

PERMIT TO ALTER A BODY OF WATER

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

Date: **AUGUST 09, 2016**

File No: **525/524**
Permit No: **ALT8797-2016**

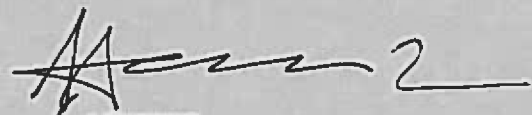
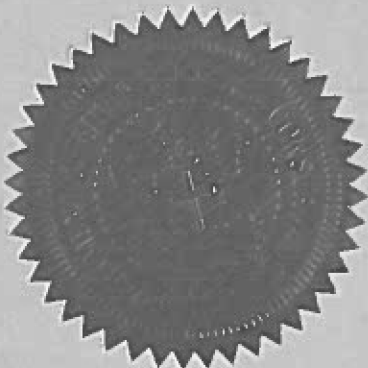
Permit Holder: **Newfoundland and Labrador Hydro**
500 Columbus Drive
P.O. Box 12400
St. John's, NL, A1B 4K7

Attention: **Mr. Carl Newcombe**

Re: **Bay D'Espoir to Chapel Arm (Various Bodies of Water) - Temporary Culverts and Bridges for TL 267**

Permission is hereby given for : the installation of temporary culverts of various lengths and up to 1500 mm diameter CSP and other types of materials and wood and steel bridges with spans up to 60 metres on various bodies of water to facilitate crossings at various locations along the proposed Transmission Line 267 which will to transmit hydroelectric power from Bay D'Espoir Hydroelectric Generating Station to Western Avalon Terminal Station in the Community of Chapel Arm (the "Project"), as indicated in Appendices A and D of this Permit, in reference to the application received on July 4, 2016 and further information provided in support of the application on or before August 9, 2016.

- 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 Environment and Conservation under Section 49 of the *Water Resources Act*.
- Failure to comply with the terms and conditions will render this Permit null and void, place the Permit Holder and their agent (s) in violation of the *Water Resources Act* and make the Permit Holder responsible for taking any remedial measures as may be prescribed by this Department.



MINISTER

APPENDIX A
Terms and Conditions for Permit

Special Conditions

1. Subject to reporting of the actual number of culverts that are required to be installed, the Permit Holder may install an estimated number of three hundreds and forty-seven (347) culverts of various lengths and up to 1500 mm diameter CSP and other types of materials on various bodies of water along the proposed Transmission Line 267 from Bay D'Espoir Hydroelectric Generating Station to Western Avalon Terminal Station in the Community of Chapel Arm. Three (3) of those culverts may be installed in the protected public water supply areas servicing the communities of Arnold's Cove and Southern Harbour.
2. Subject to reporting of the actual number of bridges required to be installed, the Permit Holder may install an estimated number of forty-five (45) wood and steel bridges with spans up to 40 metres on various bodies of water along the proposed Transmission Line 267 from Bay D'Espoir Hydroelectric Generating Station to Western Avalon Terminal Station in the Community of Chapel Arm. One (1) of those bridges may be installed in the protected public water supply area servicing the community of Arnold's Cove.
3. The Permit Holder must remove all temporary culverts and bridges. Also, the Permit Holder must dismantle and remove all constructed works and restore all sites to their original conditions. In addition, any and all material placed in any body of water must be completely removed without causing adverse effects on water.
4. The natural course or flow of any stream must not be altered. Stream cleanout work is not permitted further than 5.0 metres upstream or downstream of any stream crossing structure. Also, a minimum 15 metre wide vegetated buffer zone must be maintained along the edge of all bodies of water in order to provide bank stability and maintain local aesthetics outside the Protected Public Water Supply Area.
5. A water quality monitoring program is not required at this time. However, the Department reserves the right to require that the Permit Holder sample, analyse, and submit results of water quality tests, for the purpose of ensuring that the water quality is maintained within acceptable guidelines. All analyses must be undertaken by a CALA accredited laboratory. Also, this Department reserves the right to require that the Permit Holder set-up monitoring stations through a Memorandum of Agreement under the Water Resources Act.
6. The Permit Holder must strictly abide by any and all commitments made during the Environmental Assessment Process under the Environmental Protection Act or thereafter including, but is not limited to, the Minister's decision letter of release dated June 15, 2016 and Environmental Protection Plan for the Project. Also, the Permit Holder shall abide by terms and conditions indicated in permits, licences, approvals or other instruments issued or that are to be issued in relation to the Project.
7. This Department reserves the right to require the Permit Holder to implement a reporting protocol for all phases of the Project and to require any information in relation to this Permit and the Project in whatever form, manner and time. The contact is Manager, Water Rights and Investigations Section at (709) 729-4795 or aabdelrazek@gov.nl.ca.
8. The Permit Holder acknowledges and agrees that this Permit may require and will be amended to include further provisions pursuant to the Water Resources Act and any regulations and policies in effect thereunder from time to time, as deemed necessary in the opinion of the Minister.
9. The acknowledgment of the receipt of this Permit by the Permit Holder constitutes the acceptance of this Permit and its terms and conditions and requirements stated in Appendices A, B, C and D.

Culvert Design

10. The crossing structure must provide adequate capacity to safely discharge flood flows without causing backwater effects upstream or increased flow velocity downstream.

Culvert Installation

11. Drainage ditches must collect and transport surface runoff in a manner that does not cause flooding, erosion or sedimentation of adjacent land or receiving waters.
12. Inlet and outlet areas of culvert installations must be adequately protected from erosion by placing rip-rap, fitted stone, or

concrete headwalls.

13. Culvert installations must follow the stream channel gradient to the maximum extent possible and placed in line with the direction of the main flow to minimize disturbance to the channel. Culverts must not disrupt the flow of water or cause ponding at the upstream side of the installation.
14. In multiple culvert installations, one culvert must be set a minimum of 150 mm lower than the others to provide adequate water depth and velocity for fish passage during low flow conditions. In addition, multiple culverts must be installed within 0.6 to 0.9 metres apart for maximum stability.
15. Where pumping is used to bypass flow, cofferdams must be installed both above and below areas of construction. The Permit Holder must provide pumps with sufficient capacity to prevent washout of cofferdams.
16. Cofferdams must be properly designed and constructed of suitable materials to prevent leakage and to resist loss of any material as a result of erosion. Cofferdams must be removed upon completion of their intended function. All material must be removed carefully to prevent disturbance of the water body and to prevent water quality degradation.
17. All work involving minor alteration to the stream channel to permit culvert placement must be carried out at a time of low flow, and in a manner that prevents downstream siltation and unnecessary alteration of the channel.
18. Grading and finishing of roadways or road embankments must not cause damage to culverts or allow road material to enter the watercourse.
19. Roadside embankments near the watercourse must be adequately protected from erosion by sodding, seeding or placing of rip-rap.
20. Culverts must be inspected regularly so that immediate action can be taken to clear blockages caused by ice or debris or to undertake repairs as required.
21. The inlet and outlet of culverts must be clearly marked so that operators of road grading and snow clearing equipment can avoid blocking culverts.
22. Any damage to culverts during installation or due to inadequate capacity and/or improper construction must be reported to this Department. Damaged culverts must be replaced immediately to prevent overtopping, erosion, or flooding.
23. If a culvert is installed in natural fish habitat it must be embedded a minimum of 150 mm below the natural streambed (up to a maximum of 1/3 of the culvert diameter).

Bridge Design

24. The crossing structure must provide adequate capacity to safely discharge flood flows without causing backwater effects upstream or increased flow velocity downstream. The minimum freeboard for all installed bridges shall be 0.5 metres.

Bridge Construction

25. The use of creosote treated wood is strictly prohibited within 15 metres of all bodies of fresh water outside the Protected Public Water Supply Area.
26. Drainage ditches must collect and transport surface runoff in a manner that does not cause flooding, erosion or sedimentation of adjacent land or receiving waters.
27. Bridge abutments must be set back 0.5 metres from the normal edge of a watercourse to prevent constriction during high flow conditions.
28. Infilling must not cause increased water elevation upstream or increase flow velocity downstream of the site. Reduction of the natural cross sectional area of any watercourse is not permitted.
29. The upstream and downstream sides of abutments must be protected with rip-rap, concrete or heavy timber to prevent erosion and scouring.
30. Where pumping is used to bypass flow, cofferdams must be installed both above and below areas of construction. The Permit Holder must provide pumps with sufficient capacity to prevent washout of cofferdams.

31. Cofferdams must be properly designed and constructed of suitable materials to prevent leakage and to resist loss of any material as a result of erosion. Cofferdams must be removed upon completion of their intended function. All material must be removed carefully to prevent disturbance of the water body and to prevent water quality degradation.
32. Abutments must be constructed in the dry and during times of low flow.
33. Roadside embankments near the watercourse must be adequately protected from erosion by sodding, seeding or placing of rip-rap.
34. Adequate erosion protection must be provided where roadside ditches discharge into watercourses near bridges.

PPWSA General

35. All persons working on the 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.
36. An undisturbed (no cutting or ground disturbance) buffer zone of at least **150 metres** shall be maintained around any intake pond, at least **50 metres** along both sides of all streams and main tributaries running into an intake pond, 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.
37. Equipment storage, maintenance facilities associated with the Project, and all maintenance other than emergency repairs must not be located/carried out within the Protected Public Water Supply Area.
38. 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.*
39. 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.
40. Officials of the Department and the appropriate Municipal Authority, Operator, or Watershed Management Committee may visit the site to ensure compliance with this Permit.
41. 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, Mayor, Chair of the Local Service District Committee, or Chair of the Water Supply Committee must be notified immediately. The Environmental Scientist must also be notified immediately at (709)729-7634 ☎.
42. 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.
43. 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.
44. Treated wood shall not be used in a water body or within buffer zones specified in condition#36 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.
45. Any changes in water quality resulting directly from the 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.
46. 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.
47. 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.
48. Any streams not visible on a 1:50,000 scale map (including field identified streams) shall require a minimum buffer of 30 m.

49. 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

50. Any spills of gasoline, fuel or oil, regardless of volume, shall be reported immediately to the appropriate Municipal Authority or Watershed Management Committee and the Environmental Scientist at 729-7634. Furthermore, all spills in excess of 70 litres shall be reported immediately to the 24 hour spill report line at (709) 722-2083 (call collect) or 1-800-563-9089.
51. Fuel storage shall be limited to a maximum of one (1) 2273 litre (500 Imperial gallon) self-contained dyked unit (i.e., JEEP Tank). Every precaution must be made to keep this tank secure, and protect it as far as possible from vandalism. Furthermore, every precaution shall be made to prevent spills, leaks, or other discharges from this tank during refueling by fuel suppliers and refueling of equipment. Storage sites shall be located at least 500 metres from any water body or wetland.
52. A complete oil spill clean-up kit must be on site at all times when gasoline or fuel powered equipment is being used or refuelled. The kit must contain the following:
- One hand operated fuel pump
 - One recovery container such an empty 205 litre drum
 - One shovel
 - One pick ax
 - Five metres of containment boom
 - Five absorbent pads
 - Twenty-five litres of loose absorbent material
53. Refueling sites shall be located at least 150 metres from any water body or wetland.

General Alterations

54. Any work that must be performed below the high water mark must be carried out during a period of low water levels.
55. Any flowing or standing water must be diverted around work sites so that work is carried out in the dry.
56. 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*.
57. 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.
58. 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.
59. All vehicles and equipment must be clean and in good repair, free of mud and oil leaks, or other harmful substances that could impair water quality.
60. 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.
61. 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 outside the Protected Public Water Supply Area.
62. Any areas adversely affected by the 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 the Department.
63. The bed, banks and floodplains of watercourses, or other vulnerable areas affected by the Project, must be adequately protected from erosion by seeding, sodding or placing of rip-rap.
64. All waste materials resulting from the Project must be disposed of at a site approved by the Department of Service NL.
65. Periodic maintenance such as painting, resurfacing, clearing of debris, or minor repairs, must be carried out without causing

any physical disruption of any watercourse. Care must be taken to prevent spillage of pollutants into the water.

66. The owners of structures are responsible for any environmental damage resulting from dislodgement caused by wind, wave, ice action, or structural failure.
67. 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.
68. 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.
69. The attached Completion Report (Appendix C) for Permit No. 8797 must be completed and returned to this Department upon completion of the Project along with a written report including all installed culverts and bridges and associated works. Pictures of installed culverts and bridges and associated works must be submitted along with the completion report and written report, showing the Project sites prior to and after the installation of culverts and bridges and associated works.
70. This Permit shall expire on August 31, 2021 or earlier if modified, suspended or cancelled by the Minister. The work described in this Permit must be completed by that date or the application and approval procedure must be repeated.
71. The location of the Project is highlighted on the Location Map for this Permit attached as Appendix D.
72. The Permit Holder acknowledges and agrees that this Permit does not grant any interest in land or any exclusive right in or to use or occupy lands at the Project sites.

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 and/or Ministerial orders and guidelines, as determined by this Department, the Minister may, after providing ten (10) day notice to the Permit Holder, 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: Dr. Abdel-Zaher Kamal Abdel-Razek, Ph. D., P.Eng.
Manager, Water Rights and Investigations Section
Water Resources Management Division
Department of Environment and Conservation
P.O. Box 8700
4th Floor, West Block, Confederation Building
St. John's, NL A1B 4J6
aabdelrazek@gov.nl.ca
- cc: Ms. Annette Tobin, P. Eng.
Environmental Engineer, Drinking Water and Wastewater Section
Water Resources Management Division
Department of Environment and Conservation
P.O. Box 8700
4th Floor, West Block, Confederation Building
St. John's, NL A1B 4J6
annettetobin@gov.nl.ca
- cc: Mr. Rodger Primmer (C)
Regional Lands Manager, Central Regional Crown Lands
Crown Lands Administration Division
Department of Municipal Affairs
230 Airport Boulevard, Fraser Mall, P.O. Box 2222
Gander, NL A1V 1T5
rprimmer@gov.nl.ca
- cc: Mr. Steve Barnable (E)
Eastern Regional Lands Manager
Crown Lands Administration Division
Department of Municipal Affairs
P.O. Box 8700
Howley Building, Higgin's Line
St. John's, NL A1B 4J6
stevebarnable@gov.nl.ca
- cc: Mr. Bob Groves
Manager of Operations, GSC - Clarenville, Service NL
8 Myers Avenue, Suite 201
Clarenville, NL A5A 1T5
rgroves@gov.nl.ca
- cc: Mr. Guy Perry
Director
GSC - Clarenville, Service NL
8 Myers Avenue, Suite 201
Clarenville, NL A5A 1T5
gperry@gov.nl.ca
- cc: Mr. Robert Locke
Manager of Operations and Environmental Protection, GSC - Mount Pearl, Service NL
P.O. Box 8700
St. John's, NL A1B 4J6
rlocke@gov.nl.ca
- cc: Mr. Wayne Lynch
Regional Director (Central)
Service NL
P.O. Box 2222
Gander, NL A1V 2N9
waynelynch@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@dfp-mpo.gc.ca

cc: Town of Arnold's Cove
Ms. Angela Gale
P.O. Box 70
Arnold's Cove, NL A0B 1A0
townofarnoldscove@nf.aibn.com

cc: Town of Norman's Cove-Long Cove
Ms. Dianne Hudson
10 Hilltop Lane
P.O. Box 70
Norman's Cove, NL A0B 2T0
townofnclc@eastlink.ca

cc: Town of Southern Harbour
Ms. Kelsie Emberley
P.O. Box 10
Southern Harbour, NL A0B 3H0
twnsouthernhr@nf.aibn.com



Appendix C - Completion Report

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

Date: **AUGUST 09, 2016**

File No: **525/524**
Permit No: **ALT8797-2016**

Permit Holder: **Newfoundland and Labrador Hydro
500 Columbus Drive
P.O. Box 12400
St. John's, NL, A1B 4K7**

Attention: **Mr. Carl Newcombe**

Re: **Bay D'Espoir to Chapel Arm (Various Bodies of Water) - Temporary Culverts and Bridges for TL 267**

Permission was given for : the installation of temporary culverts of various lengths and up to 1500 mm diameter CSP and other types of materials and wood and steel bridges with spans up to 60 metres on various bodies of water to facilitate crossings at various locations along the proposed Transmission Line 267 which will to transmit hydroelectric power from Bay D'Espoir Hydroelectric Generating Station to Western Avalon Terminal Station in the Community of Chapel Arm (the "Project"), as indicated in Appendices A and D of this Permit, in reference to the application received on July 4, 2016 and further information provided in support of the application on or before August 9, 2016.

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 Environment and Conservation 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 Environment and Conservation
Water Resources Management Division
PO Box 8700
St. John's NL A1B 4J6

APPENDIX D
Location Map for Permit

