Rook I Project

Uranium Mine and Mill

Southwest Athabasca Basin
Saskatchewan

NexGen Presentation
Rook I Project – Application for a Licence to Prepare Site and Construct
Commission Public Hearing – Part 1 | 19 November 2025

NexGen
Energy Ltd.

Our Values

Honesty

Respect

Resilience

Accountability

Our Purpose

To create as much positivity as possible – socially, economically, and environmentally

NexGen Energy Ltd.

Canadian Nuclear Safety Commission Hearing

November 19, 2025

Presentation Video

Rook I Project, Northern Saskatchewan, Canada

Presentation Outline

- About NexGen
- The Rook I Project
- Regulatory Review Process
  - Environmental Assessment
  - Licence Application
- Closing and Commission Request

NexGen Energy Ltd.

About NexGen

Qualified: Decades of Relevant Experience

Proven executive, leadership, and execution teams that have financed, built, and operated globally significant mining projects. Expertise across the entire mining lifecycle from exploration to closure

Responsible: Setting and Maintaining a Standard of Excellence

Focused on responsible and optimal development of the Rook I Project, incorporating environmental stewardship, social advancement, and sustainable long-term economic benefits for local Indigenous Nations, other community members, and stakeholders

Ready to Execute

Strategic framework of experienced people, integrated and disciplined processes, and advanced systems ready to deliver a world-class project that sets new industry standards and delivers generational positive change

Locations:

NexGen Energy Ltd.

Rook I Project

- Located in a world-class mining jurisdiction
- Technically and environmentally elite
- Innovative design: underground mine and surface mill facilities; underground storage of all tailings
- Indigenous, regulatory, and public engagement has been early, often, and comprehensive
- 100% local Indigenous Nation support through executed Benefit Agreements covering the life of the Project
- Project assessment has met and exceeded robust and rigorous regulatory and public review requirements
- Strong financial position to commence Project construction upon Federal approval

Requesting Canadian Nuclear Safety Commission approval of Environmental Assessment and licence to prepare site and construct the Rook I Project

NexGen Energy Ltd.

ROOK I PROJECT

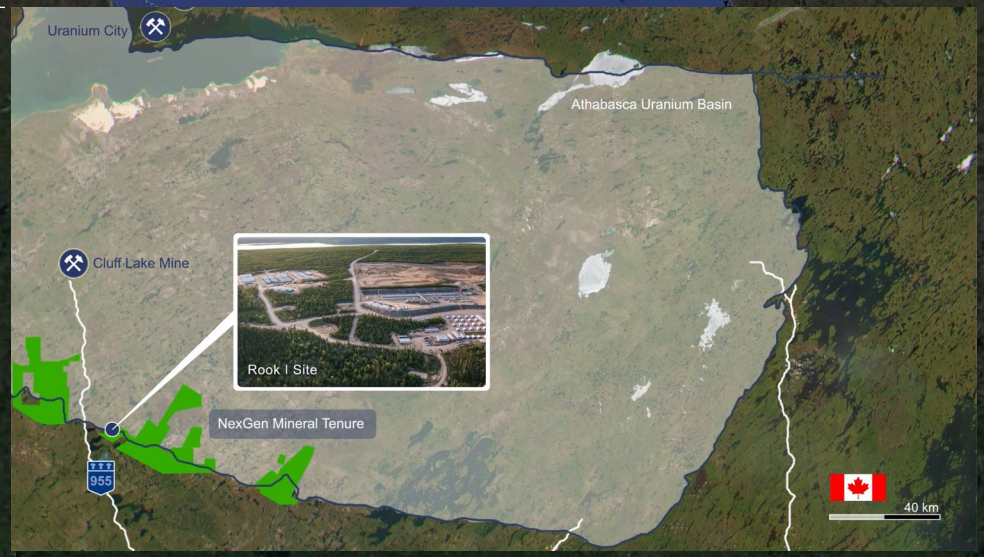
Location

The Project is located on the southwest edge of the Athabasca Basin

- 155 km north of the Northern Village of La Loche via Highway 955
- 640 km northwest of the city of Saskatoon

The Project resides within Treaty 8 Territory and the Métis Homeland

ROOK I PROJECT



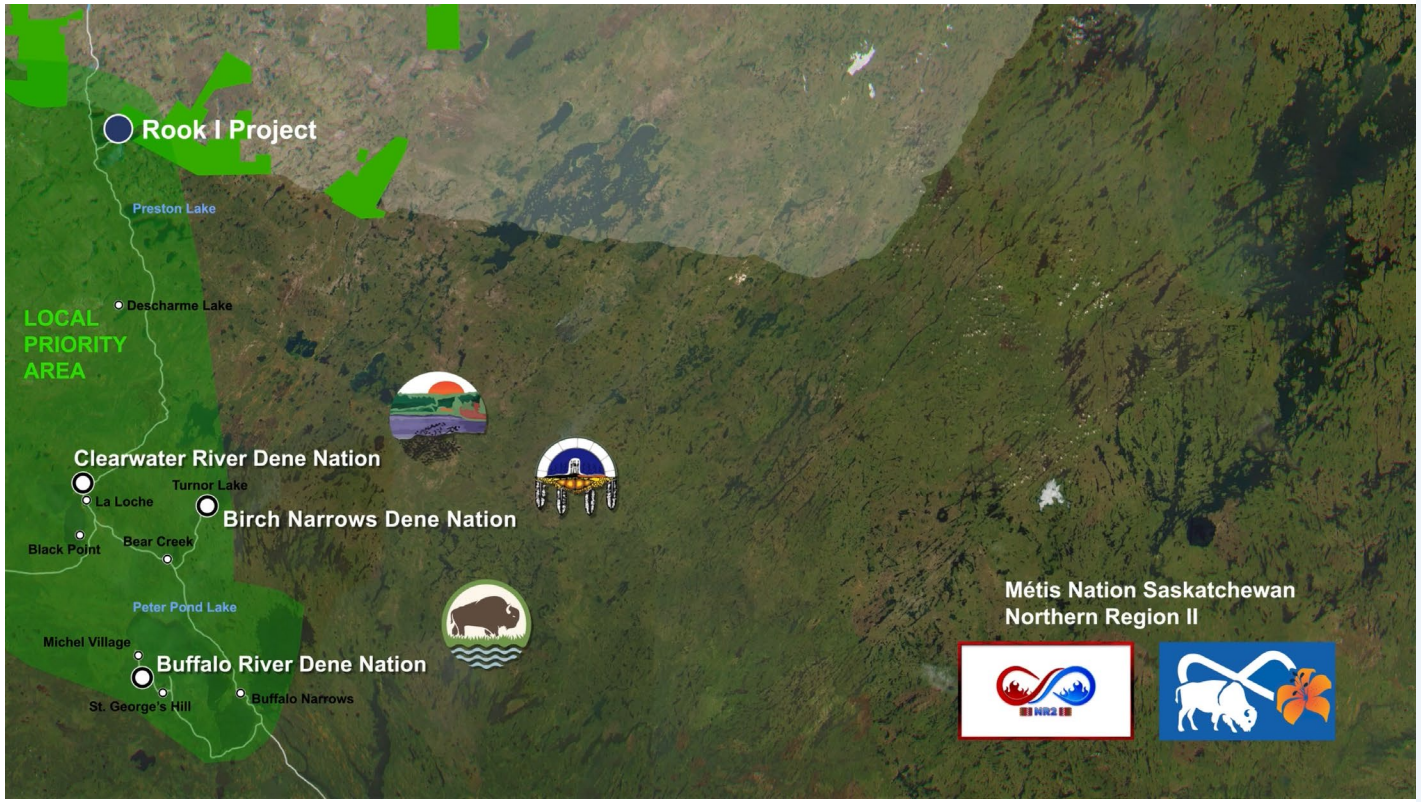
ROOK I PROJECT

Indigenous Engagement: Partnership Approach

Local Priority Area (LPA):

Indigenous Nations and communities closest to the Project that would be directly affected by the Project, and for which NexGen has and will continue to prioritize training, employment, and business opportunities

- Clearwater River Dene Nation
- Métis Nation – Saskatchewan NR 2
- Birch Narrows Dene Nation
- Buffalo River Dene Nation



NexGen's engagement started prior to commencing exploration in 2013 and has continued to be conducted in accordance with all Provincial and Federal requirements, and Canadian Nuclear Safety Commission (CNSC) regulatory guidance

2019: Study Agreements

- Formalized engagement approaches with LPA Nations to support fulsome participation in the Environmental Assessment process, including the formation of Joint Working Groups
- Capacity funding for conduct of a self-directed Indigenous Knowledge and Traditional Land Use Study by each LPA Nation
- Capacity funding for each LPA Nation for their specified engagement mechanisms, including retention of technical support

2020-2023: Benefit Agreements

- Define the environmental, cultural, economic, training, employment, financial, and other benefits to be provided to LPA Indigenous Nations by NexGen in respect to the Project
- Confirm the consent and support of the Indigenous Nations for the Project throughout its complete lifecycle, including reclamation
- Provide for the formation of an Environmental Committee to oversee and monitor environmental performance of the Project

✓ Signed with all four LPA Nations

NexGen Energy Ltd.

Rook I Project

Technical and Environmental Excellence

Advancing the Rook I Project: NexGen's Approach

Guiding Principles

- ✓ Environmental stewardship
- ✓ Worker health, safety, and well-being
- ✓ Integrated decommissioning, reclamation, and end land use planning

Joint Working Group Meeting in NexGen Operations Office, Saskatoon

Technically Robust

- ✓ Comprehensive understanding of Project setting and local environment
- ✓ Incorporation of international industry best practices and elite environmental standards
- ✓ Indigenous and community feedback
- ✓ Alternative assessments
- ✓ Regulatory requirements and guidance
- ✓ Design standards
- ✓ Disciplined design approach:
  - Preliminary Economic Assessment
  - Pre-feasibility Study
  - Feasibility Study
  - Continued front-end / detailed engineering

Validation Through Rigorous Review

- ✓ Internal, experienced NexGen experts across all areas
- ✓ Independent qualified professionals
- ✓ Robust regulatory review

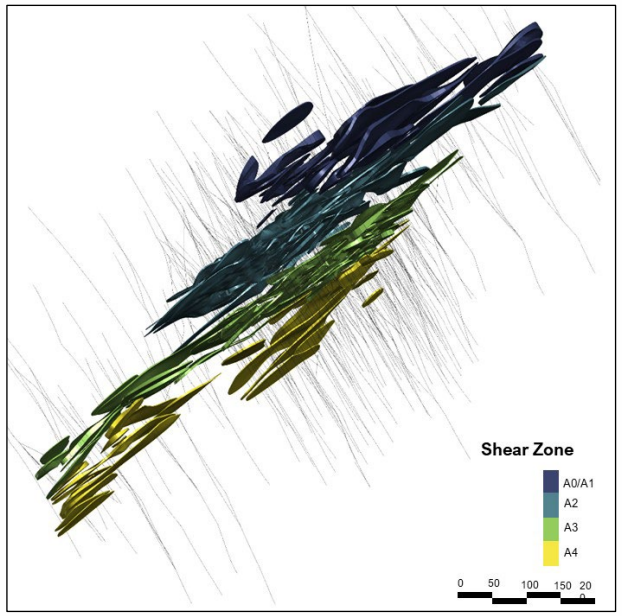
Technical Working Sessions in CNSC Offices, Ottawa

For NexGen, planning starts with closure in mind, making decisions today that are informed by protecting the environment for generations to come

NexGen Energy Ltd.

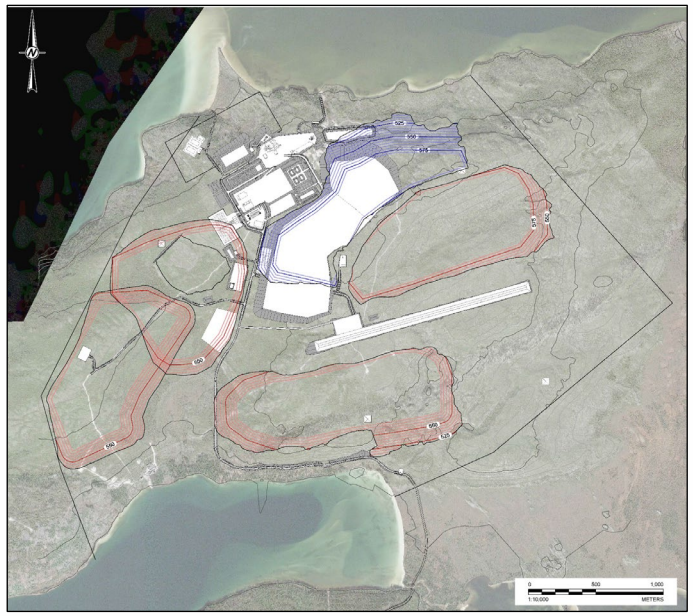
Setting and Maintaining a Standard of Excellence in Planning and Execution

Comprehensive Characterization



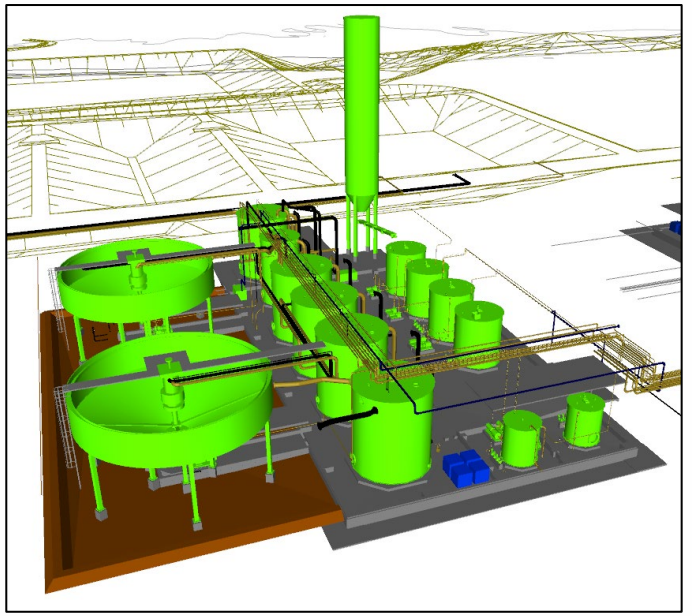
Plan View of Arrow Deposit with Drillhole Traces

Extensive Assessment



Alternatives Assessment for Surface Storage of Mine Rock

Iterative, Methodical Design Review



Effluent Treatment Plant 3D Model Rendering (Operations Phase)

A disciplined, deliberate approach to advancing Exploration, Project Assessment, and Engineering Design

NexGen Energy Ltd.

ROOK I PROJECT

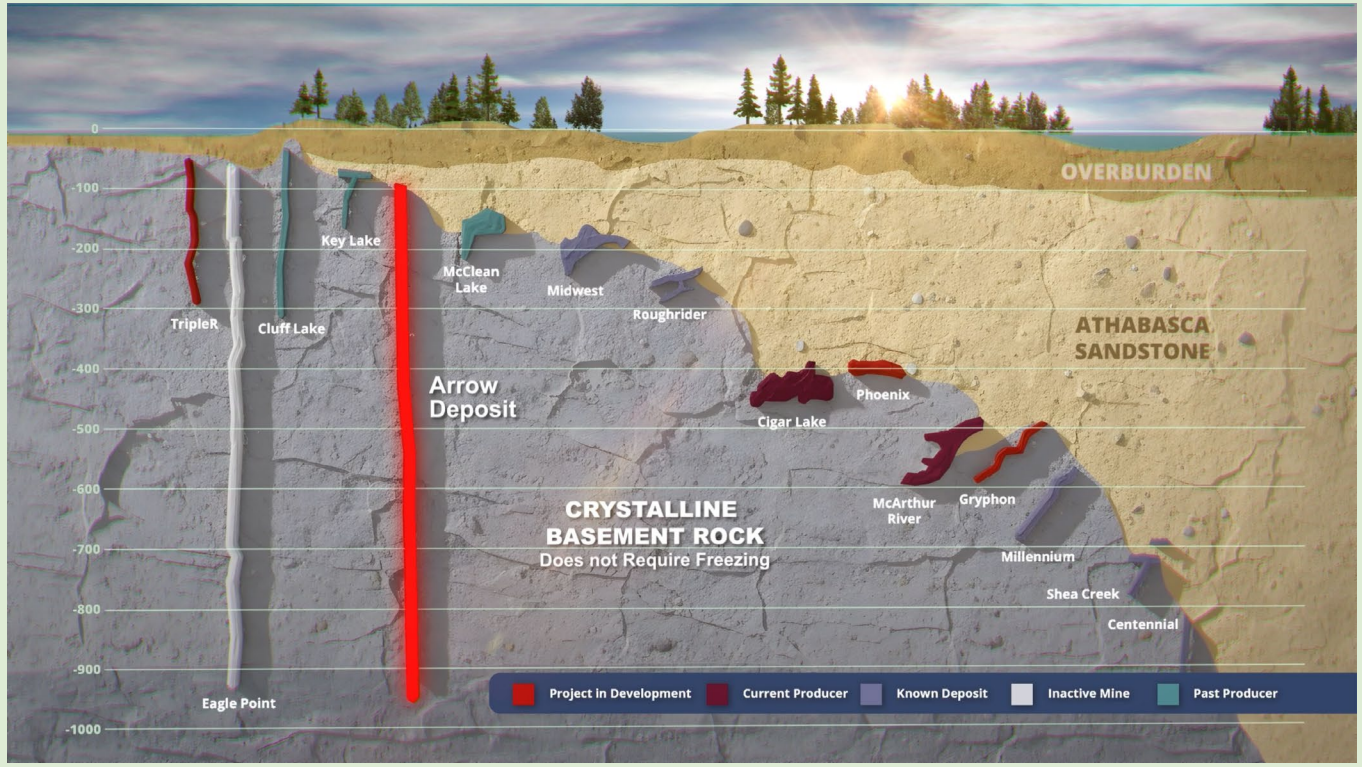
An Ideal Technical Setting

The Arrow deposit (the Project resource) is hosted underground in crystalline basement rock

Key Technical Characteristics

- ✓ Land based
- ✓ Basement hosted
- ✓ High grade
- ✓ Monometallic
- ✓ Near-vertical stacked veins
- ✓ Low hydraulic conductivity
- ✓ Low contaminants of concern

The natural geological setting of the deposit reduces the requirement for complex, costly, and technically challenging engineering designs



ROOK I PROJECT

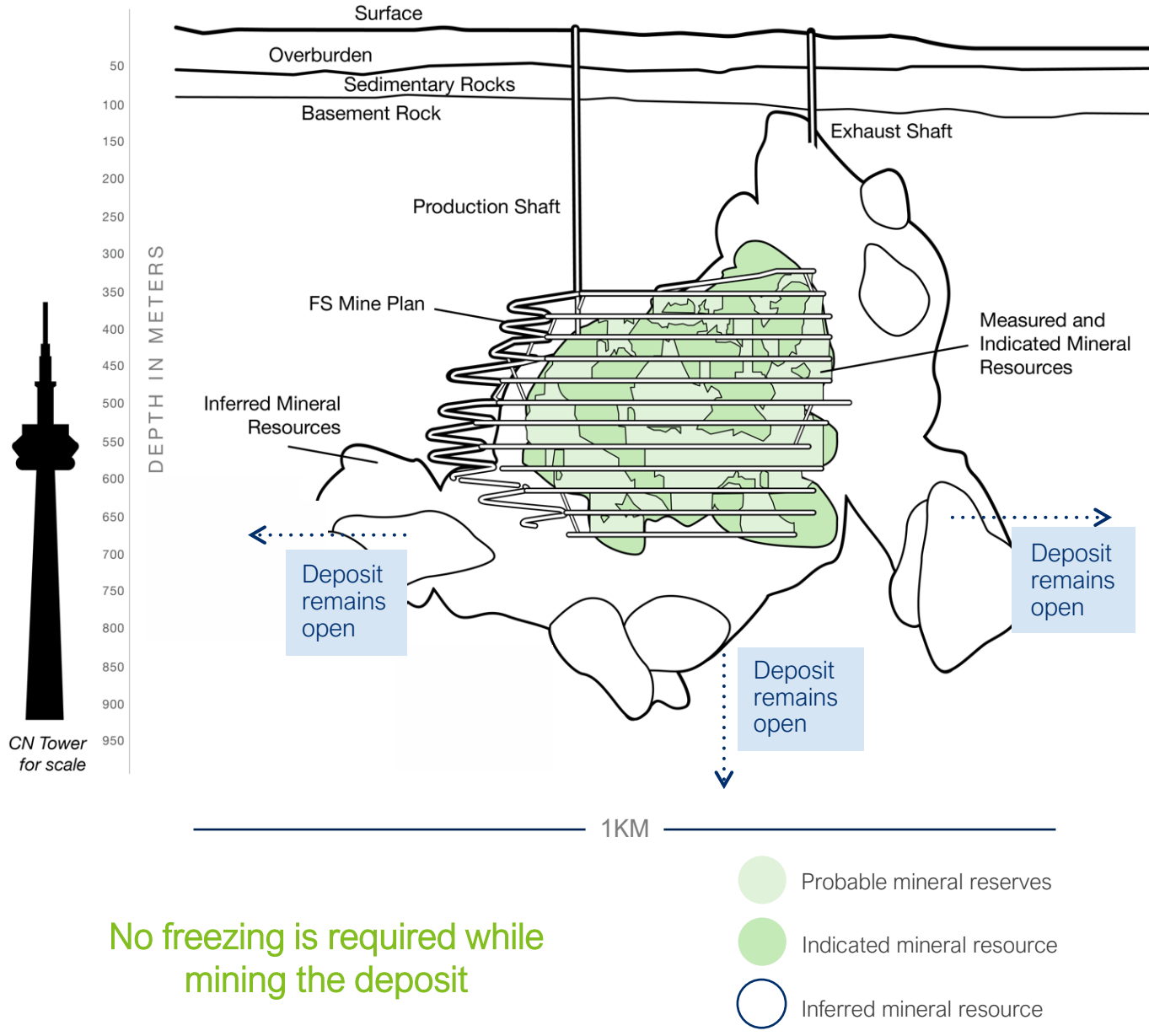
The Unrivalled Arrow Deposit

Grade and geology make this one of the most robust, economically resilient deposits in the world, and a future mining and milling operation of global importance

Key Aspects

- ✓ Tier 1 Deposit
  - Measured Mineral Resources: 209.6 M lbs U_3O_8
  - Indicated Mineral Resources: 47.1 M lbs U_3O_8
  - Inferred Mineral Resources: 80.7 M lbs U_3O_8
- ✓ ~300,000 m drilled into Arrow – delivering a detailed geological model
- ✓ Vertical nature allows for conventional, safe, and efficient mining

The technical and environmental characteristics of the Arrow Deposit have been incorporated into proven mining methods and underground tailings storage



No freezing is required while mining the deposit

ROOK I PROJECT

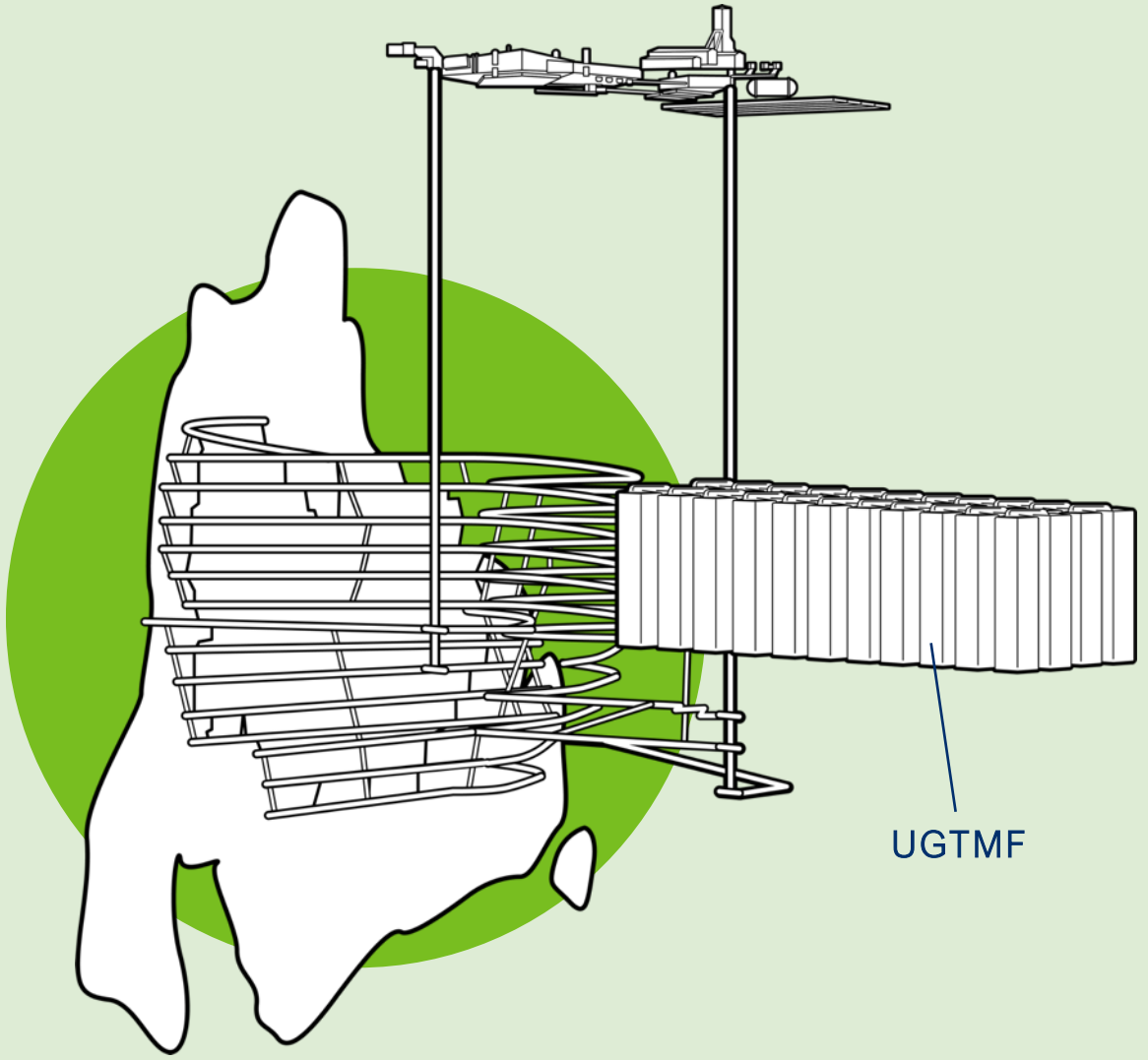
Best-in-Class Tailings Management

All tailings produced through the processing of ore will be stored underground as cemented paste, either in backfilled mine stopes or a purpose-built underground tailings management facility (UGTMF)

Proven Technology: Novel Approach

- ✓ Cemented tailings backfill extensively used in Canadian underground mines and in many parts of the world
- ✓ Underground uranium tailings storage has been conducted in other countries (e.g., South Africa, India)
- ✓ Validated by geochemical and geotechnical testing programs ongoing since 2019
- ✓ Storage of all tailings underground will be a first for a Canadian uranium project

The Project's underground tailings disposal method facilitates progressive reclamation and ongoing decommissioning through long-term disposal of waste from the process plant during the Operations Phase – prior to mine closure



NexGen Energy Ltd.

ROOK I PROJECT

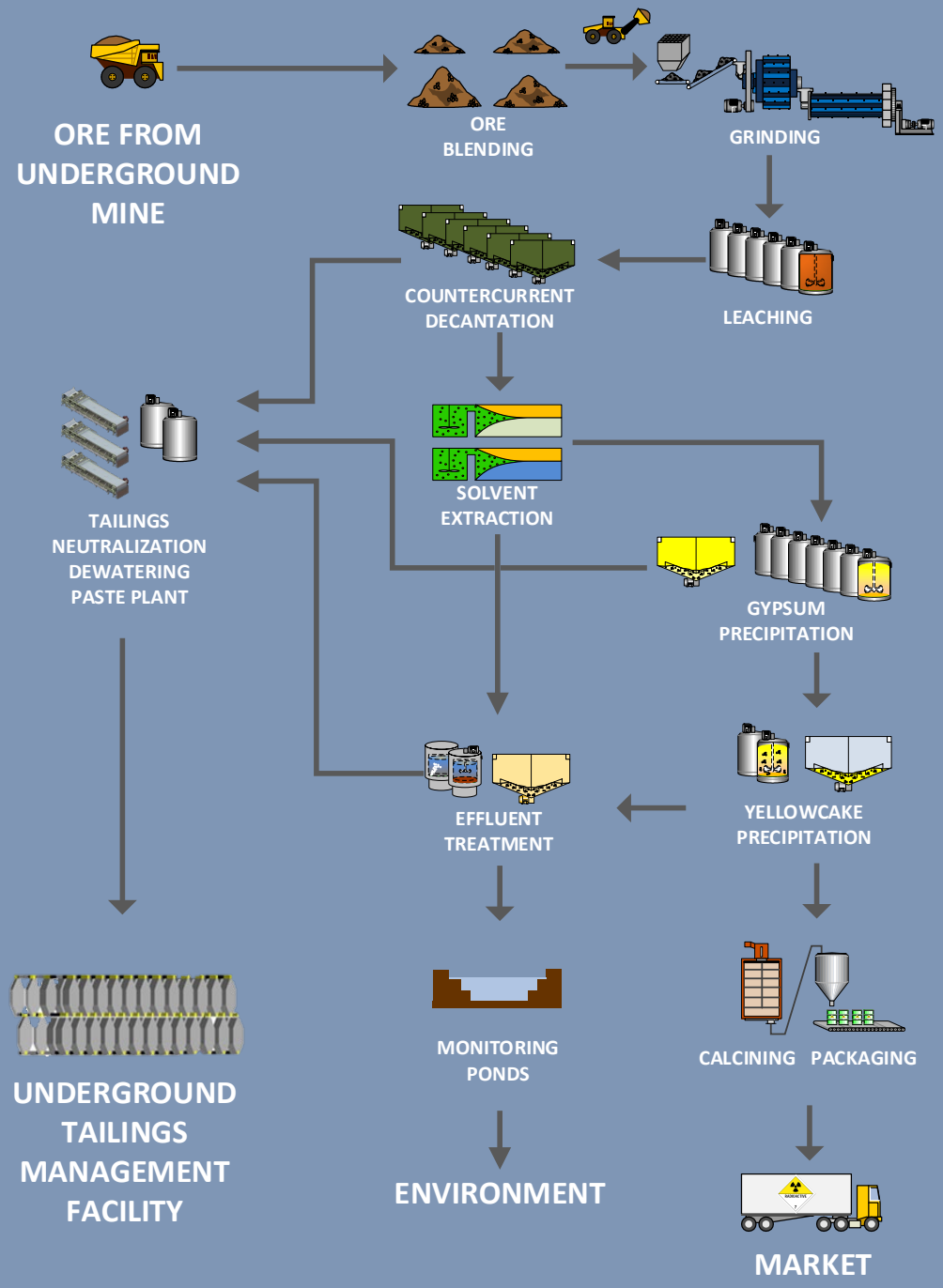
Processing and Metallurgy

The design process plant throughput of 1,300 tonnes per day can support the production of up to 30 M lbs of U_3O_8 per year

Conventional, Proven Flow Sheet

- ✓ Monometallic deposit results in clean metallurgy
- ✓ Calcining step to create stable uranium concentrate product, which is insoluble in water; improving handling, logistics, and environmental management
- ✓ Process flowsheet safely and successfully used in existing process plants across Canada, including in northern Saskatchewan
- ✓ Validated by metallurgical pilot plant testing ongoing since 2018

Process plant design incorporates the as low as reasonably achievable (ALARA) principles of time, distance, and shielding for radiation safety and protection



ROOK I PROJECT

Minimized Surface Expression

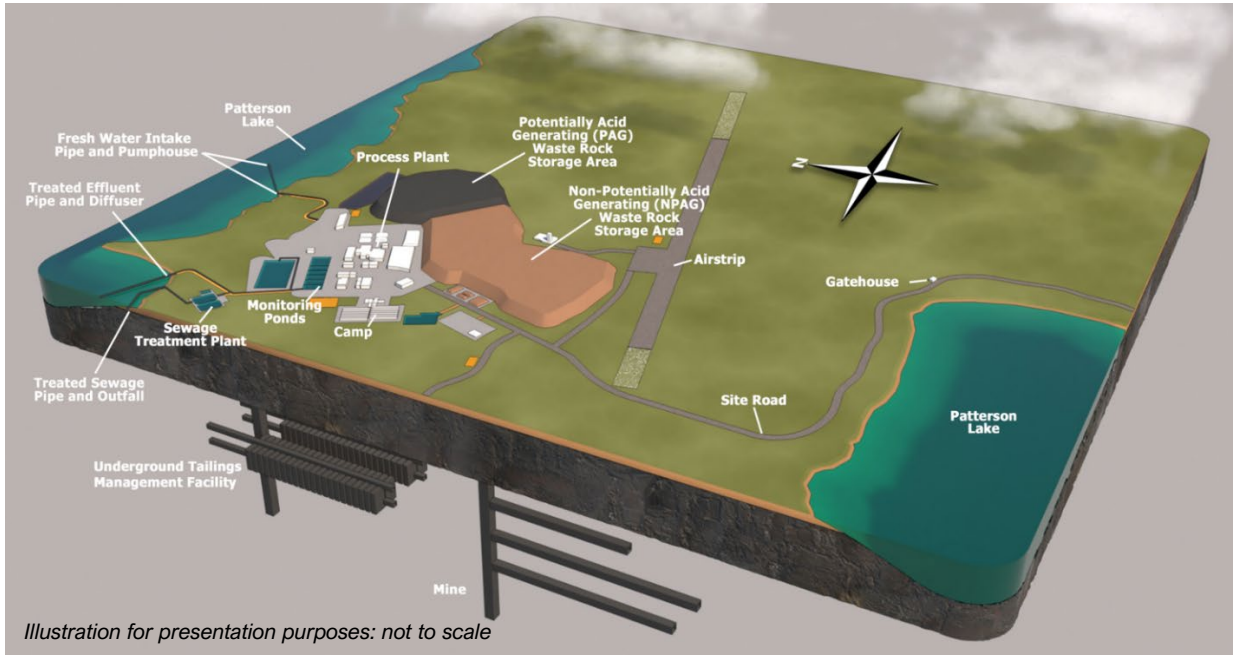


Illustration for presentation purposes: not to scale

Key Surface Infrastructure

- Processing facilities
- Mine rock management facilities for ore and waste rock
- Site water management infrastructure
- Conventional waste management facilities
- Ancillary infrastructure including accommodation complex, maintenance and warehouse facilities, and airstrip
- Utilities, including on-site power generation, fuel storage, and communications

The Project has been designed to promote high levels of environmental performance and incorporate best practices of minimalistic surface expression, progressive reclamation, and advanced closure management design

Compact Project Footprint

- No surface tailings storage
- Consolidation and clustering of surface infrastructure to optimize layout for efficiency, worker health and safety, and environmental protection

Mine Rock Management

- Material characterization, segregation, and storage
- Engineered source control and liners, where applicable

Water Management

- Maximize diversion of clean surface runoff
- Optimize recycling to reduce freshwater consumption
- Effluent treatment supported by BATEA assessment, consistent with CNSC REGDOC-2.9.2

NexGen Energy Ltd.

Project Lifespan

Phase		Duration (years)
Construction Phase		4
Operations Phase		24
Decommissioning and Reclamation (i.e., Closure) Phase	Active Closure Stage	5
	Transitional Monitoring Stage	10[(a)]

a) Actual duration will depend on the achievement of performance criteria

The scope of the licence application is specific to the Project Construction Phase that encompasses site preparation, construction, and commissioning

Key Construction Phase Activities

- Upgrade and develop selected site roads to allow for the safe, efficient transportation of materials and equipment
- Clear and level the mine and mill terrace areas
- Construct waste and water management infrastructure, including the Construction Phase effluent treatment plant
- Develop surface infrastructure to support underground activities (e.g., production and exhaust shaft headframes)
- Establish the exhaust shaft and production shaft and begin underground development
- Construct and commission the process plant (e.g., mill building, paste plant)
- Commission other infrastructure and services in preparation for Operations

The Environmental Assessment conducted for the Project considered the entire lifecycle of the Project (Construction, Operations, and Closure)

Regulatory Review Process

ROOK I PROJECT

Regulatory Process Overview

Licensing

- **Licence Application to Prepare Site and Construct:**

  Site preparation, construction, and commissioning of all underground and surface structures, systems and components with ore to support future commercial operations and the production of up to 31 M lbs of U_3O_8 per year

- Conducted under an integrated approach with Federal Environmental Assessment (EA)

Environmental Assessment

- **Federal:** *Canadian Environmental Assessment Act, 2012*
- **Provincial:** *The Environmental Assessment Act*

CNSC Staff Site Tour of Rook I Site, Northern Saskatchewan

Thorough Provincial and Federal regulatory review processes have been completed, demonstrating and validating that the Rook I Project will be safe for people and the environment

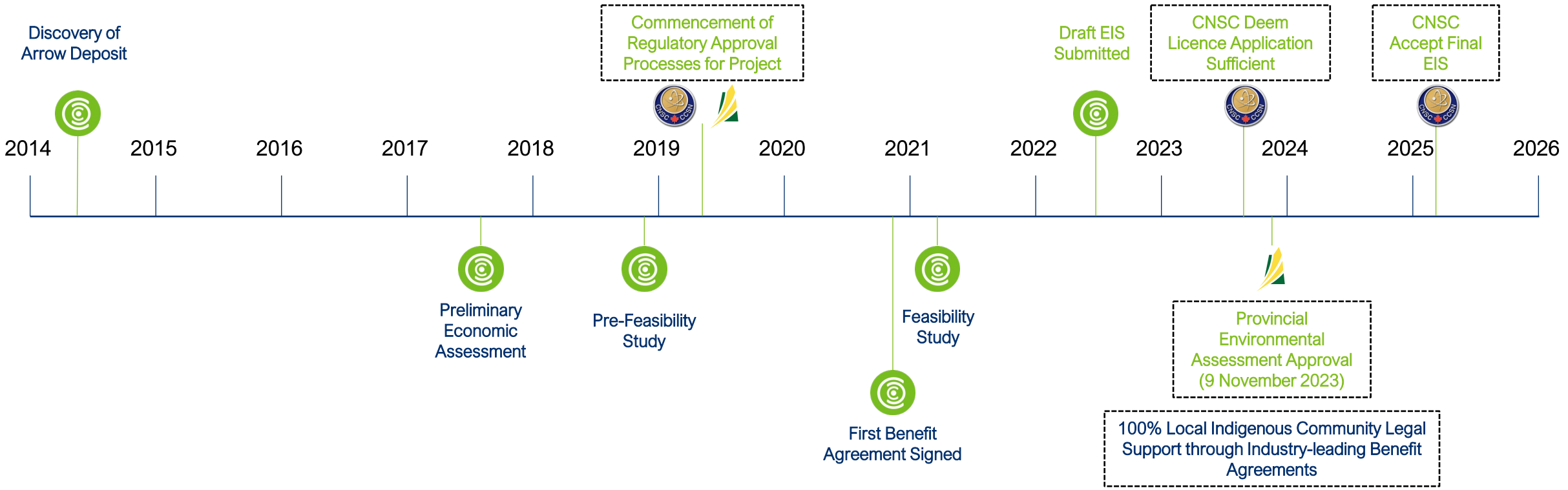
Regulatory Process: Status Highlights

- **Federal**
  - ✓ Licence application deemed sufficient by CNSC staff on 1 September 2023
  - ✓ Final Environmental Impact Statement (EIS) accepted by CNSC staff on 28 January 2025, including NexGen's responses to all comments received through public review process

- **Provincial**
  - ✓ Provincial EA Approval received on 8 November 2023
  - ✓ All Provincial EA conditions required prior to commencing site preparation and construction have been met
  - ✓ Mineral Surface Lease Agreement (i.e., surface rights) in place
  - ✓ Amount and form of Construction Phase Financial Guarantee accepted by Province of Saskatchewan

ROOK I PROJECT

Timeline and Key Milestones



2013 to Present: Ongoing Indigenous and Public Engagement

2015 to Present: Ongoing Environmental Baseline and Monitoring Programs

2018 to Present: Ongoing Regulatory Engagement

2021 to Present: Engineering Design

NexGen Energy Ltd.

ROOK I PROJECT

Environmental Assessment

Comprehensive, complete, and high-quality submissions

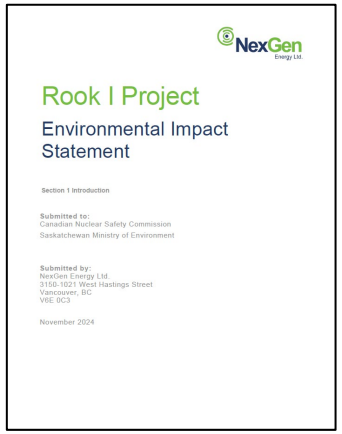
- ✓ NexGen's experienced team of subject matter experts and qualitied professionals conducted technical studies; engaged with Indigenous Nations, communities, regulators, and stakeholders; and prepared the EIS

Proactive and Continual Engagement

- ✓ 15 topic-specific technical sessions held between NexGen and Provincial and Federal regulators prior to submission of the EIS to verify alignment on EA approaches; continued and consistent engagement throughout regulatory review process since
- ✓ Extensive Indigenous and public engagement conducted throughout, including JWGs and Indigenous Knowledge and Traditional Land Use Studies ensuring that Indigenous and Local Knowledge was used alongside Western Science when conducting the EA
- ✓ Monthly EA and engagement update meetings between NexGen and CNSC staff

Rigorous Review Completed

- ✓ 215 Provincial technical review comments
- ✓ 274 Federal-Indigenous Review Team information requests
- ✓ 798 comments received through Federal public review process


NexGen Energy Ltd.

Rook I Project

Environmental Impact Statement

Section 1 Introduction

Submitted to:
Canadian Nuclear Safety Commission
Saskatchewan Ministry of Environment

Submitted by:
NexGen Energy Ltd.
3150-1021 West Hastings Street
Vancouver, BC
V6E 0C3

November 2024

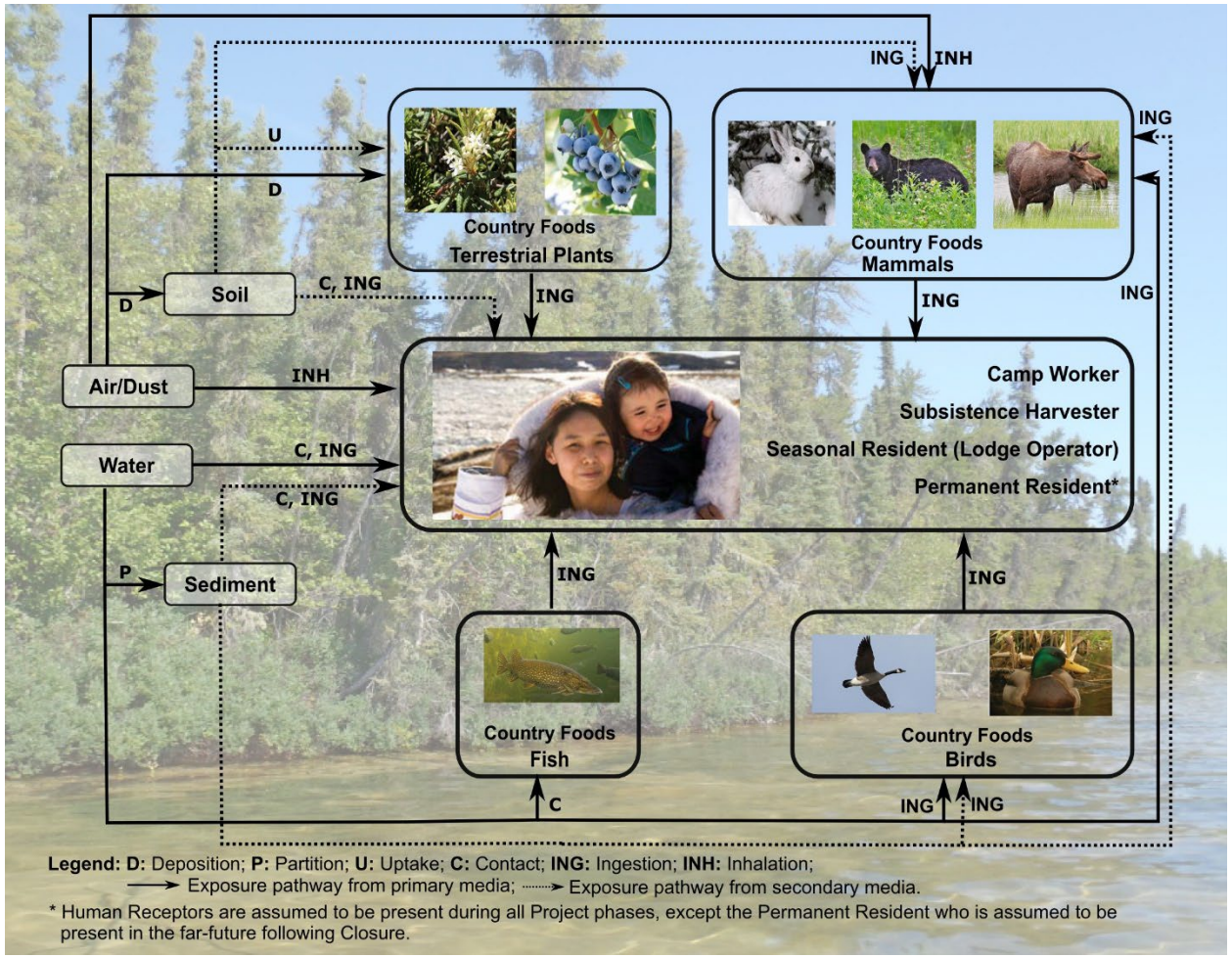
The Project EA has undergone rigorous review by both Provincial and Federal regulatory agencies, including multiple opportunities for Indigenous Nation and public participation

EA Process: Key Highlights

- **May 2019:** Commencement of Provincial and Federal EA processes
- **2021-2022:** Technical workshops held with Saskatchewan Ministry of Environment (ENV) and CNSC during development of Draft EIS
- **2022-2023 (ENV):** ENV technical review comments received and addressed; public review of Provincial Final EIS completed
- ✓ 8 November 2023: Provincial EA approval received
- **2022-2024 (CNSC):** Federal-Indigenous Review Team technical information requests received and addressed; public review process conducted and comments received and responded to
- **November 2024:** CNSC confirms EA technical review complete, and all regulatory requirements met
- ✓ January 2025: Final EIS accepted by CNSC staff, including NexGen responses to all comments received as part of Federal public review process

NexGen Energy Ltd.

Environmental Assessment



Human Health Conceptual Site Model

The Project EA concluded that, with the implementation of identified mitigations, there will be no significant adverse effects for the Project or the Project in combination with reasonably foreseeable developments (i.e., cumulative effects)

Rook I Project EA: Key Highlights

Environmental Risk Assessment (ERA)

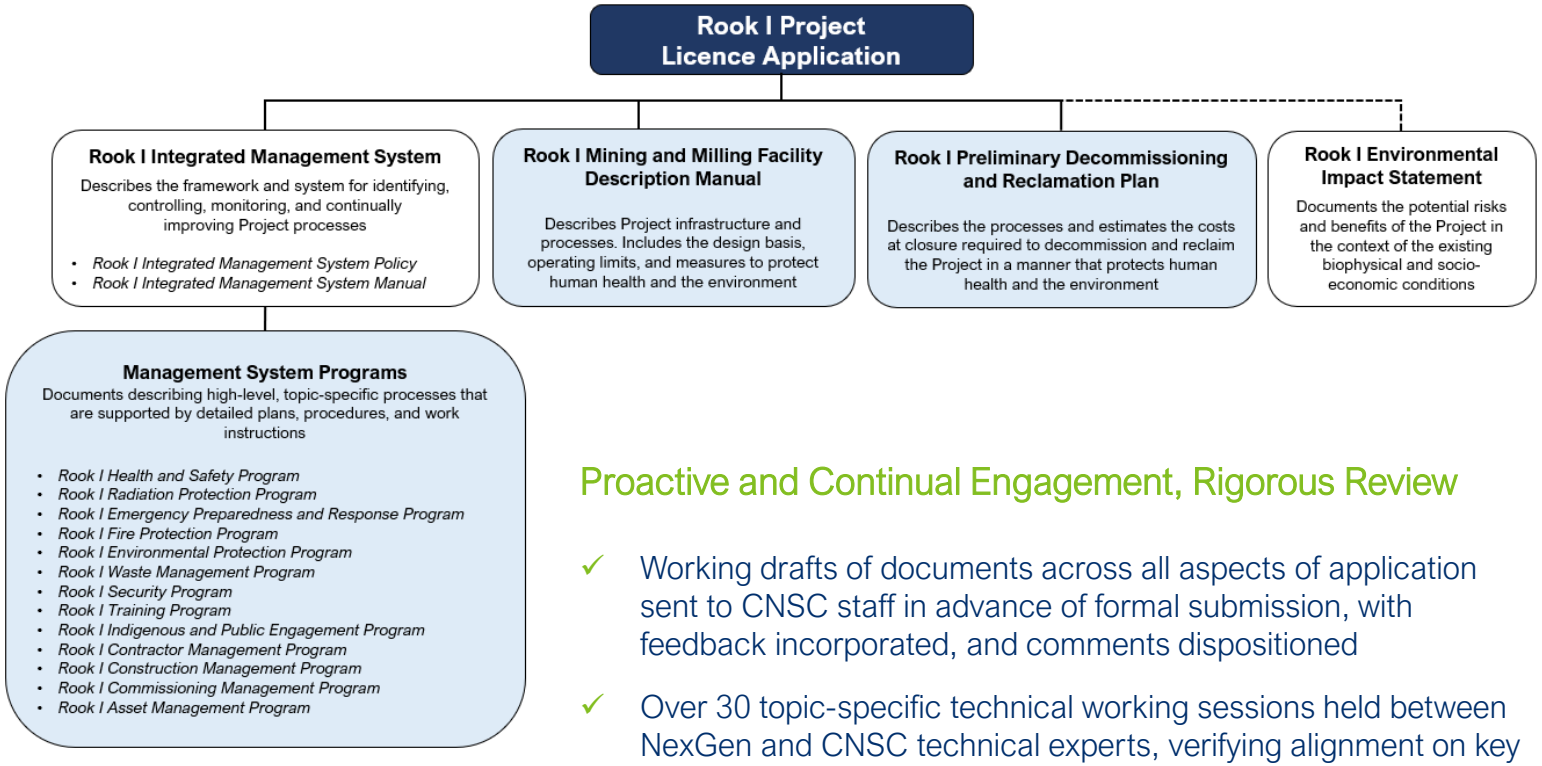
- The EIS included a comprehensive ERA that is compliant with Canadian Standards Association Group (CSA) N288.6-22 and Section 4.1 of REGDOC-2.9.1
- The ERA included both a Human Health Risk Assessment and an Ecological Risk Assessment
- Results from the ERA were included in the quantitative assessments for fish and fish habitat, vegetation, wildlife and wildlife habitat, and human health

Other Key Findings

- Indigenous and other land use will continue within the local and regional areas
- Community well-being for the local communities will be maintained

ROOK I PROJECT

Licence Application Structure



Proactive and Continual Engagement, Rigorous Review

- ✓ Working drafts of documents across all aspects of application sent to CNSC staff in advance of formal submission, with feedback incorporated, and comments dispositioned
- ✓ Over 30 topic-specific technical working sessions held between NexGen and CNSC technical experts, verifying alignment on key modelling and assessments, confirming regulatory requirements, and dispositioning CNSC staff feedback
- ✓ Comprehensive, complete, and high-quality final submissions
- ✓ Monthly licensing update meetings between NexGen and CNSC staff

The structure of NexGen's licence application and the Rook I Integrated Management System (IMS) program topics were established to align with CNSC safety and control area (SCA) topics applicable to the Construction Phase of the Project

Licensing Process: Key Highlights

- **February 2019:** Commencement of licensing process through submission of initial application
- **2019-2021:** High-quality draft working versions of licensing documents sent to CNSC staff for review and feedback
- **December 2021:** Initial submission of formal, complete documents
- **December 2022:** Second submission of formal, complete documents
- **June 2023:** Final submission of formal, complete documents, representing final licence application
- ✓ September 2023: Licence application deemed sufficient by CNSC staff
- **Ongoing** provision of supplemental information to CNSC staff as detailed engineering and supporting studies advance

NexGen Energy Ltd.

Rook I Integrated Management System (IMS)

IMS Manual

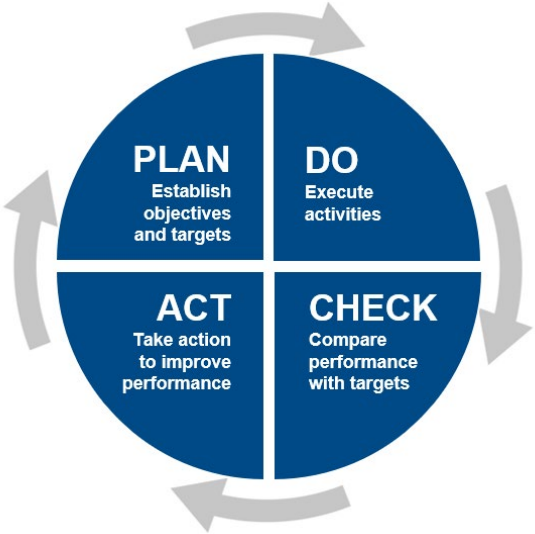
Overarching Manual, outlining the management-level processes and architecture of the IMS

IMS Programs

Suite of documents addressing CNSC Safety and Control Areas:

- Health and Safety Program
- Radiation Protection Program
- Emergency Preparedness and Response Program
- Fire Protection Program
- Security Program
- Environmental Protection Program
- Construction Management Program
- Contractor Management Program
- Training Program
- Waste Management Program
- Commissioning Management Program
- Indigenous and Public Engagement Program
- Asset Management Program

The Rook I IMS is the common framework of programs, plans, and supporting documentation describing NexGen's management system processes for achieving Project objectives and completing work safely, reliably, and consistently



NexGen has proactively implemented management system processes applicable to the conduct of current activities

NexGen Energy Ltd.

Closing and Commission Request

Commission Request

CNSC licence to prepare site and construct the Rook I Project under the *Nuclear Safety and Control Act*

10-year licence term to cover site preparation, construction, and commissioning

NexGen is Qualified

- ✓ Proven executive and leadership team with demonstrated track record of mining success
- ✓ Experienced Project team established; subject matter expertise across all key areas and functions
- ✓ Over a decade of safe operations in northern Saskatchewan

NexGen is Responsible

- ✓ Technically and environmentally elite Project, including the storage of all tailings underground
- ✓ Industry-leading Indigenous and community partnership approach
- ✓ Formal consent and support of Project from all local Indigenous Nations through signed Benefit Agreements

NexGen is Ready

- ✓ Comprehensive Environmental Assessment and licence application; rigorously reviewed and endorsed by CNSC staff
- ✓ Provincial EA approved, and all required conditions met
- ✓ Integrated Management System and processes established to safely and reliably control and conduct licenced activities
- ✓ Strong financial position to commence Project construction upon Federal approval

Qualified, Responsible, Ready

NexGen Energy Ltd.