EPA-400/R-17/001, p. 1, January 2017
Selection of evacuation or sheltering-in-place is far from an exact science, particularly in light of time constraints that may prevent thorough analysis at the time of an incident. EPA-400/R-17/001, p. 17, January 2017

Advance planning and exercises can facilitate the decision process. In a commercial NPP incident, early decisions should be based on information from the response plans for the emergency planning zone (EPZ) and on actual conditions at the nuclear facility. EPA-400/R-17/001, p. 17, January 2017
EPA PAGS

- PAGs do not establish an acceptable level of risk for normal, non-emergency conditions, nor do they represent the boundary between safe and unsafe conditions. EPA-400/R-17/001, p. 1, January 2017
Ingestion Pathway

- A response-oriented and dependent approach does not put the emphasis on preventing contaminated food from entering commerce. Instead it relies on the ability to rapidly removing the food from commerce.

- FEMA believes ingestion planning can prevent contaminated food from entering the food chain (commerce).
Preparedness Considerations

- THIRA CPG 201
- Public perception
- Planning
- BDB: Cyber, Hostile Action, EMP
- Federal Response – 72 hours per NRIA
Emergency Response Scaling

- Current guidance for expanding/scaling response is based on pre-existing offsite EPZs (plans, procedures, resources exercised and tested for validity).

- FEMA believes attempting to scale a radiological emergency response without an offsite EPZ could be challenging.
Final Thought

- For nearly 40 years the partnership amongst state and local communities, licensees, and Federal entities has been exemplary. Moving into the future, this successful “team” should continue to collaborate with the joint goal of protecting the health and safety of the public.
Questions?
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