

PORT GRANBY PROJECT 2020 ANNUAL COMPLIANCE MONITORING REPORT EXECUTIVE SUMMARY

This annual compliance monitoring report for the 2020 calendar year has been prepared as per licence condition 3.1 of the *Port Granby Long Term Low Level Radioactive Waste Management Project Licence WNSL-W1-2311.02/2021* (WNSL-W1-2311.02/2021) (PGP Licence) and of the *Port Granby Long-Term Low-Level Radioactive Waste Management Project Licence Conditions Handbook* (PGP LCH) as a summary report of annual compliance monitoring and operational performance.

The Port Granby Long-Term Low-Level Radioactive Waste Management Project (PGP) is part of the larger Port Hope Area Initiative (PHAI). The PHAI is a community-based project designed to develop and implement a safe, local, long-term management solution for historic low-level radioactive waste (LLRW) within the Port Hope and Clarington municipalities. The PHAI is defined by *An Agreement for the Cleanup and Long-Term Safe Management of Low-Level Radioactive Waste Situated in The Town of Port Hope, The Township of Hope and the Municipality of Clarington* (Legal Agreement), which took effect on 2001 March 29, between the Government of Canada and the municipalities of Port Hope and Clarington for the management of the LLRW within each of the communities. CNL is responsible for the direction and execution of the PHAI in compliance with the Legal Agreement, PGP Licence and Environmental Assessment (EA) decisions. CNL has overall responsibility for managing the PHAI on behalf of Atomic Energy of Canada Limited (AECL), a federal Crown corporation.

This report provides site-specific information to supplement information in the corporate *Annual Compliance Monitoring Report for Canadian Nuclear Laboratories*, which provides corporate updates to 14 Safety and Control Areas as they are applied across all CNL.

Performance highlights for 2020 activities are outlined below.

Management system

- CNL completed all required reporting as outlined in Licence Condition 3.1, PGP LCH.
- In 2020, an annual Self-Assessment Plan for FY 2020/2021 stemming from the CNL Integrated Assessment Plan, was developed for all Historic Waste Program Management Office (HWP MO) sites.
- There was 1 external audit conducted by SAI Global for the maintenance of CNL's ISO 9001:2015 certification specific to the PGP in 2020.

Human performance management

- A wide range of mandatory and other job-specific training activities were carried out in 2020 to ensure that all PGP employees and contractors acquired mandated training (including refresher training) as appropriate for their duties to ensure the safe operation of the PGP facility and to conduct work under the PGP Licence.
- The Curriculum Review Committee continued to meet throughout 2020 to support the PHAI's Systematic Approach to Training program.

Facility and Equipment

- CNL continued to manage the PGP site during remediation activities in accordance with approved procedures, as outlined in the PGP LCH.
- 4 lake tanks were cleaned and removed from the PGP site.
- Pump Stations 5 and 6 were constructed.
- Construction of the East Gorge Groundwater Collection (EGGC) system was initiated.
- The excavation of the Port Granby Waste Management Facility (PG WMF) LLRW and transport of LLRW to the Port Granby Long-term Waste Management Facility (PG LTWMF) was completed in 2020.
- 59,944 metric tonnes were hauled and placed in containment in Cell 1 of the PG LTWMF. Residual solids from the Port Granby Waste Water Treatment Plant (PG WWTP) continued to be placed in Cell 1 until mound closure in 2020 July.
- The excavation and remediation verification of all 5 Phases of the PG WMF site was completed in 2020.
- The South Storm Water Management Pond (SMP) was excavated and the area underneath as verified clean. The Pumping Station located adjacent to the South SMP was removed.
- Placement/compaction of backfill and topsoil, and the spraying of hydro-seed straw in the PG WMF was performed. Approximately 80% of the PG WMF has been seeded.
- Representatives for the Municipality of Clarington and CNL met at monthly coordination meetings throughout 2020. Work on the Legal Agreement between the Municipality of Clarington and Canada for Lakeshore Road, the Lakeshore Road Detour and Nichols Road continued.
- The
 - *Port Granby Project – Phase 3 – Long Term Management Plan,*
 - *Port Granby Project – Phase 3 – Site and Facility Maintenance and Monitoring Plan,* and
 - *Port Granby Long-term Waste Management Facility Base Liner and Final Cover Performance Monitoring Plan and Procedures*

were finalized and submitted to the Canadian Nuclear Safety Commission (CNSC) in 2020 December.

Safety analysis

- As per the PGP LCH the Safety Analysis Program is not applicable to the PGP.

Physical Design

- The PG WWTP Facility was upgraded to improve operations. Changes included
 - increasing the evaporative capacity of the site with a new mobile evaporator,
 - addition of cement mixers to maximize residuals management,
 - addition of brine return pumps to improve efficiency of solids management on site,
 - addition of portable tanks for slurry management,
 - addition of redundant clarifier pumping systems to minimize system downtime, and
 - addition of mezzanines to allow for safer access to equipment.

Fitness for service

- As per the PGP LCH, the Fitness for service Program is not applicable to the PGP.

Radiation protection

- As Low As Reasonably Achievable (ALARA) initiatives and activities continued to be at the forefront of the PGP Radiation Protection Program (RPP).
- Radiation Protection doses for workers remained ALARA and doses for public remain low. There were no exceedances of regulatory limits and action levels in the dose monitoring program.
- Refresher training was provided to staff on the efficacy of the radiation work planning process which included the Radiation Work Permitting process as applied to under the Integrated Work Control program.
- There were no exceedances of regulatory limits and action levels in the dose monitoring program.

Conventional health and safety

- All licensed activities continued to be carried out safely and securely.
- The HWP MO Site Safety and Health Committee (SSHC) increased its focus on the importance of the COVID-19 Pandemic and the shift to remote work for the majority of workers at PHAI project sites.
- In 2020, informal oversight activities were completed and in-depth programmatic site level review and inspections were completed for all sites and contractors to ensure safe restart processes and compliance with COVID-19 Pandemic precautions was achieved.
- In addition to monitoring workplace efforts to mitigate the risks of the COVID-19 Pandemic, substantial efforts were made to develop supports to promote stress reduction and mental health wellness and awareness.

- The HWP MO SSHC developed a work-from-home inspection template to support worker identification of hazards at the home / remote workspace. Efforts were also made to develop enhanced and site specific observation / inspection templates for PGP sites.
- Ergonomic work-at-home virtual assessments were completed to support staff setup of home-office space to manage ergonomic risk.

Environmental protection

- The aquatic environment monitoring program included surface water sampling at Port Granby Creek, surface water sampling at the Lake Ontario diffuser, and drainage water sampling.
- Environmental protection and mitigation continues to be effective; changes from the baseline are minimal and generally within the EA predictions. EA follow-up and operational monitoring continued in 2020 with no areas of concern.
- The aquatic environment monitoring program included surface water sampling at Port Granby Creek, surface water sampling at the Lake Ontario diffuser, and drainage water sampling.
- Real-time dust monitoring results from the Independent Dust Monitoring Program for the PG LTWMF construction continue to be available at www.phai.ca. Weekly reports included daily real time dust measurements and a site map illustrating the locations of the independent real time dust monitors.
- In 2020, there were no dust exceedances of the 15-minute average action level of 120 µg/m³ at the work site perimeter.

Emergency management and fire protection

- All required annual fire response drills, were completed as per program and regulatory requirements.
- Site emergency plans were updated in conjunction with changed personnel and processes impacted by COVID-19 Pandemic restrictions.
- Work continued on the development of a PHAI 5-year Exercise and Drill Plan to support improved planning and monitoring of annual drill expectations.
- Table-top exercises on COVID-19 Pandemic Contact Tracing and associated protocols were conducted.
- Comprehensive retraining for CNL Emergency Stewards and Officer in Charge Personnel was completed in conjunction with updated emergency plans.
- Staff training on emergency procedures was completed in parallel to improved emergency notification infrastructure upgrades.
- Fire screening assessments were completed in support of CNL's Engineer Change Control process for capital and maintenance / repair projects. In particular, the PG WWTP increased its efforts on the upgrade of fire monitoring systems to help to limit faulty alarm triggers.

Waste management

- Approximately 59,944 metric tonnes of excavated waste was transported from the PG WMF to Cell 1 of the PG LTWMF.
- Approximately 80 m³ of process residual waste was transferred from the PG WWTP to the PG LTWMF prior to mound closure.
- Post-mound closure, the PG WWTP sent 408 filter press totes to Chalk River Laboratories Near Surface Disposal Facility for disposal and 2,402 m³ of brine was shipped off site for disposal at a contract waste disposal site.
- The PG WWTP continued to operate in conformance with the PGP LCH.

Security

- Contractors conducting work at the PGP site continued to be in compliance with CNL's corporate security policies and programs including those requirements mandated in the *Port Hope Area Initiative Security Plan*, as confirmed through CNL's oversight program.
- No reportable security events occurred at the PGP in 2020.

Safeguards and Non-Proliferation

- As per the PGP LCH, the Safeguards and Non-Proliferation Program is not applicable to the PGP.

Packaging and transport

- The PHAI Transportation of Dangerous Goods Program continued to operate the safe off-site transport and shipment of dangerous goods by conforming to all applicable laws and regulations, including company policies and procedures.
- There were 125 classified shipments of dangerous goods from the PGP site to offsite facilities.
- Shipments of dangerous goods continued to be received at the PGP site from offsite vendors (consumable chemicals, diesel fuel, and propane).
- Oversight of each Transportation of Dangerous Goods contract was performed to ensure continuous adherence to the *Port Hope Area Initiative Transportation of Dangerous Goods Plan*.
- There were no reportable events related to the Transportation of Dangerous Goods Program in 2020.

Other Matters of Regulatory Interest

- Public consultation, and public stakeholder and indigenous community relations activities continued to be conducted in accordance with the PHAI Public Information Program.
- In 2020 February, CNL provided a presentation and tour of PHAI project sites for Métis Nation of Ontario representatives, staff and Region 5 and 6 Councillors.
- In March 2020, the *PHAI Phase 2 Public Information Program Plan* was updated to include additional Target Audiences, Tactics and Key Stakeholder Relations details to more accurately reflect current outreach activities and ensure alignment with the CNL Company Wide Public Information Program.
- In September 2020, a 3-month targeted engagement campaign was launched in support of CNL's *Application for Amendment of the Port Hope Long-Term Low-Level Radioactive Waste Management Project Waste Nuclear Substance Licence – WNSL-W1-2310.02/2022* to revise the PHAI clean-up criteria and was followed up with a virtual Public Information Session in 2020 October.
- 4 Quarterly Agreement Monitoring Group meetings were held in 2020, 1 of which took place in person and 3 of which were hosted through a virtual platform due to COVID-19 Pandemic restrictions.