ULTRA SAFE NUCLEAR CORPORATION

MMR: An Overview

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SNETP FORUM

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Contents

Ultra Safe Nuclear Corporation

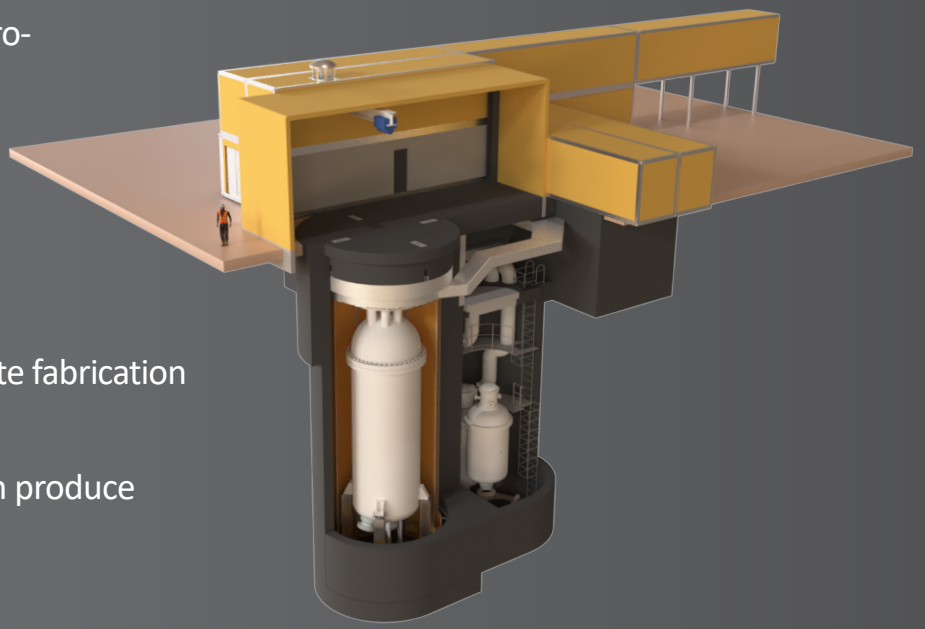
Background

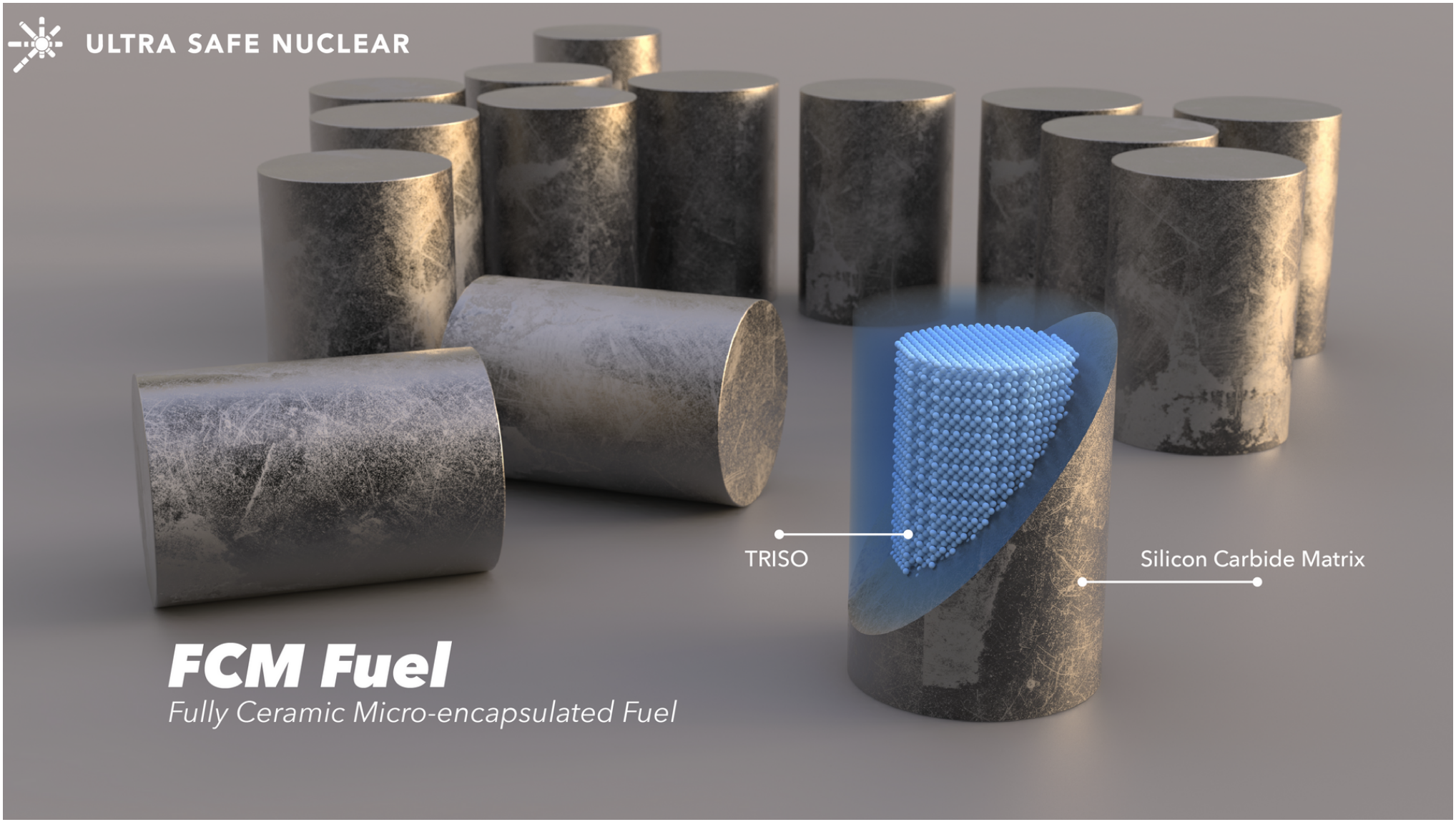
- Founded in 2011, privately funded, $50m investment to date
- Formed Canadian subsidiary USNC Power, headquartered in Ottawa
- Developer of the small-scale Gen IV Micro Modular Reactor (MMR™) system
- Multiple patents for ceramic micro-encapsulated nuclear fuel
- Specifically developed the MMR™ for off-grid, northern/remote application in Canada
- Designed for safe, clean, cost-effective energy with no refuelling for 20 years
- Leading SMR in the CNSC licensing process

The Ultra Safe Nuclear Solution

Gas-cooled MMR™

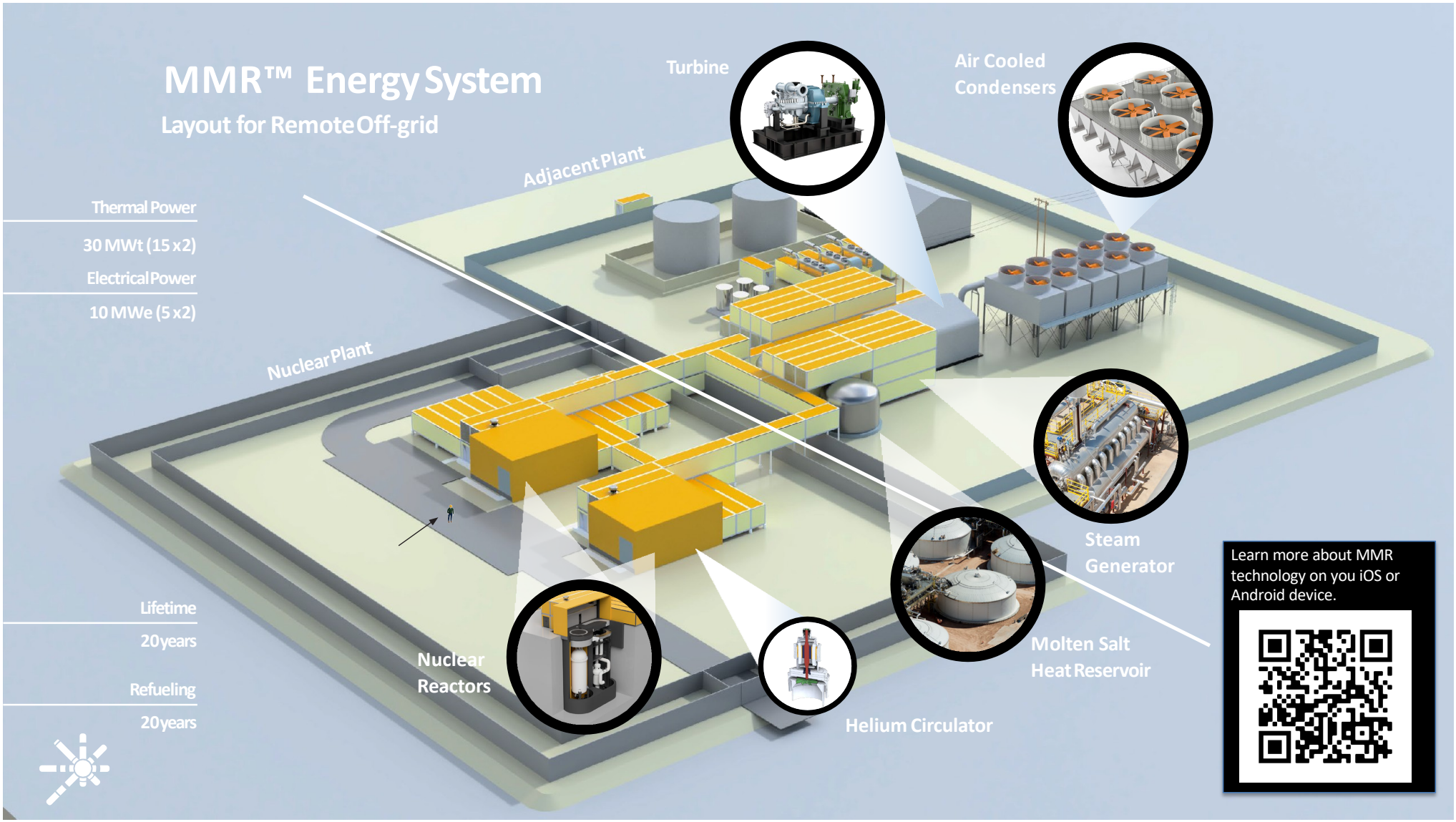
- Transformative fuel technology using fully ceramic micro-encapsulated (FCM™) fuel
- 5 MW to 50 MW plant size (electrical)
- Fueled once for 20-year life, mitigating supply risk
- Meltdown-proof with no safety risks
- Designed for Arctic conditions
- Modular design allows for rapid construction and off-site fabrication
- Fraction of the capital cost of traditional nuclear plants
- Flexible design outputs electricity, process heat and can produce hydrogen
- Minimal waste aligns with national plans for disposal




ULTRA SAFE NUCLEAR
TRISO
Silicon Carbide Matrix
FCM Fuel
Fully Ceramic Micro-encapsulated Fuel

Molten Salt Intermediate Heat Transport Loop

- Eliminates water ingress, chemical attack and fission product wash off
- Allows for heat storage which decouples the primary circuit from the load


MMR™ Energy System
Layout for Remote Off-grid
Thermal Power
30 MWt (15 x2)
Electrical Power
10 MWe (5 x2)
Lifetime
20years
Refueling
20years
Adjacent Plant
Nuclear Plant
Turbine
Air Cooled Condensers
Steam Generator
Molten Salt Heat Reservoir
Nuclear Reactors
Helium Circulator
Learn more about MMR technology on you iOS or Android device.

Progress to executing Canada's First SMR Project

- Vendor design review with the CNSC is entering Phase 2.
- Agreement to site at CNL/AECL has been signed
- Active application for an Environmental Assessment and License to Prepare Site
- Partnership established with OPG through GFP to build, own, and operate the plant
- Schedule brings Canada's first SMR into operation by 2026 or earlier
- Advancing Canada's SMR Action Plan and decarbonization goals before 2030 (one 5 MW MMR™ can replace 220 million of litres of diesel)
- 80 per cent of project expenditures to be spent in Canada
- Job creation estimated at 400 (direct) and 1,000 (indirect) by 2022

ONTARIO POWER GENERATION

USNC ULTRA•SAFE•NUCLEAR

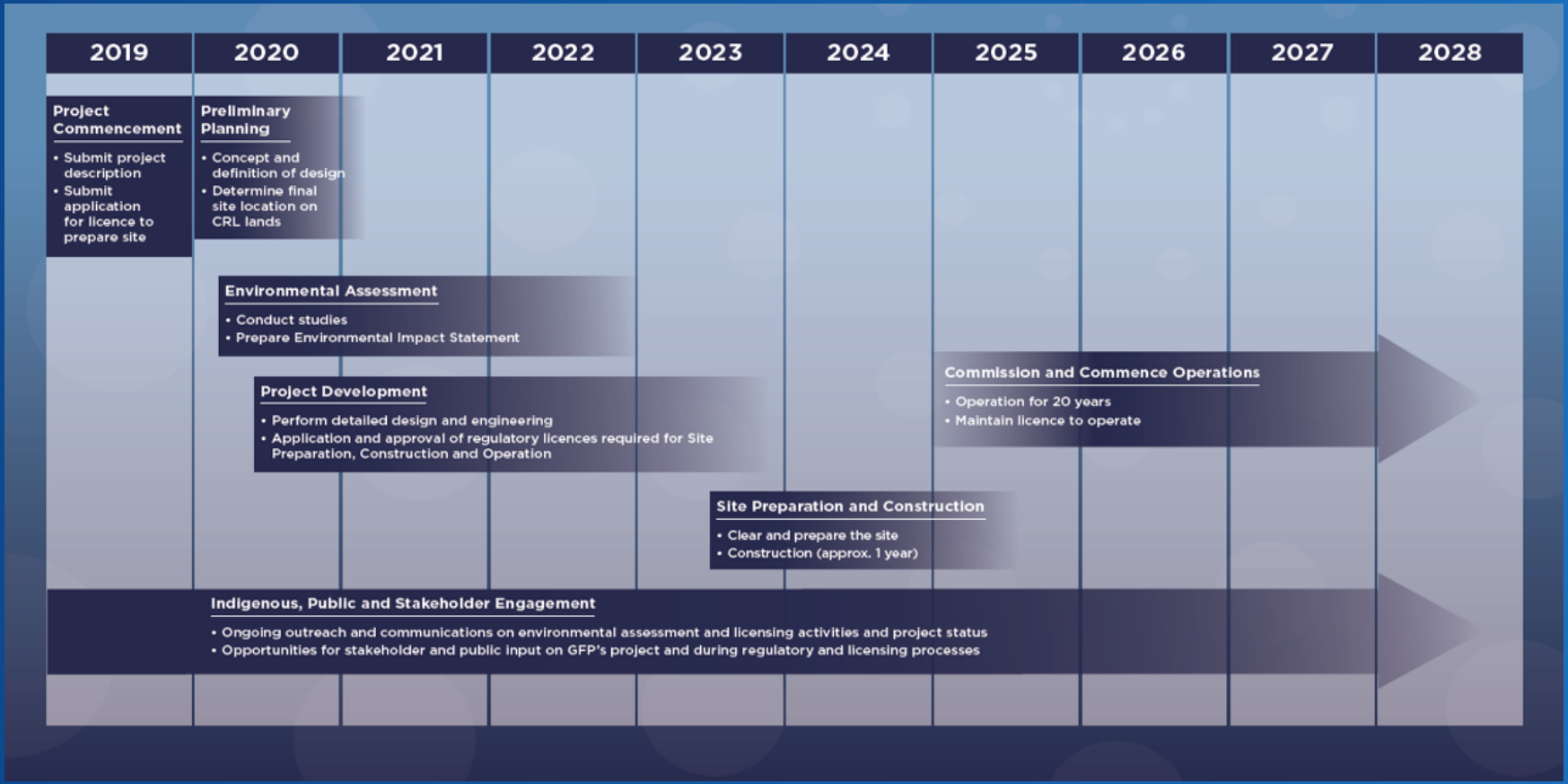
GLOBAL FIRST POWER

MMR in Canada : Project Goals

- Demonstrate the benefit of SMRs
  - Solution to help achieve Canada's climate change goals
- Demonstrate the value of SMRs
  - Cost-effective option to help solve energy challenges for heavy industry
- Potential launch pad for Canadian export opportunities
- Ultimately, enable future SMR projects
- GFP's goals include demonstrating and building confidence in:
  - Project business model
  - Commercial model for potential market
  - Licensing and regulatory precedent
  - MMR™ technology
  - Project delivery - cost, schedule and operational performance
  - Long-term cost of power

GLOBAL FIRST POWER

Project Schedule



The MMR™ Business Case for Remote Canadian Sites

- Major sustainability initiatives underway in the resources industry to act on climate change through reducing carbon emissions
- Renewable alternatives cannot reliably replace fossil fuels
- Most other SMRs are targeting on-grid application (replacement capacity)
- MMR™ is near team (mid-2020s) to support carbon reduction objectives
- Reliable carbon-free energy at lower energy costs compared to diesel
- Mitigation of energy supply and cost risks
- Federal and provincial support for Small Modular Reactors (SMRs)
- MMR™ will eliminate millions of tonnes of CO_2 emissions

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