



International Conference on

small modular reactors

and their applications

21–25 October 2024, Vienna, Austria

Classification Requirements for Floating Nuclear Power Plants (FNPPs)

American Bureau of Shipping (ABS)

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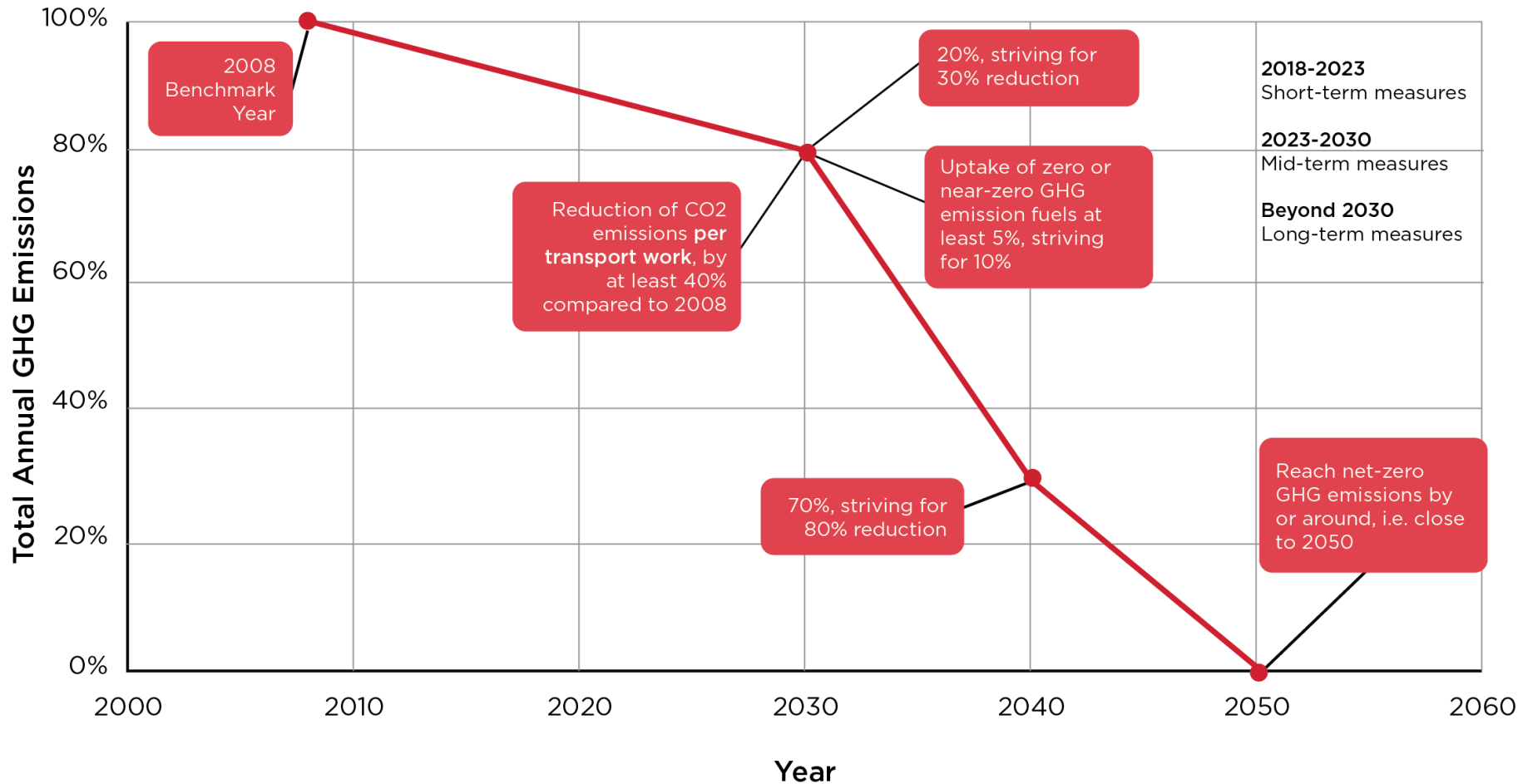
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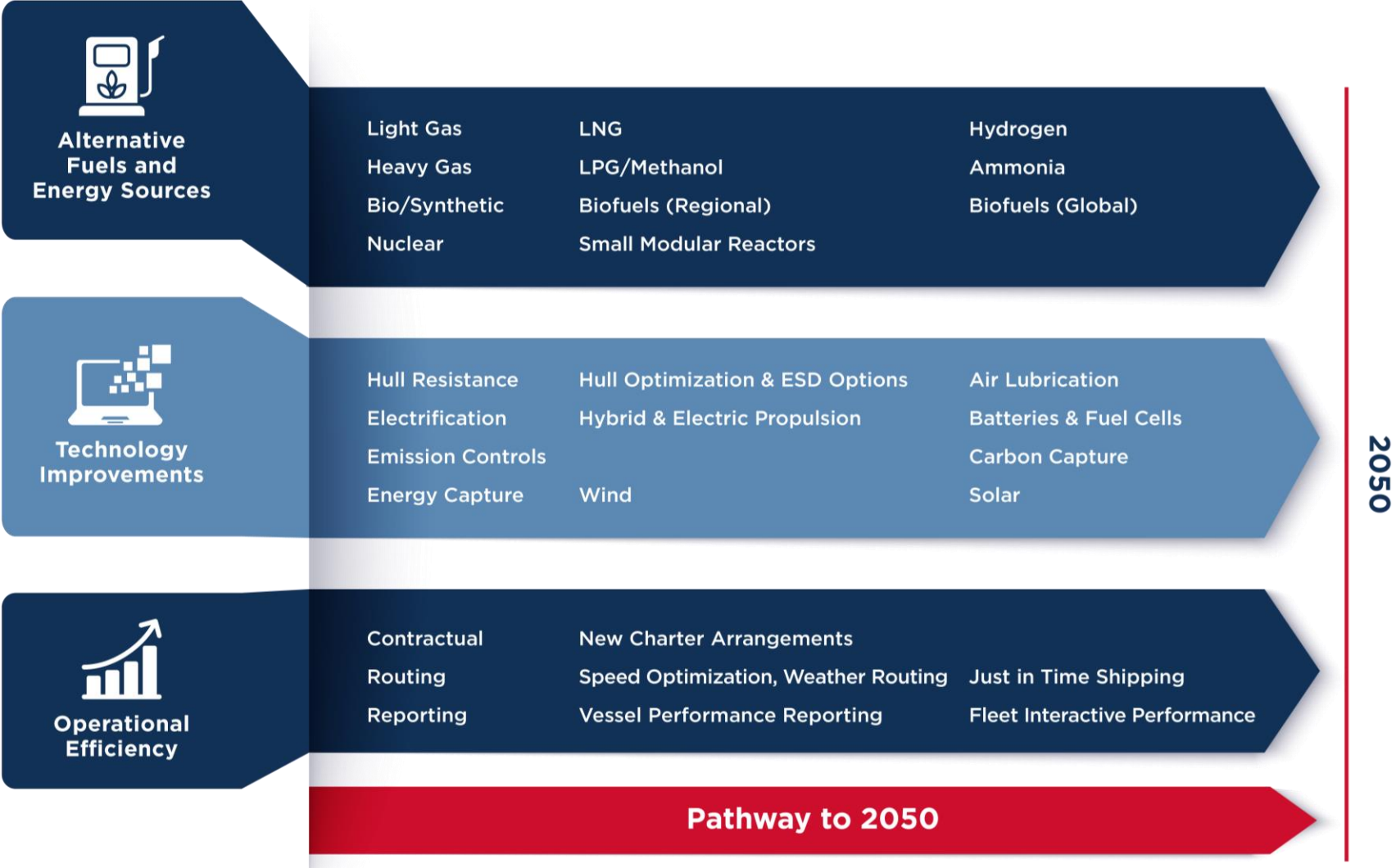
Maritime Demand for Decarbonization

IMO GHG Reduction Targets



- International Maritime Organization (IMO) targets **eliminating all greenhouse gases** from shipping by 2050
- **Mid-term measures** must be adopted in the 2030s

Maritime Demand for Decarbonization



Maritime Regulatory Framework

International Maritime Organization (IMO)

- Codes and standards for commercial vessels endorsed and implemented by member States



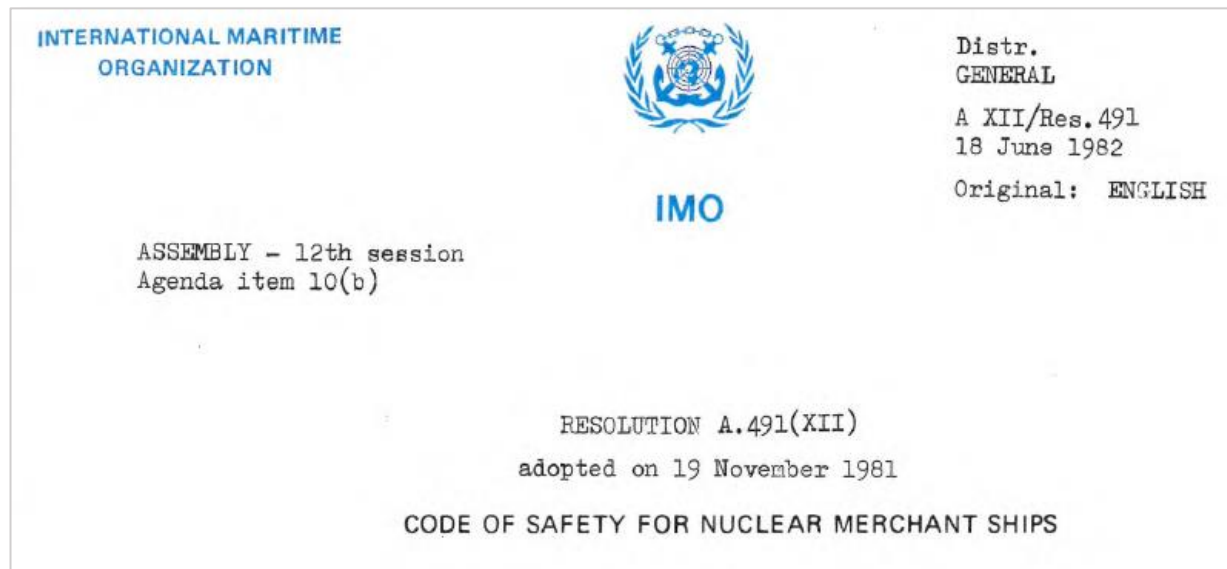
Classification Societies (Class)

- International Association of Classification Societies (IACS)
- Non-Governmental Organizations (NGOs)
- Establish and administer standards for design, construction and survey
- Appointed by flag Administrations as Recognized Organization (RO) to perform statutory inspections

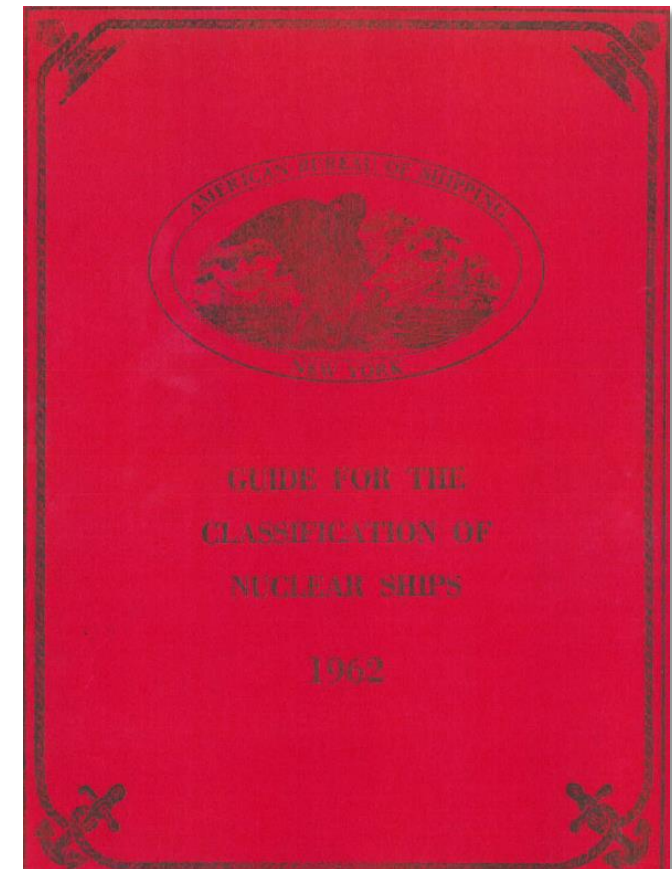
Requirements for Nuclear Propulsion

International Regulations

International Convention for the
Safety of Life at Sea (SOLAS)
Chapter VIII: Nuclear Ships

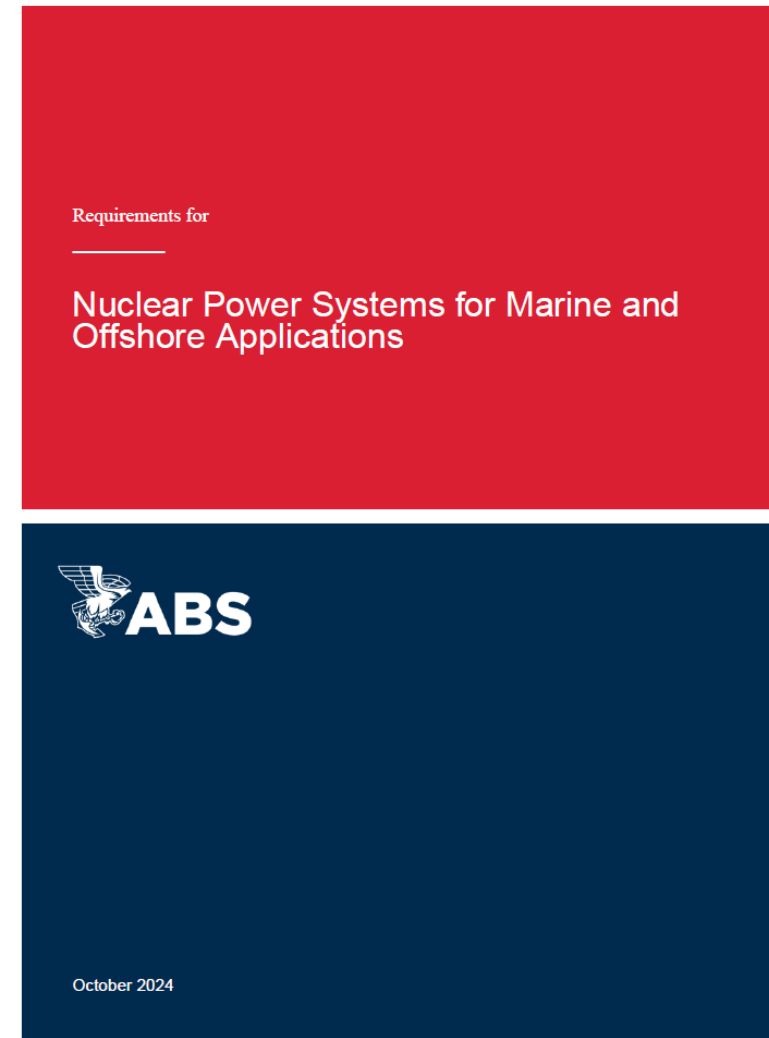


Classification Rules



ABS Requirements for Nuclear Power

- Non-nuclear propulsion maritime applications (i.e., FNPPs)
- Mandatory Power Service (Nuclear) Notation
- Suitable for any type of nuclear technology
- Designated interface between stakeholders according to marine or nuclear service



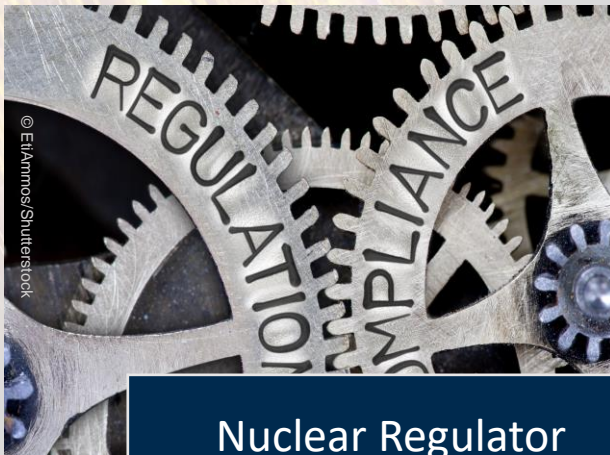
Stakeholder Roles



Flag Administration



Classification Society



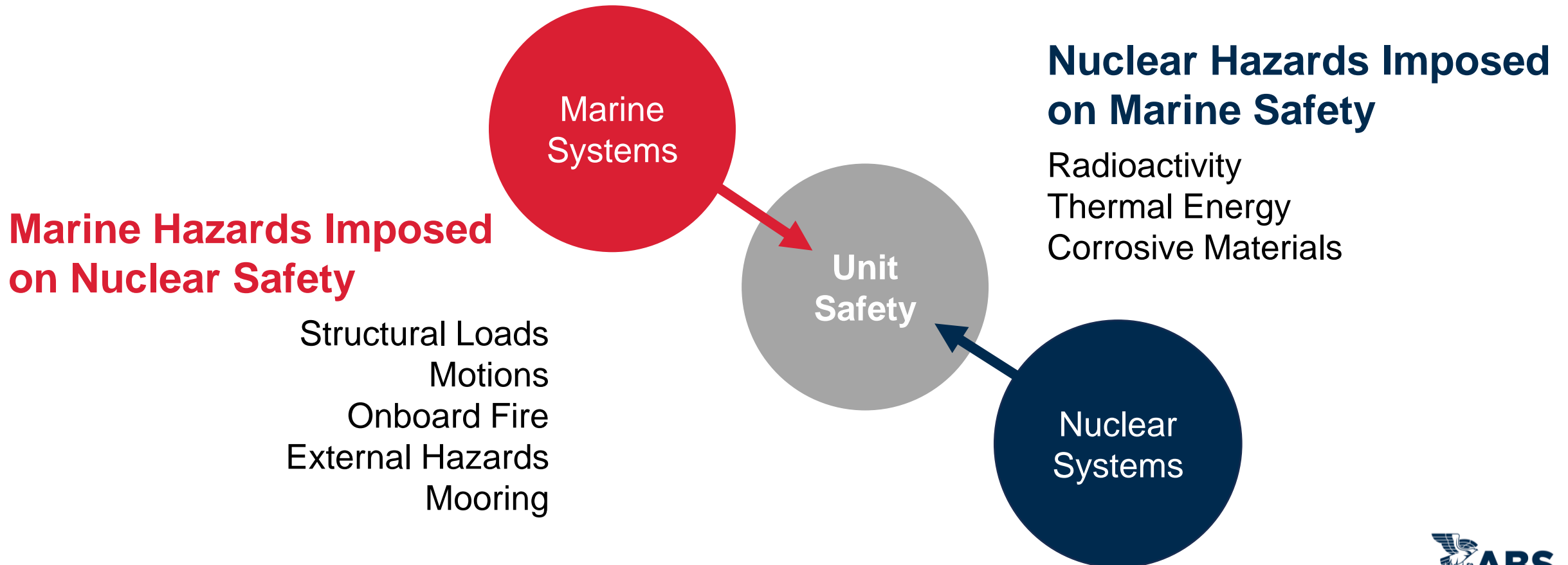
Nuclear Regulator



Port Authorities/Port States, Coastal States and Port State Administration

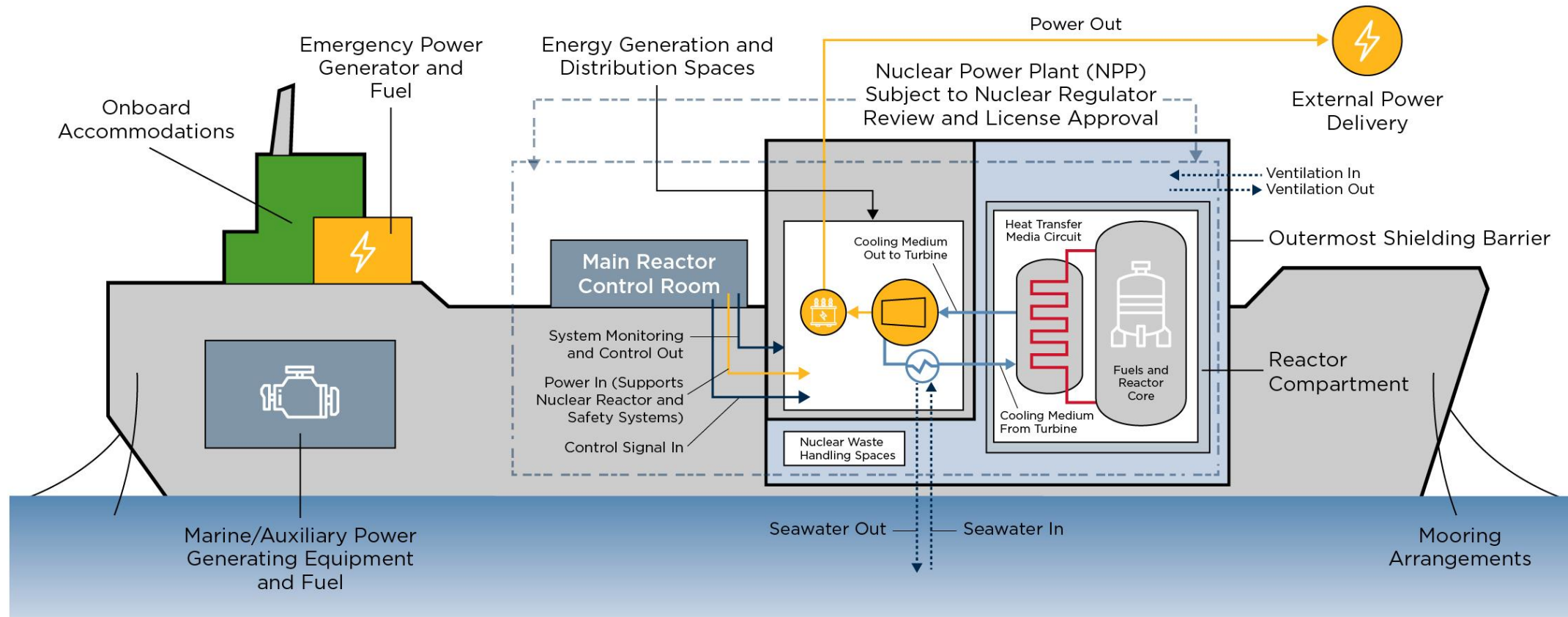
Risk Assessments

Considerations for Maritime Applications



Interface Document

Establish Technical Agreement Among Stakeholders



Key Takeaways

- Classification functions as RO of flag Administration
- ABS class requirements allows for any type of nuclear technology for FNPP use
- Process involves nuclear regulator to license reactor(s)
- Risk assessment informs design decisions
- Interface document must be developed and agreed upon to establish the division of responsibility between review and approval authorities



Thank You