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SAFEGUARDS AND SECURITY FOR NUCLEAR MARITIME APPLICATIONS

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BACKGROUND

Floating Nuclear Power Plants (FNPPs) are gaining popularity due to their mobility, allowing them to be deployed to remote coastal regions, islands, or areas with limited access to electricity, making them a flexible solution for meeting energy needs in challenging environments

Security and safeguards for FNPPs are of paramount importance to prevent unauthorized access, theft, sabotage, or any other actions that could compromise the safety and security of the nuclear materials and the facility

Current work has focused on identifying Material Control and Accounting (MC&A) and security needs for FNPPs

MC&A CONCERNS AND NEEDS

- Mobility → increased MC&A
- Emergency response → coordination with maritime authorities
- Fuel storage and handling → varies by reactor type
- Security Challenges → comprehensive physical protection system
- Regulations → ensuring reactors can meet current NRC regulations

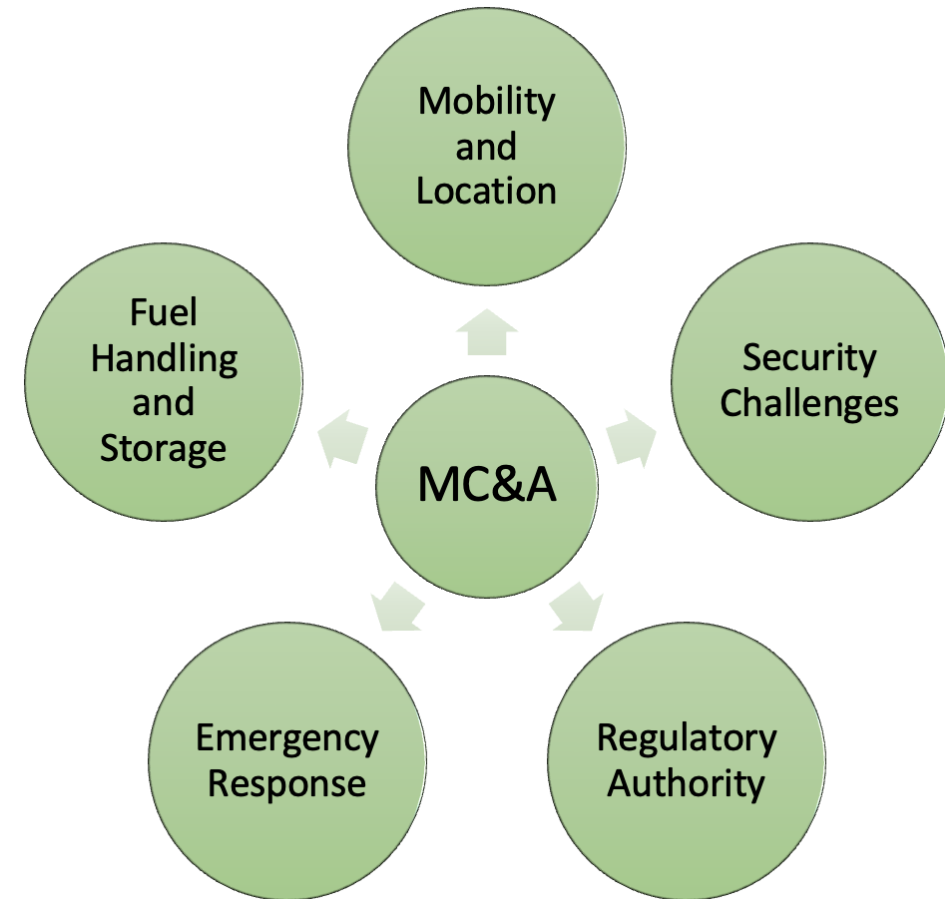
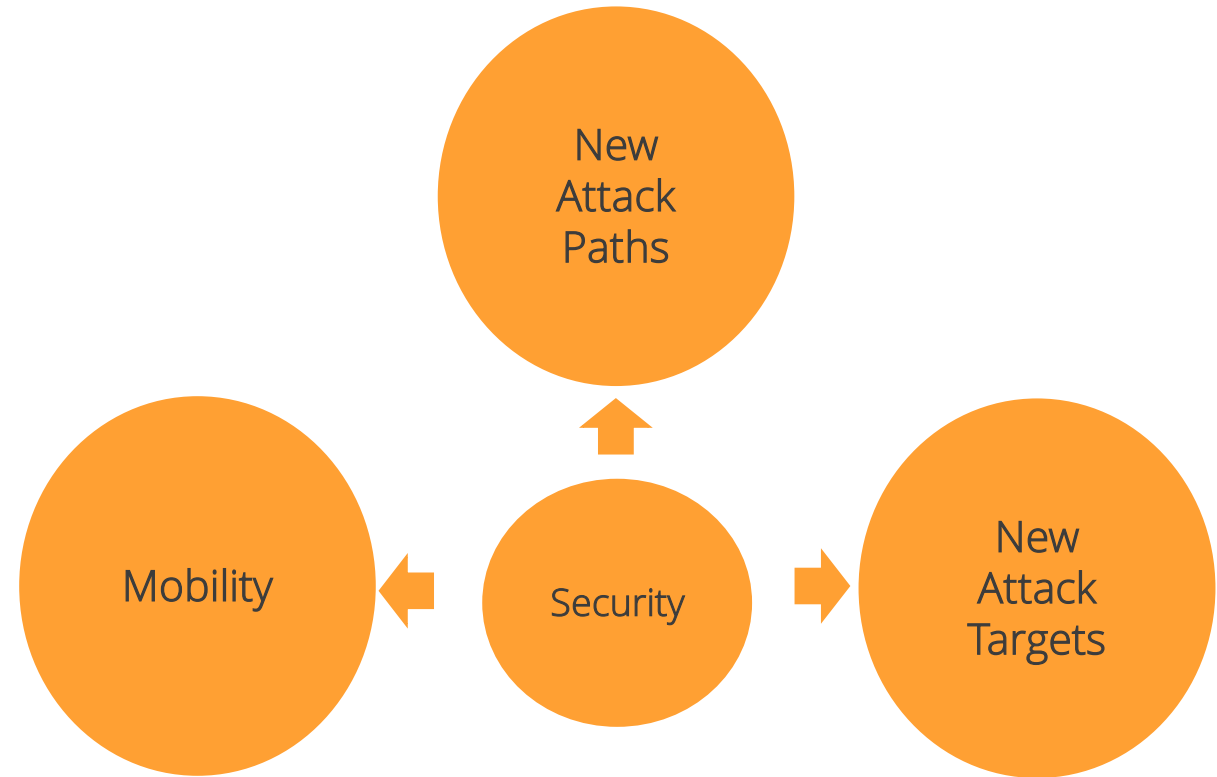


Figure 1. Key Factors between FNPPs and Land-Based NPPs MC&A Programs

SECURITY CONCERNS

- Mobility of reactor → PPS
- New attack paths → PPS
- New attack targets → PPS





FUTURE WORK

- How can we help vendors to address needs
- What tools are most suitable for the tasks right now
- What tools may need to be developed