



FEMA

June 13, 2017

Ms. Stephanie Coffin
Acting Director, Division of Preparedness and Response
Office of Nuclear Security and Incident Response
United States Nuclear Regulatory Commission (NRC)
Mail Stop T4D22A
Washington, D.C. 20555

**SUBJECT: EMERGENCY PREPAREDNESS FOR SMALL MODULAR REACTORS AND
OTHER NEW TECHNOLOGIES: DRAFT REGULATORY BASIS FOR COMMENT**

Dear Ms. Coffin:

Enclosed, please find the comments from the FEMA Technological Hazards Division (THD) staff regarding Emergency Preparedness for Small Modular Reactors and Other New Technologies: Draft Regulatory Basis for Comment.

We look forward to continuing discussions on this important issue, and providing additional feedback as this initiative moves ahead. Please do not hesitate to contact me at (202) 507-2294 should you have questions or require further clarification on the areas of concern.

Sincerely,

A handwritten signature in black ink, appearing to read "Jonathan M. Hoyes".

Jonathan M. Hoyes
Director
Technological Hazards Division

For JMH 6/13/17



FEMA

June 13, 2017

Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

SUBJECT: Docket ID NRC-2015-0225: Emergency Preparedness for Small Modular Reactors and Other New Technologies: Draft Regulatory Basis for Comment

Please find enclosed comments from FEMA Technological Hazards Division (THD) staff regarding Emergency Preparedness for Small Modular Reactors and Other New Technologies: Draft Regulatory Basis for Comment. These attachments should address the proposed rulemaking on a draft regulatory basis to support a rulemaking that would amend NRC's regulations for Emergency Preparedness for Small Modular Reactors and Other New Technologies. Should you have any questions, please contact Harry Sherwood at harry.sherwood@fema.dhs.gov.

FEMA's comments on this basis focus strongly on those related to the Emergency Planning Zones (EPZs) that assist in defining and describing the offsite capabilities of offsite response organizations (OROs) for responding to an incident at a commercial nuclear power facility.

Reduced Plume Exposure Pathway EPZ Size

FEMA strongly endorses risk-informed emergency preparedness as such, the consideration of a reduced EPZ size, from the current 10-mile plume exposure pathway and 50-mile EPZ models (or the 5-mile and 30-mile precedents, respectively), may be reasonable for some Small Modular Reactors (SMRs) and Other New Technologies (ONTs). This would rightly take into account the appropriate factors from current guidance (i.e., NUREG-0396, "Planning Basis for the Development of State and Local Government Radiological Emergency Response Plans In Support of Light Water Nuclear Reactors", and EPA-400/R-17/001, "PAG Manual: Protective Action Guides and Planning Guidance for Radiological Incidents" (January 2017)), such as demography, topography, planning, source term, etc., as well as any intrinsic siting impediments that might interfere with protective actions. These, as well as significant concerns regarding multiple units per site (and the increase of risk per unit) must be further explored as a consideration in defining the EPZs for a given site.

Scalable Plume Exposure Pathway EPZ Sizing

Currently, guidance for the impromptu expansion of EPZs is based on the premise that the EPZ, especially a plume EPZ, is currently established and has been affirmed via the application of a formal, offsite radiological emergency preparedness (EP) program. This allows offsite authorities, responsible for the protection of the public health and safety, to execute an informed scaling of the EPZ to accommodate the implementation of on-going protective actions an incident escalation. It is important to note that, assuming a release from the plant(s) were to result in the exceeding of the 1 Rem/4 days PAG beyond the site boundary, however unlikely, current PAG guidance recommends

immediate protective actions be taken to protect the public (i.e., evacuation or sheltering). Such a dramatic shift in offsite conditions would prove problematic in the absence of an established offsite EPZ and accomplished radiological EP oversight program.

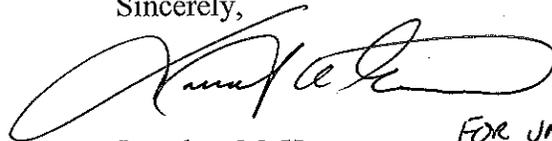
Ingestion Exposure Pathway EPZ

Since the discussion within the regulatory basis for the ingestion exposure pathway and its associated EPZ is minimal and lacks detail, FEMA is unable to provide related, substantive comments at this time. However, FEMA believes the following points are of note and should be considered as more information becomes available:

- The Derived Intervention Levels (DILs) can be exceeded at a much lower level release of radioactive material than needed to exceed the PAGs for evacuation; at a rate that may be too low to actually measure in the field with field instrumentation.
- Nuclear power plants and fuel cycle facilities have the possibility of impacting or exceeding the DILs at a Site Area Emergency (SAE) with a release of radioactive material depending on how close the NPP or fuel cycle facility is to agriculture.
 - OROs have an obligation and responsibility to protect the health and safety of the public regardless of whether or not evacuations occur.
- The control of agricultural products and drinking water making it to market is another component to protecting the health and safety of the public.

FEMA looks forward to the continued discussion with the NRC as the Draft Regulatory Basis evolves. Should you have any questions or comments on the content of this document, please feel free to reach out to Harry Sherwood at harry.sherwood@fema.dhs.gov.

Sincerely,



Jonathan M. Hoyes
Director
Technological Hazards Division

FOR JMH 6/13/17