

SUMMER 2017

From THE Point

STATION NEWS
FOR THE COMMUNITY

NB Power granted five-year operating licence for Point Lepreau

PLNGS is safe and fully qualified to continue operation

Security exercise tests emergency response capabilities



Énergie NB Power

NB POWER GRANTED FIVE-YEAR OPERATING LICENCE FOR POINT LEPREAU

PLNGS IS SAFE AND FULLY QUALIFIED TO CONTINUE OPERATION

The Canadian Nuclear Safety Commission (CNSC) has awarded a five-year Power Reactor Operating Licence (PROL) for the Point Lepreau Nuclear Generating Station (PLNGS).

The decision was announced on June 15 following a two-part public hearing process.

In June 2016, NB Power applied for a five-year PROL issued by Canada's independent federal nuclear regulator, the CNSC, since the previous PROL expired in June 2017.

The CNSC staff assessed the licence application and confirmed that the safety measures in place at PLNGS meet the regulatory requirements of the *Nuclear Safety*

and *Control Act* and associated regulations. They also confirmed that the necessary safety measures and equipment are in place to protect the public, employees and the environment.

Part 1 of the hearing process occurred on January 26, 2017, in Ottawa, ON, involving presentations from NB Power and CNSC staff to the CNSC Commission, an independent tribunal.

The public, Aboriginal groups, community members and other stakeholders were encouraged to get involved in the regulatory process by registering with the CNSC to participate in the Part 2 hearing as intervenors. Approximately 94 intervenors provided written submissions about their views of PLNGS relicensing.

ONE TEAM.
ONE PLAN.



The Part 2 hearing for PLNGS licence renewal took place in Saint John May 9-11.



“ With our new licence achieved, we’ll focus on continuously improving at the Station while generating safe, reliable, emission-free nuclear power for our customers. ”

- Brett Plummer

Part 2 of the hearing process occurred May 9-11, 2017, in Saint John, NB. The Commission Members continued the hearing process with participation from NB Power and CNSC staff. During Part 2, 40 of the 94 registered intervenors had the opportunity to make presentations to the CNSC Commission.

“We’d like to thank all of the individuals, communities and organizations who took the time to participate in the regulatory process,” says Brett Plummer, Vice President Nuclear and Chief Nuclear Officer. “The hearing provided us with meaningful feedback from intervenors

representing diverse stakeholders, Aboriginal communities, local communities and organizations; many of whom are partners on our journey towards Excellence.”

From NB Power’s perspective, the hearing went very well overall. During the proceedings, the Point Lepreau team demonstrated that the Station is safe and fully qualified to continue operation for the next five-year licensing period.

“Our team addressed some challenging questions, and had opportunities to highlight some of our successes and strengths,” said Brett. “We valued the opportunity to participate in an open and

transparent public hearing process. With our new licence achieved, we’ll focus on continuously improving at the Station while generating safe, reliable, emission-free nuclear power for our customers.”

Visit the CNSC website at www.nuclearsafety.gc.ca/eng to learn more about licensing for nuclear power plants in Canada.



ENSURING PROTECTION OF THE MARINE ENVIRONMENT SURROUNDING THE STATION

Point Lepreau's environmental performance has been reviewed many times through formal environmental assessments and ecological and human health risk assessments. Each review has confirmed that the Station continues to have very minimal environmental impact.

Stewardship of the environment around the Plant is as important to our employees as it is to those who live and work in the community.

When the Plant was designed, the engineering team collaborated with industry experts and federal agencies including Environment Canada, to ensure all opportunities to minimize impacts on the environment, including marine, were considered. The CANDU-6 design of PLNGS utilizes a Condenser Cooling Water (CCW) system. The CCW system is an essential component of the non-nuclear (conventional) part of the Station, taking seawater from the Bay of Fundy to condense steam as part of the Station's steam cycle and providing cooling for various Station components, before discharging the seawater back into the Bay.

The design of our CCW system has been recognized as the "best available technology" for mitigating effects on the marine environment, and it remains state-of-the-art in Canada and around the world.

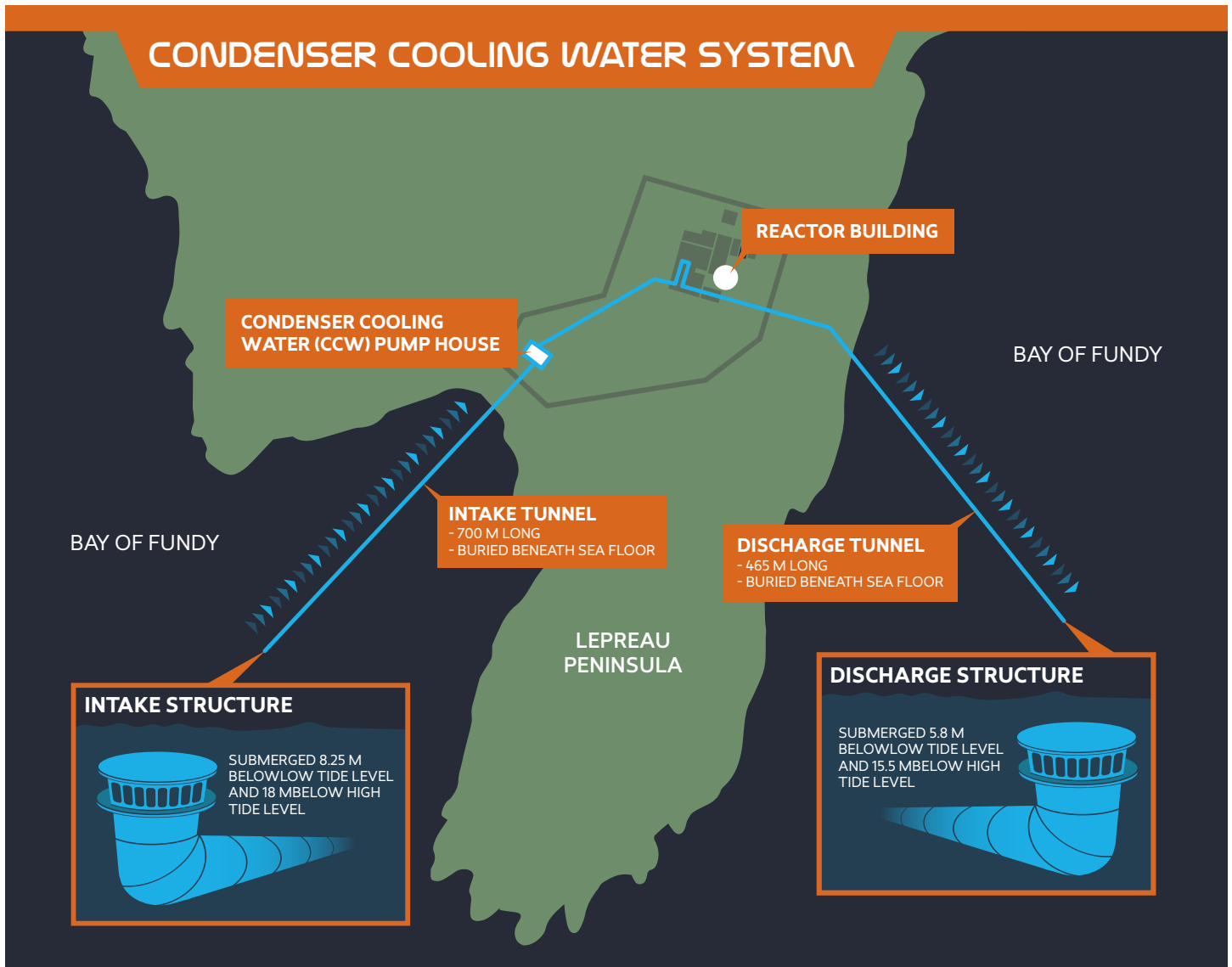
The design of the intake structures incorporates several notable features including:

- Offshore intake and discharge structures designed to avoid interference with boats.
- An intake with multiple ports and a velocity cap to minimize entrainment (the capture of small marine organisms) into the cooling water flow.
- A lower lip on the velocity cap to prevent benthic (bottom-dwelling) organisms from entering the system.
- Racks upstream of the CCW Pump House to minimize impingement (larger creatures that can swim getting trapped on screens in the Pump House) while ensuring safe and reliable operation.

From 2014 to 2016, NB Power conducted studies on both entrainment and impingement of marine



CONDENSER COOLING WATER SYSTEM



organisms in the Bay of Fundy related to the CCW system. The studies confirmed earlier research which specified that the CCW system does not cause significant harm to fish populations or to commercial, recreational or Aboriginal fisheries.

NB Power has used this field data and the design information to prepare a self-assessment of the effects of the CCW. This self-assessment was submitted to the Canadian Nuclear Safety Commission (CNSC) in January 2017.

Due to legislative changes by Fisheries and Oceans Canada, NB Power will be applying for a *Fisheries Act* Authorization in the Fall of 2017. Community

engagement will be part of this process. This topic was discussed at the Part 2 Public Hearing for the renewal of Point Lepreau's operating licence in May 2017.

In the spirit of continuous improvement, PLNGS is going to conduct additional validation studies related to the cooling water system, this time on the discharge side where the cooling water leaves the plant and returns to the Bay of Fundy. The water discharged into the ocean is slightly warmer than the seawater, which is referred to as a thermal plume. New technologies will be used for these studies to provide an updated assessment of the thermal plume to continue to ensure minimal impact on the marine environment.

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SECURITY EXERCISE TESTS EMERGENCY RESPONSE CAPABILITIES

Nuclear power plants are among the most secure industrial facilities in Canada. Since September 11, 2001, the nuclear industry has substantially enhanced security at facilities around the world.

Highly trained and equipped Security Teams have been increased, hardened security perimeters have been extended, and high-tech detection and surveillance equipment has been installed to protect against both physical and cyber threats.

The Canadian Nuclear Safety Commission (CNSC) holds nuclear power plants to the highest of security standards and the Point Lepreau Nuclear Generating Station (PLNGS) meets or exceeds these standards while constantly looking for ways to learn and improve.

One of the ways that we ensure readiness for a variety of scenarios is through training drills and exercises. The Nuclear Response Force Team at PLNGS has a comprehensive training program

to ensure members are fully qualified, with drills to test their response capabilities.

Every two years, the Station holds a large-scale security performance testing exercise involving external response agencies.

The most recent exercise took place on May 31, 2017, with more than 100 participants. It was the largest, most comprehensive security exercise ever held at the Station, and involved many work



*Members of the PLNGS
Nuclear Response Force.*

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- Chris Fields, Security Commander at PLNGS

groups to make it as realistic as possible.

The exercise involved the Canadian Adversary Testing Team (CATT), comprised of volunteers from several high-security nuclear response forces. Together, they played the role of a credible adversary in a safe, realistic and challenging scenario.

The exercise tested Station security contingency procedures as required by the *Nuclear Safety and Control Act*, and confirmed Station readiness for security emergencies. The exercise was evaluated by the CNSC.

“We are pleased with the successful outcome of the security exercise; all objectives were met,” said Chris

Fields, Security Commander at PLNGS. “Exercises give responders a chance to practice their skills and identify any opportunities for improvement so we can be as prepared as possible as a Station. I am proud of the dedication, efforts and hard work of the entire department who helped to make this exercise a success.”



PLANNED MAINTENANCE OUTAGES IMPROVE EQUIPMENT RELIABILITY OF PLNGS

From April 7 to May 7, PLNGS was offline to conduct diverse maintenance during the Equipment Reliability Outage 2017.

Approximately 600 contractors joined the Point Lepreau team for the Outage, along with more than two dozen NB Power employees from other locations in the province.

Together, they completed more than 6,000 activities on equipment and systems on both the nuclear and conventional parts of the Station. Work included inspections,

testing, equipment repairs and replacements and system modifications and upgrades.

With an overriding focus on preventing safety incidents on every job, the Station takes pride in the fact that the Outage was completed without any significant injuries to employees or contractors.

Due to increased focus on improving equipment reliability, this Outage had been added to the Station's multi-year planned maintenance strategy last year.

Preparation for the 2018 Outage is well underway, with key work to be completed identified and planning in progress. The 2018 Outage is scheduled to begin April 6, 2018, with the target duration currently projected to be approximately five to six weeks.

NB Power recently filed documentation with the Energy and Utilities Board outlining plans to further adjust the multi-year outage plan by adding a maintenance outage for 2019. This Outage will provide further equipment reliability gains.

"The enhanced multi-year outage strategy will complement the focused efforts we're making to improve equipment reliability in the running state," said Wayne Woodworth, Outage Manager. "We are taking the necessary steps now to ensure safe, reliable and predictable operation for the next 25 to 30 years. We play a major role in meeting the energy needs of New Brunswickers with safe and emission-free electricity."



Employees Leah Lamey and Ryan Melanson of Operations, installing isolations during the Equipment Reliability Outage 2017.

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