



Canadian Nuclear
Safety Commission

Commission canadienne
de sûreté nucléaire

Canada

Update on Current Legal Aspects of Nuclear Safety: A Regulatory Perspective



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Working Party on the Legal Aspects of Nuclear Safety

Nuclear Energy Agency

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CANADA 150

Readiness for New Technologies: Small Modular Reactors

- Most designs still conceptual – novel features have potential benefit, but pose uncertainties
- Credible science and technology information is critical to support (and assess) safety claims

CNSC's Work on Small Modular Reactor (SMR)

- Vendor design review (VDR)
 - early feedback and identification of key issues, any fundamental barriers to licensing – **not** design certification
 - conclusions of any VDR do not bind or otherwise influence decisions made by the Commission.
- Small Modular Reactor (SMR) discussion paper (DIS-16-04)
 - extensive feedback – existing regulatory framework adequate, with graded approach, streamlining – need for common understanding
- International Atomic Energy Agency's (IAEA)'s SMR regulators' forum
 - technology-neutral pilot project, facilitated by IAEA Scientific Secretary (Canada, China, Finland, France, Korea, Russia, U.S.)
 - not to develop separate SMR requirements, but to understand impacts on existing frameworks, develop common positions

CNSC Vendor Design Reviews

VDR No	Country of origin	Company	Reactor type / output per unit	Status
1	Canada / U.S.	Terrestrial Energy	Molten salt integral / 200 MWe	In progress – pending completion (September 2017)
2	U.S. / Korea / China	UltraSafe Nuclear / Global First Power	High temperature gas prismatic block / 5 MWe	In progress
3	Canada	LeadCold Nuclear	Molten lead pool fast spectrum / 100 MWe	In progress
4	U.S.	Advanced reactor concepts	Liquid sodium pool fast spectrum / 100 MWe	Pending start fall 2017
5	U.K.	U-Battery	High temperature gas prismatic bloc / 4 MWe	Pending start fall 2017
6	U.K.	Moltex Energy	Molten salt / ~1000 MWe	Pending start fall 2017
7	Canada / U.S.	StarCore Nuclear	High temperature gas prismatic block / 10 Mwe	Service agreement under development



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Questions?

Thank You!

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