

# Opportunities in Micro-Reactors

By

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# What are “Micro” Reactors?

- **Specific type of advanced reactor <10 MWe**
- **Incorporate advanced technologies not present in current fleet**
- **Modular, factory-manufactured, inherently safe**
- **May be mobile and automated**
- **Applications go beyond electricity generation**



# Micro-Reactors are a Potential Game-Changer

- **Military program will be based on military requirements and specifications**
- **Significant benefits could be realized in civilian applications**
  - Nuclear industry is currently challenged by market forces and public perception
  - Rapid deployment would increase expertise required to revitalize industry capabilities and technology
  - Public strongly approves of advanced technology projects with defense applications

# Micro-Reactors Could Change Nuclear Economics

- Theoretically, physics-based scaling laws penalize smaller systems and lead to higher cost
- Yet, factory fabrication and smaller size yield increased economies of scale and learning factors, leading to lower cost
- Micro-reactor program is ideal for establishing factory manufacturing and design expertise
- Military program will likely move more quickly than commercial SMR development

# Micro-Reactors are Versatile with Multipurpose Roles



**Data center**



**Transit hub**



**Industrial combined heat and power**

*Images courtesy  
Third Way*

# Military Micro-Reactors Could Revitalize Talent Pipeline



- **Navy-to-civilian transition has a robust pipeline**
  - Some limitations due to differing roles of Navy reactors and utility plants
- **Likely different business model than current Nuclear Navy**
- **DoD operations can create pipeline for civilian operators**

# Questions?

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