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Canada

Global Approaches to SMR and Advanced Reactor Licensing

RIC Panel Session

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SMR Readiness: From Perception to Reality

Technology that was considered futuristic 5 years ago is now our reality

- Drones as a verification tool for licensees
- Driverless transport vehicles
- Deployment of SMRs

What could the next 5 years look like?

- Domestic and global fleet
- Potential Transportable SMRs

Regulators have to:

- Be responsive to evolving nuclear industry
  - Performance-based approach
- Provide stability and regulatory certainty

Where we are Today

- Lifecycle approach with progressive regulatory oversight
- Recognized by the 2019 IRRS Mission for SMR readiness
- Risk-informed decision making and a graded-approach
- International cooperation and collaboration
- Invested in continuous improvement

Responsibility to be an effective and efficient regulator

What is an Effective and Efficient regulator?

Enhances internal CNSC culture

- Leveraging results of the Vendor Design Review (VDR)
- Administrative protocols with applicants
- Ensuring requirements are aligned with risk
- Increasing mutual recognition of regulators' assessment activities
- Conducts joint assessments, where circumstances warrant

Strengthens international collaboration

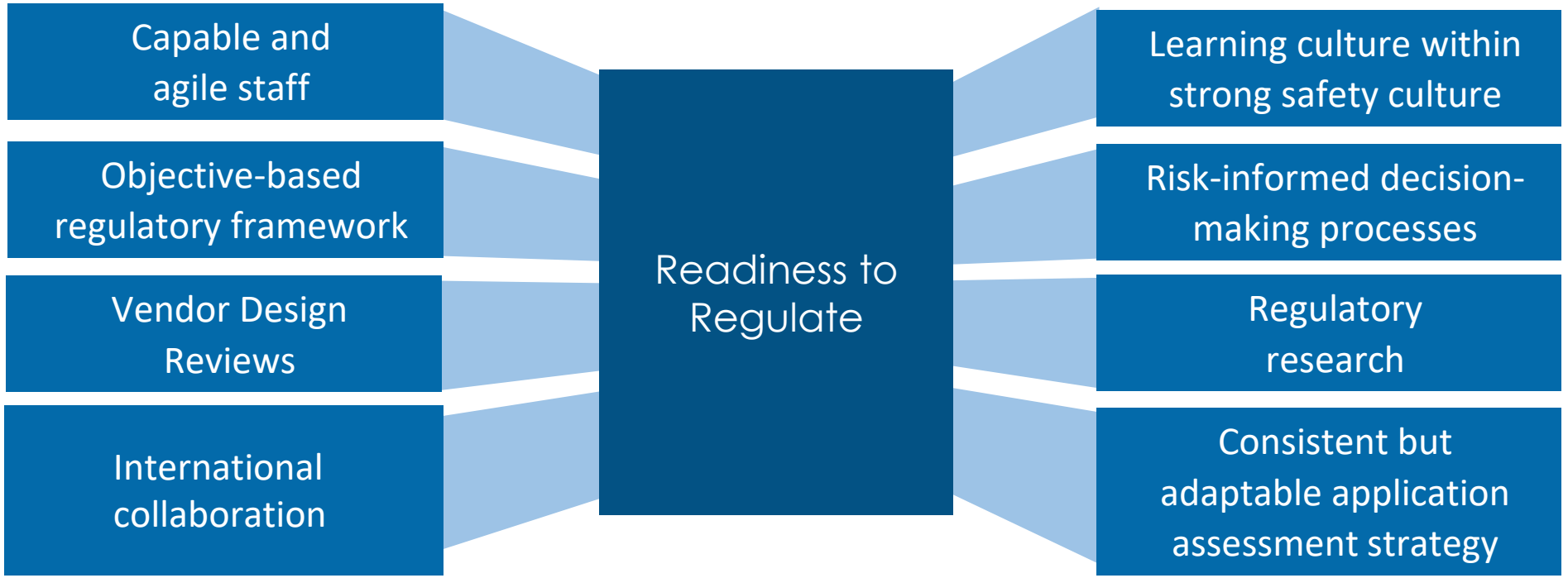
- US NRC joint reviews and research on specific technologies/approaches
- UK ONR and US NRC comparisons on regulatory approaches
- Inspector/staff exchanges

Works with industry and international partners on finding the answers

Disseminates technical and scientific information to the public, engages Indigenous Nations and communities

Commits to transparency and builds trust

CNSC role in SMR and Advanced Reactor Readiness



CNSC Approach to SMR Licensing

A different nuclear industry

- SMR deployment offers a new paradigm
- Smaller reactors, potentially shorter construction timelines
- Fleet approach – national and international

As a regulator, we are preparing for new technologies

- CNSC regulatory framework is flexible to evolve with this new paradigm
- Continuously looking at our SMR readiness

Safety is paramount

Multi-Faceted Approach

Internationally

- Increased regulatory collaboration and oversight support
- Harmonization will support safe deployment
- Governance is key

Domestically

- Proposing industry-led harmonized standards
- Supporting global harmonization and deployment

Engagement with Stakeholders

- Early Engagement
- Building trust
- Transparency
- Culture of safety at all levels of government, regulatory bodies, and industry

International Collaboration

- International collaboration key to effective and efficient regulation
- CNSC cooperates and shares information with a number of countries and organizations on advanced reactor technologies
- Canadian Chair of IAEA Commission on Safety Standards
- Leads and participates in IAEA advanced reactor initiatives, meetings, standards development, and peer reviews
- Participates in OECD-NEA advanced reactor working groups
- US NRC and UK ONR memoranda of cooperation work has been a success




Working towards regulatory harmonization

Conclusion

CNSC is:

- An effective, efficient, modern and agile regulator
- Continuously working towards regulatory optimization
- Leading and supporting a fora of international initiatives aimed at international regulatory harmonization
- A supporter of the enhancement of safety through innovation in the nuclear industry

Successful deployment of a SMR fleet implies:

- Safety is a priority
- Domestic and global harmonization and deployment
- Public trust

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