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Small Modular Reactors Emergency Preparedness

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Emergency Preparedness for SMRs

The overall objective of EP:

to ensure that the nuclear power plant operator is capable of implementing adequate measures to protect public health and safety in the event of a radiological emergency.

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What will EP look like for SMRs?

- Advanced designs deserve new thinking
 - Below grade construction
 - Passive safety systems
 - Multiple unit sites
- EP will always be required and requirements may be very different
 - EPZ size – graded approach related to offsite dose
 - Offsite EP infrastructure?
 - Onsite EP infrastructure?

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Emergency Planning and SMRs

- SECY-11-0152 “Development of an Emergency Planning and Preparedness Framework for Small Modular Reactors”
 - Information paper
 - discussed staff’s intent to develop a technology-neutral, dose-based, consequence-oriented EP framework

4

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Concept of “Scalable EPZ”

- Consequences of a smaller source term and passive design features
- Offsite EP requirements could be scaled to be commensurate with the SMR design:
 - accident source term
 - fission product release
 - Longer reactor transient response time
 - associated dose characteristics
 - Smaller size/site boundary EPZ


5

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Stakeholder Engagement

- Nuclear Energy Insitute (NEI) White paper with “high level approach” submitted to NRC Dec 2013
- Public Meeting with NEI to discuss paper in April 2014
- Public meeting with NEI and Tennessee Valley Authority (TVA) Dec 2014 to discuss intended early site permit (ESP) application and 2 separate EPZ sizes: site boundary and 2 miles

6



Next Steps

- Staff preparing a policy vote paper due 3rd quarter 2015 to Commission on path forward for SMR EP
- Continue stakeholder engagement
 - State, local stakeholders
 - Industry
 - Public
