

# Discussion of ISG-029

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**Advanced Reactor Stakeholders Meeting  
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# 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)

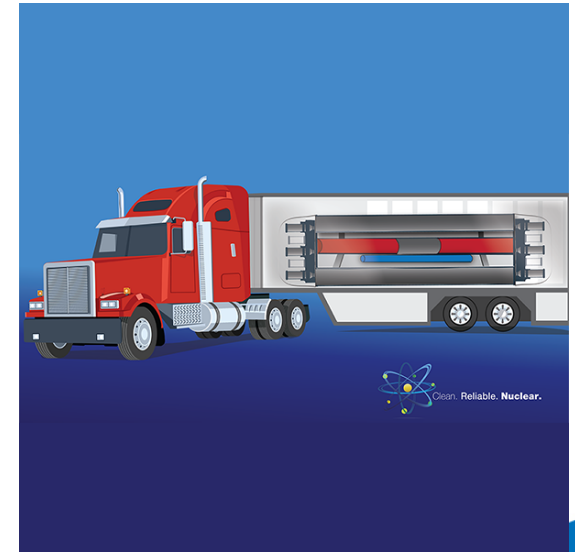
## Long Term

- 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
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# 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