



## **Supplementary Information**

### **Presentation from New Brunswick Power Corporation**

In the Matter of the

**New Brunswick Power Corporation,  
Point Lepreau Nuclear Generating Station**

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Application for the renewal of NB Power's  
licence for the Point Lepreau Nuclear  
Generating Station

**Commission Public Hearing  
Part 1**

**January 26, 2022**

## **Renseignements supplémentaires**

### **Présentation de la Société d'Énergie du Nouveau-Brunswick**

À l'égard de

**Société d'Énergie du Nouveau-Brunswick,  
centrale nucléaire de Point Lepreau**

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Demande de renouvellement du permis  
d'Énergie NB pour la centrale nucléaire de  
Point Lepreau

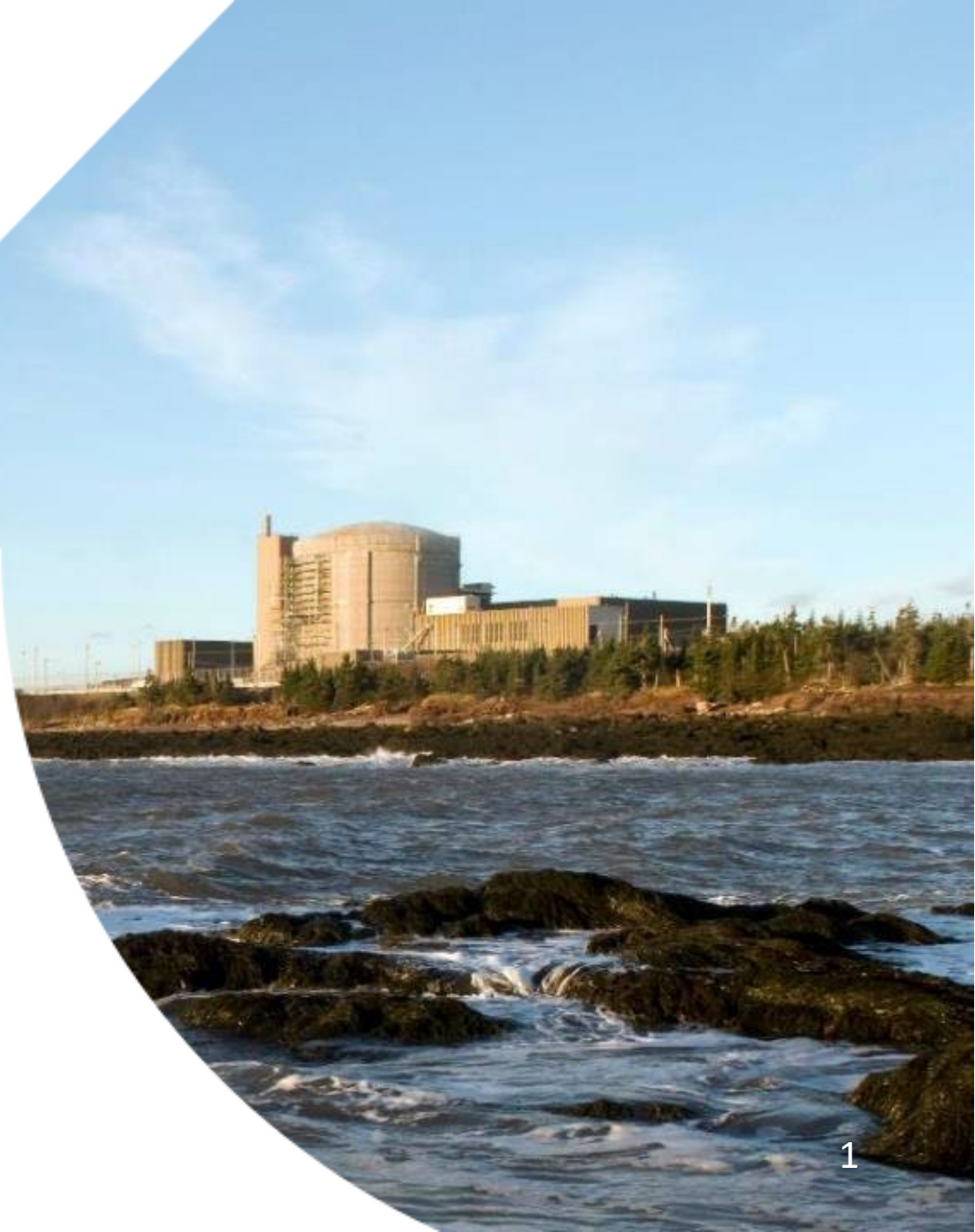
**Audience publique de la Commission  
Partie 1**

**26 janvier 2022**

# Point Lepreau Nuclear Generating Station

**Renewal of the PLNGS  
Power Reactor Operating Licence  
CMD 22-H2.1A**

**CNSC Commission Public Hearing – Part 1  
JANUARY 26, 2022**



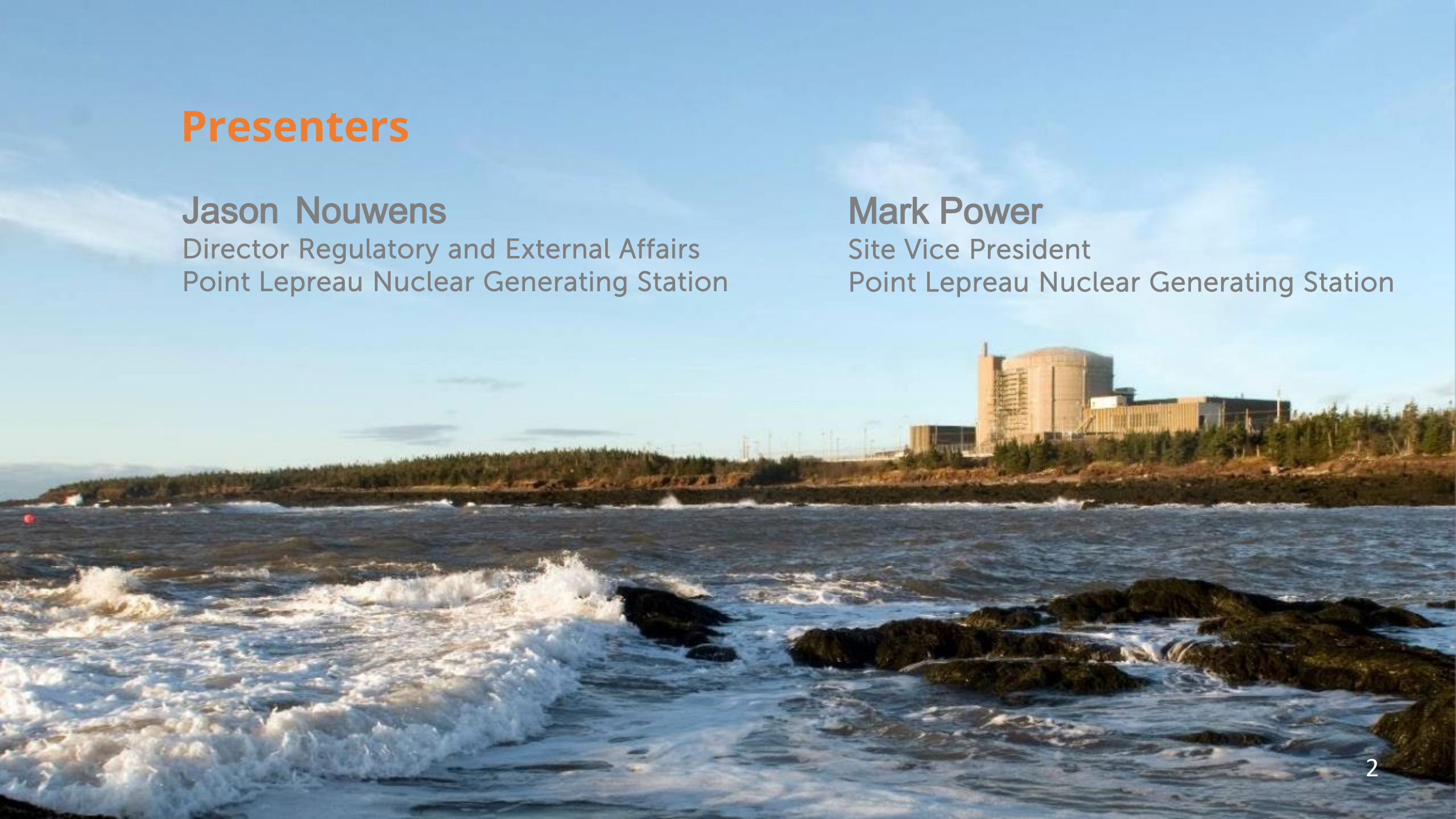
# Presenters

**Jason Nouwens**

Director Regulatory and External Affairs  
Point Lepreau Nuclear Generating Station

**Mark Power**

Site Vice President  
Point Lepreau Nuclear Generating Station



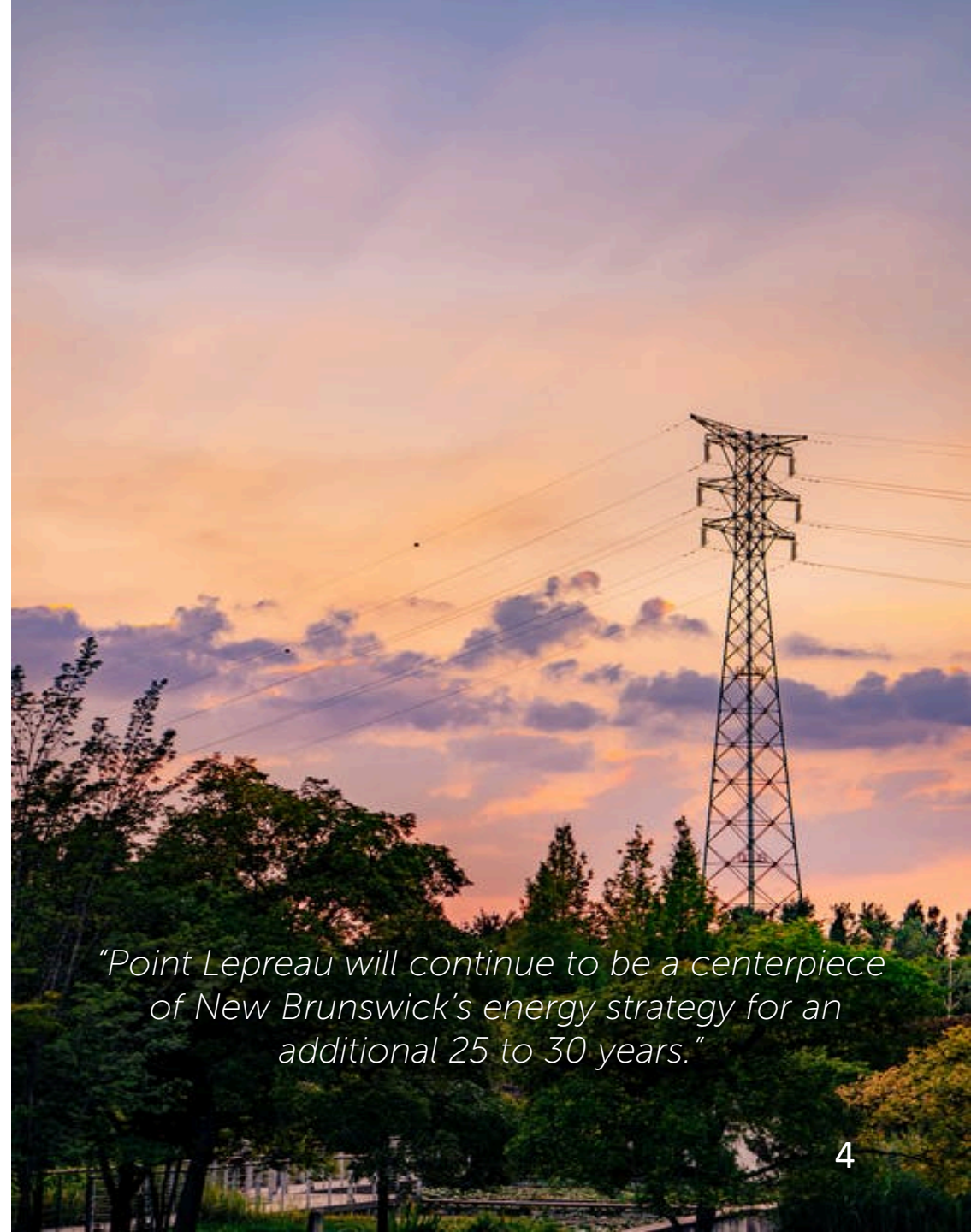
# Presentation Outline

- Overview
- Point Lepreau Nuclear Generating Station Operational Activities
- First Nations, Community and Public Engagement
- Closing Remarks



# Point Lepreau Nuclear Generating Station CANDU Design

- The foundation of our provincial power supply and the source of electricity for more than one third of New Brunswick's in-province energy requirements.
- PLNGS produces approximately 705 megawatts (net) non-emitting electricity on the New Brunswick grid.



*"Point Lepreau will continue to be a centerpiece of New Brunswick's energy strategy for an additional 25 to 30 years."*



## Qualified and Competent Workforce

- Approximately 900 highly-skilled and trained employees
- Committed to the safety of the workers, public and environment
  - received several safety awards over the years
  - surpassed 2 million person-hours without a lost time accident
- Extensive, continuous training program
  - on-site full-scale control room simulator
  - on-site full-scale fueling simulator
  - mechanical and instrumentation labs
  - table-top and hands-on drills and exercises





## PLNGS 25-year Licence

- Meet regulatory requirements
- Strong safety culture
- Continued significant investments
- Safe and sustainable long-term operations
- Continuous performance improvement
- Stewardship of the environment
- Maintain open and transparent relationships with First Nations people and communities built on trust and respect





# STATION OPERATIONS



# Navigating For EXCELLENCE

- SAFETY Excellence
- LEADERSHIP Excellence
- OPERATIONAL Excellence
- PROCESS Excellence
- EQUIPMENT Excellence
- BUSINESS Acumen



# Nuclear Safety

- Robust design
- Multiple barriers
- Safety improvement investments
- Probabilistic Safety Assessment (PSA)
- Seismic assessments

**C**ONTROL

**C**OOL

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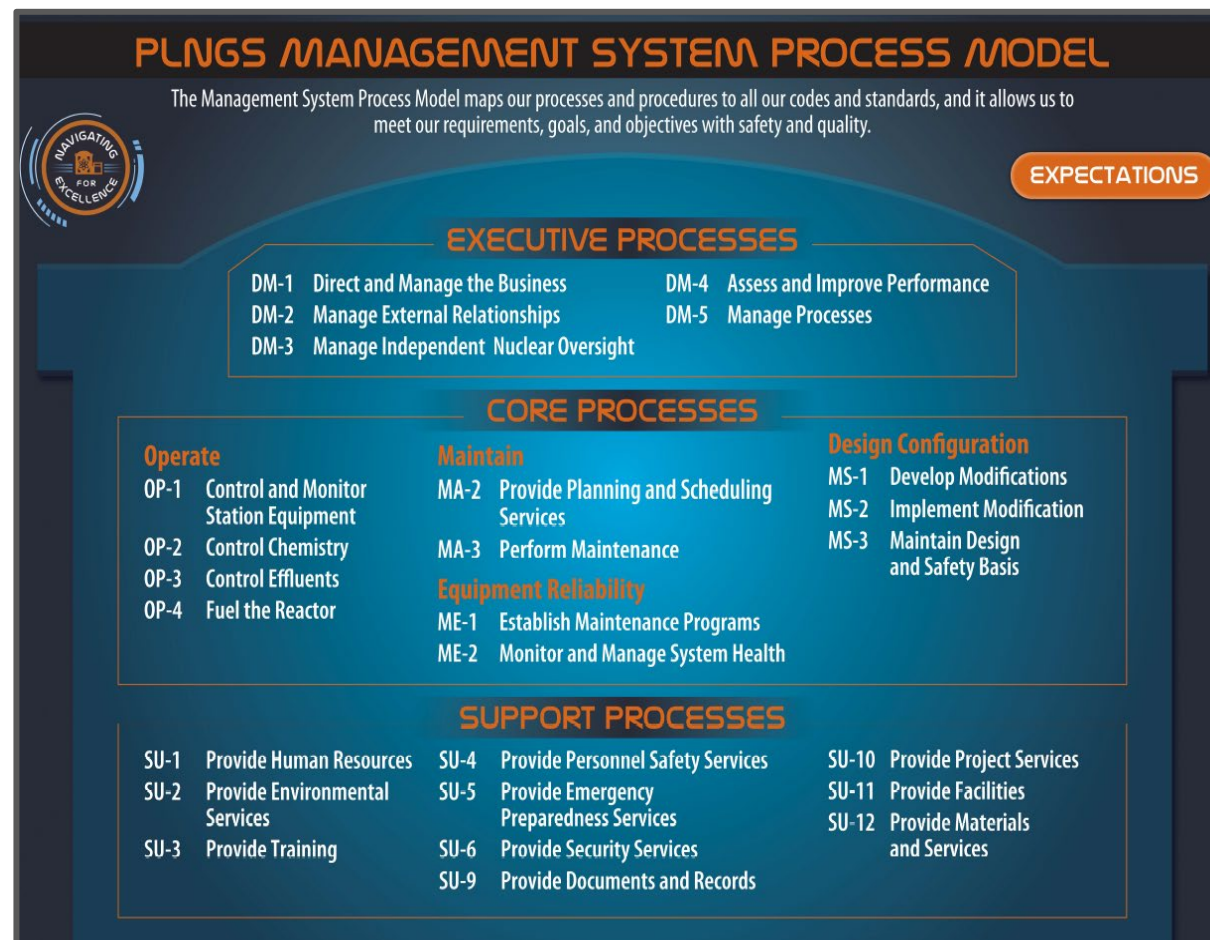
# Investing in Leadership and Staff

- Our Nuclear Management System is the foundation of our organization, based on continuous improvement
- Focus on employee and leadership development
- Organizational depth
- Continuous formal and informal education and development
- Culture of accountability at all levels



# Management System

- Corrective Action Program is our Improvement engine which drives excellence through:
  - self-assessments
  - benchmarking
  - operating experience
  - trending
  - performance metrics
- Internal and external nuclear oversight







PEOPLE, PLANT & PROCESS



# Human Performance Management

- The Safety, Health, and Reliability of the Station's performance is ensured through:
  - human performance tools and training
  - initial and continuing training for all staff following the systematic approach to training model
  - management and leadership development
  - certified training programs for Control Room Operators, Shift Supervisors, Station Health Physicists
  - talent development, succession planning and recruitment
- These are further supported by:
  - fitness for duty programs (fatigue, alcohol and drugs)
  - minimum shift complement, and hours of work requirements
  - workplace total health (physical, mental, social) through prevention, early intervention and support

# Operating Performance

- PLNGS implements and maintains an operational program to ensure the safety of the Public, Environment and Station during normal and/or highly unlikely accident conditions through:
  - industry leading performance metrics
  - reporting and trending under REGDOC 3.1.1
  - executing planned and unplanned outages with safety and quality
  - operating the Station within the Safe Operating Envelope (SOE)
  - having a well-established severe accident management program

# Safety Analysis

- PLNGS is committed to maintaining the design and safety basis of the Station through:
  - Deterministic Safety Analysis (DSA) applying the methodology of REGDOC 2.4.1
  - computer software quality assurance
  - hazard analysis including seismic, high winds and tsunamis
  - Probabilistic Safety Analysis (PSA) compliant with REGDOC 2.4.2 (updated November 2021)
  - severe accident analysis
  - management of safety issues, including research and development through CANDU Owner Group (COG)



# Periodic Safety Review

- NB Power has conducted a Periodic Safety Review (PSR) in accordance with REGDOC 2.3.3, Periodic Safety Reviews.
- The purpose of the PSR is to evaluate our Station against modern codes and standards, and to identify any factors that would limit safe, long-term operation covering a 10-year period.
- The resulting outputs of the PSR are captured in the Integrated Implementation Plan.
- NB Power is committed to completing additional PSRs as required by REGDOC 2.3.3 throughout the duration of the licensing term.

# Physical Design

- PLNGS ensures all design changes are executed in accordance with the design configuration process, which includes:
  - configuration management and change control
  - pressure boundary program
  - oversight by the Authorized Inspection Agency (AIA)
  - site characterization
  - structures, systems and component design utilizing a defense-in-depth approach
  - robust design documentation
  - increase and sustained integrity of plant, process and equipment

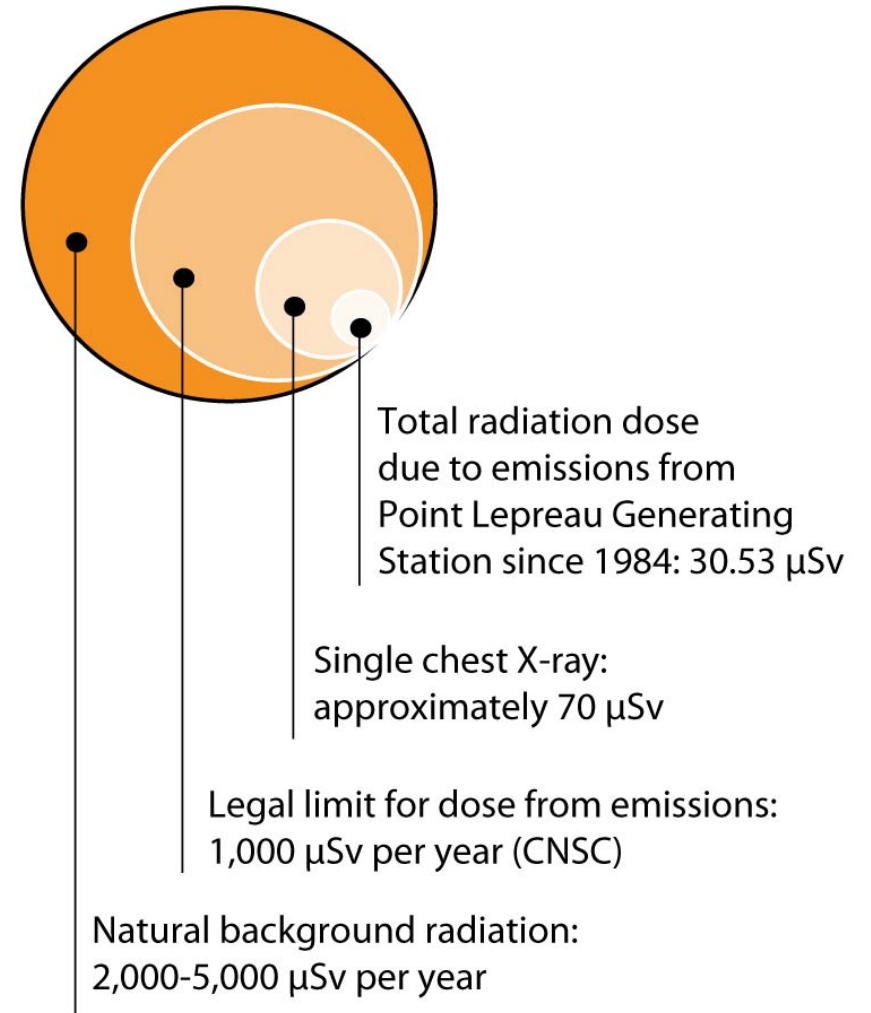
# Fitness for Service

- PLNGS has several programs and processes in place to manage equipment fitness for service and equipment performance of the systems, structures, and components through:
  - equipment reliability and maintenance programs
  - system performance monitoring
  - maintenance backlog reduction
  - aging management
  - chemistry control
  - periodic inspection and testing of pressure retaining systems and components
  - robust fuel channel management plan and fitness for service assessments under CSA N285.4 & N285.8

# Radiation Protection

- The PLNGS's radiation protection program ensures that radiation doses and contamination levels are maintained as low as reasonably achievable (ALARA) through:
  - application of the ALARA principle
  - effectively managing worker dose control
  - effectively managing radiological hazards through work planning
  - radiation protection program performance consistent with industry best

## Visual Comparison of Minimal Emissions from Point Lepreau





# Conventional Health and Safety

- At NB Power, safety is everyone's responsibility and is fundamental to our success. Strong safety culture and a healthy workplace environment are at the heart of everything our staff does, and are demonstrated through:
  - shared commitment between NB Power and the International Brotherhood of Electrical Workers- Local 37
  - low level reporting for accidents and injuries
  - surpassed 2 million person-hours without a loss- time accident
  - an active Joint Health and Safety Committee



## SAFETY

### OUR SHARED COMMITMENT

NB Power and IBEW are working together for safety.  
We share these commitments.

**Together,**  
we can prevent accidents and injuries.

#### WE WILL ALWAYS

##### PLAN SAFETY INTO OUR WORK

Prevent accidents by making sure safety controls are planned into every job we do. Before starting any work assess and inspect our work location to spot safety hazards and control or fix them to minimize risk. All employees will be given the information they need to be safe.

##### FOLLOW THE RULES

Avoid hazards by knowing and following all safety policies, practices, and procedures.

##### BE A LEADER IN SAFETY

Everyone can lead by example by working safely to prevent accidents and injuries. A safe workplace culture requires enough time, people, tools, knowledge, and resources to do the job safely. This includes taking the necessary time to be mindful and manage distractions.

##### REPORT SO WE CAN ALL GET BETTER

Report safety incidents and near misses right away. Sharing the facts ensures everyone is safer next time.

##### HAVE COURAGE

Speak up when you see potential dangers. Get involved if you believe someone is unfit for work or not trained for a task. Always give, encourage, and accept feedback.

##### SAY NO TO UNSAFE WORK

It's your legal right, and our expectation, that you refuse unsafe work. All jobs are planned with safety in mind. If you aren't sure, don't guess. Stop the work and ask your supervisor.

     
Keith Cronkrite    Suzanne Desrosiers    Claude Richard    Dave Brown  
President and CEO    Vice President    Business Manager    President  
NB Power    Human Resources    IBEW Local 37    IBEW Local 37



Énergie NB Power

#### OUR SAFETY CREED

No work is of such urgency or importance to justify not taking the necessary steps and time to ensure the safety of every member of the working force and the public.



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# Environmental Protection

- NB Power is committed to ensuring the protection of the environment in which we operate and that of our communities through:
  - maintaining certification and registration to ISO 14001:2015
  - radiological and conventional environmental monitoring and sampling
  - progression of Fisheries Act Authorization with compensatory off-setting
  - updated environmental risk assessment (2020) including the thermal plume assessment
  - supporting local organizations for migratory bird observations
  - monarch butterfly sanctuary



# Waste Management

- NB Power is committed to the safe and reliable processing of active and inactive waste, and storage of these materials through:
  - waste characterization (low, intermediate and high-level waste)
  - waste minimization at the source
  - volume reduction of legacy low level and intermediate level waste
  - maintaining a Solid Radioactive Waste Management Facility (SRWMF)
  - management of used fuel
  - maintaining a preliminary decommissioning plan and cost estimate study with associated financial guarantees (updated 2020)





# EMERGENCY SERVICES

# Emergency Management and Fire Protection

- NB Power is committed to ensuring the ability to respond to radiological and conventional emergencies in a timely, effective, and coordinated manner. This is carried out by means of a comprehensive all-hazards approach to emergency management. This is demonstrated through:
  - updated technical planning basis for Radiological Emergencies (2021)
  - strong local and regional partnerships with Musquash Fire Department, Saint John Fire Department, NB EMO and other response agencies
  - annual fire mutual aid drills
  - completion of the Synergy Challenge 2021 emergency exercise
  - enhanced emergency facilities and infrastructure located on site
  - dedicated emergency facility in St. George
  - continuing training, drills and exercises with all emergency response organization members

# Security

- PLNGS has established a comprehensive nuclear security program that uses the security-in-depth model. The nuclear security program supports the Station's fundamental nuclear safety objective to protect the public, site personnel, and the environment from harm, through:
  - highly trained and qualified members
  - robust security equipment and facilities
  - cyber security program in compliance with CSA N290.7-14
  - established relationship and agreement with local, provincial and federal law enforcement agencies
  - continuous training, along with drill and exercise programs



# Safeguards and Used Fuel

- NB Power meets all federal and international obligations for Safeguards and is committed to the safe use of nuclear material
- PLNGS implements the IAEA Safeguards in accordance with Canadian obligations to the IAEA through:
  - ensuring that all new and used fuel bundles are safely stored on-site
  - nuclear material accounting and control
  - access and assistance to the IAEA
  - safeguards equipment, containment and surveillance



*"We adhere to rigorous Canadian standards."*



# Investing in the Future

- NB Power is committed to ensuring safe and reliable operation by investing in:
  - a comprehensive Aging Management Program
  - long term Asset Management Plan
  - upgrades and replacements of turbines, large motors, and station transformers
  - moderator D<sub>2</sub>O replacement initiative
  - implementation of a 24-month outage frequency







# First Nations and Community Engagement



# First Nations Relations

## A Strategic Approach

NB Power's Strategic Approach for First Nations has three interdependent pillars:

- Engagement and Community Relations
- Education, Cultural Awareness and Sensitivity
- Employment







## First Nations Relations

“Designing with, not for”, NB Power has expanded many activities within each of the pillars.

### Engagement and Community Relations

- Independent Indigenous environmental monitoring
- Indigenous inclusion with PLNGS Community Relations
- Developing Indigenous Knowledge (IK) & Indigenous Land & Resource Use (ILRU) studies

### Education, Cultural Awareness and Sensitivity

- Online Cultural Orientation
- Experiential cultural awareness opportunities
- Overview of careers at PLNGS with First Nations youth

### Employment

- Online voluntary equity questionnaire
- Indigenous Employment Officer
- Direct and indirect employment opportunities



# Community Engagement

- The expectation of the community is that we operate our Station safely and that we are environmentally responsible.
- The local fishing community members remind us that their central interest is water quality in the bay, the condition of the shoreline beaches, and what happens on the land next to the Bay of Fundy.
- Strong engagement, partnership, and transparency with our local communities helps us to uphold these commitments.



*"Showing respect and regard for our communities."*



# Public Information Program

## Openness and Transparency

- NB Power is committed to earning the trust of community members and the public in everything we do, which includes sharing information about our Station operations in an open and transparent manner.
- We strive to provide the information our customers and stakeholders need and want in order to be informed about the operation of PLNGS, in alignment with our Public Information Program.
- The Public Information Program allows PLNGS to nurture and maintain relationships with individuals and groups who have indicated an interest in the operation of PLNGS through:
  - Public communication and information
  - Public opinion surveys
  - Program evaluation



**From THE Point**  
STATION NEWS FOR THE COMMUNITY

DECEMBER 2021

**POINT LEPREAU  
LICENSING HEARINGS  
SCHEDULED FOR 2022**

**NEW BRUNSWICK POWER'S LICENCE  
COMES UP FOR RENEWAL NEXT YEAR AND  
WITH IT, A REVIEW BY THE CANADIAN  
NUCLEAR SAFETY COMMISSION**

One aspect of the Point Lepreau Nuclear Generating Station's (PLNGS) many safety barriers is oversight by the Canadian Nuclear Safety Commission (CNSC), the independent nuclear safety regulator.

**SAFETY FIRST**  
Our first priority is our commitment to the safety of the public, our employees and the environment

**CLEAN ENERGY**  
Point Lepreau Nuclear Generation plays a key role in providing its customers with clean, reliable electricity that is helping reduce the effects of climate change

**ENVIRONMENT**  
We are working to protect our natural habitat with First Nations communities, surrounding communities and environmental communities for the protection, preservation and sustainability of the land and water.

**EARNING TRUST**  
We are committed to communicating and engaging with all communities, rightsholders, stakeholders and people with an interest in the nuclear plant and its operations.

**BUILDING THE FUTURE TOGETHER**  
Through partnership, we are strengthening the economic, social and environmental well-being of people in the area

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32

## Internal Communication

- Station bulletins
- Navigating for Excellence handbook
- Employee Engagement Initiatives
- Open-door policy
- All-hands sessions
- Leadership forums
- Union leadership

*“We are continually communicating and engaging with our staff.”*

## MISSION 2022 STATION HANDBOOK



**SUSTAINING EXCELLENCE**

# PLNGS Station Licence Renewal Request

## A 25-YEAR LICENCE

NB Power is seeking a 25-year licence to 2047, which will cover the remainder of the anticipated operating period.

NB Power is committed to providing New Brunswickers with safe, reliable, non-emitting electricity for an additional 25-30 years.

## OUR COMMITMENT

- Point Lepreau Nuclear Generating Station is committed to maintaining Excellence in its nuclear power operations.
- NB Power is committed to maintaining strong regulatory confidence and adhering to the latest applicable codes and standards (REGDOCs, CSAs) and determining the safety case for inclusion into the Stations License Conditions Handbook (LCH) through the requested 25-year licensing term.
- Under the requirements of REGDOC 2.3.3 there will be additional reassessments of the Periodic Safety Review (PSR) during the requested 25-year licensing term.

# Point Lepreau Nuclear Generating Station

## Renewal of the PLNGS Power Reactor Operating Licence CMD 22-H2.1A

CNSC Commission Public Hearing – Part 1  
JANUARY 26, 2022

