

# Micro-Reactors

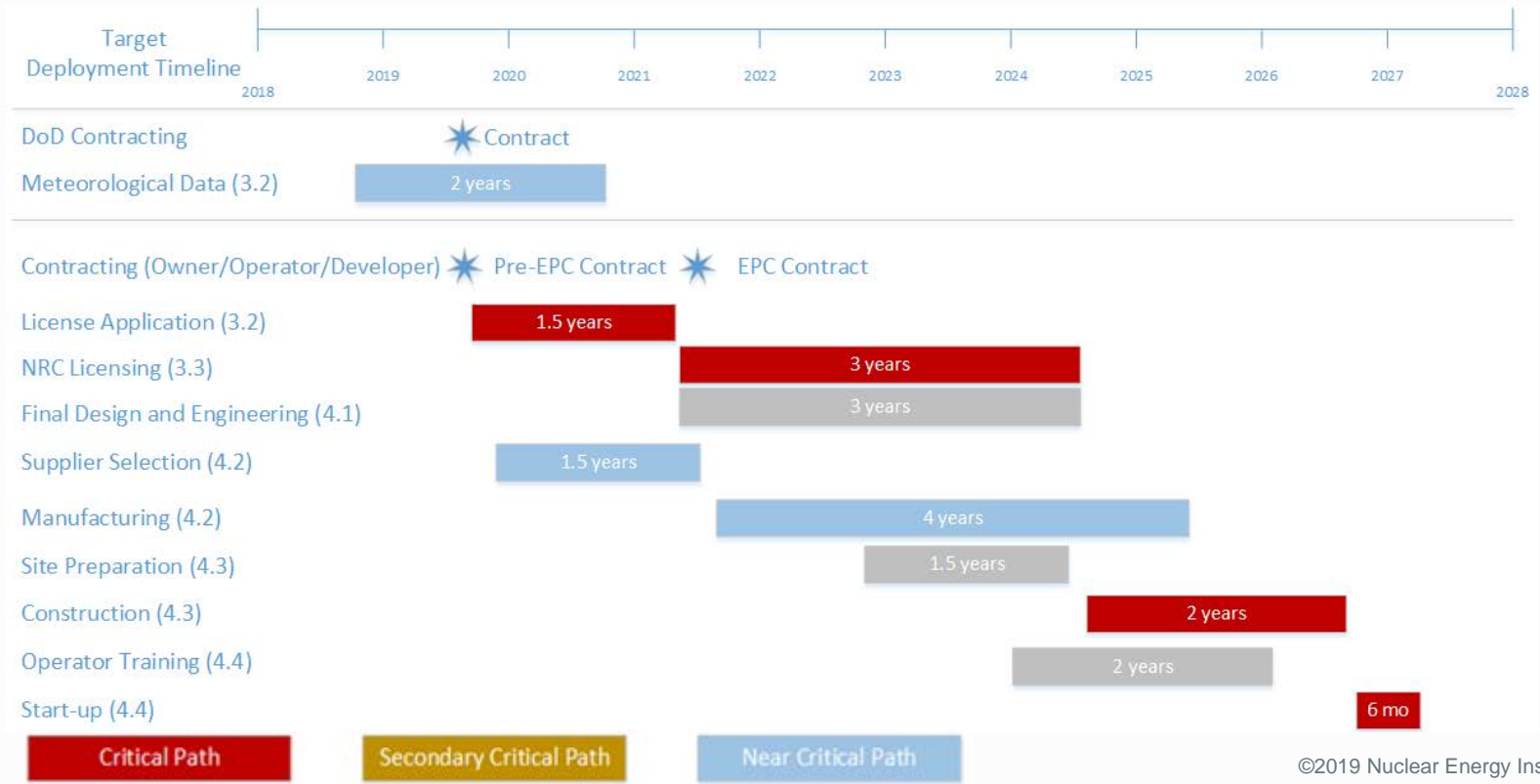
## Timelines, Costs and Opportunities

Marc Nichol, Director New Reactor Deployment

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# Deployment Timeline

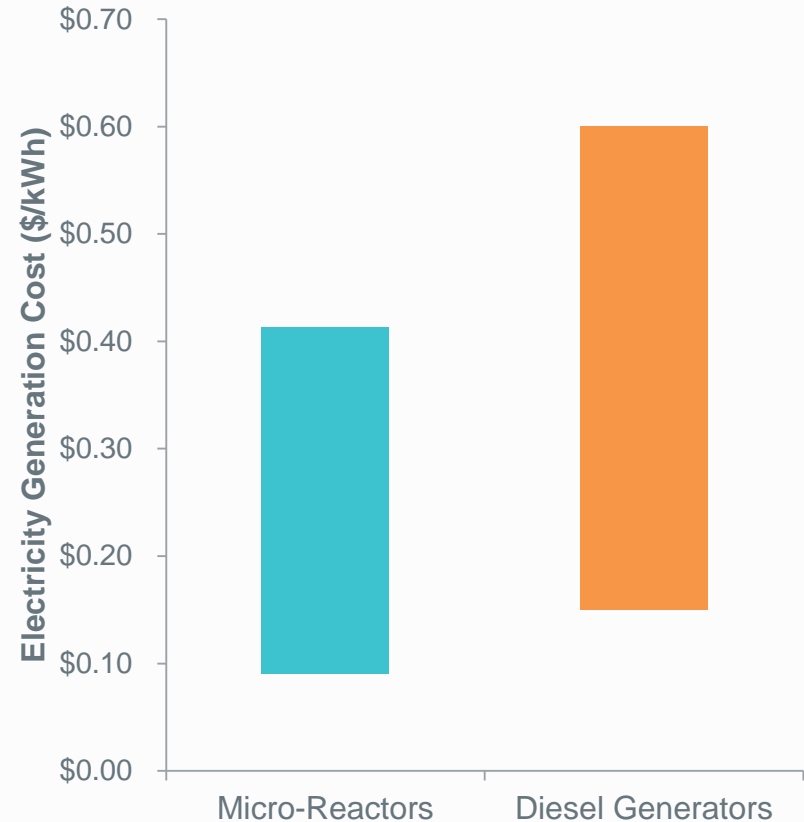


# Fuel Timeline

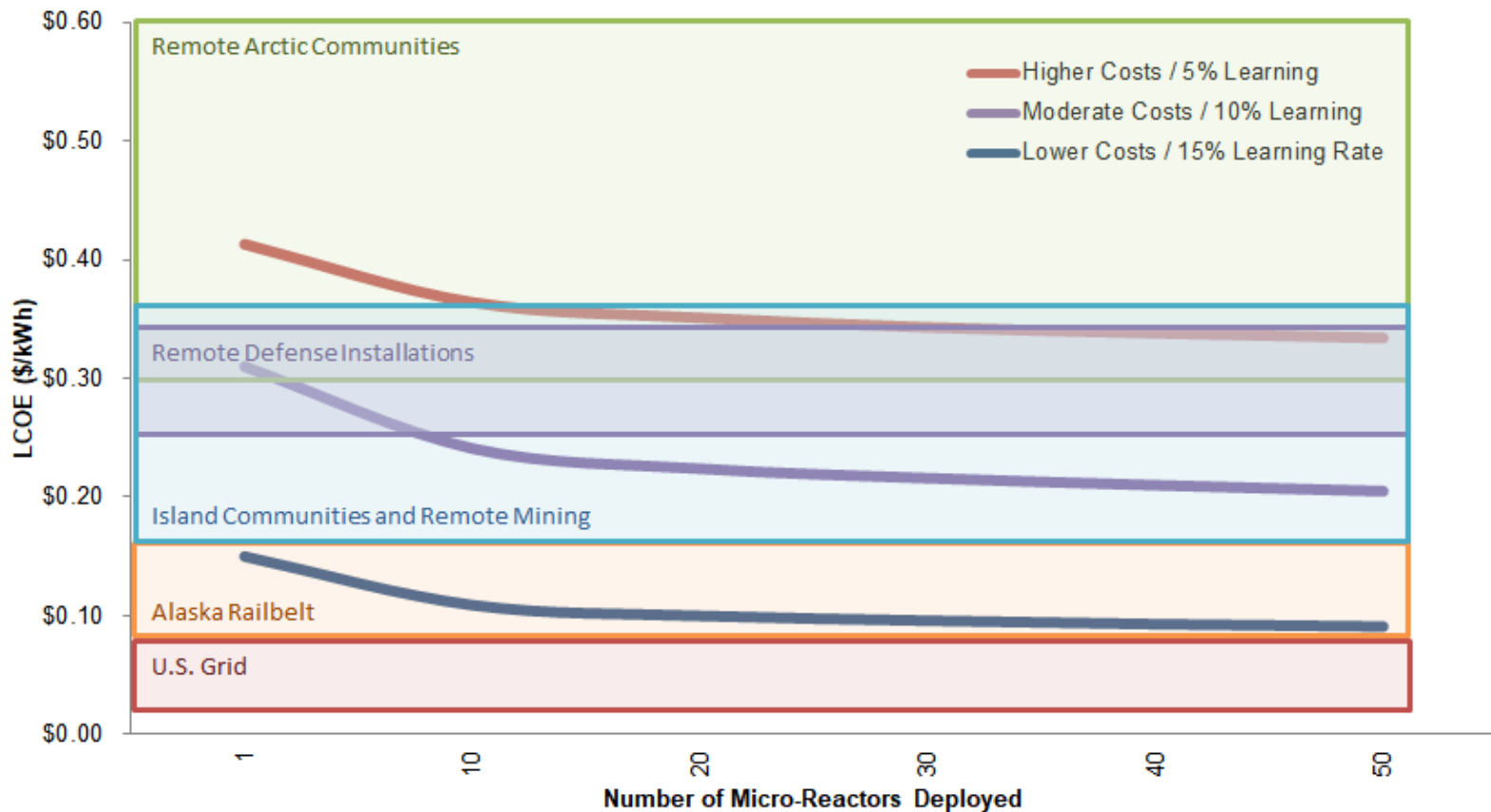


# Estimated Costs

- Diesel generator costs
  - Primarily fuel costs
  - Fuel from \$2.86/gallon to \$4.89/gallon
- Micro-reactor costs
  - Include used fuel disposal and decommissioning
  - 10 year fuel life
  - 40 year plant life
  - 95% capacity factor

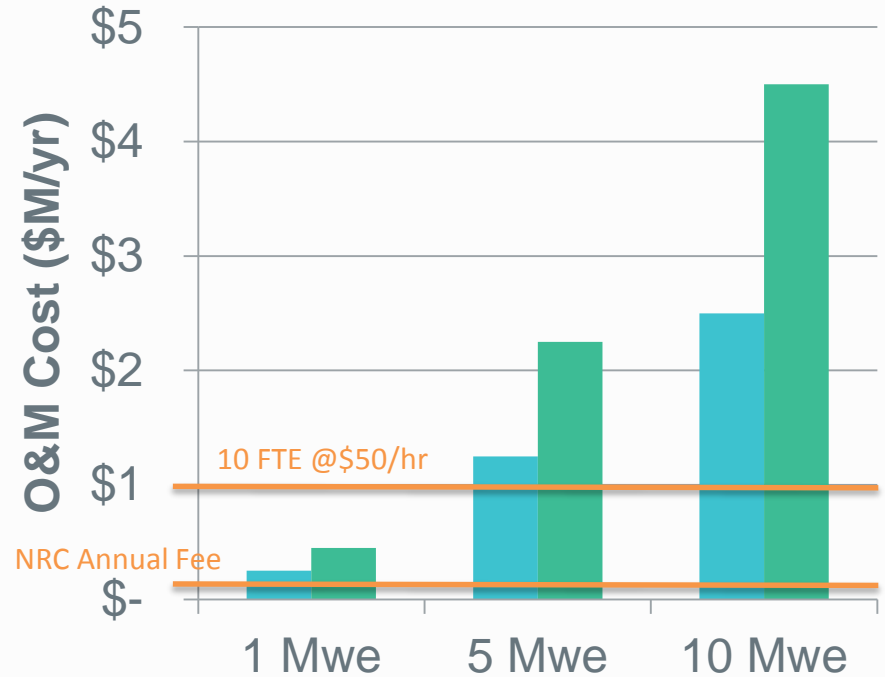
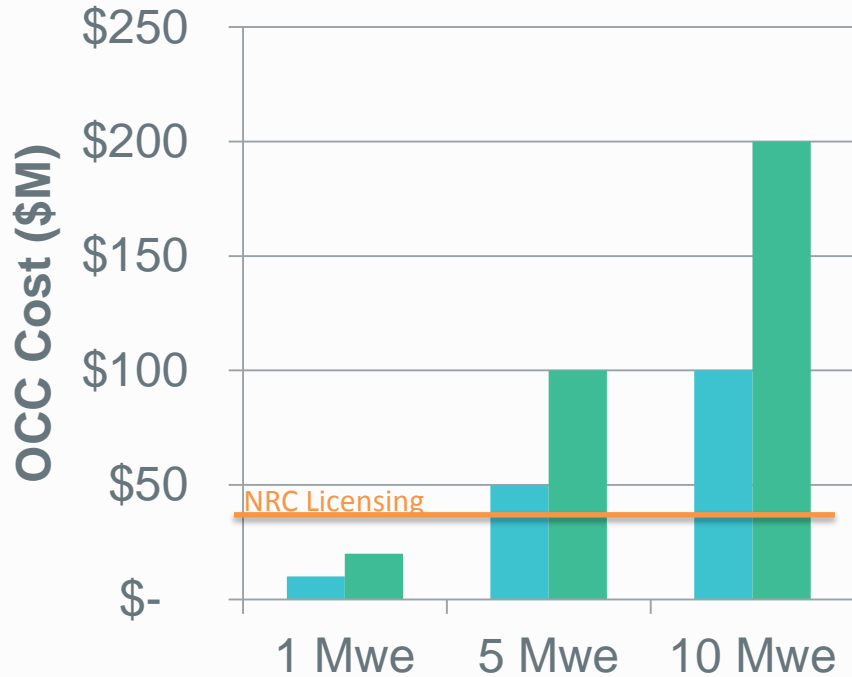


**Figure 6: Micro-Reactor Cost Competitiveness**



# Capital and O&M Costs

## THEORETICAL SCALING BASED ON DESIGN TO COST



Low Cost

High Cost

# Micro-Reactor Regulatory Issues

Priority Issues	Addressed in Broader Efforts	Non-Urgent
<ol style="list-style-type: none"><li>1. Review Scope Cost/Duration</li><li>2. Aircraft Impact</li><li>3. Operations (auto/remote)</li><li>4. Resident Inspector</li><li>5. Physical Security</li><li>6. Emergency Preparedness</li></ol>	<ul style="list-style-type: none"><li>• Siting</li><li>• Environmental Reviews</li></ul>	<ul style="list-style-type: none"><li>• Transportation</li><li>• Annual Licensee Fees</li><li>• Fuel</li><li>• Generic License</li><li>• PRA</li><li>• QA</li></ul>

## No issues identified

- Liability Insurance
- Decommissioning Funding

# Opportunities

1. DOE supply of HALEU
2. Industry development of designs, option for DOE support
3. Address unique regulatory issues and reduce licensing time
4. Demonstration reactors
5. Federal and State policies for new nuclear
6. Resolution of used fuel stalemate



# QUESTIONS?

