

Discussion of ISG-029

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**Advanced Reactor Stakeholders Meeting
April 2, 2020**

The Challenges

- Current environmental review were originally developed for licensing large reactors.
- How to adapt the new practices to licensing micro-reactors?
- How to scale the practices to reflect a reduced potential for adverse environmental impacts?
- How to streamline the practices while maintaining the necessary rigor?




Possible Environmental Characteristics of a Micro-Reactor

- Occupies small land area
- Low usage of resources such as water or fuel
- Low level of emissions
- Smaller footprints could avoid sensitive lands such as wetlands and floodplains



Possible Environmental Characteristics of a Micro-Reactor (cont.)

- Smaller footprints could avoid areas with cultural, historic, or environmental justice significance
 - More opportunities to use mitigation to reduce impacts
 - Construction and operation phases would require fewer workers
 - Simpler designs with limited interfaces with the environment
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Possible Short-Term and Long-Term Approaches

Short Term

- Development of Interim Staff Guidance (ISG)

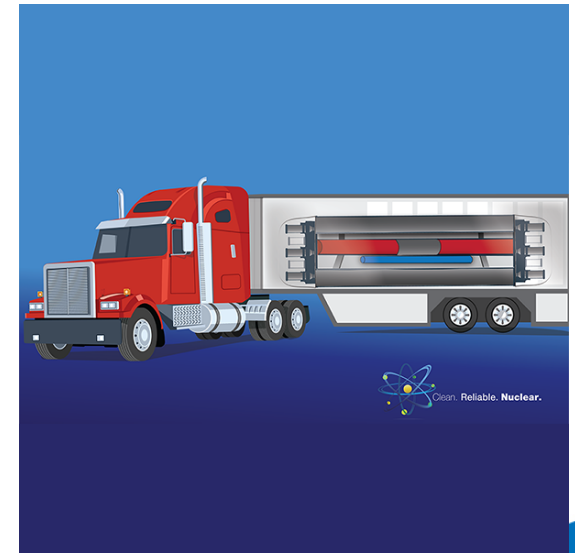
Long Term

- Generic Environmental Impact Statement (GEIS)
- New Regulatory Guides



Interim Staff Guidance

- Engaged interdisciplinary team of environmental subject matter experts
- Discussed at stakeholder meetings
- Provides guidance to scale guidance in NUREG-1555 to micro reactors
- Applicants should be aware of how to scale the analysis
- Discuss it with NRC in pre-application before and during the development of the environmental report




Environmental Resource Areas Addressed in ISG

- Land Use
- Water Resources
- Terrestrial Ecology
- Aquatic Ecology
- Socioeconomics and Environmental Justice
- Historic and Cultural Resources
- Need for Power and Alternatives



Environmental Resource Addressed in ISG (cont.)

- Meteorology and Air Quality
 - Nonradiological Health
 - Radiological Health
 - Postulated Accidents
 - Severe Accident Mitigation Alternatives
 - Fuel Cycle, Transportation of Fuel and Waste, and Continued Storage of Spent Fuel
 - Cumulative Impacts
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Status

- ISG published for Public Comment on February 21, 2020. Comment period closes on May 11, 2020.
- Comment on regulations.gov at <https://www.regulations.gov/docket?D=NRC-2020-0051>
- Finalization of ISG
- ISG will inform advance reactor generic environmental impact statement



Discussion & Questions