



Micro Modular Reactor™ at Chalk River

November 2020



Global First Power – Who We are



- ▶ Ontario-based energy company
- ▶ Vision: To contribute to a world where small modular reactors (SMRs) are an inherently safe, clean and cost-effective generation option to provide the energy people need, regardless of location
- ▶ Goal: Lead the global transition to sustainable, inclusive, accessible energy, by being among the first developers to successfully generate power using innovative micro modular reactor technology

A Joint Partnership



Ultra Safe Nuclear Corporation (USNC)

- ▶ International International technology developer based in Seattle, Washington
- ▶ Designer and supplier of the Micro Modular Reactor™ (MMR™) technology



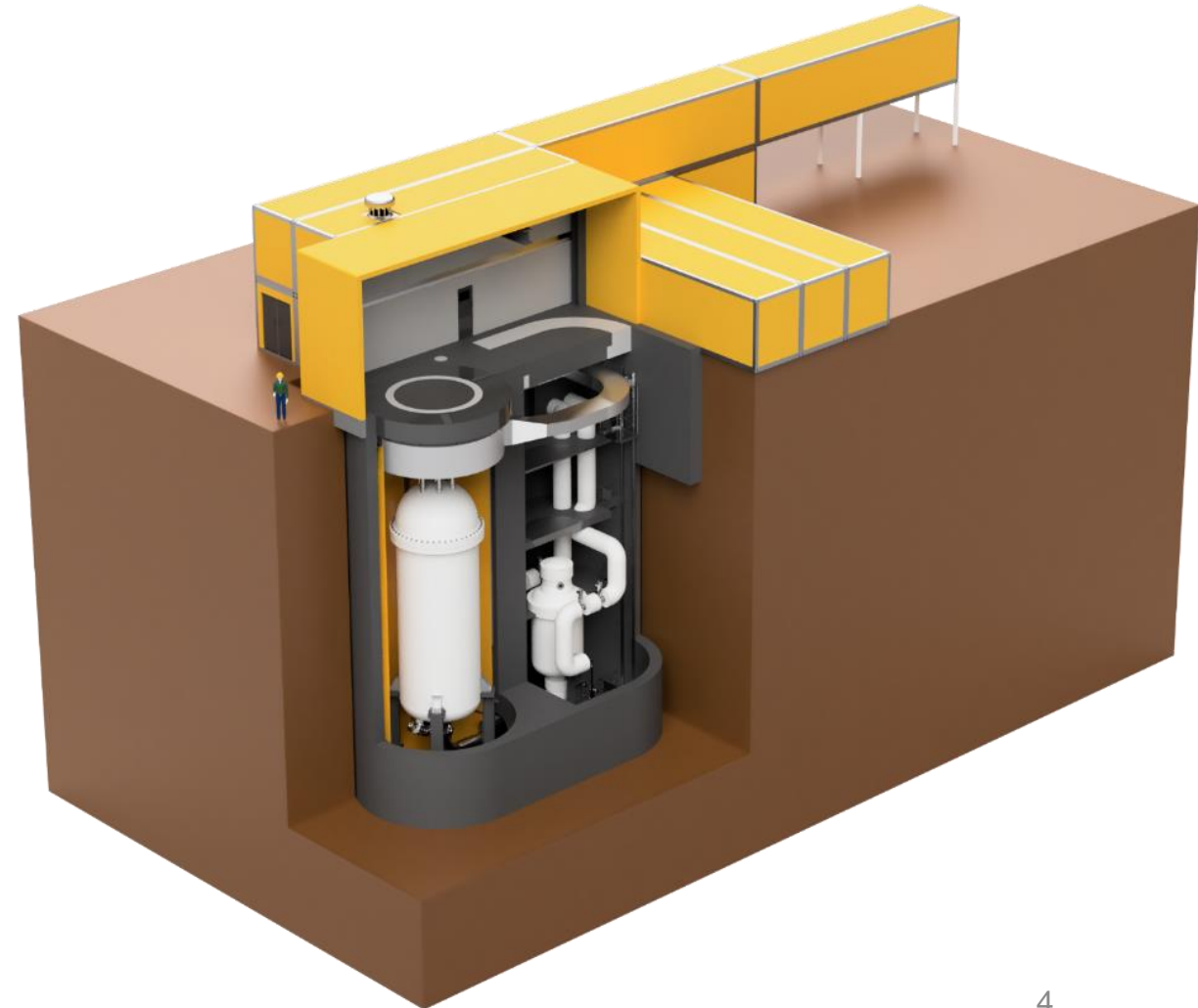
Ontario Power Generation (OPG)

- ▶ 50 years of nuclear expertise
- ▶ Produces about half of the electricity in Ontario; one of the most diverse electricity generators in North America
- ▶ Coordinator of the project management, EA, Indigenous and public engagement, and licensing

Proposal – MMR™ at Chalk River



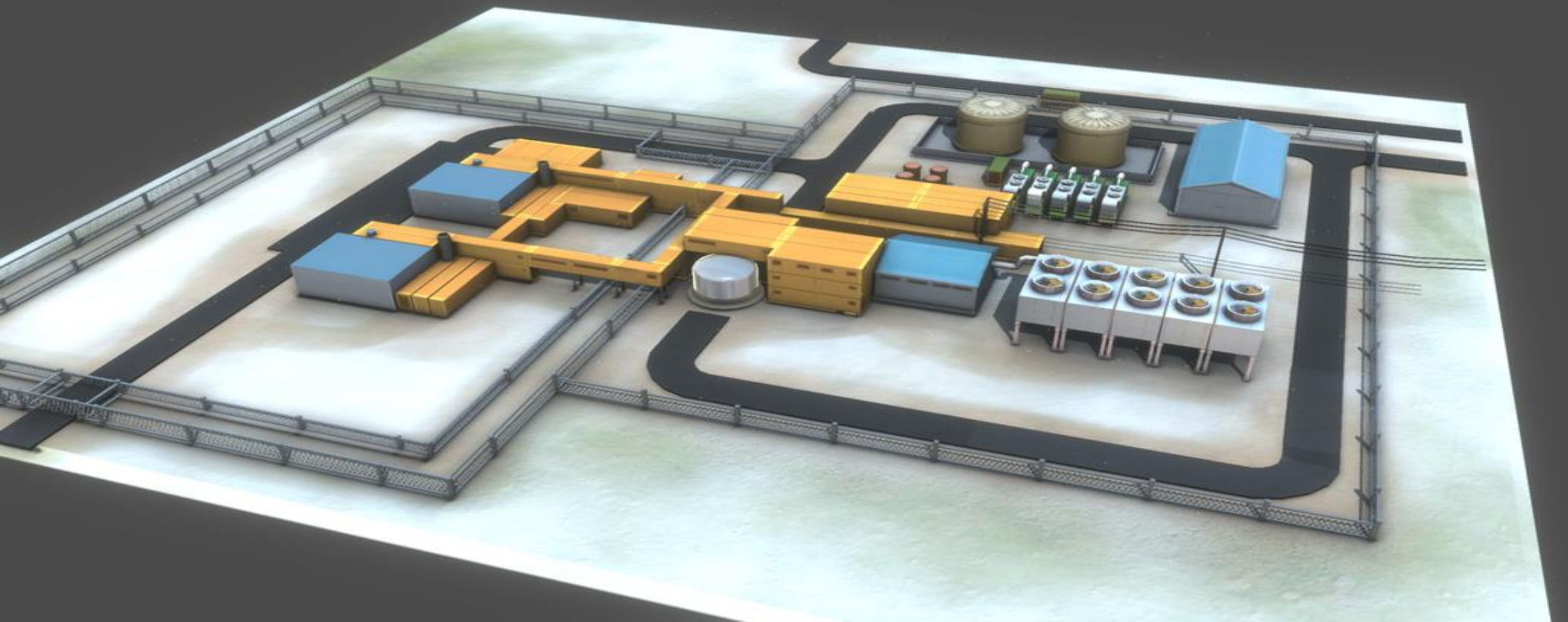
- ▶ Construct and operate a 15MW thermal (approximately 5MW electrical) small modular reactor (SMR)
- ▶ First step in commercializing USNC-designed MMR to bring clean, reliable energy benefits to remote locations
- ▶ Will serve as a model for SMR support of heavy industry (e.g. mining operations) and other off-grid uses (e.g. Indigenous communities currently relying on diesel power generation)



Illustrative Facility Layout



Facility footprint - 200m X 180m = approximately 4 soccer pitches



MMR™ Technology - Fast Facts



- ▶ Advanced “passive” safety systems inherently built into design
- ▶ No external power or water required to safely operate or cool reactor
- ▶ Generates high quality heat for electricity or other heat applications
- ▶ Constructed, tested and accepted off-site; assembled on site
- ▶ Minimal operations and maintenance requirements
- ▶ Scalable and modular – modules can be combined for different sites/energy needs
- ▶ Designed by USNC; based on technology in use since 2000; similar designs in service in China and Japan; successful demonstrations in USA and Germany
- ▶ Anticipated life span of 20 years

One MMR could replace 265 million litres of diesel

Timeline- For Planning Purposes



2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Project Commencement <ul style="list-style-type: none">• Submit project description• Submit application for licence to prepare site	Preliminary Planning <ul style="list-style-type: none">• Concept and definition of design• Determine final site location on CRL lands								
	Environmental Assessment <ul style="list-style-type: none">• Conduct studies• Prepare Environmental Impact Statement								
	Project Development <ul style="list-style-type: none">• Perform detailed design and engineering• Application and approval of regulatory licences required for Site Preparation, Construction and Operation								
				Site Preparation and Construction <ul style="list-style-type: none">• Clear and prepare the site• Construction (approx. 1 year)					
	Commission and Commence Operations <ul style="list-style-type: none">• Operation for 20 years• Maintain licence to operate								
Indigenous, Public and Stakeholder Engagement <ul style="list-style-type: none">• Ongoing outreach and communications on environmental assessment and licensing activities and project status• Opportunities for stakeholder and public input on GFP's project and during regulatory and licensing processes									

Indigenous and Public Engagement



- ▶ Early engagement with Indigenous communities began at the on-set of the licence application process
 - ▶ Algonquins of Pikwakanagan First Nation
 - ▶ Algonquins of Ontario
 - ▶ Algonquin Anishinabek Nation Tribal Council
 - ▶ Métis Nation of Ontario
 - ▶ Algonquin Nation Secretariat
 - ▶ Williams Treaties First Nations
- ▶ Committed to ongoing communications and engagement with Indigenous communities, community and stakeholders
 - ▶ Meeting with local elected officials
 - ▶ GFP website
 - ▶ Updates to Project mailing list
 - ▶ Ongoing CNSC public input opportunities
 - ▶ May 20th Telephone Town Hall

Current Status and Priorities



- ▶ Environmental consultant has been retained to support environmental assessment (EA)
- ▶ Received Canadian Nuclear Safety Commission decision on scope of EA
- ▶ Review/assess existing environmental baseline work
- ▶ Confirm preferred site at Chalk River Laboratories site
- ▶ Continue discussions on interfaces with Canadian Nuclear Laboratories (CNL) e.g. project/site services, potential for energy offtake
- ▶ Continue Indigenous and public outreach and communications



Contact us



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Questions?



For Reference



Site Options under Consideration

