

## PERMIT FOR DEVELOPMENT

Pursuant to the *Water Resources Act*, SNL 2002 cW-4.01, specifically Section(s) 39, 48

Date: **NOVEMBER 19, 2018**

File No: **550-01-03-11-064**  
Permit No: **PRO9933-2018**

Permit Holder: **Deer Lake Power  
2 Trans Canada Highway  
Deer Lake, NL, A8A 2E4**

Attention: **Mr. Jaimie Park**

Re: **Deer Lake- Humber Canal PPWSA- Main Dam Concrete Rehabilitation- Deer Lake Power**

Permission is hereby given for: **rehabilitation work on the Main Dam including repair of delaminated concrete on the crest of the dam, repairs to the concrete around the spillway gate openings, underwater repairs to the upstream face of the dam to fill surface cracks in the concrete, and associated activities located within the Humber Canal protected public water supply area used by the Towns of Deer Lake and Reidville as detailed in the application received from Deer Lake Power on Sept 11, 2018.**

- This Permit does not release the Permit Holder from the obligation to obtain appropriate approvals from other concerned municipal, provincial and federal agencies.
- The Permit Holder must obtain the approval of the Crown Lands Administration Division if the project is being carried out on Crown Land.
- This Permit is subject to the terms and conditions indicated in Appendices A and B (attached).
- It should be noted that prior to any significant changes in the design or installation of the proposed works, or in event of changes in ownership or management of the project, an amendment to this Permit must be obtained from the Department of Municipal Affairs and Environment under Section 49 of the *Water Resources Act*.



MINISTER

**APPENDIX A**  
**Terms and Conditions for Permit**

**Dam/Reservoir Design**

1. Reservoirs must be provided with a spillway of adequate capacity to safely discharge design flows at non-erosive velocities without causing flooding of the reservoir or damage to the spillway or downstream channel.
2. The dam and appurtenant structures shall be constructed at the following coordinates:

Name	Datum	Northing (m)	Easting (m)	Zone
Main Dam	NAD83	5449523.1	481305.9	21

3. The dam(s) must have the following dimensions:

Name	Height/Elev of Dam (m)	Elev of Spillway (m)	Maximum Water Elevation (m)	Minimum Water Elevation (m)	Minimum Freeboard (m)
Main Dam	23/117.2	112.5	115.8	110.8	0.1

4. To safely convey peak flows the dam(s) must be designed according to the following hydraulic criteria:

Name	Design Return Period (years)	Minimum Flow Capacity (m <sup>3</sup> /s)
Main Dam	PMF	6050

**General Alterations**

5. Any work that must be performed below the high water mark must be carried out during a period of low water levels except for underwater repairs to be carried out using divers.
6. Water pumped from excavations or work areas, or any runoff or effluent directed out of work sites, must have silt and turbidity removed by settling ponds, filtration, or other suitable treatment before discharging to a body of water. Effluent discharged into receiving waters must comply with the *Environmental Control Water and Sewage Regulations, 2003*.
7. All operations must be carried out in a manner that prevents damage to land, vegetation, and watercourses, and which prevents pollution of bodies of water.
8. The use of heavy equipment in streams or bodies of water is not permitted. The operation of heavy equipment must be confined to dry stable areas.
9. All vehicles and equipment must be clean and in good repair, free of mud and oil, or other harmful substances that could impair water quality.

10. During the construction of concrete components, formwork must be properly constructed to prevent any fresh concrete from entering a body of water. Dumping of concrete or washing of tools and equipment in any body of water is prohibited.
11. Wood preservatives such as penta, CCA or other such chemicals must not be applied to timber near a body of water. All treated wood or timber must be thoroughly dry before being brought to any work site and installed.
12. Any areas adversely affected by this project must be restored to a state that resembles local natural conditions. Further remedial measures to mitigate environmental impacts on water resources can and will be specified, if considered necessary in the opinion of this Department.
13. The bed, banks and floodplains of watercourses, or other vulnerable areas affected by this project, must be adequately protected from erosion by seeding, sodding or placing of rip-rap.
14. Care must be taken to prevent spillage of pollutants into the water.
15. The owners of structures are responsible for any environmental damage resulting from dislodgement caused by wind, wave, ice action, or structural failure.
16. Sediment and erosion control measures must be installed before starting work. All control measures must be inspected regularly and any necessary repairs made if damage is discovered.
17. Fill material must be of good quality, free of fines or other substances including metals, organics, or chemicals that may be harmful to the receiving waters.
18. The attached Completion Report (Appendix C) for Permit No. 9933 must be completed and returned to this Department upon completion of the approved works. Pictures must be submitted along with the completion report, showing the project site prior to and after development.
19. This Permit is valid for two years from the date of issue. Construction work must be completed by that date or the application and approval procedure must be repeated. The following term(s) are valid for the life cycle of the structure: 22. 25. 26.
20. The location of the work is highlighted on the Location Map for this Permit attached as Appendix D.
21. All work must be carried out within the Permit Holder's legal property boundaries.

#### **Dam Safety**

22. The dam has been conditionally classified in the EXTREME Consequence category based on the 2007 Canadian Dam Association (CDA) guidelines. To meet the CDA's Dam Safety guidelines (Current Edition) for dams of this classification, the owner must:
  - Carry out an annual Dam Safety Inspection and provide the results to this Department,
  - Carry out a Dam Safety Review and submit a Dam Safety Report to this Department a maximum of every five years from the date of the last report,
  - Update the Operation, Maintenance and Surveillance (OMS) Manual for the operation of the system,
  - Update an Emergency Preparedness and Response Plan (EPRP) to include all structures in the Deer Lake Power system and including dam break flood inundation mapping.

#### **Special Conditions**

23. The dam and associated works shall be designed according to the Canadian Dam Association Dam Safety Guidelines and associated Bulletins (most recent edition).
24. The dam and associated works and repairs must be designed and constructed under the direct supervision of an engineer eligible for membership with the Professional Engineers and Geoscientists of Newfoundland and Labrador (or equivalent Canadian organization) who is able to demonstrate competence in the design, construction, and surveillance of dams.
25. The Department of Municipal Affairs and Environment may require the set-up of water resources monitoring stations or contribution to existing stations as per provisions of Section 31 of the Water Resources Act, SNL2002 Chapter W-4.01.
26. Deer Lake Power shall undertake recommendations of the 2014 Dam Safety Review as per the schedule of recommendations and actions submitted to this Department on May 22, 2015.

#### **Dam Construction**

27. Deteriorated concrete shall be removed from the surface of the dam prior to any resurfacing. Delaminated or spalling concrete shall be demolished and removed until sound concrete is reached.
28. All areas of the existing dam and spillway gate openings in contact with new concrete shall be treated with high pressure air and/or

water to clean and remove any unsound materials. Any noticeable deteriorated concrete will be removed before the placement of new concrete. All new concrete shall be well bonded to the surface of the existing concrete against which it is cast.

29. An adhesive or bonding agent shall be applied to any concrete overlay, embedded dowelling or other concrete repairs. If dowels are used, they shall be embedded into sound remaining concrete to anchor the new concrete overlay.
30. Underwater repair of surface cracks in the concrete of the upstream dam face shall be undertaken using pressure induced concrete.
31. The transportation of labour and materials to the site must be along existing access roads.

#### **PPWSA General**

32. All persons working on this project must be informed that they are within a Protected Public Water Supply Area, and must be made aware of all conditions of this Permit. A copy of this Permit must be on site during operations.
33. An undisturbed (no cutting or ground disturbance) buffer zone of at least **150 metres** shall be maintained around Grand Lake , at least **50 metres** along both sides of all streams and main tributaries running into Grand Lake , and at least **30 metres** around all ponds and along both sides of all other water bodies. Activity or development within these buffer zones is prohibited. All buffer zones must be marked with signs or flagging tape to avoid encroachment into the buffer zones.
34. Equipment storage, maintenance facilities associated with this project, and all maintenance other than emergency repairs must not be located/carried out within the Protected Public Water Supply Area.
35. All waste material is to be collected in refuse containers, and disposed of at an approved waste disposal site outside the Protected Public Water Supply Area in accordance with the *Environmental Protection Act, SNL 2002 cE-14.2.*
36. The Department reserves the right to require that the Permit Holder follow, and cover all costs incurred by the Permit Holder or this department, associated with any water quality monitoring program that may be ordered by the Minister for the purpose of ensuring that the water quality is maintained within acceptable guidelines.
37. Officials of the Department and the appropriate Municipal Authority, Operator, or Watershed Management Committee may visit the site to ensure compliance with this Permit.
38. Liaison is to be maintained with the appropriate Municipal Authority and Environmental Scientist. If there are any specific problems (ie sedimentation, fuel spill, other potential water quality impairment), the appropriate Town Manager/Clerk must be notified immediately at (709)635-2451. The Environmental Scientist must also be notified immediately at (709)637-2542.
39. The felling or disposing of trees, parts of trees, sawdust, bark, logging debris or slash into a water body or upon the frozen surface of a water body is strictly prohibited.
40. Motorized vehicles, including snowmobiles and ATVs, shall not be used to cross the frozen surface of the intake pond within the Protected Public Water Supply Area.
41. Treated wood shall not be used in a water body or within 150 metres of the high water mark of any water body. The use of creosote treated wood anywhere within the Protected Public Water Supply Area is strictly prohibited.
42. The Permit Holder must inspect the site daily, and any water quality impairment related problems are to be reported immediately to the Environmental Scientist at 709-637-2542 and the appropriate Municipal Authority or Watershed Monitoring Committee at (709)635-2451.
43. Any changes in water quality resulting directly from this project, rendering the water unsuitable as a public water supply, are the responsibility of the Permit Holder. The Minister may order the Permit Holder to provide an alternate source of potable water to the affected community until water quality returns to an accepted level.
44. All stationary motorized equipment and fuel tanks shall have metal trays, absorbent pads or impervious liners under them to catch any leaking fuel or oil.
45. Drainage from roads and other disturbed areas into any body of water must first be discharged into a settling pond, a vegetated area or pass through a sedimentation fence where all suspended material can settle out before draining into any body of water.
46. Any streams not visible on a 1:50,000 scale map (including field identified streams) shall require a minimum buffer of 30 m.
47. For any clearing inside buffer zones: no ground disturbance (no disturbance to the root mat, no grubbing, or removal of soil) shall take place in the buffer zones. The Permit Holder is to ensure that the appropriate best practices are employed to prevent any detrimental effects that could impact water quality. Where possible, work in buffer zones shall be completed when the ground is

frozen.

**Fuel Storage**

48. There shall be no bulk fuel storage associated with this project within the protected water supply area. Fuel shall be brought to the operating area in no more than two (2), 205 litre barrels or one (1) 500 litre slip tank. Refueling sites shall be located at least 150 metres from any water body or wetland. The Permit Holder is hereby informed that fuel storage and handling requires a separate approval under the *Storage and Handling of Gasoline and Associated Products Regulations*, CNR 775/96.
49. A complete oil spill clean-up kit must be on site at all times when gasoline or fuel powered equipment is being used or refueled. The kit must contain the following:
- Fire pump and 100 metres of hose
  - Two hand operated fuel pumps
  - Six recovery containers such as empty 205 litre drums
  - Four shovels
  - Two pick axes
  - Ten metres of containment boom
  - Twenty-five absorbent pads
  - One hundred litres of loose absorbent material
50. Contaminated snow and soil must be removed from the site and disposed of at an approved location outside the protected public water supply area, in accordance with the *Environmental Protection Act, SNL 2002 cE-14.2*.
51. Any spills of gasoline, fuel or oil, regardless of volume, shall be reported immediately to the Environmental Scientist and the appropriate Municipal Authority or Watershed Management Committee by calling 709-637-2542 and (709) 635-2451 respectively. Furthermore, all spills in excess of 70 litres shall be reported immediately to the 24 hour spill report line at 1-800-563-9089.

**Special Conditions**

52. Every effort must be made to avoid soil or sediment from eroding into the reservoir, with special care taken within a 150m buffer around the reservoir as this area may be sensitive to erosion and sedimentation issues.

**APPENDIX B**  
**Special Terms and Conditions for Permit**

---

1. The Permit Holder and its agent(s), subcontractor(s), and consultant(s) shall keep all systems and works in good condition and repair and in accordance with all laws, by-laws, directions, rules and regulations of any governmental authority. The Permit Holder or its agent(s), subcontractor(s), or consultant(s) shall immediately notify the Minister if any problem arises which may threaten the structural stability of the systems and works, endanger public safety and/or the environment or adversely affect others and/or any body of water either in or outside the said Project areas. The Permit Holder and its agent(s), subcontractor(s), and consultant(s) shall be responsible for all damages suffered by the Minister and Government resulting from any defect in the systems and works, operational deficiencies/inadequacies, or structural failure.
2. The Permit Holder and its agent(s), subcontractor(s), and consultant(s) shall operate the said Project and its systems and works in a manner which does not cause any water related and/or environmental problems, including but not limited to problems of erosion, deposition, flooding, and deterioration of water quality and groundwater depletion, in or outside the said Project areas. The Permit Holder and its agent(s), subcontractor(s), and consultant(s) shall be responsible for any and all damages associated with these problems caused as a result of changes, deficiencies, and inadequacies in the operational procedures by the Permit Holder or its agent(s), subcontractor(s), or consultant(s).
3. If the Permit Holder or its agent(s), subcontractor(s), or consultant(s) fails to perform, fulfil, or observe any of the terms and conditions, or provisions of this Permit, as determined by this Department, the Minister may, without notice, amend, modify, suspend or cancel this Permit in accordance with the *Water Resources Act*.
4. The Permit Holder and its agent(s), subcontractor(s), and consultant(s) indemnify and hold the Minister and Government harmless against any and all liabilities, losses, claims, demands, damages or expenses including legal expenses of any nature whatsoever whether arising in tort, contract, statute, trust or otherwise resulting directly or indirectly from granting this Permit, systems and works in or outside the said Project areas, or any act or omission of the Permit Holder or its agent(s), subcontractor(s), or consultant(s) in or outside the said Project areas, or arising out of a breach or non-performance of any of the terms and conditions, or provisions of this Permit by the Permit Holder or its agent(s), subcontractor(s), or consultant(s).
5. This Permit is subject to all provisions of the *Water Resources Act* and any regulations in effect either at the date of this Permit or hereafter made pursuant thereto or any other relevant legislation enacted by the Province of Newfoundland and Labrador in the future.
6. This Permit shall be construed and interpreted in accordance with the laws of the Province of Newfoundland and Labrador.

- cc: Ms. Carla Hayes, P.Tech  
Environmental Scientist . Drinking Water and Wastewater Section  
Water Resources Management Division  
Department of Municipal Affairs and Environment  
P.O. Box 2006  
Corner Brook, NL A2H 6J8  
Carlahayes@gov.nl.ca
- cc: Ms. Paula Dawe, P.Eng.  
Manager, Drinking Water and Wastewater Section  
Water Resources Management Division  
Department of Municipal Affairs and Environment  
P.O. Box 8700  
4th Floor, West Block, Confederation Building  
St. John's, NL A1L 4J6  
pauladawe@gov.nl.ca
- cc: Fisheries Protection Division  
Ecosystem Management Branch  
Fisheries and Oceans Canada  
P.O. Box 5667  
St. John's, NL A1C 5X1  
FPP-NL@dfo-mpo.gc.ca
- cc: Town of Deer Lake  
Ms. Lori Humphrey  
6 Crescent Street  
Deer Lake, NL A8A 1E9  
deerlake@nf.aibn.com
- cc: Town of Reidville  
Ms. Connie Reid  
2 Community Square  
Reidville, NL A8A 2V7  
townofreidville@nf.aibn.com
- cc: File Copy for Binder



Government of Newfoundland and Labrador  
Department of Municipal Affairs and Environment  
Water Resources Management Division

**Appendix C - Completion Report**

Pursuant to the *Water Resources Act*, SNL 2002 cW-4.01, specifically Section(s) 39, 48

Date: **NOVEMBER 19, 2018**

File No: **550-01-03-11-064**  
Permit No: **PRO9933-2018**

Permit Holder: **Deer Lake Power  
2 Trans Canada Highway  
Deer Lake, NL, A8A 2E4**

Attention: **Mr. Jaimie Park**

Re: **Deer Lake- Humber Canal PPWSA- Main Dam Concrete Rehabilitation- Deer Lake Power**

Permission was given for : rehabilitation work on the Main Dam including repair of delaminated concrete on the crest of the dam, repairs to the concrete around the spillway gate openings, underwater repairs to the upstream face of the dam to fill surface cracks in the concrete, and associated activities located within the Humber Canal protected public water supply area used by the Towns of Deer Lake and Reidville as detailed in the application received from Deer Lake Power on Sept 11, 2018.

*I (the Permit Holder named above or agent authorized to represent the Permit Holder) do hereby certify that the project described above was completed in accordance with the plans and specifications submitted to the Department of Municipal Affairs and Environment and that the work was carried out in strict compliance with the terms and conditions of the Permit issued for this project.*

Date: \_\_\_\_\_ Signature: \_\_\_\_\_

This completion report must be completed and forwarded to the following address upon completion of the approved work.

Department of Municipal Affairs and Environment  
Water Resources Management Division  
PO Box 8700  
St. John's NL A1B 4J6



APPENDIX D  
Location Map for Permit



Second Attached Image File

