

1 **Q. What documentation governs operation of NP-owned generation; i.e., license,**
2 **connection agreements, grid code, etc? Please file copies of such documentation.**
3

4 A. Documentation that governs operation of Newfoundland Power owned generation
5 facilities includes water use licences, Hydro's System Operating Instructions and
6 Newfoundland Power's Plant Operating Guidelines.
7

8 Water Use Licences are issued by the Water Resources Management Division of the
9 Provincial Department of Environment and Conservation for Newfoundland Power's
10 hydro generating plants.¹ These licences permit Newfoundland Power to use the water
11 resource for the purposes of generating electricity, and in the process to flood unoccupied
12 Crown lands.
13

14 Attachment A provides copies of Newfoundland Power's current Water Use Licences.
15

16 Hydro is responsible for generation dispatch on the island interconnected system and has
17 documented System Operating Instructions that govern the dispatch of Newfoundland
18 Power generating units.² There currently are no grid connection codes or agreements that
19 govern operation of Newfoundland Power owned generation.
20

21 Newfoundland Power has developed 40 Plant Operating Guidelines ("POGs") that
22 provide direction to plant operation staff and System Control Center Power System
23 Operators on the operation of generating units and water management systems. POGs
24 help ensure generating facilities are operated in an efficient manner consistent with
25 environment regulations and good operating practices.
26

27 Attachment B provides copies of Newfoundland Power's POGs.

¹ Newfoundland Power operates a total of 23 hydro plants. There are 3 hydro plants where Newfoundland Power does not maintain a water use licence, namely Petty Harbour, Mobile and Morris plants. The watershed for the Petty Harbour system is a shared use system with the City of St. John's Bay Bulls Big Pond water supply. The water rights for the Mobile River system, which includes the reservoirs for both the Mobile and Morris plants, are held by the City of St. John's.

² See the response to Request for Information PUB-NLH-054.

Newfoundland Power Water Use Licences



Government of Newfoundland and Labrador
Department of Environment and Conservation

**WATER USE LICENCE
(Water Power Generation)**

Pursuant to the *Water Resources Act*, SNL 2002 cW-4-01

Date of Issuance: March 14, 2008

No: WUL-05-129
File: 516

Licensee: Newfoundland Power Inc
55 Kenmount Road
PO Box 8910
St. John's NL A1B 3P6

Attention: Mr. Earl Ludlow, President & CEO

Re: *Water Use for Cape Broyle and Horse Chops Hydroelectric Power Generating Plants*

The Minister of Environment and Conservation (the "Minister") hereby grants a Water Use Licence for non-exclusive water rights (the "Licence") to Newfoundland Power Inc. (the "Licensee") to continue operation of the existing Cape Broyle and Horse Chops hydroelectric power generating plants at Horse Chops Ponds (the "Plants"), located on the East Coast (the "Southern Shore") of the Avalon Peninsula near the Town of Cape Broyle, utilizing the water from the watershed described in Schedules A and B, defined herein as the "Watershed", for the purpose of water power generation at the Licensee's existing Plants, together with flooding rights in and over the unoccupied Crown lands located in the Watershed to the extent presently flooded to full supply level, in reference to the application dated July 8, 2005 and additional information provided on July 14 and 22, 2005, November 9, 2005, December 28, 2006, February 15, 18 and 19, 2008, and March 14, 2008.

This Licence is subject to the terms and conditions, reservations, exceptions, and provisions stated herein and the *Water Resources Act* and regulations thereunder. Appendix A and Schedules A and B form part and parcel of this Licence. This Licence does not release the Licensee from the obligation to obtain appropriate approvals, permits or licences from other concerned federal, provincial and municipal agencies.

The Licensee shall complete and return the attached Notification of Acceptance of Water Use Licence (attached) to the Water Rights Section of the Department of Environment and Conservation within thirty (30) days of receipt of this Licence.

Failure to comply with the terms and conditions, reservations, exceptions, and provisions set out herein will render this Licence null and void, place the Licensee and/or its agents in violation of the *Water Resources Act*, and cause the Licensee to be responsible for any and all remedial measures which may be prescribed by the Department of Environment and Conservation.

Charlene Johnson
Minister

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION

APPENDIX A

NO: WUL-05-129
FILE: 516

TERMS AND CONDITIONS FOR WATER USE LICENCE

1. In consideration of the terms and conditions, reservations, exceptions, and provisions herein contained in this Licence, the Minister hereby grants the Licensee the non-exclusive right to use the water from all bodies of water and their catchments in the Watershed described in Schedules A and B, for the purpose of water power generation at the Licensee's Plants, together with the right to flood the unoccupied Crown lands in the Watershed to the extent presently flooded at the full supply level as defined in Schedule A, in reference to the application dated July 8, 2005 and additional information provided on July 14 and 22, 2005, November 9, 2005, December 28, 2006, February 15, 18 and 19, 2008, and March 14, 2008, upon and in accordance with the terms and conditions, reservations, exceptions, and provisions set forth in this Licence.

2. This Licence is subject to the full right of the Government, its licensees, lessees, assignees, transferees, and any other person authorized by the Government or of the general public, in accordance with applicable legislation of the Province of Newfoundland and Labrador or federal legislation having application in the Province of Newfoundland and Labrador, to:
 - a) *explore, prospect, search for, develop, produce, mine, carry away, and dispose of all minerals both metallic and nonmetallic, coal, oil, natural gas, salt, and quarry materials in the Watershed;*
 - b) *fell, cut down, carry away, and dispose of all timber in the Watershed;*
 - c) *ingress, egress and regress over the Watershed and to make, sink, erect and use all mines, pits, plants, shafts, wells, machinery, buildings, erections, dams, roads, transmission lines and any other systems and works and conveniences for any purpose authorized by the Government;*
 - d) *use all the land and water in the Watershed for fishing, boating, hunting and other traditional recreational activities subject to all applicable laws and regulations of the Province of Newfoundland and Labrador;*
 - e) *enjoy all other rights in the Watershed not otherwise granted and demised by this Licence; and*
 - f) *occupy and use all land and water in the Watershed, the occupation and use of which is, in the opinion of the Minister, necessary for any of the above purposes.*

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION

APPENDIX A (CONTINUED)

NO: WUL-05-129
FILE: 516

TERMS AND CONDITIONS FOR WATER USE LICENCE

3. This Licence shall be read and interpreted as conferring non-exclusive rights upon the Licensee to use the water, and nothing herein shall limit, abrogate or derogate from any water uses within the Watershed that existed prior to the issuance of this Licence and all rights reserved or purported reserved or to be reserved herein to the Government, its licensees, lessees, assignees, transferees, authorized persons or other members of the general public.
4. This Licence shall be effective July 14, 2005 and shall expire on December 31, 2030 or earlier if modified, suspended or cancelled by the Minister. This Licence may be renewed by the Minister for such renewal term and on such terms and conditions as the Minister considers appropriate and in the public interest, provided the Licensee applies in writing for an extension at least one (1) year before the expiry date.
5. Subject to the terms and conditions, reservations, exceptions and provisions stated herein, the Licence grants the Licensee the following non-exclusive rights to use the water in the Watershed:
 - a) *the right to harness and make use of water in the existing systems and works, including the existing dams, spillways, intakes, penstocks, powerhouses and any other systems and works approved by the Minister and those presently being used for operating the Plants, as indicated in Schedule B;*
 - b) *the right to store the water in the reservoirs in the Watershed to the full supply levels as defined in Schedule A without in any way adversely affecting the safety of the dams and other structures and works and to regulate flows for the purpose of water power generation subject to Condition 7; and*
 - c) *subject to the prior written permit from the Minister, the right to make any improvements in the systems works including the construction of additional systems works designed to make the existing operation more efficient.*
6. The designated purpose of the water use is "water power generation".
7. This Licence shall not affect or be interpreted as granting any rights which might affect the quantity and quality of water required at present or in the future to all nearby communities and other users of water in and outside the Watershed for their domestic and municipal uses. The Licensee shall be responsible for undertaking any measures which the Minister considers necessary to satisfy the quantity and quality of water required at present or in the future for the said water uses.

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION

APPENDIX A (CONTINUED)

NO: WUL-05-129
FILE: 516

TERMS AND CONDITIONS FOR WATER USE LICENCE

8. The Licensee acknowledges and agrees that this Licence does not grant any interest in land or any exclusive right in or to use or occupy the Watershed.
9. The Licensee shall abide by any and all requirements of the *Water Resources Act* and the *Environmental Protection Act* and any applicable regulations made under those Acts. Also, the Licensee shall abide by terms and conditions indicated in Permits or Certificates issued or that are to be issued in connection with the construction or improvements of any and all systems and works required for these Plants including, but not limited to, dam(s), spillway(s), intake(s), penstock(s), powerhouse(s), access road(s) or any other systems and works presently being used for operating the Plants in or outside the Watershed.
10. The Licensee shall not construct any new systems and works including, but not limited to, dam(s), diversion dam(s), spillway(s), intake(s), penstock(s), powerhouse(s), or any other systems and works presently being used for operating the Plants in or outside the Watershed without the prior written permission of the Minister. Also, the Licensee shall not make any changes in the purpose, rates and amounts of water authorized in this Licence, or divert the course or alter the physical features of the bodies of water within or outside the Watershed without the prior written approval of the Minister.
11. The rights and liberties hereby demised by this Licence shall not be sold, assigned, transferred, leased, mortgaged, sublet or otherwise alienated by the Licensee without obtaining prior written approval from the Minister. The Minister, however, consents to the assignment of this Licence under the charging provisions of Trust Deeds, which bear a formal date of September 15, 1966 and are registered at Volume 831, Folios 1 to 160 (First Mortgage Bonds) and Folios 161 to 303 (General Mortgage Bonds) of the Registry of Deeds for Newfoundland and Labrador in favour of Montreal Trust Company.
12. The Minister shall have the right to allocate the unused water in the Watershed, as described in Schedule A, for any other beneficial purpose provided such allocation of the water does not prejudicially affect the rights of the Licensee conveyed in this Licence. The Licensee will be duly informed and consulted by the Minister on any request for authorization of the excess water.
13. The Minister may, upon providing one hundred and eighty (180) days written notice to the Licensee, cancel or modify this Licence by allocating all or part of the authorized water from the Watershed for other beneficial use(s) of higher order of precedence outlined in Section 15 of the *Water Resources Act* on priority of right. The Licensee will be fully consulted on any such applications before any decision is taken by the Minister.

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION

APPENDIX A (CONTINUED)

NO: WUL-05-129
FILE: 516

TERMS AND CONDITIONS FOR WATER USE LICENCE

14. The Licensee shall prudently maintain in good faith records, accounts and statements of the rates and amounts of water used on a daily basis for the generation of hydroelectric power, rates and amounts of water spilled or released downstream for protecting fish habitat and aquatic life as required under the federal *Fisheries Act* and/or any other federal or provincial legislation, operating water levels, extent of the flooded area, energy production, and any other information that the Minister may require in whatever form, manner and time. Copies of such records, accounts, and statements shall be submitted to the Water Rights Section of the Department of Environment and Conservation on or before the end of March of each year during the term created by this Licence.
15. The employees of the Department of Environment and Conservation, when authorized by the Minister, may at all reasonable times during the term created by this Licence enter into the Watershed and the Licensee's designated place of business to inspect the systems and works, records, statements, and accounts, and shall be entitled to copy such information as may be required by the Minister and may exercise all other powers of inspection as provided for in the *Water Resources Act*.
16. Effective July 14, 2005, this Licence is subject to the *Water Power Rental Regulations*, NLR 64/03 under the *Water Resources Act* and the Licensee shall upon receipt of an invoice stating the amount owing for water power rentals, pay to the Minister the full amount within sixty (60) days of the receipt of the said invoice and if imposed by provincial legislation, fees, incentives, royalties, subsidies or water use charges for water use.
17. The Licensee 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 Licensee shall immediately notify the Minister if any problem arises which may threaten the structural stability of the systems and works such as dam, spillway and other systems and works, endanger public safety and/or the environment or adversely affect water users either in or outside the Watershed. The Licensee 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.
18. The Licensee shall operate its Plants and their 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, deterioration of water quality and groundwater depletion, in or outside the Watershed. The Licensee shall be responsible for any and all damages associated with these problems caused as a result of changes, deficiencies, and inadequacies in the Licensee's operational procedures.

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION

APPENDIX A (CONTINUED)

NO: WUL-05-129
FILE: 516

TERMS AND CONDITIONS FOR WATER USE LICENCE

19. The Licensee shall not at any time operate its Plants and their systems and works so as to impair, pollute or cause to be polluted the quality of the water in or outside the Watershed. Also, this Licence shall not be interpreted as granting any rights to cause adverse effect(s) on water in or outside the Watershed.
20. The Licensee may be required by the Minister to install, operate and maintain streamflow, water level monitoring stations, and other necessary measures in or outside the Watershed and also to monitor water quality at specified locations. Such monitoring shall be carried out in the manner that the Minister considers necessary for the assessment of the quantity and quality of the water available in or outside the Watershed and the quantity of water used by the Licensee for water power generation.
21. This Licence shall not affect or be interpreted as granting any rights which might in any way affect the quantity, quality, and levels of water in any and all bodies of water required at present and in the future for any and all recreational related activities in Avalon Wilderness Area including, but not limited to, hiking, canoeing, skiing, angling, hunting, bird and wildlife watching.
22. If the Licensee fails to perform, fulfil, or observe any of the terms and conditions, reservations, exceptions, and provisions of this Licence and/or Ministerial orders and guidelines, as determined by the Department of Environment and Conservation, the Minister may, after providing a ninety (90) days notice to the Licensee at any time during the term created by this Licence, modify, suspend or cancel this Licence in accordance with the *Water Resources Act*.
23. The Licensee may enter upon, investigate and survey any unoccupied Crown lands in or outside the Watershed for any purpose incidental to the operation of the Plants systems and works but the Licensee releases the Minister and the Government from any and all liability, claims, damages and actions of any nature whatsoever relating to the rights conveyed in this Licence and the systems and works operated, maintained, or rehabilitated by the Licensee, its employees, agents, and invitees in or outside the Watershed.
24. The Licensee indemnifies and holds the Minister and the 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 the non-exclusive water rights granted under this Licence, systems and works in or outside the Watershed, or any act or omission of the Licensee in or outside the Watershed, or arising out of a breach or non-performance of any of the terms and conditions, and provisions of this Licence by the Licensee, its employees or agents.

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION

APPENDIX A (CONTINUED)

NO: WUL-05-129
FILE: 516

TERMS AND CONDITIONS FOR WATER USE LICENCE

25. Should any provision of this Licence be unenforceable, it shall be considered separate and severable from the remaining provisions of this Licence which shall remain in force and be binding as though the provision had not been included.
26. This Licence is subject to all provisions of the *Water Resources Act* and any regulations in effect either at the date of this Licence or hereafter made pursuant thereto or any other relevant legislation enacted by the Province of Newfoundland and Labrador in the future.
27. The Licensee acknowledges and agrees that this Licence may require and will be amended to include further provisions pursuant to the *Water Resources Act* and any regulations in effect thereunder from time to time, as deemed necessary in the opinion of the Minister.
28. This Licence shall be construed and interpreted in accordance with the laws of the Province of Newfoundland and Labrador.
29. All notices to be given pursuant to the terms and conditions of this Licence shall be given in writing and delivered by facsimile with auto confirmation or registered mail. If a notice is delivered by facsimile, it is deemed to have been received on the day it was sent if that day is a normal business day, if not, it is deemed to have been received on the next normal business day. If a notice is sent by registered mail, it is deemed to have been received three (3) days after the day it was mailed.

The address and facsimile number of the Licensee is:

Newfoundland Power Inc.
55 Kenmount Road
PO Box 8910
St. John's NL A1B 3P6

(709) 737-2926

The address and facsimile number of the Department of Environment and Conservation is:

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

(709) 729-0320

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION

SCHEDULE A

NO: WUL-05-129
FILE: 516

**DESCRIPTION OF WATERSHEDS AND AUTHORIZED WATER FOR
CAPE BROYLE AND HORSE CHOPS HYDROELECTRIC POWER GENERATING PLANTS
(All Figures for Levels Are Referenced to the Licensee's Local Datum)**

Horse Chops Pond (Cape Broyle Forebay) Watershed:

The water used by the Licensee for the sole purpose of generating hydroelectric power is described fully as all water draining from a watershed encompassing an area of 191.1 square kilometres to a point on Horse Chops Pond from where the water is diverted by the first storage dam with crest level of 178.16 metres elevation, into the intake of Horse Chops (Horse Chops Forebay) Plant's penstock, thence to a point on Horse Chops' Pond (Cape Broyle Forebay) from where the water is diverted by the second storage dam with crest level of 89.61 metres elevation, thence to the intake of Cape Broyle Plant's penstock, from where the water ultimately passes through the powerhouse near the Community of Cape Broyle, the East Coast of the Avalon Peninsula, and is then discharged into Cape Broyle Harbour. The aforementioned watershed outlined in black on the 1:50,000 scale topographic maps, Ferryland 1N/2 edition 3 and St. Catherine's 1N/3 edition 5, to be referred to as "Schedule B", submitted by the Licensee as part of the application dated July 8, 2005 and additional information provided on July 14 and 22, 2005, November 9, 2005, December 28, 2006, February 15, 18 and 19, 2008 and March 14, 2008, is located in the District of Ferryland, Newfoundland and Labrador and includes all of Blackwood Ponds, Ragged Hill Ponds, Summit Pond, Gibbons Pond, Harrys Pond, Fly Pond, South West Pond, Mount Carmel Pond, Sanders Pond, Haydans Pond, small Horse Chops Pond, Horse Chops River, Kenndys Pond, Hearts Nest Gully, and large Horse Chops Pond and all other bodies of water named or not within the boundaries of the said watershed, from where water will flow to ultimately reach the said intakes of penstocks near the Community of Cape Broyle except that such water shall not exceed the greater of:

- i) the amount of water that can be stored in small Horse Chops Pond (Horse Chops Forebay) to its full supply level (F.S.L.) at 176.33 metres elevation consisting of an amount of water having a volume of 780,000 cubic metres and a surface area of 0.89 square kilometres and the amount of water that can be stored in large Horse Chops Pond (Cape Broyle Forebay) to its full supply level (F.S.L.) at 87.78 metres elevation consisting of an amount of water having a volume of 3,970,000 cubic metres and a surface area of 1.2 square kilometres; or
- ii) the amount of water which can be withdrawn into the intake of Horse Chops Plant's penstock at a maximum rate of no more than 11.30 cubic metres per second (maximum loading), thence to the intake of Cape Broyle Plant's penstock at a maximum rate of no more than 14.05 cubic metres per second (maximum load), and is to be used exclusively for water power generation and subject to such withdrawal being limited to only that quantity of water which if withdrawn from Horse Chops Pond (Horse Chops Forebay) will not cause the water level to be lower than the low supply level (L.S.L.) at 174.80 metres elevation and a surface area of 0.1 square kilometres and that quantity of water which if withdrawn from Horse Chops Pond (Cape Broyle Forebay) will not cause the water level to be lower than the low supply level (L.S.L.) at 84.12 metres elevation and a surface area of 0.98 square kilometres; or
- iii) the estimated annual water use of 480,077,000 cubic metres (267,3870,000 cubic metres at Horse Chops Plant and 212,690,000 cubic metres at Cape Broyle Plant).

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
SCHEDULE A (CONTINUED)

NO: WUL-05-129
FILE: 516

**DESCRIPTION OF WATERSHEDS AND AUTHORIZED WATER FOR
CAPE BROYLE AND HORSE CHOPS HYDROELECTRIC POWER GENERATING PLANTS
(All Figures for Levels Are Referenced to the Licensee's Local Datum)**

Horse Chops Pond (Horse Chops Forebay) Sub-Watershed:

All water draining from a watershed encompassing an area of 14.0 square kilometres to a point on Horse Chops Pond "reservoir" from where the water is impounded by a storage dam with crest level of 178.16 metres elevation, and where water is released at will or excess water that cannot be stored is spilled to Horse Chops Pond (Horse Chops Forebay) through Horse Chops River and thence to Horse Chops Pond (Cape Broyle Forebay) except that the use of such water is limited to:

- i) the amount of water that can be stored in the reservoir to its full supply level (F.S.L.) at 176.33 metres elevation consisting of an amount of water having a volume of 780,000 cubic metres and a surface area of 0.89 square kilometres and subject to such withdrawal being limited to only that quantity of water which if withdrawn from Horse Chops Pond (Horse Chops Forebay) will not cause the water level in the reservoir to be lower than the low supply level of (L.S.L.) 174.80 metres elevation and a surface area of 0.1 square kilometres.

Mount Carmel Pond Sub-Watershed:

All water draining from a watershed encompassing an area of 60.0 square kilometres to a point on Mount Carmel Pond "reservoir" from where the water is impounded by a storage dam with crest level of 188.88 metres elevation, and where water is released at will or excess water that cannot be stored is spilled to Horse Chops Pond (Horse Shops Forebay) and thence to Horse Chops River except that the use of such water is limited to:

- i) the amount of water that can be stored in the reservoir to its full supply level (F.S.L.) at 187.36 metres elevation consisting of an amount of water having a volume of 59,080,000 cubic metres and a surface area of 10.05 square kilometres and subject to such withdrawal being limited to only that quantity of water which if withdrawn from Mount Carmel Pond will not cause the water level in the reservoir to be lower than the low supply level of (L.S.L.) 180.50 metres elevation and a surface area of 7.2 square kilometres.

Blackwoods Pond Sub-Watershed:

All water draining from a watershed encompassing an area of 81.0 square kilometres to a point on Blackwoods Pond "reservoir" from where the water is impounded by a storage dam with crest level of 223.42 metres elevation which is supplemented by East Blackwoods Pond Dams No. 1 to 9 on the western and eastern boundaries of the sub-watershed with spill level of 222.20 metres elevation, for the purpose of releasing excess water that cannot be stored in Blackwoods Pond, and where water is released at will or excess water that cannot be stored is spilled to Mount Carmel Pond through Gibbons Pond, Harrys Pond, Fly Pond, and South West Pond, and thence to Mount Carmel Pond except that the use of such water is limited to:

- i) the amount of water that can be stored in the reservoir to its full supply level (F.S.L.) at 222.20 metres elevation consisting of an amount of water having a volume of 7,260,000 cubic metres and a surface area of 5.79 square kilometres and subject to such withdrawal being limited to only that quantity of water which if withdrawn from Blackwoods Pond will not cause the water level in the reservoir to be lower than the low supply level of (L.S.L.) 220.83 metres elevation and a surface area of 4.21 square kilometres.

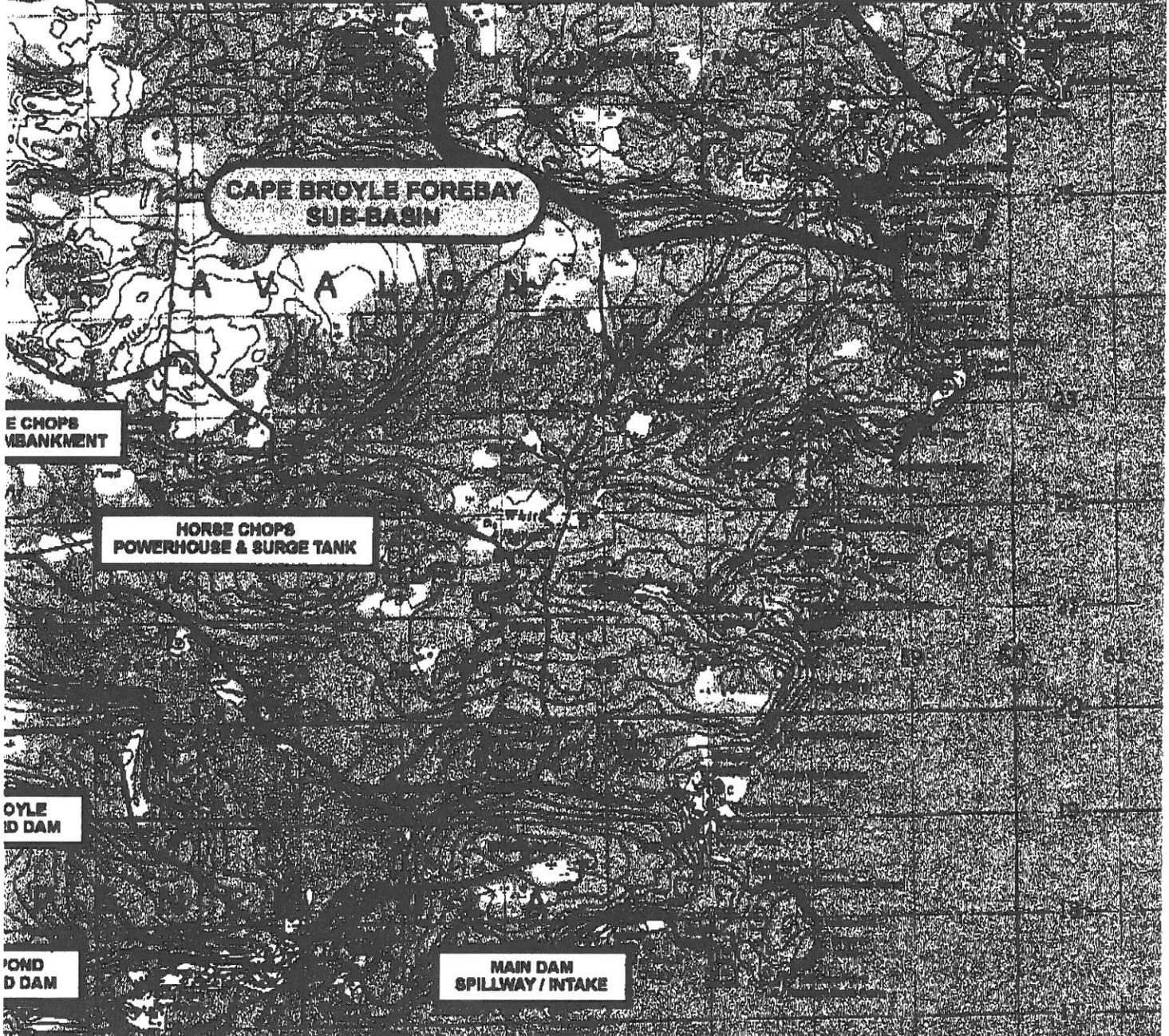
GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION

SCHEDULE B

NO: WUL-05-129
FILE: 516

MAPS OF CAPE BROYLE/HORSE CHOPS
HYDROELECTRIC POWER GENERATING PLANTS WATERSHED

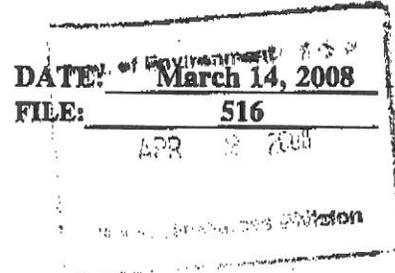
page 10 of 10



cc: Dr. Abdel-Zaher K. Abdel-Razek, P.Eng. (2 copies)
Head, Water Rights Section
Water Resources Management Division
Department of Environment and Conservation
PO Box 8700
St. John's NL A1B 4J6



Government of Newfoundland and Labrador
Department of Environment and Conservation



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

NOTIFICATION OF ACCEPTANCE OF WATER USE LICENCE
[Water Use for Cape Broyle/Horse Chops Hydroelectric Power Generating Plants]

Water Use Licence No. WUL-05-129 issued on March 14, 2008 and valid until December 31, 2030.

As a Licensee of the Water Use Licence No. WUL-05-129, issued pursuant to the *Water Resources Act*, Newfoundland Power Inc. (the "Licensee"), agrees to accept this Licence for the stated duration and abide by all terms and conditions, reservations, exceptions and provisions stated therein. The Licensee acknowledges that failure to abide by the terms and conditions, reservations, exceptions and provisions indicated in Appendix A and Schedules A and B of the Licence and the *Water Resources Act* will render the Licence null and void, place the Licensee and/or their agent(s) in violation of the *Water Resources Act* and *Water Power Rental Regulations*, and other regulations thereunder and cause the Licensee to be responsible for any and all remedial measures which may be prescribed by the Department of Environment and Conservation.

Signed, sealed, and delivered by the
Newfoundland Power Inc.,
in accordance with its rules and regulations in that behalf
at St. John's, Newfoundland and Labrador, this 31st day
of March, 2008 in the presence

Witness

Per:

Signing Officer

Seal:





GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR

Department of Environment
WATER USE AUTHORIZATION

Pursuant to the *Department of Environment and Lands Act*

Date: January 19, 1996

No: WUA-95-072

File: 515

Holder: Newfoundland Light & Power Co. Limited
55 Kenmount Road
P.O. Box 8910
St. John's, NF
A1B 3P6

Attention: Mr. P. R. Hamilton, Manager, Energy Supply

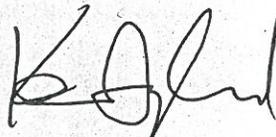
Re: Fall Pond Hydroelectric Power Generating Plant, Little St. Lawrence,
Newfoundland

Authorization is hereby given to Newfoundland Light & Power Co. Limited (the "Holder") to operate the existing hydroelectric power generating plant at Waterfall Pond, known as Fall Pond, located in the southern part of the Burin Peninsula near the Community of Little St. Lawrence, utilizing the water from the watershed described in Schedules A and B, defined herein as the "Authorized Area", for the purpose of generating hydroelectric power together with flooding rights in and over the unoccupied Crown lands located in the Authorized Area, in reference to the application dated November 3, 1994.

This Authorization is subject to the terms and conditions, reservations, exceptions, and provisions stated herein and the *Department of Environment and Lands Act*. Appendix A and Schedules A and B form part and parcel of this Authorization.

Failure to comply with the terms and conditions, reservations, exceptions, and provisions set out herein will render this Authorization null and void, may place the Holder and/or its agents in violation of the *Department of Environment and Lands Act*, and make the Holder responsible for any remedial measures which may be prescribed by the Department of Environment.




MINISTER

APPENDIX A

NO: WUA-95-072
FILE: 515

TERMS AND CONDITIONS

1. In consideration of the terms and conditions, reservations, exceptions, and provisions herein contained, the Minister of Environment hereby grants the Holder the non-exclusive right to use the water from all bodies of water and their catchments in the Authorized Area together with the right to flood the unoccupied Crown lands in the Authorized Area to the extent presently flooded at the full supply level as defined in Schedule A for the generation of hydroelectric power upon and in accordance with the terms and conditions, reservations, exceptions, and provisions set forth in this Authorization.
2. This Authorization is subject to the full right of Government, its licensees, lessees, assignees, transferees, and any other person authorized by Government to:
 - a) *explore, prospect, search for, work, get, carry away, and dispose of all minerals both metallic and nonmetallic, coal, oil, natural gas, salt, and quarry materials;*
 - b) *fell, cut down, carry away, and dispose of all timber in the Authorized Area;*
 - c) *ingress, egress and regress over the Authorized Area and to make, sink, erect and use all mines, pits, plants, shafts, wells, machinery, buildings, erections, dams, roads, transmission lines and any other systems/works and conveniences for any purpose authorized by Government;*
 - d) *use all the land and water in the Authorized Area for fishing, boating, hunting and other traditional recreational activities subject to all applicable laws and regulations;*
 - e) *enjoy all other rights in the Authorized Area not otherwise granted and demised by this Authorization; and*
 - f) *occupy and use all land and water in the Authorized Area, the occupation and use of which is, in the opinion of the Minister, necessary for any of the above purposes.*
3. The initial term of this Authorization shall be twenty-five (25) years from the commencement date of January 22, 1996 and this Authorization shall expire on January 21, 2021 or earlier if suspended or cancelled by the Minister. This Authorization may be renewed by the Minister for such renewal term as the Minister deems appropriate commencing on the expiry of the initial term, provided the Holder applies for an extension before the expiry of the initial term in the case of the first renewal and

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT

APPENDIX A (CONTINUED)

NO: WUA-95-072
FILE: 515

TERMS AND CONDITIONS

- thereafter the expiry of the immediately preceding renewal term, on such terms and conditions as the Minister considers appropriate and in the public interest.
4. Subject to the terms and conditions, reservations, exceptions and provisions stated herein, the Authorization grants the Holder the following non-exclusive rights to use the water in the Authorized Area:
- a) *the right to harness and make use of the authorized water in the existing systems/works, including dam, reservoir, spillway, intake, penstock, powerhouse, tailrace channel and any other works presently being used for operating the hydroelectric power generating plant;*
 - b) *the right to store the water in the reservoir in the Authorized Area to the full supply level as defined in Schedule A without in anyway adversely affecting the safety of the dam and other structures/works and to regulate flows for the purpose of generating hydroelectric power subject to Condition 6; and*
 - c) *subject to the prior written approval from the Minister, the right to make any improvement in the systems/works including the construction of additional works designed to make the existing operation more efficient.*
5. The designated purpose is "water power".
6. This Authorization shall not affect or be interpreted as granting any rights which might affect the quantity and quality of water presently supplied to the Community of Little St. Lawrence and other users of the water in and outside the Authorized Area for their domestic and municipal uses.
7. The Holder acknowledges and agrees that this Authorization does not grant any interest in land or any exclusive right in or to use or occupy the Authorized Area.
8. The Holder shall not construct any new structure/facility in the Authorized Area, make alterations to the existing systems/works, make changes in the purpose, rates and amounts of water specified in this Authorization, or divert the course or alter the physical features of the water bodies within the Authorized Area without the prior written approval of the Minister.
9. The rights and liberties hereby demised by this Authorization shall not be sold, assigned, transferred, leased, mortgaged, sublet or otherwise alienated by the Holder without

GOVERNMENT OF
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DEPARTMENT OF ENVIRONMENT

APPENDIX A (CONTINUED)

NO: WUA-95-072
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TERMS AND CONDITIONS

- obtaining prior written approval from the Minister.
10. The Minister may allocate the unused water in the Authorized Area for any other beneficial purpose provided such allocation of the water does not prejudicially affect the rights of the Holder conveyed in this Authorization.
 11. The Minister may, upon providing a ninety (90) days notice to the Holder, modify this Authorization by allocating part of the authorized water for other beneficial use(s) of higher order of precedence outlined in the Ministerial Policy established under the *Department of Environment and Lands Act*.
 12. The Holder shall complete and return the attached Notification of Acceptance of Water Use Authorization to the Water Rights Section of the Department of Environment within thirty (30) days of receipt of the Water Use Authorization.
 13. This Authorization does not release the Holder from the obligation to obtain appropriate approvals, permits or licences from other concerned federal, provincial, and municipal agencies.
 14. The Holder shall prudently maintain in good faith records, accounts and statements of the rates and amounts of water used on a daily basis for the generation of hydroelectric power, rates and amounts of water spilled or released downstream for protecting fish habitat and aquatic life as required under the federal Fisheries Act and/or any other federal or provincial legislation, operating water levels in the reservoir, extent of the flooded area, energy production, and any other information that the Minister may require in whatever form, manner and time. Copies of such records, accounts, and statements shall be submitted to the Department of Environment annually.
 15. The employees of the Department of Environment, authorized by the Minister, may at all reasonable times during the term created by this Authorization enter into the Authorized Area and the Holder's designated place of business to inspect the systems/works, records, statements, and accounts, and shall be entitled to copy such information as may be required by the Minister.
 16. The Holder shall keep all systems/works in good condition and repair and in accordance with all laws, by-laws, directions, rules and regulations of any governmental authority. The Holder shall notify the Minister immediately if any problem arises which may threaten the structural stability of the systems/works such as dams, reservoir, spillway, etc., endanger public safety and/or the environment or adversely affect water users

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
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APPENDIX A (CONTINUED)

NO: WUA-95-072
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TERMS AND CONDITIONS

- either in or outside the Authorized Area. The Holder shall be responsible for all damages suffered by the Province resulting from any defect in the systems/works, operational deficiencies/inadequacies, or structural failure.
17. The Holder shall pay annually to the Minister of Environment ten (10) cents per horsepower of the power generated at the plant and/or such administrative or water use charges as may be approved by the Minister.
 18. The Holder shall not at any time impair, pollute or cause to be polluted the quality of the water in the Authorized Area.
 19. The Holder may be required by the Minister to install, operate and maintain streamflow and water level monitoring stations in the Authorized Area and also to monitor water quality at specified locations in a manner that the Minister considers necessary for the assessment of the quantity and quality of the water available in the Authorized Area and the quantity of water used by the Holder for the generation of hydroelectric power.
 20. If the Holder fails to perform, fulfil, or observe any of the terms and conditions, reservations, exceptions, and provisions of this Authorization and/or Ministerial orders and guidelines, as determined by the Department of Environment, the Minister may, after providing a ninety (90) days notice to the Holder at any time during the term created by this Authorization, modify or cancel this Authorization.
 21. The Holder may enter upon, investigate and survey any unoccupied Crown lands in the Authorized Area for any purpose incidental to the operation of the hydroelectric power generating plant but the Holder releases the Department of Environment from any and all liability, claims, damages and actions of any nature whatsoever relating to the rights conveyed in this Authorization and the systems/works operated, maintained, or rehabilitated by the holder, its employees, agents, and invitees in the Authorized Area.
 22. The Holder indemnifies and holds the Province 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 the water rights granted under this Authorization, systems and works in the Authorized Area, or any act or omission of the Holder in the Authorized Area, or arising out of a breach or non-performance of any of the terms and conditions, and provisions of this Authorization by the Holder.

APPENDIX A (CONTINUED)

NO: WUA-95-072
FILE: 515

TERMS AND CONDITIONS

23. Should any provision of this Authorization be unenforceable, it shall be considered separate and severable from the remaining provisions of this Authorization which shall remain in force and be binding as though the provision had not been included.
24. This Authorization is subject to the *Department of Environment and Lands Act* and any regulations made pursuant thereto.
25. This Authorization shall be construed and interpreted in accordance with the laws of Newfoundland.
26. All notices to be given pursuant to the terms and conditions of this Authorization shall be given in writing and delivered by facsimile with auto confirmation or registered mail. If a notice is delivered by facsimile, it is deemed to have been received on the day it was sent if that day is a normal business day, if not, it is deemed to have been received on the next normal business day. If a notice is sent by registered mail, it is deemed to have been received three days after the day it was mailed. The address and facsimile number of the Holder are:

Newfoundland Light & Power Co. Limited
55 Kenmount Road
P.O. Box 8910
St. John's, Newfoundland
A1B 3P6

(709) 737-2926

The address and facsimile number of the Department of Environment are:

Water Rights Section
Department of Environment
P.O. Box 8700
St. John's, Newfoundland
A1B 4J6

(709) 729-0320

SCHEDULE A

NO: WUA-95-072
FILE: 515

**DESCRIPTION OF WATERSHED AND AUTHORIZED WATER
FOR FALL POND HYDROELECTRIC POWER GENERATING PLANT**

The water used by the Holder for the sole purpose of generating hydroelectric power is described fully as all water draining from the Waterfall Pond watershed encompassing an area of 38.5 square kilometres to a point on Fall Pond "reservoir" from where the water is diverted by a storage dam with crest level of 46.86 metres elevation and spillway, into the intake of the penstock from where the water ultimately passes through the powerhouse at the Community of Little St. Lawrence, the southern part of the Burin Peninsula and is then discharged into Little St. Lawrence Harbour. The aforementioned watershed outlined in black on the 1:50,000 scale topographic maps, St. Lawrence 1L/14 edition 3 and Marystown 1M/3 edition 3, to be referred to as "Schedule B", submitted by the Holder as part of the application dated November 3, 1994, is located in the District of Grand Bank, Province of Newfoundland and includes all of Rocky Pond, Waterfall Brook, Beaver Pond, Waterfall Pond, known as Fall Pond and all other bodies of water named or not within the boundaries of the said watershed, from where water will naturally flow to ultimately reach the intake of the penstock on Fall Pond except that such water shall not exceed:

- i) the amount of water that can be stored in the reservoir to its full supply level (F.S.L) at 44.96 metres elevation consisting of an amount of water having a volume of 1,400,000 cubic metres and a surface area of 0.64 square kilometres; or
- ii) the amount of water which can be withdrawn into the aforementioned intake of the penstock at a rate of no more than 3.4 cubic metres per second and is to be used exclusively for the generation of hydroelectric power and subject to such withdrawal being limited to only that quantity of water which if withdrawn from Fall Pond will not cause the water level in the pond to be lower than the low supply level (L.S.L) at 42.82 metres elevation and a surface area of 0.606 square kilometres; or
- iii) the estimated annual water use of 40,000,000 cubic metres.

- cc: Dr. Abdel-Zaher K. Abdel-Razek, P.Eng. (2 copies)
Water Resources Management Division
Department of Environment
P.O. Box 8700
St. John's, NF
A1B 4J6
- cc: Mr. Joe Blanchard,
Regional Lands Supervisor (C)
Department of Natural Resources
P.O. Box 2222
Gander, NF
A1V 1T5
- cc: Mr. Randy Blundon,
Area Habitat Coordinator
Department of Fisheries & Oceans
P.O. Box 580, Federal Bldg., Church St.
Grand Bank, NF
A0E 1W0
- cc: Mr. Edgar Edwards
Mayor
P.O. Box 29
Lawn, NF
A0E 2E0
- cc: Mr. Wayde Rowsell
Mayor
P.O. Box 128
St. Lawrence, NF
A0E 2V0
- cc: Mr. Henry Burke
Chairman
Local Service District
P.O. Box 58
Little St. Lawrence, NF
A0E 2L0

NO: WUA-95-072
FILE: 515



GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR

Department of Environment

DATE: _____
FILE: 515

Water Rights Section
Water Resources Management Division
Department of Environment
P.O. Box 8700
St. John's, NF
A1B 4J6

NOTIFICATION OF ACCEPTANCE OF WATER USE AUTHORIZATION
[Fall Pond Hydroelectric Power Generating Plant]

Water Use Authorization No. WUA-95-072 issued on January 19, 1996,
and valid for twenty-five (25) years.

As Holder of *Water Use Authorization* No. WUA-95-072, issued pursuant to the
Department of Environment and Lands Act, Newfoundland Light and Power Co. Limited
agrees to accept this *Authorization* for the stated duration and abide by all terms and conditions
thereto. Failure to abide by the terms and conditions indicated in Appendix A and Schedules
A and B of the *Authorization* will result in suspension or cancellation of this authorization.

Signed, sealed, and delivered by the
Newfoundland Light and Power Co. Limited,
at St. John's, Newfoundland, this ____ Day
of _____, 1996 in the presence
of:

Per: _____
Signing Officer

Witness

Important: *The attached Water Use Authorization is not valid unless the Holder completes and returns this notification to the address above within thirty (30) days of receipt.*



GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR

Department of Environment

DATE: _____
FILE: 515

Water Rights Section
Water Resources Management Division
Department of Environment
P.O. Box 8700
St. John's, NF
A1B 4J6

NOTIFICATION OF ACCEPTANCE OF WATER USE AUTHORIZATION
[Fall Pond Hydroelectric Power Generating Plant]

Water Use Authorization No. WUA-95-072 issued on January 19, 1996,
and valid for twenty-five (25) years.

As Holder of *Water Use Authorization* No. WUA-95-072, issued pursuant to the
Department of Environment and Lands Act, Newfoundland Light and Power Co. Limited
agrees to accept this *Authorization* for the stated duration and abide by all terms and conditions
thereto. Failure to abide by the terms and conditions indicated in Appendix A and Schedules
A and B of the *Authorization* will result in suspension or cancellation of this authorization.

Signed, sealed, and delivered by the
Newfoundland Light and Power Co. Limited,
at St. John's, Newfoundland, this 27th Day
of February, 1996 in the presence
of:

Per: [Signature]
Signing Officer

[Signature]
BLAIR CLARKE
Witness Commissioner for Oaths in and
for Newfoundland. My commission
expires December 31, 2000.

Important: *The attached Water Use Authorization is not valid unless the Holder completes and
returns this notification to the address above within thirty (30) days of receipt.*



GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR

Department of Environment
Water Resources Management Division

January 30, 1996

Mr. P. R. Hamilton, Manager
Energy Supply
Newfoundland Light & Power Co. Limited
55 Kentmount Road
P.O. Box 8910
St. John's, NF
A1B 3P6

Dear Mr. Hamilton:

Re: *Application for Water Rights - Fall Pond Hydroelectric Power Generating Plant*

This refers to your application for water rights for the above-noted hydroelectric plant dated November 3, 1994. Attached is the water use authorization approved by the Minister. Also, attached for your information is a copy of a brochure entitled "Water Rights - Questions and Answers".

We would appreciate if you could complete and return the Notification of Acceptance of Water Use Authorization (attached) to the Water Rights Section of the Department of Environment within thirty (30) days of its receipt.

Water rights for hydroelectric plants at Port Union, Lockston, Heart's Content, Victoria, Seal Cove, West Brook, and Lawn are being finalized.

If you have any questions on the above, please do not hesitate to contact me at **729-4795**.

Yours very truly,

A handwritten signature in black ink, appearing to read "A. K. Abdel-Razek", written over a horizontal line.

A. K. Abdel-Razek, Ph.D., P.Eng.
Water Resources Management Engineer

cc: Mr. Joe Blanchard, Regional Lands Supervisor (C), Gander
Mr. Randy Blundon, Area Habitat Coordinator, Grand Bank
Mr. Henry Burke, Chairman, Local Service District of Little St. Lawrence
Mr. Edgar Edwards, Mayor, Town of Lawn
Mr. Wayde Rowsell, Mayor, Town of St. Lawrence



NEWFOUNDLAND LIGHT & POWER CO. LIMITED
 GA-NP-007, Attachment A
 25 of 203
 Approved by [Signature]
 Date 96/08/26
 Remarks _____

GOVERNMENT OF
 NEWFOUNDLAND AND LABRADOR

Department of Environment and Labour
WATER USE AUTHORIZATION

Pursuant to the *Environment Act*

Date: May 10, 1996

No: WUA-96-024

File: 516

Holder: Newfoundland Light & Power Co. Limited
 55 Kenmount Road
 P. O. Box 8910
 St. John's, NF
 A1B 3P6

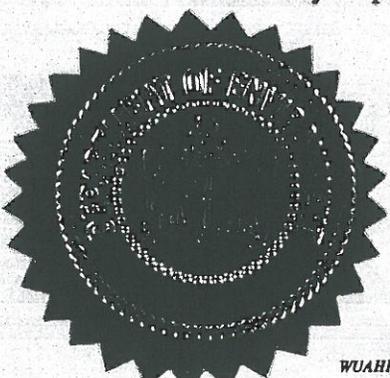
Attention: Mr. P. R. Hamilton, Manager, Energy Supply

Re: Heart's Content Hydroelectric Power Generating Plant, Heart's Content, Newfoundland

Authorization is hereby given to Newfoundland Light & Power Co. Limited (the "Holder") to operate the existing hydroelectric power generating plant at Southern Cove Pond, located on the east side of Trinity Bay near the Town of Heart's Content, utilizing the water from the watershed described in Schedules A and B, defined herein as the "Authorized Area", for the purpose of generating hydroelectric power together with flooding rights in and over the unoccupied Crown lands located in the Authorized Area, in reference to the application dated November 3, 1994 and additional information provided on April 7, 1995 and March 27, 1996.

This Authorization is subject to the terms and conditions, reservations, exceptions, and provisions stated herein and the *Environment Act*. Appendix A and Schedules A and B form part and parcel of this Authorization.

Failure to comply with the terms and conditions, reservations, exceptions, and provisions set out herein will render this Authorization null and void, may place the Holder and/or its agents in violation of the *Environment Act*, and make the Holder responsible for any remedial measures which may be prescribed by the Department of Environment and Labour.



[Signature]
 MINISTER

APPENDIX A

NO: WUA-96-024
FILE: 516

TERMS AND CONDITIONS

1. In consideration of the terms and conditions, reservations, exceptions, and provisions herein contained, the Minister of Environment and Labour hereby grants the Holder the **non-exclusive** right to use the water from all bodies of water and their catchments in the Authorized Area together with the right to flood the unoccupied Crown lands in the Authorized Area to the extent presently flooded at the full supply levels as defined in Schedule A for the generation of hydroelectric power upon and in accordance with the terms and conditions, reservations, exceptions, and provisions set forth in this Authorization.

2. This Authorization is subject to the full right of Government, its licensees, lessees, assignees, transferees, and any other person authorized by Government to:
 - a) *explore, prospect, search for, work, get, carry away, and dispose of all minerals both metallic and nonmetallic, coal, oil, natural gas, salt, and quarry materials;*
 - b) *fell, cut down, carry away, and dispose of all timber in the Authorized Area;*
 - c) *ingress, egress and regress over the Authorized Area and to make, sink, erect and use all mines, pits, plants, shafts, wells, machinery, buildings, erections, dams, roads, transmission lines and any other systems/works and conveniences for any purpose authorized by Government;*
 - d) *use all the land and water in the Authorized Area for fishing, boating, hunting and other traditional recreational activities subject to all applicable laws and regulations;*
 - e) *enjoy all other rights in the Authorized Area not otherwise granted and demised by this Authorization; and*
 - f) *occupy and use all land and water in the Authorized Area, the occupation and use of which is, in the opinion of the Minister, necessary for any of the above purposes.*

APPENDIX A (CONTINUED)

NO: WUA-96-024
FILE: 516

TERMS AND CONDITIONS

3. The initial term of this Authorization shall be twenty-five (25) years from the commencement date of May 15, 1996 and this Authorization shall expire on June 1, 2021 or earlier if suspended or cancelled by the Minister. This Authorization may be renewed by the Minister for such renewal term as the Minister deems appropriate commencing on the expiry of the initial term, provided the Holder applies for an extension at least one (1) year before the expiry of the initial term in the case of the first renewal and thereafter the expiry of the immediately preceding renewal term, on such terms and conditions as the Minister considers appropriate and in the public interest.
4. Subject to the terms and conditions, reservations, exceptions and provisions stated herein, the Authorization grants the Holder the following non-exclusive rights to use the water in the Authorized Area:
 - a) *the right to harness and make use of the authorized water in the existing systems/works, including dams, reservoirs, spillways, intake, penstock, powerhouse and any other works presently being used for operating the hydroelectric power generating plant;*
 - b) *the right to store the water in the reservoirs in the Authorized Area to the full supply levels as defined in Schedule A without in anyway adversely affecting the safety of the dams and other structures/works and to regulate flows for the purpose of generating hydroelectric power subject to Condition 6; and*
 - c) *subject to the prior written approval from the Minister, the right to make any improvement in the systems/works including the construction of additional works designed to make the existing operation more efficient.*
5. The designated purpose is "water power".
6. This Authorization shall not affect or be interpreted as granting any rights which might affect the quantity and quality of water required at present or in the future to the Town of Heart's Content, the Town of Victoria, and other users of the water in and outside the Authorized Area for their domestic and municipal uses.
7. The Holder acknowledges and agrees that this Authorization does not grant any interest in land or any exclusive right in or to use or occupy the Authorized Area.

APPENDIX A (CONTINUED)

NO: WUA-96-024
FILE: 516

TERMS AND CONDITIONS

8. The Holder shall not construct any new structure/facility in the Authorized Area, make alterations to the existing systems/works, make changes in the purpose, rates and amounts of water specified in this Authorization, or divert the course or alter the physical features of the bodies of water within the Authorized Area without the prior written approval of the Minister.
9. The rights and liberties hereby demised by this Authorization shall not be sold, assigned, transferred, leased, mortgaged, sublet or otherwise alienated by the Holder without obtaining prior written approval from the Minister.
10. The Minister may allocate the unused water in the Authorized Area for any other beneficial purpose provided such allocation of the water does not prejudicially affect the rights of the Holder conveyed in this Authorization. The Holder will be duly informed and consulted by the Minister on any request for authorization of the unused water.
11. The Minister may, upon providing a hundred and eighty (180) days notice to the Holder, modify this Authorization by allocating part of the authorized water for other beneficial use(s) of higher order of precedence outlined in the Ministerial Policy established under the *Environment Act*. The Holder will be fully consulted on any such applications before any decision is taken by the Minister.
12. The Holder shall complete and return the attached Notification of Acceptance of Water Use Authorization to the Water Rights Section of the Department of Environment and Labour within thirty (30) days of receipt of the Water Use Authorization.
13. This Authorization does not release the Holder from the obligation to obtain appropriate approvals, permits or licences from other concerned federal, provincial, and municipal agencies.
14. The Holder shall prudently maintain in good faith records, accounts and statements of the rates and amounts of water used on a daily basis for the generation of hydroelectric power, rates and amounts of water spilled or released downstream for protecting fish habitat and aquatic life as required under the federal Fisheries Act and/or any other federal or provincial legislation, operating water levels in the reservoir, extent of the flooded area, energy production, and any other information that the Minister may require in whatever form, manner and time. Copies of such records, accounts, and statements shall be submitted to the Department of Environment and Labour annually.

APPENDIX A (CONTINUED)

NO: WUA-96-024
FILE: 516

TERMS AND CONDITIONS

15. The employees of the Department of Environment and Labour, authorized by the Minister, may at all reasonable times during the term created by this Authorization enter into the Authorized Area and the Holder's designated place of business to inspect the systems/works, records, statements, and accounts, and shall be entitled to copy such information as may be required by the Minister.
16. The Holder shall keep all systems/works in good condition and repair and in accordance with all laws, by-laws, directions, rules and regulations of any governmental authority. The Holder shall notify the Minister immediately if any problem arises which may threaten the structural stability of the systems/works such as dams, reservoirs, spillways, etc., endanger public safety and/or the environment or adversely affect water users either in or outside the Authorized Area. The Holder shall be responsible for all damages suffered by the Province resulting from any defect in the systems/works, operational deficiencies/inadequacies, or structural failure.
17. The Holder shall continue to pay to the Government any and all charges associated with this plant and such administrative fees and water use charges as may be approved by the Minister.
18. The Holder shall operate the plant in a manner which does not cause any water related and/or environmental problems, which may include but are not limited to erosion, deposition, flooding, deterioration of water quality and groundwater depletion in or outside the Authorized Area. The Holder shall be responsible for any and all damages associated with these problems caused as a result of changes, deficiencies, and inadequacies in the Holder's operational procedures.
19. The Holder shall not at any time impair, pollute or cause to be polluted the quality of the water in or outside the Authorized Area.
20. The Holder may be required by the Minister to install, operate and maintain streamflow and water level monitoring stations in the Authorized Area and also to monitor water quality at specified locations in a manner that the Minister considers necessary for the assessment of the quantity and quality of the water available in the Authorized Area and the quantity of water used by the Holder for the generation of hydroelectric power.

APPENDIX A (CONTINUED)

NO: WUA-96-024
FILE: 516

TERMS AND CONDITIONS

21. If the Holder fails to perform, fulfil, or observe any of the terms and conditions, reservations, exceptions, and provisions of this Authorization and/or Ministerial orders and guidelines, as determined by the Department of Environment and Labour, the Minister may, after providing a ninety (90) days notice to the Holder at any time during the term created by this Authorization, modify or cancel this Authorization.
22. The Holder may enter upon, investigate and survey any unoccupied Crown lands in the Authorized Area for any purpose incidental to the operation of the hydroelectric power generating plant but the Holder releases the Department of Environment and Labour from any and all liability, claims, damages and actions of any nature whatsoever relating to the rights conveyed in this Authorization and the systems/works operated, maintained, or rehabilitated by the Holder, its employees, agents, and invitees in the Authorized Area.
23. The Holder indemnifies and holds the Province 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 the water rights granted under this Authorization, systems and works in the Authorized Area, or any act or omission of the Holder in the Authorized Area, or arising out of a breach or non-performance of any of the terms and conditions, and provisions of this Authorization by the Holder.
24. Should any provision of this Authorization be unenforceable, it shall be considered separate and severable from the remaining provisions of this Authorization which shall remain in force and be binding as though the provision had not been included.
25. This Authorization is subject to the *Environment Act* and any regulations made pursuant thereto.
26. This Authorization shall be construed and interpreted in accordance with the laws of Newfoundland.
27. All notices to be given pursuant to the terms and conditions of this Authorization shall be given in writing and delivered by facsimile with auto confirmation or registered mail. If a notice is delivered by facsimile, it is deemed to have been received on the day it was sent if that day is a normal business day, if not, it is deemed to have been received on the next normal business day. If a notice is sent by registered mail, it is deemed to have been received three days after the day it was mailed.

APPENDIX A (CONTINUED)

NO: WUA-96-024
FILE: 516

TERMS AND CONDITIONS

The address and facsimile number of the Holder are:

Newfoundland Light & Power Co. Limited
55 Kenmount Road
P.O. Box 8910
St. John's, Newfoundland
A1B 3P6

(709) 737-2926

The address and facsimile number of the Department of Environment and Labour are:

Water Rights Section
Water Resources Management Division
Department of Environment and Labour
P.O. Box 8700
St. John's, Newfoundland
A1B 4J6

(709) 729-0320

SCHEDULE A

NO: WUA-96-024
FILE: 516

**DESCRIPTION OF WATERSHEDS AND AUTHORIZED WATER
FOR HEART'S CONTENT HYDROELECTRIC POWER GENERATING PLANT**

Southern Cove Pond Watershed:

The water used by the Holder for the sole purpose of generating hydroelectric power is described fully as all water draining from a watershed encompassing an area of 89.16 square kilometres to a point on Southern Cove Pond "forebay" from where the water is diverted by a storage dam with crest level of 81.11 metres elevation which is supplemented by Rocky Pond dam on the northern boundary of the watershed with crest level of 80.88 metres elevation, into the intake of the penstock from where the water ultimately passes through the powerhouse near the Town of Heart's Content, the east side of Trinity Bay, and is then discharged into Heart's Content, Trinity Bay. The aforementioned watershed outlined in black on the 1:50,000 scale topographic map, 1N/14 Heart's Content edition 3 to be referred to as "Schedule B", submitted by the Holder as part of the application dated November 3, 1994 and additional information provided on April 7, 1995 and March 27, 1996, is located in the Districts of Trinity Bay-Bay de Verde and Carbonear/Harbour Grace, Newfoundland and includes all of Seal Cove Pond, Southern Cove Pond, Heart's Content Brook, Sooleys Gullies, Monument Pond, Little Monument Pond, Daves Pond, Hard Weather Pond, Jump Gullies, Pierces Pond, Brimstone Pond, Hanging Hill Pond, Long Pond, Stag Pond, Dog Hill Pond, and all other bodies of water named or not within the boundaries of the said watershed, from where water will naturally flow to ultimately reach the intake of the penstock near the Town of Heart's Content except that such water shall not exceed:

- i) the amount of water that can be stored in the forebay to its full supply level (F.S.L) at 79.97 metres elevation consisting of an amount of water having a volume of 3,700,000 cubic metres and a surface area of 2.0 square kilometres; or
- ii) the amount of water which can be withdrawn into the aforementioned intake of the penstock at a rate of no more than 7.36 cubic metres per second and is to be used exclusively for the generation of hydroelectric power and subject to such withdrawal being limited to only that quantity of water which if withdrawn from Southern Cove Pond and/or released through Rocky Pond dam will not cause the water level in the forebay to be lower than the low supply level (L.S.L) at 78.09 metres elevation and a surface area of 1.936 square kilometres; or
- iii) the estimated annual water use of 139,000,000 cubic metres.

SCHEDULE A (CONTINUED)

NO: WUA-96-024
FILE: 516

**DESCRIPTION OF WATERSHED AND AUTHORIZED WATER
FOR HEART'S CONTENT HYDROELECTRIC POWER GENERATING PLANT**

Long Pond Sub-Watershed:

All water draining from a watershed encompassing an area of 40.74 square kilometres to a point on Long Pond "reservoir" from where the water is impounded by a storage dam with crest level of 103.42 metres elevation which is supplemented by Seal Cove Pond diversion dam on the north-western boundary of the watershed with crest level of 100.67 metres elevation and Packs Pond diversion dam on the south-eastern boundary of the watershed with crest level of 99.77, for the purpose of avoiding spill out of the system, and where water is released at will or excess water that cannot be stored is spilled to Southern Cove Pond except that such water is limited to:

- i) the amount of water that can be stored in the reservoir to its full supply level (F.S.L) at 102.29 metres elevation consisting of an amount of water having a volume of 1,842,000 cubic metres and a surface area of 0.85 square kilometres and subject to such withdrawal being limited to only that quantity of water which if withdrawn from Long Pond will not cause the water level in the reservoir to be lower than the low supply level (L.S.L.) of 100.00 metres elevation and a surface area of 0.76 square kilometres.

cc: Dr. Abdel-Zaher K. Abdel-Razek, P.Eng. (2 copies)
Head
Water Rights Section
Water Resources Management Division
Department of Environment and Labour
P.O. Box 8700
St. John's, NF
A1B 4J6

cc: Mr. Aubrey Rose,
Regional Lands Supervisor (E)
Department of Government Services and Lands
5 Mews Place
P.O. Box 8700
St. John's, NF
A1B 4J6

cc: Mr. Frank Walsh,
Area Habitat Coordinator
Fisheries & Oceans Canada
Suite 301, Viking Bldg., 136 Crosbie Road
St. John's, NF
A1B 3K3

cc: Mr. Donald Blundon
Mayor
P.O. Box 31
Heart's Content, NF
A0B 1Z0

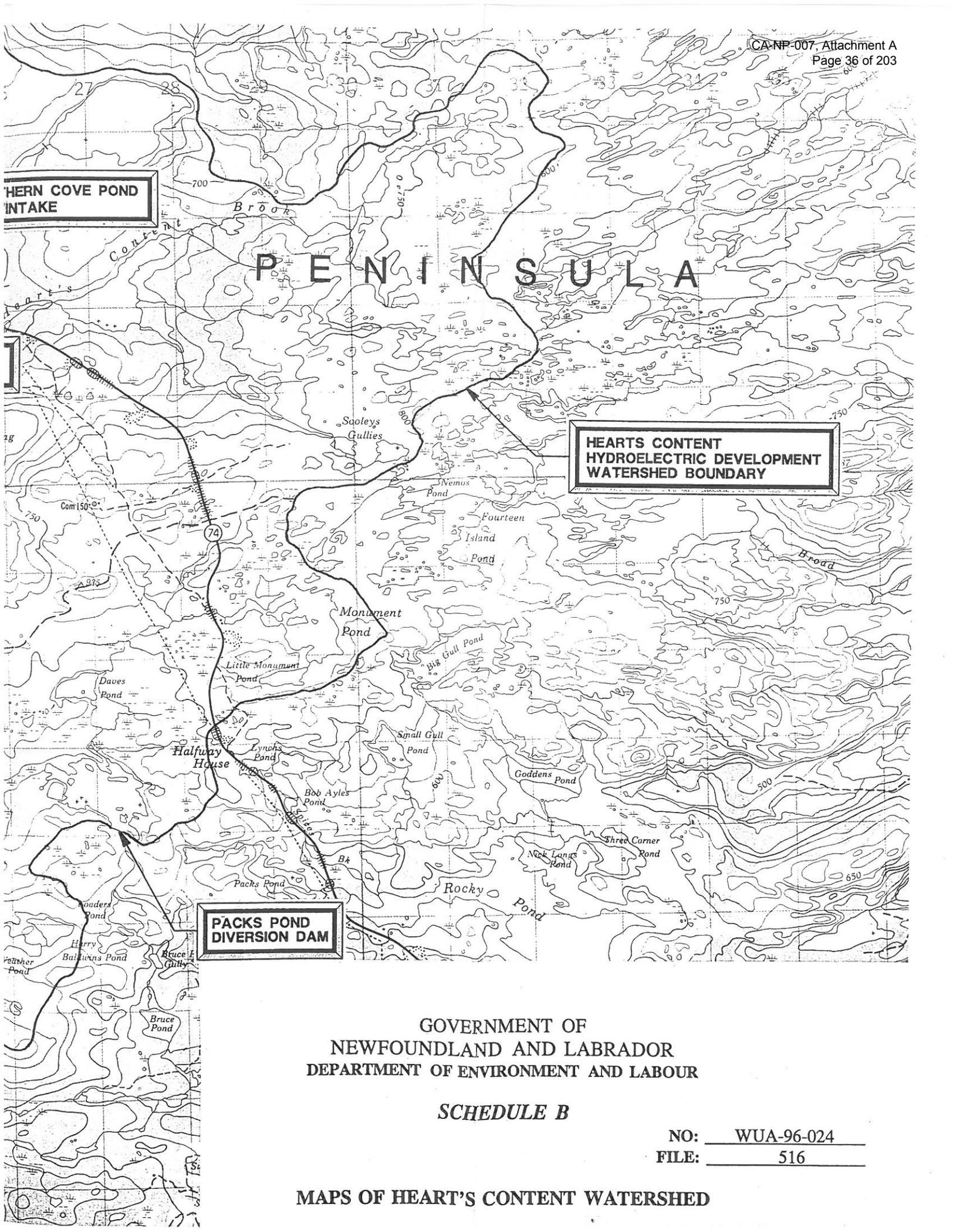
cc: Mr. Glenn Clarke
Mayor
P.O. Box 130
Victoria, NF
A0A 4G0

**HERN COVE POND
INTAKE**

P E N I N S U L A

**HEARTS CONTENT
HYDROELECTRIC DEVELOPMENT
WATERSHED BOUNDARY**

**PACKS POND
DIVERSION DAM**



GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND LABOUR

SCHEDULE B

NO: WUA-96-024
FILE: 516



NEWFOUNDLAND LIGHT & POWER CO. LIMITED
Approved by [Signature]
Date 96/08/26
Remarks _____

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR

Department of Environment and Labour
WATER USE AUTHORIZATION

Pursuant to the *Environment Act*

Date: June 4, 1996

No: WUA-96-021

File: 515

Holder: Newfoundland Light & Power Co. Limited
55 Kenmount Road
P. O. Box 8910
St. John's, NF
A1B 3P6

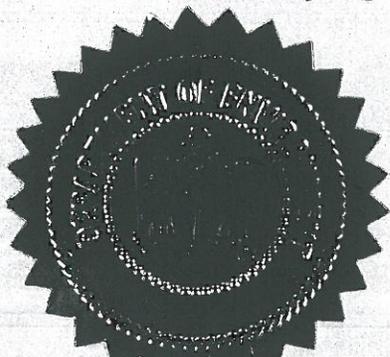
Attention: Mr. P. R. Hamilton, Manager, Energy Supply

Re: Lawn Hydroelectric Power Generating Plant, Lawn, Newfoundland

Authorization is hereby given to Newfoundland Light & Power Co. Limited (the "Holder") to operate the existing hydroelectric power generating plant near the Town of Lawn, located in the southern part of the Burin Peninsula, utilizing the water from the watershed described in Schedules A and B, defined herein as the "Authorized Area", for the purpose of generating hydroelectric power together with flooding rights in and over the unoccupied Crown lands located in the Authorized Area, in reference to the application dated November 3, 1994 and additional information provided on April 7, 1995 and March 21, 1996.

This Authorization is subject to the terms and conditions, reservations, exceptions, and provisions stated herein and the *Environment Act*. Appendix A and Schedules A and B form part and parcel of this Authorization.

Failure to comply with the terms and conditions, reservations, exceptions, and provisions set out herein will render this Authorization null and void, may place the Holder and/or its agents in violation of the *Environment Act*, and make the Holder responsible for any remedial measures which may be prescribed by the Department of Environment and Labour.



[Signature]
MINISTER

APPENDIX A

NO: WUA-96-021
FILE: 515

TERMS AND CONDITIONS

1. In consideration of the terms and conditions, reservations, exceptions, and provisions herein contained, the Minister of Environment and Labour hereby grants the Holder the **non-exclusive** right to use the water from all bodies of water and their catchments in the Authorized Area together with the right to flood the unoccupied Crown lands in the Authorized Area to the extent presently flooded at the full supply level as defined in Schedule A for the generation of hydroelectric power upon and in accordance with the terms and conditions, reservations, exceptions, and provisions set forth in this Authorization.

2. This Authorization is subject to the full right of Government, its licensees, lessees, assignees, transferees, and any other person authorized by Government to:
 - a) *explore, prospect, search for, work, get, carry away, and dispose of all minerals both metallic and nonmetallic, coal, oil, natural gas, salt, and quarry materials;*
 - b) *fell, cut down, carry away, and dispose of all timber in the Authorized Area;*
 - c) *ingress, egress and regress over the Authorized Area and to make, sink, erect and use all mines, pits, plants, shafts, wells, machinery, buildings, erections, dams, roads, transmission lines and any other systems/works and conveniences for any purpose authorized by Government;*
 - d) *use all the land and water in the Authorized Area for fishing, boating, hunting and other traditional recreational activities subject to all applicable laws and regulations;*
 - e) *enjoy all other rights in the Authorized Area not otherwise granted and demised by this Authorization; and*
 - f) *occupy and use all land and water in the Authorized Area, the occupation and use of which is, in the opinion of the Minister, necessary for any of the above purposes.*

APPENDIX A (CONTINUED)

NO: WUA-96-021
FILE: 515

TERMS AND CONDITIONS

3. The initial term of this Authorization shall be twenty-five (25) years from the commencement date of June 10, 1996 and this Authorization shall expire on July 1, 2021 or earlier if suspended or cancelled by the Minister. This Authorization may be renewed by the Minister for such renewal term as the Minister deems appropriate commencing on the expiry of the initial term, provided the Holder applies for an extension at least one (1) year before the expiry of the initial term in the case of the first renewal and thereafter the expiry of the immediately preceding renewal term, on such terms and conditions as the Minister considers appropriate and in the public interest.
4. Subject to the terms and conditions, reservations, exceptions and provisions stated herein, the Authorization grants the Holder the following non-exclusive rights to use the water in the Authorized Area:
 - a) *the right to harness and make use of the authorized water in the existing systems/works, including dam, reservoir, spillway, intake, penstock, powerhouse and any other works presently being used for operating the hydroelectric power generating plant;*
 - b) *the right to store the water in the reservoir in the Authorized Area to the full supply level as defined in Schedule A without in anyway adversely affecting the safety of the dam and other structures/works and to regulate flows for the purpose of generating hydroelectric power subject to Condition 6; and*
 - c) *subject to the prior written approval from the Minister, the right to make any improvement in the systems/works including the construction of additional works designed to make the existing operation more efficient.*
5. The designated purpose is "water power".
6. This Authorization shall not affect or be interpreted as granting any rights which might affect the quantity and quality of water required at present or in the future to the Town of Lawn and other users of the water in and outside the Authorized Area for their domestic and municipal uses.
7. The Holder acknowledges and agrees that this Authorization does not grant any interest in land or any exclusive right in or to use or occupy the Authorized Area.

APPENDIX A (CONTINUED)

NO: WUA-96-021
FILE: 515

TERMS AND CONDITIONS

8. The Holder shall not construct any new structure/facility in the Authorized Area, make alterations to the existing systems/works, make changes in the purpose, rates and amounts of water specified in this Authorization, or divert the course or alter the physical features of the water bodies within the Authorized Area without the prior written approval of the Minister.
9. The rights and liberties hereby demised by this Authorization shall not be sold, assigned, transferred, leased, mortgaged, sublet or otherwise alienated by the Holder without obtaining prior written approval from the Minister.
10. The Minister may allocate the unused water in the Authorized Area for any other beneficial purpose provided such allocation of the water does not prejudicially affect the rights of the Holder conveyed in this Authorization. The Holder will be duly informed and consulted by the Minister on any request for authorization of the unused water.
11. The Minister may, upon providing a hundred and eighty (180) days notice to the Holder, modify this Authorization by allocating part of the authorized water for other beneficial use(s) of higher order of precedence outlined in the Ministerial Policy established under the *Environment Act*. The Holder will be fully consulted on any such applications before any decision is taken by the Minister.
12. The Holder shall complete and return the attached Notification of Acceptance of Water Use Authorization to the Water Rights Section of the Department of Environment and Labour within thirty (30) days of receipt of the Water Use Authorization.
13. This Authorization does not release the Holder from the obligation to obtain appropriate approvals, permits or licences from other concerned federal, provincial, and municipal agencies.
14. The Holder shall prudently maintain in good faith records, accounts and statements of the rates and amounts of water used on a daily basis for the generation of hydroelectric power, rates and amounts of water spilled or released downstream for protecting fish habitat and aquatic life as required under the federal Fisheries Act and/or any other federal or provincial legislation, operating water levels in the reservoir, extent of the flooded area, energy production, and any other information that the Minister may require in whatever form, manner and time. Copies of such records, accounts, and statements shall be submitted to the Department of Environment and Labour annually.

APPENDIX A (CONTINUED)

NO: WUA-96-021
FILE: 515

TERMS AND CONDITIONS

15. The employees of the Department of Environment and Labour, authorized by the Minister, may at all reasonable times during the term created by this Authorization enter into the Authorized Area and the Holder's designated place of business to inspect the systems/works, records, statements, and accounts, and shall be entitled to copy such information as may be required by the Minister.
16. The Holder shall keep all systems/works in good condition and repair and in accordance with all laws, by-laws, directions, rules and regulations of any governmental authority. The Holder shall notify the Minister immediately if any problem arises which may threaten the structural stability of the systems/works such as dam, reservoir, spillway, etc., endanger public safety and/or the environment or adversely affect water users either in or outside the Authorized Area. The Holder shall be responsible for all damages suffered by the Province resulting from any defect in the systems/works, operational deficiencies/inadequacies, or structural failure.
17. The Holder shall continue to pay to the Government any and all charges associated with this plant and such administrative fees and water use charges as may be approved by the Minister.
18. The Holder shall operate the plant in a manner which does not cause any water related and/or environmental problems, which may include but not limited to erosion, deposition, flooding, deterioration of water quality and groundwater depletion, in or outside the Authorized Area. The Holder shall be responsible for any and all damages associated with these problems caused as a result of changes, deficiencies, and inadequacies in the Holder's operational procedures.
19. The Holder shall not at any time impair, pollute or cause to be polluted the quality of the water in or outside the Authorized Area.
20. The Holder may be required by the Minister to install, operate and maintain streamflow and water level monitoring stations in the Authorized Area and also to monitor water quality at specified locations in a manner that the Minister considers necessary for the assessment of the quantity and quality of the water available in the Authorized Area and the quantity of water used by the Holder for the generation of hydroelectric power.
21. If the Holder fails to perform, fulfil, or observe any of the terms and conditions, reservations, exceptions, and provisions of this Authorization and/or Ministerial orders and guidelines, as determined by the Department of Environment and Labour, the Minister may, after providing a ninety (90) days notice to the Holder at any time during the term created by this Authorization, modify or cancel this Authorization.

APPENDIX A (CONTINUED)

NO: WUA-96-021
FILE: 515

TERMS AND CONDITIONS

22. The Holder may enter upon, investigate and survey any unoccupied Crown lands in the Authorized Area for any purpose incidental to the operation of the hydroelectric power generating plant but the Holder releases the Department of Environment and Labour from any and all liability, claims, damages and actions of any nature whatsoever relating to the rights conveyed in this Authorization and the systems/works operated, maintained, or rehabilitated by the holder, its employees, agents, and invitees in the Authorized Area.
23. The Holder indemnifies and holds the Province 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 the water rights granted under this Authorization, systems and works in the Authorized Area, or any act or omission of the Holder in the Authorized Area, or arising out of a breach or non-performance of any of the terms and conditions, and provisions of this Authorization by the Holder.
24. Should any provision of this Authorization be unenforceable, it shall be considered separate and severable from the remaining provisions of this Authorization which shall remain in force and be binding as though the provision had not been included.
25. This Authorization is subject to the *Environment Act* and any regulations made pursuant thereto.
26. This Authorization shall be construed and interpreted in accordance with the laws of Newfoundland.
27. All notices to be given pursuant to the terms and conditions of this Authorization shall be given in writing and delivered by facsimile with auto confirmation or registered mail. If a notice is delivered by facsimile, it is deemed to have been received on the day it was sent if that day is a normal business day, if not, it is deemed to have been received on the next normal business day. If a notice is sent by registered mail, it is deemed to have been received three days after the day it was mailed.

APPENDIX A (CONTINUED)

NO: WUA-96-021
FILE: 515

TERMS AND CONDITIONS

The address and facsimile number of the Holder are:

Newfoundland Light & Power Co. Limited
55 Kenmount Road
P.O. Box 8910
St. John's, Newfoundland
A1B 3P6

(709) 737-2926

The address and facsimile number of the Department of Environment and Labour are:

Water Rights Section
Water Resources Management Division
Department of Environment and Labour
P.O. Box 8700
St. John's, Newfoundland
A1B 4J6

(709) 729-0320

SCHEDULE A

NO: WUA-96-021
FILE: 515

**DESCRIPTION OF WATERSHED AND AUTHORIZED WATER
FOR LAWN HYDROELECTRIC POWER GENERATING PLANT**

The water used by the Holder for the sole purpose of generating hydroelectric power is described fully as all water draining from the Lawn watershed encompassing an area of 80.89 square kilometres to a point near the Town of Lawn "reservoir" from where the water is diverted by a storage dam with crest level of 60.96 metres elevation, into the intake of the penstock from where the water ultimately passes through the powerhouse near the Town of Lawn, the southern part of the Burin Peninsula, and is then discharged into Great Lawn Harbour. The aforementioned watershed outlined in black on the 1:50,000 scale topographic maps, Lamaline 1L/13 edition 3, St. Lawrence 1L/14 edition 3, Marystown 1M/3 edition 3, and Grand Bank 1M/4 edition 3 to be referred to as "Schedule B", submitted by the Holder as part of the application dated November 3, 1994 and additional information provided on April 7, 1995 and March 21, 1996, is located in the District of Grand Bank, Newfoundland and includes all of Lunch Pond and all other bodies of water named or not within the boundaries of the said watershed, from where water will naturally flow to ultimately reach the intake of the penstock near the Town of Lawn except that such water shall not exceed:

- i) the amount of water that can be stored in the reservoir to its full supply level (F.S.L) at 59.43 metres elevation consisting of an amount of water having a volume of 154,000 cubic metres and a surface area of 0.05 square kilometres; or
- ii) the amount of water which can be withdrawn into the aforementioned intake of the penstock at a rate of no more than 4.11 cubic metres per second and is to be used exclusively for the generation of hydroelectric power and subject to such withdrawal being limited to only that quantity of water which if withdrawn from the storage dam will not cause the water level in the reservoir to be lower than the low supply level (L.S.L) at 55.44 metres elevation and a surface area of 0.028 square kilometres; or
- iii) the estimated annual water use of 72,000,000 cubic metres.



GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR

Department of Environment and Labour
AMENDMENT TO WATER USE AUTHORIZATION

Pursuant to the *Environment Act*

Date: October 17, 1996

No: WUA-96-021

File: 515

Holder: Newfoundland Light & Power Co. Limited
55 Kenmount Road
P.O. Box 8910
St. John's, NF
A1B 3P6

Attention: Mr. P. R. Hamilton, Manager, Energy Supply

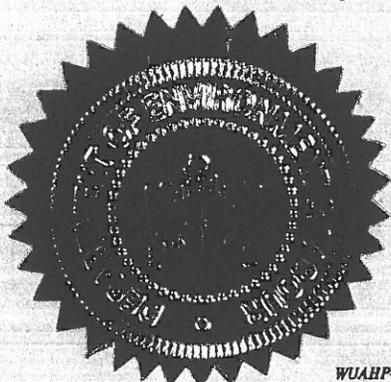
Re: *Lawn Hydroelectric Power Generating Plant, Lawn, Newfoundland*

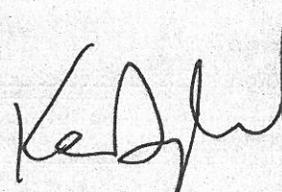
In reference to the written request dated October 1, 1996, Water Use Authorization No. WUA-96-021 issued on June 4, 1996, is hereby amended as follows:

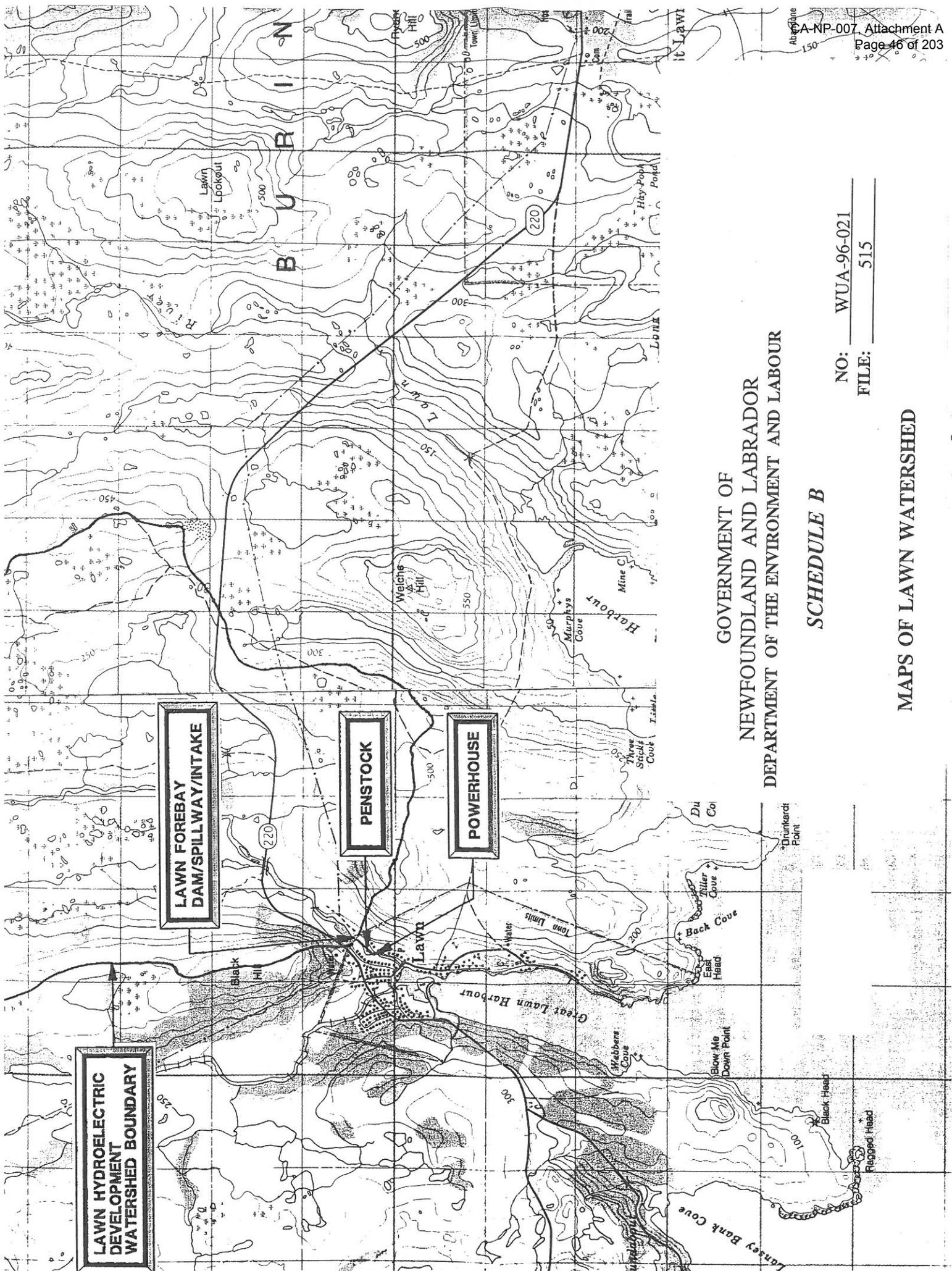
Clause # 11 of Appendix A of the original Water Use Authorization No. WUA-96-021, is deleted.

All other terms and conditions, reservations, exceptions, and provisions indicated in Appendix A and Schedules A and B of the original Water Use Authorization No. WUA-96-021 shall remain in force.

Failure to comply with the terms and conditions, reservations, exceptions, and provisions set out in the original Water Use Authorization No. WUA-96-021 and this amendment will render this Authorization null and void, may place the Holder and/or their agents in violation of the *Environment Act*, and make the Holder responsible for any remedial measures which may be prescribed by the Department of Environment and Labour.




MINISTER



GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF THE ENVIRONMENT AND LABOUR

SCHEDULE B

NO: WUA-96-021
FILE: 515

MAPS OF LAWN WATERSHED



Approved by [Signature]
Date 96/08/26
Remarks _____

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR

Department of Environment and Labour
WATER USE AUTHORIZATION

Pursuant to the *Environment Act*

Date: May 10, 1996

No: WUA-96-023

File: 516

Holder: Newfoundland Light & Power Co. Limited
55 Kenmount Road
P. O. Box 8910
St. John's, NF
A1B 3P6

Attention: Mr. P. R. Hamilton, Manager, Energy Supply

Re: Lockston Hydroelectric Power Generating Plant near Port Rexton,
Newfoundland

Authorization is hereby given to Newfoundland Light & Power Co. Limited (the "Holder") to operate the existing hydroelectric power generating plant at Rattling Pond, located on the Trinity Bay side of the Bonavista Peninsula near the Community of Port Rexton, utilizing the water from the watershed described in Schedules A and B, defined herein as the "Authorized Area", for the purpose of generating hydroelectric power together with flooding rights in and over the unoccupied Crown lands located in the Authorized Area, in reference to the application dated November 3, 1994 and additional information provided on April 7, 1995, March 27, 1996, and April 1, 1996.

This Authorization is subject to the terms and conditions, reservations, exceptions, and provisions stated herein and the *Environment Act*. Appendix A and Schedules A and B form part and parcel of this Authorization.

Failure to comply with the terms and conditions, reservations, exceptions, and provisions set out herein will render this Authorization null and void, may place the Holder and/or its agents in violation of the *Environment Act*, and make the Holder responsible for any remedial measures which may be prescribed by the Department of Environment and Labour.



[Signature]
MINISTER

APPENDIX A

NO: WUA-96-023
FILE: 516

TERMS AND CONDITIONS

1. In consideration of the terms and conditions, reservations, exceptions, and provisions herein contained, the Minister of Environment and Labour hereby grants the Holder the **non-exclusive** right to use the water from all bodies of water and their catchments in the Authorized Area together with the right to flood the unoccupied Crown lands in the Authorized Area to the extent presently flooded at the full supply levels as defined in Schedule A for the generation of hydroelectric power upon and in accordance with the terms and conditions, reservations, exceptions, and provisions set forth in this Authorization.
2. This Authorization is subject to the full right of Government, its licensees, lessees, assignees, transferees, and any other person authorized by Government to:
 - a) *explore, prospect, search for, work, get, carry away, and dispose of all minerals both metallic and nonmetallic, coal, oil, natural gas, salt, and quarry materials;*
 - b) *fell, cut down, carry away, and dispose of all timber in the Authorized Area;*
 - c) *ingress, egress and regress over the Authorized Area and to make, sink, erect and use all mines, pits, plants, shafts, wells, machinery, buildings, erections, dams, roads, transmission lines and any other systems/works and conveniences for any purpose authorized by Government;*
 - d) *use all the land and water in the Authorized Area for fishing, boating, hunting and other traditional recreational activities subject to all applicable laws and regulations;*
 - e) *enjoy all other rights in the Authorized Area not otherwise granted and demised by this Authorization; and*
 - f) *occupy and use all land and water in the Authorized Area, the occupation and use of which is, in the opinion of the Minister, necessary for any of the above purposes.*

APPENDIX A (CONTINUED)

NO: WUA-96-023
FILE: 516

TERMS AND CONDITIONS

3. The initial term of this Authorization shall be twenty-five (25) years from the commencement date of May 15, 1996 and this Authorization shall expire on June 1, 2021 or earlier if suspended or cancelled by the Minister. This Authorization may be renewed by the Minister for such renewal term as the Minister deems appropriate commencing on the expiry of the initial term, provided the Holder applies for an extension at least one (1) year before the expiry of the initial term in the case of the first renewal and thereafter the expiry of the immediately preceding renewal term, on such terms and conditions as the Minister considers appropriate and in the public interest.
4. Subject to the terms and conditions, reservations, exceptions and provisions stated herein, the Authorization grants the Holder the following non-exclusive rights to use the water in the Authorized Area:
 - a) *the right to harness and make use of the authorized water in the existing systems/works, including dams, reservoirs, spillway, intake, penstock, powerhouse and any other works presently being used for operating the hydroelectric power generating plant;*
 - b) *the right to store the water in the reservoirs in the Authorized Area to the full supply levels as defined in Schedule A without in anyway adversely affecting the safety of the dams and other structures/works and to regulate flows for the purpose of generating hydroelectric power subject to Condition 6; and*
 - c) *subject to the prior written approval from the Minister, the right to make any improvement in the systems/works including the construction of additional works designed to make the existing operation more efficient.*
5. The designated purpose is "water power".
6. This Authorization shall not affect or be interpreted as granting any rights which might affect the quantity and quality of water required at present or in the future to all nearby communities and other users of the water in and outside the Authorized Area for their domestic and municipal uses.
7. The Holder acknowledges and agrees that this Authorization does not grant any interest in land or any exclusive right in or to use or occupy the Authorized Area.

APPENDIX A (CONTINUED)

NO: WUA-96-023
FILE: 516

TERMS AND CONDITIONS

8. The Holder shall not construct any new structure/facility in the Authorized Area, make alterations to the existing systems/works, make changes in the purpose, rates and amounts of water specified in this Authorization, or divert the course or alter the physical features of the water bodies within the Authorized Area without the prior written approval of the Minister.
9. The rights and liberties hereby demised by this Authorization shall not be sold, assigned, transferred, leased, mortgaged, sublet or otherwise alienated by the Holder without obtaining prior written approval from the Minister.
10. The Minister may allocate the unused water in the Authorized Area for any other beneficial purpose provided such allocation of the water does not prejudicially affect the rights of the Holder conveyed in this Authorization. The Holder will be duly informed and consulted by the Minister on any request for authorization of the unused water.
11. The Minister may, upon providing a hundred and eighty (180) days notice to the Holder, modify this Authorization by allocating part of the authorized water for other beneficial use(s) of higher order of precedence outlined in the Ministerial Policy established under the *Environment Act*. The Holder will be fully consulted on any such applications before any decision is taken by the Minister.
12. The Holder shall complete and return the attached Notification of Acceptance of Water Use Authorization to the Water Rights Section of the Department of Environment and Labour within thirty (30) days of receipt of the Water Use Authorization.
13. This Authorization does not release the Holder from the obligation to obtain appropriate approvals, permits or licences from other concerned federal, provincial, and municipal agencies.
14. The Holder shall prudently maintain in good faith records, accounts and statements of the rates and amounts of water used on a daily basis for the generation of hydroelectric power, rates and amounts of water spilled or released downstream for protecting fish habitat and aquatic life as required under the federal Fisheries Act and/or any other federal or provincial legislation, operating water levels in the reservoir, extent of the flooded area, energy production, and any other information that the Minister may require in whatever form, manner and time. Copies of such records, accounts, and statements shall be submitted to the Department of Environment and Labour annually.

APPENDIX A (CONTINUED)

NO: WUA-96-023
FILE: 516

TERMS AND CONDITIONS

15. The employees of the Department of Environment and Labour, authorized by the Minister, may at all reasonable times during the term created by this Authorization enter into the Authorized Area and the Holder's designated place of business to inspect the systems/works, records, statements, and accounts, and shall be entitled to copy such information as may be required by the Minister.
16. The Holder shall keep all systems/works in good condition and repair and in accordance with all laws, by-laws, directions, rules and regulations of any governmental authority. The Holder shall notify the Minister immediately if any problem arises which may threaten the structural stability of the systems/works such as dams, reservoirs, spillways, etc., endanger public safety and/or the environment or adversely affect water users either in or outside the Authorized Area. The Holder shall be responsible for all damages suffered by the Province resulting from any defect in the systems/works, operational deficiencies/inadequacies, or structural failure.
17. The Holder shall continue to pay to the Government any and all charges associated with this plant for land use and such administrative fees and water use charges as may be approved by the Minister.
18. The Holder shall operate the plant in a manner which does not cause any water related and/or environmental problems, which may include but are not limited to erosion, deposition, flooding, deterioration of water quality and groundwater depletion in or outside the Authorized Area. The Holder shall be responsible for any and all damages associated with these problems caused as a result of changes, deficiencies, and inadequacies in the Holder's operational procedures.
19. The Holder shall not at any time impair, pollute or cause to be polluted the quality of the water in or outside the Authorized Area.
20. The Holder may be required by the Minister to install, operate and maintain streamflow and water level monitoring stations in the Authorized Area and also to monitor water quality at specified locations in a manner that the Minister considers necessary for the assessment of the quantity and quality of the water available in the Authorized Area and the quantity of water used by the Holder for the generation of hydroelectric power.

APPENDIX A (CONTINUED)

NO: WUA-96-023
FILE: 516

TERMS AND CONDITIONS

21. If the Holder fails to perform, fulfil, or observe any of the terms and conditions, reservations, exceptions, and provisions of this Authorization and/or Ministerial orders and guidelines, as determined by the Department of Environment and Labour, the Minister may, after providing a ninety (90) days notice to the Holder at any time during the term created by this Authorization, modify or cancel this Authorization.
22. The Holder may enter upon, investigate and survey any unoccupied Crown lands in the Authorized Area for any purpose incidental to the operation of the hydroelectric power generating plant but the Holder releases the Department of Environment and Labour from any and all liability, claims, damages and actions of any nature whatsoever relating to the rights conveyed in this Authorization and the systems/works operated, maintained, or rehabilitated by the Holder, its employees, agents, and invitees in the Authorized Area.
23. The Holder indemnifies and holds the Province 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 the water rights granted under this Authorization, systems and works in the Authorized Area, or any act or omission of the Holder in the Authorized Area, or arising out of a breach or non-performance of any of the terms and conditions, and provisions of this Authorization by the Holder.
24. Should any provision of this Authorization be unenforceable, it shall be considered separate and severable from the remaining provisions of this Authorization which shall remain in force and be binding as though the provision had not been included.
25. This Authorization is subject to the *Environment Act* and any regulations made pursuant thereto.
26. This Authorization shall be construed and interpreted in accordance with the laws of Newfoundland.
27. The Holder is authorized to divert water from Copley's Pond watershed as shown in Schedule B subject to obtaining environmental approval under Section 11 of the *Environment Act* and any other applicable provincial and federal Acts and regulations and after completion of the work the Holder shall provide to the Water Rights Section the detailed specifications of water control structures constructed for the diversion of the water and seek amendment to Schedule A of this Authorization.

APPENDIX A (CONTINUED)

NO: WUA-96-023
FILE: 516

TERMS AND CONDITIONS

28. All notices to be given pursuant to the terms and conditions of this Authorization shall be given in writing and delivered by facsimile with auto confirmation or registered mail. If a notice is delivered by facsimile, it is deemed to have been received on the day it was sent if that day is a normal business day, if not, it is deemed to have been received on the next normal business day. If a notice is sent by registered mail, it is deemed to have been received three days after the day it was mailed.

The address and facsimile number of the Holder are:

Newfoundland Light & Power Co. Limited
55 Kenmount Road
P.O. Box 8910
St. John's, Newfoundland
A1B 3P6

(709) 737-2926

The address and facsimile number of the Department of Environment and Labour are:

Water Rights Section
Water Resources Management Division
Department of Environment and Labour
P.O. Box 8700
St. John's, Newfoundland
A1B 4J6

(709) 729-0320

SCHEDULE A

NO: WUA-96-023
FILE: 516

**DESCRIPTION OF WATERSHEDS AND AUTHORIZED WATER
FOR LOCKSTON HYDROELECTRIC POWER GENERATING PLANT**

Rattling Pond Watershed:

The water used by the Holder for the sole purpose of generating hydroelectric power is described fully as all water draining from a watershed encompassing an area of 45.69 square kilometres to a point on Rattling Pond "forebay" from where the water is diverted by a storage dam with crest level of 100.61 metres elevation, into the power canal and thence to the intake of the penstock from where the water ultimately passes through the powerhouse near the Community of Port Rexton, the Trinity Bay side of the Bonavista Peninsula and is then discharged into Northwest Arm, Trinity Bay. The aforementioned watershed outlined in black on the 1:50,000 scale topographic maps, 2C/5 Sweet Bay edition 3 and Trinity 2C/6 edition 3 to be referred to as "Schedule B", submitted by the Holder as part of the application dated November 3, 1994 and additional information provided on April 7, 1995, March 27, 1996, and April 1, 1996, is located in the Districts of Trinity North and Bonavista South, Newfoundland and includes all of Trinity Pond, Rattling Brook, Rattling Pond, and all other bodies of water named or not within the boundaries of the said watershed, from where water will flow to ultimately reach the power canal and thence to the intake of the penstock near the Community of Port Rexton except that such water shall not exceed:

- i) the amount of water that can be stored in the forebay to its full supply level (F.S.L.) at 100.00 metres elevation consisting of an amount of water having a volume of 132,000 cubic metres and a surface area of 0.125 square kilometres; or
- ii) the amount of water which can be withdrawn into the aforementioned power canal and thence to the intake of the penstock at a rate of no more than 7.02 cubic metres per second and is to be used exclusively for the generation of hydroelectric power and subject to such withdrawal being limited to only that quantity of water which if withdrawn from Rattling Pond will not cause the water level in the forebay to be lower than the low supply level (L.S.L.) at 98.8 metres elevation and a surface area of 0.096 square kilometres; or
- iii) the estimated annual water use of 54,000,000 cubic metres.

SCHEDULE A (CONTINUED)

NO: WUA-96-023
FILE: 516

**DESCRIPTION OF WATERSHED AND AUTHORIZED WATER
FOR LOCKSTON HYDROELECTRIC POWER GENERATING PLANT**

Trinity Pond Sub-Watershed:

All water draining from a watershed encompassing an area of 37.41 square kilometres to a point on Trinity Pond "reservoir" from where the water is impounded by a storage dam with crest level of 101.20 metres elevation, and where water is released at will or excess water that cannot be stored is spilled to Rattling Pond through Rattling Brook except that such water shall not exceed:

- i) the amount of water that can be stored in the reservoir to its full supply level (F.S.L) at 100.00 metres elevation consisting of an amount of water having a volume of 28,990,000 cubic metres and a surface area of 7.45 square kilometres and subject to such withdrawal being limited to only that quantity of water which if withdrawn from Trinity Pond will not cause the water level in the reservoir to be lower than the low supply level of (L.S.L.) 95.64 metres elevation and a surface area of 5.877 square kilometres.

Copley's Pond Diversion (Proposed):

All water draining from a watershed encompassing an area of 6.39 square kilometres to a point "D" on an height of land as shown in "Schedule B" from where the water flows uncontrolled to the Trinity Pond through a diversion ditch and where water is diverted by an overflow dam at a point "O" on an height of land as shown in "Schedule B" except that such water shall not exceed:

- i) the amount of water that can flow of its own accord to the Trinity Pond through the said diversion ditch, recognizing that there is no means to control water flow into, through, or out of the said diversion ditch.

- cc: Dr. Abdel-Zaher K. Abdel-Razek, P.Eng. (2 copies)
Head
Water Rights Section
Water Resources Management Division
Department of Environment and Labour
P.O. Box 8700
St. John's, NF
A1B 4J6
- cc: Mr. Aubrey Rose,
Regional Lands Supervisor (E)
Department of Government Services and Lands
5 Mews Place
P.O. Box 8700
St. John's, NF
A1B 4J6
- cc: Mr. Frank Walsh,
Area Habitat Coordinator
Fisheries & Oceans Canada
Suite 301, Viking Bldg., 136 Crosbie Road
St. John's, NF
A1B 3K3
- cc: Mr. Beryl Fisher
Mayor
Community of Port Rexton
P.O. Box 55
Port Rexton, NF
A0C 2H0



GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR

Department of Environment and Labour
AMENDMENT TO WATER USE AUTHORIZATION

Pursuant to the *Environment Act*

Date: October 17, 1996

No: WUA-96-023

File: 516

Holder: Newfoundland Light & Power Co. Limited
55 Kenmount Road
P.O. Box 8910
St. John's, NF
A1B 3P6

Attention: Mr. P. R. Hamilton, Manager, Energy Supply

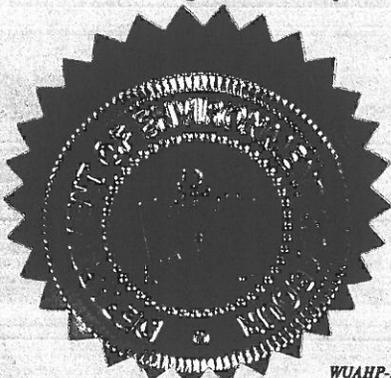
Re: *Lockston Hydroelectric Power Generating Plant near Port Rexton,
Newfoundland*

In reference to the written request dated October 1, 1996, Water Use Authorization No. WUA-96-023 issued on May 10, 1996, is hereby amended as follows:

Clause # 11 of Appendix A of the original Water Use Authorization No. WUA-96-023, is deleted.

All other terms and conditions, reservations, exceptions, and provisions indicated in Appendix A and Schedules A and B of the original Water Use Authorization No. WUA-96-023 shall remain in force.

Failure to comply with the terms and conditions, reservations, exceptions, and provisions set out in the original Water Use Authorization No. WUA-96-023 and this amendment will render this Authorization null and void, may place the Holder and/or their agents in violation of the *Environment Act*, and make the Holder responsible for any remedial measures which may be prescribed by the Department of Environment and Labour.




MINISTER

January 8, 2013

Mr. Barry Hogan
Newfoundland Power Inc.
55 Kenmount Road
PO Box 8910
St. John's NL A1B 3P6

Dear Mr. Hogan:

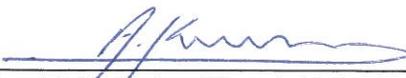
Re: Water Use Licence No. WUL-12-184
for Lookout Brook Hydroelectric Power Generating Plant

Please find enclosed Water Use Licence No. WUL-12-184 approved by the Minister.

Please forward to Mr. Earl Ludlow, President and CEO for signature and return of the Notification of Acceptance of Water Use Licence (attached) to the Water Rights Section of this Department within thirty (30) days of receipt.

Thank you for your cooperation on this matter. Should you have questions concerning this licence and its terms and conditions, please do not hesitate to call at (709) 729-4795.

Yours very truly,



Dr. Abdel-Zaher Kamal Abdel-Razek, P.Eng.
Manager

AKA\Enclosures\

**WATER USE LICENCE
(Water Power Generation)**

Pursuant to the *Water Resources Act*, SNL 2002 cW-4-01

Date of Issuance: December 28, 2012

No: WUL-12-184
File: 514

Licensee: Newfoundland Power Inc.
55 Kenmount Road
PO Box 8910
St. John's NL A1B 3P6

Attention: Mr. Earl Ludlow, President and CEO

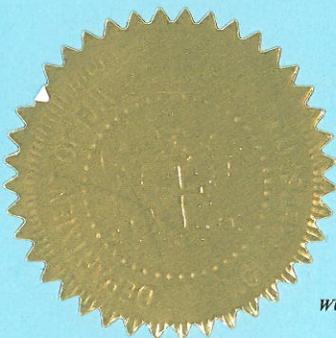
Re: *Water Use for Lookout Brook Hydroelectric Power Generating Plant*

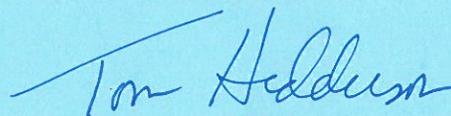
The Minister of Environment and Conservation (the "Minister") hereby grants a Water Use Licence for non-exclusive water rights (the "Licence") to **Newfoundland Power Inc.** (the "Licensee") to continue operation of the existing Lookout Brook hydroelectric power generating plant at Lookout Brook (the "Plant"), located in the Western Portion of the Island of Newfoundland near the Town of St. George's, utilizing the water from the watershed described in Schedules A and B, defined herein as the "Watershed", for the purpose of water power generation at the Licensee's existing Plant, together with flooding rights in and over the unoccupied Crown lands located in the Watershed to the extent presently flooded to the full supply level, in reference to the application received on May 9, 2012 and further information provided on November 5, 2012 and December 19, 21 and 27, 2012.

This Licence is subject to the terms and conditions, reservations, exceptions, and provisions stated herein and the *Water Resources Act* and regulations thereunder. Appendix A and Schedules A and B form part and parcel of this Licence. This Licence does not release the Licensee from the obligation to obtain appropriate approvals, permits or licences from other concerned federal, provincial and municipal agencies.

The Licensee shall complete and return the attached Notification of Acceptance of Water Use Licence (attached) to the Water Rights Section of the Department of Environment and Conservation within thirty (30) days of receipt of this Licence.

Failure to comply with the terms and conditions, reservations, exceptions, and provisions set out herein will render this Licence null and void, place the Licensee and/or its agents in violation of the *Water Resources Act*, and cause the Licensee to be responsible for any and all remedial measures which may be prescribed by the Department of Environment and Conservation.




Minister

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
APPENDIX A

NO: WUL-12-184
FILE: 514

TERMS AND CONDITIONS FOR WATER USE LICENCE

1. In consideration of the terms and conditions, reservations, exceptions, and provisions herein contained in this Licence, the Minister hereby grants the Licensee the non-exclusive right to use the water from all bodies of water and their catchments in the Watershed described in Schedules A and B, for the purpose of water power generation at the Plant, together with the right to flood the unoccupied Crown lands in the Watershed to the extent presently flooded at the full supply level as defined in Schedule A, in reference to the application received on May 9, 2012 and further information provided on November 5, 2012 and December 19, 21 and 27, 2012.
2. This Licence is subject to the full right of the Government, its licensees, lessees, assignees, transferees, and any other person authorized by the Government or of the general public, in accordance with applicable legislation of the Province of Newfoundland and Labrador or federal legislation having application in the Province of Newfoundland and Labrador to:
 - a) *explore, prospect, search for, develop, produce, mine, carry away, and dispose of all minerals both metallic and non-metallic, coal, oil, natural gas, salt, and quarry materials in the Watershed;*
 - b) *fell, cut down, carry away, and dispose of all timber in the Watershed;*
 - c) *ingress, egress and regress over the Watershed and to make, sink, erect and use all mines, pits, plants, shafts, wells, machinery, buildings, erections, dams, roads, transmission lines and any other systems and works and conveniences for any purpose authorized by the Government;*
 - d) *use all the land and water in the Watershed for fishing, boating, hunting and other traditional recreational activities subject to all applicable laws and regulations of the Province of Newfoundland and Labrador;*
 - e) *enjoy all other rights in the Watershed not otherwise granted and demised by this Licence; and*
 - f) *occupy and use all land and water in the Watershed, the occupation and use of which is, in the opinion of the Minister, necessary for any of the above purposes.*

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
APPENDIX A (CONTINUED)

NO: WUL-12-184
FILE: 514

TERMS AND CONDITIONS FOR WATER USE LICENCE

3. This Licence shall be read and interpreted as conferring non-exclusive rights upon the Licensee to use the water, and nothing herein shall limit, abrogate or derogate from any water uses within the Watershed that existed prior to the issuance of this Licence and all rights reserved or purported reserved or to be reserved herein to the Government, its licensees, lessees, assignees, transferees, authorized persons or other members of the general public.
4. This Licence shall be effective April 17, 2012 and shall expire on December 31, 2037 or earlier if modified, suspended or cancelled by the Minister. This Licence may be renewed by the Minister for such renewal term and on such terms and conditions as the Minister considers appropriate and in the public interest, provided the Licensee applies in writing for an extension at least one (1) year before the expiry date.
5. Subject to the terms and conditions, reservations, exceptions and provisions stated herein, the Licence grants the Licensee the following non-exclusive rights to use the water in the Watershed:
 - a) *the right to harness and make use of water in the existing systems and works, including the existing dams, spillways, intakes, penstocks, powerhouse and any other systems and works approved by the Minister and those presently being used for operating the Plant, as indicated in Schedule B;*
 - b) *the right to store the water in the reservoirs in the Watershed to the full supply levels as defined in Schedule A without in any way adversely affecting the safety of the dams and other structures and works and to regulate flows for the purpose of water power generation subject to Condition 7; and*
 - c) *subject to the prior written permit from the Minister, the right to make any improvements in the systems works including the construction of additional systems and works designed to make the existing operation more efficient.*
6. The designated purpose of the water use is "Water Power Generation".
7. This Licence shall not affect or be interpreted as granting any rights which might affect the quantity and quality of water required at present or in the future to all nearby communities and other users of water in and outside the Watershed for their domestic and municipal uses. The Licensee shall be responsible for undertaking any measures which the Minister considers necessary to satisfy the quantity and quality of water required at present or in the future for the said water uses.

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
APPENDIX A (CONTINUED)

NO: WUL-12-184
FILE: 514

TERMS AND CONDITIONS FOR WATER USE LICENCE

8. The Licensee acknowledges and agrees that this Licence does not grant any interest in land or any exclusive right in or to use or occupy the Watershed.
9. The Licensee shall abide by any and all requirements of the *Water Resources Act* and the *Environmental Protection Act* and any applicable regulations made under those Acts. Also, the Licensee shall abide by terms and conditions indicated in Permits or Certificates issued or that are to be issued in connection with the construction or improvements of any and all systems and works required for the Plant including, but not limited to, dams, spillways, intakes, penstocks, powerhouse, access roads or any other systems and works presently being used for operating the Plant in or outside the Watershed.
10. The Licensee shall not construct new systems and works or rehabilitate any existing systems and works including, but not limited to, dam(s), spillway(s), intake(s), penstock(s), surge tank(s), powerhouse(s), or any other systems and works presently being used for operating the Plant in or outside the Watershed without the prior written permission of the Minister. Also, the Licensee shall not make any changes in the purpose, rates and amounts of water authorized in this Licence, or divert the course or alter the physical features of the bodies of water within or outside the Watershed without the prior written approval of the Minister.
11. The rights and liberties hereby demised by this Licence shall not be sold, assigned, transferred, leased, mortgaged, sublet or otherwise alienated by the Licensee without obtaining prior written approval from the Minister. The Minister, however, consents to the assignment of this Licence under the charging provisions of Trust Deeds, which bear a formal date of September 15, 1966 and are registered at Volume 831, Folios 1 to 160 (First Mortgage Bonds) and Folios 161 to 303 (General Mortgage Bonds) of the Registry of Deeds for Newfoundland and Labrador in favour of Montreal Trust Company.
12. The Minister shall have the right to allocate the unused water in the Watershed, as described in Schedules A and B, for any other beneficial purpose provided such allocation of the water does not prejudicially affect the rights of the Licensee conveyed in this Licence. The Licensee will be duly informed and consulted by the Minister on any request for authorization of the excess water.
13. The Minister may, upon providing one hundred and eighty (180) days written notice to the Licensee, cancel or modify this Licence by allocating all or part of the authorized water from the Watershed for other beneficial use(s) of higher order of precedence outlined in Section 15 of the *Water Resources Act* on priority of right. The Licensee will be fully consulted on any such applications before any decision is taken by the Minister.

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
APPENDIX A (CONTINUED)

NO: WUL-12-184
FILE: 514

TERMS AND CONDITIONS FOR WATER USE LICENCE

14. The Licensee shall prudently maintain in good faith records, accounts and statements of the rates and amounts of water used on a daily basis for the generation of hydroelectric power, rates and amounts of water spilled or released downstream for protecting fish habitat and aquatic life as required under the federal *Fisheries Act* and/or any other federal or provincial legislation, operating water levels, extent of the flooded area, energy production, and any other information that the Minister may require in whatever form, manner and time. Copies of such records, accounts, and statements shall be submitted to the Water Rights Section of the Department of Environment and Conservation on or before the end of March of each year during the term created by this Licence.
15. The employees of the Department of Environment and Conservation, when authorized by the Minister, may at all reasonable times during the term created by this Licence enter into the Watershed and the Licensee's designated place of business to inspect the systems and works, records, statements, and accounts, and shall be entitled to copy such information as may be required by the Minister in relation to this Licence and may exercise all other powers of inspection as provided for in the *Water Resources Act*.
16. Effective April 17, 2012, this Licence is subject to the *Water Power Rental Regulations*, NLR 64/03 under the *Water Resources Act* and the Licensee shall upon receipt of an invoice stating the amount owing for water power rentals, pay to the Minister the full amount within sixty (60) days of the receipt of the said invoice and if imposed by provincial legislation, fees, incentives, royalties, subsidies or water use charges for water use.
17. The Licensee 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 Licensee shall immediately notify the Minister if any problem arises which may threaten the structural stability of the systems and works such as dams, spillways and other systems and works, endanger public safety and/or the environment or adversely affect water users either in or outside the Watershed. The Licensee 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.
18. The Licensee shall operate the Plant 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 Watershed. The Licensee shall be responsible for any and all damages associated with these problems caused as a result of changes, deficiencies, and inadequacies in the Licensee's operational procedures.

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
APPENDIX A (CONTINUED)

NO: WUL-12-184
FILE: 514

TERMS AND CONDITIONS FOR WATER USE LICENCE

19. The Licensee shall not at any time operate the Plant and its systems and works so as to impair, pollute or cause to be polluted the quality of the water in or outside the Watershed. Also, this Licence shall not be interpreted as granting any rights to cause adverse effect(s) on water in or outside the Watershed.
20. The Licensee may be required by the Minister to install, operate and maintain streamflow, water level monitoring stations, and other necessary measures in or outside the Watershed and also to monitor water quality at specified locations. Such monitoring shall be carried out in the manner that the Minister considers necessary for the assessment of the quantity and quality of the water available in or outside the Watershed and the quantity of water used by the Licensee for water power generation.
21. If the Licensee fails to perform, fulfil, or observe any of the terms and conditions, reservations, exceptions, and provisions of this Licence and/or Ministerial orders and guidelines, as determined by the Department of Environment and Conservation, the Minister may, after providing a ninety (90) days notice to the Licensee at any time during the term created by this Licence, modify, suspend or cancel this Licence in accordance with the *Water Resources Act*.
22. The Licensee may enter upon, investigate and survey any unoccupied Crown lands in or outside the Watershed for any purpose incidental to the operation of the Plant systems and works but the Licensee releases the Minister and the Government from any and all liability, claims, damages and actions of any nature whatsoever relating to the rights conveyed in this Licence and the systems and works operated, maintained, or rehabilitated by the Licensee, its employees, agents, and invitees in or outside the Watershed.
23. The Licensee indemnifies and holds the Minister and the 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 the non-exclusive water rights granted under this Licence, systems and works in or outside the Watershed, or any act or omission of the Licensee in or outside the Watershed, or arising out of a breach or non-performance of any of the terms and conditions, and provisions of this Licence by the Licensee, its employees or agents.
24. Should any provision of this Licence be unenforceable, it shall be considered separate and severable from the remaining provisions of this Licence which shall remain in force and be binding as though the provision had not been included.

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
APPENDIX A (CONTINUED)

NO: WUL-12-184
FILE: 514

TERMS AND CONDITIONS FOR WATER USE LICENCE

25. This Licence is subject to all provisions of the *Water Resources Act* and any regulations in effect either at the date of this Licence or hereafter made pursuant thereto or any other relevant legislation enacted by the Province of Newfoundland and Labrador in the future.
26. The Licensee acknowledges and agrees that this Licence may require and will be amended to include further provisions pursuant to the *Water Resources Act* and any regulations in effect thereunder from time to time, as deemed necessary in the opinion of the Minister.
27. This Licence shall be construed and interpreted in accordance with the laws of the Province of Newfoundland and Labrador.
28. All notices to be given pursuant to the terms and conditions of this Licence shall be given in writing and delivered by facsimile with auto confirmation or registered mail. If a notice is delivered by facsimile, it is deemed to have been received on the day it was sent if that day is a normal business day, if not, it is deemed to have been received on the next normal business day. If a notice is sent by registered mail, it is deemed to have been received three (3) days after the day it was mailed.

The address and facsimile number of the Licensee is:

Newfoundland Power Inc.
55 Kenmount Road
PO Box 8910
St. John's NL A1B 3P6

(709) 737-2926

The address and facsimile number of the Department of Environment and Conservation is:

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

(709) 729-0320

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
SCHEDULE A

NO: WUL-12-184
FILE: 514

**DESCRIPTIONS OF WATERSHEDS AND AUTHORIZED WATER FOR
LOOKOUT BROOK HYDROELECTRIC POWER GENERATING PLANT
(All Figures for Levels are Referenced to the Licensee's Local Datum)**

Lookout Brook (Forebay) Watershed:

The water used by the Licensee for the sole purpose of generating hydroelectric power is described fully as all water draining from a watershed encompassing an area of 80.5 square kilometres to a point on Lookout Brook (Forebay) from where the water is diverted by a storage dam with crest level of 264.00 metres elevation, into the intake of the penstock from where the water ultimately passes through the powerhouse near the Town of St. George's in the Western Portion of the Island of Newfoundland and is then discharged into Lookout Brook, and then into Flat Bay Brook. The aforementioned watershed outlined in black on the topographic maps, Main Gut 12B/8 Edition 3 and Puddle Pond 12A/5 Edition 3, to be referred to as "Schedule B", submitted by the Licensee as part of the application received on May 9, 2012 and further information provided on November 5, 2012 and December 19, 21 and 27, 2012, is located in the District of St. George's - Stephenville East, Newfoundland and Labrador and includes all of portion of Lookout Brook, Lookout Pond, Fox Pond, Dennis Pond, Stanley's Brook, Long Pond, Cross Pond, Donald's Brook, Green Gulch Pond, and all other bodies of water named or not within the boundaries of the said watershed, from where water will flow to ultimately reach the said intake of penstock near the Town of St. George's except that such water shall not exceed the greater of:

- i) the amount of water that can be stored in Lookout Brook (Forebay) to its full supply level (F.S.L) at 262.13 metres elevation consisting of an amount of water having a volume of 370,000 cubic metres and a surface area of 0.1 square kilometres; or
- ii) the amount of water which can be withdrawn into the intake of the penstock at a maximum rate of no more than 4.61 cubic metres per second (maximum loading) and is to be used exclusively for water power generation and subject to such withdrawal being limited to only that quantity of water which if withdrawn from Lookout Brook (Forebay) will not cause the water level to be lower than the low supply level (L.S.L) at 261.28 metres elevation and a surface area of 0.096 square kilometres; or
- iii) the estimated annual water use of 95,779,550 cubic metres.

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
SCHEDULE A (CONTINUED)

NO: WUL-12-184
FILE: 514

**DESCRIPTIONS OF WATERSHEDS AND AUTHORIZED WATER FOR
LOOKOUT BROOK HYDROELECTRIC POWER GENERATING PLANT**
(All Figures for Levels are Referenced to the Licensee's Local Datum)

Joe Dennis Pond Sub-Watershed:

All water draining from a watershed encompassing an area of 67.4 square kilometres to a point on Dennis Pond (locally known as "Joe Dennis Pond") "reservoir" from where the water is impounded by a storage dam with crest level of 329.00 metres elevation, and where water is released at will or excess water that cannot be stored is spilled to an unnamed stream draining into Fox Pond except that the use of such water is limited to:

- i) the amount of water that can be stored in the reservoir to its full supply level (F.S.L) at 327.66 metres elevation consisting of an amount of water having a volume of 13,640,000 cubic metres and a surface area of 3.21 square kilometres and subject to such withdrawal being limited to only that quantity of water which if withdrawn from Joe Dennis Pond will not cause the water level in the reservoir to be lower than the low supply level of (L.S.L.) 324.69 metres elevation and a surface area of 3.1 square kilometres.

Cross Pond Sub-Watershed:

All water draining from a watershed encompassing an area of 33.5 square kilometres to a point on Cross Pond "reservoir" from where the water is impounded by a storage dam with crest level of 358.14 metres elevation, and where water is released at will or excess water that cannot be stored is spilled to an unnamed stream draining into Long Pond except that the use of such water is limited to:

- ii) the amount of water that can be stored in the reservoir to its full supply level (F.S.L) at 358.14 metres elevation consisting of an amount of water having a volume of 10,820,000 cubic metres and a surface area of 2.97 square kilometres and subject to such withdrawal being limited to only that quantity of water which if withdrawn from Cross Pond will not cause the water level in the reservoir to be lower than the low supply level of (L.S.L.) 355.65 metres elevation and a surface area of 2.86 square kilometres.

cc: Dr. Abdel-Zaher Kamal Abdel-Razek, P.Eng. (2 copies)
Manager
Water Resources Management Division
Department of Environment and Conservation
PO Box 8700
St. John's NL A1B 4J6

NO: WUL-12-184

DATE: December 28, 2012
FILE: 514

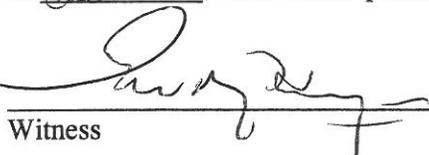
Water Rights Section
Water Resources Management Division
Department of Environment and Conservation
PO Box 8700
St. John's NL A1B 4J6

NOTIFICATION OF ACCEPTANCE OF WATER USE LICENCE
[Water Use for Lookout Brook Hydroelectric Power Generating Plant]

Water Use Licence No. WUL-12-184 issued on December 28, 2012 and valid until December 31, 2037

As a Licensee of the Water Use Licence No. WUL-12-184, issued pursuant to the *Water Resources Act*, **Newfoundland Power Inc.** (the "Licensee"), agrees to accept this Licence for the stated duration and abide by all terms and conditions, reservations, exceptions and provisions stated therein. The Licensee acknowledges that failure to abide by the terms and conditions, reservations, exceptions and provisions indicated in Appendix A and Schedules A and B of the Licence and the *Water Resources Act* will render the Licence null and void, place the Licensee and/or their agent(s) in violation of the *Water Resources Act* and *Water Power Rental Regulations*, and other regulations thereunder and cause the Licensee to be responsible for any and all remedial measures which may be prescribed by the Department of Environment and Conservation.

Signed, sealed, and delivered by the
Newfoundland Power Inc.,
in accordance with its rules and regulations in that behalf,
at St. John's, Newfoundland and Labrador, this 28th day
of December, 2012 in the presence



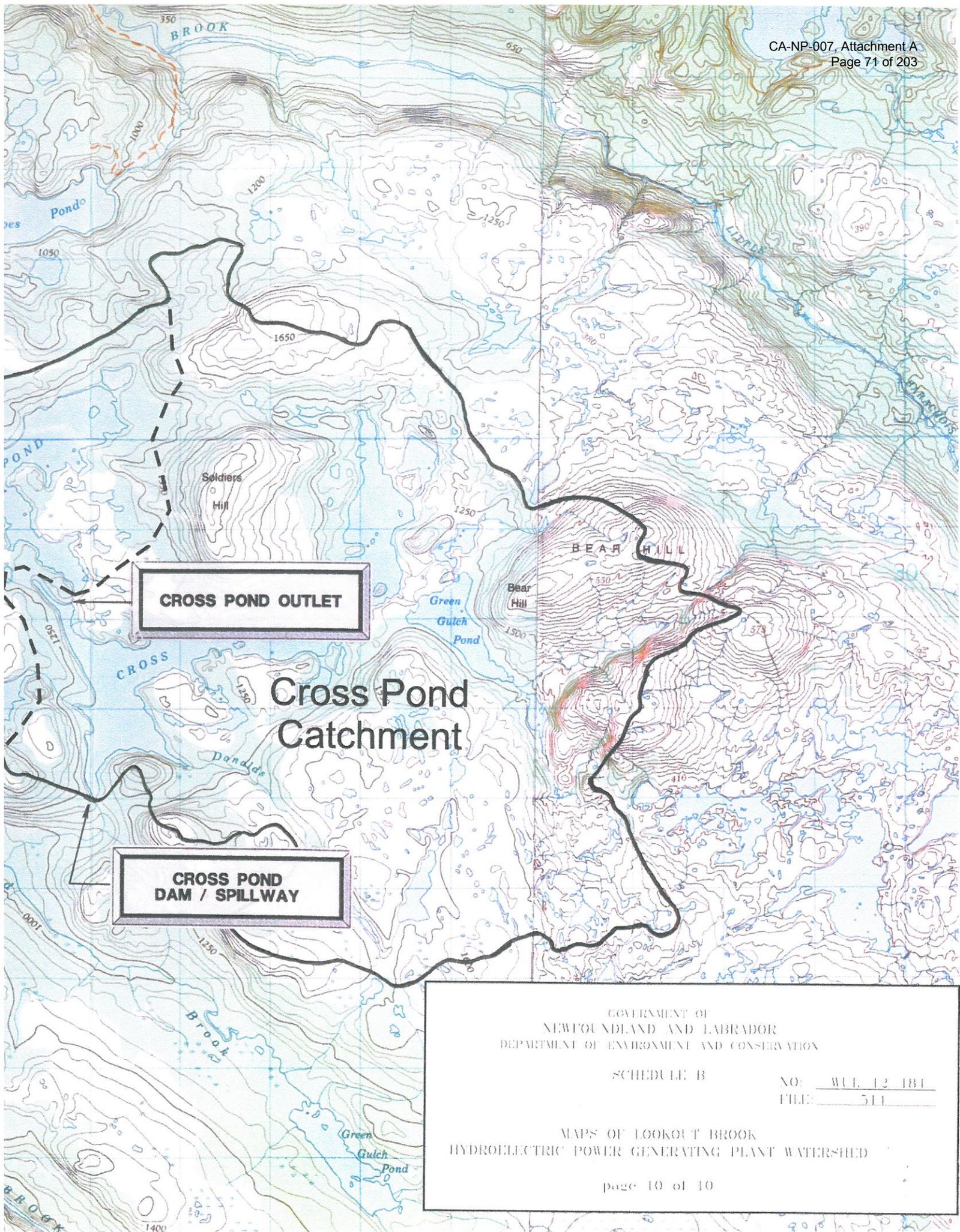
Witness

as of the

Per: _____
Signing Officer

Seal:

Important: The attached Water Use Licence is not valid unless the Licensee completes and returns this notification to the address above within thirty (30) days of receipt.



CROSS POND OUTLET

Cross Pond Catchment

CROSS POND DAM / SPILLWAY

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION

SCHEDULE B NO: WUL 12 181
FILE: 511

MAPS OF LOOKOUT BROOK
HYDROELECTRIC POWER GENERATING PLANT WATERSHED

page 10 of 10

**WATER USE LICENCE
(Water Power Generation)**

Pursuant to the *Water Resources Act*, SNL 2002 cW-4-01

Date of Issuance: February 24, 2010

No: WUL-09-088

File: 516

Licensee: Newfoundland Power Inc
55 Kenmount Road
PO Box 8910
St. John's NL A1B 3P6

Attention: Mr. Earl Ludlow, President & CEO

Re: *Water Use for New Chelsea and Pitman's Pond Hydroelectric Power Generating Plants*

The Minister of Environment and Conservation (the "Minister") hereby grants a Water Use Licence for non-exclusive water rights (the "Licence") to **Newfoundland Power Inc.** (the "Licensee") to continue operation of the existing New Chelsea and Pitman's Pond hydroelectric power generating plants at Seal Cove Pond and Pitman's Pond (the "Plants"), located on the East Coast of the Avalon Peninsula near the Town of New Chelsea, utilizing the water from the watershed described in Schedules A and B, defined herein as the "Watershed", for the purpose of water power generation at the Licensee's existing Plants, together with flooding rights in and over the unoccupied Crown lands located in the Watershed to the extent presently flooded to full supply level, in reference to the application received on February 19, 2008 and additional information provided on November 17, 2009, January 13 and 19, 2010, and February 12, 17 and 22, 2010.

This Licence is subject to the terms and conditions, reservations, exceptions, and provisions stated herein and the *Water Resources Act* and regulations thereunder. Appendix A and Schedules A and B form part and parcel of this Licence. This Licence does not release the Licensee from the obligation to obtain appropriate approvals, permits or licences from other concerned federal, provincial and municipal agencies.

The Licensee shall complete and return the attached Notification of Acceptance of Water Use Licence (attached) to the Water Rights Section of the Department of Environment and Conservation within thirty (30) days of receipt of this Licence.

Failure to comply with the terms and conditions, reservations, exceptions, and provisions set out herein will render this Licence null and void, place the Licensee and/or its agents in violation of the *Water Resources Act*, and cause the Licensee to be responsible for any and all remedial measures which may be prescribed by the Department of Environment and Conservation.



Charlene Johnson
Minister

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
APPENDIX A

NO: WUL-09-088
FILE: 516

TERMS AND CONDITIONS FOR WATER USE LICENCE

1. In consideration of the terms and conditions, reservations, exceptions, and provisions herein contained in this Licence, the Minister hereby grants the Licensee the non-exclusive right to use the water from all bodies of water and their catchments in the Watershed described in Schedules A and B, for the purpose of water power generation at the Licensee's Plants, together with the right to flood the unoccupied Crown lands in the Watershed to the extent presently flooded at the full supply level as defined in Schedule A, in reference to the application received on February 19, 2008 and additional information provided on November 17, 2009, January 13 and 19, 2010, and February 12, 17 and 22, 2010, upon and in accordance with the terms and conditions, reservations, exceptions, and provisions set forth in this Licence.

2. This Licence is subject to the full right of the Government, its licensees, lessees, assignees, transferees, and any other person authorized by the Government or of the general public, in accordance with applicable legislation of the Province of Newfoundland and Labrador or federal legislation having application in the Province of Newfoundland and Labrador, to:
 - a) *explore, prospect, search for, develop, produce, mine, carry away, and dispose of all minerals both metallic and non-metallic, coal, oil, natural gas, salt, and quarry materials in the Watershed;*

 - b) *fell, cut down, carry away, and dispose of all timber in the Watershed;*

 - c) *ingress, egress and regress over the Watershed and to make, sink, erect and use all mines, pits, plants, shafts, wells, machinery, buildings, erections, dams, roads, transmission lines and any other systems and works and conveniences for any purpose authorized by the Government;*

 - d) *use all the land and water in the Watershed for fishing, boating, hunting and other traditional recreational activities subject to all applicable laws and regulations of the Province of Newfoundland and Labrador;*

 - e) *enjoy all other rights in the Watershed not otherwise granted and demised by this Licence; and*

 - f) *occupy and use all land and water in the Watershed, the occupation and use of which is, in the opinion of the Minister, necessary for any of the above purposes.*

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
APPENDIX A (CONTINUED)

NO: WUL-09-088
FILE: 516

TERMS AND CONDITIONS FOR WATER USE LICENCE

3. This Licence shall be read and interpreted as conferring non-exclusive rights upon the Licensee to use the water, and nothing herein shall limit, abrogate or derogate from any water uses within the Watershed that existed prior to the issuance of this Licence and all rights reserved or purported reserved or to be reserved herein to the Government, its licensees, lessees, assignees, transferees, authorized persons or other members of the general public.
4. This Licence shall be effective January 1, 2008 and shall expire on December 31, 2033 or earlier if modified, suspended or cancelled by the Minister. This Licence may be renewed by the Minister for such renewal term and on such terms and conditions as the Minister considers appropriate and in the public interest, provided the Licensee applies in writing for an extension at least one (1) year before the expiry date.
5. Subject to the terms and conditions, reservations, exceptions and provisions stated herein, the Licence grants the Licensee the following non-exclusive rights to use the water in the Watershed:
 - a) *the right to harness and make use of water in the existing systems and works, including the existing dams, spillways, dykes, intakes, penstocks, powerhouses and any other systems and works approved by the Minister and those presently being used for operating the Plants, as indicated in Schedule B;*
 - b) *the right to store the water in the reservoirs in the Watershed to the full supply levels as defined in Schedule A without in any way adversely affecting the safety of the dams and other structures and works and to regulate flows for the purpose of water power generation subject to Condition 7; and*
 - c) *subject to the prior written permit from the Minister, the right to make any improvements in the systems works including the construction of additional systems works designed to make the existing operation more efficient.*
6. The designated purpose of the water use is "Water Power Generation".
7. This Licence shall not affect or be interpreted as granting any rights which might affect the quantity and quality of water required at present or in the future to all nearby communities and other users of water in and outside the Watershed for their domestic and municipal uses. The Licensee shall be responsible for undertaking any measures which the Minister considers necessary to satisfy the quantity and quality of water required at present or in the future for the said water uses.

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
APPENDIX A (CONTINUED)

NO: WUL-09-088
FILE: 516

TERMS AND CONDITIONS FOR WATER USE LICENCE

8. The Licensee acknowledges and agrees that this Licence does not grant any interest in land or any exclusive right in or to use or occupy the Watershed.
9. The Licensee shall abide by any and all requirements of the *Water Resources Act* and the *Environmental Protection Act* and any applicable regulations made under those Acts. Also, the Licensee shall abide by terms and conditions indicated in Permits or Certificates issued or that are to be issued in connection with the construction or improvements of any and all systems and works required for these Plants including, but not limited to, dams, spillways, dykes, intakes, penstocks, powerhouses, access roads or any other systems and works presently being used for operating the Plants in or outside the Watershed.
10. The Licensee shall not construct new systems and works or rehabilitate any existing systems and works including, but not limited to, dam(s), spillway(s), dyke(s), intake(s), penstock(s), powerhouse(s), or any other systems and works presently being used for operating the Plants in or outside the Watershed without the prior written permission of the Minister. Also, the Licensee shall not make any changes in the purpose, rates and amounts of water authorized in this Licence, or divert the course or alter the physical features of the bodies of water within or outside the Watershed without the prior written approval of the Minister.
11. The rights and liberties hereby demised by this Licence shall not be sold, assigned, transferred, leased, mortgaged, sublet or otherwise alienated by the Licensee without obtaining prior written approval from the Minister. The Minister, however, consents to the assignment of this Licence under the charging provisions of Trust Deeds, which bear a formal date of September 15, 1966 and are registered at Volume 831, Folios 1 to 160 (First Mortgage Bonds) and Folios 161 to 303 (General Mortgage Bonds) of the Registry of Deeds for Newfoundland and Labrador in favour of Montreal Trust Company.
12. The Minister shall have the right to allocate the unused water in the Watershed, as described in Schedule A, for any other beneficial purpose provided such allocation of the water does not prejudicially affect the rights of the Licensee conveyed in this Licence. The Licensee will be duly informed and consulted by the Minister on any request for authorization of the excess water.
13. The Minister may, upon providing one hundred and eighty (180) days written notice to the Licensee, cancel or modify this Licence by allocating all or part of the authorized water from the Watershed for other beneficial use(s) of higher order of precedence outlined in Section 15 of the *Water Resources Act* on priority of right. The Licensee will be fully consulted on any such applications before any decision is taken by the Minister.

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
APPENDIX A (CONTINUED)

NO: WUL-09-088
FILE: 516

TERMS AND CONDITIONS FOR WATER USE LICENCE

14. The Licensee shall prudently maintain in good faith records, accounts and statements of the rates and amounts of water used on a daily basis for the generation of hydroelectric power, rates and amounts of water spilled or released downstream for protecting fish habitat and aquatic life as required under the federal *Fisheries Act* and/or any other federal or provincial legislation, operating water levels, extent of the flooded area, energy production, and any other information that the Minister may require in whatever form, manner and time. Copies of such records, accounts, and statements shall be submitted to the Water Rights Section of the Department of Environment and Conservation on or before the end of March of each year during the term created by this Licence.
15. The employees of the Department of Environment and Conservation, when authorized by the Minister, may at all reasonable times during the term created by this Licence enter into the Watershed and the Licensee's designated place of business to inspect the systems and works, records, statements, and accounts, and shall be entitled to copy such information as may be required by the Minister in relation to this Licence and may exercise all other powers of inspection as provided for in the *Water Resources Act*.
16. Effective January 1, 2008, this Licence is subject to the *Water Power Rental Regulations*, NLR 64/03 under the *Water Resources Act* and the Licensee shall upon receipt of an invoice stating the amount owing for water power rentals, pay to the Minister the full amount within sixty (60) days of the receipt of the said invoice and if imposed by provincial legislation, fees, incentives, royalties, subsidies or water use charges for water use.
17. The Licensee 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 Licensee shall immediately notify the Minister if any problem arises which may threaten the structural stability of the systems and works such as dams, spillways and other systems and works, endanger public safety and/or the environment or adversely affect water users either in or outside the Watershed. The Licensee 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.
18. The Licensee shall operate its Plants 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 Watershed. The Licensee shall be responsible for any and all damages associated with these problems caused as a result of changes, deficiencies, and inadequacies in the Licensee's operational procedures.

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
APPENDIX A (CONTINUED)

NO: WUL-09-088
FILE: 516

TERMS AND CONDITIONS FOR WATER USE LICENCE

19. The Licensee shall not at any time operate its Plants and its systems and works so as to impair, pollute or cause to be polluted the quality of the water in or outside the Watershed. Also, this Licence shall not be interpreted as granting any rights to cause adverse effect(s) on water in or outside the Watershed.
20. The Licensee may be required by the Minister to install, operate and maintain streamflow, water level monitoring stations, and other necessary measures in or outside the Watershed and also to monitor water quality at specified locations. Such monitoring shall be carried out in the manner that the Minister considers necessary for the assessment of the quantity and quality of the water available in or outside the Watershed and the quantity of water used by the Licensee for water power generation.
21. If the Licensee fails to perform, fulfil, or observe any of the terms and conditions, reservations, exceptions, and provisions of this Licence and/or Ministerial orders and guidelines, as determined by the Department of Environment and Conservation, the Minister may, after providing a ninety (90) days notice to the Licensee at any time during the term created by this Licence, modify, suspend or cancel this Licence in accordance with the *Water Resources Act*.
22. The Licensee may enter upon, investigate and survey any unoccupied Crown lands in or outside the Watershed for any purpose incidental to the operation of the Plants systems and works but the Licensee releases the Minister and the Government from any and all liability, claims, damages and actions of any nature whatsoever relating to the rights conveyed in this Licence and the systems and works operated, maintained, or rehabilitated by the Licensee, its employees, agents, and invitees in or outside the Watershed.
23. The Licensee indemnifies and holds the Minister and the 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 the non-exclusive water rights granted under this Licence, systems and works in or outside the Watershed, or any act or omission of the Licensee in or outside the Watershed, or arising out of a breach or non-performance of any of the terms and conditions, and provisions of this Licence by the Licensee, its employees or agents.
24. Should any provision of this Licence be unenforceable, it shall be considered separate and severable from the remaining provisions of this Licence which shall remain in force and be binding as though the provision had not been included.

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
APPENDIX A (CONTINUED)

NO: WUL-09-088
FILE: 516

TERMS AND CONDITIONS FOR WATER USE LICENCE

25. This Licence is subject to all provisions of the *Water Resources Act* and any regulations in effect either at the date of this Licence or hereafter made pursuant thereto or any other relevant legislation enacted by the Province of Newfoundland and Labrador in the future.
26. The Licensee acknowledges and agrees that this Licence may require and will be amended to include further provisions pursuant to the *Water Resources Act* and any regulations in effect thereunder from time to time, as deemed necessary in the opinion of the Minister.
27. This Licence shall be construed and interpreted in accordance with the laws of the Province of Newfoundland and Labrador.
28. All notices to be given pursuant to the terms and conditions of this Licence shall be given in writing and delivered by facsimile with auto confirmation or registered mail. If a notice is delivered by facsimile, it is deemed to have been received on the day it was sent if that day is a normal business day, if not, it is deemed to have been received on the next normal business day. If a notice is sent by registered mail, it is deemed to have been received three (3) days after the day it was mailed.

The address and facsimile number of the Licensee is:

Newfoundland Power Inc.
55 Kenmount Road
PO Box 8910
St. John's NL A1B 3P6

(709) 737-2926

The address and facsimile number of the Department of Environment and Conservation is:

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

(709) 729-0320

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
SCHEDULE A

NO: WUL-09-088
FILE: 516

**DESCRIPTIONS OF WATERSHEDS AND AUTHORIZED WATER FOR
NEW CHELSEA AND PITMAN'S Pond HYDROELECTRIC POWER GENERATING PLANTS
(All Figures for Levels Are Referenced to the Licensee's Local Datum)**

Seal Cove Pond (New Chelsea Forebay) Watershed:

The water used by the Licensee for the sole purpose of generating hydroelectric power is described fully as all water draining from a watershed encompassing an area of 74.0 square kilometres to a point on Pitman's Pond from where the water is diverted by the first storage dam with crest level of 114.30 metres elevation, into the intake of Pitman's Pond (Pitman's Pond Forebay) Plant's penstock, thence to the first powerhouse near the Town of New Chelsea, thence to a point on Seal Cove Pond from where the water is diverted by the second storage dam with crest level of 90.83 metres elevation, into the intake of New Chelsea (New Chelsea Forebay) Plant's penstock, from where water ultimately passes through the second powerhouse near the Town of New Chelsea on the East Coast of the Avalon Peninsula, and is then discharged into New Chelsea Cove. The aforementioned watershed outlined in black on the 1:50,000 scale topographic maps, Old Perlican 2C/3 Edition 3 and Heart's Content 1N/14 Edition 3, to be referred to as "Schedule B", submitted by the Licensee as part of the application received on February 19, 2008 and additional information provided on November 17, 2009, January 13 and 19, 2010, and February 12, 17 and 22, 2010, is located in the District of Trinity Bay-Bay de Verde, Newfoundland and Labrador and includes all of Pinhorns Pond, Long Pond, Pitman's Pond, Island Pond, Lance Cove Pond, Seal Cove Pond, and all other bodies of water named or not within the boundaries of the said watershed, from where water will flow to ultimately reach the said intakes of penstocks near the Town of New Chelsea except that such water shall not exceed the greater of:

- i) the amount of water that can be stored in of Pitman's Pond (Pitman's Pond Forebay) to its full supply level (F.S.L) at 111.86 metres elevation consisting of an amount of water having a volume of 38,300,000 cubic metres and a surface area of 6.4 square kilometres and the amount of water that can be stored in Seal Cove Pond (New Chelsea Forebay) to its full supply level (F.S.L.) at 88.240 metres elevation consisting of an amount of water having a volume of 2,640,000 cubic metres and a surface area of 0.47 square kilometres; or
- ii) the amount of water which can be withdrawn into the intake of Pitman's Pond Plant's penstock at a maximum rate of no more than 3.64 cubic metres per second (maximum loading), thence to the intake of New Chelsea Plant's penstock at a maximum rate of no more than 5.86 cubic metres per second (maximum loading) and is to be used exclusively for water power generation and subject to such withdrawal being limited to only that quantity of water which if withdrawn from Pitman's Pond (Pitman's Pond Forebay) will not cause the water level to be lower than the low supply level (L.S.L) at 107.60 metres elevation and a surface area of 4.7 square kilometres and that quantity of water which if withdrawn from Seal Cove Pond (New Chelsea Forebay) will not cause the water level to be lower than the low supply level (L.S.L) 86.87 metres elevation and a surface area of 0.46 square kilometres; or
- iii) the estimated annual water use of 149,237,000 cubic metres (61,717,000 cubic metres at Pitman's Pond Plant and 87,520,000 cubic metres at New Chelsea Plant).

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
SCHEDULE A (CONTINUED)

NO: WUL-09-088
FILE: 516

**DESCRIPTIONS OF WATERSHEDS AND AUTHORIZED WATER FOR
NEW CHELSEA AND PITMAN'S Pond HYDROELECTRIC POWER GENERATING PLANTS
(All Figures for Levels Are Referenced to the Licensee's Local Datum)**

Pitman's Pond (Pitman's Pond Forebay) Sub-Watershed:

All water draining from a watershed encompassing an area of 66.0 square kilometres to a point on Pitman's Pond "reservoir" from where the water is impounded by a storage dam with crest level of 114.30 metres elevation, and where water is released at will or excess water that cannot be stored is spilled to Lance Cove Pond through Pitman's Pond Plant's penstock and thence to Seal Cove Pond (New Chelsea Forebay) except that the use of such water is limited to:

- i) the amount of water that can be stored in the reservoir to its full supply level (F.S.L.) at 111.86 metres elevation consisting of an amount of water having a volume of 38,200,000 cubic metres and a surface area of 6.4 square kilometres and subject to such withdrawal being limited to only that quantity of water which if withdrawn from Pitman's Pond (Pitman's Pond Forebay) will not cause the water level in the reservoir to be lower than the low supply level of (L.S.L.) 107.60 metres elevation and a surface area of 4.7 square kilometres.

cc: Dr. Abdel-Zaher K. Abdel-Razek, P.Eng. (2 copies)
Manager, Water Rights Section
Water Resources Management Division
Department of Environment and Conservation
PO Box 8700
St. John's NL A1B 4J6

cc: Town of New Chelsea
General Delivery
New Chelsea, NL A0B 1H0

NO: WUL-09-088
FILE: 516



GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR

Department of Environment and Conservation
WATER USE LICENCE
(Water Power Generation)

Pursuant to the *Water Resources Act*, SNL 2002 cW-4.01

Date of Issuance: November 24, 2004 No: WUL-04-003
File: 516

Licensee: Newfoundland Power Inc.
55 Kenmount Road
P. O. Box 8910
St. John's NL A1B 3P6

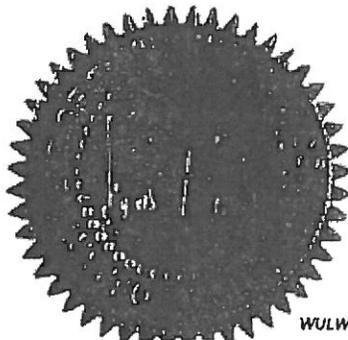
Attention: Mr. Karl W. Smith, President & CEO

Re: *Water Use for Pierre's Brook Hydroelectric Power Generating Plant, Witless Bay*

The Minister of Environment and Conservation (the "Minister") hereby grants a Water Use Licence (the "Licence") to Newfoundland Power Inc. (the "Licensee") to continue operating the existing hydroelectric power generating plant at Pierre's Brook (the "plant"), located on the East Coast of the Avalon Peninsula in the Town of Witless Bay, utilizing the water from the watershed described in Schedules A and B, defined herein as the "Authorized Area", for the purpose of generating hydroelectric power together with flooding rights in and over the unoccupied Crown lands located in the Authorized Area, in reference to the application dated January 29, 2004 and additional information provided on September 2 and 3, 2004.

This Licence is subject to the terms and conditions, reservations, exceptions, and provisions stated herein, the *Water Resources Act* and regulations thereunder. Appendix A and Schedules A and B form part and parcel of this Licence.

Failure to comply with the terms and conditions, reservations, exceptions, and provisions set out herein will render this Licence null and void, place the Licensee and/or its agent(s) in violation of the *Water Resources Act*, and make the Licensee responsible for any remedial measures which may be prescribed by Department of Environment and Conservation.



MINISTER

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION

APPENDIX A

NO: WUL-04-003
FILE: 516

TERMS AND CONDITIONS OF WATER USE LICENCE

1. In consideration of the terms and conditions, reservations, exceptions, and provisions herein contained, the Minister hereby grants the Licensee the non-exclusive right to use the water from all bodies of water and their catchments in the Authorized Area together with the right to flood the unoccupied Crown lands in the Authorized Area to the extent presently flooded at the full supply level as defined in Schedule A for the generation of hydroelectric power upon and in accordance with the terms and conditions, reservations, exceptions, and provisions set forth in this Licence.
2. This Licence is subject to the full right of Government, its licensees, lessees, assignees, transferees, and any other person authorized by Government to:
 - a) *explore, prospect, search for, develop, produce, mine, carry away, and dispose of all minerals both metallic and nonmetallic, coal, oil, natural gas, salt, and quarry materials;*
 - b) *fell, cut down, carry away, and dispose of all timber in the Authorized Area;*
 - c) *ingress, egress and regress over the Authorized Area and to make, sink, erect and use all mines, pits, plants, shafts, wells, machinery, buildings, erections, dams, roads, transmission lines and any other systems/works and conveniences for any purpose authorized by Government;*
 - d) *use all the land and water in the Authorized Area for fishing, boating, hunting and other traditional recreational activities subject to all applicable laws and regulations of the Province of Newfoundland and Labrador;*
 - e) *enjoy all other rights in the Authorized Area not otherwise granted and demised by this Licence; and*
 - f) *occupy and use all land and water in the Authorized Area, the occupation and use of which is, in the opinion of the Minister, necessary for any of the above purposes.*

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION

APPENDIX A (CONTINUED)

NO: WUL-04-003
FILE: 516

TERMS AND CONDITIONS OF WATER USE LICENCE

3. This Licence shall expire on December 31, 2029 or earlier if suspended or cancelled by the Minister. This Licence may be renewed by the Minister for such renewal term as the Minister deems appropriate commencing on the expiry date, provided the Licensee applies for an extension at least one (1) year before the expiry date, on such terms and conditions as the Minister considers appropriate and in the public interest.
4. Subject to the terms and conditions, reservations, exceptions and provisions stated herein, the Licence grants the Licensee the following non-exclusive rights to use the water in the Authorized Area:
 - a) *the right to harness and make use of the authorized water in the existing systems/works, including dams, spillways, intake, diversion canal, penstock, powerhouse and any other systems/works presently being used for operating the hydroelectric power generating plant;*
 - b) *the right to store the water in the forebay and reservoirs in the Authorized Area to the full supply level as defined in Schedule A without in anyway adversely affecting the safety of the dam and other structures/works and to regulate flows for the purpose of generating hydroelectric power subject to Condition 6; and*
 - c) *subject to the prior written approval from the Minister, the right to make any improvement in the systems/works including the construction of additional works designed to make the existing operation more efficient.*
5. The designated purpose of the water use is "water power generation".
6. This Licence shall not affect or be interpreted as granting any rights which might affect the quantity and quality of water required at present or in the future by the Town of Witless Bay for its domestic, municipal and fire fighting uses and other users of the water in and outside the Authorized Area for their domestic and municipal uses. Also, this Licence shall not affect or be interpreted as granting any rights which might affect the quantity and quality of water required at present or in the future to operate the existing fish plant or its replacement in the Town of Witless Bay. The Licensee shall be responsible for undertaking any measures which the Minister considers necessary to satisfy the quantity and quality of water required at present or in the future for the said water uses.

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION

APPENDIX A (CONTINUED)

NO: WUL-04-003
FILE: 516

TERMS AND CONDITIONS OF WATER USE LICENCE

7. The Licensee acknowledges and agrees that this Licence does not grant any interest in land or any exclusive right in or to use or occupy the Authorized Area.
8. The Licensee shall not construct any new structure/facility in or outside the Authorized Area, make alterations to the existing systems/works, make changes in the purpose, rates and amounts of water specified in this Licence, or divert the course or alter the physical features of the water bodies within or outside the Authorized Area without the prior written approval of the Minister. Also, the Licensee shall abide by terms and conditions indicated in Permits or Certificates issued or that are to be issued in connection with this plant and its systems/works required in or outside the Authorized Area.
9. The rights and liberties hereby demised by this Licence shall not be sold, assigned, transferred, leased, mortgaged, sublet or otherwise alienated by the Licensee without obtaining prior written approval from the Minister. The Minister, however, consents to the assignment of this Licence under the charging provisions of Trust Deeds, which bear a formal date of September 15, 1966 and are registered at Volume 831, Folios 1 to 160 (First Mortgage Bonds) and Folios 161 to 303 (General Mortgage Bonds) of the Registry of Deeds for Newfoundland and Labrador in favour of Montreal Trust Company.
10. The Minister may allocate the unused water in the Authorized Area for any other beneficial purpose provided such allocation of the water does not prejudicially affect the rights of the Licensee conveyed in this Licence. The Licensee will be duly informed and consulted by the Minister on any request for a Licence of the unused water.
11. The Minister may, upon providing a hundred and eighty (180) days notice to the Licensee, cancel or modify this Licence by allocating all or part of the authorized water for other beneficial use(s) of higher order of precedence outlined in Section 15 of the *Water Resources Act* on priority of right. The Licensee will be fully consulted on any such applications before any decision is taken by the Minister.
12. The Licensee shall complete and return the attached Notification of Acceptance of Water Use Licence to the Water Rights Section of the Department of Environment and Conservation within thirty (30) days of receipt of the Water Use Licence.
13. This Licence does not release the Licensee from the obligation to obtain appropriate approvals, permits or licences from other concerned federal, provincial, and municipal agencies.

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION

APPENDIX A (CONTINUED)

NO: WUL-04-003
FILE: 516

TERMS AND CONDITIONS OF WATER USE LICENCE

14. The Licensee shall prudently maintain in good faith records, accounts and statements of the rates and amounts of water used on a daily basis for the generation of hydroelectric power, rates and amounts of water spilled or released downstream for protecting fish habitat and aquatic life as required under the federal Fisheries Act and/or any other federal or provincial legislation, operating water levels, extent of the flooded area(s), energy production, and any other information that the Minister may require in whatever form, manner and time. Copies of such records, accounts, and statements shall be submitted to the Water Rights Section of the Department of Environment and Conservation on or before the end of March of each year during the term created by this Licence.
15. The employees of the Department of Environment and Conservation, authorized by the Minister, may at all reasonable times during the term created by this Licence enter into the Authorized Area and the Licensee's designated place of business to inspect the systems/works, records, statements, and accounts, and shall be entitled to copy such information as may be required by the Minister and may exercise all other powers of inspection as provided for in the *Water Resources Act*.
16. The Licensee shall keep all systems/works in good condition and repair and in accordance with all laws, by-laws, directions, rules and regulations of any governmental authority. The Licensee shall immediately notify the Minister if any problem arises which may threaten the structural stability of the systems/works such as dams, spillways, access road(s), intake, diversion canal, penstock, powerhouse and any other systems/works, endanger public safety and/or the environment or adversely affect water users either in or outside the Authorized Area. The Licensee shall be responsible for all damages suffered by the Province resulting from any defect in the systems/works, operational deficiencies/inadequacies, or structural failure.
17. This Licence is subject to the *Water Power Rental Regulations*, NLR 64/03 under the *Water Resources Act* and the Licensee shall upon receipt of an invoice stating the amount owing for water power rentals, pay to the Minister the full amount within sixty (60) days of the receipt of the said invoice and if imposed by provincial legislation, fees, incentives, royalties, subsidies or water use charges for water use.
18. The Licensee shall operate the plant in a manner which does not cause any water related and/or environmental problems, which may include but not be limited to erosion, deposition, flooding, deterioration of water quality and groundwater depletion, in or outside the Authorized Area. The Licensee shall be responsible for any and all damages associated with these problems caused as a result of changes, deficiencies, and inadequacies in the Licensee's operational procedures.

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION

APPENDIX A (CONTINUED)

NO: WUL-04-003
FILE: 516

TERMS AND CONDITIONS OF WATER USE LICENCE

19. The Licensee shall not at any time impair, pollute or cause to be polluted the quality of the water in or outside the Authorized Area.
20. The Licensee may be required by the Minister to install, operate and maintain streamflow and water level monitoring stations, and other necessary measures in or outside the Authorized Area and also to monitor water quality at specified locations in such a manner that the Minister considers necessary for the assessment of the quantity and quality of the water available in or outside the Authorized Area and the quantity of water used by the Licensee for the generation of hydroelectric power.
21. If the Licensee fails to perform, fulfil, or observe any of the terms and conditions, reservations, exceptions, and provisions of this Licence and/or Ministerial orders and guidelines, as determined by the Department of Environment and Conservation, the Minister may, after providing a ninety (90) days notice to the Licensee at any time during the term created by this Licence, modify, suspend or cancel this Licence in accordance with the *Water Resources Act*.
22. The Licensee may enter upon, investigate and survey any unoccupied Crown lands in or outside the Authorized Area for any purpose incidental to the operation of the plant but the Licensee releases the Minister and the Government from any and all liability, claims, damages and actions of any nature whatsoever relating to the rights conveyed in this Licence and the systems/works operated, maintained, or rehabilitated by the Licensee, its employees, agents, and invitees in or outside the Authorized Area.
23. The Licensee indemnifies and holds 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 the water rights granted under this Licence, systems/works in the Authorized Area, or any act or omission of the Licensee in or outside the Authorized Area, or arising out of a breach or non-performance of any of the terms and conditions, and provisions of this Licence by the Licensee.
24. Should any provision of this Licence be unenforceable, it shall be considered separate and severable from the remaining provisions of this Licence which shall remain in force and be binding as though the provision had not been included.

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION

APPENDIX A (CONTINUED)

NO: WUL-04-003
FILE: 516

TERMS AND CONDITIONS OF WATER USE LICENCE

25. This Licence is subject to all provisions of the *Water Resources Act* and any regulations in effect either at the date of this Licence or hereafter made pursuant thereto or any other relevant legislation enacted by the Province of Newfoundland and Labrador in the future.
26. This Licence shall be construed and interpreted in accordance with the laws of the Province of Newfoundland and Labrador.
27. All notices to be given pursuant to the terms and conditions of this Licence shall be given in writing and delivered by facsimile with auto confirmation or registered mail. If a notice is delivered by facsimile, it is deemed to have been received on the day it was sent if that day is a normal business day, if not, it is deemed to have been received on the next normal business day. If a notice is sent by registered mail, it is deemed to have been received three days after the day it was mailed. The address and facsimile number of the Licensee are:

Newfoundland Power Inc.
55 Kenmount Road
P. O. Box 8910
St. John's NL A1B 3P6

(709) 737-2926

The address and facsimile number of the Department of Environment and Conservation are:

Water Rights Section
Water Resources Management Division
Department of Environment and Conservation
P. O. Box 8700
St. John's, NL A1B 4J6

(709) 729-0320

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION

SCHEDULE A

NO: WUL-04-003
FILE: 516

**DESCRIPTION OF WATERSHED AND AUTHORIZED WATER
FOR PIERRE'S BROOK HYDROELECTRIC POWER GENERATING PLANT**

Gull Pond-Pierre's Brook Watershed:

The water used by the Licensee for the sole purpose of generating hydroelectric power is described fully as all water draining from a watershed encompassing an area of 115.2 square kilometres to a point on Gull Pond at the inlet of Pierre's Brook "forebay" from where the water is diverted by a storage dam with crest level of 89.52 metres elevation, into the intake of the penstock from where the water ultimately passes through the powerhouse northwest of the Town of Witless Bay, the East Coast of the Avalon Peninsula, and is then discharged into Witless Bay. The aforementioned watershed outlined in black on the 1:50,000 scale topographic maps, Bay Bulls 1N/7 edition 3 and Holyrood 1N/6 edition 3, to be referred to as "Schedule B", submitted by the Licensee as part of the application dated January 29, 2004 and further information provided on September 2 and 3, 2004, is located in the District of Ferryland, Newfoundland and Labrador and includes all of Gull Pond, Long Pond, Country Pond, locally known as "Big Country Pond", Pierre's Brook, George Norris Pond, Witless Bay Pond, Big Northern Pond, Beaver Brook, Little Northern Pond, Peytons Brook, Peytons Pond, White Hills Pond, Whales Pond, Lands Pond, Ploughman's Pond, Chambers Ponds, Neals Pond, and all other bodies of water named or not within the boundaries of the said watershed, from where water will flow to ultimately reach the intake of the penstock on Gull Pond northwest of the Town of Witless Bay except that such water shall not exceed the greater of:

- i) the amount of water that can be stored in the forebay to its full supply level (F.S.L) at 88.73 metres elevation consisting of an amount of water having a volume of 20,120,000 cubic metres and a surface area of 4.8 square kilometres; or
- ii) the amount of water which can be withdrawn into the aforementioned power canal and thence to the intake of the penstock at a rate of no more than 4.59 cubic metres per second and is to be used exclusively for the generation of hydroelectric power and subject to such withdrawal being limited to only that quantity of water which if withdrawn from Gull Pond will not cause the water level in the reservoir to be lower than the low supply level (L.S.L) at 83.67 metres elevation and a surface area of 2.5 square kilometres; or
- iii) the estimated annual water use of 136,483,000 cubic metres.

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION

SCHEDULE A (CONTINUED)

NO: WUL-04-003
FILE: 516

**DESCRIPTION OF WATERSHED AND AUTHORIZED WATER
FOR PIERRE'S BROOK HYDROELECTRIC POWER GENERATING PLANT**

Country Pond "Big Country Pond" Sub-Watershed:

All water draining from a watershed encompassing an area of 63.8 square kilometres to a point on Big Country Pond "reservoir" from where the water is impounded by a storage dam with crest level of 132.75 metres elevation, and where water is released at will or excess water that cannot be stored is spilled to Gull Pond except that such water is limited to:

- i) the amount of water that can be stored in the reservoir to its full supply level (F.S.L) at 131.03 metres elevation consisting of an amount of water having a volume of 13,190,000 cubic metres and a surface area of 3.6 square kilometres and subject to such withdrawal being limited to only that quantity of water which if withdrawn from Big Country Pond will not cause the water level in the reservoir to be lower than the low supply level (L.S.L.) of 126.28 metres elevation and a surface area of 1.3 square kilometres.

Witless Bay Country Pond Sub-Watershed:

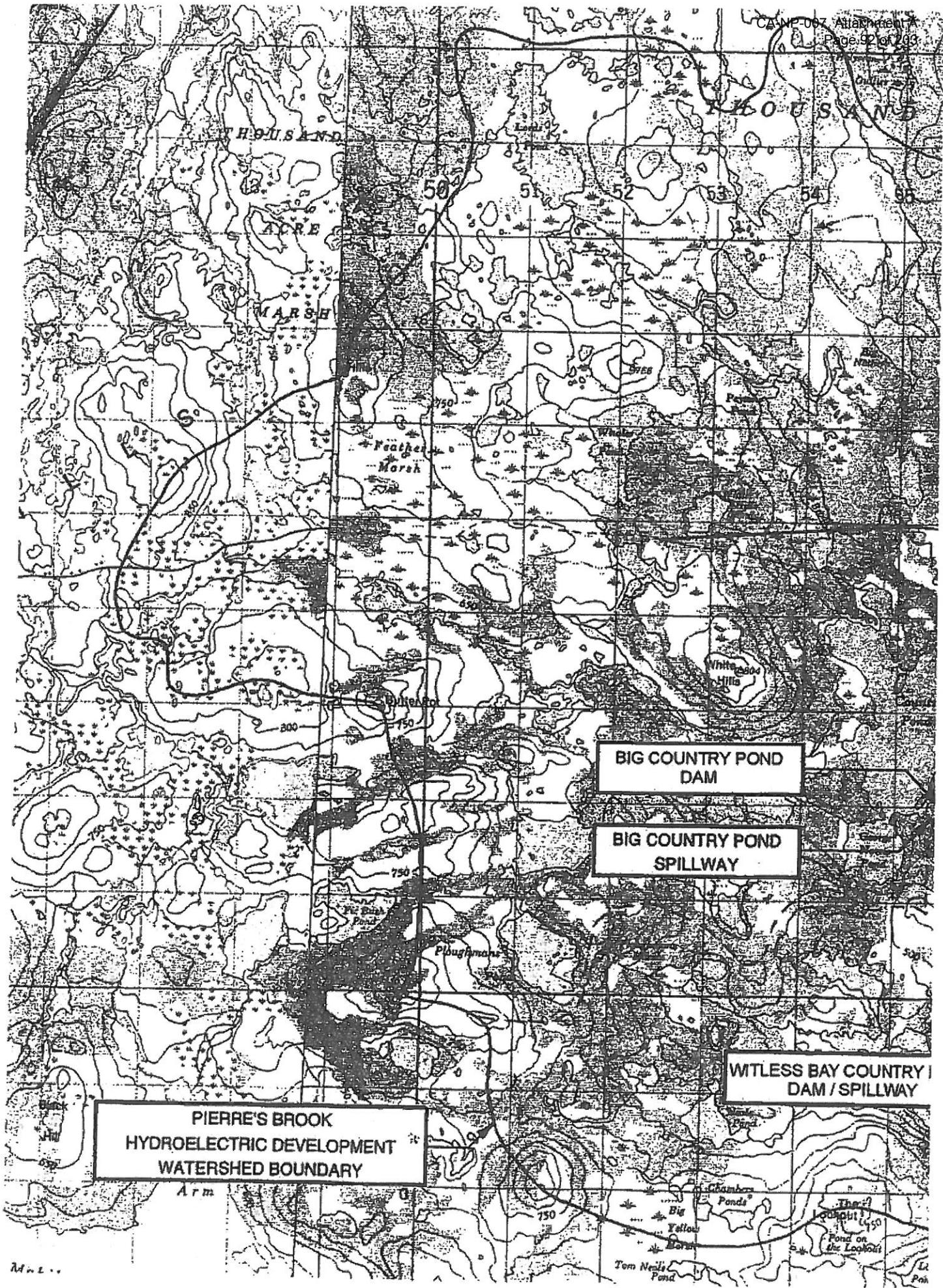
All water draining from a watershed encompassing an area of 18.0 square kilometres to a point on Witless Bay Country Pond "reservoir" from where the water is impounded by a storage dam with crest level of 116.80 metres elevation, and where water is released the diversion canal between Witless Bay Country Pond and Gull Pond at will or excess water that cannot be stored is spilled to Witless Bay Brook except that such water is limited to:

- i) the amount of water that can be stored in the reservoir to its full supply level (F.S.L) at 115.91 metres elevation consisting of an amount of water having a volume of 12,730,000 cubic metres and a surface area of 1.2 square kilometres and subject to such withdrawal being limited to only that quantity of water which if withdrawn from Witless Bay Country Pond will not cause the water level in the reservoir to be lower than the low supply level (L.S.L.) of 110.55 metres elevation and a surface area of 0.4 square kilometres.

cc: Dr. Abdel-Zaher K. Abdel-Razek, P.Eng. (2 copies)
Manager, Water Rights Section
Water Resources Management Division
Department of Environment and Conservation
P. O. Box 8700
St. John's, NL A1B 4J6

cc: Town of Witless Bay
P. O. Box 130
Witless Bay NL A0A 4K0

NO: WUL-04-003
FILE: 516



**PIERRE'S BROOK
HYDROELECTRIC DEVELOPMENT
WATERSHED BOUNDARY**

**BIG COUNTRY POND
DAM**

**BIG COUNTRY POND
SPILLWAY**

**WITLESS BAY COUNTRY
DAM / SPILLWAY**



NEWFOUNDLAND LIGHT & POWER (LTD)
 CA-NP-007, Attachment A
 Page 94 of 203
 Approved by [Signature]
 Date 96/08/26
 Remarks _____

GOVERNMENT OF
 NEWFOUNDLAND AND LABRADOR

Department of Environment and Labour
WATER USE AUTHORIZATION

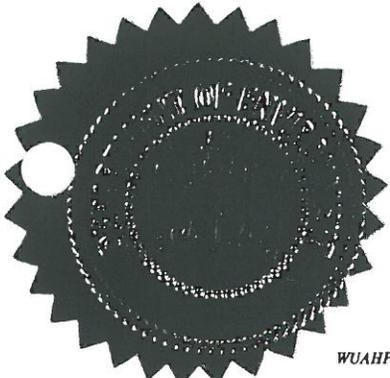
Pursuant to the *Environment Act*

Date: April 17, 1996 No: WUA-96-022
 Holder: Newfoundland Light & Power Co. Limited File: 516
 55 Kenmount Road
 P. O. Box 8910
 St. John's, NF
 A1B 3P6
 Attention: Mr. P. R. Hamilton, Manager, Energy Supply
 Re: **Port Union** Hydroelectric Power Generating Plant, Port Union,
 Newfoundland

Authorization is hereby given to Newfoundland Light & Power Co. Limited (the "Holder") to operate the existing hydroelectric power generating plant at a pond known as Second Storage Pond, located on the Trinity Bay Side of the Bonavista Peninsula near the Community of Port Union, utilizing the water from the watershed described in Schedules A and B, defined herein as the "Authorized Area", for the purpose of generating hydroelectric power together with flooding rights in and over the unoccupied Crown lands located in the Authorized Area, in reference to the application dated November 3, 1994 and additional information provided on April 7, 1995 and March 27, 1996.

This Authorization is subject to the terms and conditions, reservations, exceptions, and provisions stated herein and the *Environment Act*. Appendix A and Schedules A and B form part and parcel of this Authorization.

Failure to comply with the terms and conditions, reservations, exceptions, and provisions set out herein will render this Authorization null and void, may place the Holder and/or its agents in violation of the *Environment Act*, and make the Holder responsible for any remedial measures which may be prescribed by the Department of Environment and Labour.



[Signature]
 MINISTER

APPENDIX A

NO: WUA-96-022
FILE: 516

TERMS AND CONDITIONS

1. In consideration of the terms and conditions, reservations, exceptions, and provisions herein contained, the Minister of Environment and Labour hereby grants the Holder the **non-exclusive** right to use the water from all bodies of water and their catchments in the Authorized Area together with the right to flood the unoccupied Crown lands in the Authorized Area to the extent presently flooded at the full supply levels as defined in Schedule A for the generation of hydroelectric power upon and in accordance with the terms and conditions, reservations, exceptions, and provisions set forth in this Authorization.
2. This Authorization is subject to the full right of Government, its licensees, lessees, assignees, transferees, and any other person authorized by Government to:
 - a) *explore, prospect, search for, work, get, carry away, and dispose of all minerals both metallic and nonmetallic, coal, oil, natural gas, salt, and quarry materials;*
 - b) *fell, cut down, carry away, and dispose of all timber in the Authorized Area;*
 - c) *ingress, egress and regress over the Authorized Area and to make, sink, erect and use all mines, pits, plants, shafts, wells, machinery, buildings, erections, dams, roads, transmission lines and any other systems/works and conveniences for any purpose authorized by Government;*
 - d) *use all the land and water in the Authorized Area for fishing, boating, hunting and other traditional recreational activities subject to all applicable laws and regulations;*
 - e) *enjoy all other rights in the Authorized Area not otherwise granted and demised by this Authorization; and*
 - f) *occupy and use all land and water in the Authorized Area, the occupation and use of which is, in the opinion of the Minister, necessary for any of the above purposes.*

APPENDIX A (CONTINUED)

NO: WUA-96-022
FILE: 516

TERMS AND CONDITIONS

3. The initial term of this Authorization shall be twenty-five (25) years from the commencement date of April 30, 1996 and this Authorization shall expire on May 1, 2021 or earlier if suspended or cancelled by the Minister. This Authorization may be renewed by the Minister for such renewal term as the Minister deems appropriate commencing on the expiry of the initial term, provided the Holder applies for an extension at least one (1) year before the expiry of the initial term in the case of the first renewal and thereafter the expiry of the immediately preceding renewal term, on such terms and conditions as the Minister considers appropriate and in the public interest.
4. Subject to the terms and conditions, reservations, exceptions and provisions stated herein, the Authorization grants the Holder the following non-exclusive rights to use the water in the Authorized Area:
 - a) *the right to harness and make use of the authorized water in the existing systems/works, including dams, reservoirs, spillways, intake, penstock, powerhouse and any other works presently being used for operating the hydroelectric power generating plant;*
 - b) *the right to store the water in the reservoirs in the Authorized Area to the full supply levels as defined in Schedule A without in anyway adversely affecting the safety of the dams and other structures/works and to regulate flows for the purpose of generating hydroelectric power subject to Condition 6; and*
 - c) *subject to the prior written approval from the Minister, the right to make any improvement in the systems/works including the construction of additional works designed to make the existing operation more efficient.*
5. The designated purpose is "water power".
6. This Authorization shall not affect or be interpreted as granting any rights which might affect the quantity and quality of water required at present or in the future to the Communities of Port Union, Catalina, Little Catalina, Melrose and other users of the water in and outside the Authorized Area for their domestic and municipal uses.
7. The Holder acknowledges and agrees that this Authorization does not grant any interest in land or any exclusive right in or to use or occupy the Authorized Area.

APPENDIX A (CONTINUED)

NO: WUA-96-022
FILE: 516

TERMS AND CONDITIONS

8. The Holder shall not construct any new structure/facility in the Authorized Area, make alterations to the existing systems/works, make changes in the purpose, rates and amounts of water specified in this Authorization, or divert the course or alter the physical features of the water bodies within the Authorized Area without the prior written approval of the Minister.
9. The rights and liberties hereby demised by this Authorization shall not be sold, assigned, transferred, leased, mortgaged, sublet or otherwise alienated by the Holder without obtaining prior written approval from the Minister.
10. The Minister may allocate the unused water in the Authorized Area for any other beneficial purpose provided such allocation of the water does not prejudicially affect the rights of the Holder conveyed in this Authorization. The Holder will be duly informed and consulted by the Minister on any request for authorization of the unused water.
11. The Minister may, upon providing a hundred and eighty (180) days notice to the Holder, modify this Authorization by allocating part of the authorized water for other beneficial use(s) of higher order of precedence outlined in the Ministerial Policy established under the *Environment Act*. The Holder will be fully consulted on any such applications before any decision is taken by the Minister.
12. The Holder shall complete and return the attached Notification of Acceptance of Water Use Authorization to the Water Rights Section of the Department of Environment and Labour within thirty (30) days of receipt of the Water Use Authorization.
13. This Authorization does not release the Holder from the obligation to obtain appropriate approvals, permits or licences from other concerned federal, provincial, and municipal agencies.
14. The Holder shall prudently maintain in good faith records, accounts and statements of the rates and amounts of water used on a daily basis for the generation of hydroelectric power, rates and amounts of water spilled or released downstream for protecting fish habitat and aquatic life as required under the federal Fisheries Act and/or any other federal or provincial legislation, operating water levels in the reservoir, extent of the flooded area, energy production, and any other information that the Minister may require in whatever form, manner and time. Copies of such records, accounts, and statements shall be submitted to the Department of Environment and Labour annually.

APPENDIX A (CONTINUED)

NO: WUA-96-022
FILE: 516

TERMS AND CONDITIONS

15. The employees of the Department of Environment and Labour, authorized by the Minister, may at all reasonable times during the term created by this Authorization enter into the Authorized Area and the Holder's designated place of business to inspect the systems/works, records, statements, and accounts, and shall be entitled to copy such information as may be required by the Minister.
16. The Holder shall keep all systems/works in good condition and repair and in accordance with all laws, by-laws, directions, rules and regulations of any governmental authority. The Holder shall notify the Minister immediately if any problem arises which may threaten the structural stability of the systems/works such as dams, reservoirs, spillways, etc., endanger public safety and/or the environment or adversely affect water users either in or outside the Authorized Area. The Holder shall be responsible for all damages suffered by the Province resulting from any defect in the systems/works, operational deficiencies/inadequacies, or structural failure.
17. The Holder shall continue to pay to the Government any and all charges associated with this plant and such administrative fees and water use charges as may be approved by the Minister.
18. The Holder shall operate the plant in a manner which does not cause any water related and/or environmental problems, which may include but are not limited to erosion, deposition, flooding, deterioration of water quality and groundwater depletion in or outside the Authorized Area. The Holder shall be responsible for any and all damages associated with these problems caused as a result of changes, deficiencies, and inadequacies in the Holder's operational procedures.
19. The Holder shall not at any time impair, pollute or cause to be polluted the quality of the water in or outside the Authorized Area.
20. The Holder may be required by the Minister to install, operate and maintain streamflow and water level monitoring stations in the Authorized Area and also to monitor water quality at specified locations in a manner that the Minister considers necessary for the assessment of the quantity and quality of the water available in the Authorized Area and the quantity of water used by the Holder for the generation of hydroelectric power.

APPENDIX A (CONTINUED)

NO: WUA-96-022
FILE: 516

TERMS AND CONDITIONS

21. If the Holder fails to perform, fulfil, or observe any of the terms and conditions, reservations, exceptions, and provisions of this Authorization and/or Ministerial orders and guidelines, as determined by the Department of Environment and Labour, the Minister may, after providing a ninety (90) days notice to the Holder at any time during the term created by this Authorization, modify or cancel this Authorization.
22. The Holder may enter upon, investigate and survey any unoccupied Crown lands in the Authorized Area for any purpose incidental to the operation of the hydroelectric power generating plant but the Holder releases the Department of Environment and Labour from any and all liability, claims, damages and actions of any nature whatsoever relating to the rights conveyed in this Authorization and the systems/works operated, maintained, or rehabilitated by the Holder, its employees, agents, and invitees in the Authorized Area.
23. The Holder indemnifies and holds the Province 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 the water rights granted under this Authorization, systems and works in the Authorized Area, or any act or omission of the Holder in the Authorized Area, or arising out of a breach or non-performance of any of the terms and conditions, and provisions of this Authorization by the Holder.
24. Should any provision of this Authorization be unenforceable, it shall be considered separate and severable from the remaining provisions of this Authorization which shall remain in force and be binding as though the provision had not been included.
25. This Authorization is subject to the *Environment Act* and any regulations made pursuant thereto.
26. This Authorization shall be construed and interpreted in accordance with the laws of Newfoundland.
27. All notices to be given pursuant to the terms and conditions of this Authorization shall be given in writing and delivered by facsimile with auto confirmation or registered mail. If a notice is delivered by facsimile, it is deemed to have been received on the day it was sent if that day is a normal business day, if not, it is deemed to have been received on the next normal business day. If a notice is sent by registered mail, it is deemed to have been received three days after the day it was mailed.

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND LABOUR

APPENDIX A (CONTINUED)

NO: WUA-96-022
FILE: 516

TERMS AND CONDITIONS

The address and facsimile number of the Holder are:

Newfoundland Light & Power Co. Limited
55 Kenmount Road
P.O. Box 8910
St. John's, Newfoundland
A1B 3P6

(709) 737-2926

The address and facsimile number of the Department of Environment and Labour are:

Water Rights Section
Water Resources Management Division
Department of Environment and Labour
P.O. Box 8700
St. John's, Newfoundland
A1B 4J6

(709) 729-0320

SCHEDULE A

NO: WUA-96-022
FILE: 516

**DESCRIPTION OF WATERSHEDS AND AUTHORIZED WATER
FOR PORT UNION HYDROELECTRIC POWER GENERATING PLANT**

Second Storage Pond Watershed:

The water used by the Holder for the sole purpose of generating hydroelectric power is described fully as all water draining from a watershed encompassing an area of 79.14 square kilometres to a point on Second Storage Pond "forebay" from where the water is diverted by a storage dam with crest level of 100.60 metres elevation, into the power canal and thence to the intake of the penstock from where the water ultimately passes through the powerhouse near the Community of Port Union, the Trinity Bay Side of the Bonavista Peninsula, and is then discharged into Catalina Harbour. The aforementioned watershed outlined in black on the 1:50,000 scale topographic maps, Trinity 2C/6 edition 3 and Bonavista 2C/11 edition 3 to be referred to as "Schedule B", submitted by the Holder as part of the application dated November 3, 1994 and additional information provided on April 7, 1995 and March 27, 1996, is located in the Districts of Trinity North and Bonavista South, Newfoundland and includes all of Halfway Pond, Well's Pond, Long Pond, Whirl Pond, Second Storage Pond, and all other bodies of water named or not within the boundaries of the said watershed, from where water will flow to ultimately reach the power canal and thence to the intake of the penstock near the Community of Port Union except that such water shall not exceed:

- i) the amount of water that can be stored in the forebay to its full supply level (F.S.L) at 100.00 metres elevation consisting of an amount of water having a volume of 77,000 cubic metres and a surface area of 0.04 square kilometres; or
- ii) the amount of water which can be withdrawn into the aforementioned power canal and thence to the intake of the penstock at a rate of no more than 5.01 cubic metres per second and is to be used exclusively for the generation of hydroelectric power and subject to such withdrawal being limited to only that quantity of water which if withdrawn from Second Storage Pond will not cause the water level in the forebay to be lower than the low supply level (L.S.L) at 97.18 metres elevation and a surface area of 0.01 square kilometres; or
- iii) the estimated annual water use of 73,000,000 cubic metres.

SCHEDULE A (CONTINUED)

NO: WUA-96-022
FILE: 516

**DESCRIPTION OF WATERSHED AND AUTHORIZED WATER
FOR PORT UNION HYDROELECTRIC POWER GENERATING PLANT**

Whirl Pond Sub-Watershed:

All water draining from a watershed encompassing an area of 2.8 square kilometres to a point on Whirl Pond "reservoir" from where the water is impounded by a storage dam with crest level of 101.20 metres elevation, and where water is released at will or excess water that cannot be stored is spilled to Second Storage Pond except that the use of such water is limited to:

- i) the amount of water that can be stored in the reservoir to its full supply level (F.S.L) at 98.50 metres elevation consisting of an amount of water having a volume of 407,000 cubic metres and a surface area of 0.2 square kilometres and subject to such withdrawal being limited to only that quantity of water which if withdrawn from Whirl Pond will not cause the water level in the reservoir to be lower than the low supply level of (L.S.L.) 96.1 metres elevation and a surface area of 0.141 square kilometres.

Long Pond Sub-Watershed:

All water draining from a watershed encompassing an area of 55.94 square kilometres to a point on Long Pond "reservoir" from where the water is impounded by a storage dam with crest level of 102.13 metres elevation, and where water is released at will or excess water that cannot be stored is spilled to Second Storage Pond through Whirl Pond except that the use of such water is limited to:

- i) the amount of water that can be stored in the reservoir to its full supply level (F.S.L) at 100.00 metres elevation consisting of an amount of water having a volume of 1,395,000 cubic metres and a surface area of 0.42 square kilometres and subject to such withdrawal being limited to only that quantity of water which if withdrawn from Long Pond will not cause the water level in the reservoir to be lower than the low supply level of (L.S.L.) 96.1 metres elevation and a surface area of 0.299 square kilometres.

SCHEDULE A (CONTINUED)

NO: WUA-96-022
FILE: 516

**DESCRIPTION OF WATERSHED AND AUTHORIZED WATER
FOR PORT UNION HYDROELECTRIC POWER GENERATING PLANT**

Well's Pond Sub-Watershed:

All water draining from a watershed encompassing an area of 6.54 square kilometres to a point on Well's Pond "reservoir" from where the water is impounded by a storage dam with crest level of 100.61 metres elevation, and where water is released at will or excess water that cannot be stored is spilled to Second Storage Pond through Long Pond and Whirl Pond except that the use of such water is limited to:

- i) the amount of water that can be stored in the reservoir to its full supply level (F.S.L) at 100.00 metres elevation consisting of an amount of water having a volume of 1,448,000 cubic metres and a surface area of 0.62 square kilometres and subject to such withdrawal being limited to only that quantity of water which if withdrawn from Well's Pond will not cause the water level in the reservoir to be lower than the low supply level of (L.S.L.) 97.4 metres elevation and a surface area of 0.452 square kilometres.

Halfway Pond Sub-Watershed:

All water draining from a watershed encompassing an area of 13.51 square kilometres to a point on Halfway Pond "reservoir" from where the water is impounded by a storage dam with crest level of 104.53 metres elevation, and where water is released at will or excess water that cannot be stored is spilled to Second Storage Pond through Long Pond and Whirl Pond except that the use of such water is limited to:

- i) the amount of water that can be stored in the reservoir to its full supply level (F.S.L) at 103.63 metres elevation consisting of an amount of water having a volume of 3,753,000 cubic metres and a surface area of 1.35 square kilometres and subject to such withdrawal being limited to only that quantity of water which if withdrawn from Halfway Pond will not cause the water level in the reservoir to be lower than the low supply level of (L.S.L.) 100.43 metres elevation and a surface area of 1.004 square kilometres.

- cc: Dr. Abdel-Zaher K. Abdel-Razek, P.Eng. (2 copies)
Head
Water Rights Section
Water Resources Management Division
Department of Environment
P.O. Box 8700
St. John's, NF
A1B 4J6
- cc: Mr. Aubrey Rose,
Regional Lands Supervisor (E)
Department of Government Services and Lands
5 Mews Place
P.O. Box 8700
St. John's, NF
A1B 4J6
- cc: Mr. Frank Walsh,
Area Habitat Coordinator
Fisheries & Oceans Canada
Suite 301, Viking Bldg., 136 Crosbie Road
St. John's, NF
A1B 3K3
- cc: Mr. Bruce Sweetland
Mayor
P.O. Box 91
Port Union, NF
A0C 2J0
- cc: Mr. Andrew Donovan
Mayor
P.O. Box 2
Catalina, NF
A0C 1J0
- cc: Mr. Albert Johnson
Mayor
P.O. Box 59
Little Catalina, NF
A0C 1W0
- cc: Mrs. Monica Peters
Mayor
Community of Melrose
Melrose, NF
A0C 1Y0



GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR

Department of Environment and Labour
AMENDMENT TO WATER USE AUTHORIZATION

Pursuant to the *Environment Act*

Date: October 17, 1996

No: WUA-96-022

File: 516

Holder: Newfoundland Light & Power Co. Limited
55 Kenmount Road
P.O. Box 8910
St. John's, NF
A1B 3P6

Attention: Mr. P. R. Hamilton, Manager, Energy Supply

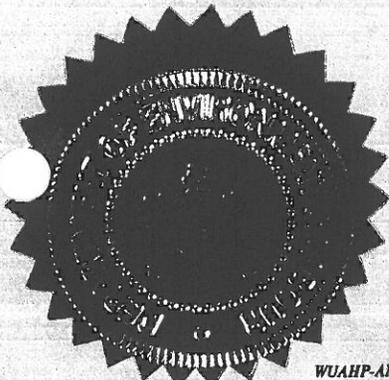
Re: *Port Union Hydroelectric Power Generating Plant, Port Union,
Newfoundland*

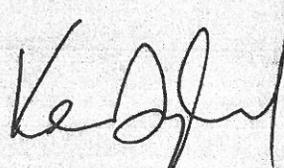
In reference to the written request dated October 1, 1996, Water Use Authorization No. WUA-96-022 issued on April 17, 1996, is hereby amended as follows:

Clause # 11 of Appendix A of the original Water Use Authorization No. WUA-96-022, is deleted.

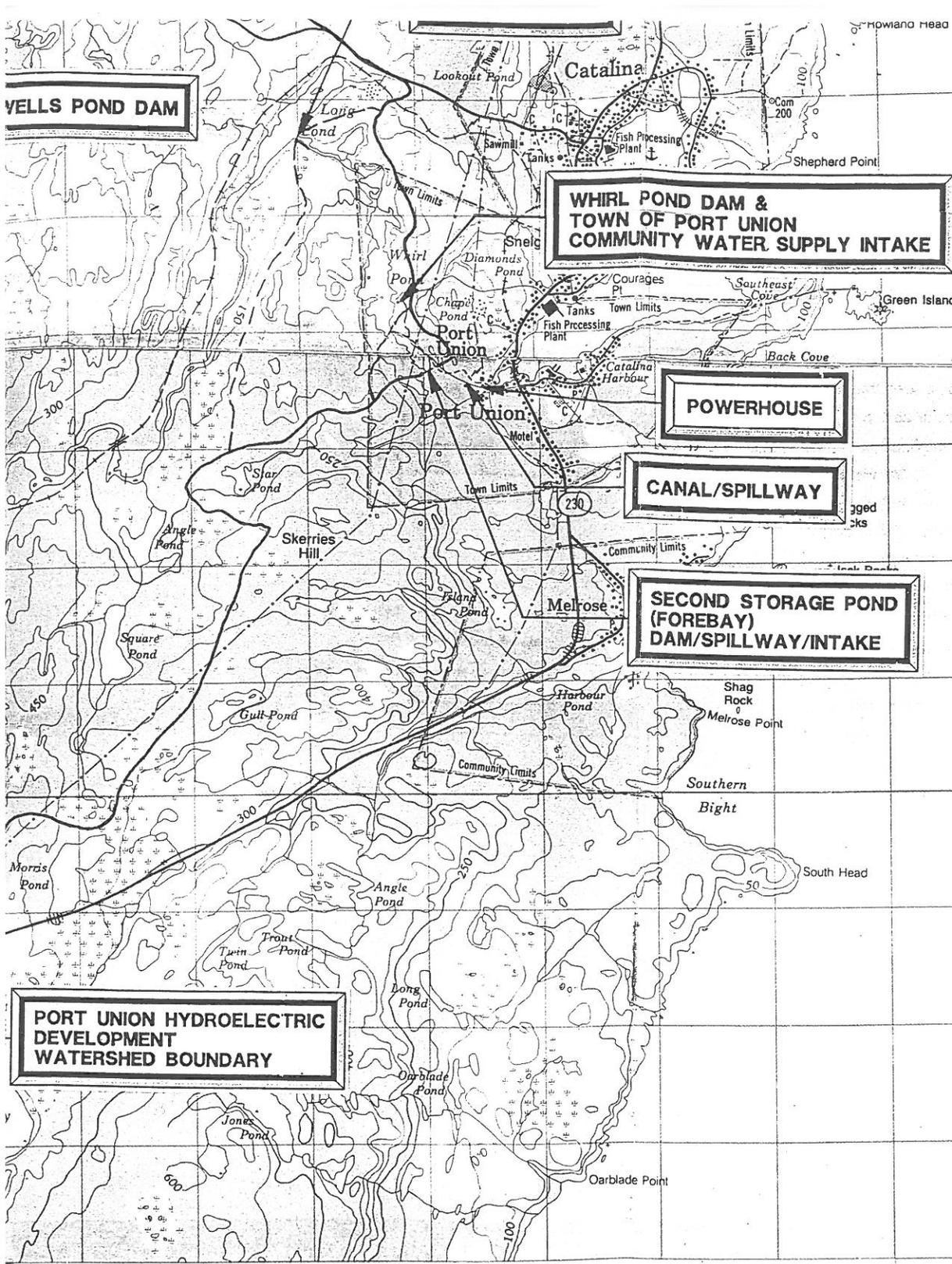
All other terms and conditions, reservations, exceptions, and provisions indicated in Appendix A and Schedules A and B of the original Water Use Authorization No. WUA-96-022 shall remain in force.

Failure to comply with the terms and conditions, reservations, exceptions, and provisions set out in the original Water Use Authorization No. WUA-96-022 and this amendment will render this Authorization null and void, may place the Holder and/or their agents in violation of the *Environment Act*, and make the Holder responsible for any remedial measures which may be prescribed by the Department of Environment and Labour.




MINISTER

ATLANTIC OCEAN



GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND LABOUR

SCHEDULE B

NO: WUA-96-022
FILE: 516

MAPS OF PORT UNION WATERSHED

March 9, 2009

Ms. Jennifer Williams, P.Eng.
Superintendent, Generation Operations
Newfoundland Power Inc.
PO Box 8910
St. John's NL A1B 3P6

Dear Ms. Williams:

**Re: Water Use Licence No. WUL-08-025 for
Rattling Brook Hydroelectric Power Generating Plant**

Please find enclosed Water Use Licence No. WUL-08-025 approved by the Minister. A copy of this licence will also be forwarded to the Town of Norris Arm.

Please forward to Mr. Earl Ludlow, President & CEO for signature and return of the Notification of Acceptance of Water Use Licence (attached) to the Water Rights Section of this Department within thirty (30) days of receipt.

Thank you for your cooperation on this matter. Should you have questions concerning this licence and its terms and conditions, please do not hesitate to call at (709) 729-4795.

Yours very truly,



Dr. Abdel-Zaher K. Abdel-Razek, P.Eng.
Manager, *Water Rights Section*

AKA\Enclosures\

**WATER USE LICENCE
(Water Power Generation)**

Pursuant to the *Water Resources Act*, SNL 2002 cW-4-01

Date of Issuance: January 28, 2009

No: WUL-08-025

File: 515

Licensee: Newfoundland Power Inc
55 Kenmount Road
PO Box 8910
St. John's NL A1B 3P6

Attention: Mr. Earl Ludlow, President and CEO

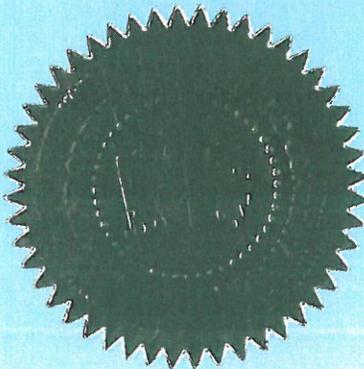
Re: *Water Use for Rattling Brook Hydroelectric Power Generating Plant*

The Minister of Environment and Conservation (the "Minister") hereby grants a Water Use Licence for non-exclusive water rights (the "Licence") to **Newfoundland Power Inc.** (the "Licensee") to continue operation of the existing Rattling Brook hydroelectric power generating plant at Rattling Brook (the "Plant"), located in Central Newfoundland near the Town of Norris Arm, utilizing the water from the watershed described in Schedules A and B, defined herein as the "Watershed", for the purpose of water power generation at the Licensee's existing Plant, together with flooding rights in and over the unoccupied Crown lands located in the Watershed to the extent presently flooded to full supply level, in reference to the application received on March 13, 2006 and additional information provided on March 24, 2008, April 14, 2008 and January 13, 2009.

This Licence is subject to the terms and conditions, reservations, exceptions, and provisions stated herein and the *Water Resources Act* and regulations thereunder. Appendix A and Schedules A and B form part and parcel of this Licence. This Licence does not release the Licensee from the obligation to obtain appropriate approvals, permits or licences from other concerned federal, provincial and municipal agencies.

The Licensee shall complete and return the attached Notification of Acceptance of Water Use Licence (attached) to the Water Rights Section of the Department of Environment and Conservation within thirty (30) days of receipt of this Licence.

Failure to comply with the terms and conditions, reservations, exceptions, and provisions set out herein will render this Licence null and void, place the Licensee and/or its agents in violation of the *Water Resources Act*, and cause the Licensee to be responsible for any and all remedial measures which may be prescribed by the Department of Environment and Conservation.



Charlene Johnson
Minister

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
APPENDIX A

NO: WUL-08-025
FILE: 515

TERMS AND CONDITIONS FOR WATER USE LICENCE

1. In consideration of the terms and conditions, reservations, exceptions, and provisions herein contained in this Licence, the Minister hereby grants the Licensee the non-exclusive right to use the water from all bodies of water and their catchments in the Watershed described in Schedules A and B, for the purpose of water power generation at the Licensee's Plant, together with the right to flood the unoccupied Crown lands in the Watershed to the extent presently flooded at the full supply level as defined in Schedule A, in reference to the application received on March 13, 2006 and additional information provided on March 24, 2008, April 14, 2008 and January 13, 2009, upon and in accordance with the terms and conditions, reservations, exceptions, and provisions set forth in this Licence.

2. This Licence is subject to the full right of the Government, its licensees, lessees, assignees, transferees, and any other person authorized by the Government or of the general public, in accordance with applicable legislation of the Province of Newfoundland and Labrador or federal legislation having application in the Province of Newfoundland and Labrador, to:
 - a) *explore, prospect, search for, develop, produce, mine, carry away, and dispose of all minerals both metallic and non-metallic, coal, oil, natural gas, salt, and quarry materials in the Watershed;*

 - b) *fell, cut down, carry away, and dispose of all timber in the Watershed;*

 - c) *ingress, egress and regress over the Watershed and to make, sink, erect and use all mines, pits, plant, shafts, wells, machinery, buildings, erections, dams, roads, transmission lines and any other systems and works and conveniences for any purpose authorized by the Government;*

 - d) *use all the land and water in the Watershed for fishing, boating, hunting and other traditional recreational activities subject to all applicable laws and regulations of the Province of Newfoundland and Labrador;*

 - e) *enjoy all other rights in the Watershed not otherwise granted and demised by this Licence; and*

 - f) *occupy and use all land and water in the Watershed, the occupation and use of which is, in the opinion of the Minister, necessary for any of the above purposes.*

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
APPENDIX A (CONTINUED)

NO: WUL-08-025
FILE: 515

TERMS AND CONDITIONS FOR WATER USE LICENCE

3. This Licence shall be read and interpreted as conferring non-exclusive rights upon the Licensee to use the water, and nothing herein shall limit, abrogate or derogate from any water uses within the Watershed that existed prior to the issuance of this Licence and all rights reserved or purported reserved or to be reserved herein to the Government, its licensees, lessees, assignees, transferees, authorized persons or other members of the general public.
4. This Licence shall be effective January 1, 2006 and shall expire on December 31, 2031 or earlier if modified, suspended or cancelled by the Minister. This Licence may be renewed by the Minister for such renewal term and on such terms and conditions as the Minister considers appropriate and in the public interest, provided the Licensee applies in writing for an extension at least one (1) year before the expiry date.
5. Subject to the terms and conditions, reservations, exceptions and provisions stated herein, the Licence grants the Licensee the following non-exclusive rights to use the water in the Watershed:
 - a) *the right to harness and make use of water in the existing systems and works, including the existing dams, spillways, intakes, penstock, powerhouse and any other systems and works approved by the Minister and those presently being used for operating the Plant, as indicated in Schedule B;*
 - b) *the right to store the water in the reservoirs in the Watershed to the full supply levels as defined in Schedule A without in any way adversely affecting the safety of the dams and other structures and works and to regulate flows for the purpose of water power generation subject to Condition 7; and*
 - c) *subject to the prior written permit from the Minister, the right to make any improvements in the systems works including the construction of additional systems works designed to make the existing operation more efficient.*
6. The designated purpose of the water use is "Water Power Generation".
7. This Licence shall not affect or be interpreted as granting any rights which might affect the quantity and quality of water required at present or in the future to all nearby communities and other users of water in and outside the Watershed for their domestic and municipal uses. The Licensee shall be responsible for undertaking any measures which the Minister considers necessary to satisfy the quantity and quality of water required at present or in the future for the said water uses.

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
APPENDIX A (CONTINUED)

NO: WUL-08-025
FILE: 515

TERMS AND CONDITIONS FOR WATER USE LICENCE

8. The Licensee acknowledges and agrees that this Licence does not grant any interest in land or any exclusive right in or to use or occupy the Watershed.
9. The Licensee shall abide by any and all requirements of the *Water Resources Act* and the *Environmental Protection Act* and any applicable regulations made under those Acts. Also, the Licensee shall abide by terms and conditions indicated in Permits or Certificates issued or that are to be issued in connection with the construction or improvements of any and all systems and works required for these Plant including, but not limited to, dam(s), spillway(s), intake(s), penstock, powerhouse, access road(s) or any other systems and works presently being used for operating the Plant in or outside the Watershed.
10. The Licensee shall not construct any new systems and works including, but not limited to, dam(s), diversion dam(s), spillway(s), intake(s), penstock(s), powerhouse(s), or any other systems and works presently being used for operating the Plant in or outside the Watershed without the prior written permission of the Minister. Also, the Licensee shall not make any changes in the purpose, rates and amounts of water authorized in this Licence, or divert the course or alter the physical features of the bodies of water within or outside the Watershed without the prior written approval of the Minister.
11. The rights and liberties hereby demised by this Licence shall not be sold, assigned, transferred, leased, mortgaged, sublet or otherwise alienated by the Licensee without obtaining prior written approval from the Minister. The Minister, however, consents to the assignment of this Licence under the charging provisions of Trust Deeds, which bear a formal date of September 15, 1966 and are registered at Volume 831, Folios 1 to 160 (First Mortgage Bonds) and Folios 161 to 303 (General Mortgage Bonds) of the Registry of Deeds for Newfoundland and Labrador in favour of Montreal Trust Company.
12. The Minister shall have the right to allocate the unused water in the Watershed, as described in Schedule A, for any other beneficial purpose provided such allocation of the water does not prejudicially affect the rights of the Licensee conveyed in this Licence. The Licensee will be duly informed and consulted by the Minister on any request for authorization of the excess water.
13. The Minister may, upon providing one hundred and eighty (180) days written notice to the Licensee, cancel or modify this Licence by allocating all or part of the authorized water from the Watershed for other beneficial use(s) of higher order of precedence outlined in Section 15 of the *Water Resources Act* on priority of right. The Licensee will be fully consulted on any such applications before any decision is taken by the Minister.

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
APPENDIX A (CONTINUED)

NO: WUL-08-025
FILE: 515

TERMS AND CONDITIONS FOR WATER USE LICENCE

14. The Licensee shall prudently maintain in good faith records, accounts and statements of the rates and amounts of water used on a daily basis for the generation of hydroelectric power, rates and amounts of water spilled or released downstream for protecting fish habitat and aquatic life as required under the federal *Fisheries Act* and/or any other federal or provincial legislation, operating water levels, extent of the flooded area, energy production, and any other information that the Minister may require in whatever form, manner and time. Copies of such records, accounts, and statements shall be submitted to the Water Rights Section of the Department of Environment and Conservation on or before the end of March of each year during the term created by this Licence.
15. The employees of the Department of Environment and Conservation, when authorized by the Minister, may at all reasonable times during the term created by this Licence enter into the Watershed and the Licensee's designated place of business to inspect the systems and works, records, statements, and accounts, and shall be entitled to copy such information as may be required by the Minister in relation to this Licence and may exercise all other powers of inspection as provided for in the *Water Resources Act*.
16. Effective January 1, 2006, this Licence is subject to the *Water Power Rental Regulations*, NLR 64/03 under the *Water Resources Act* and the Licensee shall upon receipt of an invoice stating the amount owing for water power rentals, pay to the Minister the full amount within sixty (60) days of the receipt of the said invoice and if imposed by provincial legislation, fees, incentives, royalties, subsidies or water use charges for water use.
17. The Licensee 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 Licensee shall immediately notify the Minister if any problem arises which may threaten the structural stability of the systems and works such as dams, spillways and other systems and works, endanger public safety and/or the environment or adversely affect water users either in or outside the Watershed. The Licensee 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.
18. The Licensee shall operate its Plant 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, deterioration of water quality and groundwater depletion, in or outside the Watershed. The Licensee shall be responsible for any and all damages associated with these problems caused as a result of changes, deficiencies, and inadequacies in the Licensee's operational procedures.

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
APPENDIX A (CONTINUED)

NO: WUL-08-025
FILE: 515

TERMS AND CONDITIONS FOR WATER USE LICENCE

19. The Licensee shall not at any time operate its Plant and its systems and works so as to impair, pollute or cause to be polluted the quality of the water in or outside the Watershed. Also, this Licence shall not be interpreted as granting any rights to cause adverse effect(s) on water in or outside the Watershed.
20. The Licensee may be required by the Minister to install, operate and maintain streamflow, water level monitoring stations, and other necessary measures in or outside the Watershed and also to monitor water quality at specified locations. Such monitoring shall be carried out in the manner that the Minister considers necessary for the assessment of the quantity and quality of the water available in or outside the Watershed and the quantity of water used by the Licensee for water power generation.
21. If the Licensee fails to perform, fulfil, or observe any of the terms and conditions, reservations, exceptions, and provisions of this Licence and/or Ministerial orders and guidelines, as determined by the Department of Environment and Conservation, the Minister may, after providing a ninety (90) days notice to the Licensee at any time during the term created by this Licence, modify, suspend or cancel this Licence in accordance with the *Water Resources Act*.
22. The Licensee may enter upon, investigate and survey any unoccupied Crown lands in or outside the Watershed for any purpose incidental to the operation of the Plant systems and works but the Licensee releases the Minister and the Government from any and all liability, claims, damages and actions of any nature whatsoever relating to the rights conveyed in this Licence and the systems and works operated, maintained, or rehabilitated by the Licensee, its employees, agents, and invitees in or outside the Watershed.
23. The Licensee indemnifies and holds the Minister and the 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 the non-exclusive water rights granted under this Licence, systems and works in or outside the Watershed, or any act or omission of the Licensee in or outside the Watershed, or arising out of a breach or non-performance of any of the terms and conditions, and provisions of this Licence by the Licensee, its employees or agents.
24. Should any provision of this Licence be unenforceable, it shall be considered separate and severable from the remaining provisions of this Licence which shall remain in force and be binding as though the provision had not been included.

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
APPENDIX A (CONTINUED)

NO: WUL-08-025
FILE: 515

TERMS AND CONDITIONS FOR WATER USE LICENCE

25. This Licence is subject to all provisions of the *Water Resources Act* and any regulations in effect either at the date of this Licence or hereafter made pursuant thereto or any other relevant legislation enacted by the Province of Newfoundland and Labrador in the future.
26. The Licensee acknowledges and agrees that this Licence may require and will be amended to include further provisions pursuant to the *Water Resources Act* and any regulations in effect thereunder from time to time, as deemed necessary in the opinion of the Minister.
27. This Licence shall be construed and interpreted in accordance with the laws of the Province of Newfoundland and Labrador.
28. All notices to be given pursuant to the terms and conditions of this Licence shall be given in writing and delivered by facsimile with auto confirmation or registered mail. If a notice is delivered by facsimile, it is deemed to have been received on the day it was sent if that day is a normal business day, if not, it is deemed to have been received on the next normal business day. If a notice is sent by registered mail, it is deemed to have been received three (3) days after the day it was mailed.

The address and facsimile number of the Licensee is:

Newfoundland Power Inc.
55 Kenmount Road
PO Box 8910
St. John's NL A1B 3P6

(709) 737-2926

The address and facsimile number of the Department of Environment and Conservation is:

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

(709) 729-0320

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
SCHEDULE A

NO: WUL-08-025
FILE: 515

**DESCRIPTIONS OF WATERSHEDS AND AUTHORIZED WATER FOR
RATTLING BROOK HYDROELECTRIC POWER GENERATING PLANT**
(All Figures for Levels Are Referenced to the Licensee's Local Datum)

Rattling Brook (Forebay) Watershed:

The water used by the Licensee for the sole purpose of generating hydroelectric power is described fully as all water draining from a watershed encompassing an area of 383.4 square kilometres to a point on Rattling Brook from where the water is diverted by a storage dam with crest level of 103.94 metres elevation, into the intake of the penstock, from where water ultimately passes through the powerhouse near the Town of Norris Arm in Central Newfoundland, and is then discharged into Norris Arm. The aforementioned watershed outlined in black on the 1:50,000 scale topographic maps, Botwood 2E/3 edition 3 and Mount Peyton 2D/14 edition 3, to be referred to as "Schedule B", submitted by the Licensee as part of the application received on March 13, 2006 and additional information provided on March 24, 2008, April 14, 2008 and January 13, 2009, is located in the District of Exploits, Newfoundland and Labrador and includes all of Rothery Pond, Red Fox Pond, Frozen Ocean Pond, Dawd Pond, Beatons Lake, Gull Lake, Lewis Pond, Upper Christmas Pond, Rattling Brook, Rattling Lake, Little Christmas Pond, and all other bodies of water named or not within the boundaries of the said watershed, from where water will flow to ultimately reach the said intakes of penstocks near the Town of Norris Arm except that such water shall not exceed the greater of:

- i) the amount of water that can be stored in the forebay to its full supply level (F.S.L) at 102.20 metres elevation consisting of an amount of water having a volume of 1,270,000 cubic metres and a surface area of 0.20 square kilometres; or
- ii) the amount of water which can be withdrawn into the intake of the penstock at a maximum rate of no more than 18.17 cubic metres per second (maximum loading) and is to be used exclusively for water power generation and subject to such withdrawal being limited to only that quantity of water which if withdrawn from the forebay will not cause the water level to be lower than the low supply level (L.S.L) at 99.06 metres elevation and a surface area of 0.18 square kilometres; or
- iii) the estimated annual water use of 362,062,000 cubic metres.

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
SCHEDULE A (CONTINUED)

NO: WUL-08-025
FILE: 515

**DESCRIPTIONS OF WATERSHEDS AND AUTHORIZED WATER FOR
RATTLING BROOK HYDROELECTRIC POWER GENERATING PLANT**
(All Figures for Levels Are Referenced to the Licensee's Local Datum)

Rattling Lake Sub-Watershed:

All water draining from a watershed encompassing an area of 322.6 square kilometres to a point on Rattling Lake "reservoir" from where the water is impounded by a storage dam with crest level of 116.13 metres elevation, and where water is released at will or excess water that cannot be stored is spilled except that the use of such water is limited to:

- i) the amount of water that can be stored in the reservoir to its full supply level (F.S.L) at 115.12 metres elevation consisting of an amount of water having a volume of 71,510,000 cubic metres and a surface area of 10.59 square kilometres and subject to such withdrawal being limited to only that quantity of water which if withdrawn from Rattling Lake will not cause the water level in the reservoir to be lower than the low supply level of (L.S.L.) 106.38 metres elevation and a surface area of 5.5 square kilometres.

Frozen Ocean Lake Sub-Watershed:

All water draining from a watershed encompassing an area of 58.0 square kilometres to a point on Frozen Ocean Pond "reservoir" from where the water is impounded by a storage dam with crest level of 184.46 metres elevation, and where water is released at will or excess water that cannot be stored is spilled to Beatons Lake except that the use of such water is limited to:

- i) the amount of water that can be stored in the reservoir to its full supply level (F.S.L) at 183.49 metres elevation consisting of an amount of water having a volume of 12,010,000 cubic metres and a surface area of 3.93 square kilometres and subject to such withdrawal being limited to only that quantity of water which if withdrawn from Frozen Ocean Pond will not cause the water level in the reservoir to be lower than the low supply level of (L.S.L.) 181.36 metres elevation and a surface area of 3.77 square kilometres.

cc: Dr. Abdel-Zaher K. Abdel-Razek, P.Eng. (2 copies)
Manager, Water Rights Section
Water Resources Management Division
Department of Environment and Conservation
PO Box 8700
St. John's NL A1B 4J6

cc: Town of Norris Arm
PO Box 70
Norris Arm, NL A0G 3M0

NO: WUL-08-025
FILE: 515

DATE: January 28, 2009

FILE: 515

Water Rights Section

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

**NOTIFICATION OF ACCEPTANCE OF WATER USE LICENCE
[Water Use for Rattling Brook Hydroelectric Power Generating Plant]**

Water Use Licence No. WUL-08-025 issued on January 28, 2009 and valid until December 31, 2031.

As a Licensee of the Water Use Licence No. WUL-08-025, issued pursuant to the *Water Resources Act*, **Newfoundland Power Inc.** (the "Licensee"), agrees to accept this Licence for the stated duration and abide by all terms and conditions, reservations, exceptions and provisions stated therein. The Licensee acknowledges that failure to abide by the terms and conditions, reservations, exceptions and provisions indicated in Appendix A and Schedules A and B of the Licence and the *Water Resources Act* will render the Licence null and void, place the Licensee and/or their agent(s) in violation of the *Water Resources Act* and *Water Power Rental Regulations*, and other regulations thereunder and cause the Licensee to be responsible for any and all remedial measures which may be prescribed by the Department of Environment and Conservation.

Signed, sealed, and delivered by the
Newfoundland Power Inc.,

in accordance with its rules and regulations in that behalf
at St. John's, Newfoundland and Labrador, this 23rd day
of March, 2009 in the presence

Witness

Per: Ed L...
Signing Officer

Seal:

Important: The attached Water Use Licence is not valid unless the Licensee completes and returns this notification to the address above within thirty (30) days of receipt.



GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR

Department of Environment and Labour
Water Resources Management Division

November 17, 1998

Mr. John L. Simmons, Manager
Energy Supply
Newfoundland Light & Power Co. Limited (NLPC)
55 Kenmount Road
P.O. Box 8910
St. John's, NF A1B 3P6

Dear Mr. Simmons:

Water Rights for Rose Blanche Brook Hydroelectric Development

This refers to NLPC original Application dated March 10, 1995, the revised Application dated September 27, 1996, and additional information provided on December 31, 1996, January 17, 1997, March 25, 1997, July 11, 1997, June 19, 1998, July 2 and 20, 1998, and August 4 and 6, 1998 regarding water rights for Rose Blanche Brook Hydroelectric Development. I am pleased to forward the original and two true copies of Water Use Authorization/Licence (WUA/L) No. WUA-97-005 approved by the Minister of Environment and Labour and the Minister of Government Services and Lands.

Please be advised that this WUA/L is not valid unless NLPC completes and returns the Notification of Acceptance (attached) to the Water Rights Section of the Department of Environment and Labour within thirty (30) days of receipt. The notification must be executed by NLPC's signing officers and stamped by NLPC's official stamp. The signing officers should also initial all of the pages of one true copy of the WUA/L (attached) and return with the notification. In addition, we would appreciate if you could submit any and all information, reports, returns, and other requirements as indicated in the terms and conditions of this Authorization/Licence.

If you have any questions on the above, please do not hesitate to contact me at **729-4795**.

Yours very truly,

A handwritten signature in black ink, appearing to read 'A. K. Abdel-Razek', written over a horizontal line.

A. K. Abdel-Razek, Ph.D., P.Eng.
Manager, *Water Rights Section*

AKA\Enclosures

cc: Mr. Bill Parrott, Director, Crown Lands Division, GS&L (Howley Building)
Ms. Ivy Cokes, Town Clerk, Town of Rose Blanche-Harbour Le Cou



GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR

Department of Environment and Labour
WATER USE AUTHORIZATION/LICENCE

Pursuant to the *Environment Act*, SN 1995 c E-13.1 and the *Crown Lands Act*, RSN 1990 c. C- 42, as amended

Date: September 25, 1998

No: WUA-97-005

File: 514

Holder: Newfoundland Light & Power Co. Limited
55 Kenmount Road
P. O. Box 8910
St. John's, NF A1B 3P6

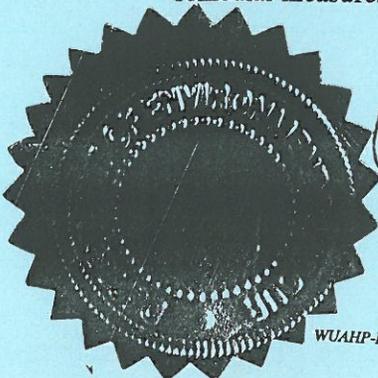
Attention: Mr. John L. Simmons, Manager, Energy Supply

Re: *Rose Blanche Brook Hydroelectric Power Generating Plant*

The Minister of Environment and Labour and the Minister of Government Services and Lands (the "Ministers") hereby authorize Newfoundland Light & Power Co. Limited (the "Holder") to operate a hydroelectric power generating plant at Rose Blanche Brook, located on the Southwest Coast of the Island of Newfoundland near the Town of Rose Blanche-Harbour Le Cou, utilizing the water from the watershed described in Schedules A and B, defined herein as the "Authorized Area", for the purpose of generating hydroelectric power for subsequent sale to consumers on the Island portion of the Province of Newfoundland, together with flooding rights in and over the unoccupied Crown lands located in the Authorized Area, in reference to the original Application of the Holder dated March 10, 1995, the revised Application of the Holder dated September 27, 1996, and additional information provided on December 31, 1996, January 17, 1997, March 25, 1997, July 11, 1997, June 19, 1998, July 2 and 20, 1998, and August 4 and 6, 1998.

This Authorization/Licence is subject to the terms and conditions, reservations, exceptions, and provisions stated herein, the *Environment Act*, and the *Crown Lands Act*. Appendix A and Schedules A, B, and C form part and parcel of this Authorization/Licence.

Failure to comply with the terms and conditions, reservations, exceptions, and provisions set out herein will render this Authorization/Licence null and void, place the Holder and/or their agent(s) in violation of the *Environment Act* and the *Crown Lands Act*, and make the Holder responsible for any remedial measures which may be prescribed by the Department of Environment and Labour.



Oliver Longdon

MINISTER
Environment and Labour

Barrie

MINISTER
Government Services and Lands

APPENDIX A

NO: WUA-97-005
FILE: 514

TERMS AND CONDITIONS FOR WATER USE AUTHORIZATION/LICENCE

1. In consideration of the terms and conditions, reservations, exceptions, and provisions herein contained in this Authorization/Licence, the Ministers hereby grant the Holder the non-exclusive right to use the water from all bodies of water and their catchments in the Authorized Area together with the right to flood the unoccupied Crown lands in the Authorized Area to the full supply level as defined in Schedule A for the generation of hydroelectric power for subsequent sale to consumers on the Island portion of the Province of Newfoundland, in reference to the original Application of the Holder dated March 10, 1995, the revised Application of the Holder dated September 27, 1996, and additional information provided on December 31, 1996, January 17, 1997, March 25, 1997, July 11, 1997, June 19, 1998, July 2 and 20, 1998, and August 4 and 6, 1998.
2. This Authorization/Licence is subject to the full right of the Government, its licensees, lessees, assignees, transferees, and any other person authorized by the Government to:
 - a) *explore, prospect, search for, work, get, carry away, and dispose of all minerals both metallic and nonmetallic, coal, oil, natural gas, salt, and quarry materials;*
 - b) *fell, cut down, carry away, and dispose of all timber in the Authorized Area;*
 - c) *ingress, egress and regress over the Authorized Area and to make, sink, erect and use all mines, pits, plants, shafts, wells, machinery, buildings, erections, dams, roads, transmission lines and any other systems/works and conveniences for any purpose authorized by the Government;*
 - d) *use all the land and water in the Authorized Area for fishing, boating, hunting and other traditional recreational activities subject to all applicable laws and regulations of the Province of Newfoundland;*
 - e) *enjoy all other rights in the Authorized Area not otherwise granted and demised by this Authorization/Licence; and*
 - f) *occupy and use all land and water in the Authorized Area, the occupation and use of which is, in the opinion of the Ministers, necessary for any of the above purposes.*
3. The initial term of this Authorization/Licence shall be fifty (50) years from the commencement date of October 1, 1998 and this Authorization/Licence shall expire on October 1, 2048 or earlier if suspended or cancelled by either of the Ministers. Also, this Authorization/Licence may be renewed by the Ministers for such renewal term as the Ministers deem appropriate commencing on the expiry of the initial term, on such terms and conditions as the Ministers consider appropriate and in the public interest.

APPENDIX A

NO: WUA-97-005
FILE: 514

TERMS AND CONDITIONS FOR WATER USE AUTHORIZATION/LICENCE

4. Subject to the terms and conditions, reservations, exceptions and provisions stated herein, the Authorization/Licence grants the Holder the following non-exclusive rights to use the water in the Authorized Area:
 - a) *the right to harness and make use of the authorized water in the systems/works, including dam, intake, spillway, penstock, powerhouse, and any other works as tentatively indicated in Schedules B and C for operating the hydroelectric power generating plant;*
 - b) *the right to store the water in the forebay area to the full supply level as defined in Schedule A without in anyway adversely affecting the safety of the dam and other structures/works and to regulate flows for the purpose of generating hydroelectric power subject to Condition 6; and*
 - c) *subject to the prior written approval from the Minister of Environment and Labour, the right to make any improvement in the systems/works including the construction of additional works designed to make the operation more efficient.*
5. The designated purpose of the water use is "water power".
6. This Authorization/Licence shall not affect or be interpreted as granting any rights which might affect the quantity and quality of water required at present or in the future for the Town of Rose Blanche-Harbour Le Cou, all nearby communities and other users of water in and outside the Authorized Area for their domestic and municipal uses. The Holder shall be responsible for undertaking any measures which the Minister of Environment and Labour considers necessary to satisfy the quantity and quality of water required at present or in the future for the said water uses.
7. The Holder acknowledges and agrees that this Authorization/Licence does not grant any interest in land or any exclusive right in or to use or occupy the Authorized Area.
8. The Holder shall abide by any and all commitments made in the Environmental Preview Report, the Environmental Protection Plan, and any and all subsequent documents provided during the Environmental Assessment Process of this project. Also, the Holder shall abide by terms and conditions indicated in Certificate of Approvals issued or that are to be issued by the Minister of Environment and Labour or Government Engineer in connection with the construction or improvements of any and all systems/works required for this project including, but not limited to, dam(s), spillway(s), intake(s), penstock(s), diversion canal(s), dyke(s) or access road(s) in or outside the Authorized Area.

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TERMS AND CONDITIONS FOR WATER USE AUTHORIZATION/LICENCE

9. After the completion of the proposed project, the Holder shall not construct any new systems/works including, but not limited to, dam(s), spillway(s), intake(s), diversion canal(s), dyke(s), or access road(s) in or outside the Authorized Area. Also, the Holder shall not make any changes in the purpose, rates and amounts of water authorized in this Authorization/Licence, or divert the course or alter the physical features of the bodies of water within or outside the Authorized Area without the prior written approval of the Minister of Environment and Labour.
10. The rights and liberties hereby demised by this Authorization/Licence shall not be sold, assigned, transferred, leased, mortgaged, sublet or otherwise alienated by the Holder without obtaining prior written approval from the Minister of Environment and Labour and the Minister of Government Services and Lands.
11. The Minister of Environment and Labour shall have the right to allocate the water in excess of the authorized water from the Authorized Area, as described in Schedule A, for any other beneficial purpose provided such allocation of the water does not prejudicially affect the rights of the Holder conveyed in this Authorization/Licence. The Holder will be duly informed and consulted by the Minister of Environment and Labour on any request for authorization of the excess water.
12. The Minister of Environment and Labour may, upon providing one hundred and eighty (180) days written notice to the Holder, modify this Authorization/Licence by allocating all or part of the authorized water from the Authorized Area, as described in Schedule A, for other beneficial use(s) of higher order of precedence outlined in the Ministerial Policy established under the *Environment Act* (88-1/Revision). The Holder will be fully consulted on any such applications before any decision is taken by the Minister of Environment and Labour.
13. The Holder shall complete and return the attached Notification of Acceptance of Water Use Authorization/Licence to the Water Rights Section of the Department of Environment and Labour within thirty (30) days of receipt of the Water Use Authorization/Licence.
14. This Authorization/Licence does not release the Holder from the obligation to obtain appropriate approvals, permits or licences from other concerned federal, provincial, and municipal agencies.

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TERMS AND CONDITIONS FOR WATER USE AUTHORIZATION/LICENCE

15. The Holder shall prudently maintain in good faith records, accounts and statements of the rates and amounts of water used on a daily basis for the generation of hydroelectric power, rates and amounts of water spilled or released downstream for protecting fish habitat and aquatic life as required under the federal *Fisheries Act* and/or any other federal or provincial legislation, operating water levels, extent of the flooded area, energy production, and any other information that the Ministers may require in whatever form, manner and time. Copies of such records, accounts, and statements shall be submitted to the Water Rights Section of the Department of Environment and Labour on or before the end of March of each year during the term created by this Authorization/Licence.
16. The employees of the Department of Environment and Labour and the Department of Government Services and Lands, when authorized by either Minister, may at all reasonable times during the term created by this Authorization/Licence enter into the Authorized Area and the Holder's designated place of business to inspect the systems/works, records, statements, and accounts, and shall be entitled to copy such information as may be required by either Minister.
17. The Holder shall upon receipt of an invoice stating the amount owing for rental charges that are to be determined pursuant to the *Crown Lands Act* from the date of commencement of this Authorization/Licence, pay to the Minister of Environment and Labour the full amount within sixty (60) days of the receipt of the said invoice and if imposed by provincial legislation, levy rates or charges for water use.
18. The Holder shall keep all systems/works in good condition and repair and in accordance with all laws, by-laws, directions, rules and regulations of any governmental authority. The Holder shall immediately notify the Minister of Environment and Labour if any problem arises which may threaten the structural stability of the systems/works such as dam and other systems/works, endanger public safety and/or the environment or adversely affect water users either in or outside the Authorized Area. The Holder shall be responsible for all damages suffered by the Government resulting from any defect in the systems/works, operational deficiencies/inadequacies, or structural failure.
19. The Holder shall operate the plant in a manner which does not cause any water related and/or environmental problems, including but not limited to problems of erosion, deposition, flooding, deterioration of water quality and groundwater depletion in or outside the Authorized Area. The Holder shall be responsible for any and all damages associated with these problems caused as a result of changes, deficiencies, and inadequacies in the Holder's operational procedures.

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TERMS AND CONDITIONS FOR WATER USE AUTHORIZATION/LICENCE

20. The Holder shall not at any time impair, pollute or cause to be polluted the quality of the water in or outside the Authorized Area.
21. The Holder may be required by the Minister of Environment and Labour to install, operate and maintain streamflow, water level monitoring stations, and other necessary measures in or outside the Authorized Area and also to monitor water quality at specified locations in such manner as the Minister of Environment and Labour considers necessary for the assessment of the quantity and quality of the water available in or outside the Authorized Area and the quantity of water used by the Holder for the generation of hydroelectric power.
22. If the Holder fails to perform, fulfil, or observe any of the terms and conditions, reservations, exceptions, and provisions of this Authorization/Licence and/or Ministerial orders and guidelines, the Ministers may, after providing ninety (90) days written notice to the Holder, modify or cancel this Authorization/Licence.
23. The Holder may enter upon, investigate and survey any unoccupied Crown lands in the Authorized Area for any purpose incidental to the operation of the hydroelectric power generating plant but the Holder releases the Ministers and the Government from any and all liability, claims, damages and actions of any nature whatsoever relating to the rights conveyed in this Authorization/Licence and the systems/works operated, maintained, or rehabilitated by the Holder, its employees, agents, and invitees in the Authorized Area.
24. The Holder indemnifies and holds the 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 the water rights granted under this Authorization/Licence, systems and works in or outside the Authorized Area, or any act or omission of the Holder in or outside the Authorized Area, or arising out of a breach or non-performance of any of the terms and conditions, and provisions of this Authorization/Licence by the Holder.
25. Should any provision of this Authorization/Licence be unenforceable, it shall be considered separate and severable from the remaining provisions of this Authorization/Licence which shall remain in force and be binding as though the provision had not been included.
26. This Authorization/Licence is subject to the *Environment Act*, the *Crown Lands Act*, and any regulations in effect either at the date of this Authorization/Licence or hereafter made pursuant thereto or any other relevant legislation enacted by the Province of Newfoundland in the future.
27. This Authorization/Licence shall be construed and interpreted in accordance with the laws of the Province Newfoundland.

APPENDIX A

NO: WUA-97-005
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TERMS AND CONDITIONS FOR WATER USE AUTHORIZATION/LICENCE

28. The Holder shall submit a complete final set of stamped professional engineering drawings, plans, and specifications for all systems/works in or outside the Authorized Area to the Minister of Environment and Labour upon completion of construction and seek amendment to Schedules A and C of this Authorization/Licence.
29. All notices to be given pursuant to the terms and conditions of this Authorization/Licence shall be given in writing and delivered by facsimile with auto confirmation or registered mail. If a notice is delivered by facsimile, it is deemed to have been received on the day it was sent if that day is a normal business day, if not, it is deemed to have been received on the next normal business day. If a notice is sent by registered mail, it is deemed to have been received three (3) days after the day it was mailed.

The address and facsimile number of the Holder are:

Newfoundland Light & Power Co. Limited
55 Kenmount Road
P.O. Box 8910
St. John's, Newfoundland A1B 3P6

(709) 737-2926

The address and facsimile number of the Government are:

Water Rights Section
Water Resources Management Division
Department of Environment and Labour
P.O. Box 8700
St. John's, Newfoundland A1B 4J6

(709) 729-0320

SCHEDULE A

NO: WUA-97-005
FILE: 514

**DESCRIPTION OF WATERSHED AND AUTHORIZED WATER FOR
ROSE BLANCHE BROOK HYDROELECTRIC POWER GENERATING DEVELOPMENT**

Rose Blanche Brook Watershed:

The water used by the Holder for the sole purpose of generating hydroelectric power is described fully as all water draining from a watershed encompassing an area of 54.60 square kilometres to a point on Rose Blanche Brook "forebay" from where the water is diverted by a dam with crest level of 167.20 metres elevation, into the intake of the penstock from where the water ultimately passes through the powerhouse near the Town of Rose Blanche-Harbour Le Cou, on the Southwest Coast of the Island of Newfoundland and is then discharged into Rose Blanche Brook and is then discharged into West Arm, Rose Blanche Bay. The aforementioned watershed outlined in black on the 1:50,000 scale topographic map, 11O/10 Rose Blanche edition 3 and 11O/15 Grandys Lake edition 3, to be referred to as "Schedule B", submitted by the Holder (Exhibit "G" - Revised) on July 2, 1998 for consideration as part of the revised Application dated September 27, 1996, is located in the District of Burgeo & La Poile, Newfoundland and includes all of Rose Blanche Brook and all other bodies of water named or not within the boundaries of the said watershed, from where water will naturally flow to ultimately reach the intake of the penstock near the Town of Rose Blanche-Harbour Le Cou except that such water shall not exceed the lesser of:

- i) the amount of water that can be stored in the forebay to its full supply level (F.S.L) at 161.50 metres elevation consisting of an amount of water having a volume of 5,163,000 cubic metres and a surface area of 0.930 square kilometres; or
- ii) the amount of water which can be withdrawn into the aforementioned intake of the penstock at a maximum rate of no more than 6.03 cubic metres per second and is to be used exclusively for the generation of hydroelectric power and subject to such withdrawal being limited to only that quantity of water which if withdrawn from Rose Blanche Brook dam will not cause the water level in the forebay to be lower than the low supply level (L.S.L) at 157.00 metres elevation and a surface area of 0.492 square kilometres; or
- iii) the estimated annual water use of 81,400,000 cubic metres.

SCHEDULE C

NO: WUA-97-005
FILE: 514

SUMMARY OF FEATURES FOR
ROSE BLANCHE HYDROELECTRIC POWER GENERATING DEVELOPMENT

Hydrological and Other Features in the Watershed

Forebay Area

Full Supply Level (F.S.L.)	161.50 m
Surface Area at F.S.L.	0.930 km ²
Low Supply Level (L.S.L.)	157.00 m
Surface Area at L.S.L.	0.492 km ²
Gross Design Head	119.00 m
Net Head	114.20 m

Main Dam

Type	Rockfill with Concrete Face
Maximum Height	19.20 m
Crest Elevation	167.20 m
Crest Width	5.00 m
Crest Length	51.00 m

Spillway

Type	Excavated Rock Channel
Length	40.00 m
Sill Elevation	161.50 m
Design Flood	500 m ³ /s

Penstock

Type	Steel
Length	1300 m
Diameter	1676 mm

Power Substation and Transmission

Installed Capacity	6.1 MW
Estimated Average Annual Energy Developed	22.0 GWh
Transmission	
• Length	5.00 km
• Voltage	25 kV

cc: Dr. Abdel-Zaher K. Abdel-Razek, P.Eng. (2 copies)
Head, Water Rights Section
Water Resources Management Division
Department of Environment and Labour
P.O. Box 8700
St. John's, NF A1B 4J6

cc: Mr. William Parrott, Director
Crown Lands Division
Department of Government Services and Lands
P.O. Box 8700
St. John's, NF A1B 4J6

cc: Ms. Ivy Cokes, Town Clerk
Town of Rose Blanche Harbour Le Cou
P.O. Box 159
Rose Blanche, NF A0M 1P0

NO: WUA-97-005
FILE: 514



GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
Department of Environment and Labour

DATE: December 11, 1998
FILE: 514

Water Rights Section
Water Resources Management Division
Department of Environment and Labour
P.O. Box 8700
St. John's, NF A1B 4J6

NOTIFICATION OF ACCEPTANCE OF WATER USE AUTHORIZATION/LICENCE
[Rose Blanche Brook Hydroelectric Power Generating Plant near Rose Blanche-Harbour Le Cou]

Water Use Authorization/Licence No. WUA-97-005 issued on September 25, 1998, and valid for fifty (50) years.

As Holder of *Water Use Authorization/Licence* WUA-97-005, issued pursuant to the *Environment Act*, SN 1995 c E-13.1 and the *Crown Lands Act*, RSN 1990 c. C- 42, as amended, **Newfoundland Power Inc., formerly Newfoundland Light & Power Co. Limited** as per Articles of Amendment duly registered on October 1, 1998 (the "Holder") agrees to accept this *Authorization/Licence* for the stated duration and abide by all terms and conditions stated therein. The Holder acknowledges that failure to abide by the terms and conditions indicated in Appendix A and Schedules A, B, and C of the *Authorization/Licence* will result in suspension or cancellation of the *Authorization/Licence*.

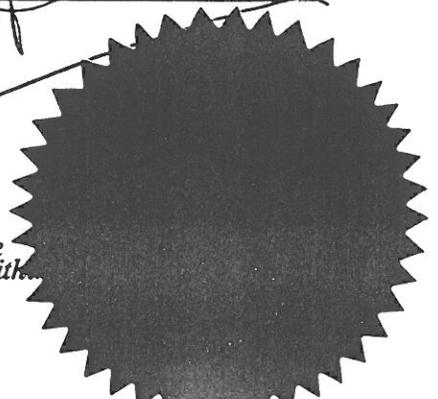
Signed, sealed, and delivered by the
Newfoundland Power Inc.,
in accordance with its rules and regulations in that behalf
at St. John's, Newfoundland, this 11th Day
of December, 1998 in the presence
of:

[Signature]
Witness

[Signature]
Witness

Per: [Signature]
Signing Officer
Per: [Signature]
Signing Officer

Seal:



Important: *The attached Water Use Authorization/Licence is not valid unless the Holder completes and returns this notification to the address above within thirty (30) days of receipt.*

August 13, 2010

Ms. Jennifer Williams, P.Eng.
Superintendent, Generation Operations
Newfoundland Power Inc.
55 Kenmount Road
PO Box 8910
St. John's NL A1B 3P6

Dear Ms. Williams:

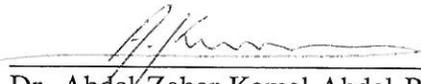
**Re: Water Use Licence No. WUL-10-065 for
Water Use for Sandy Brook Hydroelectric Power Generating Plant**

Please find enclosed Water Use Licence No. WUL-10-065 approved by the Minister.

Please forward to Mr. Earl Ludlow, President & CEO for signature and return of the Notification of Acceptance of Water Use Licence (attached) to the Water Rights Section of this Department within thirty (30) days of receipt.

Thank you for your cooperation on this matter. Should you have questions concerning this licence and its terms and conditions, please do not hesitate to call at **(709) 729-4795**.

Yours very truly,



Dr. Abdel-Zaher Kamal Abdel-Razek, P.Eng.
Manager

AKA\Enclosures\

cc: Dr. Abdel-Zaher K. Abdel-Razek, P.Eng. (2 copies)
Manager, Water Rights Section
Water Resources Management Division
Department of Environment and Conservation
PO Box 8700
St. John's NL A1B 4J6

NO: WUL-10-065
FILE: 515

**WATER USE LICENCE
(Water Power Generation)**

Pursuant to the *Water Resources Act*, SNL 2002 cW-4-01

Date of Issuance: July 27, 2010

No: WUL-10-065

File: 515

Licensee: Newfoundland Power Inc.
55 Kenmount Road
PO Box 8910
St. John's NL A1B 3P6

Attention: Mr. Earl Ludlow, President & CEO

Re: *Water Use for Sandy Brook Hydroelectric Power Generating Plant*

The Minister of Environment and Conservation (the "Minister") hereby grants a Water Use Licence for non-exclusive water rights (the "Licence") to **Newfoundland Power Inc.** (the "Licensee") to continue operation of the existing Sandy Brook hydroelectric power generating plant at Sandy Brook (the "Plant"), located in the Central Portion of the Island of Newfoundland near the Town of Grand Falls-Windsor, utilizing the water from the watershed described in Schedules A and B, defined herein as the "Watershed", for the purpose of water power generation at the Licensee's existing Plant, together with flooding rights in and over the unoccupied Crown lands located in the Watershed to the extent presently flooded to the full supply level, in reference to the application received on February 22, 2010 and further information provided on July 16 and 22, 2010.

This Licence is subject to the terms and conditions, reservations, exceptions, and provisions stated herein and the *Water Resources Act* and regulations thereunder. Appendix A and Schedules A and B form part and parcel of this Licence. This Licence does not release the Licensee from the obligation to obtain appropriate approvals, permits or licences from other concerned federal, provincial and municipal agencies.

The Licensee shall complete and return the attached Notification of Acceptance of Water Use Licence (attached) to the Water Rights Section of the Department of Environment and Conservation within thirty (30) days of receipt of this Licence.

Failure to comply with the terms and conditions, reservations, exceptions, and provisions set out herein will render this Licence null and void, place the Licensee and/or its agents in violation of the *Water Resources Act*, and cause the Licensee to be responsible for any and all remedial measures which may be prescribed by the Department of Environment and Conservation.



Charlene Johnson
Minister

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
APPENDIX A

NO: WUL-10-065
FILE: 515

TERMS AND CONDITIONS FOR WATER USE LICENCE

1. In consideration of the terms and conditions, reservations, exceptions, and provisions herein contained in this Licence, the Minister hereby grants the Licensee the non-exclusive right to use the water from all bodies of water and their catchments in the Watershed described in Schedules A and B, for the purpose of water power generation at the Plant, together with the right to flood the unoccupied Crown lands in the Watershed to the extent presently flooded at the full supply level as defined in Schedule A, in reference to the application received on February 22, 2010 and further information provided on July 16 and 22, 2010.

2. This Licence is subject to the full right of the Government, its licensees, lessees, assignees, transferees, and any other person authorized by the Government or of the general public, in accordance with applicable legislation of the Province of Newfoundland and Labrador or federal legislation having application in the Province of Newfoundland and Labrador, to:
 - a) *explore, prospect, search for, develop, produce, mine, carry away, and dispose of all minerals both metallic and non-metallic, coal, oil, natural gas, salt, and quarry materials in the Watershed;*

 - b) *fell, cut down, carry away, and dispose of all timber in the Watershed;*

 - c) *ingress, egress and regress over the Watershed and to make, sink, erect and use all mines, pits, plants, shafts, wells, machinery, buildings, erections, dams, roads, transmission lines and any other systems and works and conveniences for any purpose authorized by the Government;*

 - d) *use all the land and water in the Watershed for fishing, boating, hunting and other traditional recreational activities subject to all applicable laws and regulations of the Province of Newfoundland and Labrador;*

 - e) *enjoy all other rights in the Watershed not otherwise granted and demised by this Licence; and*

 - f) *occupy and use all land and water in the Watershed, the occupation and use of which is, in the opinion of the Minister, necessary for any of the above purposes.*

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
APPENDIX A (CONTINUED)

NO: WUL-10-065
FILE: 515

TERMS AND CONDITIONS FOR WATER USE LICENCE

3. This Licence shall be read and interpreted as conferring non-exclusive rights upon the Licensee to use the water, and nothing herein shall limit, abrogate or derogate from any water uses within the Watershed that existed prior to the issuance of this Licence and all rights reserved or purported reserved or to be reserved herein to the Government, its licensees, lessees, assignees, transferees, authorized persons or other members of the general public.
4. This Licence shall be effective January 1, 2010 and shall expire on December 31, 2035 or earlier if modified, suspended or cancelled by the Minister. This Licence may be renewed by the Minister for such renewal term and on such terms and conditions as the Minister considers appropriate and in the public interest, provided the Licensee applies in writing for an extension at least one (1) year before the expiry date.
5. Subject to the terms and conditions, reservations, exceptions and provisions stated herein, the Licence grants the Licensee the following non-exclusive rights to use the water in the Watershed:
 - a) *the right to harness and make use of water in the existing systems and works, including the existing dams, spillways, intakes, penstock, surge tank, powerhouse and any other systems and works approved by the Minister and those presently being used for operating the Plant, as indicated in Schedule B;*
 - b) *the right to store the water in the reservoirs in the Watershed to the full supply levels as defined in Schedule A without in any way adversely affecting the safety of the dams and other structures and works and to regulate flows for the purpose of water power generation subject to Condition 7; and*
 - c) *subject to the prior written permit from the Minister, the right to make any improvements in the systems works including the construction of additional systems and works designed to make the existing operation more efficient.*
6. The designated purpose of the water use is "Water Power Generation".
7. This Licence shall not affect or be interpreted as granting any rights which might affect the quantity and quality of water required at present or in the future to all nearby communities and other users of water in and outside the Watershed for their domestic and municipal uses. The Licensee shall be responsible for undertaking any measures which the Minister considers necessary to satisfy the quantity and quality of water required at present or in the future for the said water uses.

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
APPENDIX A (CONTINUED)

NO: WUL-10-065
FILE: 515

TERMS AND CONDITIONS FOR WATER USE LICENCE

8. The Licensee acknowledges and agrees that this Licence does not grant any interest in land or any exclusive right in or to use or occupy the Watershed.
9. The Licensee shall abide by any and all requirements of the *Water Resources Act* and the *Environmental Protection Act* and any applicable regulations made under those Acts. Also, the Licensee shall abide by terms and conditions indicated in Permits or Certificates issued or that are to be issued in connection with the construction or improvements of any and all systems and works required for the Plant including, but not limited to, dams, spillways, intakes, penstock, surge tank, powerhouse, access roads or any other systems and works presently being used for operating the Plant in or outside the Watershed.
10. The Licensee shall not construct new systems and works or rehabilitate any existing systems and works including, but not limited to, dam(s), spillway(s), intake(s), penstock(s), surge tank(s), powerhouse(s), or any other systems and works presently being used for operating the Plant in or outside the Watershed without the prior written permission of the Minister. Also, the Licensee shall not make any changes in the purpose, rates and amounts of water authorized in this Licence, or divert the course or alter the physical features of the bodies of water within or outside the Watershed without the prior written approval of the Minister.
11. The rights and liberties hereby demised by this Licence shall not be sold, assigned, transferred, leased, mortgaged, sublet or otherwise alienated by the Licensee without obtaining prior written approval from the Minister. The Minister, however, consents to the assignment of this Licence under the charging provisions of Trust Deeds, which bear a formal date of September 15, 1966 and are registered at Volume 831, Folios 1 to 160 (First Mortgage Bonds) and Folios 161 to 303 (General Mortgage Bonds) of the Registry of Deeds for Newfoundland and Labrador in favour of Montreal Trust Company.
12. The Minister shall have the right to allocate the unused water in the Watershed, as described in Schedules A and B, for any other beneficial purpose provided such allocation of the water does not prejudicially affect the rights of the Licensee conveyed in this Licence. The Licensee will be duly informed and consulted by the Minister on any request for authorization of the excess water.
13. The Minister may, upon providing one hundred and eighty (180) days written notice to the Licensee, cancel or modify this Licence by allocating all or part of the authorized water from the Watershed for other beneficial use(s) of higher order of precedence outlined in Section 15 of the *Water Resources Act* on priority of right. The Licensee will be fully consulted on any such applications before any decision is taken by the Minister.

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
APPENDIX A (CONTINUED)

NO: WUL-10-065
FILE: 515

TERMS AND CONDITIONS FOR WATER USE LICENCE

14. The Licensee shall prudently maintain in good faith records, accounts and statements of the rates and amounts of water used on a daily basis for the generation of hydroelectric power, rates and amounts of water spilled or released downstream for protecting fish habitat and aquatic life as required under the federal *Fisheries Act* and/or any other federal or provincial legislation, operating water levels, extent of the flooded area, energy production, and any other information that the Minister may require in whatever form, manner and time. Copies of such records, accounts, and statements shall be submitted to the Water Rights Section of the Department of Environment and Conservation on or before the end of March of each year during the term created by this Licence.
15. The employees of the Department of Environment and Conservation, when authorized by the Minister, may at all reasonable times during the term created by this Licence enter into the Watershed and the Licensee's designated place of business to inspect the systems and works, records, statements, and accounts, and shall be entitled to copy such information as may be required by the Minister in relation to this Licence and may exercise all other powers of inspection as provided for in the *Water Resources Act*.
16. Effective January 1, 2010, this Licence is subject to the *Water Power Rental Regulations*, NLR 64/03 under the *Water Resources Act* and the Licensee shall upon receipt of an invoice stating the amount owing for water power rentals, pay to the Minister the full amount within sixty (60) days of the receipt of the said invoice and if imposed by provincial legislation, fees, incentives, royalties, subsidies or water use charges for water use.
17. The Licensee 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 Licensee shall immediately notify the Minister if any problem arises which may threaten the structural stability of the systems and works such as dams, spillways and other systems and works, endanger public safety and/or the environment or adversely affect water users either in or outside the Watershed. The Licensee 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.
18. The Licensee shall operate the Plant 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 Watershed. The Licensee shall be responsible for any and all damages associated with these problems caused as a result of changes, deficiencies, and inadequacies in the Licensee's operational procedures.

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
APPENDIX A (CONTINUED)

NO: WUL-10-065
FILE: 515

TERMS AND CONDITIONS FOR WATER USE LICENCE

19. The Licensee shall not at any time operate the Plant and its systems and works so as to impair, pollute or cause to be polluted the quality of the water in or outside the Watershed. Also, this Licence shall not be interpreted as granting any rights to cause adverse effect(s) on water in or outside the Watershed.
20. The Licensee may be required by the Minister to install, operate and maintain streamflow, water level monitoring stations, and other necessary measures in or outside the Watershed and also to monitor water quality at specified locations. Such monitoring shall be carried out in the manner that the Minister considers necessary for the assessment of the quantity and quality of the water available in or outside the Watershed and the quantity of water used by the Licensee for water power generation.
21. If the Licensee fails to perform, fulfil, or observe any of the terms and conditions, reservations, exceptions, and provisions of this Licence and/or Ministerial orders and guidelines, as determined by the Department of Environment and Conservation, the Minister may, after providing a ninety (90) days notice to the Licensee at any time during the term created by this Licence, modify, suspend or cancel this Licence in accordance with the *Water Resources Act*.
22. The Licensee may enter upon, investigate and survey any unoccupied Crown lands in or outside the Watershed for any purpose incidental to the operation of the Plant systems and works but the Licensee releases the Minister and the Government from any and all liability, claims, damages and actions of any nature whatsoever relating to the rights conveyed in this Licence and the systems and works operated, maintained, or rehabilitated by the Licensee, its employees, agents, and invitees in or outside the Watershed.
23. The Licensee indemnifies and holds the Minister and the 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 the non-exclusive water rights granted under this Licence, systems and works in or outside the Watershed, or any act or omission of the Licensee in or outside the Watershed, or arising out of a breach or non-performance of any of the terms and conditions, and provisions of this Licence by the Licensee, its employees or agents.
24. Should any provision of this Licence be unenforceable, it shall be considered separate and severable from the remaining provisions of this Licence which shall remain in force and be binding as though the provision had not been included.

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
APPENDIX A (CONTINUED)

NO: WUL-10-065
FILE: 515

TERMS AND CONDITIONS FOR WATER USE LICENCE

25. This Licence is subject to all provisions of the *Water Resources Act* and any regulations in effect either at the date of this Licence or hereafter made pursuant thereto or any other relevant legislation enacted by the Province of Newfoundland and Labrador in the future.
26. The Licensee acknowledges and agrees that this Licence may require and will be amended to include further provisions pursuant to the *Water Resources Act* and any regulations in effect thereunder from time to time, as deemed necessary in the opinion of the Minister.
27. This Licence shall be construed and interpreted in accordance with the laws of the Province of Newfoundland and Labrador.
28. All notices to be given pursuant to the terms and conditions of this Licence shall be given in writing and delivered by facsimile with auto confirmation or registered mail. If a notice is delivered by facsimile, it is deemed to have been received on the day it was sent if that day is a normal business day, if not, it is deemed to have been received on the next normal business day. If a notice is sent by registered mail, it is deemed to have been received three (3) days after the day it was mailed.

The address and facsimile number of the Licensee is:

Newfoundland Power Inc.
55 Kenmount Road
PO Box 8910
St. John's NL A1B 3P6

(709) 737-2926

The address and facsimile number of the Department of Environment and Conservation is:

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

(709) 729-0320

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
SCHEDULE A

NO: WUL-10-065
FILE: 515

**DESCRIPTIONS OF WATERSHEDS AND AUTHORIZED WATER FOR
SANDY BROOK HYDROELECTRIC POWER GENERATING PLANT
(All Figures for Levels Are Referenced to the Licensee's Local Datum)**

Sandy Brook (Forebay) Watershed:

The water used by the Licensee for the sole purpose of generating hydroelectric power is described fully as all water draining from a watershed encompassing an area of 184.4 square kilometres to a point on Sandy Brook (Forebay) from where the water is diverted by a storage dam with crest level of 128.60 metres elevation, into the intake of the penstock from where the water ultimately passes through the powerhouse near the Town of Grand Falls-Windsor in the Central Portion of the Island of Newfoundland and is then discharged into Sandy Brook, and then into the Exploits River. The aforementioned watershed outlined in black on the topographic maps, Noel Paul's Brook 12A/9 Edition 3, Badger 12A/16 Edition 3, Miguels Lake 2D/12 Edition 3, and Grand Falls 2D/13 Edition 3, to be referred to as "Schedule B", submitted by the Licensee as part of the application received on February 22, 2010 and further information provided on July 16 and 22, 2010, is located in the Districts of Windsor-Buchans and Grand Falls, Newfoundland and Labrador and includes all of Pistol Lake, Sandy Lake, Sandy Brook, West Brook, Caledonid Brook, Clipper Brook, Coronation Brook, West Lake, Diversion Lake, and all other bodies of water named or not within the boundaries of the said watershed, from where water will flow to ultimately reach the said intake of penstock near the Town of Grand Falls-Windsor except that such water shall not exceed the greater of:

- i) the amount of water that can be stored in Sandy Brook (Forebay) to its full supply level (F.S.L) at 126.80 metres elevation consisting of an amount of water having a volume of 1,600,000 cubic metres and a surface area of 1.60 square kilometres; or
- ii) the amount of water which can be withdrawn into the intake of the penstock at a maximum rate of no more than 25.1 cubic metres per second (maximum loading) and is to be used exclusively for water power generation and subject to such withdrawal being limited to only that quantity of water which if withdrawn from Sandy Brook (Forebay) will not cause the water level to be lower than the low supply level (L.S.L) at 125.00 metres elevation and a surface area of 0.6 square kilometres; or
- iii) the estimated annual water use of 370,482,000 cubic metres.

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
SCHEDULE A (CONTINUED)

NO: WUL-10-065
FILE: 515

**DESCRIPTIONS OF WATERSHEDS AND AUTHORIZED WATER FOR
SANDY BROOK HYDROELECTRIC POWER GENERATING PLANT**
(All Figures for Levels Are Referenced to the Licensee's Local Datum)

Sandy Lake Sub-Watershed:

All water draining from a watershed encompassing an area of 220.00 square kilometres to a point on Sandy Lake "reservoir" from where the water is impounded by a storage dam with crest level of 216.20 metres elevation, and where water is released at will or excess water that cannot be stored is spilled to Sandy Brook except that the use of such water is limited to:

- i) the amount of water that can be stored in the reservoir to its full supply level (F.S.L) at 215.00 metres elevation consisting of an amount of water having a volume of 32,700,000 cubic metres and a surface area of 10.3 square kilometres and subject to such withdrawal being limited to only that quantity of water which if withdrawn from Sandy Lake will not cause the water level in the reservoir to be lower than the low supply level of (L.S.L.) 212.40 metres elevation and a surface area of 9.24 square kilometres.

West Lake Sub-Watershed:

All water draining from a watershed encompassing an area of 106.50 square kilometres to a point on West Lake "reservoir" from where the water is impounded by a storage dam with crest level of 166.20 metres elevation, and where water is released at will or excess water that cannot be stored is spilled to an unnamed stream draining into Sandy Brook except that the use of such water is limited to:

- ii) the amount of water that can be stored in the reservoir to its full supply level (F.S.L) at 165.50 metres elevation consisting of an amount of water having a volume of 16,360,000 cubic metres and a surface area of 3.33 square kilometres and subject to such withdrawal being limited to only that quantity of water which if withdrawn from West Lake will not cause the water level in the reservoir to be lower than the low supply level of (L.S.L.) 163.40 metres elevation and a surface area of 3.23 square kilometres.

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
SCHEDULE A (CONTINUED)

NO: WUL-10-065
FILE: 515

**DESCRIPTIONS OF WATERSHEDS AND AUTHORIZED WATER FOR
SANDY BROOK HYDROELECTRIC POWER GENERATING PLANT**
(All Figures for Levels Are Referenced to the Licensee's Local Datum)

Island Pond Sub-Watershed:

All water draining from a watershed encompassing an area of 18.30 square kilometres to a point on Island Pond "reservoir" from where the water is impounded by a storage dam with crest level of 315.50 metres elevation, and where water is released uncontrolled except that the use of such water is limited to:

- iii) the amount of water that can be stored in the reservoir to its full supply level (F.S.L) at 315.00 metres elevation consisting of an amount of water having a volume of 5,510,000 cubic metres and a surface area of 1.90 square kilometres and subject to such withdrawal being limited to only that quantity of water which if withdrawn from Island Pond will not cause the water level in the reservoir to be lower than the low supply level of (L.S.L.) 313.00 metres elevation and a surface area of 1.82 square kilometres.



NEWFOUNDLAND LIGHT & POWER
 NB-007 Attachment A
 Page 1 of 2
 Approved by [Signature]
 Date 96/08/26
 Remarks _____

GOVERNMENT OF
 NEWFOUNDLAND AND LABRADOR

Department of Environment and Labour
WATER USE AUTHORIZATION

Pursuant to the *Environment Act*

Date: May 10, 1996

No: WUA-96-026

File: 516

Holder: Newfoundland Light & Power Co. Limited
 55 Kenmount Road
 P. O. Box 8910
 St. John's, NF
 A1B 3P6

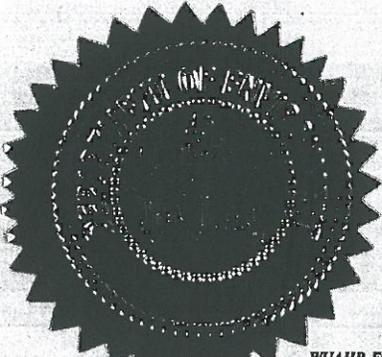
Attention: Mr. P. R. Hamilton, Manager, Energy Supply

Re: Seal Cove Hydroelectric Power Generating Plant, Seal Cove, Newfoundland

Authorization is hereby given to Newfoundland Light & Power Co. Limited (the "Holder") to operate the existing hydroelectric power generating plant at White Hill Pond, located on the southern part of Conception Bay near the Community of Seal Cove, utilizing the water from the watershed described in Schedules A and B, defined herein as the "Authorized Area", for the purpose of generating hydroelectric power together with flooding rights in and over the unoccupied Crown lands located in the Authorized Area, in reference to the application dated November 3, 1994 and additional information provided on April 7, 1995 and March 27, 1996.

This Authorization is subject to the terms and conditions, reservations, exceptions, and provisions stated herein and the *Environment Act*. Appendix A and Schedules A and B form part and parcel of this Authorization.

Failure to comply with the terms and conditions, reservations, exceptions, and provisions set out herein will render this Authorization null and void, may place the Holder and/or its agents in violation of the *Environment Act*, and make the Holder responsible for any remedial measures which may be prescribed by the Department of Environment and Labour.



[Signature]
 MINISTER

APPENDIX A

NO: WUA-96-026
FILE: 516

TERMS AND CONDITIONS

1. In consideration of the terms and conditions, reservations, exceptions, and provisions herein contained, the Minister of Environment and Labour hereby grants the Holder the non-exclusive right to use the water from all bodies of water and their catchments in the Authorized Area together with the right to flood the unoccupied Crown lands in the Authorized Area to the extent presently flooded at the full supply levels as defined in Schedule A for the generation of hydroelectric power upon and in accordance with the terms and conditions, reservations, exceptions, and provisions set forth in this Authorization.
2. This Authorization is subject to the full right of Government, its licensees, lessees, assignees, transferees, and any other person authorized by Government to:
 - a) *explore, prospect, search for, work, get, carry away, and dispose of all minerals both metallic and nonmetallic, coal, oil, natural gas, salt, and quarry materials;*
 - b) *fell, cut down, carry away, and dispose of all timber in the Authorized Area;*
 - c) *ingress, egress and regress over the Authorized Area and to make, sink, erect and use all mines, pits, plants, shafts, wells, machinery, buildings, erections, dams, roads, transmission lines and any other systems/works and conveniences for any purpose authorized by Government;*
 - d) *use all the land and water in the Authorized Area for fishing, boating, hunting and other traditional recreational activities subject to all applicable laws and regulations;*
 - e) *enjoy all other rights in the Authorized Area not otherwise granted and demised by this Authorization; and*
 - f) *occupy and use all land and water in the Authorized Area, the occupation and use of which is, in the opinion of the Minister, necessary for any of the above purposes.*

APPENDIX A (CONTINUED)

NO: WUA-96-026
FILE: 516

TERMS AND CONDITIONS

3. The initial term of this Authorization shall be twenty-five (25) years from the commencement date of May 15, 1996 and this Authorization shall expire on June 1, 2021 or earlier if suspended or cancelled by the Minister. This Authorization may be renewed by the Minister for such renewal term as the Minister deems appropriate commencing on the expiry of the initial term, provided the Holder applies for an extension at least one (1) year before the expiry of the initial term in the case of the first renewal and thereafter the expiry of the immediately preceding renewal term, on such terms and conditions as the Minister considers appropriate and in the public interest.
4. Subject to the terms and conditions, reservations, exceptions and provisions stated herein, the Authorization grants the Holder the following non-exclusive rights to use the water in the Authorized Area:
 - a) *the right to harness and make use of the authorized water in the existing systems/works, including dams, reservoirs, spillways, intake, penstock, powerhouse and any other works presently being used for operating the hydroelectric power generating plant;*
 - b) *the right to store the water in the reservoirs in the Authorized Area to the full supply levels as defined in Schedule A without in anyway adversely affecting the safety of the dams and other structures/works and to regulate flows for the purpose of generating hydroelectric power subject to Condition 6; and*
 - c) *subject to the prior written approval from the Minister, the right to make any improvement in the systems/works including the construction of additional works designed to make the existing operation more efficient.*
5. The designated purpose is "water power".
6. This Authorization shall not affect or be interpreted as granting any rights which might affect the quantity and quality of water required at present or in the future to all nearby communities and other users of the water in and outside the Authorized Area for their domestic and municipal uses.
7. The Holder acknowledges and agrees that this Authorization does not grant any interest in land or any exclusive right in or to use or occupy the Authorized Area.

APPENDIX A (CONTINUED)

NO: WUA-96-026
FILE: 516

TERMS AND CONDITIONS

8. The Holder shall not construct any new structure/facility in the Authorized Area, make alterations to the existing systems/works, make changes in the purpose, rates and amounts of water specified in this Authorization, or divert the course or alter the physical features of the bodies of water within the Authorized Area without the prior written approval of the Minister.
9. The rights and liberties hereby demised by this Authorization shall not be sold, assigned, transferred, leased, mortgaged, sublet or otherwise alienated by the Holder without obtaining prior written approval from the Minister.
10. The Minister may allocate the unused water in the Authorized Area for any other beneficial purpose provided such allocation of the water does not prejudicially affect the rights of the Holder conveyed in this Authorization. The Holder will be duly informed and consulted by the Minister on any request for authorization of the unused water.
11. The Minister may, upon providing a hundred and eighty (180) days notice to the Holder, modify this Authorization by allocating part of the authorized water for other beneficial use(s) of higher order of precedence outlined in the Ministerial Policy established under the *Environment Act*. The Holder will be fully consulted on any such applications before any decision is taken by the Minister.
12. The Holder shall complete and return the attached Notification of Acceptance of Water Use Authorization to the Water Rights Section of the Department of Environment and Labour within thirty (30) days of receipt of the Water Use Authorization.
13. This Authorization does not release the Holder from the obligation to obtain appropriate approvals, permits or licences from other concerned federal, provincial, and municipal agencies.
14. The Holder shall prudently maintain in good faith records, accounts and statements of the rates and amounts of water used on a daily basis for the generation of hydroelectric power, rates and amounts of water spilled or released downstream for protecting fish habitat and aquatic life as required under the federal Fisheries Act and/or any other federal or provincial legislation, operating water levels in the reservoir, extent of the flooded area, energy production, and any other information that the Minister may require in whatever form, manner and time. Copies of such records, accounts, and statements shall be submitted to the Department of Environment and Labour annually.

APPENDIX A (CONTINUED)

NO: WUA-96-026
FILE: 516

TERMS AND CONDITIONS

15. The employees of the Department of Environment and Labour, authorized by the Minister, may at all reasonable times during the term created by this Authorization enter into the Authorized Area and the Holder's designated place of business to inspect the systems/works, records, statements, and accounts, and shall be entitled to copy such information as may be required by the Minister.
16. The Holder shall keep all systems/works in good condition and repair and in accordance with all laws, by-laws, directions, rules and regulations of any governmental authority. The Holder shall notify the Minister immediately if any problem arises which may threaten the structural stability of the systems/works such as dams, reservoirs, spillways, etc., endanger public safety and/or the environment or adversely affect water users either in or outside the Authorized Area. The Holder shall be responsible for all damages suffered by the Province resulting from any defect in the systems/works, operational deficiencies/inadequacies, or structural failure.
17. The Holder shall continue to pay to the Government any and all charges associated with this plant and such administrative fees and water use charges as may be approved by the Minister.
18. The Holder shall operate the plant in a manner which does not cause any water related and/or environmental problems, which may include but are not limited to erosion, deposition, flooding, deterioration of water quality and groundwater depletion in or outside the Authorized Area. The Holder shall be responsible for any and all damages associated with these problems caused as a result of changes, deficiencies, and inadequacies in the Holder's operational procedures.
19. The Holder shall not at any time impair, pollute or cause to be polluted the quality of the water in or outside the Authorized Area.
20. The Holder may be required by the Minister to install, operate and maintain streamflow and water level monitoring stations in the Authorized Area and also to monitor water quality at specified locations in a manner that the Minister considers necessary for the assessment of the quantity and quality of the water available in the Authorized Area and the quantity of water used by the Holder for the generation of hydroelectric power.

APPENDIX A (CONTINUED)

NO: WUA-96-026
FILE: 516

TERMS AND CONDITIONS

21. If the Holder fails to perform, fulfil, or observe any of the terms and conditions, reservations, exceptions, and provisions of this Authorization and/or Ministerial orders and guidelines, as determined by the Department of Environment and Labour, the Minister may, after providing a ninety (90) days notice to the Holder at any time during the term created by this Authorization, modify or cancel this Authorization.
22. The Holder may enter upon, investigate and survey any unoccupied Crown lands in the Authorized Area for any purpose incidental to the operation of the hydroelectric power generating plant but the Holder releases the Department of Environment and Labour from any and all liability, claims, damages and actions of any nature whatsoever relating to the rights conveyed in this Authorization and the systems/works operated, maintained, or rehabilitated by the holder, its employees, agents, and invitees in the Authorized Area.
23. The Holder indemnifies and holds the Province 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 the water rights granted under this Authorization, systems and works in the Authorized Area, or any act or omission of the Holder in the Authorized Area, or arising out of a breach or non-performance of any of the terms and conditions, and provisions of this Authorization by the Holder.
24. Should any provision of this Authorization be unenforceable, it shall be considered separate and severable from the remaining provisions of this Authorization which shall remain in force and be binding as though the provision had not been included.
25. This Authorization is subject to the *Environment Act* and any regulations made pursuant thereto.
26. This Authorization shall be construed and interpreted in accordance with the laws of Newfoundland.
27. This Authorization shall not affect or be interpreted as granting any rights which might in any way affect the quantity, quality, and levels of water in any and all bodies of water required at present for any and all recreational related activities in Butter Pot Provincial Park including, but not limited to, swimming, angling, non-motorized boating, and ice fishing and skating.

APPENDIX A (CONTINUED)

NO: WUA-96-026
FILE: 516

TERMS AND CONDITIONS

28. All notices to be given pursuant to the terms and conditions of this Authorization shall be given in writing and delivered by facsimile with auto confirmation or registered mail. If a notice is delivered by facsimile, it is deemed to have been received on the day it was sent if that day is a normal business day, if not, it is deemed to have been received on the next normal business day. If a notice is sent by registered mail, it is deemed to have been received three days after the day it was mailed.

The address and facsimile number of the Holder are:

Newfoundland Light & Power Co. Limited
55 Kenmount Road
P.O. Box 8910
St. John's, Newfoundland
A1B 3P6

(709) 737-2926

The address and facsimile number of the Department of Environment and Labour are:

Water Rights Section
Water Resources Management Division
Department of Environment and Labour
P.O. Box 8700
St. John's, Newfoundland
A1B 4J6

(709) 729-0320

SCHEDULE A

NO: WUA-96-026
FILE: 516

**DESCRIPTION OF WATERSHEDS AND AUTHORIZED WATER
FOR SEAL COVE HYDROELECTRIC POWER GENERATING PLANT**

White Hill Pond Watershed:

The water used by the Holder for the sole purpose of generating hydroelectric power is described fully as all water draining from a watershed encompassing an area of 78.190 square kilometres to a point on White Hill Pond "forebay" from where the water is diverted by a storage dam with crest level of 67.10 metres elevation, into the intake of the penstock from where the water ultimately passes through the powerhouse near the Community of Seal Cove, the southern part of Conception Bay, and is then discharged into Conception Bay through Seal Cove River and Seal Cove Pond. The aforementioned watershed outlined in black on the 1:50,000 scale topographic maps, 1N/6 Holyrood edition 3 and 1N/7 Bay Bulls edition 3 to be referred to as "Schedule B", submitted by the Holder as part of the application dated November 3, 1994 and additional information provided on April 7, 1995 and March 27, 1996, is located in the Districts of Conception Bay South and Harbour Main/Whitbourne, Newfoundland and includes all of Johnny Hickeys Hole, Five Mill Pond West, Five Mill Pond East, Finnies Pond, Seal Cove River, Trailer Pond, Golden Eye Pond, Big Otter Pond, Little Otter Pond, Peters Pond, McGraths Gully, McGraths Pond, Beaver Moor Pond, Otter Gully, Gull Pond East, White Hill Pond, Seal Cove Rocky Pond, Kelly Pond, Round Pond, Soldiers Pond, and all other bodies of water named or not within the boundaries of the said watershed, from where water will naturally flow to ultimately reach the intake of the penstock near the Community of Seal Cove except that such water shall not exceed:

- i) the amount of water that can be stored in the forebay to its full supply level (F.S.L) at 66.50 metres elevation consisting of an amount of water having a volume of 657,000 cubic metres and a surface area of 0.220 square kilometres; or
- ii) the amount of water which can be withdrawn into the aforementioned intake of the penstock at a rate of no more than 7.36 cubic metres per second and is to be used exclusively for the generation of hydroelectric power and subject to such withdrawal being limited to only that quantity of water which if withdrawn from White Hill Pond will not cause the water level in the forebay to be lower than the low supply level (L.S.L) at 62.50 metres elevation and a surface area of 0.111 square kilometres; or
- iii) the estimated annual water use of 97,000,000 cubic metres.

SCHEDULE A (CONTINUED)

NO: WUA-96-026
FILE: 516

**DESCRIPTION OF WATERSHED AND AUTHORIZED WATER
FOR SEAL COVE HYDROELECTRIC POWER GENERATING PLANT**

Soldiers Pond Sub-Watershed:

All water draining from a watershed encompassing an area of 13.340 square kilometres to a point on Soldiers Pond "reservoir" from where the water is impounded by a storage dam with crest level of 99.23 metres elevation, and where water is released at will or excess water that cannot be stored is spilled to White Hill Pond except that such water is limited to:

- i) the amount of water that can be stored in the reservoir to its full supply level (F.S.L) at 98.63 metres elevation consisting of an amount of water having a volume of 3,413,000 cubic metres and a surface area of 1.463 square kilometres and subject to such withdrawal being limited to only that quantity of water which if withdrawn from Soldiers Pond will not cause the water level in the reservoir to be lower than the low supply level (L.S.L.) of 96.09 metres elevation and a surface area of 1.228 square kilometres.

Finnies Pond Sub-Watershed:

All water draining from a watershed encompassing an area of 20.3 square kilometres to a point on Finnies Pond "reservoir" from where the water is impounded by a storage dam known as "Fenelon's Pond Dam" with crest level of 99.92 metres elevation, and where water is released at will or excess water that cannot be stored is spilled to White Hill Pond except that such water is limited to:

- i) the amount of water that can be stored in the reservoir to its full supply level (F.S.L) at 99.02 metres elevation consisting of an amount of water having a volume of 8,034,000 cubic metres and a surface area of 1.531 square kilometres and subject to such withdrawal being limited to only that quantity of water which if withdrawn from Finnies Pond will not cause the water level in the reservoir to be lower than the low supply level (L.S.L.) of 93.37 metres elevation and a surface area of 1.316 square kilometres.

cc: Mr. Donald G. Hustins
Director
Parks Division
Department of Tourism, Culture & Recreation
P.O. Box 8700
St. John's, NF
A1B 4J6

Dr. Abdel-Zaher K. Abdel-Razek, P.Eng. (2 copies)
Head
Water Rights Section
Water Resources Management Division
Department of Environment and Labour
P.O. Box 8700
St. John's, NF
A1B 4J6

cc: Mr. Aubrey Rose,
Regional Lands Supervisor (E)
Department of Government Services and Lands
5 Mews Place
P.O. Box 8700
St. John's, NF
A1B 4J6

cc: Mr. Frank Walsh,
Area Habitat Coordinator
Fisheries & Oceans Canada
Suite 301, Viking Bldg., 136 Crosbie Road
St. John's, NF
A1B 3K3

cc: Community of Seal Cove
c/o Town of Conception Bay South
P.O. Box 280
Manuels, NF
A1W 1M8



GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR

Department of Environment and Labour
AMENDMENT TO WATER USE AUTHORIZATION

Pursuant to the *Environment Act*

Date: October 17, 1996

No: WUA-96-026

File: 516

Holder: Newfoundland Light & Power Co. Limited
55 Kenmount Road
P.O. Box 8910
St. John's, NF
A1B 3P6

Attention: Mr. P. R. Hamilton, Manager, Energy Supply

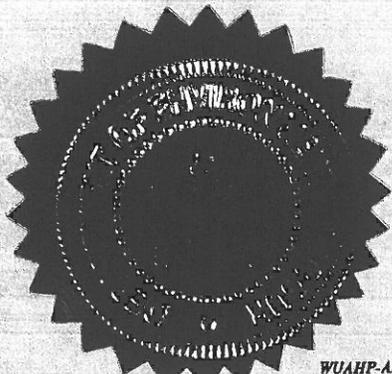
Re: *Seal Cove Hydroelectric Power Generating Plant, Seal Cove, Newfoundland*

In reference to the written request dated October 1, 1996, Water Use Authorization No. WUA-96-026 issued on May 10, 1996, is hereby amended as follows:

Clause # 11 of Appendix A of the original Water Use Authorization No. WUA-96-026, is deleted.

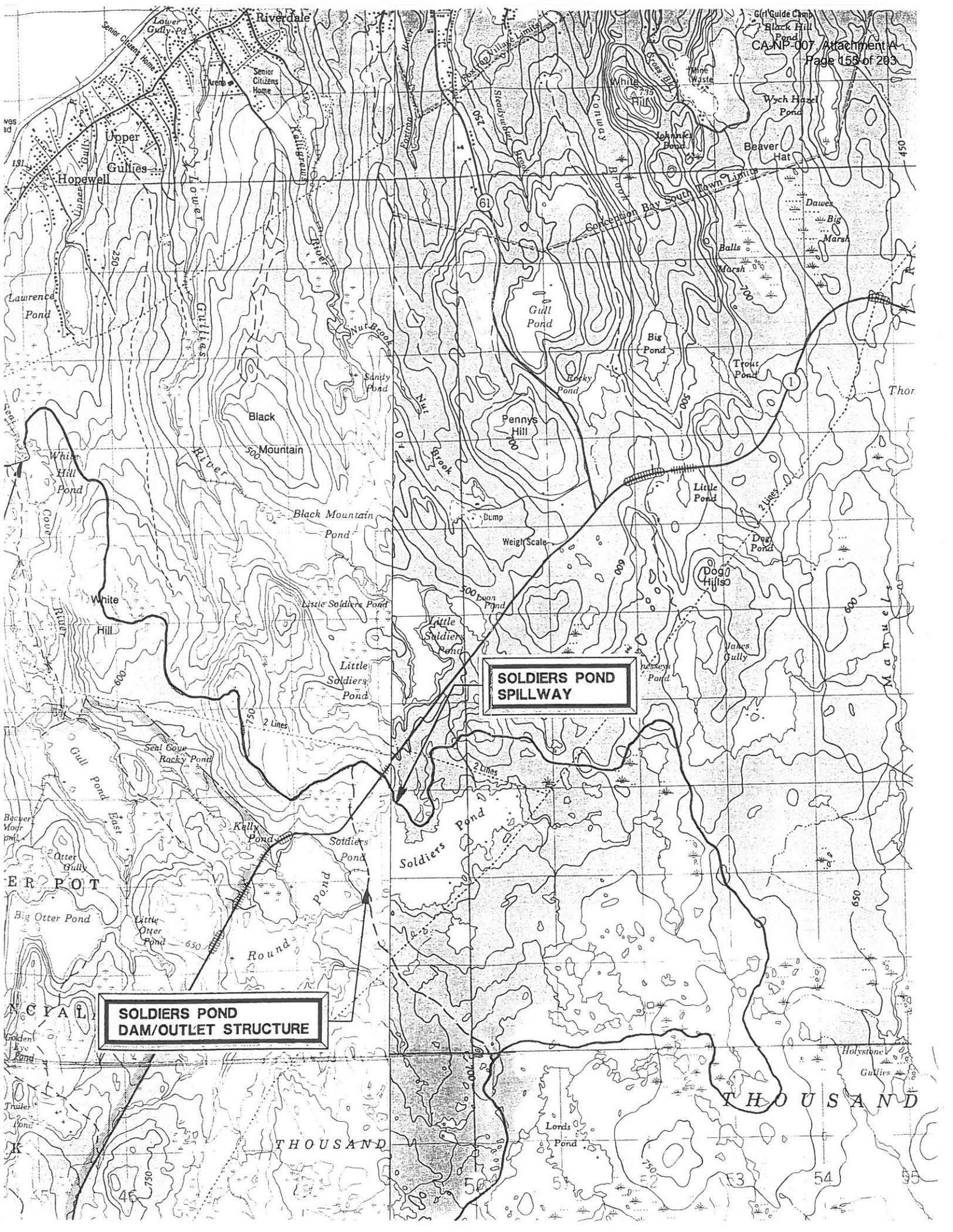
All other terms and conditions, reservations, exceptions, and provisions indicated in Appendix A and Schedules A and B of the original Water Use Authorization No. WUA-96-026 shall remain in force.

Failure to comply with the terms and conditions, reservations, exceptions, and provisions set out in the original Water Use Authorization No. WUA-96-026 and this amendment will render this Authorization null and void, may place the Holder and/or their agents in violation of the *Environment Act*, and make the Holder responsible for any remedial measures which may be prescribed by the Department of Environment and Labour.



A handwritten signature in black ink, appearing to be 'K. D. J.', written over the word 'MINISTER'.

MINISTER



**SOLDIERS POND
SPILLWAY**

**SOLDIERS POND
DAM/OUTLET STRUCTURE**

THOUSAND

THOUSAND

ER POT

CYAL

THOUSAND

Lords Pond

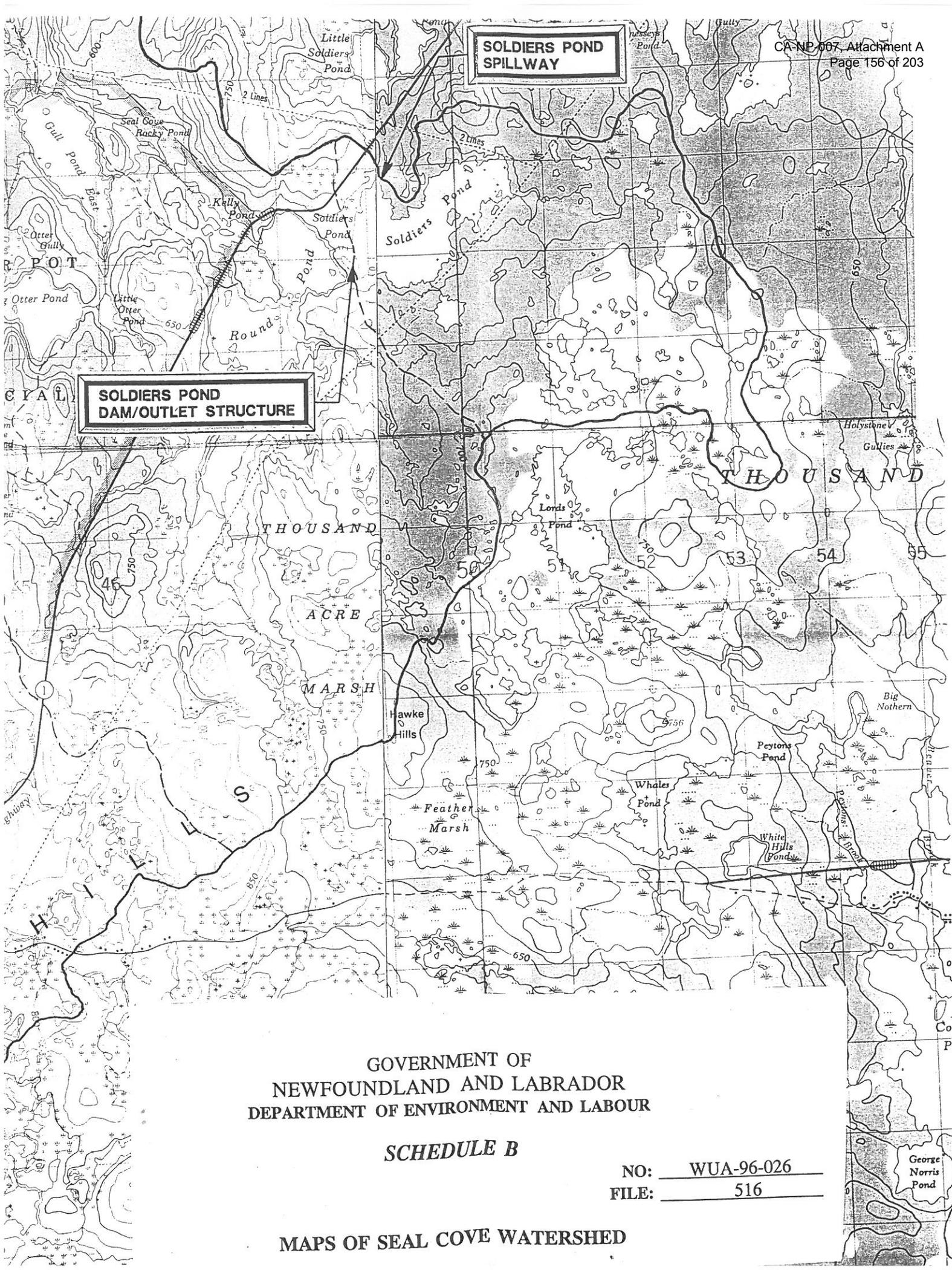
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GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND LABOUR

SCHEDULE B

NO: WUA-96-026
FILE: 516

MAPS OF SEAL COVE WATERSHED

**WATER USE LICENCE
(Water Power Generation)**

Pursuant to the *Water Resources Act*, SNL 2002 cW-4-01

Date of Issuance: May 18, 2010

No: WUL-10-030

File: 516

Licensee: Newfoundland Power Inc
55 Kenmount Road
PO Box 8910
St. John's NL A1B 3P6

Attention: Mr. Earl Ludlow, President & CEO

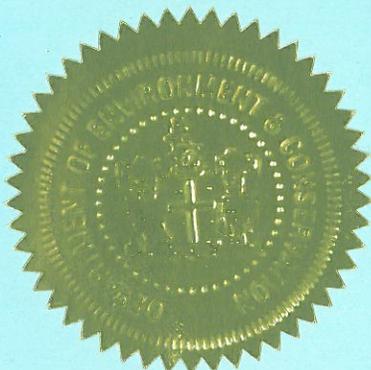
Re: *Water Use for Topsail Hydroelectric Power Generating Plant*

The Minister of Environment and Conservation (the "Minister") hereby grants a Water Use Licence for non-exclusive water rights (the "Licence") to **Newfoundland Power Inc.** (the "Licensee") to continue operation of the existing Topsail hydroelectric power generating plant at Topsail Pond (the "Plant"), located on the East Coast of the Avalon Peninsula near the Town of Conception Bay South, utilizing the water from the watershed described in Schedules A and B, defined herein as the "Watershed", for the purpose of water power generation at the Licensee's existing Plant, together with flooding rights in and over the unoccupied Crown lands located in the Watershed to the extent presently flooded to full supply level, in reference to the application received on September 17, 2009 and additional information provided on January 11, 2010, April 14, 2010 and May 3 and 6, 2010.

This Licence is subject to the terms and conditions, reservations, exceptions, and provisions stated herein and the *Water Resources Act* and regulations thereunder. Appendix A and Schedules A and B form part and parcel of this Licence. This Licence does not release the Licensee from the obligation to obtain appropriate approvals, permits or licences from other concerned federal, provincial and municipal agencies.

The Licensee shall complete and return the attached Notification of Acceptance of Water Use Licence (attached) to the Water Rights Section of the Department of Environment and Conservation within thirty (30) days of receipt of this Licence.

Failure to comply with the terms and conditions, reservations, exceptions, and provisions set out herein will render this Licence null and void, place the Licensee and/or its agents in violation of the *Water Resources Act*, and cause the Licensee to be responsible for any and all remedial measures which may be prescribed by the Department of Environment and Conservation.



Charlene Johnson
Minister

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
APPENDIX A

NO: WUL-10-030
FILE: 516

TERMS AND CONDITIONS FOR WATER USE LICENCE

1. In consideration of the terms and conditions, reservations, exceptions, and provisions herein contained in this Licence, the Minister hereby grants the Licensee the non-exclusive right to use the water from all bodies of water and their catchments in the Watershed described in Schedules A and B, for the purpose of water power generation at the Plant, together with the right to flood the unoccupied Crown lands in the Watershed to the extent presently flooded at the full supply level as defined in Schedule A, in reference to the application received on September 17, 2009 and additional information provided on January 11, 2010, April 14, 2010 and May 3 and 6, 2010.

2. This Licence is subject to the full right of the Government, its licensees, lessees, assignees, transferees, and any other person authorized by the Government or of the general public, in accordance with applicable legislation of the Province of Newfoundland and Labrador or federal legislation having application in the Province of Newfoundland and Labrador, to:
 - a) *explore, prospect, search for, develop, produce, mine, carry away, and dispose of all minerals both metallic and non-metallic, coal, oil, natural gas, salt, and quarry materials in the Watershed;*

 - b) *fell, cut down, carry away, and dispose of all timber in the Watershed;*

 - c) *ingress, egress and regress over the Watershed and to make, sink, erect and use all mines, pits, plants, shafts, wells, machinery, buildings, erections, dams, roads, transmission lines and any other systems and works and conveniences for any purpose authorized by the Government;*

 - d) *use all the land and water in the Watershed for fishing, boating, hunting and other traditional recreational activities subject to all applicable laws and regulations of the Province of Newfoundland and Labrador;*

 - e) *enjoy all other rights in the Watershed not otherwise granted and demised by this Licence; and*

 - f) *occupy and use all land and water in the Watershed, the occupation and use of which is, in the opinion of the Minister, necessary for any of the above purposes.*

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
APPENDIX A (CONTINUED)

NO: WUL-10-030
FILE: 516

TERMS AND CONDITIONS FOR WATER USE LICENCE

3. This Licence shall be read and interpreted as conferring non-exclusive rights upon the Licensee to use the water, and nothing herein shall limit, abrogate or derogate from any water uses within the Watershed that existed prior to the issuance of this Licence and all rights reserved or purported reserved or to be reserved herein to the Government, its licensees, lessees, assignees, transferees, authorized persons or other members of the general public.
4. This Licence shall be effective January 1, 2010 and shall expire on December 31, 2035 or earlier if modified, suspended or cancelled by the Minister. This Licence may be renewed by the Minister for such renewal term and on such terms and conditions as the Minister considers appropriate and in the public interest, provided the Licensee applies in writing for an extension at least one (1) year before the expiry date.
5. Subject to the terms and conditions, reservations, exceptions and provisions stated herein, the Licence grants the Licensee the following non-exclusive rights to use the water in the Watershed:
 - a) *the right to harness and make use of water in the existing systems and works, including the existing dams, spillways, intakes, penstock, powerhouse and any other systems and works approved by the Minister and those presently being used for operating the Plant, as indicated in Schedule B;*
 - b) *the right to store the water in the reservoirs in the Watershed to the full supply levels as defined in Schedule A without in any way adversely affecting the safety of the dams and other structures and works and to regulate flows for the purpose of water power generation subject to Condition 7; and*
 - c) *subject to the prior written permit from the Minister, the right to make any improvements in the systems works including the construction of additional systems works designed to make the existing operation more efficient.*
6. The designated purpose of the water use is "Water Power Generation".
7. This Licence shall not affect or be interpreted as granting any rights which might affect the quantity and quality of water required at present or in the future to all nearby communities and other users of water in and outside the Watershed for their domestic and municipal uses. The Licensee shall be responsible for undertaking any measures which the Minister considers necessary to satisfy the quantity and quality of water required at present or in the future for the said water uses.

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
APPENDIX A (CONTINUED)

NO: WUL-10-030
FILE: 516

TERMS AND CONDITIONS FOR WATER USE LICENCE

8. The Licensee acknowledges and agrees that this Licence does not grant any interest in land or any exclusive right in or to use or occupy the Watershed.
9. The Licensee shall abide by any and all requirements of the *Water Resources Act* and the *Environmental Protection Act* and any applicable regulations made under those Acts. Also, the Licensee shall abide by terms and conditions indicated in Permits or Certificates issued or that are to be issued in connection with the construction or improvements of any and all systems and works required for the Plant including, but not limited to, dams, spillways, intakes, penstock, powerhouse, access roads or any other systems and works presently being used for operating the Plant in or outside the Watershed.
10. The Licensee shall not construct new systems and works or rehabilitate any existing systems and works including, but not limited to, dam(s), spillway(s), intake(s), penstock(s), powerhouse(s), or any other systems and works presently being used for operating the Plant in or outside the Watershed without the prior written permission of the Minister. Also, the Licensee shall not make any changes in the purpose, rates and amounts of water authorized in this Licence, or divert the course or alter the physical features of the bodies of water within or outside the Watershed without the prior written approval of the Minister.
11. The rights and liberties hereby demised by this Licence shall not be sold, assigned, transferred, leased, mortgaged, sublet or otherwise alienated by the Licensee without obtaining prior written approval from the Minister. The Minister, however, consents to the assignment of this Licence under the charging provisions of Trust Deeds, which bear a formal date of September 15, 1966 and are registered at Volume 831, Folios 1 to 160 (First Mortgage Bonds) and Folios 161 to 303 (General Mortgage Bonds) of the Registry of Deeds for Newfoundland and Labrador in favour of Montreal Trust Company.
12. The Minister shall have the right to allocate the unused water in the Watershed, as described in Schedule A, for any other beneficial purpose provided such allocation of the water does not prejudicially affect the rights of the Licensee conveyed in this Licence. The Licensee will be duly informed and consulted by the Minister on any request for authorization of the excess water.
13. The Minister may, upon providing one hundred and eighty (180) days written notice to the Licensee, cancel or modify this Licence by allocating all or part of the authorized water from the Watershed for other beneficial use(s) of higher order of precedence outlined in Section 15 of the *Water Resources Act* on priority of right. The Licensee will be fully consulted on any such applications before any decision is taken by the Minister.

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
APPENDIX A (CONTINUED)

NO: WUL-10-030
FILE: 516

TERMS AND CONDITIONS FOR WATER USE LICENCE

14. The Licensee shall prudently maintain in good faith records, accounts and statements of the rates and amounts of water used on a daily basis for the generation of hydroelectric power, rates and amounts of water spilled or released downstream for protecting fish habitat and aquatic life as required under the federal *Fisheries Act* and/or any other federal or provincial legislation, operating water levels, extent of the flooded area, energy production, and any other information that the Minister may require in whatever form, manner and time. Copies of such records, accounts, and statements shall be submitted to the Water Rights Section of the Department of Environment and Conservation on or before the end of March of each year during the term created by this Licence.
15. The employees of the Department of Environment and Conservation, when authorized by the Minister, may at all reasonable times during the term created by this Licence enter into the Watershed and the Licensee's designated place of business to inspect the systems and works, records, statements, and accounts, and shall be entitled to copy such information as may be required by the Minister in relation to this Licence and may exercise all other powers of inspection as provided for in the *Water Resources Act*.
16. Effective January 1, 2010, this Licence is subject to the *Water Power Rental Regulations*, NLR 64/03 under the *Water Resources Act* and the Licensee shall upon receipt of an invoice stating the amount owing for water power rentals, pay to the Minister the full amount within sixty (60) days of the receipt of the said invoice and if imposed by provincial legislation, fees, incentives, royalties, subsidies or water use charges for water use.
17. The Licensee 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 Licensee shall immediately notify the Minister if any problem arises which may threaten the structural stability of the systems and works such as dams, spillways and other systems and works, endanger public safety and/or the environment or adversely affect water users either in or outside the Watershed. The Licensee 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.
18. The Licensee shall operate the Plant 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 Watershed. The Licensee shall be responsible for any and all damages associated with these problems caused as a result of changes, deficiencies, and inadequacies in the Licensee's operational procedures.

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
APPENDIX A (CONTINUED)

NO: WUL-10-030
FILE: 516

TERMS AND CONDITIONS FOR WATER USE LICENCE

19. The Licensee shall not at any time operate the Plant and its systems and works so as to impair, pollute or cause to be polluted the quality of the water in or outside the Watershed. Also, this Licence shall not be interpreted as granting any rights to cause adverse effect(s) on water in or outside the Watershed.
20. The Licensee may be required by the Minister to install, operate and maintain streamflow, water level monitoring stations, and other necessary measures in or outside the Watershed and also to monitor water quality at specified locations. Such monitoring shall be carried out in the manner that the Minister considers necessary for the assessment of the quantity and quality of the water available in or outside the Watershed and the quantity of water used by the Licensee for water power generation.
21. If the Licensee fails to perform, fulfil, or observe any of the terms and conditions, reservations, exceptions, and provisions of this Licence and/or Ministerial orders and guidelines, as determined by the Department of Environment and Conservation, the Minister may, after providing a ninety (90) days notice to the Licensee at any time during the term created by this Licence, modify, suspend or cancel this Licence in accordance with the *Water Resources Act*.
22. The Licensee may enter upon, investigate and survey any unoccupied Crown lands in or outside the Watershed for any purpose incidental to the operation of the Plant systems and works but the Licensee releases the Minister and the Government from any and all liability, claims, damages and actions of any nature whatsoever relating to the rights conveyed in this Licence and the systems and works operated, maintained, or rehabilitated by the Licensee, its employees, agents, and invitees in or outside the Watershed.
23. The Licensee indemnifies and holds the Minister and the 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 the non-exclusive water rights granted under this Licence, systems and works in or outside the Watershed, or any act or omission of the Licensee in or outside the Watershed, or arising out of a breach or non-performance of any of the terms and conditions, and provisions of this Licence by the Licensee, its employees or agents.
24. Should any provision of this Licence be unenforceable, it shall be considered separate and severable from the remaining provisions of this Licence which shall remain in force and be binding as though the provision had not been included.

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
APPENDIX A (CONTINUED)

NO: WUL-10-030
FILE: 516

TERMS AND CONDITIONS FOR WATER USE LICENCE

25. This Licence is subject to all provisions of the *Water Resources Act* and any regulations in effect either at the date of this Licence or hereafter made pursuant thereto or any other relevant legislation enacted by the Province of Newfoundland and Labrador in the future.
26. The Licensee acknowledges and agrees that this Licence may require and will be amended to include further provisions pursuant to the *Water Resources Act* and any regulations in effect thereunder from time to time, as deemed necessary in the opinion of the Minister.
27. This Licence shall be construed and interpreted in accordance with the laws of the Province of Newfoundland and Labrador.
28. All notices to be given pursuant to the terms and conditions of this Licence shall be given in writing and delivered by facsimile with auto confirmation or registered mail. If a notice is delivered by facsimile, it is deemed to have been received on the day it was sent if that day is a normal business day, if not, it is deemed to have been received on the next normal business day. If a notice is sent by registered mail, it is deemed to have been received three (3) days after the day it was mailed.

The address and facsimile number of the Licensee is:

Newfoundland Power Inc.

55 Kenmount Road
PO Box 8910
St. John's NL A1B 3P6

(709) 737-2926

The address and facsimile number of the Department of Environment and Conservation is:

Water Rights Section

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

(709) 729-0320

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
SCHEDULE A

NO: WUL-10-030
FILE: 516

**DESCRIPTIONS OF WATERSHEDS AND AUTHORIZED WATER FOR
TOPSAIL HYDROELECTRIC POWER GENERATING PLANT
(All Figures for Levels Are Referenced to the Licensee's Local Datum)**

Topsail Pond (Forebay) Watershed:

The water used by the Licensee for the sole purpose of generating hydroelectric power is described fully as all water draining from a watershed encompassing an area of 61.11 square kilometres to a point on Topsail Pond (Forebay) from where the water is diverted by a storage dam with crest level of 110.00 metres elevation, into the intake of the penstock from where the water ultimately passes through the powerhouse near the Town of Conception Bay South on the East Coast of the Avalon Peninsula, and is then discharged into Conception Bay. The aforementioned watershed outlined in black on the 1:50,000 scale topographic maps, Bay Bulls 1N/7 Edition 3 and St. John's 1N/10 Edition 3, to be referred to as "Schedule B", submitted by the Licensee as part of the application received on September 17, 2009 and additional information provided on January 11, 2010, April 14, 2010 and May 3 and 6, 2010, is located in the District of Trinity Bay-Bay de Verde, Newfoundland and Labrador and includes all of Holystone Gullies, Big Northern Pond, Hennessey's Pond, Jakes Gully, Long Gully, Holystone River, Northern Pond, Gear Gullies, Gear Pond, The Gully, Small Northern Pond, Crooked Gullies, Loo Pond, the reach of Manuals River upstream Thomas Pond, Thomas Pond, Western Pond, Paddy's Pond, Three Arm Pond, Three Island Pond, Topsail Round Pond, Topsail Pond, and all other bodies of water named or not within the boundaries of the said watershed, from where water will flow to ultimately reach the said intake of penstock near the Town of Conception Bay South except that such water shall not exceed the greater of:

- i) the amount of water that can be stored in of Topsail Pond (Forebay) to its full supply level (F.S.L) at 109.70 metres elevation consisting of an amount of water having a volume of 370,000 cubic metres and a surface area of 0.24 square kilometres; or
- ii) the amount of water which can be withdrawn into the intake of the penstock at a maximum rate of no more than 3.43 cubic metres per second (maximum loading) and is to be used exclusively for water power generation and subject to such withdrawal being limited to only that quantity of water which if withdrawn from Topsail Pond (Forebay) will not cause the water level to be lower than the low supply level (L.S.L) at 109.00 metres elevation and a surface area of 0.22 square kilometres; or
- iii) the estimated annual water use of 68,133,000 cubic metres.

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
SCHEDULE A (CONTINUED)

NO: WUL-10-030
FILE: 516

**DESCRIPTIONS OF WATERSHEDS AND AUTHORIZED WATER FOR
TOPSAIL HYDROELECTRIC POWER GENERATING PLANT
(All Figures for Levels Are Referenced to the Licensee's Local Datum)**

Three Island Pond Sub-Watershed:

All water draining from a watershed encompassing an area of 59.02 square kilometres to a point on Three Island Pond "reservoir" from where the water is impounded by a storage dam with crest level of 117.50 metres elevation, and where water is released at will or excess water that cannot be stored is spilled to Topsail Pond except that the use of such water is limited to:

- i) the amount of water that can be stored in the reservoir to its full supply level (F.S.L) at 117.00 metres elevation consisting of an amount of water having a volume of 1,990,000 cubic metres and a surface area of 0.8 square kilometres and subject to such withdrawal being limited to only that quantity of water which if withdrawn from Three Island Pond will not cause the water level in the reservoir to be lower than the low supply level of (L.S.L.) 115.81 metres elevation and a surface area of 0.73 square kilometres.

Three Arm Pond Sub-Watershed:

All water draining from a watershed encompassing an area of 55.44 square kilometres to a point on Three Arm Pond "reservoir" from where the water is impounded by a storage dam with crest level of 125.80 metres elevation, and where water is released at will or excess water that cannot be stored is spilled to Three Island Pond except that the use of such water is limited to:

- ii) the amount of water that can be stored in the reservoir to its full supply level (F.S.L) at 121.8 metres elevation consisting of an amount of water having a volume of 920,000 cubic metres and a surface area of 0.45 square kilometres and subject to such withdrawal being limited to only that quantity of water which if withdrawn from Three Arm Pond will not cause the water level in the reservoir to be lower than the low supply level of (L.S.L.) 120.89 metres elevation and a surface area of 0.41 square kilometres.

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
SCHEDULE A (CONTINUED)

NO: WUL-10-030
FILE: 516

**DESCRIPTIONS OF WATERSHEDS AND AUTHORIZED WATER FOR
TOPSAIL HYDROELECTRIC POWER GENERATING PLANT**
(All Figures for Levels Are Referenced to the Licensee's Local Datum)

Paddy's Pond Sub-Watershed:

All water draining from a watershed encompassing an area of 50.86 square kilometres to a point on Paddy's Pond "reservoir" from where the water is impounded by a storage dam with crest level of 132.15 metres elevation, and where water is released at will or excess water that cannot be stored is spilled outside the Watershed except that the use of such water is limited to:

- iii) the amount of water that can be stored in the reservoir to its full supply level (F.S.L) at 131.40 metres elevation consisting of an amount of water having a volume of 4,770,000 cubic metres and a surface area of 2.52 square kilometres and subject to such withdrawal being limited to only that quantity of water which if withdrawn from Paddy's Pond will not cause the water level in the reservoir to be lower than the low supply level of (L.S.L.) 130.03 metres elevation and a surface area of 2.34 square kilometres.

Thomas Pond Sub-Watershed:

All water draining from a watershed encompassing an area of 41.21 square kilometres to a point on Thomas Pond "reservoir" from where the water is impounded by a storage dam with crest level of 149.10 metres elevation, and where water is released at will or excess water that cannot be stored is spilled outside the Watershed except that the use of such water is limited to:

- iv) the amount of water that can be stored in the reservoir to its full supply level (F.S.L) at 147.70 metres elevation consisting of an amount of water having a volume of 11,160,000 cubic metres and a surface area of 1.48 square kilometres and subject to such withdrawal being limited to only that quantity of water which if withdrawn from Thomas Pond will not cause the water level in the reservoir to be lower than the low supply level of (L.S.L.) 145.11 metres elevation and a surface area of 1.26 square kilometres.



GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND CONSERVATION

SCHEDULE B

NO: WUL-10-030
FILE: 516

MAPS OF TOPSAIL
HYDROELECTRIC POWER GENERATING PLANT WATERSHED



GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR

Department of Environment and Labour
Water Resources Management Division

June 11, 1998

Mr. J. L. Simmons, Manager
Energy Supply
Newfoundland Light & Power Co. Limited (NLPC)
55 Kenmount Road
P.O. Box 8910
St. John's, NF A1B 3P6

Dear Mr. Simmons:

Water Rights for Tors Cove/Rocky Pond Hydroelectric Developments

This refers to NLPC Application dated December 2, 1997 and additional information provided on January 27 and 28, 1998, April 23, 1998, and May 6, 1998 regarding water rights for Tors Cove/Rocky Pond hydroelectric developments. I am pleased to forward Water Use Authorization/Licence No. WUA-97-070 approved by the Minister of Environment and Labour and the Minister of Government Services and Lands.

Please be advised that this Water Use Authorization/Licence is not valid unless NLPC completes and returns the Notification of Acceptance (attached) to the Water Rights Section within thirty (30) days of receipt. The notification must be executed by NLPC's signing officers and stamped by NLPC's official stamp. We would also appreciate if you could annually submit any and all information, reports, returns, and other requirements pursuant to the terms and conditions of this Authorization/Licence.

If you have any questions on the above, please do not hesitate to contact me at 729-4795.

Yours very truly,

A handwritten signature in black ink, appearing to read 'A. K. Abdel-Razek', written over a horizontal line.

A. K. Abdel-Razek, Ph.D., P.Eng.
Manager, *Water Rights Section*

Enclosures\

cc: Mr. Bill Parrott, Director, Crown Lands Division, GS&L (Howley Building)
Chairperson, Local Service District of Tors Cove



GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
Department of Environment and Labour

DATE: May 28, 1998
FILE: 516

Water Rights Section
Water Resources Management Division
Department of Environment and Labour
P.O. Box 8700
St. John's, NF A1B 4J6

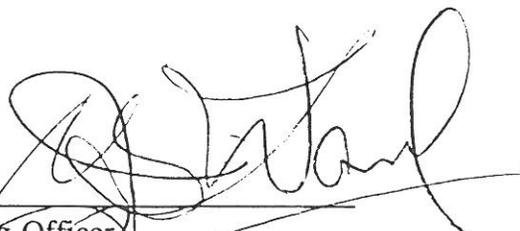
NOTIFICATION OF ACCEPTANCE OF WATER USE AUTHORIZATION/LICENCE
[Tors Cove/Rocky Pond Hydroelectric Power Generating Plants]

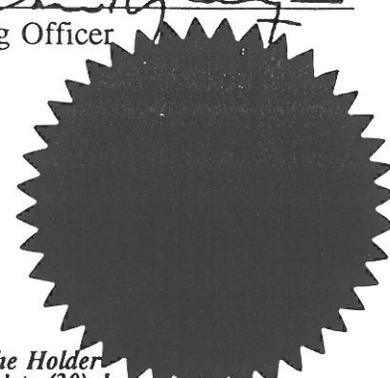
Water Use Authorization/Licence No. WUA-97-070 issued on May 28, 1998, and valid for forty-nine (49) years from January 1, 1995.

As Holder of *Water Use Authorization/Licence* WUA-97-070, issued pursuant to the *Environment Act*, SN 1995 c E-13.1 and the *Crown Lands Act*, RSN 1990 c. C- 42, as amended, **Newfoundland Light & Power Co. Limited** (the "Holder") agrees to accept this *Authorization/Licence* for the stated duration and abide by all terms and conditions stated therein. The Holder acknowledges that failure to abide by the terms and conditions indicated in Appendix A and Schedules A and B of the *Authorization/Licence* will result in suspension or cancellation of the *Authorization/Licence*.

Signed, sealed, and delivered by the **Newfoundland Light & Power Co. Limited**, in accordance with its rules and regulations in that behalf at St. John's, Newfoundland, this 15th Day of June, 1998 in the presence of:

Carol Taylor
Witness

Per: 
Signing Officer
Per: 
Signing Officer

Seal: 

Important: *The attached Water Use Authorization/Licence is not valid unless the Holder completes and returns this notification to the address above within thirty (30) days of receipt.*



GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR

Department of Environment and Labour
WATER USE AUTHORIZATION/LICENCE

Pursuant to the *Environment Act*, SN 1995 c E-13.1 and the *Crown Lands Act*, RSN 1990 c. C- 42, as amended

Date: May 28, 1998 No: WUA-97-070
File: 516

Holder: Newfoundland Light & Power Co. Limited
55 Kenmount Road
P. O. Box 8910
St. John's, NF A1B 3P6

Attention: Mr. J. L. Simmons, Manager, Energy Supply

Re: *Tors Cove/Rocky Pond Hydroelectric Power Generating Plants*

The Minister of Environment and Labour and the Minister of Government Services and Lands (the "Ministers") hereby authorize Newfoundland Light & Power Co. Limited (the "Holder") to operate the existing hydroelectric power generating plants at Tors Cove Pond and Southern Rocky Pond "known as Rocky Pond", located on the East Coast of the Avalon Peninsula near the Local Service District of Tors Cove, utilizing the water from the watershed described in Schedules A and B, defined herein as the "Authorized Area", for the purpose of generating hydroelectric power together with flooding rights in and over the unoccupied Crown lands located in the Authorized Area, in reference to the Application of the Holder dated December 2, 1997 and additional information provided on January 27 and 28, 1998, April 23, 1998, and May 6, 1998.

This Authorization/Licence is subject to the terms and conditions, reservations, exceptions, and provisions stated herein, the *Environment Act*, and the *Crown Lands Act*. Appendix A and Schedules A and B form part and parcel of this Authorization/Licence.

Failure to comply with the terms and conditions, reservations, exceptions, and provisions set out herein will render this Authorization/Licence null and void, place the Holder and/or their agent(s) in violation of the *Environment Act* and the *Crown Lands Act*, and make the Holder responsible for any remedial measures which may be prescribed by the Department of Environment and Labour.




MINISTER
Environment and Labour


MINISTER
Government Services and Lands

APPENDIX A

NO: WUA-97-070
FILE: 516

TERMS AND CONDITIONS FOR WATER USE AUTHORIZATION/LICENCE

1. In consideration of the terms and conditions, reservations, exceptions, and provisions herein contained in this Authorization/Licence, the Ministers hereby grant the Holder the non-exclusive right to use the water from all bodies of water and their catchments in the Authorized Area together with the right to flood the unoccupied Crown lands in the Authorized Area to the extent presently flooded at the full supply levels as defined in Schedule A for the generation of hydroelectric power, in reference to the Application of the Holder dated December 2, 1997 and additional information provided on January 27 and 28, 1998, April 23, 1998, and May 6, 1998.
2. This Authorization/Licence is subject to the full right of the Government, its licensees, lessees, assignees, transferees, and any other person authorized by the Government to:
 - a) *explore, prospect, search for, work, get, carry away, and dispose of all minerals both metallic and nonmetallic, coal, oil, natural gas, salt, and quarry materials;*
 - b) *fell, cut down, carry away, and dispose of all timber in the Authorized Area;*
 - c) *ingress, egress and regress over the Authorized Area and to make, sink, erect and use all mines, pits, plants, shafts, wells, machinery, buildings, erections, dams, roads, transmission lines and any other systems/works and conveniences for any purpose authorized by the Government;*
 - d) *use all the land and water in the Authorized Area for fishing, boating, hunting and other traditional recreational activities subject to all applicable laws and regulations of the Province of Newfoundland;*
 - e) *enjoy all other rights in the Authorized Area not otherwise granted and demised by this Authorization/Licence; and*
 - f) *occupy and use all land and water in the Authorized Area, the occupation and use of which is, in the opinion of the Ministers, necessary for any of the above purposes.*
3. The initial term of this Authorization/Licence shall be forty-nine (49) years from January 1, 1995. This Authorization/Licence shall expire on January 1, 2044 or earlier if suspended or cancelled by either of the Ministers. Also, this Authorization/Licence may be renewed by the Ministers for such renewal term as the Ministers deem appropriate commencing on the expiry of the initial term, on such terms and conditions as the Ministers consider appropriate and in the public interest.

APPENDIX A (CONTINUED)

NO: WUA-97-070
FILE: 516

TERMS AND CONDITIONS FOR WATER USE AUTHORIZATION/LICENCE

4. Subject to the terms and conditions, reservations, exceptions and provisions stated herein, the Authorization/Licence grants the Holder the following non-exclusive rights to use the water in the Authorized Area:
 - a) *the right to harness and make use of the authorized water in the existing systems/works, including dams, reservoirs, spillways, intakes, penstocks, powerhouses and any other works presently being used for operating the hydroelectric power generating plants;*
 - b) *the right to store the water in the reservoirs in the Authorized Area to the full supply levels as defined in Schedule A without in anyway adversely affecting the safety of the dams and other structures/works and to regulate flows for the purpose of generating hydroelectric power subject to Condition 6; and*
 - c) *subject to the prior written approval from the Minister of Environment and Labour, the right to make any improvement in the systems/works including the construction of additional works designed to make the operation more efficient.*
5. The designated purpose of the water use is "water power".
6. This Authorization/Licence shall not affect or be interpreted as granting any rights which might affect the quantity and quality of water required at present or in the future to all nearby communities and other users of the water in and outside the Authorized Area for their domestic and municipal uses. Also, this Authorization/Licence shall not affect or be interpreted as granting any rights which might affect the quantity and quality of water required at present or in the future to operate the existing fish plant or its replacement in the Local Service District of Tors Cove.
7. The Holder acknowledges and agrees that this Authorization/Licence does not grant any interest in land or any exclusive right in or to use or occupy the Authorized Area.
8. The Holder shall not construct any new structure/facility in the Authorized Area, make alterations to the existing systems/works, make changes in the purpose, rates and amounts of water authorized in this Authorization/Licence, or divert the course or alter the physical features of the water bodies within the Authorized Area without the prior written approval of the Minister of Environment and Labour.

APPENDIX A (CONTINUED)

NO: WUA-97-070
FILE: 516

TERMS AND CONDITIONS FOR WATER USE AUTHORIZATION/LICENCE

9. The rights and liberties hereby demised by this Authorization/Licence shall not be sold, assigned, transferred, leased, mortgaged, sublet or otherwise alienated by the Holder without obtaining prior written approval from the Minister of Environment and Labour.
10. The Minister of Environment and Labour shall have the right to allocate the water in excess of the authorized water from the Authorized Area, as described in Schedule A, for any other beneficial purpose provided such allocation of the water does not prejudicially affect the rights of the Holder conveyed in this Authorization/Licence. The Holder will be duly informed and consulted by the Minister of Environment and Labour on any request for authorization of the excess water.
11. The Holder shall complete and return the attached Notification of Acceptance of Water Use Authorization/Licence to the Water Rights Section of the Department of Environment and Labour within thirty (30) days of receipt of the Water Use Authorization/Licence.
12. This Authorization/Licence does not release the Holder from the obligation to obtain appropriate approvals, permits or licences from other concerned federal, provincial, and municipal agencies.
13. The Holder shall prudently maintain in good faith records, accounts and statements of the rates and amounts of water used on a daily basis for the generation of hydroelectric power, rates and amounts of water spilled or released downstream for protecting fish habitat and aquatic life as required under the federal *Fisheries Act* and/or any other federal or provincial legislation, operating water levels in the reservoir, extent of the flooded area, energy production, and any other information that the Ministers may require in whatever form, manner and time. Copies of such records, accounts, and statements shall be submitted to the Water Rights Section of the Department of Environment and Labour on or before the end of March of each year during the term created by this Authorization/Licence.
14. The employees of the Department of Environment and Labour and the Department of Government Services and Lands, when authorized by either Minister, may at all reasonable times during the term created by this Authorization/Licence enter into the Authorized Area and the Holder's designated place of business to inspect the systems/works, records, statements, and accounts, and shall be entitled to copy such information as may be required by either Minister.

APPENDIX A (CONTINUED)

NO: WUA-97-070
FILE: 516

TERMS AND CONDITIONS FOR WATER USE AUTHORIZATION/LICENCE

15. The Ministers acknowledge that the Government received from the Holder the application fees set out in the *Policy Directive for Application and Other Fees* (W.R. 97-3) approved by the Government for technical and administrative services provided in connection with the granting of this Authorization/Licence.
16. The Holder shall continue to pay to the Minister of Environment and Labour any and all present annual rental charges associated with the said plants. Also, the Holder shall, upon receipt of an invoice stating the amount owing for other rental charges "that are to be determined pursuant to the *Crown Lands Act* from the date of commencement of this Authorization/Licence", pay to the Minister of Environment and Labour the full amount within sixty (60) days of the receipt of the said invoice and/or if imposed by provincial legislation, levy rates or charges for water use.
17. The Holder shall keep all systems/works in good condition and repair and in accordance with all laws, by-laws, directions, rules and regulations of any governmental authority. The Holder shall immediately notify the Minister of Environment and Labour if any problem arises which may threaten the structural stability of the systems/works such as dams, reservoirs, spillways, etc., endanger public safety and/or the environment or adversely affect water users either in or outside the Authorized Area. The Holder shall be responsible for all damages suffered by the Government resulting from any defect in the systems/works, operational deficiencies/inadequacies, or structural failure.
18. The Holder shall operate the plants in a manner which does not cause any water related and/or environmental problems, including but not limited to problems of erosion, deposition, flooding, deterioration of water quality and groundwater depletion in or outside the Authorized Area. The Holder shall be responsible for any and all damages associated with these problems caused as a result of changes, deficiencies, and inadequacies in the Holder's operational procedures.
19. The Holder shall not at any time impair, pollute or cause to be polluted the quality of the water in or outside the Authorized Area.
20. The Holder may be required by the Minister of Environment and Labour to install, operate and maintain streamflow, water level monitoring stations, and other necessary measures in the Authorized Area and also to monitor water quality at specified locations in such manner as the Minister of Environment and Labour considers necessary for the assessment of the quantity and quality of the water available in the Authorized Area and the quantity of water used by the Holder for the generation of hydroelectric power.

APPENDIX A (CONTINUED)

NO: WUA-97-070
FILE: 516

TERMS AND CONDITIONS FOR WATER USE AUTHORIZATION/LICENCE

21. If the Holder fails to perform, fulfil, or observe any of the terms and conditions, reservations, exceptions, and provisions of this Authorization/Licence and/or Ministerial orders and guidelines, the Ministers may, after providing ninety (90) days written notice to the Holder, modify or cancel this Authorization/Licence.
22. The Holder may enter upon, investigate and survey any unoccupied Crown lands in the Authorized Area for any purpose incidental to the operation of the hydroelectric power generating plants but the Holder releases the Ministers and the Government from any and all liability, claims, damages and actions of any nature whatsoever relating to the rights conveyed in this Authorization/Licence and the systems/works operated, maintained, or rehabilitated by the Holder, its employees, agents, and invitees in the Authorized Area.
23. The Holder indemnifies and holds the 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 the water rights granted under this Authorization/Licence, systems and works in the Authorized Area, or any act or omission of the Holder in the Authorized Area, or arising out of a breach or non-performance of any of the terms and conditions, and provisions of this Authorization/Licence by the Holder.
24. Should any provision of this Authorization/Licence be unenforceable, it shall be considered separate and severable from the remaining provisions of this Authorization/Licence which shall remain in force and be binding as though the provision had not been included.
25. This Authorization/Licence is subject to the *Environment Act*, the *Crown Lands Act*, and any regulations in effect either at the date of this Authorization/Licence or hereafter made pursuant thereto or any other relevant legislation enacted by the Province of Newfoundland in the future.
26. This Authorization/Licence shall be construed and interpreted in accordance with the laws of the Province of Newfoundland.
27. All notices to be given pursuant to the terms and conditions of this Authorization/Licence shall be given in writing and delivered by facsimile with auto confirmation or registered mail. If a notice is delivered by facsimile, it is deemed to have been received on the day it was sent if that day is a normal business day, if not, it is deemed to have been received on the next normal business day. If a notice is sent by registered mail, it is deemed to have been received three days after the day it was mailed.

APPENDIX A (CONTINUED)

NO: WUA-97-070
FILE: 516

TERMS AND CONDITIONS FOR WATER USE AUTHORIZATION/LICENCE

The address and facsimile number of the Holder are:

Newfoundland Light & Power Co. Limited
55 Kenmount Road
P.O. Box 8910
St. John's, Newfoundland
A1B 3P6

(709) 737-2926

The address and facsimile number of the Government are:

Water Rights Section
Water Resources Management Division
Department of Environment and Labour
P.O. Box 8700
St. John's, Newfoundland
A1B 4J6

(709) 729-0320

SCHEDULE A

NO: WUA-97-070
FILE: 516

**DESCRIPTION OF WATERSHEDS AND AUTHORIZED WATER FOR
TORS COVE/ROCKY POND HYDROELECTRIC POWER GENERATING PLANTS**

Tors Cove Pond /Rocky Pond Watershed:

The water used by the Holder for the sole purpose of generating hydroelectric power is described fully as all water draining from a watershed encompassing an area of 187.22 square kilometres to a point on Southern Rocky Pond from where the water is diverted by the first storage dam with crest level of 93.40 metres elevation, into the intake of Rocky Pond Plant's penstock, thence to the first powerhouse near the Local Service District of Tors Cove, thence to a point on Tors Cove Pond from where the water is diverted by the second storage dam with crest level of 59.70 metres elevation, thence to the intake of Tors Cove Plant's penstock, from where the water ultimately passes through the second powerhouse near the Local Service District of Tors Cove, the East Coast of the Avalon Peninsula, and is then discharged into Tors Cove. The aforementioned watershed outlined in black on the 1:50,000 scale topographic maps, Ferryland 1N/2 edition 3 and St. Catherine's 1N/3 edition 3 to be referred to as "Schedule B", submitted by the Holder, is located in the District of Ferryland, Newfoundland and includes all of Frank's Pond, Saunders Ponds, Middle Pond, Paradise Pond, Cape Pond, La Manche River, Kearneys Pond, Butlers Pond, Deadmans Pond, Lookout Pond, Yellow Marsh Pond, Little Goose Pond, Big Goose Pond, Pond of the Keel, Dog Pond, Long Pond, Pudding Pond, Quirks Pond, Coles Pond, Rocky Pond, Southern Rocky Pond, Georges Pond, Beachy Cove Pond, Tors Cove Pond, and all other bodies of water named or not within the boundaries of the said watershed, from where water will flow to ultimately reach the said intakes of penstocks near the Local Service District of Tors Cove except that such water shall not exceed the lesser of:

- i) the amount of water that can be stored in Southern Rocky Pond to its full supply level (F.S.L) at 91.96 metres elevation consisting of an amount of water having a volume of 684,000 cubic metres and a surface area of 0.368 square kilometres and the amount of water that can be stored in Tors Cove Pond to its full supply level (F.S.L) at 56.70 metres elevation consisting of an amount of water having a volume of 11,159,000 cubic metres and a surface area of 2.300 square kilometres; or
- ii) the amount of water which can be withdrawn into the intake of Rocky Pond Plant's penstock at an average rate of no more than 6.25 cubic metres per second, thence to the intake of Tors Cove Plant's penstock at an average rate of no more than 8.55 cubic metres per second, and is to be used exclusively for the generation of hydroelectric power and subject to such withdrawal being limited to only that quantity of water which if withdrawn from Southern Rocky Pond will not cause the water level to be lower than the low supply level (L.S.L) at 89.36 metres elevation and a surface area of 0.207 square kilometres and that quantity of water which if withdrawn from Tors Cove Pond will not cause the water level to be lower than the low supply level (L.S.L) at 51.50 metres elevation and a surface area of 1.995 square kilometres; or
- iii) the estimated annual water use of 425,000,000 cubic metres (205,000,000 cubic metres at Rocky Pond Plant and 220,000,000 cubic metres at Tors Cove Plant).

SCHEDULE A (CONTINUED)

NO: WUA-97-070
FILE: 516

**DESCRIPTION OF WATERSHEDS AND AUTHORIZED WATER FOR
TORS COVE/ROCKY POND HYDROELECTRIC POWER GENERATING PLANTS**

Cape Pond Sub-Watershed:

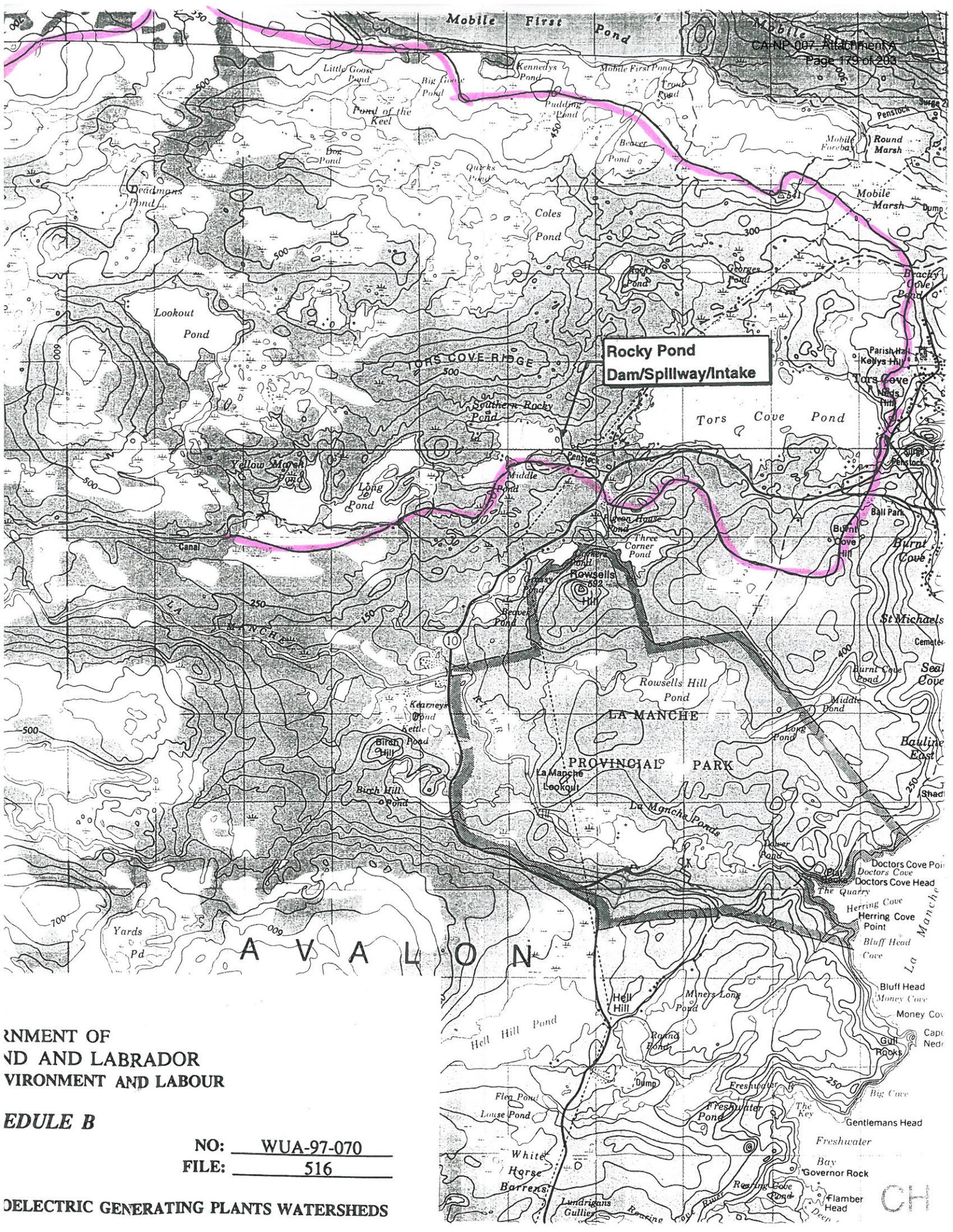
All water draining from a watershed encompassing an area of 66.20 square kilometres to a point on Cape Pond "reservoir" from where the water is impounded by a storage dam with crest level of 151.65 metres elevation, and where water is released at will or excess water that cannot be stored is spilled to Southern Rocky Pond through La Manche Canal and thence to Tors Cove Pond except that the use of such water is limited to:

- i) the amount of water that can be stored in the reservoir to its full supply level (F.S.L) at 149.35 metres elevation consisting of an amount of water having a volume of 14,996,000 cubic metres and a surface area of 4.125 square kilometres and subject to such withdrawal being limited to only that quantity of water which if withdrawn from Cape Pond will not cause the water level in the reservoir to be lower than the low supply level of (L.S.L.) 145.50 metres elevation and a surface area of 3.669 square kilometres.

Frank's Pond Sub-Watershed:

All water draining from a watershed encompassing an area of 39.5 square kilometres to a point on Frank's Pond "reservoir" from where the water is impounded by a storage dam with crest level of 170.85 metres elevation which is supplemented by Frank's Pond dam#5 on the western boundary of the sub-watershed with spill level of 169.65 metres elevation, for the purpose of releasing excess water that cannot be stored in Frank's Pond, and where water is released at will or excess water that cannot be stored is spilled to Southern Rocky Pond through Frank's Pond Canal, Middle Pond, Cape Pond, and La Manche Canal and thence to Tors Cove Pond except that the use of such water is limited to:

- i) the amount of water that can be stored in the reservoir to its full supply level (F.S.L) at 169.65 metres elevation consisting of an amount of water having a volume of 25,119,000 cubic metres and a surface area of 9.0 square kilometres and subject to such withdrawal being limited to only that quantity of water which if withdrawn from Frank's Pond will not cause the water level in the reservoir to be lower than the low supply level of (L.S.L.) 166.55 metres elevation and a surface area of 7.236 square kilometres.



**Rocky Pond
Dam/Spillway/Intake**

AVALON

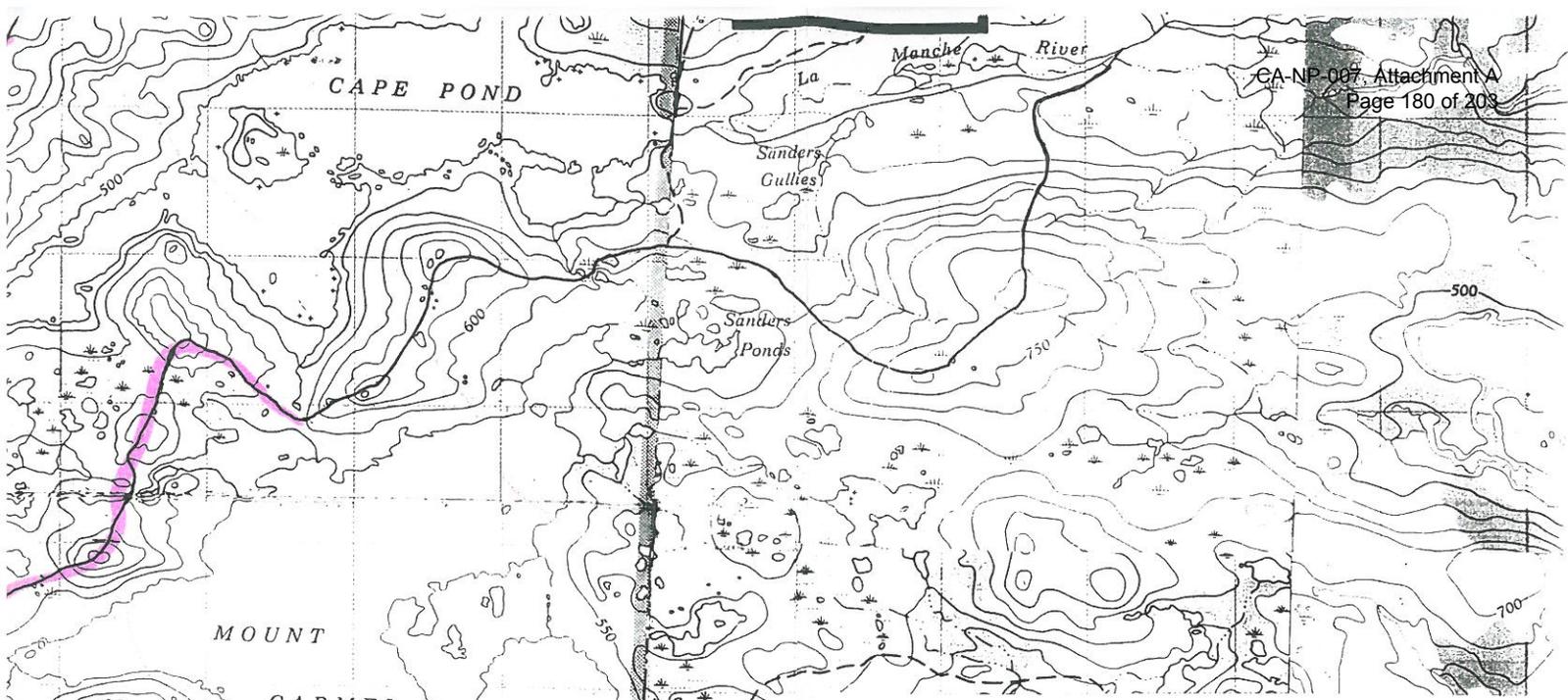
GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND LABOUR

SCHEDULE B

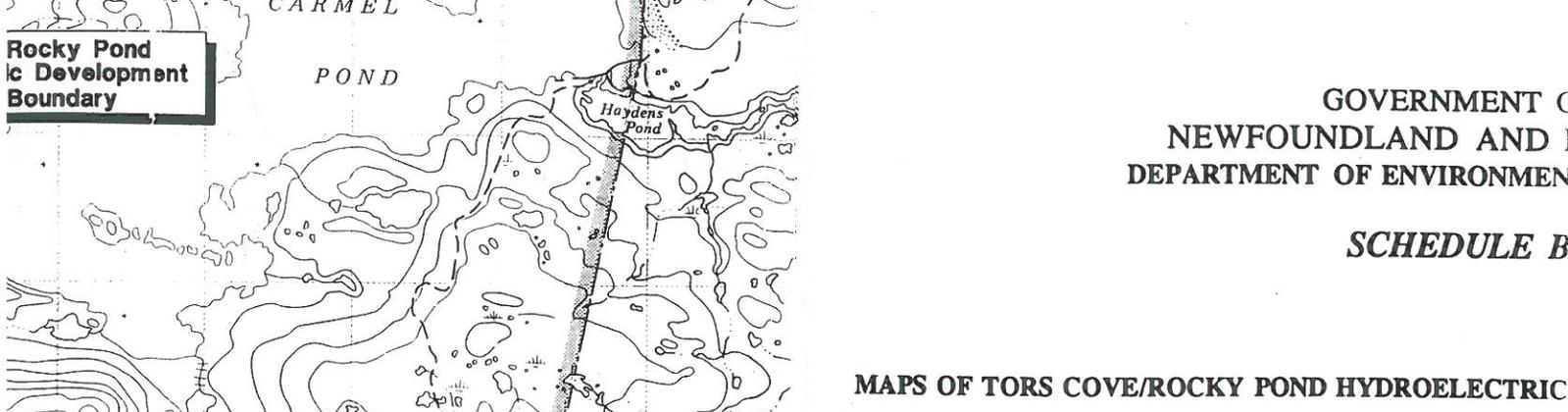
NO: WUA-97-070
FILE: 516

HYDROELECTRIC GENERATING PLANTS WATERSHEDS

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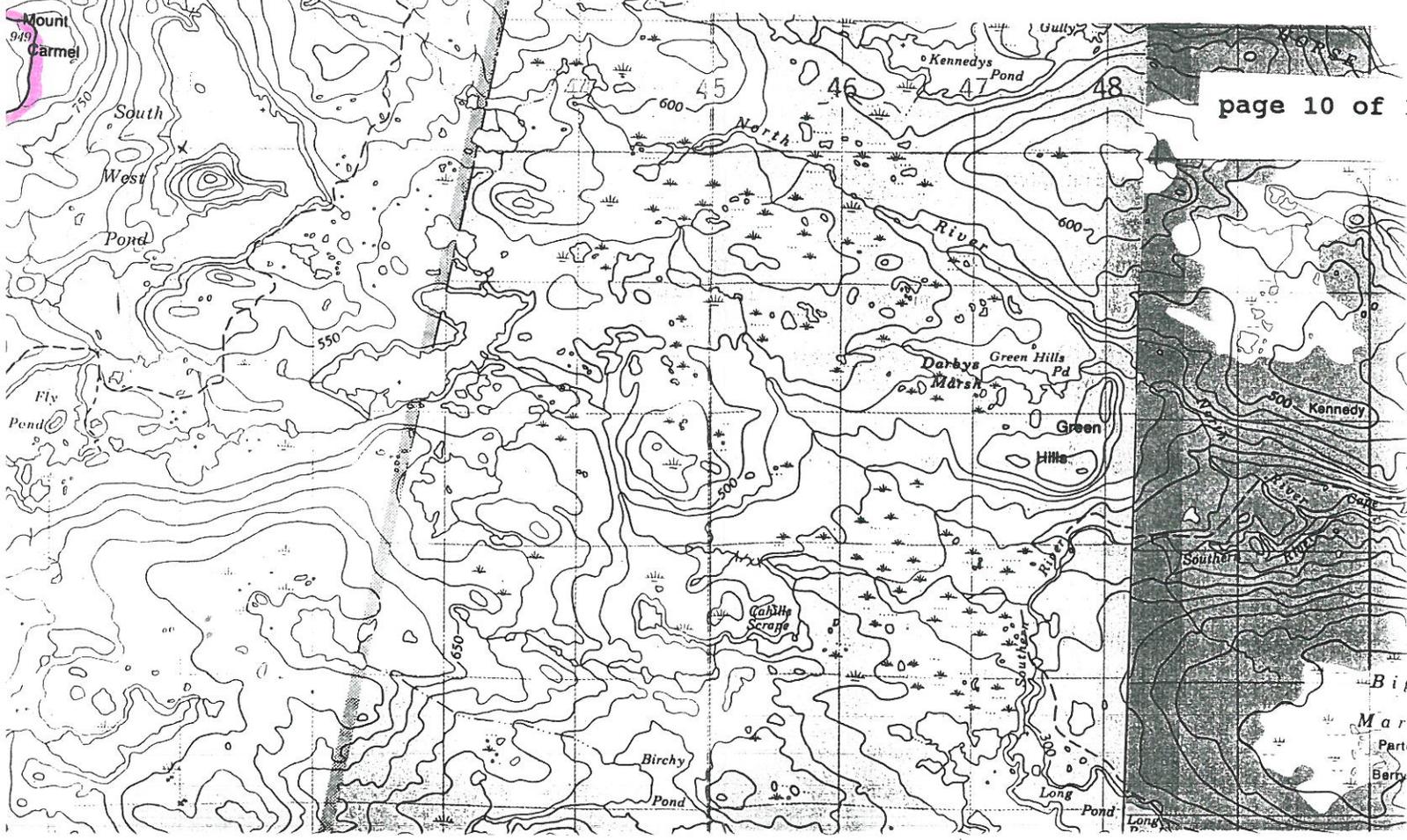
**Rocky Pond
Development
Boundary**



GOVERNMENT OF
NEWFOUNDLAND AND
DEPARTMENT OF ENVIRONMENT

SCHEDULE B

MAPS OF TORS COVE/ROCKY POND HYDROELECTRIC



page 10 of

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NEWFOUNDLAND LIGHT & POWER CO. LIMITED
Approved by [Signature]
Date 96/08/26
Remarks _____

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR

Department of Environment and Labour
WATER USE AUTHORIZATION

Pursuant to the *Environment Act*

Date: May 10, 1996

No: WUA-96-025

File: 516

Holder: Newfoundland Light & Power Co. Limited
55 Kenmount Road
P. O. Box 8910
St. John's, NF
A1B 3P6

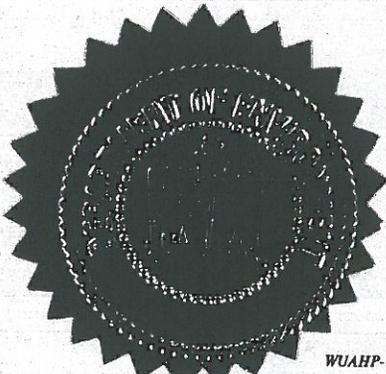
Attention: Mr. P. R. Hamilton, Manager, Energy Supply

Re: Victoria Hydroelectric Power Generating Plant, Victoria, Newfoundland

Authorization is hereby given to Newfoundland Light & Power Co. Limited (the "Holder") to operate the existing hydroelectric power generating plant at Blue Hill Pond, located on the northwest side of Conception Bay near the Town of Victoria, utilizing the water from the watershed described in Schedules A and B, defined herein as the "Authorized Area", for the purpose of generating hydroelectric power together with flooding rights in and over the unoccupied Crown lands located in the Authorized Area, in reference to the application dated November 3, 1994 and additional information provided on April 7, 1995, March 27, 1996, and April 1, 1996.

This Authorization is subject to the terms and conditions, reservations, exceptions, and provisions stated herein and the *Environment Act*. Appendix A and Schedules A and B form part and parcel of this Authorization.

Failure to comply with the terms and conditions, reservations, exceptions, and provisions set out herein will render this Authorization null and void, may place the Holder and/or its agents in violation of the *Environment Act*, and make the Holder responsible for any remedial measures which may be prescribed by the Department of Environment and Labour.



[Signature]
MINISTER

APPENDIX A

NO: WUA-96-025
FILE: 516

TERMS AND CONDITIONS

1. In consideration of the terms and conditions, reservations, exceptions, and provisions herein contained, the Minister of Environment and Labour hereby grants the Holder the **non-exclusive** right to use the water from all bodies of water and their catchments in the Authorized Area together with the right to flood the unoccupied Crown lands in the Authorized Area to the extent presently flooded at the full supply levels as defined in Schedule A for the generation of hydroelectric power upon and in accordance with the terms and conditions, reservations, exceptions, and provisions set forth in this Authorization.

2. This Authorization is subject to the full right of Government, its licensees, lessees, assignees, transferees, and any other person authorized by Government to:
 - a) *explore, prospect, search for, work, get, carry away, and dispose of all minerals both metallic and nonmetallic, coal, oil, natural gas, salt, and quarry materials;*
 - b) *fell, cut down, carry away, and dispose of all timber in the Authorized Area;*
 - c) *ingress, egress and regress over the Authorized Area and to make, sink, erect and use all mines, pits, plants, shafts, wells, machinery, buildings, erections, dams, roads, transmission lines and any other systems/works and conveniences for any purpose authorized by Government;*
 - d) *use all the land and water in the Authorized Area for fishing, boating, hunting and other traditional recreational activities subject to all applicable laws and regulations;*
 - e) *enjoy all other rights in the Authorized Area not otherwise granted and demised by this Authorization; and*
 - f) *occupy and use all land and water in the Authorized Area, the occupation and use of which is, in the opinion of the Minister, necessary for any of the above purposes.*

APPENDIX A (CONTINUED)

NO: WUA-96-025
FILE: 516

TERMS AND CONDITIONS

3. The initial term of this Authorization shall be twenty-five (25) years from the commencement date of May 15, 1996 and this Authorization shall expire on June 1, 2021 or earlier if suspended or cancelled by the Minister. This Authorization may be renewed by the Minister for such renewal term as the Minister deems appropriate commencing on the expiry of the initial term, provided the Holder applies for an extension at least one (1) year before the expiry of the initial term in the case of the first renewal and thereafter the expiry of the immediately preceding renewal term, on such terms and conditions as the Minister considers appropriate and in the public interest.
4. Subject to the terms and conditions, reservations, exceptions and provisions stated herein, the Authorization grants the Holder the following non-exclusive rights to use the water in the Authorized Area:
 - a) *the right to harness and make use of the authorized water in the existing systems/works, including dams, reservoirs, spillways, intake, penstock, powerhouse and any other works presently being used for operating the hydroelectric power generating plant;*
 - b) *the right to store the water in the reservoirs in the Authorized Area to the full supply levels as defined in Schedule A without in anyway adversely affecting the safety of the dams and other structures/works and to regulate flows for the purpose of generating hydroelectric power subject to Condition 6; and*
 - c) *subject to the prior written approval from the Minister, the right to make any improvement in the systems/works including the construction of additional works designed to make the existing operation more efficient.*
5. The designated purpose is "water power".
6. This Authorization shall not affect or be interpreted as granting any rights which might affect the quantity and quality of water required at present or in the future to the Town of Victoria and other users of the water in and outside the Authorized Area for their domestic and municipal uses.
7. The Holder acknowledges and agrees that this Authorization does not grant any interest in land or any exclusive right in or to use or occupy the Authorized Area.

APPENDIX A (CONTINUED)

NO: WUA-96-025
FILE: 516

TERMS AND CONDITIONS

8. The Holder shall not construct any new structure/facility in the Authorized Area, make alterations to the existing systems/works, make changes in the purpose, rates and amounts of water specified in this Authorization, or divert the course or alter the physical features of the bodies of water within the Authorized Area without the prior written approval of the Minister.
9. The rights and liberties hereby demised by this Authorization shall not be sold, assigned, transferred, leased, mortgaged, sublet or otherwise alienated by the Holder without obtaining prior written approval from the Minister.
10. The Minister may allocate the unused water in the Authorized Area for any other beneficial purpose provided such allocation of the water does not prejudicially affect the rights of the Holder conveyed in this Authorization. The Holder will be duly informed and consulted by the Minister on any request for authorization of the unused water.
11. The Minister may, upon providing a hundred and eighty (180) days notice to the Holder, modify this Authorization by allocating part of the authorized water for other beneficial use(s) of higher order of precedence outlined in the Ministerial Policy established under the *Environment Act*. The Holder will be fully consulted on any such applications before any decision is taken by the Minister.
12. The Holder shall complete and return the attached Notification of Acceptance of Water Use Authorization to the Water Rights Section of the Department of Environment and Labour within thirty (30) days of receipt of the Water Use Authorization.
13. This Authorization does not release the Holder from the obligation to obtain appropriate approvals, permits or licences from other concerned federal, provincial, and municipal agencies.
14. The Holder shall prudently maintain in good faith records, accounts and statements of the rates and amounts of water used on a daily basis for the generation of hydroelectric power, rates and amounts of water spilled or released downstream for protecting fish habitat and aquatic life as required under the federal Fisheries Act and/or any other federal or provincial legislation, operating water levels in the reservoir, extent of the flooded area, energy production, and any other information that the Minister may require in whatever form, manner and time. Copies of such records, accounts, and statements shall be submitted to the Department of Environment and Labour annually.

APPENDIX A (CONTINUED)

NO: WUA-96-025
FILE: 516

TERMS AND CONDITIONS

15. The employees of the Department of Environment and Labour, authorized by the Minister, may at all reasonable times during the term created by this Authorization enter into the Authorized Area and the Holder's designated place of business to inspect the systems/works, records, statements, and accounts, and shall be entitled to copy such information as may be required by the Minister.
16. The Holder shall keep all systems/works in good condition and repair and in accordance with all laws, by-laws, directions, rules and regulations of any governmental authority. The Holder shall notify the Minister immediately if any problem arises which may threaten the structural stability of the systems/works such as dams, reservoirs, spillways, etc., endanger public safety and/or the environment or adversely affect water users either in or outside the Authorized Area. The Holder shall be responsible for all damages suffered by the Province resulting from any defect in the systems/works, operational deficiencies/inadequacies, or structural failure.
17. The Holder shall continue to pay to the Government any and all charges associated with this plant and such administrative fees and water use charges as may be approved by the Minister.
18. The Holder shall operate the plant in a manner which does not cause any water related and/or environmental problems, which may include but are not limited to erosion, deposition, flooding, deterioration of water quality and groundwater depletion in or outside the Authorized Area. The Holder shall be responsible for any and all damages associated with these problems caused as a result of changes, deficiencies, and inadequacies in the Holder's operational procedures.
19. The Holder shall not at any time impair, pollute or cause to be polluted the quality of the water in or outside the Authorized Area.
20. The Holder may be required by the Minister to install, operate and maintain streamflow and water level monitoring stations in the Authorized Area and also to monitor water quality at specified locations in a manner that the Minister considers necessary for the assessment of the quantity and quality of the water available in the Authorized Area and the quantity of water used by the Holder for the generation of hydroelectric power.

APPENDIX A (CONTINUED)

NO: WUA-96-025
FILE: 516

TERMS AND CONDITIONS

21. If the Holder fails to perform, fulfil, or observe any of the terms and conditions, reservations, exceptions, and provisions of this Authorization and/or Ministerial orders and guidelines, as determined by the Department of Environment and Labour, the Minister may, after providing a ninety (90) days notice to the Holder at any time during the term created by this Authorization, modify or cancel this Authorization.
22. The Holder may enter upon, investigate and survey any unoccupied Crown lands in the Authorized Area for any purpose incidental to the operation of the hydroelectric power generating plant but the Holder releases the Department of Environment and Labour from any and all liability, claims, damages and actions of any nature whatsoever relating to the rights conveyed in this Authorization and the systems/works operated, maintained, or rehabilitated by the holder, its employees, agents, and invitees in the Authorized Area.
23. The Holder indemnifies and holds the Province 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 the water rights granted under this Authorization, systems and works in the Authorized Area, or any act or omission of the Holder in the Authorized Area, or arising out of a breach or non-performance of any of the terms and conditions, and provisions of this Authorization by the Holder.
24. Should any provision of this Authorization be unenforceable, it shall be considered separate and severable from the remaining provisions of this Authorization which shall remain in force and be binding as though the provision had not been included.
25. This Authorization is subject to the *Environment Act* and any regulations made pursuant thereto.
26. This Authorization shall be construed and interpreted in accordance with the laws of Newfoundland.
27. All notices to be given pursuant to the terms and conditions of this Authorization shall be given in writing and delivered by facsimile with auto confirmation or registered mail. If a notice is delivered by facsimile, it is deemed to have been received on the day it was sent if that day is a normal business day, if not, it is deemed to have been received on the next normal business day. If a notice is sent by registered mail, it is deemed to have been received three days after the day it was mailed.

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF ENVIRONMENT AND LABOUR

APPENDIX A (CONTINUED)

NO: WUA-96-025
FILE: 516

TERMS AND CONDITIONS

The address and facsimile number of the Holder are:

Newfoundland Light & Power Co. Limited
55 Kenmount Road
P.O. Box 8910
St. John's, Newfoundland
A1B 3P6

(709) 737-2926

The address and facsimile number of the Department of Environment and Labour are:

Water Rights Section
Water Resources Management Division
Department of Environment and Labour
P.O. Box 8700
St. John's, Newfoundland
A1B 4J6

(709) 729-0320

SCHEDULE A

NO: WUA-96-025
FILE: 516

**DESCRIPTION OF WATERSHEDS AND AUTHORIZED WATER
FOR VICTORIA HYDROELECTRIC POWER GENERATING PLANT**

Blue Hill Pond Watershed:

The water used by the Holder for the sole purpose of generating hydroelectric power is described fully as all water draining from a watershed encompassing an area of 20.29 square kilometres to a point on Blue Hill Pond "forebay" from where the water is diverted by a storage dam with crest level of 97.15 metres elevation, into the intake of the penstock from where the water ultimately passes through the powerhouse near the Town of Victoria, the northwest side of Conception Bay, and is then discharged into Salmon Cove, Conception Bay through Spout Brook and Salmon Pond. The aforementioned watershed outlined in black on the 1:50,000 scale topographic map, 1N/14 Heart's Content edition 3 to be referred to as "Schedule B", submitted by the Holder as part of the application dated November 3, 1994 and additional information provided on April 7, 1995, March 27, 1996, and April 1, 1996, is located in the District of Carbonear/Harbour Grace, Newfoundland and includes all of Lynchs Pond, Bob Ayles Pond, Packs Pond, Spices Brook, Rocky Pond, Small Gull Pond, Big Gull Pond, Goddens Pond, Nick Longs Pond, Three Corner Pond, Blue Hill Pond, and all other bodies of water named or not within the boundaries of the said watershed, from where water will naturally flow to ultimately reach the intake of the penstock near the Town of Victoria except that such water shall not exceed:

- i) the amount of water that can be stored in the forebay to its full supply level (F.S.L) at 96.85 metres elevation consisting of an amount of water having a volume of 276,000 cubic metres and a surface area of 0.1 square kilometres; or
- ii) the amount of water which can be withdrawn into the aforementioned intake of the penstock at a rate of no more than 0.85 cubic metres per second and is to be used exclusively for the generation of hydroelectric power and subject to such withdrawal being limited to only that quantity of water which if withdrawn from Blue Hill Pond will not cause the water level in the forebay to be lower than the low supply level (L.S.L) at 93.58 metres elevation and a surface area of 0.07 square kilometres; or
- iii) the estimated annual water use of 25,000,000 cubic metres.

SCHEDULE A (CONTINUED)

NO: WUA-96-025
FILE: 516

**DESCRIPTION OF WATERSHED AND AUTHORIZED WATER
FOR VICTORIA HYDROELECTRIC POWER GENERATING PLANT**

Rocky Pond Sub-Watershed:

All water draining from a watershed encompassing an area of 19.35 square kilometres to a point on Rocky Pond "reservoir" from where the water is impounded by a storage dam with crest level of 136.42 metres elevation, and where water is released at will or excess water that cannot be stored is spilled to Blue Hill Pond except that such water is limited to:

- i) the amount of water that can be stored in the reservoir its full supply level (F.S.L.) at 135.51 metres elevation consisting of an amount of water having a volume of 9,134,000 cubic metres and a surface area of 1.6 square kilometres and subject to such withdrawal being limited to only that quantity of water which if withdrawn from Rocky Pond will not cause the water level in the reservoir to be lower than the low supply level (L.S.L.) of 128.6 metres elevation and a surface area of 1.061 square kilometres.

cc: Dr. Abdel-Zaher K. Abdel-Razek, P.Eng. (2 copies)
Head
Water Rights Section
Water Resources Management Division
Department of Environment and Labour
P.O. Box 8700
St. John's, NF
A1B 4J6

cc: Mr. Aubrey Rose,
Regional Lands Supervisor (E)
Department of Government Services and Lands
5 Mews Place
P.O. Box 8700
St. John's, NF
A1B 4J6

cc: Mr. Frank Walsh,
Area Habitat Coordinator
Fisheries & Oceans Canada
Suite 301, Viking Bldg., 136 Crosbie Road
St. John's, NF
A1B 3K3

cc: Mr. Glenn Clarke
Mayor
P.O. Box 130
Victoria, NF
A0A 4G0

cc: Mr. Gerry R. Butt
Mayor
General Delivery
Salmon Cove, NF
A0A 2S0

cc: Mr. Donald Blundon
Mayor
P.O. Box 31
Heart's Content, NF
A0B 1Z0



GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR

Department of Environment and Labour
AMENDMENT TO WATER USE AUTHORIZATION

Pursuant to the *Environment Act*

Date: October 17, 1996

No: WUA-96-025

File: 516

Holder: Newfoundland Light & Power Co. Limited
55 Kenmount Road
P.O. Box 8910
St. John's, NF
A1B 3P6

Attention: Mr. P. R. Hamilton, Manager, Energy Supply

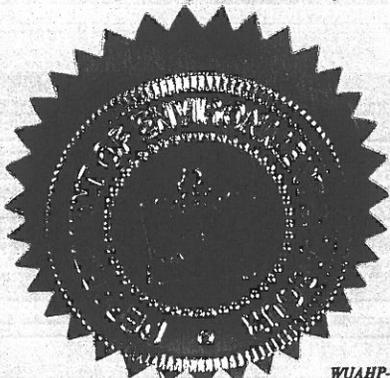
Re: *Victoria Hydroelectric Power Generating Plant, Victoria, Newfoundland*

In reference to the written request dated October 1, 1996, Water Use Authorization No. WUA-96-025 issued on May 10, 1996, is hereby amended as follows:

Clause # 11 of Appendix A of the original Water Use Authorization No. WUA-96-025, is deleted.

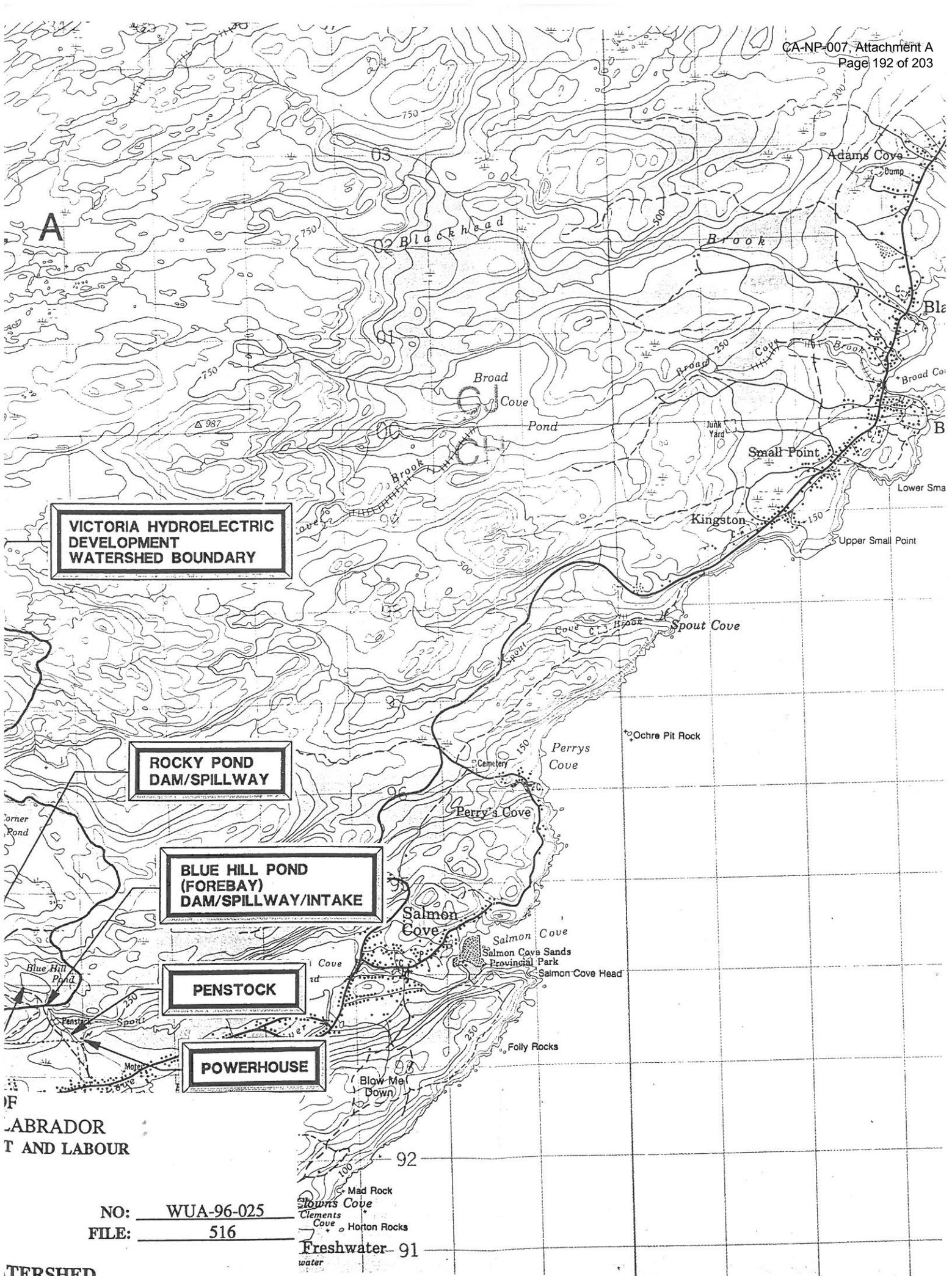
All other terms and conditions, reservations, exceptions, and provisions indicated in Appendix A and Schedules A and B of the original Water Use Authorization No. WUA-96-025 shall remain in force.

Failure to comply with the terms and conditions, reservations, exceptions, and provisions set out in the original Water Use Authorization No. WUA-96-025 and this amendment will render this Authorization null and void, may place the Holder and/or their agents in violation of the *Environment Act*, and make the Holder responsible for any remedial measures which may be prescribed by the Department of Environment and Labour.



A handwritten signature in black ink, appearing to be 'K. D. ...', written over the word 'MINISTER'.

MINISTER



**VICTORIA HYDROELECTRIC
DEVELOPMENT
WATERSHED BOUNDARY**

**ROCKY POND
DAM/SPILLWAY**

**BLUE HILL POND
(FOREBAY)
DAM/SPILLWAY/INTAKE**

PENSTOCK

POWERHOUSE

LABRADOR
T AND LABOUR

NO: WUA-96-025
FILE: 516

Mad Rock
Stouns Cove
Clements Cove
Horton Rocks
Freshwater water

WATERSHED



Approved by Jan Ken
Date 96/08/26
Remarks _____

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR

Department of Environment and Labour
WATER USE AUTHORIZATION

Pursuant to the *Environment Act*

Date: June 4, 1996

No: WUA-96-019

File: 515

Holder: Newfoundland Light & Power Co. Limited
55 Kenmount Road
P. O. Box 8910
St. John's, NF
A1B 3P6

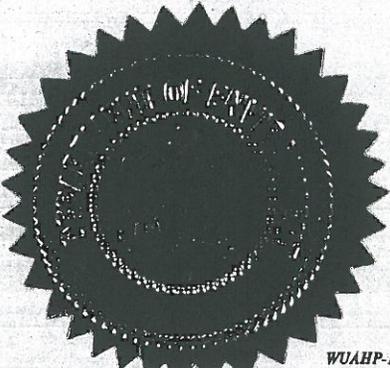
Attention: Mr. P. R. Hamilton, Manager, Energy Supply

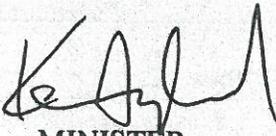
Re: West Brook Hydroelectric Power Generating Plant, St. Lawrence,
Newfoundland

Authorization is hereby given to Newfoundland Light & Power Co. Limited (the "Holder") to operate the existing hydroelectric power generating plant at St. Lawrence River, located in the southern part of the Burin Peninsula near the Town of St. Lawrence and Community of Little St. Lawrence, utilizing the water from the watershed described in Schedules A and B, defined herein as the "Authorized Area", for the purpose of generating hydroelectric power together with flooding rights in and over the unoccupied Crown lands located in the Authorized Area, in reference to the application dated November 3, 1994 and additional information provided on April 7, 1995 and March 21, 1996.

This Authorization is subject to the terms and conditions, reservations, exceptions, and provisions stated herein and the *Environment Act*. Appendix A and Schedules A and B form part and parcel of this Authorization.

Failure to comply with the terms and conditions, reservations, exceptions, and provisions set out herein will render this Authorization null and void, may place the Holder and/or its agents in violation of the *Environment Act*, and make the Holder responsible for any remedial measures which may be prescribed by Department of Environment and Labour.




MINISTER

APPENDIX A

NO: WUA-96-019
FILE: 515

TERMS AND CONDITIONS

1. In consideration of the terms and conditions, reservations, exceptions, and provisions herein contained, the Minister of Environment and Labour hereby grants the Holder the **non-exclusive** right to use the water from all bodies of water and their catchments in the Authorized Area together with the right to flood the unoccupied Crown lands in the Authorized Area to the extent presently flooded at the full supply level as defined in Schedule A for the generation of hydroelectric power upon and in accordance with the terms and conditions, reservations, exceptions, and provisions set forth in this Authorization.
2. This Authorization is subject to the full right of Government, its licensees, lessees, assignees, transferees, and any other person authorized by Government to:
 - a) *explore, prospect, search for, work, get, carry away, and dispose of all minerals both metallic and nonmetallic, coal, oil, natural gas, salt, and quarry materials;*
 - b) *fell, cut down, carry away, and dispose of all timber in the Authorized Area;*
 - c) *ingress, egress and regress over the Authorized Area and to make, sink, erect and use all mines, pits, plants, shafts, wells, machinery, buildings, erections, dams, roads, transmission lines and any other systems/works and conveniences for any purpose authorized by Government;*
 - d) *use all the land and water in the Authorized Area for fishing, boating, hunting and other traditional recreational activities subject to all applicable laws and regulations;*
 - e) *enjoy all other rights in the Authorized Area not otherwise granted and demised by this Authorization; and*
 - f) *occupy and use all land and water in the Authorized Area, the occupation and use of which is, in the opinion of the Minister, necessary for any of the above purposes.*

APPENDIX A (CONTINUED)

NO: WUA-96-019
FILE: 515

TERMS AND CONDITIONS

3. The initial term of this Authorization shall be twenty-five (25) years from the commencement date of June 10, 1996 and this Authorization shall expire on July 1, 2021 or earlier if suspended or cancelled by the Minister. This Authorization may be renewed by the Minister for such renewal term as the Minister deems appropriate commencing on the expiry of the initial term, provided the Holder applies for an extension at least one (1) year before the expiry of the initial term in the case of the first renewal and thereafter the expiry of the immediately preceding renewal term, on such terms and conditions as the Minister considers appropriate and in the public interest.
4. Subject to the terms and conditions, reservations, exceptions and provisions stated herein, the Authorization grants the Holder the following non-exclusive rights to use the water in the Authorized Area:
 - a) *the right to harness and make use of the authorized water in the existing systems/works, including dam, reservoir, spillway, intake, penstock, tailrace, powerhouse and any other works presently being used for operating the hydroelectric power generating plant;*
 - b) *the right to store the water in the reservoir in the Authorized Area to the full supply level as defined in Schedule A without in anyway adversely affecting the safety of the dam and other structures/works and to regulate flows for the purpose of generating hydroelectric power subject to Condition 6; and*
 - c) *subject to the prior written approval from the Minister, the right to make any improvement in the systems/works including the construction of additional works designed to make the existing operation more efficient.*
5. The designated purpose is "water power".
6. This Authorization shall not affect or be interpreted as granting any rights which might affect the quantity and quality of water required at present or in the future to the Town of St. Lawrence and other users of the water in and outside the Authorized Area for their domestic and municipal uses.
7. The Holder acknowledges and agrees that this Authorization does not grant any interest in land or any exclusive right in or to use or occupy the Authorized Area.

APPENDIX A (CONTINUED)

NO: WUA-96-019
FILE: 515

TERMS AND CONDITIONS

8. The Holder shall not construct any new structure/facility in the Authorized Area, make alterations to the existing systems/works, make changes in the purpose, rates and amounts of water specified in this Authorization, or divert the course or alter the physical features of the water bodies within the Authorized Area without the prior written approval of the Minister.
9. The rights and liberties hereby demised by this Authorization shall not be sold, assigned, transferred, leased, mortgaged, sublet or otherwise alienated by the Holder without obtaining prior written approval from the Minister.
10. The Minister may allocate the unused water in the Authorized Area for any other beneficial purpose provided such allocation of the water does not prejudicially affect the rights of the Holder conveyed in this Authorization. The Holder will be duly informed and consulted by the Minister on any request for authorization of the unused water.
11. The Minister may, upon providing a hundred and eighty (180) days notice to the Holder, modify this Authorization by allocating part of the authorized water for other beneficial use(s) of higher order of precedence outlined in the Ministerial Policy established under the *Environment Act*. The Holder will be fully consulted on any such applications before any decision is taken by the Minister.
12. The Holder shall complete and return the attached Notification of Acceptance of Water Use Authorization to the Water Rights Section of the Department of Environment and Labour within thirty (30) days of receipt of the Water Use Authorization.
13. This Authorization does not release the Holder from the obligation to obtain appropriate approvals, permits or licences from other concerned federal, provincial, and municipal agencies.
14. The Holder shall prudently maintain in good faith records, accounts and statements of the rates and amounts of water used on a daily basis for the generation of hydroelectric power, rates and amounts of water spilled or released downstream for protecting fish habitat and aquatic life as required under the federal Fisheries Act and/or any other federal or provincial legislation, operating water levels in the reservoir, extent of the flooded area, energy production, and any other information that the Minister may require in whatever form, manner and time. Copies of such records, accounts, and statements shall be submitted to the Department of Environment and Labour annually.

APPENDIX A (CONTINUED)

NO: WUA-96-019
FILE: 515

TERMS AND CONDITIONS

15. The employees of the Department of Environment and Labour, authorized by the Minister, may at all reasonable times during the term created by this Authorization enter into the Authorized Area and the Holder's designated place of business to inspect the systems/works, records, statements, and accounts, and shall be entitled to copy such information as may be required by the Minister.
16. The Holder shall keep all systems/works in good condition and repair and in accordance with all laws, by-laws, directions, rules and regulations of any governmental authority. The Holder shall notify the Minister immediately if any problem arises which may threaten the structural stability of the systems/works such as dam, reservoir, spillway, etc., endanger public safety and/or the environment or adversely affect water users either in or outside the Authorized Area. The Holder shall be responsible for all damages suffered by the Province resulting from any defect in the systems/works, operational deficiencies/inadequacies, or structural failure.
17. The Holder shall pay annually to the Government (50) cents per developed horsepower and ten (10) cents per undeveloped horsepower of the power generated at the plant for land use and/or such administrative fees and water use charges as may be approved by the Minister. The fifty (50) and ten (10) cents charges shall be dropped if any new charges relating to the occupation and flooding of unoccupied Crown lands are levied by the Government in the future.
18. The Holder shall operate the plant in a manner which does not cause any water related and/or environmental problems, which may include but not limited to erosion, deposition, flooding, deterioration of water quality and groundwater depletion, in or outside the Authorized Area. The Holder shall be responsible for any and all damages associated with these problems caused as a result of changes, deficiencies, and inadequacies in the Holder's operational procedures.
19. The Holder shall not at any time impair, pollute or cause to be polluted the quality of the water in or outside the Authorized Area.
20. The Holder may be required by the Minister to install, operate and maintain streamflow and water level monitoring stations in the Authorized Area and also to monitor water quality at specified locations in a manner that the Minister considers necessary for the assessment of the quantity and quality of the water available in the Authorized Area and the quantity of water used by the Holder for the generation of hydroelectric power.

APPENDIX A (CONTINUED)

NO: WUA-96-019
FILE: 515

TERMS AND CONDITIONS

21. If the Holder fails to perform, fulfil, or observe any of the terms and conditions, reservations, exceptions, and provisions of this Authorization and/or Ministerial orders and guidelines, as determined by the Department of Environment and Labour, the Minister may, after providing a ninety (90) days notice to the Holder at any time during the term created by this Authorization, modify or cancel this Authorization.
22. The Holder may enter upon, investigate and survey any unoccupied Crown lands in the Authorized Area for any purpose incidental to the operation of the hydroelectric power generating plant but the Holder releases the Department of Environment and Labour from any and all liability, claims, damages and actions of any nature whatsoever relating to the rights conveyed in this Authorization and the systems/works operated, maintained, or rehabilitated by the holder, its employees, agents, and invitees in the Authorized Area.
23. The Holder indemnifies and holds the Province 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 the water rights granted under this Authorization, systems and works in the Authorized Area, or any act or omission of the Holder in the Authorized Area, or arising out of a breach or non-performance of any of the terms and conditions, and provisions of this Authorization by the Holder.
24. Should any provision of this Authorization be unenforceable, it shall be considered separate and severable from the remaining provisions of this Authorization which shall remain in force and be binding as though the provision had not been included.
25. This Authorization is subject to the *Environment Act* and any regulations made pursuant thereto.
26. This Authorization shall be construed and interpreted in accordance with the laws of Newfoundland.

APPENDIX A (CONTINUED)

NO: WUA-96-019
FILE: 515

TERMS AND CONDITIONS

27. All notices to be given pursuant to the terms and conditions of this Authorization shall be given in writing and delivered by facsimile with auto confirmation or registered mail. If a notice is delivered by facsimile, it is deemed to have been received on the day it was sent if that day is a normal business day, if not, it is deemed to have been received on the next normal business day. If a notice is sent by registered mail, it is deemed to have been received three days after the day it was mailed. The address and facsimile number of the Holder are:

Newfoundland Light & Power Co. Limited
55 Kenmount Road
P.O. Box 8910
St. John's, Newfoundland
A1B 3P6

(709) 737-2926

The address and facsimile number of the Department of Environment and Labour are:

Water Rights Section
Water Resources Management Division
Department of Environment and Labour
P.O. Box 8700
St. John's, Newfoundland
A1B 4J6

(709) 729-0320

SCHEDULE A

NO: WUA-96-019
FILE: 515

**DESCRIPTION OF WATERSHED AND AUTHORIZED WATER
FOR WEST BROOK HYDROELECTRIC POWER GENERATING PLANT**

The water used by the Holder for the sole purpose of generating hydroelectric power is described fully as all water draining from the West Brook watershed encompassing an area of 47.61 square kilometres to a point on St. Lawrence River "reservoir" from where the water is diverted by a storage dam with crest level of 103.83 metres elevation, into the power canal and thence to the intake of the penstock from where the water ultimately passes through the powerhouse near the Town of St. Lawrence, the southern part of the Burin Peninsula, and is then discharged into Little St. Lawrence Harbour. The aforementioned watershed outlined in black on the 1:50,000 scale topographic maps, St. Lawrence 1L/14 edition 3 and Marystown 1M/3 edition 3, to be referred to as "Schedule B", submitted by the Holder as part of the application dated November 3, 1994 and additional information provided on April 7, 1995 and March 21, 1996, is located in the District of Grand Bank, Newfoundland and includes all of Strouds Pond, St. Lawrence River, Burnt Woods Pond, Clam Pond, and all other bodies of water named or not within the boundaries of the said watershed, from where water will flow to ultimately reach the power canal and thence to the intake of the penstock on St. Lawrence River except that such water shall not exceed:

- i) the amount of water that can be stored in the reservoir to its full supply level (F.S.L) at 102.56 metres elevation consisting of an amount of water having a volume of 55,000 cubic metres and a surface area of 0.05 square kilometres; or
- ii) the amount of water which can be withdrawn into the aforementioned power canal and thence to the intake of the penstock at a rate of no more than 2.55 cubic metres per second and is to be used exclusively for the generation of hydroelectric power and subject to such withdrawal being limited to only that quantity of water which if withdrawn from St. Lawrence River will not cause the water level in the reservoir to be lower than the low supply level (L.S.L) at 101.28 metres elevation and a surface area of 0.036 square kilometres; or
- iii) the estimated annual water use of 33,000,000 cubic metres.

- cc: Dr. Abdel-Zaher K. Abdel-Razek, P.Eng. (2 copies)
Head
Water Rights Section
Water Resources Management Division
Department of Environment
P.O. Box 8700
St. John's, NF
A1B 4J6
- cc: Mr. Joe Blanchard,
Regional Lands Supervisor (C)
Department of Natural Resources
P.O. Box 2222
Gander, NF
A1V 1T5
- cc: Mr. Randy Blundon,
Area Habitat Coordinator
Department of Fisheries & Oceans
P.O. Box 580, Federal Bldg., Church St.
Grand Bank, NF
A0E 1W0
- cc: Mr. Edgar Edwards
Mayor
P.O. Box 29
Lawn, NF
A0E 2E0
- cc: Mr. Wayde Rowsell
Mayor
P.O. Box 128
St. Lawrence, NF
A0E 2V0
- cc: Mr. Henry Burke
Chairman
Local Service District
P.O. Box 58
Little St. Lawrence, NF
A0E 2L0



GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR

Department of Environment and Labour
AMENDMENT TO WATER USE AUTHORIZATION

Pursuant to the *Environment Act*

Date: October 17, 1996

No: WUA-96-019

File: 515

Holder: Newfoundland Light & Power Co. Limited
55 Kenmount Road
P.O. Box 8910
St. John's, NF
A1B 3P6

Attention: Mr. P. R. Hamilton, Manager, Energy Supply

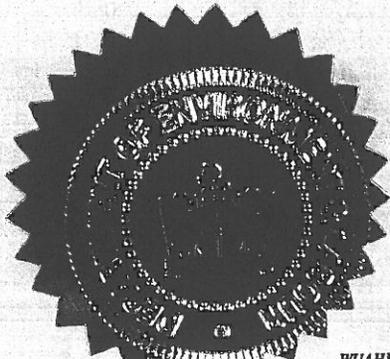
Re: *West Brook Hydroelectric Power Generating Plant, St. Lawrence,
Newfoundland*

In reference to the written request dated October 1, 1996, Water Use Authorization No. WUA-96-019 issued on June 4, 1996, is hereby amended as follows:

Clause # 11 of Appendix A of the original Water Use Authorization No. WUA-96-019, is deleted.

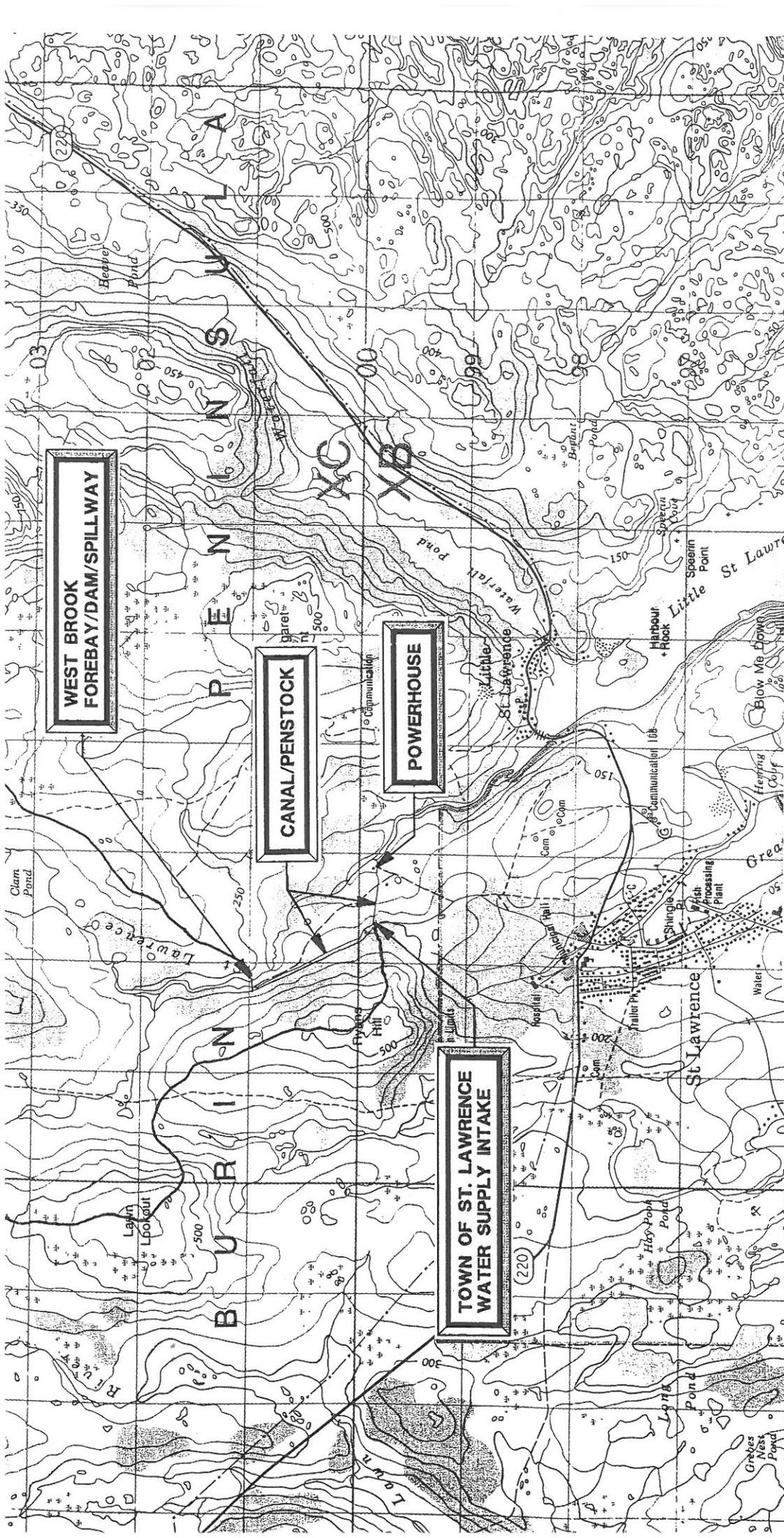
All other terms and conditions, reservations, exceptions, and provisions indicated in Appendix A and Schedules A and B of the original Water Use Authorization No. WUA-96-019 shall remain in force.

Failure to comply with the terms and conditions, reservations, exceptions, and provisions set out in the original Water Use Authorization No. WUA-96-019 and this amendment will render this Authorization null and void, may place the Holder and/or their agents in violation of the *Environment Act*, and make the Holder responsible for any remedial measures which may be prescribed by the Department of Environment and Labour.



A handwritten signature in black ink, appearing to be "K. Ash", written over the word "MINISTER".

MINISTER



GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR
DEPARTMENT OF THE ENVIRONMENT AND LABOUR

SCHEDULE B
MAPS OF WEST BROOK WATERSHED

NO: WUA-96-019

FILE: 515

er Head

Newfoundland Power Plant Operating Guidelines



Bulletin Number: POG100.01

Date Issued: 2002 05 04

Date Revised: 2012 07 27

Date Reviewed: 2013 07 23

Page 1 of 3

Inspection and Maintenance of Power Generating Facilities

Created By: B. Tifford

Reviewed By: G. Humby / B. Ryan

Revised By: B. Hogan

Approved By: G. Humby

1.0 Purpose

The purpose of this procedure is to manage preventative maintenance (PM) inspections that are required for all generating facilities owned by Newfoundland Power.

2.0 Scope

This procedure applies to mechanical, civil and electrical systems associated with diesel, gas turbine and hydro generating facilities.

3.0 General

Newfoundland Power's power generating infrastructure is maintained in accordance with a comprehensive PM program. The PM program is developed and executed in an effort to ensure optimal performance and longevity of the power generating facilities.

4.0 Responsibilities

4.1 Manager responsible for Generation Operations

- Will ensure that the overall PM program is appropriately resourced and coordinated.

4.2 Superintendent, Generation Operations

- Will ensure that the PM procedures are completed each year.
- Will ensure fuel usage data is reviewed/analyzed.
- Will ensure that required plant improvement projects are identified.



Bulletin Number: POG100.01

Date Issued: 2002 05 04

Date Revised: 2012 07 27

Date Reviewed: 2013 07 23

Page 2 of 3

Inspection and Maintenance of Power Generating Facilities

Created By: B. Tifford

Reviewed By: G. Humby / B. Ryan

Revised By: B. Hogan

Approved By: G. Humby

4.3 Supervisor(s), Generation Operations:

- Will ensure that the PM procedures are completed for each generating facility under their responsibility.
- Will ensure the collection of fuel usage data.
- Will ensure that the plants are operating efficiently.

5.0 Procedure

5.1 Complete maintenance program for all generating facilities as provided in the Avantis maintenance system.

5.2 Review aspects of maintenance program to ensure appropriateness.

6.0 References

6.1 Reference Documents

- No documents referenced

6.2 Related Significant Aspects

- 720; 770

6.3 Legal and Other Requirements

- No legal or other requirements

Inspection and Maintenance of Power Generating Facilities

Created By: B. Tifford

Reviewed By: G. Humby / B. Ryan

Revised By: B. Hogan

Approved By: G. Humby

7.0 Records

- Asset Management System Records

8.0 Glossary

Abbreviations:

- **PM** – Preventative Maintenance

Diesel Generating Plant - refers to electrical generating plants with a diesel engine as the prime mover.

Gas Turbine Generating Plant - refers to electrical generating plants with a combustion turbine engine as the prime mover.

Hydro Generating Plants - refers to electrical generating plants with a hydro turbine as the prime mover.



Bulletin Number: POG100.02

Date Issued: 1999 08 05

Date Revised: 2012 01 20

Date Reviewed: 2013 07 23

Page 1 of 5

Rose Blanche Plant Fishery Flow Compensation Strategy

Created By: K. Nicholson

Reviewed By: G. Humby / B. Ryan

Revised By: P. O'Leary

Approved By: G. Humby

1.0 Purpose

Manage fishery flow compensation for the Rose Blanche hydro plant development.

2.0 Scope

This procedure applies to all operations or maintenance that could affect the flow of water down stream of the Rose Blanche hydro plant.

3.0 General

The Company is proactive in reducing impacts to fish and fish habitat as a result of operation of the Rose Blanche hydro plant.

4.0 Responsibilities

4.1 Superintendent, Generation Operations

- Will provide resources in order to ensure that this fishery flow compensation strategy is followed.

5.0 Procedure

5.1 Fishery Flow Compensation Scheme

Rose Blanche hydro plant development has several design features that ensure adequate water flow to maintain fish habitat down stream of the plant. The compensation scheme utilizes two fishery flow compensation valves that can replace the normal flow of water through the plant.



Bulletin Number: POG100.02

Date Issued: 1999 08 05

Date Revised: 2012 01 20

Date Reviewed: 2013 07 23

Page 2 of 5

Rose Blanche Plant Fishery Flow Compensation Strategy

Created By: K. Nicholson

Reviewed By: G. Humby / B. Ryan

Revised By: P. O'Leary

Approved By: G. Humby

The first valve, located at the forebay dam, is a 20" diameter butterfly valve operated by a manual hand wheel actuator and located at the base of the main dam structure. The valve is located within a concrete vault, locked in the closed position with a company issued padlock. A company issued lock key (available only to Newfoundland Power employees) is required to gain access to this valve. This valve is referred to as the Forebay Dam Fishery Flow Compensation Valve. Its purpose is to provide water down stream of the plant in the case of penstock dewatering. This valve is normally in the closed position.

The second valve, located in the powerhouse, is a 16" motor actuated valve. This valve is referred to as the Powerhouse Fishery Flow Compensation Valve. Its purpose is to provide water downstream of the plant when the hydro turbine is not operating and there is water in the penstock. The valve operates automatically in response to the turbine operation. This valve is also used to drain the penstock during the dewatering process.

There is a 16" butterfly valve in series upstream and with the Powerhouse Fishery Flow Compensation Valve, referred to as Fisheries Valve Isolator, to allow the powerhouse compensation valve to be isolated from the system for maintenance. This isolation valve is normally in the open position.

5.2 Flow Compensation Scenarios

The plant has basically 4 flow compensation scenarios:

5.2.1 Water is passing through the turbine to the tail race as a result of running the turbine. In this case, both compensation valves are in the closed position.

5.2.2 The turbine is shut down and water is passing through the open Powerhouse Fishery Flow Compensation Valve to maintain water downstream of the plant. The Forebay Dam Fishery Flow Compensation Valve is in the closed position.

5.2.3 Water flows through the Forebay Dam Fishery Flow Compensation when the turbine and Powerhouse Fishery Flow Compensation Valve are shut.

Rose Blanche Plant Fishery Flow Compensation Strategy

Created By: K. Nicholson

Reviewed By: G. Humby / B. Ryan

Revised By: P. O'Leary

Approved By: G. Humby

-
- 5.2.4 During penstock dewatering, the Forebay Dam Fishery Flow Compensation valve is open. When water from this valve reaches the tailrace area of Rose Blanche Brook, penstock dewatering may start. In this case, the Powerhouse Fishery Flow Compensation Valve will also be open until the penstock is drained. The Forebay Dam Fishery Flow Compensation remains open until the penstock is refilled and the turbine is either in operation or the Powerhouse Fishery Flow Compensation Valve or Fisheries Valve Isolator is open.
- 5.3 Water Passing Through the Turbine
- 5.3.1 Water passing through the turbine in the normal operation of the plant may vary from maximum load to minimum 25% load. The amount of water passing through the turbine at 25% load will provide minimum water flows. Refer to [POG100.03.20 - Rose Blanche Operating Procedures](#) for details.
- 5.3.2 When the plant is in operation, both fishery flow compensation valves will be in the closed position.
- 5.4 Powerhouse Fishery Flow Compensation Valve
- 5.4.1 If the turbine shuts down or is taken off line, the Powerhouse Fishery Flow Compensation Valve will open automatically allowing water to bypass the turbine and enter the tailrace. This assumes that there is available water in the penstock.
- 5.4.2 In this mode, the Dam Forebay Fishery Flow Compensation Valve is in the closed position.
- 5.5 Forebay Dam Fishery Flow Compensation Valve.
- 5.5.1. The Forebay Dam Fishery Flow Compensation Valve provides water down stream of the plant if the penstock is dewatered or both the turbine and the Powerhouse Fishery Flow Compensation Valve are out of service at the same time. It must be manually operated.

Rose Blanche Plant Fishery Flow Compensation Strategy

Created By: K. Nicholson
Revised By: P. O'Leary

Reviewed By: G. Humby / B. Ryan
Approved By: G. Humby

- 5.5.2 There is a time delay in operation of the Forebay Dam Fishery Flow Compensation Valve and the water reaching the brook down stream of the plant. This is due to the length of the route taken by the water. When in use, the Forebay Dam Fishery Flow Compensation Valve must be in the fully open position. The opening of this valve will allow water to flow down a channel and enter the brook down stream of the plant. It may take up to 4 hours for the water to travel from the dam to the tailrace area of Rose Blanche Brook. The person operating the plant will ensure that the water from the Forebay Dam Fishery Flow Compensation Valve has reached the brook before disrupting other sources of water flow (i.e. penstock dewatering).
- 5.5.3 Once a flow directly attributable to flow from the Forebay Dam Fishery Flow Compensation Valve has been confirmed in the main river below the Rose Blanche tailrace, the Generation operating staff can then proceed as required with such activities as draining the penstock.
- 5.6 Penstock Dewatering
- 5.6.1 Prior to dewatering the penstock, compensation flow has to be established using the Forebay Dam Fishery Flow Compensation Valve as per section 5.5 of this procedure. The penstock can then be drained utilizing the Powerhouse Fishery Flow Compensation Valve located within the powerhouse.
- 5.6.2 The Generation operating staff shall ensure that during the draining of the penstock, the door to the intake gatehouse is left open to insure that a vacuum pressure condition in the gatehouse is not created which could possibly cause damage to this enclosure.
- 5.7 Other Notes
- 5.7.1 Flow Measurement - Minimum design flow required to be released from the system is 1.0 m³/s, 500m downstream of the tailrace.

Rose Blanche Plant Fishery Flow Compensation Strategy

Created By: K. Nicholson
Revised By: P. O'Leary

Reviewed By: G. Humby / B. Ryan
Approved By: G. Humby

5.7.2 Fishery compensation valves will be inspected and maintained as scheduled in Avantis.

5.7.3 Fisheries Inspection Checklist will be completed as scheduled in Avantis, using [Form 742 – Rose Blanche Fisheries Inspection Checklist](#).

6.0 References

6.1 Reference Documents

- [POG100.03.20 – Rose Blanche Operating Procedures](#)

6.2 Related Significant Aspects

- [750](#)

6.3 Legal and Other Requirements

- [Environmental Legal Requirements Application - Webster](#)

7.0 Records (refer to local Master Environmental Records List for record location)

- Asset Management System Records
- [Rose Blanche Fisheries Inspection Checklist – Form 742](#)

8.0 Glossary

No new terms



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Reservoir and Turbine Operating Procedures

Created By: L. Thompson

Reviewed By: G. Humby / B. Ryan

Revised By: B. Hogan

Approved By: G. Humby

1.0 Purpose

The purpose of this procedure is to manage Newfoundland Power hydro development systems for the effective and efficient use of the water resource. This will manage environmental impacts and manage communication of information about operational changes to the public.

2.0 Scope

This procedure covers hydro plant hydroelectric facilities owned and operated by Newfoundland Power and is required knowledge of the Generations Operations staff and System Control Centre (SCC) operations staff.

3.0 General

The Company will manage the efficient use of water resources in an effort to displace fossil fuel generation sources.

4.0 Responsibilities

4.1 Manager responsible for Generation

- Will ensure that Generation Operations staff and System Control Centre (SCC) staff are trained in the use of this procedure to guide the operation of the hydroelectric facilities.

4.2 Superintendent, Generation Operations

- Will ensure that requirements of this procedure are completed and reviewed each year.
- Will ensure any changes made in operation procedures shall be added to this procedure as the need arises

Reservoir and Turbine Operating Procedures

Created By: L. Thompson

Reviewed By: G. Humby / B. Ryan

Revised By: B. Hogan

Approved By: G. Humby

4.3 Supervisor(s), Generation Operations

- Responsible for ensuring that the staff under his/her supervision is following the Plant Operating Guidelines (POGs).
- Will notify the Superintendent, Generation Operations and SCC of any changes to the Plant Operating Guidelines (POGs) or any temporary/permanent major changes in operations at a generation facility.

4.4 Generation Operations Staff

- Responsible for following the Plant Operating Procedures (POGs) and for performing all their work activities in an environmentally responsible manner.

4.5 Superintendent, System Control (SCC)

- Will ensure that the SCC Operators are following the Plant Operating Guidelines (POGs).

4.6 System Control Centre (SCC) Operator

- Responsible for performing daily operations in accordance with the Plant Operating Guidelines (POGs), determining plant and unit productions and weekly storage report.

5.0 Procedure

5.1 Detailed Operating Procedures

- 5.1.1 Generating Operations staff, in conjunction with the SCC operators, will determine gate settings based on pending inflows and upcoming system requirements. Where possible, gate setting instructions will be issued prior to generation operations staff leaving to take reservoir elevation readings.
- 5.1.2 Reservoir elevations, gate openings and spill amount will normally be taken on the first working day of the week by generation operations staff and forwarded to SCC. Reservoir elevations are typically observed using staff gauges installed at various sites. In the absence of staff gauges, hand held measuring tapes may be

Reservoir and Turbine Operating Procedures

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Revised By: B. Hogan

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used. The condition of staff gauges and tapes shall be visually checked prior to each use for any obvious indications of damage. Reservoir elevations must be estimated when actual readings are not taken. Supervisor(s), Generation Operations will determine when it is permissible to estimate the elevations.

- 5.1.3 SCC will normally issue the storage report on the second working day of the week. Delays may be encountered due to unforeseen circumstances.
- 5.1.4 Generation operations staff are to note any abnormal system conditions and report to Supervisor(s), Generation Operations and SCC as soon as possible. Report as soon as it is corrected.
- 5.1.5 Daily rainfall shall be recorded by generation operations staff. Rain accumulation shall be measured daily and included with reservoir elevations to SCC weekly.
- 5.1.6 During the course of significant rainfall events (approximately 25 mm or more during a 24 hour period), generation operations staff may be required to visit dam sites at the discretion of the Supervisor(s), Generation Operation or Superintendent Generation Operations or Superintendent Civil Engineering. The requirement for such site visits is based on the following considerations:
- Spill lost out of the system shall be recorded and reported to SCC.
 - Significant changes in reservoir elevations may require gate adjustments.
 - To check that all storage structures are performing as expected.
- 5.1.7 Generation operations staff shall report to the SCC when gates are opened/closed for any reason.
- 5.1.8 Manager responsible for Generation will notify and provide information related to public communications about plant operations to Manager responsible for Corporate Communications.
- 5.1.9 Superintendent, Generation Operations will decide if changes in plant operation require public communication and notify Manager responsible for Generation about information to be made public.

Reservoir and Turbine Operating Procedures

Created By: L. Thompson

Reviewed By: G. Humby / B. Ryan

Revised By: B. Hogan

Approved By: G. Humby

5.2 General Operating Procedure

- 5.2.1 Gates located at control structures must be left open by a required minimum of one (1) inch to maintain water flow in streams between reservoirs (to preserve fish habitat). If the requirement exists to close the gate completely, then an alternate means of maintaining the equivalent amount of flow should be provided.
- 5.2.2 Should maintenance on a gate require the stoppage of water flow through that gate, some alternate means of maintaining a water flow on the downstream side of the control structure should be utilized. This might include the use of pumps to pump water to the opposite side of the dam or allow water to flow over spillways, where practical, to provide flow in the downstream channel. This should be done at the discretion of the Superintendent Generation Operations or **Superintendent Civil Engineering**.
- 5.2.3 Turbines shall generally be operated at their best efficiency operating point unless heavy inflows necessitate operating the turbine at their maximum loading point to draw down the water storage system. Turbines may be operated at less than maximum efficiency point in situations where maintenance work, low inflows or abnormal situations require this.
- 5.2.4 In situations where a fire hydrant or hose system is connected to a Newfoundland Power penstock, the relevant Fire Department or Town Council shall be notified if maintenance work requires the penstock to be dewatered. Hydro plants with such fire systems are Mobile Plant, Tors Cove Plant and Pierre's Brook Plant (three fire hydrants are run off the penstock at Pierre's Brook Plant).
- 5.2.5 Newfoundland Power shall perform any operations to control structures such as: opening/closing of gates; removal of stoplogs; or excavation of temporary spill channels to reduce and/or eliminate the effects of flooding caused by natural forces. These operations will always be conducted with the best interests of the environment and local communities in mind.

Reservoir and Turbine Operating Procedures

Created By: L. Thompson

Reviewed By: G. Humby / B. Ryan

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Approved By: G. Humby

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- 5.2.6 Flow in tailraces shall be maintained by operating hydro plants regularly to ensure water flow for fish habitat. When plants are out of service for an extended period of time (i.e. one week or greater), flow compensation may be required. See section 5.1 of [POG100.12 – Storing and Controlling the Release of Water](#) for further details.
- 5.2.7 The water storage reservoir and forebay of each of the hydro plants are to be operated within the upper and lower operating elevations as listed in the [POG 100.03 Series – Reservoir and Turbine Operating Procedures](#). Care shall also be taken that the minimum storage elevation listed for the summer season shall also be maintained where possible.
- 5.2.8 While not always achievable, Newfoundland Power shall endeavour to operate their hydro plants in such a way as to eliminate the spilling of water over spillways. This non-regular or artificial flow may create fish habitat which will not then be continuously maintained.
- 5.2.9 Operations at hydro plants shall be carried out in a manner to minimize any negative impacts on public use of the water bodies. These public activities might include: fishing; boating; swimming; floatplane use; and tourism related activities.
- 5.2.10 All unit trips will be investigated on site, by an experienced and qualified employee, prior to any unit being restarted.
- 5.2.11 All plant specific operating procedures are found in the [POG 100.03 Series – Reservoir and Turbine Operating Procedures](#). These operating instructions are to be followed by both SCC staff and generation operations staff.
- 5.2.12 Generation operations and maintenance staff will, at all times, avoid and prevent release of deleterious substances into all waterways (i.e. reservoirs, channels, tailraces).



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Reservoir and Turbine Operating Procedures

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5.3 Public Communications

- 5.3.1 Where appropriate, information stemming from emergency situations shall be communicated to the public through the procedures contained within the [Emergency Preparedness and Response Procedure](#) for that particular power plant. The format of communications shall be as determined by the Manager responsible for Corporate Communications. For additional detailed procedures relating to communications with external parties see [OPR400.05 – Environmental Communications](#).
- 5.3.2 Specifics of operational changes shall be determined by the generation operating staff and reviewed in conjunction with operations staff in the field and at the SCC. The communication of this information should be performed in advance of the activity in so much as possible.
- 5.3.3 The **Supervisor(s), Generation Operations** shall communicate this information to the Superintendent, Generation Operations for a review of the situation in consultation with the Manager responsible for Generation. As a result of this review, a decision will be made as to whether the operational changes contemplated necessitate or require the communication of this information to the public.
- 5.3.4 The measure of whether the information necessitates communication to the public is whether or not the operational changes may have, or in the future could have, impacts in terms of the environment; public safety of residents; the fire fighting capabilities of area residents; water quality and availability; recreational activities in area affected; and other impacts on public activities.
- 5.3.5 This information would be communicated to the Manager responsible for Corporate Communications who would make a final decision on the presentation of the information and the form of communication required.

Reservoir and Turbine Operating Procedures

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- 5.3.6 The Manager responsible for Corporate Communications may require additional information from the **Supervisor(s), Generation Operations** in the form of an issue brief such that his/her group can speak about the subject at hand with a reasonable amount of knowledge and background information. It will be the responsibility of the **Supervisor(s), Generation Operations** to insure that this information gets collected and put together in a timely manner.
- 5.3.7 Where appropriate, notification shall be made to the respective Town Council when abnormal operating situations are required or when quality may be affected by the activities known to Newfoundland Power.
- 5.3.8 Unplanned emergency situations, which may have caused deterioration of water quality, shall be communicated to the respective communities through the Corporate Communications Department. Refer to [OPR400.05 – Environmental Communications](#) for additional information.

6.0 References

6.1 Reference Documents

- [OPR400.05 – Environmental Communications](#)
- [POG100.03 Series – Reservoir and Turbine Operating Procedures](#)
- [POG100.12 – Storing and Controlling the Release of Water](#)
- [Emergency Preparedness and Response Procedure](#)

6.2 Related Significant Aspects

- 750; 290; 720; 780

6.3 Legal and Other Requirements

- [Environmental Legal Requirements Application - Webster](#)

Reservoir and Turbine Operating Procedures

Created By: L. Thompson

Reviewed By: G. Humby / B. Ryan

Revised By: B. Hogan

Approved By: G. Humby

7.0 Records (refer to local Master Environmental Records List for record location)

- [Reservoir Elevation Data](#)
- [Operating Guidelines](#)
- [Rainfall Report \(daily\)](#)
- [Gate Opening Changes](#)

8.0 Glossary

Abbreviations

- **SCADA** – Supervisory Control and Data Acquisition
- **SCC** – System Control Centre

Best Efficiency Point – this is the operating point or wicket gate opening of the hydroelectric turbine which maximized the amount of energy that is produced for each unit of water consumed in the turbine.

Control Structure – refers to dams, dikes, overflow spillways, and other appurtenances that control the natural flow of waterways.

Flow Delay – refers to a time delay which is incurred for water to flow from one water storage reservoir to another reservoir. This delay will vary with the terrain and length of travel required.

Forebay – refers to the storage reservoir from which the water flows through the penstock to the turbines.

Frazil Ice – formed at intake structures during cold weather when high water velocities create vacuum conditions and aid in the creation of ice which blocks trash racks.

Reservoir and Turbine Operating Procedures

Created By: L. Thompson

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Gate – steel or wooden bulkhead mounted within vertical tracks which may be raised or lowered to allow water to pass through an intake or control structure. Gates are typically raised or lowered using a manually operated threaded stem hoist, or by an electric motor and worm gear combination. In a few instances these gates are operable from the respective power plant (i.e. Amy's Lake Structure at Rattling Brook Plant).

Intake Structure – refers to a dam or dike in which the gate and penstock are installed to supply water to the hydroelectric turbine.

Maximum Load Point – this is the operating point where the maximum amount of electrical capacity is produced. This usually corresponds to the 100% wicket gate opening on the turbine.

Penstock – the pipe or conduit through which the water flows through to reach the hydroelectric turbine. Penstocks may be either of woodstave construction, welded steel construction, and buried fiberglass construction.

SCADA – refers to the Supervisory Control and Data Acquisition system which controls, through telecommunications systems, the power plants and substation equipment across the Newfoundland Power system.

System Control Centre – the facility located on Topsail Road in St. John's where the electrical system is operated remotely using SCADA and telecommunications technology.

Water Level Control System – a microprocessor based system which automatically cycles the hydroelectric turbines on and off based upon the forebay elevation to maximize the amount of energy produced and to minimize the amount of water spilled out of the system.

Watershed – land area which, due to its topography and terrain, will drain rainwater into ponds, lakes or reservoirs. Each hydroelectric development has a watershed associated with it, although several hydroelectric sites may share the same watershed area (i.e. Horsechops and Cape Broyle Plants).



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Pierre's Brook Operating Procedures

Created By: L. Thompson

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UNIT LOADING								
Unit	Best Efficiency			Maximum Load			Rough Zone	
	Load (kW)	Flow (m ³ /s)	Eff. (kW/m ³ /s)	Load (kW)	Flow (m ³ /s)	Eff. (kW/m ³ /s)	Minimum	Maximum
#1	3400	5.09	668	4300	6.54	657.5	1200	2500

FOREBAY OPERATING ELEVATIONS (Ft.)			
	Upper	Lower	Trip Level
Gull Pond (Forebay)	384.0	382.0	375.5

STORAGE ELEVATION LIMITS (Ft.)			
	Upper	Lower (normal)	Lower (summer)
Gull Pond (Forebay)	385.1	370.0	382.7
Big Country Pond	525.6	510.0	-
West Country Pond	474.6	457.0	-

- Lower summer elevation is a minimum that the reservoir will operate at between June 15 and September 15 under normal conditions.
- Gull Pond maximum storage elevation without stoplogs in place is 384.0 feet.

Flow Delay

- Big Country to Gull Pond: 4 hours
- West Country to Gull Pond: 2 hours



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Pierre's Brook Operating Procedures

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Revised By: B. Hogan

Approved By: G. Humby

-
1. Inflows are such that this plant is in operation 75% to 80% of the time.
 2. Operate unit at best efficiency unless heavy inflows are predicted or under extremely low inflow conditions.
 3. Prior to spring runoff, Gull Pond elevation should be lowered to the minimum.
 4. Big Country Pond gate usually kept at 3 to 5 inches in summer and West Country Pond gate kept at 3 inches in the summer.
 5. Flow to be maintained to the tailrace and Lower Pond for at least two (2) hours per day for fisheries. If the plant has to be off for more than 24 hours, an alternate method of providing flow should be established.
 6. West Country Pond spills out of the system.
 7. Fish plant is fed from the penstock. The fish plant management will be notified, where possible, in advance of penstock dewatering such that they can procure alternate water sources or plan shut-down's at the fish plant (24 - 48 hour notice minimum).
 8. All gates to be left open a minimum of 1 inch to maintain flow for fisheries. If gate has to be closed, an alternate method of maintaining flow must be established.
 9. During cold weather, shut down the plant and let the forebay freeze over to prevent frazil ice formation on the trash racks.
 10. Operate plant at full load when storage is above 68% full supply.



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Pierre’s Brook Operating Procedures

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11. During cold weather conditions it may be necessary to reduce the load at Pierre’s Brook to 1000 kW for 5 minutes to avoid surge tank freeze up. Guidelines for the frequency of variation are:

Temperature	Frequency
-10 C to -20 C	4 hours
Below -20 C	2 hours

12. Water level readings are observed by field operations staff using the following reference benchmarks:

Reservoir	Reference	Elevation
Gull Pond (Forebay)	Top of Stoplogs (height of logs = 1.0 feet)	385.1 feet
Big Country Pond	Spillway Sill	525.6 feet
West Country Pond	Top of Stoplogs (height of logs – 2.6 feet)	474.6 feet



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Mobile/Morris Operating Procedures

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UNIT LOADING								
Unit	Best Efficiency			Maximum Load			Rough Zone	
	Load (kW)	Flow (m ³ /s)	Eff. (kW/m ³ /s)	Load (kW)	Flow (m ³ /s)	Eff. (kW/m ³ /s)	Minimum	Maximum
Morris	1080	4.61	234.3	1135	5.12	221.7	600	780
Mobile	10,130	10.13	1000	10,400	10.40	1000	2000	4000

Full load at Mobile Plant is limited to 10,400 kW.

FOREBAY OPERATING ELEVATIONS (Ft.)			
	Upper	Lower	Trip Level
Morris Forebay	179.77	178.25	177.25
Mobile Forebay – Dry Season	493.7	493.0	490.5
Mobile Forebay – Wet Season (Mar, Apr) (Oct, Nov, Dec)	493.7	492.5	490.5

STORAGE ELEVATION LIMITS (Ft.)			
	Upper	Lower (normal)	Lower (summer)
Mobile Forebay	494.0	491.0	-
Mobile Big Pond	612.0	590.0	-

- Summer elevation is a minimum that the reservoir will operate at between June 15 and September 15 under normal conditions.
- Mobile forebay maximum storage elevation without stoplogs in place is 492.0 feet.
- Mobile forebay is normally operated with 2.0 foot stoplogs in place (494.0 feet).
- Mobile Big Pond maximum storage elevation without stoplogs in place is 607.5 feet.



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Mobile/Morris Operating Procedures

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Revised By: T. Hynes

Approved By: G. Humby

-
1. Morris Plant should be operated at best efficiency 24 hours per day. This will allow about 12 to 14 hours operation at Mobile Plant depending upon inflows. Morris Plant should be operated at full load when Mobile Big Pond elevation is above 604.3 feet. If Mobile Plant is out of service, Morris Plant may be shut down as well.
 2. Morris canal is prone to a lot of trash during the summer and fall (leaves, grass, etc.). Frazil ice can become a problem when it gets colder. As a result, load may need to be reduced to about 900 kW if trips due to blocked trash racks become common. In addition, the plant will have to be shut down if a cold day is forecasted as the canal can ice over. This will prevent the frazil ice problem.
 3. All gates to be left open a minimum of 1 inch to maintain flow for fisheries. If gate has to be closed, an alternate method of maintaining flow must be established.
 4. Wet season is generally October through December, and March through April. Use operating elevations as required to maintain approximately 10 to 12 hours operation per day at the Mobile plant.
 5. Operate unit every 4 hours to prevent water lines from freezing when temperature falls below -8 degrees Celsius.
 6. The penstock at the Mobile Plant supplies water pressure to a fire hose connected inside a red box on the exterior of the Mobile powerhouse. The Witless Bay Fire Department and Town Council of Mobile shall be notified each time the penstock will be dewatered. Sufficient warning shall be given in order that alternate provisions for water may be made.
 7. During cold weather conditions it may be necessary to vary the load at Mobile Plant by 4000 kW for 5 minutes to avoid surge tank freeze up. Guidelines for the frequency of variation are:

Temperature	Frequency
-10 C to -20 C	4 hours
Below -20 C	2 hours



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Rocky Pond/Tors Cove Operating Procedures

Created By: L. Thompson
Revised By: D. Ball

Reviewed By: G. Humby / B. Ryan
Approved By: G. Humby

UNIT LOADING								
Unit	Best Efficiency			Maximum Load			Rough Zone	
	Load (kW)	Flow (m ³ /s)	Eff. (kW/m ³ /s)	Load (kW)	Flow (m ³ /s)	Eff. (kW/m ³ /s)	Minimum	Maximum
Rocky Pond	3100	10.57	293.3	3250	11.37	285.8	1200	1500
Tors Cove #1	1930	4.44	434.7	2410	5.88	409.9	800	1300
Tors Cove #2	2100	4.65	451.6	2400	5.71	420.3	800	1300
Tors Cove #3	2330	5.46	426.7	2530	6.14	412.1	800	1300

Full load on Tors Cove with all machines on is 6500 kW.

TORS COVE NORMAL WATER MANAGEMENT ELEVATIONS (Ft.)			
Level (Feet)	G1 Load	G2 Load	G3 Load
Below 283	Shutdown	Shutdown	Shutdown
283 to 283.5	Shutdown	Efficient Loading Waiting to Auto Start	Shutdown
283.5 to 285	Shutdown	Efficient Loading Waiting to Auto Start	Efficient Loading Waiting to Auto Start
285 to 285.5	Shutdown	Efficient Loading	Efficient Loading Waiting to Auto Start
285.5 to 286	Shutdown	Efficient Loading	Efficient Loading
Above 286	Efficient/Peak Loading	Peak Loading	Peak Loading

ROCKY POND NORMAL WATER MANAGEMENT ELEVATIONS (Ft)	
Level (Feet)	G1
Below 399	Shut Down
399 to 401	Efficient Loading Waiting To Auto Start
401 to 401.5	Efficient Loading
Above 401.5	Peak Loading



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Rocky Pond/Tors Cove Operating Procedures

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Revised By: D. Ball

Approved By: G. Humby

TORS COVE NORMAL WATER MANAGEMENT START AND SHUTDOWN LEVEL (Ft)			
	G1	G2	G3
Auto Shutdown	NA	283.0	283.5
Auto Start	NA	285.0	285.5

ROCKY POND NORMAL WATER MANAGEMENT START AND SHUTDOWN LEVEL (Ft)	
	G1
Auto Shutdown	399.0
Auto Start	401.0

STORAGE ELEVATION LIMITS (Ft.)			
	Upper	Lower (normal)	Lower (summer)
Tors Cove Forebay	286.0	269.0	283.0
Rocky Pond Forebay	401.7	393.0	-
Cape Pond	590.0	577.4	-
Franks Pond	655.6	646.3	-

- Tors Cove forebay is operated within a target range of 283.0 to 283.5 during the summer period (June 15 to September 15) under normal conditions.

Flow Delay

- Franks Pond to Cape Pond: 24 hours
- Cape Pond to Rocky Pond: 24 hours



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Rocky Pond/Tors Cove Operating Procedures

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Revised By: D. Ball

Approved By: G. Humby

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1. Operate Rocky Pond Plant at best efficiency and Tors Cove Unit #2 at best efficiency when inflows are minimal. As inflows increase, operate Rocky Pond Plant at maximum load, Tors Cove Unit #2 at maximum and Tors Cove Unit #3 at best efficiency or maximum load as required. Tors Cove Unit #1 is not automated and should be operated in times of very high inflows only or if other units are not in service.
 2. Maintain forebay elevation limits at Tors Cove by either cycling Unit #2 between best efficiency and maximum load or having Unit #2 at maximum load and cycling Unit #3 on and off at best efficiency.
 3. There is a restriction in the LaManche canal which only permits enough water to reach Rocky Pond to allow about 16 hours of operation per day. This should occur at best efficiency unless inflows from Butlers Pond are high (rainstorm).
 4. In the event of a predicted heavy inflow, the gate at Cape Pond feeding the canal should be closed to minimum as the flow from Butlers Pond is not controlled and inflow from Butlers Pond could overtop the canal. The Rocky Pond forebay elevation can be drawn down to as low as 396 feet should an extended rainstorm be forecast by operating at full load with the canal gate closed.
 5. Prior to spring runoff, keep Rocky Pond forebay elevation at 398 feet and Tors Cove Pond forebay elevation at 282 feet.
 6. The canal between Cape Pond and Rocky Pond has 7 spillways and they all spill out of the system. A gate opening of 20 inches at the Cape Pond gate will typically keep the canal full without spill. The uncontrolled flow from Butlers Pond causes most of the canal spills.
 7. Franks Pond gate should be positioned with a 12-inch height of opening, under normal operating conditions. Franks Pond spills out of the system.
 8. A fish plant is fed from the Tors Cove penstock. The fish plant management will be notified, where possible, in advance of penstock dewatering, such that they can procure alternate water sources, or plan shut-downs at the fish plant (if the fish plant is in operation).



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Rocky Pond/Tors Cove Operating Procedures

Created By: L. Thompson

Reviewed By: G. Humby / B. Ryan

Revised By: D. Ball

Approved By: G. Humby

-
9. All gates to be left open a minimum of 1 inch to maintain flow for fisheries. If gate has to be closed, an alternate method of maintaining flow must be established.
10. During cold weather conditions it may be necessary to vary the load at Tors Cove by 2000 kW for 5 minutes to avoid surge tank freeze up. Guidelines for the frequency of variation are:

Temperature	Frequency
-10 C to -20 C	4 hours
Below -20 C	2 hours

11. Water level readings at Rocky Pond/Tors Cove are observed by field operations staff using the following reference benchmarks:

Reservoir	Reference	Elevation
Tors Cove Pond	Concrete Spillway Sill	286.0 feet
Rocky Pond	Concrete Spillway Sill	401.7 feet
Cape Pond	Concrete Spillway Sill	590.0 feet
Franks Pond	Timber Spillway Sill	655.6 feet



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Horsechops/Cape Broyle Operating Procedures

Created By: L. Thompson

Reviewed By: G. Humby / B. Ryan

Revised By: T. Hynes/J. Williams

Approved By: G. Humby

UNIT LOADING										
Unit	Best Efficiency				Maximum Load				Rough Zone	
	Load (kW)	Gate Limit (%)	Flow (m ³ /s)	Eff. (kW/m ³ /s)	Load (kW)	Gate Limit (%)	Flow (m ³ /s)	Eff. (kW/m ³ /s)	Min	Max
Horsechops	7520	90	10.05	748.3	8130	100	11.30	719.5	3000	5000
Cape Broyle	5300	76.5	11.46	462.5	6280	100	14.05	447.0	2000	4000

CAPE BROYLE NORMAL WATER MANAGEMENT ELEVATIONS (Ft.)		
Level (Feet)	Normal Inflow	Spring Inflow
Below 282.0	Unit Will Not Start	Unit Will Not Start
Below 284.0	Shut Down	Shut Down
284.0 to 285.0	Shut Down	Efficient Loading Waiting To Auto Start
285.0 to 285.5	Shut Down	Efficient Loading
285.5 to 286.0	Shut Down	Peak Loading
286.0 to 286.5	Efficient Loading Waiting To Auto Start	Peak Loading
286.5 to 287.0	Efficient Loading	Peak Loading
Above 287.0	Peak Loading	Peak Loading

HORSECHOPS NORMAL WATER MANAGEMENT ELEVATIONS (Ft.)		
Level (Feet)	Normal Inflow	Spring Inflow
Below 575.0	Unit Will Not Start	Unit Will Not Start
Below 575.5	Shut Down	Shut Down
575.5 to 576.5	Efficient Loading Waiting To Auto Start	Shut Down
576.5 to 577.0	Efficient Loading Waiting To Auto Start	Efficient Loading Waiting To Auto Start
577.0 to 577.5	Efficient Loading	Efficient Loading
Above 577.5	Peak Loading	Peak Loading



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Horsechops/Cape Broyle Operating Procedures

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Reviewed By: G. Humby / B. Ryan

Revised By: T. Hynes/J. Williams

Approved By: G. Humby

NORMAL WATER MANAGEMENT START AND SHUTDOWN LEVEL (Ft)				
	Cape Broyle		Horsechops	
	Normal Inflow	Low Inflow	Normal Inflow	Low Inflow
Auto Shutdown	286.0	284.0	575.5	576.5
Auto Start	286.5	285.0	577.0	577.0

STORAGE ELEVATION LIMITS (Ft.)			
	Upper	Lower (normal)	Lower (summer)
Cape Broyle Forebay	288.0	276.0	286.0
Horsechops Forebay	578.5	575.5	-
Mount Carmel Pond	614.7	592.2	-
Blackwoods Pond	729.0	724.5	-
Northwest Pond	729.3	725.5	-

- Summer elevation is a minimum that the reservoir will be operated at between June 15 and September 15 under normal conditions.
- Cape Broyle forebay maximum storage elevation without stop-logs in place is 284.5 feet.

Flow Delay

- Blackwoods Pond to Mount Carmel Pond: 24 hours
- Mount Carmel Pond to Horsechops forebay: 12 hours



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Horsechops/Cape Broyle Operating Procedures

Created By: L. Thompson

Reviewed By: G. Humby / B. Ryan

Revised By: T. Hynes/J. Williams

Approved By: G. Humby

1. Operate Horsechops Plant at best efficiency unless spill will occur. Cape Broyle Plant will have to operate for 20 hours for every 24 hours that Horsechops Plant operates in order to keep the Cape Broyle forebay constant with little inflow to Cape Broyle Pond.
2. Need to keep water flowing from Mount Carmel Pond in winter to prevent the canal from freezing up.
3. Prior to spring runoff, Cape Broyle Pond should be lowered to 284 feet. Placing the unit in "Spring In-Flow" would accomplish this.
4. Both hydro plants tend to experience low water trips when weather turns colder because of frazil ice. Best to shut both plants on a cold day to let the forebay ice over.
5. Northwest Pond does not have an outlet gate structure.
6. Fourth Blackwoods Pond canal stoplog structure to be left open under normal operating conditions.
7. Northwest Pond, Ragged Hills Pond, Blackwoods Pond, and Fly Pond all spill out of the system. To minimize spill out of the system in the event of major inflows, logs shall be removed at Horsechops spillway and allow the system to spill at Horsechops so the water can be used at Cape Broyle Plant.
8. All gates to be left open a minimum of 1 inch to maintain flow for fisheries. If gate has to be closed, an alternate method of maintaining flow must be established.
9. Mount Carmel Pond elevation should be maintained at approximately 600.0 feet.
10. During cold weather conditions it may be necessary to vary the load at Horsechops by 3000 kW for 5 minutes to avoid surge tank freeze up. Guidelines for the frequency of variation are:

Temperature	Frequency
-10 C to -20 C	4 hours
Below -20 C	2 hours



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Horsechops/Cape Broyle Operating Procedures

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Revised By: T. Hynes/J. Williams

Approved By: G. Humby

-
11. The units can be operated below the water management shutdown setpoint, but the control of the unit should be placed in "Load Control" or operated in "Local Manual" at the plant. The unit will shut down and not start when the water level reaches the "Block From Starting Level" (282.0 for Cape Broyle and 575.0 for Horsechops).



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Petty Harbour Operating Procedures

Created By: L. Thompson

Reviewed By: G. Humby / B. Ryan

Revised By: J. Williams

Approved By: G. Humby

UNIT LOADING										
Unit	Best Efficiency				Maximum Load				Rough Zone	
	Load (kW)	Gate Limit (%)	Flow (m ³ /s)	Eff. (kW/m ³ /s)	Load (kW)	Gate Limit (%)	Flow (m ³ /s)	Eff. (kW/m ³ /s)	Minimum	Maximum
#1	1300		-	-	1450		-	-	None	None
#2	1050	80	2.09	502.4	1350	100	2.93	499.3	None	None
#3	2000	85	3.99	501.2	2505	100	5.12	489.2	1250	1900

NORMAL WATER MANAGEMENT ELEVATIONS (Ft.)				
Level (Feet)	G2 Normal Inflow	G2 Low Inflow	G3 Normal Inflow	G3 Low Inflow
Below 298	Shut Down	Shut Down	Shut Down	Shut Down
298 to 299	Efficient Loading Waiting To Auto Start	Shut Down	Shut Down	Shut Down
299 to 300	Efficient Loading Waiting To Auto Start	Shut Down	Shut Down	Shut Down
300 to 301	Efficient Loading	Peak Loading Waiting To Auto Start	Efficient Loading Waiting To Auto Start	Shut Down
301 to 302	Peak Loading	Peak Loading Waiting To Auto Start	Peak Loading	Peak Loading
Above 302	Peak Loading	Peak Loading	Peak Loading	Peak Loading

NORMAL WATER MANAGEMENT START AND SHUTDOWN LEVEL (Ft)				
	G2 Normal Inflow	G2 Low Inflow	G3 Normal Inflow	G3 Low Inflow
Auto Shutdown	298	300	299	301
Auto Start	300	302	300.5	302.3



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Petty Harbour Operating Procedures

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Revised By: J. Williams

Approved By: G. Humby

STORAGE ELEVATION LIMITS (Ft.)			
	Upper	Lower	Summer
Petty Harbour Forebay	303.0	296.0	300.0
Bay Bulls – Big Pond	507.0	483.0	
Cochrane Pond	4.0	0.0	-

- Summer elevation is a minimum that the reservoir will operate at between June 15 and September 15 under normal conditions.
- Petty Harbour forebay SCADA goes to 297.3 feet, but elevation can go as low as 296 feet.

Flow Delay

- Bay Bulls Big Pond to Petty Harbour Forebay: 10 hours



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Petty Harbour Operating Procedures

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Revised By: J. Williams

Approved By: G. Humby

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1. Depending on inflow, use Unit #3 or Unit #2 at best efficiency. For higher inflows, use Unit #3 at best efficiency and Unit #2 at maximum load. For much higher inflows, use Unit #3 and Unit #2 at maximum load and bring on Unit #1 at best efficiency or maximum load as required. Unit #1 is not automated and shall be placed on line when forebay elevation is above 301.5 feet.
 2. Set unit operation to maintain constant forebay elevation under normal conditions.
 3. Newfoundland Power is working with the Department of Fisheries and Oceans and the City of St. John's to establish the minimum inflows required for fisheries purposes from Bay Bulls Big Pond gate. At all times, Newfoundland Power will operate the gate at Bay Bulls Big Pond considering this process.
 4. Minimum flow determination may result in higher than normal water levels in Bay Bulls Big Pond. Care to be taken by dam operators and supervisors that dam safety and flood reduction is first and foremost.
 5. In case of a predicted heavy inflow, drain the forebay as much as possible prior to the start of the rainstorm. Bay Bulls Big Pond should be closed to minimum gate.
 6. If Bay Bulls Big Pond gate is to be opened, the opening process should be gradual to prevent downstream flooding (maximum 32 inches).
 7. All gates to be left open a minimum of 1 inch to maintain flow for fisheries or whatever minimum is ultimately deemed appropriate by regulatory bodies. If gate has to be closed, an alternate method of maintaining flow must be established.
 8. Cochrane Pond spills into Topsail Plant System (Paddy's Pond).
 9. Bay Bulls Big Pond is a municipal water supply used by the St. John's Region.



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Petty Harbour Operating Procedures

Created By: L. Thompson

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Approved By: G. Humby

-
10. This System has a large drainage area, and during rainfall, the Petty Harbour forebay rises extremely quickly.
 11. **If operating at efficient load and** the forebay elevation exceeds the upper operating elevation, increase output to full load.



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Topsail Operating Procedures

Created By: L. Thompson
Revised By: G. Whitty

Reviewed By: G. Humby / B. Ryan
Approved By: G. Humby

UNIT LOADING										
Unit	Best Efficiency				Maximum Load				Rough Zone	
	Load (kW)	Gate Limit (%)	Flow (m ³ /s)	Eff. (kW/m ³ /s)	Load (kW)	Gate Limit (%)	Flow (m ³ /s)	Eff. (kW/m ³ /s)	Min.	Max.
#1	2230	72	2.97	757.6	2550	80	3.43	743.4	1100	2000

NORMAL WATER MANAGEMENT ELEVATIONS (Ft.) (TOPSAIL POND LEVEL)		
Level (Feet)	G1 Normal Inflow	G1 Low Inflow
Below 6.2	Shut Down	Shut Down
6.2 to 6.8	Efficient Loading	Shut Down
6.8 to 7.2	Efficient Loading	Efficient Loading
Above 7.2	Peak Loading	Peak Loading

NORMAL WATER MANAGEMNT START AND SHUTDOWN LEVEL (Ft) (TOPSAIL POND LEVEL)		
	G1 Normal Inflow	G2 Low Inflow (summer)
Auto Shutdown	6.2	6.4
Auto Start	7.2	7.2



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Topsail Operating Procedures

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Revised By: G. Whitty

Approved By: G. Humby

STORAGE ELEVATION LIMITS (Ft.)			
	Upper	Lower (normal)	Lower (summer)
Topsail Pond (pond level)	7.3	5.0	6.5
Three Island Pond	5.9	2.0	4.5
Three Arm Pond	5.0	2.0	2.0
Paddy's Pond	7.0	2.5	6.0
Thomas Pond	14.5	6.0	6.0

- Summer elevation is a minimum that the reservoir will be operated at between May 15 and October 15 under normal conditions. If we need to reduce pond level further in summer mode, Superintendent Generation Operations or designate must be contacted to notify home owners in advance.

Flow Delay

- Thomas Pond to Paddy's Pond: 8 hours
- Paddy's Pond to Three Arm Pond: 2 hours
- Three Arm Pond to Three Island Pond: 2 hours

1. Operate Topsail Plant at best efficiency unless risk of spilling.
2. Elevation shown on SCADA is of the Topsail forebay.
3. Usual operation is to fill Three Arm Pond and allow to spill into Three Island Pond. When Three Island Pond fills, run Topsail Plant for a day or two until the Three Island Pond elevation reaches 3 feet. Topsail Plant is then shut until Three Island Pond fills up again.
4. In the event of a predicted rainstorm, the gate at Thomas Pond and Paddy's Pond should be closed to the minimum. Three Island Pond gate should be opened and Topsail Plant operated to get as much water out of the system as possible before the storm.
5. Thomas Pond and Paddy's Pond spill out of the system. Cochrane Pond, from the Petty Harbour system, spills into Paddy's Pond.



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Topsail Operating Procedures

Created By: L. Thompson

Reviewed By: G. Humby / B. Ryan

Revised By: G. Whitty

Approved By: G. Humby

-
6. All gates to be left open a minimum of 1inch to maintain flow for fisheries. If gate has to be closed, an alternate method of maintaining flow must be established.
 7. Paddy's Pond elevation should be no lower than 6.0 feet during summer months to accommodate float plane operations. If the elevation falls below 6.0 feet for any reason, contact Ray Hawco with the Avalon Float Plane Association. Contact information:

Ray Hawco
29 Sunset Drive
Goulds, NL
364-2855



Bulletin Number: POG100.03.08

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Seal Cove Operating Procedures

Created By: L. Thompson
Revised By: G. Whitty

Reviewed By: G. Humby / B. Ryan
Approved By: G. Humby

UNIT LOADING										
Unit	Best Efficiency				Maximum Load				Rough Zone	
	Load (kW)	Gate Limit (%)	Flow (m ³ /s)	Eff. (kW/m ³ /s)	Load (kW)	Gate Limit (%)	Flow (m ³ /s)	Eff. (kW/m ³ /s)	Min	Max
#1	980	74	2.42	405	980	74	2.42	405	None	None
#2	2200	85	5.35	411	2450	100	5.68	399	1200	1200

PARTIAL UNIT LOADING				
Unit	Load (kW)	Gate Limit (%)	Flow (m ³ /s)	Eff. (kW/m ³ /s)
#1	240	20	0.9	201
#2	N/A	N/A	N/A	N/A

NORMAL WATERMANAGEMENT START AND SHUTDOWN LEVEL (Ft)		
	G1	G2
Auto Shutdown	6.2	7.0
Auto Start	7.0	8.0



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Seal Cove Operating Procedures

Created By: L. Thompson

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Revised By: G. Whitty

Approved By: G. Humby

NORMAL WATER MANAGEMENT ELEVATIONS (Ft.)		
Level (Feet)	G1 Load	G2 Load
Below 6.2	Shut Down	Shut Down
6.2 to 6.7	Partial Loading Waiting To Auto Start	Shut Down
6.7 to 7.0	Efficient Loading Waiting To Auto Start	Shut Down
7.0 to 8.0	Efficient Loading	Efficient Loading Waiting To Auto Start
8.0 to 8.2	Efficient Loading	Efficient Loading
Above 8.2	Peak Loading	Peak Loading

STORAGE ELEVATION LIMITS (Ft.)			
	Upper	Lower	Summer
Seal Cove Forebay	8.3	6.4	-
Fenelons Pond	16.0 (see note 6)	2.0	-
Soldiers Pond	10.3	1.3	-

- Summer elevation is a minimum that the reservoir will operate at between June 15 and September 15 under normal conditions.

Flow Delay

- Fenelons Pond to Seal Cove Forebay 18 hours
- Soldiers Pond to Seal Cove Forebay 18 hours



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Seal Cove Operating Procedures

Created By: L. Thompson

Reviewed By: G. Humby / B. Ryan

Revised By: G. Whitty

Approved By: G. Humby

-
1. Units at Seal Cove Plant are equipped with automatic water level controls. This type of control drops the unit load in proportion to the forebay water level and can be activated remotely.
 2. In the event of a predicted rainstorm, the gates at Fenelons Pond and Soldiers Pond should be closed quickly as possible as there is only 3 to 4 hours lead-time to do so. The water level control system should be blocked and the units run at full load to lower the forebay elevation as much as possible prior to the storm.
 3. Soldiers Pond spills out of the system.
 4. All gates to be left open a minimum of 1 inch to maintain flow for fisheries. If gate has to be closed, an alternate method of maintaining flow must be established.
 5. Inform staff at Butterpot Park of any significant changes to Fenelons Pond gate openings, both summer and winter, as it affects the swimming area in summer and cross country skiing in winter. Whenever practical, gate adjustments should be made early in the week in an effort to minimize impacts on weekend park activity.
 6. Fenelons Pond spillway sill is at elevation 16.0 feet.
 7. Fisheries Flow Compensation Valve operated in 35% open position ($\sim 0.25 \text{ m}^3/\text{s}$) when generating units are not operating as a means of providing minimum flows in the tailrace. If elevation continue to decrease due to extreme low inflows, the valve will be partially closed to the 25% position in an effort to match system inflow conditions. When water levels are below 4.01 feet, the valve shall be required to operate in the manual position.



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Seal Cove Operating Procedures

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Revised By: G. Whitty

Approved By: G. Humby

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8. Water level readings at Seal Cove are observed by field operations staff using the following reference benchmarks:

Reservoir	Reference and Elevation
Seal Cove Forebay	Concrete Spillway Sill is equal to 8.4 feet
Fenelons Pond	Reference staff gauge located at outlet structure
Soldiers Pond	Reference staff gauge located at outlet structure



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Heart's Content Operating Procedures

Created By: L. Thompson

Reviewed By: G. Humby / B. Ryan

Revised By: D. Ball

Approved By: G. Humby

UNIT LOADING								
Unit	Best Efficiency			Maximum Load			Rough Zone	
	Load (kW)	Flow (m ³ /s)	Eff. (kW/m ³ /s)	Load (kW)	Flow (m ³ /s)	Eff. (kW/m ³ /s)	Minimum	Maximum
#1	2550	6.79	375.6	2720	7.65	355.6	810	2600

- To be calculated based on index testing.

FOREBAY OPERATING ELEVATIONS (Ft.)					
	May - September		Trip Level	October - April	
	Upper	Lower		Upper	Lower
Hearts Content Forebay	5.8	4.4	3.8	5.8	4.4

STORAGE ELEVATION LIMITS (Ft.)			
	Upper	Lower	Summer
Hearts Content Forebay	6.2	3.8	-
Long Pond	7.7	1.0	-
Seal Cove Pond	7.0	1.0	-

- Summer elevation is a minimum that the reservoir will operate at between June 15 and September 15 under normal conditions.



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Heart's Content Operating Procedures

Created By: L. Thompson

Reviewed By: G. Humby / B. Ryan

Revised By: D. Ball

Approved By: G. Humby

1. Operate Heart's Content Plant at best efficiency unless there is risk of spill.
2. Hearts Content Plant is essentially a run of river plant with very little storage. The unit typically has to be cycled on and off to allow the forebay to refill.
3. If a heavy rainfall is predicted, the gate at Long Pond should be closed to minimum opening and the unit operated at full load to lower the forebay elevation. Keep unit at full load during rainfall.
4. Gate at Long Pond is usually full open, under normal operating conditions.
5. Seal Cove Pond and forebay spill out of system.
6. All gates to be left open a minimum of 1 inch to maintain flow for fisheries. If gate has to be closed, an alternate method of maintaining flow should be established.
7. Water level readings at Hearts Content are observed by field operations staff using the following reference benchmarks:

Reservoir	Reference	Elevation
Hearts Content Forebay	Spillway Sill	6.2 feet
Long Pond	Spillway Sill	7.7 feet
Seal Cove Pond	Spillway Sill	7.0 feet



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Pittman's Pond/New Chelsea Operating Procedures

Created By: L. Thompson

Reviewed By: G. Humby / B. Ryan

Revised By: J. Williams

Approved By: G. Humby

UNIT LOADING										
Unit	Best Efficiency				Maximum Load				Rough Zone	
	Load (kW)	Gate Limit (%)	Flow (m ³ /s)	Eff. (kW/m ³ /s)	Load (kW)	Gate Limit (%)	Flow (m ³ /s)	Eff. (kW/m ³ /s)	Min	Max
Pittman's	610	N/A	3.51	173.8	625	N/A	3.64	171.7	None	None
New Chelsea	3400	85	5.26	646.4	3700	100	5.86	631.4	1500	1800

NORMAL WATERMANEMNT START AND SHUTDOWN LEVEL (Ft)	
	NEW CHELSEA
Auto Shutdown	288.5
Auto Start	289.5

NORMAL WATER MANAGEMENT ELEVATIONS (Ft.)	
Level (Feet)	NEW CHELSEA
Below 288.5	Shut Down
288.5 to 289.5	Efficient Loading Waiting To Auto Start
Above 289.6	Peak Loading

STORAGE ELEVATION LIMITS (Ft.)			
	Upper	Lower	Summer
Pittman's Forebay	367.0	353.0	-
New Chelsea Forebay	290.0	285.0	-

- Summer elevation is a minimum that the reservoir will operate at between June 15 and September 15 under normal conditions.



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Page 2 of 2

Pittman's Pond/New Chelsea Operating Procedures

Created By: L. Thompson

Reviewed By: G. Humby / B. Ryan

Revised By: J. Williams

Approved By: G. Humby

-
1. Operate Pittman's Plant at best efficiency or full load to maintain level for New Chelsea forebay within its operating range.
 2. During heavy inflows, keep Pittman's Plant at best efficiency or shut off. Operate New Chelsea Plant at full load only as long a forebay elevation is increasing, then back off to best efficiency.
 3. All gates to be left open a minimum of 1inch to maintain flow for fisheries. If gate has to be closed, an alternate method of maintaining flow should be established.
 4. Pittman's Pond forebay elevation should be operated no lower than 353.0 feet to ensure adequate submergence over the intake.
 5. To compensate for the loss of fish habitat associated with the construction and operation of the Moose Pond Diversion Dyke, compensation and monitoring measures shall be carried out as outlined in the following agreements:
 - ["Fish Habitat Compensation Agreement – Moose Pond Diversion Dyke Project"](#), dated August 29, 1997
 - ["Agreement to Amend Fish Habitat Compensation Agreement – Moose Pond Diversion Dyke Project"](#), dated October 5, 2001

It is the responsibility of Superintendent, **Civil Engineering** to ensure that the field investigations and assessments are completed as outlined in the Monitoring Program, and subsequent reports are submitted to Fisheries and Oceans Canada (DFO) in accordance with the conditions of the Agreement



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Page 1 of 2

Victoria Operating Procedures

Created By: L. Thompson

Reviewed By: G. Humby / B. Ryan

Revised By: J. Curran

Approved By: G. Humby

UNIT LOADING								
Unit	Best Efficiency			Maximum Load			Rough Zone	
	Load (kW)	Flow (m ³ /s)	Eff. (kW/m ³ /s)	Load (kW)	Flow (m ³ /s)	Eff. (kW/m ³ /s)	Minimum	Maximum
#1	420			550			None	None

FOREBAY OPERATING ELEVATIONS (Ft.)			
	Upper	Lower	Trip Level
Blue Hill Pond	3.87	2.87	2.5

STORAGE ELEVATION LIMITS (Ft.)			
	Upper	Lower (normal)	Lower (winter)
Rocky Pond	21.8	9.0	11.0

- Summer elevation is a minimum that the reservoir will operate at between June 15 and September 15 under normal conditions.
- Blue Hill Pond maximum storage elevation without stoplogs in place is 4.0 feet.



Bulletin Number: POG100.03.11

Date Issued: 1999 08 18

Date Revised: 2007 08 09

Date Reviewed: 2013 07 29

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Victoria Operating Procedures

Created By: L. Thompson

Reviewed By: G. Humby / B. Ryan

Revised By: J. Curran

Approved By: G. Humby

-
1. Victoria Plant is equipped with water level control which cycles the unit between just below best efficiency and full load depending upon the forebay elevation.
 2. Rocky Pond is the only storage in the system. The outlet gate is adjusted to maintain flow to the forebay.
 3. Rocky Pond is used by the town of Victoria as the municipal water supply so a minimum elevation of 9.0 feet must be maintained in normal conditions to provide 3.0 feet of water over the water supply intake. Furthermore, a minimum elevation of 11.0 feet is maintained during winter months (i.e. December 1 to March 31) due to the effects of ice cover in the reservoir.
 4. Rocky Pond gate to be left open a minimum of 1 inch to maintain flow for fisheries. If gate has to be closed, an alternate method of maintain flow should be established.
 5. Water level readings at Victoria are observed by field operations staff using the following reference benchmarks:

Reservoir	Reference	Elevation
Blue Hill Pond	Concrete Spillway Sill	4.0 feet
Rocky Pond	Concrete Spillway Sill	21.8 feet



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Date Issued: 1999 08 18

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Page 1 of 2

Fall Pond Operating Procedures

Created By: L. Thompson

Reviewed By: G. Humby / B. Ryan

Revised By: J. Williams

Approved By: G. Humby

UNIT LOADING								
Unit	Best Efficiency			Maximum Load			Rough Zone	
	Load (kW)	Flow (m ³ /s)	Eff. (kW/m ³ /s)	Load (kW)	Flow (m ³ /s)	Eff. (kW/m ³ /s)	Minimum	Maximum
#1	320	2.9	110.3	350	3.35	104.5	None	None

FOREBAY OPERATING ELEVATIONS (Ft.)			
	Upper	Lower	Trip Level
Fall Pond Forebay	8.0	4.0	3.0

STORAGE ELEVATION LIMITS (Ft.)			
	Upper (normal)	Upper (winter)	Lower
Fall Pond Forebay	8.0	5.0 (see note 3)	4.0

- Forebay maximum storage elevation without stoplogs in place is 8.0 feet.



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Fall Pond Operating Procedures

Created By: L. Thompson

Reviewed By: G. Humby / B. Ryan

Revised By: J. Williams

Approved By: G. Humby

-
1. Fall Pond Plant is a run of the river plant and operates under water level load control.
 2. Fall Pond forebay has the capacity to hold a substantial amount of water **compared to plant capacity** and should be brought to its minimum level prior to spring runoff. There are no control structures on this system.
 3. Fall Pond forebay should be operated with a maximum storage elevation of 5.0 feet during periods of significant winter ice loading conditions.
 4. Water level readings at Fall Pond Forebay are observed by field operations staff using a reference elevation of 8.0 feet (44.96m geodetic) at the top of the concrete spillway sill.



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West Brook Operating Procedures

Created By: L. Thompson

Reviewed By: G. Humby / B. Ryan

Revised By: J. Curran

Approved By: G. Humby

UNIT LOADING								
Unit	Best Efficiency			Maximum Load			Rough Zone	
	Load (kW)	Flow (m ³ /s)	Eff. (kW/m ³ /s)	Load (kW)	Flow (m ³ /s)	Eff. (kW/m ³ /s)	Minimum	Maximum
#1	545	1.48	368.2	720	1.92	354.2	None	None

FOREBAY OPERATING ELEVATIONS (Ft.)			
	Upper	Lower	Trip Level
West Brook Forebay	9.0	6.5	6.2

STORAGE ELEVATION LIMITS (Ft.)			
	Upper	Lower	Summer
West Brook Forebay	9.0	6.0	-

- Maximum storage elevation without stoplogs in place is 8.0 feet
- West Brook Plant is normally operated with 1.0 foot stoplogs in place (elevation 9.0 feet).



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West Brook Operating Procedures

Created By: L. Thompson

Reviewed By: G. Humby / B. Ryan

Revised By: J. Curran

Approved By: G. Humby

-
1. West Brook Plant is a run of the river plant and operates under water level load control.
 2. Water supply for the town of St. Lawrence is taken from the canal feeding the West Brook Plant.
 3. Water level readings at West Brook forebay are observed by field operations staff using a reference elevation of 9.0 feet (102.56m geodetic) at the top of the forebay stoplogs.



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Page 1 of 2

Lawn Operating Procedures

Created By: L. Thompson

Reviewed By: G. Humby / B. Ryan

Revised By: J. Curran

Approved By: G. Humby

UNIT LOADING								
Unit	Best Efficiency			Maximum Load			Rough Zone	
	Load (kW)	Flow (m ³ /s)	Eff. (kW/m ³ /s)	Load (kW)	Flow (m ³ /s)	Eff. (kW/m ³ /s)	Minimum	Maximum
#1	600	3.54	169.5	600	3.54	169.5	250	400

FOREBAY OPERATING ELEVATIONS (Ft.)			
	Upper	Lower	Trip Level
Lawn Forebay	25.0	18.0	15.0

STORAGE ELEVATION LIMITS (Ft.)			
	Upper	Lower	Summer
Lawn Forebay	25.0	18.0	-



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Page 2 of 2

Lawn Operating Procedures

Created By: L. Thompson

Reviewed By: G. Humby / B. Ryan

Revised By: J. Curran

Approved By: G. Humby

-
1. Lawn Plant is a run of the river plant and operates under water level load control.
 2. Lawn forebay is relatively small and there are no control structures on this system.
 3. Water level readings at Lawn forebay are observed by field operations staff using a reference elevation of 25.0 feet (59.43m geodetic) at the top of the concrete spillway sill.



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Lockston Operating Procedures

Created By: L. Thompson

Reviewed By: G. Humby / B. Ryan

Revised By: D. Ball

Approved By: G. Humby

UNIT LOADING										
Unit	Best Efficiency				Maximum Load				Rough Zone	
	Load (kW)	Gate Limit (%)	Flow (m ³ /s)	Eff. (kW/m ³ /s)	Load (kW)	Gate Limit (%)	Flow (m ³ /s)	Eff. (kW/m ³ /s)	Minimum	Maximum
#1	1500	85	2.2	664	1750	100	2.7	644	None	None
#2	1500	N/A	2.5	616	1800	N/A	3.0	577	None	None

FOREBAY OPERATING ELEVATIONS (Ft.)			
	Upper	Lower	Trip Level
Rating Pond	16.0	15.0	8.5

STORAGE ELEVATION LIMITS (Ft.)			
	Upper	Lower	Summer
Trinity Pond	14.4	2.0	-

NORMAL WATER MANAGEMENT ELEVATIONS (Ft.)		
Level (Feet)	G1	G2
Below 14.0	Unit will not start	Unit will not start
Below 14.2	Shut down	Unit will not start
14.2 to 14.7	Shut down	Shut down
14.7 to 15.1	Efficient loading waiting to auto start	Shut down
15.1 to 15.8	Efficient loading waiting to auto start	Efficient loading waiting to auto start
15.8 to 15.9	Efficient loading	Efficient loading waiting to auto start
15.9 to 16.0	Peak loading	Efficient loading
Above 16.0	Peak loading	Peak loading



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Lockston Operating Procedures

Created By: L. Thompson

Reviewed By: G. Humby / B. Ryan

Revised By: D. Ball

Approved By: G. Humby

1. Unit #1 should be cycled on and off at best efficiency to maximize water use and should only operate at full load in the event of predicted spill. Main control should be via operating gates.
2. Unit #2 should only operate in the event of predicted spills.
3. Plant has a large storage reservoir and seldom spills. The control gate at Rattling Pond which feeds the canal is usually full open. The water flow to Lockston Plant is controlled using the outlet gate at Trinity Pond.
4. The gate at Trinity Pond is typically kept open 8 to 10 inches in the winter.
5. All gates to be left open a minimum of 1 inch to maintain flow for fisheries. If gate has to be closed, an alternate method of maintaining flow should be established.
6. The maximum allowable storage elevation in Trinity Pond is 14.4 feet (28 inches below dam crest). Operating at this limit will ensure adequate design flood discharge capacity is maintained.
7. The Fisheries Flow Compensation Valve shall be normally operated in 55% open position (approximately 0.14 m³/s) when the generating units are not operating as a means of providing flow in the tailrace. If, due to extreme low inflows, the forebay level drops below elevation 13.0 feet, the valve should be partially closed to the 10% position in an effort to match system inflow conditions.
8. Water level readings at Lockston are observed by field operations staff using the following reference benchmarks:

Reservoir	Reference	Elevation
Rattling Pond	Concrete Spillway Sill	16.0 feet
Trinity Pond	Top of Concrete Dam	16.75 feet (201'')



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Page 1 of 3

Port Union Operating Procedures

Created By: L. Thompson

Reviewed By: G. Humby / B. Ryan

Revised By: D. Ball

Approved By: G. Humby

UNIT LOADING								
Unit	Best Efficiency			Maximum Load			Rough Zone	
	Load (kW)	Flow (m ³ /s)	Eff. (kW/m ³ /s)	Load (kW)	Flow (m ³ /s)	Eff. (kW/m ³ /s)	Minimum	Maximum
#1	260	1.45	179.3	260	1.45	179.3	None	None
#2	340	1.93	176.2	340	1.93	176.2	None	None

FOREBAY OPERATING ELEVATIONS (Ft.)			
	Upper	Lower	Trip Level
Second Storage Pond	8.0	7.5	3.0

STORAGE ELEVATION LIMITS (Ft.)			
	Upper	Lower (normal)	Lower (summer)
Whirl Pond	7.8	2.8	-
Long Pond	12.0	1.0	See note 4

- Summer elevation is a minimum that the reservoir will operate at between June 15 and September 15 under normal conditions.



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Port Union Operating Procedures

Created By: L. Thompson

Reviewed By: G. Humby / B. Ryan

Revised By: D. Ball

Approved By: G. Humby

1. Operate Unit #1 and Unit #2 at maximum load to avoid spill. Cycle Units on and off to maintain forebay limits.
2. The system is essentially a run of the river plant and water has to be used as it becomes available.
3. Whirl Pond is a water supply for the town of Port Union and a minimum coverage of 3 feet is required at the intake.
4. Long Pond minimum elevation to be kept above 4.5 feet at critical low inflow periods of the year (i.e. mid to late summer and possibly mid-winter). When elevation reaches the minimum level during these critical periods, hydro plant operations should be halted, and storage is to be reserved for towns water supply only.
5. All gates to be left open a minimum of 1 inch to maintain flow for fisheries. If gate has to be closed, an alternate method of maintaining flow should be established.
6. Fish screens must be installed at Whirl Pond commencing immediately on ice out and must not be removed until August 31.
7. Water level readings at Port Union are observed by field operations staff using the following reference benchmarks:

Reservoir	Reference	Elevation
Port Union Forebay	Timber Spillway Sill	8.0 feet
Whirl Pond	Concrete Spillway Sill	7.8 feet
Long Pond	Concrete Spillway Sill	12.0 feet
Wells Pond	Top of Dam	8.5 feet



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Port Union Operating Procedures

Created By: L. Thompson

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Revised By: D. Ball

Approved By: G. Humby

-
8. The fishway at Whirl Pond spillway must be kept open and clear with no obstructions to flow or fish passage.
 9. Gate structure at Halfway Pond has been removed so water moves unrestricted from this reservoir. Gate structure at Wells Pond has been removed and replaced with a culvert.



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Rattling Brook Operating Procedures

Created By: L. Thompson

Reviewed By: G. Humby / B. Ryan

Revised By: D. Ball

Approved By: G. Humby

Table A

UNIT LOADING								
Unit	Best Efficiency			Maximum Load			Rough Zone	
	Load (kW)	Flow (m ³ /s)	Eff. (kW/m ³ /s)	Load (kW)	Flow (m ³ /s)	Eff. (kW/m ³ /s)	Minimum	Maximum
#1 Alone	7100	9.1	780	7940	10.5	756	None	None
#2 Alone	6680	8.4	795	8110	10.8	751	None	None
#1 with Both Units Operating	6900	9.2	750	7290	10.7	681	None	None
#2 with Both Units Operating	6500	8.6	756	7390	10.5	704	None	None

Table B

FOREBAY OPERATING ELEVATIONS (Ft.)			
	Upper	Lower	Trip Level
Forebay	335	335	325

Table C

STORAGE ELEVATION LIMITS (Ft.)			
	Upper	Lower	Summer
Forebay	335.3	325.0	
Rattling – Amy’s	377.0	349.0	-
Frozen Ocean	602.0	595.5	-

Flow Delay

- Frozen Ocean to Amy’s 12.0 hours
- Amy’s to Forebay 0.5 hours



Bulletin Number: POG100.03.17

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Rattling Brook Operating Procedures

Created By: L. Thompson

Reviewed By: G. Humby / B. Ryan

Revised By: D. Ball

Approved By: G. Humby

1. Per Department of Fisheries and Oceans (DFO) “Fish Passage Flow Requirements for Newfoundland Power Hydroelectric Facilities at Rattling Brook, NL” (effective May 1, 2013).

a) To protect fish downstream of the Rattling Brook facility and to provide upstream passage for Atlantic Salmon flows shall be provided as follows:

Table 1: Minimum Tailrace Flows			
Water Temperature	Rate of Flow Reduction	Minimum Flow	Approximate MW* Loading (either unit)
$\geq 8^{\circ}\text{C}$	Not greater than $2\text{m}^3/\text{s/hr}$	$3\text{ m}^3/\text{s}$	2.5 MW
$< 8^{\circ}\text{C}$	Not greater than $2\text{m}^3/\text{s/hr}$	$4\text{ m}^3/\text{s}$	3.0 MW

* The MW loading above corresponds to the minimum flow requirement by DFO. Running either unit at this loading is not ideal for the mechanical integrity of the turbine and should be avoided if at all possible. If it is absolutely necessary to run at this rate, confirmation must be obtained from the Superintendent, Generation Operations or designate.

- b) Provide downstream passage for Atlantic Salmon smolts and kelts.
- i. Flows shall be provided, maintained and monitored between May 1 and June 30 of each year.
 - ii. A minimum flow of $1.5\text{ m}^3/\text{s}$ shall be maintained from the top 1 to 1.5 meters of the water column from Amy’s Lake to Goulding’s Reservoir.
 - iii. During the operating period, the Amy’s Lake Reservoir shall be maintained about 111.5 meters (365.7 feet) to provide adequate flows to operate the bypass structure.
 - iv. Conduit fences shall be installed prior to May 1 to direct fish to the Goulding’s Spillway Bypass Pipe and may be removed after June 30.
 - v. A minimum flow of $0.75\text{ m}^3/\text{s}$ shall be released via the Goulding’s Spillway Bypass Pipe between May 1 and June 30 each year to provide safe fish passage into Rattling Brook.



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Rattling Brook Operating Procedures

Created By: L. Thompson

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Revised By: D. Ball

Approved By: G. Humby

- c) Unplanned Flow Reduction (unplanned flow reduction below the minimum prescribed above).
- i. The outlet gate at Amy's will be operated by the PLC to allow the water to rise in the forebay as quickly as possible.
 - ii. The Plant Operator will confirm this is happening as soon as possible. If this has not occurred the Plant Operator will manually initiate this process.
 - iii. Once there is a spill level of approximately 5 inches at the forebay, Amy's gate opening should be reduced to maintain 5 inches of spill.
 - iv. The spill level is to be maintained until the Plant is returned to service and minimum flows are able to be supported from the Plant. Estimated time for minimum flows to reach the tailrace once the Plant shuts down is 4 to 8 hours.
- d) Planned Flow Reduction (scheduled flow reduction below the minimum prescribed above as a result of capital or maintenance work).
- i. Before the units are taken offline, the outlet gate at Amy's will be operated to allow the water to rise in the forebay and result in spill of 5 inches.
 - ii. Once there is a spill level of 5 inches, Amy's gate opening should be reduced to maintain the level of spill. The spill level is to be maintained until the Plant is returned to service and minimum flows are able to be supported from the Plant alone.
 - iii. Table 2: Unit Loading and Resulting Flows

Table 2: Unit Loading and Resulting Flows* For Either Unit Operating Alone		
Gate Position (%)	MW	Flow (m³/s)
30	2.7	4.2
40	4.2	5.7
50	5.4	7.2
60	6.3	8.1
65	6.7	8.6
70	7.0	9.0
75	7.3	9.4
80	7.5	9.8



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Rattling Brook Operating Procedures

Created By: L. Thompson

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Revised By: D. Ball

Approved By: G. Humby

85	7.8	10.2
90	7.9	10.5
95	8.1	10.8
* Table above approximates flow based on power output or gate position of either unit operating alone. The data is rounded for simplicity in presentation and should be used for guidance only – not for an exact measure of flows. Flows are approximate and should be taken to be $\pm 0.5 \text{ m}^3/\text{s}$.		

- e) In the event that periodic maintenance, operational requirements or emergency or unforeseen circumstances at the Rattling Brook facilities interfere with the ability of Newfoundland Power to adhere to the conditions specified, Newfoundland Power is to notify the DFO Fisheries Protection Triage & Planning Unit by telephone at 709-772-4140 or by email to FPP-NL@dfo-mpo.gc.ca at the earliest opportunity.
2. When inflows are minimal, units may be operated in “low efficiency” gate position. This is approximately 55-60% for either unit. Various modes of operation of the units are incorporated into the water management scheme.
 3. The water available in this system will be used as efficiently as possible. All water management will be done in consultation with the Plant Coordinator for the Area and the Superintendent, Generation Operations to ensure there is always an adequate supply to maintain minimum flows in the tailrace as per DFO requirements.
 - a) Prior to spring runoff, Amy’s and Frozen Ocean water levels *may* be reduced to capture as much run off as possible.
 - b) Winter normal inflows will be evaluated at year end in conjunction with yearend storage levels to ensure there is adequate water for at least minimum flows through the winter period.
 - c) Summer normal inflows will be evaluated in conjunction with spring storage levels to ensure there is adequate water for at minimum flows through the summer.
 4. Operate both Units at full load only when necessary to avoid spill or manage available water. This is the most inefficient setting for the Units.



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Rattling Brook Operating Procedures

Created By: L. Thompson

Reviewed By: G. Humby / B. Ryan

Revised By: D. Ball

Approved By: G. Humby

-
5. Maintain constant head at Rattling Forebay by adjusting the gate at Amy's.
 6. All upstream gates to be left open a minimum of 1 inch to maintain minimum flow. If any gate has to be closed, an alternate method of maintaining flow must be established.
 7. During cold weather conditions it may be necessary to vary the load at Rattling Brook by 4 MW for 5 minutes to avoid surge tank freeze up. Guidelines for the frequency of variation are:

Temperature	Frequency
-10 C to -20 C	4 hours
Below -20 C	2 hours

8. Ensure that the transportation of Adult Salmon and the migration of smolt and salmon downstream is managed in accordance with the requirement of Fisheries and Oceans Canada (DFO).

Related Significant Aspects

- 850; 860



Bulletin Number: POG100.03.18

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Page 1 of 2

Sandy Brook Operating Procedures

Created By: L. Thompson

Reviewed By: G. Humby / B. Ryan

Revised By: B. Hogan

Approved By: G. Humby

UNIT LOADING								
Unit	Best Efficiency			Maximum Load			Rough Zone	
	Load (kW)	Flow (m ³ /s)	Eff. (kW/m ³ /s)	Load (kW)	Flow (m ³ /s)	Eff. (kW/m ³ /s)	Minimum	Maximum
#1	5700	-	-	6400	-	-	2000	5500

FOREBAY OPERATING ELEVATIONS (Ft.)					
	Jan – Feb; June – Nov		Trip Level	Dec; March - May	
	Upper	Lower		Upper	Lower
Sandy Brook Forebay	415	413.5	408.5	413.0	411.5

STORAGE ELEVATION LIMITS (Ft.)			
	Upper	Lower	Summer
Sandy Brook Forebay	416.0	410.0	-
Sandy Lake	11.8	0.0	-
West Lake	7.0	0.0	-

Flow Delay

- Sandy Lake to Sandy Brook Forebay 18 hours
- West Lake to Sandy Brook Forebay 2 hours



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Sandy Brook Operating Procedures

Created By: L. Thompson

Reviewed By: G. Humby / B. Ryan

Revised By: B. Hogan

Approved By: G. Humby

-
1. Operate Sandy Brook Plant at best efficiency unless heavy inflow expected or happening.
 2. The plant has a large drainage area and is prone to spilling during heavy inflows. Reservoirs should be brought to their minimum level prior to spring runoff (March). At that time the plant should be cycled on and off at best efficiency to keep the forebay within limits. In advance of rainstorms, bring forebay down as low as possible by operating at best efficiency or full load as necessary
 3. Typically Sandy Lake should be kept at a maximum of 3 feet from mid-September to the end of October in anticipation of fall precipitation.
 4. All gates to be left open a minimum of 1 inch to maintain flow for fisheries. If gate has to be closed, an alternate method of maintaining flow should be established.
 5. Inform Nalcor Energy – Exploits Generation Department when Unit is put on and taken off line. Contact Peter Robbins at (709) 489-5306.
 6. During cold weather conditions it may be necessary to vary the load at Sandy Brook by 3000 kW for 5 minutes to avoid surge tank freeze up. Guidelines for the frequency of variation are:

Temperature	Frequency
-10 C to -20 C	4 hours
Below -20 C	2 hours



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Lookout Brook Operating Procedures

Created By: L. Thompson

Reviewed By: G. Humby / B. Ryan

Revised By: T. Hynes

Approved By: G. Humby

UNIT LOADING										
		Best Efficiency			Maximum Load				Rough Zone	
Unit	Load (kW)	Gate Limit (%)	Flow (m ³ /s)	Eff. (kW/m ³ /s)	Load (kW)	Gate Limit (%)	Flow (m ³ /s)	Eff. (kW/m ³ /s)	Min	Max
#3	2500	85.0	-	-	2950	100	2.25	1311.1	None	None
#4	2500	86.0	1.79	1396.6	3200	100	2.36	1356	None	None

NORMAL WATER MANAGEMENT ELEVATIONS (Ft.)				
Level (Feet)	Lookout Brook March-May Inflow		Lookout Brook June-February Inflow	
	G3	G4	G3	G4
Below 551.0	Unit Will Not Start			
Below 551.6	Shut Down	Shut Down	Shut Down	Shut Down
551.6 to 551.7	Efficient Loading Waiting To Auto Start	Shut Down	Shut Down	Shut Down
551.7 to 552.2	Efficient Loading Waiting To Auto Start	Efficient Loading Waiting To Auto Start	Shut Down	Shut Down
552.2 to 552.3	Efficient Loading Waiting To Auto Start	Efficient Loading Waiting To Auto Start	Shut Down	Efficient Loading Waiting To Auto Start
552.3 to 552.4	Efficient Loading Waiting To Auto Start			
552.4 to 552.5	Efficient Loading Waiting To Auto Start	Efficient Loading	Efficient Loading Waiting To Auto Start	Efficient Loading Waiting To Auto Start
552.5 to 552.7	Efficient Loading	Efficient Loading	Efficient Loading Waiting To Auto Start	Efficient Loading Waiting To Auto Start
552.7 to 552.8	Peak Loading	Efficient Loading	Efficient Loading Waiting To Auto Start	Efficient Loading Waiting To Auto Start
552.8 to 553.2	Peak Loading	Peak Loading	Efficient Loading Waiting To Auto Start	Efficient Loading Waiting To Auto Start
553.2 to 553.3	Peak Loading	Peak Loading	Efficient Loading Waiting To Auto Start	Efficient Loading
553.3 to 553.4	Peak Loading	Peak Loading	Efficient Loading	Efficient Loading
553.4 to 553.5	Peak Loading	Peak Loading	Efficient Loading	Peak Loading
Above 553.5	Peak Loading	Peak Loading	Peak Loading	Peak Loading



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Lookout Brook Operating Procedures

Created By: L. Thompson
Revised By: T. Hynes

Reviewed By: G. Humby / B. Ryan
Approved By: G. Humby

NORMAL WATERMANAGEMNT START AND SHUTDOWN LEVEL (Ft)				
	G3 March-May Inflow	G3 June-February Inflow	G4 March-May Inflow	G4 June-February Inflow
Auto Shutdown	551.6	552.3	551.7	552.2
Auto Start	552.5	553.3	552.4	553.2

STORAGE ELEVATION LIMITS (Ft.)			
	Upper	Lower (normal)	Lower (summer)
Lookout Brook Forebay	554.0	552.2	551.5
Joe Dennis Pond	12.2	2.4	-
Cross Pond	10.0	1.8	-

- Summer elevation is a minimum that the reservoir will operate at between June 15 and September 15 under normal conditions.
- Lookout Brook forebay SCADA goes only to 551.1 feet elevation. Do not operate units below 551.5 feet.

Flow Delay

- Cross Pond to Joe Dennis 48 hours
- Joe Dennis to Lookout Brook Forebay 18 hours



Bulletin Number: POG100.03.19

Date Issued: 1999 08 18

Date Revised: 2013 07 26

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Lookout Brook Operating Procedures

Created By: L. Thompson

Reviewed By: G. Humby / B. Ryan

Revised By: T. Hynes

Approved By: G. Humby

-
1. During minimum inflow, operate Unit #4 at best efficiency. For higher inflows, bring Unit #3 on at best efficiency and cycle on and off to maintain forebay limits.
 2. For higher inflows, keep Unit #3 at best efficiency and bring Unit #4 to full load. If required to keep ahead of inflow, operate both units at full load. Total output with both machines on will be about 5800 kW due to the additional head loss in the penstock
 3. Spring runoff may begin in June and continue through mid-July so the watersheds should be near minimums by this time. The runoff can be heavy. Inflows in the fall may be heavy as well so the storage levels should be maintained on the lower range going into late September/ early October.
 4. Cross Pond gate to be opened to 12 inches and left at this setting year round (under normal operating conditions). Changes to the opening will be done in consultation with the **Supervisor, Generation Operations.**
 5. Cross Pond spills out of the system.
 6. All gates to be left open a minimum of 1 inch to maintain flow for fisheries. If gate has to be closed, an alternate method of maintaining flow should be established.



Bulletin Number: POG100.03.20

Date Issued: 1999 08 18

Date Revised: 2012 07 26

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Rose Blanche Operating Procedures

Created By: L. Thompson
Revised By: B. Hogan

Reviewed By: G. Humby / B. Ryan
Approved By: G. Humby

UNIT LOADING								
Unit	Best Efficiency			Maximum Load			Rough Zone	
	Load (kW)	Flow (m ³ /s)	Eff. (kW/m ³ /s)	Load (kW)	Flow (m ³ /s)	Eff. (kW/m ³ /s)	Minimum	Maximum
#1 Alone	2584	2.72	950.0	3034	3.00	1011.3	None	None
#2 Alone	2636	2.72	969.1	3019	3.00	1006.3	None	None
#1 with #2	2755	2.72	1012.9	2884	3.04	948.7	None	None
#2 with #1	2755	2.72	1012.9	2884	3.04	948.7	None	None

FOREBAY OPERATING ELEVATIONS (M)			
	Upper	Lower	Trip Level
Rose Blanche Forebay	162.6	157.0	157.0

STORAGE ELEVATION LIMITS (M)		
	Upper	Lower
Rose Blanche Forebay	162.6	157.0

Flow Delay

- Rose Blanche Forebay to Tailrace via Spillway 4 hours

Rose Blanche Operating Procedures

Created By: L. Thompson

Reviewed By: G. Humby / B. Ryan

Revised By: B. Hogan

Approved By: G. Humby

-
1. When inflows are minimal, operate either Unit #1 or Unit #2 at best efficiency. Water management scheme calls for the operation of both units simultaneously when water elevation reaches 160.0 m.
 2. Prior to spring runoff, Rose Blanche Forebay should be brought to minimum elevation.
 3. Prior to the penstock dewatering, the fisheries valve at the main dam must be fully opened a minimum of 4 hours in advance.
 4. Department of Fisheries and Oceans Agreement requires that a minimum flow of 1.0 m³/s is maintained in the Rose Blanche River at all times. Once both units shutdown, the 16 inch fisheries valve is required to open to provide 1.0 m³/s.
 5. The Rose Blanche River downstream of the powerhouse supplies a holding pond for the Town of Rose Blanche and Town of Harbour Le Cou water supply.
 6. Prior to a forecasted heavy rainfall event, Rose Blanche Forebay should be brought to minimum elevations, in an effort to reduce eventual spill. This may require operating both units at maximum load. This operation will over-ride the Water Management Scheme, and will be carried out at the discretion of the **Supervisor, Generation Operations**.
 7. For detailed procedures regarding the operation of the fisheries compensation valve see [POG100.02 – Operation and Maintenance for Rose Blanche Brook Plant Fisheries Compensation Valve and Penstock Dewatering](#).
 8. The Water Management Scheme is normally switched from “summer mode” to “winter mode” in late November or December, at the discretion of the Superintendent, Generation Operations. The “winter mode” is designed to limit the fluctuation in the forebay elevations and minimize the ice cover disturbances, as well as preserving an emergency supply.



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Rose Blanche Operating Procedures

Created By: L. Thompson

Reviewed By: G. Humby / B. Ryan

Revised By: B. Hogan

Approved By: G. Humby

-
9. Water level readings at Rose Blanche Forebay are observed by field operations staff using the SCADA reading. Should an actual field measurement be required for any reason, staff use a reference elevation of 162.6 meters which represents the top of the Concrete Spillway Sill.
 10. The fishway structures downstream of Rose Blanche Plant must be kept open and clear with no obstructions to flow or fish passage.



Bulletin Number:POG100.04

Date Issued:2004 10 18

Date Revised: 2012 01 20

Date Reviewed: 2013 07 22

Page 1 of 4

Thermal Generation Operating Procedures

Created By: B. Titford

Reviewed By: G. Humby / B. Ryan

Revised By: B. Hogan

Approved By: G. Humby

1.0 Purpose

The purpose of this procedure is to manage Newfoundland Power Thermal Generating Systems for the effective and efficient use of the fossil fuel resource to minimize environmental impacts.

2.0 Scope

This procedure applies to all thermal generating facilities operated by Newfoundland Power.

3.0 General

The Company will manage the efficient use of fossil fuel resources in an effort to reduce environmental impacts.

4.0 Responsibilities

4.1 Manager, Responsible for Generation Operations

- Will ensure that appropriate resources are trained and available to meet the requirements of this procedure.

4.2 Superintendent, Generation Operations

- Will ensure that requirements of this procedure are completed and reviewed each year.
- Will ensure any changes made in operation procedures shall be added to this procedure as the need arises.

Thermal Generation Operating Procedures

Created By: B. Titford

Reviewed By: G. Humby / B. Ryan

Revised By: B. Hogan

Approved By: G. Humby

4.3 Supervisor(s) Generation Operations

- Will ensure that the Thermal Generation Operating Procedures are completed for each thermal generating facility under their responsibility.
- Will notify the Superintendent, Generation Operations of any changes to the procedure or temporary/permanent major changes in operations at the generation facility.

5.0 Procedure

5.1 Detailed Operating Procedures

- 5.1.1 Plant staff are to note any abnormal generator and/or fuel storage system conditions and report to the Supervisor for review. The supervisor will identify abnormal conditions for follow-up and arrange for repair or maintenance to be scheduled in the Avantis System.
- 5.1.2 Regular generator maintenance and start-up checks will be completed as scheduled in Avantis.
- 5.1.3 Fuel storage systems with the main fuel supply line to the generator located at the bottom of the storage tank will have the main valve placed in the closed position when plant is not in operation.
- 5.1.4 Fuel storage systems with the main fuel supply line to the generator located at the top of the storage tank will be fitted with an anti-siphon valve with the main valve left in the open position when the plant is not in operation.
- 5.1.5 Fuel storage systems will be inspected and reconciled regularly as scheduled in Avantis and detailed in [OPR200.09 – Petroleum Storage](#).
- 5.1.6 Fuel usage and production data will be provided to SCC and included with the Monthly Energy Report.

Thermal Generation Operating Procedures

Created By: B. Titford

Reviewed By: G. Humby / B. Ryan

Revised By: B. Hogan

Approved By: G. Humby

5.2 General Operating Procedure

- 5.2.1 Generators shall generally be operated to match project requirements. Generators may be operated at less than best efficiency point in situations where load demands, maintenance work or abnormal situations require this.
- 5.2.2 Thermal generation plants will only be operated for planned outages, maintenance procedures, emergency back-up and upon request from Newfoundland Hydro.
- 5.2.3 Emergency situations and information related to the emergency shall be managed according to the [Emergency Preparedness and Response Procedure](#) for that particular power plant. The format of communications shall be as determined by the Manager, Corporate Communications and Customer Service. For additional detailed procedures relating to communications with external parties see [OPR400.05 – Environmental Communications](#).

6.0 References

6.1 Reference Documents

- [OPR200.09 – Petroleum Storage](#)
- [OPR400.05 – Environmental Communications](#)
- [Emergency Preparedness and Response Procedure](#)

6.2 Related Significant Aspects

- 420

6.3 Legal and Other Requirements

- No legal or other requirements



Bulletin Number:POG100.04

Date Issued:2004 10 18

Date Revised: 2012 01 20

Date Reviewed: 2013 07 22

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Thermal Generation Operating Procedures

Created By: B. Titford

Reviewed By: G. Humby / B. Ryan

Revised By: B. Hogan

Approved By: G. Humby

7.0 Records

- No records

8.0 Glossary

- SCC – System Control Center

Abbreviations

Best Efficiency Point – This is the operating point which maximizes the amount of energy that is produced for each unit of fuel consumed by the turbine.



Bulletin Number: POG100.05

Date Issued: 1999 08 18

Date Revised: 2007 08 08

Date Reviewed: 2013 07 25

Page 1 of 4

Maintenance of Fluid Measuring Systems

Created By: L. Thompson

Reviewed By: G. Humby / B. Ryan

Revised By: J. Curran

Approved By: G. Humby

1.0 Purpose

This procedure outlines the maintenance and calibration requirements for fluid measuring systems associated with Newfoundland Power's generating facilities.

2.0 Scope

These guidelines refer to devices that measure level, volume, flow and pressure associated with various liquids

3.0 General

Newfoundland Power on a regular basis will monitor its fluid measuring systems to ensure they are functioning properly.

4.0 Responsibilities

4.1 Supervisor, Generation Maintenance

- Will work with Supervisor, Generation Operations in order to insure that the required maintenance is completed.

4.2 Supervisor(s) Generation Operations

- Will ensure that any required maintenance on fluid measuring systems is completed for each of their plants.



Bulletin Number: POG100.05

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Maintenance of Fluid Measuring Systems

Created By: L. Thompson

Reviewed By: G. Humby / B. Ryan

Revised By: J. Curran

Approved By: G. Humby

5.0 Procedure

5.1 Asset Management System

All maintenance will be scheduled and tracked through the Generation Asset Management System. This system is comprised of the electronic system Avantis.

5.2 Dipstick System

Dipstick will be inspected prior to each use. Any defects will result in the stick being repaired or replaced.

Dipsticks will not be calibrated.

5.3 Bubbler Level/Volume Measuring Systems

Maintenance will be carried out as per the Generation Asset Management System. Any defects will result in the device being repaired or replaced.

Bubbler level/volume measuring systems will be calibrated every five years.

5.4 Electric Level/Volume Monitoring System

Maintenance will be carried out as per the Generation Asset Management System. Any defects will result in the devices being repaired or replaced.

Electric level/volume monitoring systems will be calibrated every five years.

5.5 Float Volume Measuring System

Maintenance will be carried out as per the Generation Asset Management System. Any defects will result in the device being repaired or replaced.

Float volume measuring systems will be calibrated every five years.

Maintenance of Fluid Measuring Systems

Created By: L. Thompson

Reviewed By: G. Humby / B. Ryan

Revised By: J. Curran

Approved By: G. Humby

-
- 5.6 Interstitial, Overfill and Leak Detection Systems.
Maintenance will be carried out as per the Generation Asset Management System. Any defects will result in the device being repaired or replaced.

Interstitial, overfill and leak detection systems will be calibrated every five years.

- 5.7 Fuel Flow Meters
Maintenance will be carried out as per the Generation Asset Management System. Any defects will result in the device being repaired or replaced.

Fuel flow meters will be calibrated every five years.

- 5.8 Thermometers
Thermometers will be inspected before each use. Any defects will result in the device being replaced.

Thermometers will not be calibrated.

- 5.9 Fish Valves
Maintenance will be carried out as per the Generation Asset Management System. Any defects will result in the device being repaired or replaced.

Fish Valves will be calibrated every ten years.

6.0 References

6.1 Reference Documents

- No reference documents



Bulletin Number: POG100.05

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Date Reviewed: 2013 07 25

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Maintenance of Fluid Measuring Systems

Created By: L. Thompson

Reviewed By: G. Humby / B. Ryan

Revised By: J. Curran

Approved By: G. Humby

6.2 Related Significant Aspects

- No related significant aspects

6.3 Legal and Other Requirements

- No legal and other requirements

7.0 Records

- Asset Management System Records

8.0 Glossary

- No new terms referenced



Bulletin Number: POG100.06

Date Issued: 1999 08 18

Date Revised: 2013 07 24

Date Reviewed: 2013 07 24

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Trash Rack Design

Created By: S. Hancock

Reviewed By: G. Humby / B. Ryan

Revised By: D. Ball

Approved By: G. Humby

1.0 Purpose

The purpose of this procedure is to optimize design of trash racks for hydroelectric intake structures to minimize the effects on fish.

2.0 Scope

The procedure shall be applied when designing new trash racks at hydroelectric sites.

3.0 General

It is important that intake trash rack systems are designed and operated in a manner to minimize adverse effects on fish.

4.0 Responsibilities

4.1 Superintendent, Generation Engineering

- Will ensure designs are completed in accordance with fisheries/environmental regulatory requirements.

5.0 Procedure

5.1 The opening in the intake structure shall be sized to permit required water flow while maintaining water velocities low enough to reduce head losses, turbulence, and potential hazards to fish.

5.2 Trash racks shall be designed to safely carry all forces without damage and shall be anchored to permanent concrete or other suitable support.

Trash Rack Design

Created By: S. Hancock

Reviewed By: G. Humby / B. Ryan

Revised By: D. Ball

Approved By: G. Humby

-
- 5.3 To prevent potentially damaging objects from entering the turbine, openings in trash racks shall be designed to prevent objects from passing into the intake structure, and to minimize hazards to fish.
- 5.4 Trash racks shall be free of any construction material hazardous to fish or fish habitat.
- 5.5 Design of trash racks shall be completed in consultation with Fisheries and Oceans, Canada (DFO) to ensure regulatory compliance. Furthermore, appropriate approvals/authorizations shall be obtained from DFO and/or Provincial Department of Environment and Conservation prior to installation of replacement or new trash racks.
- 5.6 Trash rack replacement projects will require submission of a [Request for Project Review](#) to DFO unless covered under the Annual Blanket Approval submission.

6.0 References

6.1 Reference Documents

- No documents referenced

6.2 Related Significant Aspects

- [290](#)

6.3 Legal and Other Requirements

- [Environmental Legal Requirements Application - Webster](#)

Trash Rack Design

Created By: S. Hancock

Reviewed By: G. Humby / B. Ryan

Revised By: D. Ball

Approved By: G. Humby

7.0 Records (refer to local Master Environmental Records List for record location)

- [Trash Rack Design Drawings](#)
- [Approvals, Department of Environment and Conservation](#)
- [Approvals, Fisheries and Oceans, Canada](#)

8.0 Glossary

Abbreviations:

- **DFO** – Fisheries and Oceans, Canada

Intake structure - Structure that permits water to flow from a pond or other water reservoir into a penstock.

Penstock - Pressurized pipeline used to convey water from the intake structure to the hydroelectric plant.

Trash Rack - A screen usually constructed from flat steel bars or sawn timber, placed in front of a hydroelectric plant intake structure, designed to prevent the passage of trash and debris into the turbine while permitting sufficient water flow to the plant.



Bulletin Number: POG100.07

Date Issued: 1999 07 15

Date Revised: 2012 01 20

Date Reviewed: 2013 07 24

Page 1 of 3

Maintenance of Dams, Gates and Penstocks

Created By: K. Nicholson

Reviewed By: G. Humby / B. Ryan

Revised By: P. O'Leary

Approved By: G. Humby

1.0 Purpose

To identify existing or potential issues, related to the condition of dams/gates/penstocks that may negatively impact the environment and conduct immediate improvements.

2.0 Scope

This procedure provides guidelines for the inspection and other preventive maintenance activities relating to all dam structures (both storage structures and gate structures) and penstocks owned and operated by the Company.

3.0 General

Regularly scheduled preventative maintenance (PM) activities ensure that dam structures (both storage structures and gates structures) and penstocks are functioning as intended. The PM program includes inspection activities, operational assessments, and normal maintenance required to maintain structures in an appropriate operating condition. A properly maintained system will reduce the potential for loss of water control and flooding that may cause disruption/creation of fish habitat, erosion, and inefficient use of the water resource.

4.0 Responsibilities

4.1 Managers responsible for Generation

- Will ensure that the overall PM program is appropriately resourced and coordinated.

Maintenance of Dams, Gates and Penstocks

Created By: K. Nicholson

Reviewed By: G. Humby / B. Ryan

Revised By: P. O'Leary

Approved By: G. Humby

4.2 Superintendent, Generation Operations

- In conjunction with the Superintendent, Civil Engineering, shall deploy resources as required to complete repairs and improvements in a timely and cost effective manner.

4.3 Supervisor(s), Generation Operations

- Will ensure structures are inspected and make decisions, in conjunction with the Superintendent, Generation Operations, regarding repairs or improvements to structures that have a potential to adversely affect the environment.

5.0 Procedure

5.1 Dam structures (storage structures and gates) will be operated in accordance with the [POG100.03 Series – Reservoir and Turbine Operating Procedures](#).

5.2 Power plant staff to conduct a site visit and inspection of each dam structure (storage structures and gate structures) and penstock on a frequency as scheduled in Avantis.

5.3 Power plant staff conduct PM activities to ensure structures are maintained in an appropriate operating condition.

- Maintenance to penstock bands and staves will minimize the potential for flooding caused by an uncontrolled release/blowout.
- Maintenance to forebay sluice gates will minimize leaks, and thus prevent the inadvertent creation of unsustainable fish habitat.
- Maintenance to gated spillway structures will ensure that adequate flood discharge capacity is maintained. This will reduce the risk of dam overtopping and subsequent downstream siltation.

Maintenance of Dams, Gates and Penstocks

Created By: K. Nicholson

Reviewed By: G. Humby / B. Ryan

Revised By: P. O'Leary

Approved By: G. Humby

5.4 Supervisor(s) Generation Operations to identify and coordinate appropriate repairs or improvements relating to issues identified during the inspections that have the potential to negatively impact the environment.

6.0 References

6.1 Reference Documents

- [POG100.03 Series – Reservoir and Turbine Operating Procedures](#)

6.2 Related Significant Aspects

- [270; 720](#)

6.3 Legal and Other Requirements

- [Environmental Legal Requirements Application - Webster](#)

7.0 Records

- No records

8.0 Glossary

Abbreviations

- **PM** - Preventive Maintenance



Bulletin Number: POG100.08

Date Issued: 2002 03 26

Date Revised: 2012 01 20

Date Reviewed: 2013 07 23

Page 1 of 4

Hydroelectric Projects in Water Supply Areas

Created By: B. Titford
Revised By: P. O'Leary

Reviewed By: G. Humby / B. Ryan
Approved By: G. Humby

1.0 Purpose

Minimize the impact on the quality and quantity of water supplies of the operation, maintenance and construction activities associated with Newfoundland Power hydroelectric developments.

2.0 Scope

This procedure applies to all Company owned hydroelectric developments located within watersheds that are also used to supply a source of water to external agencies/organizations (i.e. municipalities, fish plants, fire departments), as listed in Appendix A.

3.0 General

Several of Newfoundland Power's hydroelectric developments are operated in watersheds which also provide a source of water to other users. In such cases, the Company is committed to full cooperation with all stakeholders.

4.0 Responsibilities

4.1 Supervisor(s) Generation Operations

- Will ensure that public communications procedures are initiated through Corporate Communications at any time it is anticipated that water supply systems of others may be impacted by Newfoundland Power's plant operations.

4.2 Newfoundland Power employees, and Contractors acting on behalf of the Company, shall adhere to this procedure.

Hydroelectric Projects in Water Supply Areas

Created By: B. Titford

Reviewed By: G. Humby / B. Ryan

Revised By: P. O'Leary

Approved By: G. Humby

5.0 Procedure

- 5.1 The use and disposal of chemically treated poles and timbers shall comply with Sections 5.5 and 5.9 respectively of [OPR200.03 – Chemically Treated Poles and Timbers](#).
- 5.2 Water levels in reservoirs that act as water supplies, as listed in Section 2.0 of this procedure, are maintained in accordance with the operating elevations established on the Plant Data Sheets in the [POG100.03 Series – Reservoir and Turbine Operating Procedures](#). In particular, Forebay Operating and Storage Elevations provide lower limits of operation to minimize impact on water quality and quantity standards.
- 5.3 Changes in normal plant operating conditions which may have adverse impacts on water supply quality and availability require Public Communication as outlined in the [POG100.03 Series – Reservoir and Turbine Operating Procedures](#).
- 5.4 Notification shall be made to the affected water user when activities outside normal operating conditions are required or when quality may be affected by activities of others that may be known to Newfoundland Power.
- 5.5 Unplanned emergency situations, which may have caused deterioration of water quality, shall be communicated to the respective communities and/or water users through the Corporate Communications Department.

6.0 References

6.1 Reference Documents

- [POG100.03 Series – Reservoir and Turbine Operating Procedures](#)
- [OPR200.03 – Chemically Treated Poles and Timbers](#)



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Hydroelectric Projects in Water Supply Areas

Created By: B. Titford
Revised By: P. O'Leary

Reviewed By: G. Humby / B. Ryan
Approved By: G. Humby

6.2 Related Significant Aspects

- [810](#)

6.3 Legal and Other Requirements

- [Environmental Legal Requirements Application - Webster](#)

7.0 Records

- No records

8.0 Glossary

- No new terms referenced

Appendix A

POG100.08

Reservoir

Bay Bulls Big Pond
Rose Blanche River (Fish Plant Dam)
Fall Pond Forebay
Victoria Forebay
West Brook Canal
Whirl Pond
Southern Cove Pond (HCT Forebay)
Cape Broyle Forebay
Cochrane Pond

Penstock/Plant

Pierres Brook
Tors Cove

Penstock/Plant

Mobile
Pierres Brook

Municipality

City of St. John's
Towns of Rose Blanche and Harbour LeCou
Town of Little St. Lawrence
Town of Victoria
Town of St. Lawrence
Town of Port Union
Town of Heart's Content
Half Dozen Local Residents
Country Ribbon Inc. (poultry farm)

Fish Plant Operator

Shawmutt Fisheries
Tors Cove Fisheries Ltd.

Fire Fighting Provider

Town of Witless Bay



Bulletin Number: POG100.09
Date Issued: 2003 04 07
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Date Reviewed: 2013 07 24
Page 1 of 4

Vegetation Management Around Generating Facilities

Created By: T. Poole
Revised By: D. Ball

Reviewed By: G. Humby / B. Ryan
Approved By: G. Humby

1.0 Purpose

To manage vegetation management activities around generating facilities.

2.0 Scope

This procedure applies to all vegetation management activities carried out at generating facilities.

3.0 General

Newfoundland Power will manage its vegetation management activities around generating facilities according to the requirements listed in this procedure including obtaining all regulatory approvals.

4.0 Responsibilities

- 4.1 Superintendent, **Generation** Engineering or Superintendent, Generation Operations
 - Will ensure all regulatory approvals are obtained prior to the start of work.
- 4.2 The Superintendent Generation Operations has overall responsibility for the Generation Vegetation Management Program at Newfoundland Power.
- 4.2 Supervisor(s) Generation Operations
 - Will ensure proper work methods are used and permits requirements are fulfilled.



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Vegetation Management Around Generating Facilities

Created By: T. Poole

Reviewed By: G. Humby / B. Ryan

Revised By: D. Ball

Approved By: G. Humby

5.0 Description of Activity

5.1 Work Method

5.1.1 Acceptable forms of mechanical methods include chain saws and brush saws, lawn mowers, axes, picks, shovels, etc.. Equipment, such as backhoes, may be used provided approval is received from the regulatory bodies.

5.1.2 Fertilizer or insecticide will not be used on lawns.

5.1.3 For herbicide application, refer to [OPR200.05 – Vegetation Management](#).

5.2 Regulatory Approvals

5.2.1 The approvals required will depend on the type of generation facility.

5.2.2 Cutting of brush or trees will require a permit from the Department Natural Resources (DNR).

5.2.3 Cutting of brush or trees within 15 meters of water will require Fisheries and Oceans, Canada (DFO) and Department of Environment and Conservation (DOEC) approval.

5.2.4 Any cutting of vegetation within 30 meters of a salmon river will require approval of DFO.

5.2.5 Activities within 200 meters of a salmon river may require a submission to the Environmental Assessment Branch of DOEC.

5.2.6 Any fording activities will follow the requirements of [OPR200.07 – Fording of Water Bodies](#).



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Vegetation Management Around Generating Facilities

Created By: T. Poole
Revised By: D. Ball

Reviewed By: G. Humby / B. Ryan
Approved By: G. Humby

- 5.2.7 Any access on ATV will follow the requirement in [OPR200.06 – All-Terrain Vehicles \(ATV\)](#).
- 5.2.8 If activities are inside the Avalon Wilderness Reserve, prior approval must be obtained as per [OPR200.19 – Operating Inside the Avalon Wilderness Reserve](#).
- 5.2.9 If brush is to be burned on site a Burning Permit is required from DNR.
- 5.2.10 Application of herbicides will require approval from the Department of Environment and Conservation.
- 5.3 Management of Cut Vegetation
 - 5.3.1 Cut vegetation may be either chipped, piled or burned depending on the location, time of year and permit restrictions.
 - 5.3.2 No cut vegetation shall enter a water body or obstruct water flows
 - 5.3.3 All merchantable timber must be salvaged.
 - 5.3.4 Burning brush will require a Burning Permit during forest fire season. See [OPR200.23 – Forest Fires Prevention](#).
 - 5.3.5 Cut vegetation may be burned at dam sites, if, at the discretion of the Superintendent, Generation Operations, chipping and piling is impractical due to the site location.
 - 5.3.6 Refer to [OPR200.38 - Migratory Birds](#) for brush clearing activities related to migratory birds and their nests and eggs between May 1 – July 31 of each year.



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Vegetation Management Around Generating Facilities

Created By: T. Poole

Reviewed By: G. Humby / B. Ryan

Revised By: D. Ball

Approved By: G. Humby

6.0 References

6.1 Reference Documents

- [OPR200.06 – All-Terrain Vehicles \(ATV\)](#)
- [OPR200.07 – Fording of Water Bodies](#)
- [OPR200.19 – Operating Inside the Avalon Wilderness Reserve](#)
- [OPR200.23 – Forest Fires Prevention](#)
- [OPR200.05 – Vegetation Management](#)
- [OPR200.38 - Migratory Birds](#)

6.2 Related Significant Aspects

- No related significant aspects

6.3 Legal and Other Requirements

- [Environmental Legal Requirements Application - Webster](#)

7.0 Records (refer to local Master Environmental Records List for record location)

- [Approval from Department Natural Resources](#)
- [Approval from Fisheries and Oceans, Canada](#)
- [Approval from Department of Environment and Conservation](#)
- [Release from Environmental Assessment](#)

8.0 Glossary

- DFO – Fisheries and Oceans, Canada
- DNR – Department of Natural Resources
- DOEC – Department of Environment and Conservation
- EA – Environmental Assessment



Bulletin Number: POG100.10

Date Issued: 2006 03 08

Date Revised: 2013 06 07

Date Reviewed: 2013 06 12

Page 1 of 5

Regulatory Approval for Routine Maintenance At Hydro Facilities

Created By: T. Cormier
Revised By: B. Ryan

Reviewed By: G. Humby / B. Ryan
Approved By: G. Humby

1.0 Purpose

Provide guidance for all Generation Operating staff regarding the use of a blanket approval from the provincial Department of Environment and Conservation (DOEC) and the federal department of Fisheries and Oceans (DFO) relating to routine maintenance activities conducted at hydro facilities owned and operated by Newfoundland Power.

2.0 Scope

This procedure applies to all Newfoundland Power routine maintenance and other related activities consisting of site improvements, dam maintenance and engineering / geotechnical investigations completed in order to maintain safe reliable operating conditions. This procedure applies within the 15 meter wide environmental buffer surrounding water bodies at various hydroelectric facilities.

3.0 General

Routine maintenance activities are required to maintain equipment and other assets in a safe reliable operating condition. Maintenance activities at the hydro facilities (i.e. dams, penstocks, intakes) are somewhat small-scale in nature, and are typically short duration (a few days or less). As a result, these activities may be considered relatively non-intrusive, with minimal risk to the environment. Obtaining a blanket approval for these routine maintenance activities provides Newfoundland Power with an opportunity to carry out low risk activities and avoid obtaining DOEC and DFO approvals for each separate work occurrence. Activities outside the scope of the DOEC's [Blanket Approval ALT5052](#) and [DFO's Blanket Approval](#) will require additional approvals.

Regulatory Approval for Routine Maintenance At Hydro Facilities

Created By: T. Cormier
Revised By: B. Ryan

Reviewed By: G. Humby / B. Ryan
Approved By: G. Humby

4.0 Responsibilities

- 4.1 Superintendent, **Generation** Engineering and / or Superintendent, Generation Operations
- Will ensure that prior to the start of the maintenance work the appropriate documentation is completed and submitted to DOEC **and DFO**.
- 4.2 Supervisor(s) Generation Operations
- Prior to the commencement of maintenance work covered under [Permit To Alter A Body of Water - ALT5052](#), the Supervisor(s) Generation Operations are responsible to submit the [Notification of Maintenance Activities at NP Hydroelectric Facilities \(Form 797\)](#) to DOEC a minimum of two (2) working days prior to the start of the work. A review of the [DFO Blanket Request for Project Review](#) (which is attached to the [DFO Blanket Approval](#)) shall also be carried out to see if the work falls within the scope of the [DFO Blanket Approval](#). If so, the terms and conditions of the [DFO Blanket Approval](#) must be followed while performing the work. If the work is outside the scope of the [DFO Blanket Approval](#), one should check the [DFO web site](#) to see if there is an [Operational Statement](#) that would apply and if so a [Notification Form](#) must be submitted to DFO ten (10) working days prior to starting work. In cases where neither the [DFO Blanket Approval](#) nor the [Operational Statement](#) can be used, one must submit a [Request for Project Review](#) for the specific project.

5.0 Procedure

- 5.1 Generation staff are responsible to conduct routine maintenance activities within each development as required and to maintain safe reliable operating conditions. Maintenance activities include, but are not limited to, the following:
- 5.1 Site Improvement
- Maintenance of access roads
 - Drainage improvements
 - Bridge repair (small scale)
 - Safety improvements

Regulatory Approval for Routine Maintenance At Hydro Facilities

Created By: T. Cormier
Revised By: B. Ryan

Reviewed By: G. Humby / B. Ryan
Approved By: G. Humby

5.1.2 Routine Dam Maintenance

- Clearing trashracks / culverts
- Stoplog repairs
- Timber crib ballast repairs
- Penstock plugging
- Isolated area of riprap repair
- Re-grading slopes
- Repairs to appurtenant structures (i.e. gatehouse, outlet gate, spillway concrete)

5.1.3 Engineering / Geotechnical Investigations

- Concrete coring
- Test pits
- Soil sampling

Notes:

1. Drainage improvements will be limited to maintenance related to existing channels, culverts, bridges, etc.
 2. Re-grading of slopes to the original grade will be covered under the blanket approval; however, if the slopes are changed this would require a separate permit. Please refer to [OPR200.21 – Application for Regulatory Approvals](#) for regulatory approvals required for such an activity.
- 5.2 For each activity carried out under the authority of the **DOEC** [Permit ALT5052](#), the Supervisor(s) Generation Operations is responsible to complete and submit a [Notification of Maintenance Activities at NP Hydroelectric Facilities \(Form 797\)](#) to DOEC by e-mail to clydemclean@gov.nl.ca or fax (709) 729-0320 at least two (2) working days prior to the start of work. The form will identify specific details relating to the nature of the work on a case-by-case basis and will be submitted for separate work occurrences. In addition, the Supervisor(s) Generation Operations is responsible to send a copy of the form to the Generation Records Officer on Kenmount Road for filing.

Regulatory Approval for Routine Maintenance At Hydro Facilities

Created By: T. Cormier
Revised By: B. Ryan

Reviewed By: G. Humby / B. Ryan
Approved By: G. Humby

-
- 5.3 The [DOEC Permit To Alter A Body of Water – ALT5052](#) will apply to repairs and / or improvements to existing structures only. Approval for new structures on significant streams will continue to be submitted as stand-alone applications to DOEC.
- 5.4 Environmental Approvals for large scale capital projects or other projects which may be otherwise be considered more environmentally sensitive will not be covered under the [DOEC Permit ALT5052](#). Please refer to [OPR200.21 – Application for Regulatory Approval](#) for regulatory approvals required for such projects.
- 5.5 Activities within a Protected Public Water Supply Area (PPWSA) will not be covered under the [DOEC Permit ALT5052](#). Refer to [POG100.08 – Hydroelectric Projects in Water Supply Areas](#) and [OPR200.21 – Application for Regulatory Approval](#) for regulatory approvals required for such projects. [The DOEC Permit ALT5052 is valid for a five \(5\) year period and will expire in January 2015.](#)
- 5.6 [The DFO Blanket Request for Project Review](#) (which is attached to the [DFO Blanket Approval](#)) covers a wide range of work as described in the terms and conditions of the [DFO Blanket Approval](#). If the work is outside the scope of the [DFO Blanket Approval](#) one should check the web site to see if there is an [Operational Statement](#) that would apply and if so a [Notification Form](#) must be submitted to DFO ten (10) working days prior to starting work. In cases where neither the [DFO Blanket Approval](#) nor an [Operational Statement](#) can be used, one must submit a [Request for Project Review](#) for the specific project.

6.0 References

6.1 Reference Documents

- [OPR200.21 – Application for Regulatory Approval](#)
- [POG100.08 – Hydroelectric Projects in Water Supply Areas](#)
- [DOEC Permit To Alter A Body of Water – ALT5052](#)
- [DFO Blanket Approval](#)



Bulletin Number: POG100.10

Date Issued: 2006 03 08

Date Revised: 2013 06 07

Date Reviewed: 2013 06 12

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Regulatory Approval for Routine Maintenance At Hydro Facilities

Created By: T. Cormier

Reviewed By: G. Humby / B. Ryan

Revised By: B. Ryan

Approved By: G. Humby

6.2 Related Significant Aspects

- No related significant aspects

6.3 Legal and Other Requirements

- [Environmental Legal Requirements Application – Webster](#)

7.0 Records (refer to local Master Environmental Records List for record location)

- [Notification of Maintenance Activities at NP Hydroelectric Facilities – Form 797](#)

8.0 Glossary

Abbreviations

DFO – Department of Fisheries and Oceans

DOEC – Department of Environment and Conservation

PPWSA – Protected Public Water Supply Area



Bulletin Number: POG100.11

Date Issued: 2004 04 02

Date Revised: 2012 08 03

Date Reviewed: 2013 07 25

Page 1 of 3

Management of Greenhill Fuel Recirculation System

Created By: M. Churchill

Reviewed By: G. Humby / B. Ryan

Revised By: P. O'Leary

Approved By: G. Humby

1.0 Purpose

The purpose of this procedure is to manage the Greenhill Fuel Recirculation System.

2.0 Scope

This procedure is applicable to the Greenhill Fuel Recirculation System.

3.0 General

Newfoundland Power will manage the Greenhill Fuel Recirculation System in accordance with this procedure.

4.0 Responsibilities

4.1 Supervisor(s) Generation Operations

- Shall be responsible for the periodic review of the Greenhill Fuel Recirculation System.

5.0 Procedure

5.1 Normal Operations

Power Plant staff will ensure that the following steps are taken if the turbine is not running:

- Ensure AC MCC fuel pump is in AUTO by viewing MCC panel
- Ensure 96FLK3 valve is opened by viewing indications on panel view screen. 96LK1 and 96FLK2 should already be open.
- Ensure alarm and shutdown set points are set correctly. At present, this valve is 1 US Gallons Per Minute (GPM). This value is viewable and settable on panel view set points screen three.

Management of Greenhill Fuel Recirculation System

Created By: M. Churchill

Reviewed By: G. Humby / B. Ryan

Revised By: P. O'Leary

Approved By: G. Humby

5.2 Maintenance

- Supervisor(s) Generation Operations will ensure that the Annual Greenhill Fuel Recirculation System Annual maintenance is completed as a simulation to detect of a leak greater than 4 US GPM:
- Two Maintenance Persons are required to perform this step.
- Notify System Control Centre (SCC) prior to performing this maintenance procedure
- Maintenance Person #1 will press the manual recir option on the panelview screen (if system not automatically recirculating). At the same time, Maintenance Person #2 will be located in the fuel-forwarding shed near the normally closed recirculation bypass valve.
- Maintenance Person #1 will then view the liquid fuel screen on the PC HMI and visually monitor the fuel flow out reading while Maintenance Person #2 very slowly opens the closed recirculation bypass valve. Maintenance Person #1 should notice an increase in the amount of fuel leaking (simulated) from 0 US GPM to 4 US GPM. When the amount increases past 4 US GPM the Fuel Recirculation System will shut down and all valves will close.
- Maintenance Person #1 and SCC will see an alarm/shutdown indicating that a fuel leak has been detected.
- When the operation has been verified, Maintenance Person #2 should return the recirculation bypass valve to its normal position (closed).
- This procedure should be performed as per Avantis.
- Refer to [OPR200.09 – Petroleum Storage](#), Section 10.11 for information on fuel shut-off valves.

6.0 References

6.1 Reference Documents

- [OPR200.09 – Petroleum Storage](#)

6.2 Related Significant Aspects

- [420](#)



Bulletin Number: POG100.11

Date Issued: 2004 04 02

Date Revised: 2012 08 03

Date Reviewed: 2013 07 25

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Management of Greenhill Fuel Recirculation System

Created By: M. Churchill

Reviewed By: G. Humby / B. Ryan

Revised By: P. O'Leary

Approved By: G. Humby

6.3 Legal and Other Requirements

- [Environmental Legal Requirements Application - Webster](#)

7.0 Records

- Avantis

8.0 Glossary

Abbreviations

- **GPM** – Gallons Per Minute
- **SCC** – System Control Centre



Bulletin Number: POG100.12

Date Issued: 2002 04 05

Date Revised: 2013 07 24

Date Reviewed: 2013 07 24

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Storing and Controlling the Release of Water

Created By: B. Titford

Reviewed By: G. Humby / B. Ryan

Revised By: D. Ball

Approved By: G. Humby

1.0 Purpose

Minimize potentially adverse impacts on fish and fish habitat while storing and releasing water.

2.0 Scope

This procedure applies to all water storage systems within Company owned hydroelectric developments.

3.0 General

Water flows shall be managed in all waterbody channels that are utilized as part of the normal operation of hydroelectric watersheds to minimize potential adverse effects on fish and fish habitat. These channels primarily include tailrace channels, rivers which interconnect storage reservoirs and forebays, and discharge channels which release water from the system through sluice gates.

4.0 Responsibilities

4.1 Superintendent, Generation Operations

- In conjunction with Superintendent, **Generation** Engineering will provide resources to monitor and inspect water levels in reservoirs and waterways on a regular basis in accordance with [POG100.07 – Maintenance of Dams, Gates and Penstocks](#).

Storing and Controlling the Release of Water

Created By: B. Titford

Reviewed By: G. Humby / B. Ryan

Revised By: D. Ball

Approved By: G. Humby

5.0 Procedure

5.1 Tailrace Channels

- 5.1.1 Normally, hydro plant operating practices do not result in dewatering of tailrace channels. At many coastal powerhouse sites, tailrace water levels are controlled by tidewater, not plant discharges. As such, tailrace dewatering is not a problem, and flow compensation is not required during shutdown periods. Similarly, in cases where inland powerhouses discharge directly into a downstream waterbody with backwater effects, tailrace channels are naturally maintained.
- 5.1.2 Provision for minimum flows in tailrace channels is of primary concern at inland powerhouse sites, which do not discharge directly into downstream waterbodies with backwater effects. These sites include; PBK, TOP, SCV, VIC, WBK, LOK, SBK, LBK, RBH. Of these nine sites, three plants (SCV, LOK, RBH) are equipped with flow compensation valves that are operated to maintain tailrace flows during periods of plant shutdowns. At all the seven remaining sites, flow diversion arrangements may be required to provide flow compensation during extended plant shutdown periods (i.e. one week or greater), depending on natural seasonal inflow and/or local drainage conditions.
- 5.1.3 Monitoring and control of water levels at Rose Blanche Brook tailrace shall be conducted as outlined in [POG100.02 – Rose Blanche Brook Plant Fisheries Flow Compensation Strategy](#).
- 5.1.4 Provisions for minimum flows in tailrace channels at PBK, SCV and LOK are outlined in:
- [POG100.03.02 – Pierre’s Brook Operating Procedures](#)
 - [POG100.03.08 - Seal Cove Operating Procedures](#)
 - [POG100.03.15 – Lockston Operating Procedures](#)

Storing and Controlling the Release of Water

Created By: B. Titford

Reviewed By: G. Humby / B. Ryan

Revised By: D. Ball

Approved By: G. Humby

5.2 Rivers Downstream of Storage Reservoirs

5.2.1 All Submerged Control Gates in storage dams (used to control the flow of water to downstream reservoirs) are operated to provide a continuous flow of water to downstream rivers. Under normal conditions, outlet gates shall not be operated in a 100% closed position where the potential for partial or complete river dewatering exists. Refer to [POG100.03 Series – Reservoir and Turbine Operating Procedures](#) for more site-specific guidelines regarding gate openings.

5.2.2 Rivers and other waterways which are utilized as flow distribution channels between reservoirs and forebays, shall not be subjected to adverse low flow conditions as the direct result of hydropower generation interests. Flow releases from storage reservoirs should, as a minimum, be sufficient to mirror existing natural low flow river conditions during extended dry seasons.

5.3 Operation of Gates

5.3.1 All gates in storage dams and forebays shall be operated under controlled conditions. Gate adjustments shall be carried out in such a way to avoid abrupt/sudden changes in flow conditions in downstream channels. A sudden increase in downstream flow conditions may result in excessive erosion of channel substrate and/or shoreline vegetation. Alternatively, an abrupt decrease in channel discharge may result in the sudden formation of barriers within the river. To avoid both of these potentially adverse conditions, gate adjustments shall be gradual and moderate. River conditions shall be observed prior to, during, and following gate adjustment operations.

5.4 Reservoir Storage Levels

5.4.1 Water level elevations in reservoirs are maintained in accordance with the [POG100.03 Series – Reservoir and Turbine Operating Procedures](#).

5.4.2 In some cases, water levels in storage reservoirs may fluctuate considerably on a seasonal basis. Extreme low storage levels may result in shoreline exposure and the potential creation of barriers. These barriers may result in the entrapment of

Storing and Controlling the Release of Water

Created By: B. Titford

Reviewed By: G. Humby / B. Ryan

Revised By: D. Ball

Approved By: G. Humby

fish in small isolated pools. Power Plant staff attempt to maintain reservoir levels are maintained within acceptable operating ranges as tabulated in the [POG100.03 Series – Reservoir and Turbine Operating Procedures](#). In cases where reservoir levels drop below the operating range due to extreme low inflow conditions, control gates at storage dams should only be operated for the purpose of maintaining fish habitat in downstream areas.

5.5 Diversion Dams

5.5.1 Diversion dams act as a permanent alteration of flow direction within a watershed. Unlike storage dams, which normally release flows through submerged control gates, diversion dams do not have provisions for flow release. Therefore, the natural/historical flow within waterways immediately downstream of diversion dams is permanently changed.

5.5.2 The construction of new diversion dams will require, as a minimum, prior submission to Fisheries and Oceans, Canada (DFO) of a [Request for Project Review](#) pursuant to section 35(2) of the Fisheries Act.

5.5.3 The construction of a new dam may, at the discretion of DFO, require provision for fish passage pursuant to Section 20(1) of the Fisheries Act. In such cases, provisions for free passage must be provided both “during construction” and long-term “in service” operations.

6.0 References

6.1 Reference Documents

- [POG100.02 – Rose Blanche Brook Plant Fisheries Flow Compensation Strategy](#)
- [POG100.03 Series – Reservoir and Turbine Operating Procedures](#)
- [POG100.03.02 – Pierre’s Brook Operating Procedures](#)

Storing and Controlling the Release of Water

Created By: B. Titford

Reviewed By: G. Humby / B. Ryan

Revised By: D. Ball

Approved By: G. Humby

-
- [POG100.03.08 - Seal Cove Operating Procedures](#)
 - [POG100.03.15 – Lockston Operating Procedures](#)
 - [POG100.07 - Maintenance of Dams, Gates and Penstocks](#)

6.2 Related Significant Aspects

- [270; 720; 750; 770; 780](#)

6.3 Legal and Other Requirements

- [Environmental Legal Requirements Application – Webster](#)

7.0 Records (refer to local Master Environmental Records List for record location)

- [DFO Approval](#)

8.0 Glossary

Abbreviations

DFO – Fisheries and Oceans, Canada

LBK – Lookout Brook

LOK – Lockston

PBK – Pierre’s Brook

RBH – Rose Blanche Brook

SBK – Sandy Brook

SCV – Seal Cove

TOP – Topsail

VIC – Victoria

WBK – West Brook



Bulletin Number: POG100.14

Date Issued: 2002 04 05

Date Revised: 2013 07 25

Date Reviewed: 2013 07 25

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Leached Preservatives Used on Penstocks and Other Wood Structures

Created By: B. Titford
Revised By: D. Ball

Reviewed By: G. Humby / B. Ryan
Approved By: G. Humby

1.0 Purpose

To reduce soil and water contamination caused by leaching of contaminants from treated wooden structures.

2.0 Scope

This procedure applies to all treated wooden structures associated with Company owned hydroelectric developments, primarily penstocks and spillway stoplogs.

3.0 General

We must manage our use of wood preservatives and treatments to minimize environmental impact. As well, it is important that soil contaminants are either removed or controlled to prevent environmental damage to surrounding areas and waterways.

4.0 Responsibilities

- 4.1 Superintendent, **Generation** Engineering and Superintendent, Generation Operations
 - Will ensure that employees and Contractors, conducting work on behalf of the Company, comply with this procedure.
- 4.2 Supervisor(s) Generation Operations
 - Will ensure penstock leaks are repaired as part of regular plant maintenance.

Leached Preservatives Used on Penstocks and Other Wood Structures

Created By: B. Titford
Revised By: D. Ball

Reviewed By: G. Humby / B. Ryan
Approved By: G. Humby

5.0 Procedure

5.1 Appropriate Use of Preservatives

- 5.1.1 Petroleum grease is not to be used as a lubricant for mechanical fittings on penstocks. A non-toxic, biodegradable synthetic grease (Mobilgrease EAL 102, or alternate) shall be used for lubricating mechanical fittings.
- 5.1.2 Creosote treated wood staves, in existing inventory only, will be used for penstock maintenance. No new creosote treated wood material will be purchased. See [OPR200.03 – Chemically Treated Poles and Timbers](#) for further information.
- 5.1.3 Wood treated with CCA is not to be used within 15m of a waterway unless regulatory approval has been received.
- 5.1.4 Field treating of timbers and decking is to be done in dry conditions only and shall not contact water until completely dry.

5.2 Penstock Right-of-Way Drainage

- 5.2.1 New penstock installations will ensure appropriate surface drainage systems are provided. Such drainage systems will facilitate surface water flow away from the penstock right-of-way.
- 5.2.2 Plant staff shall inspect and correct problems identified with surface drainage. See [POG100.07 – Maintenance of Dams, Gates and Penstocks](#) for further information.

Leached Preservatives Used on Penstocks and Other Wood Structures

Created By: B. Titford
Revised By: D. Ball

Reviewed By: G. Humby / B. Ryan
Approved By: G. Humby

5.2.3 Penstock right-of-way drainage systems are required to minimize the extent of uncontrolled dispersal of surface runoff. This control may be achieved through the use of transverse cross drains/ditching which direct surface water away from the right-of-way, as well as longitudinal collection drains which flow parallel to the penstock. Longitudinal collection drains are normally located at an offset of one to two metres from the outside of the penstock.

5.3 Soil Remediation

5.3.1 When existing treated wooden penstocks are replaced, the underlying soil will be tested for contamination. If tests indicate contaminants in the soil exceed regulation limits, the soil will be remediated in accordance with applicable regulations. This may, subsequently, result in soil removal and/or risk management of contaminated soil. See [OPR200.36 – Environmental Management of Company Property](#) for further details.

6.0 References

6.1 Reference Documents

- [POG100.07 – Maintenance of Dams, Gates and Penstocks](#)
- [OPR200.03 – Chemically Treated Poles and Timbers](#)
- [OPR200.36 – Environmental Management of Company Property](#)

6.2 Related Significant Aspects

- [720](#);



Bulletin Number: POG100.14

Date Issued: 2002 04 05

Date Revised: 2013 07 25

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Leached Preservatives Used on Penstocks and Other Wood Structures

Created By: B. Titford

Reviewed By: G. Humby / B. Ryan

Revised By: D. Ball

Approved By: G. Humby

6.3 Legal and Other Requirements

- [Environmental Legal Requirements Application - Webster](#)

7.0 Records

- No records

8.0 Glossary

Abbreviations

- CCA - Chromated Copper Arsenate



Bulletin Number: POG100.15

Date Issued: 1999 06 28

Date Revised: 2012 01 20

Date Reviewed: 2013 07 24

Page 1 of 2

Machine Maintenance / Boom Deployment

Created By: L. Thompson

Reviewed By: G. Humby / B. Ryan

Revised By: P. O'Leary

Approved By: G. Humby

1.0 Purpose

This document defines the process that is used to reduce the impact of an accidental release of petroleum products in the event of a spill at a hydro generating facility during prolonged maintenance periods or when the work type contains a spill risk.

2.0 Scope

This procedure applies to all hydro generating plants operated by the Company.

3.0 General

The Company takes proactive steps to reduce the impact of petroleum releases from its hydro plants.

4.0 Responsibilities

4.1 Supervisor(s) Generation Operations

- Will ensure the requirements of this procedure are followed.

5.0 Procedures

- 5.1 When all units at a hydro plant are shut down for prolonged maintenance related to equipment, building structure or associated operating systems, a containment boom shall be installed in the tailrace. As well, if the work is such that there is a risk of spill but the work is not prolonged (i.e., an oil change), the boom shall also be deployed.



Bulletin Number: POG100.15

Date Issued: 1999 06 28

Date Revised: 2012 01 20

Date Reviewed: 2013 07 24

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Machine Maintenance / Boom Deployment

Created By: L. Thompson

Reviewed By: G. Humby / B. Ryan

Revised By: P. O'Leary

Approved By: G. Humby

5.2 During maintenance at a multi unit hydro plant, if at least one unit remains in operation a containment boom will not be installed, however, oil absorbent materials shall be placed in the turbine drain pit to absorb any petroleum spillage and prevent oil from leaving the plant.

6.0 References

6.1 Reference Documents

- No documents reference

6.2 Related Significant Aspects

- [810](#)

6.3 Legal and Other Requirements

- [Environmental Legal Requirements Application - Webster](#)

7.0 Records

- No records

8.0 Glossary

- No new terms referenced

Management of Waste from Generating Facilities

Created By: T. Poole
Revised By: J. Williams

Reviewed By: G. Humby / B. Ryan
Approved By: G. Humby

1.0 Purpose

The purpose of this procedure is to manage waste products originating from generating plants.

2.0 Scope

This procedure is applicable to all waste generated from both hydro and fossil fuel powered generating facilities.

3.0 General

Newfoundland Power will manage waste material originating from its generation facilities in accordance with this procedure.

4.0 Responsibilities

4.1 Supervisor(s) Generation Operations

- Will ensure proper management of waste generated from the generating facilities under their responsibility.

5.0 Procedure

5.1 Storage of Liquid Waste

- 5.1.1 Supervisor(s) Generation Operations will ensure that all liquid petroleum waste (e.g. lube oil), vegetable oil waste, and cleaning solvent liquid waste (e.g. varsol) shall be collected and stored in separate liquid tight drums (either plastic or steel) and to ensure waste streams are not mixed.

Management of Waste from Generating Facilities

Created By: T. Poole

Reviewed By: G. Humby / B. Ryan

Revised By: J. Williams

Approved By: G. Humby

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- 5.1.2 The number of drums of petroleum waste oil and solvent waste on site should be kept to a minimum. Weather conditions or work process may require that more drums be on site until the work has been completed or weather conditions permit movement off site.
- 5.1.3 There is no limit on the number of drums of vegetable waste oil that may be stored on site; however, one must ensure all waste is disposed of on a regular basis.
- 5.1.4 Drums containing liquid petroleum, **liquid vegetable oil** or liquid solvent shall be filled to a maximum of 80% of capacity.
- 5.1.5 Drums containing liquid waste or liquid varsol located in all generating and **hydro plants** will be stored in secondary containment.
- 5.2 **Storage Rags/Absorbent Material Containing Flammable/Combustible/Non-Combustible Products**
- Supervisor(s) Generation Operations will ensure that all flammable solid waste (e.g. rags/absorbent material containing gasoline) and all combustible/non-combustible solid waste (e.g. rags containing varsol, diesel, lube oil, vegetable oil) are collected and stored in a separate fire proof, leak proof container. This could be steel drums that are covered. All containers must be placed on a non-combustible floor, such as concrete.
- 5.3 Labeling
- All waste receptacles used for the storage of petroleum waste will be clearly labeled as per [OPR200.20 – Identification and Management of Storage Drums](#).
- 5.4 Disposal of Waste
- 5.4.1 Supervisor(s) Generation Operations will ensure that all waste in sections 5.1, and 5.2 is disposed of through the licensed waste disposal contractor retained under contract by the Company. See [OPR200.04 – Waste Disposal](#) for further information.



Bulletin Number: POG100.16

Date Issued: 2002 04 19

Date Revised: 2010 07 22

Date Reviewed: 2013 07 22

Page 3 of 4

Management of Waste from Generating Facilities

Created By: T. Poole
Revised By: J. Williams

Reviewed By: G. Humby / B. Ryan
Approved By: G. Humby

5.4.2 Supervisor(s) Generation Operations will ensure all waste is disposed of on a regular basis.

5.5 Transportation

5.5.1 All dangerous goods must be transported in accordance with the Transportation of Dangerous Goods (TDG) Regulations. This can be done by employees who have TDG training or by the Company's licensed waste disposal contractors. All movement of TDG regulated products must have the proper documentation and labeling.

5.5.2 In the different situations above, the TDG requirements are only applicable to waste in sections 5.3 of this procedure that contain a flammable product such as gasoline. Rags/absorbent material containing combustible products such as varsol/diesel and liquid varsol are exempt from the TDG Regulations if these wastes are moved in a small means of containment (i.e. a means of containment with cargo capacity less than 450 litres) such as a drum which is properly closed and secured to the vehicle.

5.5.3 Arrangements may be made to have the licensed waste disposal contractor come to each location for pick up or arrangements can be made to have employees, who are trained in TDG, to take the waste to central locations for pick up by the licensed waste disposal contractor. In all cases where the movement requires the shipment to be conducted in accordance with TDG, the person must have a valid TDG certificate and [all labels](#) and documentation must be in place.

6.0 References

6.1 Reference Documents

- [OPR200.04 – Waste Disposal](#)
- [OPR200.20 – Identification and Management of Storage Drums](#)



Bulletin Number: POG100.16

Date Issued: 2002 04 19

Date Revised: 2010 07 22

Date Reviewed: 2013 07 22

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Management of Waste from Generating Facilities

Created By: T. Poole
Revised By: J. Williams

Reviewed By: G. Humby / B. Ryan
Approved By: G. Humby

6.2 Related Significant Aspects

- No related significant aspect

6.3 Legal and Other Requirements

- [Environmental Legal Requirements Application - Webster](#)

7.0 Records (refer to local Master Environmental Records List for location of record)

- [TDG Shipping Documents](#)

8.0 Glossary

Abbreviations:

- **TDG** – Transportation of Dangerous Goods



Bulletin Number: POG100.17

Date Issued: 1999 08 18

Date Revised: 2012 01 20

Date Reviewed: 2013 07 22

Page 1 of 4

Monitoring and Reporting of Fish Activity Procedure

Created By: J. Meaney

Reviewed By: G. Humby / B. Ryan

Revised By: P. O'Leary

Approved By: G. Humby

1.0 Purpose

The purpose of this procedure is to provide guidance relating to the reporting of operational impacts on fish and fish habitat.

2.0 Scope

This procedure covers all Newfoundland Power hydroelectric developments and their respective impacts including: water levels, minimum flows, siltation, entrainment in intakes, turbines and tailraces and any other impacts resulting in regular operation of the facilities.

3.0 General

Newfoundland Power will monitor, on a regular basis, the effects its hydro developments have on fish and fish habitat.

4.0 Responsibilities

4.1 Planner, Generation

- Will review Avantis work orders and work requests provided from field staff. These may relate to fish activity in all developments and if required, the Planner will initiate follow up as required.

4.2 Supervisor(s) Generation Operations

- Will monitor each hydroelectric development with respect to impact on fish resources.
- Will ensure Power Plant staff fulfill their duties as noted in this procedure.

Monitoring and Reporting of Fish Activity Procedure

Created By: J. Meaney

Reviewed By: G. Humby / B. Ryan

Revised By: P. O'Leary

Approved By: G. Humby

5.0 Procedure

- 5.1 The Planner, Generation shall be responsible for reviewing Avantis work orders and work requests provided from field staff. If the work orders/requests relate to fish activity in any development, the Planner will identify system problems based on the reports and initiate [OPR400.09 – Non-Conformance Corrective and Preventive Action](#), where appropriate
- 5.2 The Supervisor(s) Generation Operations will ensure monitoring is carried out by Power Plant Operators during the course of normal daily rounds.
- 5.3 The Power Plant staff shall be responsible for visually observing all relevant parameters, as listed below, during the course of both normal daily rounds, as well as scheduled dam safety inspections. Abnormal conditions/observations will be reported.
- Water Levels – Ensure reservoir water levels are maintained within normal operating ranges.
 - Minimum Flows - Observe minimum flows in rivers and streams below hydraulic control structures.
 - Pollution - Inspect surrounding water bodies for evidence of pollution or any deleterious substances from Newfoundland Power operations.
 - Siltation - Check for indications of siltation in water bodies arising from Newfoundland Power operations.
 - Turbines - Check for indications of destruction of fish in turbines by examining tailrace area for remains.
 - Intake - Check intake for fish entrained against trash racks.
 - Screens – Observe condition of fish screens (where applicable).
 - Fishways – Check for obstruction to flow or fish passage.
 - Channels – Check for obstructions in approach channels and discharge channels.
- 5.4 Any indication of Harmful Alteration, Disruption or Destruction of Fish Habitat (HADD) or destruction of fish resulting from Newfoundland Power operations should be noted and reported using one of the following reporting mechanisms:
- Avantis work order,
 - Avantis work request, or

Monitoring and Reporting of Fish Activity Procedure

Created By: J. Meaney

Reviewed By: G. Humby / B. Ryan

Revised By: P. O'Leary

Approved By: G. Humby

-
- Recorded in the [EMS Incident / System Improvement module of Prevent](#).

6.0 References

6.1 Reference Documents

- [OPR400.09 – Non-Conformance Corrective and Preventive Action](#)
- [EMS Incident / System Improvement](#)

6.2 Related Significant Aspects

- [270; 720; 770](#)

6.3 Legal and Other Requirements

- [Environmental Legal Requirements Application - Webster](#)

7.0 Records

- [EMS Incident / System Improvement module of Prevent](#)

8.0 Glossary

Abbreviations:

- HADD** – Harmful Alternation, Disruption or Destruction of Fish Habitat

Destruction of Fish - According to Fisheries Act, sec.32, no person shall destroy fish by any other means other than fishing



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Monitoring and Reporting of Fish Activity Procedure

Created By: J. Meaney

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Revised By: P. O'Leary

Approved By: G. Humby

Fish - According to Fisheries Act, sec. 2, "fish" includes shellfish, crustaceans, marine animals, and the eggs, sperm, spawn, larvae, spat and juvenile stages of fish, shellfish, crustaceans and marine animals

Fish Habitat - According to Fisheries Act, sec. 34, "fish habitat" means spawning grounds nursery, rearing food supply and migration areas on which fish depend directly or indirectly in order to carry out their life processes

Harmful Alteration - According to Fisheries Act, sec. 35(1), no person shall carry on any work or undertaking that results in the harmful alteration, disruption or destruction (HADD) of fish habitat



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Gate Hoist Operating Procedures

Created By: B. Titford

Reviewed By: G. Humby / B. Ryan

Revised By: D. Ball

Approved By: G. Humby

1.0 Purpose

To operate control gates and associated hoist equipment during regular or emergency operations.

2.0 Scope

This procedure shall apply to all control gates.

3.0 General

Control gates are operated for the purpose of controlling the discharge from forebays and reservoirs to down stream channels and/or facilities.

4.0 Responsibilities

4.1 Supervisor(s) Generation Operations

- Will ensure the inspection of structures and make decisions; in conjunction with the Superintendent, Generation Operations and Superintendent, **Generation** Engineering, regarding repairs or improvements to structures.
- Will ensure changes in gate opening elevations are recorded.

5.0 Procedure

5.1 Manually Operated Gates

- 5.1.1 One person is required to operate the gate under normal conditions at many locations. However, there may be conditions requiring two persons.

Gate Hoist Operating Procedures

Created By: B. Titford

Reviewed By: G. Humby / B. Ryan

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Approved By: G. Humby

5.1.2 There are three types of handles for operating the gate:

- Crank handle - A metal handle with a socket at one end that slides onto a horizontally mounted shaft on the lift mechanism.
- Ship's wheel - A round metal wheel (about 600 mm diameter) with a socket at the center and handles equally spaced around the perimeter. The socket slides onto a square shaft mounted horizontally on the lift mechanism.
- Wheel - A round metal wheel (about 1200 mm diameter) with a socket at the center permanently attached to the lifting mechanism. It is either horizontally or vertically mounted.

5.1.3 Turn crank handle clockwise to open the gate, counter clockwise to close the gate.

5.1.4 The gate lift stem is exposed through the top of the lift mechanism and raises/lowers in direct proportion to the gate opening/closing. The gate opening is determined by the distance the top of the lift stem is raised above the gate closed mark.

5.1.5 Winter conditions may freeze the gate or a build-up of debris may hinder the operation of the gate. Do not "force" the gate operating mechanism which may damage the stem or lift mechanism. Take steps to free the gate before continuing to operate the lift mechanism.

5.1.6 Ensure methods used to free the gate during winter conditions are not harmful to the environment. The use of salt is prohibited in all waterways.

5.2 Electrically Operated Gates

5.2.1 Electrically operated gates are located at the forebay intake structures and other locations and are generally not affected by weather conditions. The lift mechanism is often sheltered by a wooden enclosure.



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Gate Hoist Operating Procedures

Created By: B. Titford

Reviewed By: G. Humby / B. Ryan

Revised By: D. Ball

Approved By: G. Humby

-
- 5.2.2 The control gates at Amy's Lake (RBK System) and Trinity Pond (LOK System) is remotely operated through the plant water management scheme but may also be controlled by the System Control Centre (SCC) or operated locally.
- 5.2.3 One person is required to operate the gate under normal conditions at many locations. However, there may be conditions requiring two persons.
- 5.2.4 Engage the electric motor using the push button or pull lever starter mounted in the gatehouse. The gate is equipped with limit switches to automatically disengage the motor when the gate is fully open or closed.
- 5.2.5 When power is unavailable, install the crank arm or wheel on the lift mechanism and operate manually as outlined in sections 4.1 of this procedure.
- 5.3 Electrically Operated Spillway Gates
- 5.3.1 The spillway gate located at the Sandy Brook forebay consists of a series of steel frame concrete panels operated by an electrically powered 5 ton hoist mounted on a horizontal overhead steel track.
- 5.3.2 Each panel has two steel lifting cables attached which connect to the hoist for removal.
- 5.3.3 If power is unavailable the panels can be removed using a manually operated five-ton winch available from a local rental agency.
- 5.3.4 Two persons are required for removal of these panels.
- 5.4 Recording and Reporting
- 5.4.1 A record of all changes in gate opening elevations shall be maintained at each hydroelectric development powerhouse.

Gate Hoist Operating Procedures

Created By: B. Titford

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5.4.2 Gate openings shall be sent to the SCC on a weekly basis.

6.0 References

6.1 Reference Documents

- No documents referenced

6.2 Related Significant Aspects

- [720; 770; 780; 810](#)

6.3 Legal and Other Requirements

- [Environmental Legal Requirements Application - Webster](#)

7.0 Records (refer to local Master Environmental Records List for record location)

- [Plant Log Book](#)
- [SCC Log](#)

8.0 Glossary

Abbreviation:

SCC – System Control Centre



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Stop Log Removal Procedure

Created By: B. Titford
Revised By: P. O'Leary

Reviewed By: G. Humby / B. Ryan
Approved By: G. Humby

1.0 Purpose

The purpose of this procedure is to manage the stop log removal process.

2.0 Scope

This procedure applies to all structures where stop logs are installed.

3.0 General

Stop logs are used at some spillway structure locations to increase reservoir capacity which reduces water loss from the development. These stop logs may be required to be removed during flood conditions to reduce the water level in the reservoir.

4.0 Responsibilities

4.1 Supervisor(s) Generation Operations

- Will ensure inspection of structures and make decisions in conjunction with the Superintendent, Generation **Operations**, regarding operations, repairs and improvements to structures.
- Will ensure changes in stop log elevations are recorded.

5.0 Procedure

5.1 Two persons are required for the removal and installation of the stop logs.

5.2 Stop logs equipped with lifting brackets are removed using steel lifting hooks stored at forebay gatehouses or powerhouse storage facilities. The stop logs are lifted vertically

Stop Log Removal Procedure

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Revised By: P. O'Leary

Reviewed By: G. Humby / B. Ryan
Approved By: G. Humby

while standing on the stop log-retaining platform. A sledgehammer and crow bar may be used to loosen and retrieve the stop logs.

5.3 Stop logs without lifting brackets are released using a crow bar and sledge hammer. Rope can be used to help retrieve the stop logs from the retaining brackets.

5.4 Permanently installed stop logs shall not be removed.

5.5 Personal Protective Equipment must be used during the removal of stop logs.

5.6 Recording and Reporting

5.6.1 A record of all changes in stop log elevations shall be kept at each hydroelectric development powerhouse.

5.6.2 Stop log elevations shall be provided to the System Control Centre (SCC) on a weekly basis.

6.0 References

6.1 Reference Documents

- No reference documents

6.2 Related Significant Aspects

- 720; 770; 780; 810



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Stop Log Removal Procedure

Created By: B. Titford

Reviewed By: G. Humby / B. Ryan

Revised By: P. O'Leary

Approved By: G. Humby

6.3 Legal and Other Requirements

- [Environmental Legal Requirements Application - Webster](#)

7.0 Records (refer to local Master Environmental Records List for record locations)

- [Plant Log Book](#)
- [SCC Log](#)

8.0 Glossary

Abbreviation:

SCC – System Control Centre



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Monitoring & Operating Unmanned Hydro Plants

Created By: B. Titford
Revised By: P. O'Leary

Reviewed By: G. Humby / B. Ryan
Approved By: G. Humby

1.0 Purpose

The purpose of this procedure is to mitigate the potential environmental impacts from unmanned hydro plants through prevention and early detection strategies.

2.0 Scope

This procedure applies to all unmanned hydroelectric generating plants owned by Newfoundland Power.

3.0 General

It is important that monitoring systems for hydroelectric generating plant operations are in place and regularly inspected and maintained to reduce potential for environmental impacts from mechanical failure and changes in water levels.

4.0 Responsibilities

4.1 Superintendent, Generation Operations

- Will ensure resources are available for installation and maintenance of mechanical leak detection/prevention equipment and remote monitoring control equipment.

4.2 Supervisor(s) Generation Operations

- Will ensure plant monitoring equipment is inspected and properly maintained.

Monitoring & Operating Unmanned Hydro Plants

Created By: B. Titford
Revised By: P. O'Leary

Reviewed By: G. Humby / B. Ryan
Approved By: G. Humby

5.0 Procedure

- 5.1 All existing floor and sump drains leading outside the plant will be plugged.
- 5.2 Monitoring equipment will initiate plant trips or alarms at the System Control Centre (SCC). The SCC will then contact the Plant staff who will determine if staff should immediately visit the site to investigate the alarm/trip.
- 5.3 Plant operations staff will make weekly (record on log sheets) and monthly (record in Avantis) plant inspection visits.
- 5.4 Absorbent material will be placed in floor sump pits and in areas where the possibility of leaks may occur as per [POG100.22 – Control of Incidental Release of Petroleum Products](#).
- 5.5 Spill pans with soda ash will be placed under battery banks.
- 5.6 Opened drums and containers of petroleum or hazardous products will be stored in spill containment pans or in self dyked buildings
- 5.7 Solenoids will be installed on cooling systems.
- 5.8 Cooling coils will be replaced as required.

6.0 References

6.1 Reference Documents

- [POG100.22 – Control of Incidental Release of Petroleum Products](#)



Bulletin Number: POG100.20

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Monitoring & Operating Unmanned Hydro Plants

Created By: B. Titford
Revised By: P. O'Leary

Reviewed By: G. Humby / B. Ryan
Approved By: G. Humby

6.2 Related Significant Aspects

- 390; 810

6.3 Legal and Other Requirements

- No legal or other requirements

7.0 Records

- No records

8.0 Glossary

Abbreviations:

- **SCC** - System Control Centre



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Management of Greenhill Cooling Transfer System

Created By: B. Ryan
Revised By: J. Curran

Reviewed By: G. Humby / B. Ryan
Approved By: G. Humby

1.0 Purpose

The purpose of this procedure is to manage the Greenhill Cooling Transfer System that is used in the event of a glycol system failure.

2.0 Scope

This procedure is applicable to the Greenhill Cooling Transfer System.

3.0 General

Newfoundland Power will manage the Greenhill Cooling Transfer System in accordance with this procedure.

4.0 Responsibilities

4.1 Supervisor(s) Generation Operations

- Will ensure the day-to-day management of the Greenhill Cooling Transfer System.

5.0 Procedure

5.1 Power Plant staff will ensure that the following steps are taken if the turbine is not running:

- (a) Turn off glycol pump.
- (b) Close glycol inlet valve - #1 tag.
- (c) Close glycol outlet valve - #2 tag.



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Management of Greenhill Cooling Transfer System

Created By: B. Ryan
Revised By: J. Curran

Reviewed By: G. Humby / B. Ryan
Approved By: G. Humby

- (d) Close glycol bypass valve - #3 tag.
- (e) Open vent to drain trapped glycol into holding tank.
- (f) Close vent when glycol drained.
- (g) Open cold water valve in workshop - #6 tag.
- (h) Close valve to outside drain - #7 tag.
- (i) Open valve to waste barrel - #8 tag.
- (j) Open cold water inlet valve to cooler. #5 tag.
- (k) Open cold water outlet valve from cooler. #4 tag.
- (l) When water clears open valve to outside drain. #7 tag.
- (m) Close valve to waste barrel. #8 tag.

5.2 Supervisor(s) Generation Operations will ensure that the following steps are taken if the turbine is running:

- (a) Open cold water valve in workshop. #6 tag.
- (b) Close valve to outside drain. #7 tag.
- (c) Open valve to waste barrel. #8 tag.
- (d) Turn off glycol pump.
- (e) Close glycol inlet valve. #1 tag.
- (f) Close glycol outlet valve. #2 tag.
- (g) Close glycol bypass valve. #3 tag.
- (h) Open cold water inlet valve to cooler. #5 tag.
- (i) Open cold water valve from cooler. #4 tag.
- (j) When water is clear, open valve to outside drain. #7 tag.
- (k) Close valve to waste barrel. #8 tag

5.3 Supervisor(s) Generation Operations will ensure that the following steps are taken if the turbine is stopped and cooled down:

- (a) Turn off cold water in workshop. #6 tag.
- (b) Turn off water inlet valve to cooler. #5 tag.
- (c) Turn off water drain valve. #4 tag



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Management of Greenhill Cooling Transfer System

Created By: B. Ryan
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Approved By: G. Humby

- (d) Open glycol inlet valve. #1 tag.
- (e) Open glycol outlet valve. #2 tag.
- (f) Open glycol bypass valve. #3 tag.
- (g) Turn on glycol pump switch.

Note: If the glycol in the drum is of suitable quality it can be pumped back into the holding tank. If the glycol is not suitable, it shall be disposed of as waste in accordance with Section 5.4 of this procedure.

5.4 Disposal of Glycol Waste

Supervisor(s) Generation Operations will ensure that all glycol waste is disposed of through the licensed waste disposal contractor retained under contract by the Company. See [OPR200.04 – Waste Disposal](#) for further information.

Supervisor(s) Generation Operations will ensure all glycol waste is disposed of on a regular basis.

6.0 References

6.1 Reference Documents

- [OPR200.04 – Waste Disposal](#)

6.2 Related Significant Aspects

- No related significant aspects



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Management of Greenhill Cooling Transfer System

Created By: B. Ryan
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Approved By: G. Humby

6.3 Legal and Other Requirements

- [Environmental Legal Requirements Application – Webster](#)

7.0 Records

- No records

8.0 Glossary

- No new terms referenced



Bulletin Number: POG100.22

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Control of Incidental Release of Petroleum Products

Created By: T. Troke
Revised By: P. O'Leary

Reviewed By: G. Humby / B. Ryan
Approved By: G. Humby

1.0 Purpose

This document defines procedures to minimize the potential of a release of petroleum products from the Company hydroelectric generating facilities and thereby minimizing the potential of a negative environmental impact.

2.0 Scope

This procedure applies to all hydroelectric plants operated by Newfoundland Power.

3.0 General

Newfoundland Power will manage the risk of releasing petroleum products into the environment in accordance with this procedure.

4.0 Responsibilities

4.1 Superintendent, Generation Operations

- Will provide sufficient resources to complete the tasks as outlined in this procedure.

4.2 Supervisor(s) Generation Operations

- Will ensure that these procedures are completed.

5.0 Procedures

5.1 Greasing

- 5.1.1 Auto-lubrication systems for application of grease to wicket gate bushings will be removed from service with all greasing done manually, where possible.



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Control of Incidental Release of Petroleum Products

Created By: T. Troke
Revised By: P. O'Leary

Reviewed By: G. Humby / B. Ryan
Approved By: G. Humby

Grease will be applied as required rather than at a set amount at a given interval whether required or not.

5.2 Turbine Sumps

5.2.1 Absorbent pads will be placed in turbine sumps to absorb any petroleum products incidentally deposited there.

5.2.2 As part of the regular plant visit and inspection, turbine sumps will be checked for petroleum products and to ensure that adequate absorbent pads are in place.

5.2.3 Turbine sump pump cut-in and cut-out levels will be adjusted so as to minimize the risk of incidental release of petroleum products into the environment.

5.3 Gate Structures

5.3.1 The impact of operating equipment containing petroleum products directly over waterways will be addressed using the best available technology on a site-by-site basis.

6.0 References

6.1 Reference Documents

- No documents reference

6.2 Related Significant Aspects

- [810](#)

6.3 Legal and Other Requirements

- No legal or other requirements



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Control of Incidental Release of Petroleum Products

Created By: T. Troke
Revised By: P. O'Leary

Reviewed By: G. Humby / B. Ryan
Approved By: G. Humby

7.0 Records

- No records

8.0 Glossary

- No new terms referenced