# NEWFOUNDLAND AND LABRADOR BOARD OF COMMISSIONERS OF PUBLIC UTILITIES

# AN ORDER OF THE BOARD

NO. P. U. 8(2010)

**IN THE MATTER OF** the *Electrical Power Control Act, 1994*, SNL 1994, Chapter E-5.1 (the *"EPCA"*), and regulations thereunder;

**AND IN THE MATTER OF** an application by Nalcor Energy for an order to establish the terms of a water management agreement between Nalcor Energy and Churchill Falls (Labrador) Corporation Limited with respect to the Churchill River, Labrador.

## **BEFORE:**

Andy Wells Chair & Chief Executive Officer

Darlene Whalen, P.Eng. Vice-Chair

Dwanda Newman, LL.B. Commissioner

James Oxford Commissioner

WHEREAS on November 10, 2009 Nalcor Energy ("Nalcor") filed an application, pursuant to 1 section 5.5 of the EPCA, for an order of the Board of Commissioners of Public Utilities (the 2 "Board") establishing the terms of a water management agreement between Nalcor and Churchill 3 Falls (Labrador) Corporation Limited ["CF(L)Co"] with respect to the Churchill River (the 4 5 "Application"); and 6 7 WHEREAS notice of the Application was published beginning on November 21, 2009; and 8 9 WHEREAS on December 10, 2009 CF(L)Co filed a submission with the Board proposing the same 10 water management agreement as was proposed by Nalcor; and 11 WHEREAS on January 22, 2010 the Board issued Order No. P. U. 2(2010) granting intervenor 12 status to the Conseil des Innus de Ekuanitshit, Twin Falls Power Corporation Limited, and 13 collectively the Innu of Uashat mak Mani-Utenam, the Innu Takuaikan Uashat mak Mani-Utenam 14 Band Council and certain traditional families of the Uashat mak Mani-Utenam Innu; and 15 16 WHEREAS section 7 of the Water Management Regulations under the EPCA states that the Board 17 shall approve or establish a water management agreement within 120 days of the filing of an 18 19 application pursuant to the EPCA; and 20 21 WHEREAS the Board is satisfied that the water management agreement proposed by Nalcor should be established and the Board will issue its Reasons for Decision in respect of this order separately. 22 23 24 **IT IS THEREFORE ORDERED THAT:** 25 1. The terms of the water management agreement between Nalcor Energy and Churchill Falls 26 (Labrador) Corporation Limited, attached as Schedule A, are established. 27 28 2. The parties may apply to the Board for an order in relation to costs within 30 days of the date 29 of the Board's Reasons for Decision in respect of this Order. 30 31

3. Nalcor Energy shall pay all the expenses of the Board arising from this Application.

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**DATED** at St. John's, Newfoundland and Labrador this 9<sup>th</sup> day March 2010.

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Andy Wells Chair & Chief Executive Officer

Darlene Whalen, P.Eng. Vice-Chair

Dwanda Newman, LL.B. Commissioner

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Commissioner

Cheryl Aundo Cheryl Blundon

Board Secretary

Schedule A

Order No. P. U. 8(2010)

Dated: March 9, 2010

WATER MANAGEMENT AGREEMENT made as of the \_\_\_\_\_ day of \_\_\_\_\_, 2009,

# BETWEEN: CHURCHILL FALLS (LABRADOR) CORPORATION LIMITED, a corporation incorporated under the laws of Canada ("CF(L)Co"),

- and **-**

**NALCOR ENERGY**, a corporation incorporated under the laws of the Province of Newfoundland and Labrador ("Nalcor"),

WHEREAS CF(L)Co holds water rights to the upper Churchill River, and has constructed and operates water storage, generation and transmission facilities on and in respect of the upper Churchill River;

WHEREAS Nalcor holds water rights to the lower Churchill River, and intends to construct and to operate water storage, generation and transmission facilities on and in respect of the lower Churchill River;

WHEREAS pursuant to the Act:

- (i) it is declared to be the policy of the Province that, amongst other things, all sources and facilities for the production, transmission and distribution of Power and Energy in the Province should be managed and operated in a manner that would result in the most efficient production, transmission and distribution of Power and Energy and, where necessary, all Power, Energy, sources and facilities of the Province are to be assessed and allocated and re-allocated in the manner that is necessary to give effect to such policy; and
- (ii) two or more persons who have been granted rights by the Province to the same body of water as a source for the production of Power and Energy and who utilize, or propose to utilize, or to develop and utilize the body of water as a source for the production of Power and Energy shall enter into an agreement for the purpose of achieving, with respect to the body of water, such policy;

**WHEREAS**, in compliance with their obligations pursuant to the Act and the Regulations, the parties hereto enter into this Water Management Agreement;

**NOW THEREFORE THIS AGREEMENT WITNESSES** that for and in consideration of the respective covenants, undertakings, promises and agreements of the parties set forth in this Agreement, the parties hereto hereby covenant and agree as follows:

## Article 1 DEFINITIONS AND INTERPRETATION

#### 1.1 Defined Terms

For the purpose of this Agreement, the following terms shall have the respective meanings set forth in this Section 1.1 and grammatical variations of such terms shall have corresponding meanings:

"Act" means the Electrical Power Control Act, 1994 (Newfoundland and Labrador);

"Affected Party" has the meaning set forth in this Section 1.1 in the definition of "Force Majeure Event";

"Affiliate" has the meaning set forth in the *Corporations Act* (Newfoundland and Labrador);

"Agreement", "hereto", "hereof", "herein", "hereby", "hereunder" and similar expressions mean or refer to this Agreement, including its Annex "A", as the same may be amended or supplemented from time to time in writing between the parties hereto;

"Article", "Section" and "Subsection" mean or refer to the specified article, section or subsection of this Agreement;

"Board" means the Board of Commissioners of Public Utilities referred to in the Act;

"Business Day" means during regular business hours any day, other than a Saturday or a Sunday or a statutory or civic holiday in the City of St. John's, in the Province;

"Capability" means the maximum load carrying ability of generating equipment or other electrical apparatus under specified conditions for a given time interval;

"CF(L)Co Banked Energy" means the net Energy in storage, owed at any given time by Nalcor to CF(L)Co, calculated as the cumulative difference between the amount of Energy that Nalcor would have generated to fulfil its own Delivery Requirements, and the amount of Energy that Nalcor generated in accordance with the Production Schedule, as measured in MWh, as determined in accordance with this Agreement;

"Churchill River" means the Churchill River located in Labrador, in the Province;

"Damages" means any cost, damage (including incidental and consequential damage), loss, claim, expense, interest, fine, penalty, liability, obligation or other responsibility, including costs, fees and expenses of legal counsel (including costs on a solicitor-client basis) and other advisors and experts, whether or not involving a third party;

"Deficiency" means a failure to satisfy a Production Schedule;

"Delivery Requirements" means the quantity of Power required each hour by a Supplier at specified delivery points;

"Dispute" has the meaning set forth in Section 13.1;

"Energy" means electrical energy measured in kilowatt-hours or multiples thereof;

"Energy Benefits" means the Energy accruing to a Supplier for a period as a result of this Agreement in excess of the Energy that would have accrued to such Supplier for such period in the absence of this Agreement, as determined in accordance with Annex "A";

"Energy Conversion Rate" means the relationship between the Energy production of a hydraulic generating facility and the volume of water consumed to produce that Energy, expressed in units of gigawatt – hours per hectometres cubed (million cubic metres) of water, as determined in accordance with Annex "A";

"Force Majeure Event" means an event, condition or circumstance or combination of events, conditions or circumstances beyond the reasonable control and arising without the fault or negligence of the party making a claim pursuant to section 14.4 of this Agreement (the "Affected Party") including, without limitation:

- (i) fire, explosion, lightning, earthquake, storm, hurricane, flood, ice, landslide or other natural calamity or act of God,
- (ii) terrorism, war (whether or not declared), civil commotion, riot, act of the public enemy,
- (iii) strike, lockout or other labour disturbance,
- (iv) action of any government, legislature, court or other governmental authority, compliance with applicable law, regulation or order of a governmental authority,
- (v) blockade, embargo, closing of borders, and
- (vi) failure or breakdown of equipment or facilities, except as a result of a failure by a Supplier to follow Good Utility Practice;

and which, despite all reasonable efforts of the Affected Party to prevent it or mitigate its effects, adversely affects the performance by such Party of its obligations under this Agreement;

"Good Utility Practice" means those practices, methods or acts, including but not limited to the practices, methods or acts engaged in or approved by a significant portion of the electric utility industry in Canada, that at a particular time, in the exercise of reasonable judgment, and in light of the facts known at the time a decision is made, would be expected to accomplish the desired result in a manner which is consistent with laws and regulations and with due consideration for safety ,reliability, environmental protection, and economic and efficient operations; "HQ Power Contract" has the meaning set forth in Subsection 3.2(a);

"Independent Coordinator" means a person or persons appointed under this Agreement to impartially determine the Suppliers' Power and Energy production levels;

"Independent Coordinator Code of Conduct" means the code of conduct to be adopted by the Water Management Committee, consisting of rules and principles to ensure the impartiality and proficiency of the Independent Coordinator;

"Minister" means the minister appointed under the *Executive Council Act* to administer the Act;

"Nalcor Banked Energy" means the net Energy in storage, owed at any given time by CF(L)Co to Nalcor, calculated as the cumulative difference between the amount of Energy that CF(L)Co would have generated to fulfil its own Delivery Requirements, and the amount of Energy that CF(L)Co generated in accordance with the Production Schedule, as measured in MWh, as determined in accordance with this Agreement;

"Operational Date" means the later of the date of renewal of the HQ Power Contract pursuant to Schedule III of the HQ Power Contract and the commercial in-service date of the first Nalcor generating unit on the lower Churchill River;

"**Power**" means the rate at which Energy is transferred at any point measured in kilowatts or multiples thereof;

"Prior Power Contracts" has the meaning set forth in Section 3.1;

"**Production Facilities**" means all components of a hydro-electric generating facility including any transmission facilities associated with them;

"**Production Schedule**" means the quantity of Power and Energy production, as determined by the Independent Coordinator, required from each Supplier pursuant to and in accordance with this Agreement, the Act and the Regulations;

"Province" means the Province of Newfoundland and Labrador;

"Regulations" mean the Water Management Regulations made pursuant to the Act;

"Subsidiary" has the meaning set forth in the *Corporations Act* (Newfoundland and Labrador);

"Supplier" means CF(L)Co or Nalcor, as owners of rights to produce Power and Energy from hydro-electric facilities on the Churchill River and "Suppliers" means both of them;

"Transmission Provider" means any entity that owns, operates or controls facilities used for the transmission of Power and Energy between or amongst Production Facilities on the Churchill River; "Water Management Committee" means the committee established pursuant to Subsection 5.1(a).

#### **1.2** Sections and Headings

The division of this Agreement into articles, sections and subsections and the insertion of headings are for convenience of reference only and shall not affect the interpretation of this Agreement.

#### 1.3 Number, Gender and Persons

In this Agreement, words importing the singular number only shall include the plural and vice versa, words importing gender shall include all genders and words importing persons shall include individuals, corporations, partnerships, associations, trusts, unincorporated organizations, governmental bodies and other legal or business entities of any kind whatsoever.

# 1.4 Entire Agreement

This Agreement constitutes the entire agreement between the parties hereto with respect to the subject matter hereof and supersedes all prior agreements, understandings, negotiations and discussions, whether written or oral. There are no conditions, covenants, agreements, representations, warranties or other provisions, express or implied, collateral or otherwise, relating to the subject matter hereof except as provided herein.

## 1.5 Applicable Law

This Agreement shall be construed, interpreted and enforced in accordance with, and the respective rights and obligations of the parties shall be governed by, the laws of the Province and the federal laws of Canada applicable therein, and each party hereby irrevocably and unconditionally submits to the exclusive jurisdiction of the courts of the Province and all courts competent to hear appeals therefrom.

#### 1.6 Successors and Assigns

This Agreement shall enure to the benefit of and shall be binding on and enforceable by the parties hereto and their respective successors and permitted assigns.

## 1.7 Severability

If any provision of this Agreement is determined by a court of competent jurisdiction to be invalid, illegal or unenforceable in any respect, such determination shall not impair or affect the validity, legality or enforceability of the remaining provisions hereof, and each provision hereof is hereby declared to be separate, severable and distinct.

#### 1.8 Amendment and Waivers

No amendment or waiver of any provision of this Agreement shall be binding on any party hereto unless agreed to in writing by such party, subject to, in the case of an amendment, any required approval from the Board. No waiver of any provision of this Agreement shall constitute a waiver of any other provision, nor shall any waiver constitute a continuing waiver unless otherwise provided.

## Article 2 OBJECTIVE OF THE AGREEMENT

#### 2.1 Objective of the Agreement

The objective of this Agreement shall be the coordination of the Power generation and Energy production in the aggregate for all Production Facilities on the Churchill River to satisfy the Delivery Requirements for all Suppliers, in a manner that provides for the maximization of the long term Energy-generating potential of the Churchill River, while ensuring that the provisions of any Prior Power Contracts are not adversely affected.

## Article 3 PRIOR POWER CONTRACTS

## 3.1 No Adverse Effect

The parties acknowledge that pursuant to Section 5.7 of the Act, nothing in this Agreement shall adversely affect a provision of a contract for the supply of Power and Energy entered into by a Supplier and a third party prior to this Agreement, or a renewal of that contract (collectively "**Prior Power Contracts**"), and that all provisions of this Agreement and ancillary documents and agreements shall be interpreted accordingly.

#### 3.2 Acknowledgement of Prior Power Contracts

The Suppliers acknowledge that the following are the sole contracts for the supply of Power and Energy entered into by a Supplier and a third party prior to this Agreement:

- (a) the power contract entered into between Hydro-Quebec and CF(L)Co dated May 12, 1969 as well as Schedule III of such power contract which relates to its renewal (the "HQ Power Contract");
- (b) the Churchill Falls Guaranteed Winter Availability Contract between Hydro-Quebec and CF(L)Co dated November 1, 1998, as amended on March 29, 2000;
- (c) the sublease entered into between Twin Falls Power Corporation Limited and CF(L)Co dated November 15, 1961, as amended on April 15, 1963, November 30, 1967 and July 1, 1974 and renewed pursuant to an agreement dated June 9, 1989, and the operating lease between the same parties dated November 30, 1967, as amended on July 1, 1974 and November 10, 1981; and
- (d) the power contract entered into between Newfoundland and Labrador Hydro-Electric Corporation and CF(L)Co dated March 9, 1998, as amended on April 1, 2009.

## Article 4 SUPPLIERS' OBLIGATIONS

# 4.1 Appointment of the Water Management Committee

The Suppliers shall constitute and appoint the Water Management Committee in accordance with Article 5.

#### 4.2 Compliance with Production Schedules

CF(L)Co and Nalcor shall adhere to the Production Schedules set by the Independent Coordinator, provided that in no event shall the Suppliers be required to operate in a manner which is inconsistent with Good Utility Practice, including, without limitation, in any manner which (i) may endanger human life or safety, (ii) may damage or cause excessive wear and tear to their equipment or facilities, (iii) may endanger or compromise the security and integrity of their reservoir structures, or (iv) would require that water levels of any reservoir of a Supplier be carried higher than those established by engineering criteria for freeboard or lower than those recommended for operations.

Each Supplier shall be responsible for the integrity of its Production Facilities.

#### 4.3 Administration of the Independent Coordinator

- (a) The Suppliers shall jointly and sufficiently fund the administration of the Independent Coordinator in proportion to the Energy Benefits obtained by each Supplier from the administration of this Agreement.
- (b) The costs of administration of the Independent Coordinator shall include, without limitation, remuneration, physical office space, human resources, computing and communication material, software and facilities and liability insurance pursuant to Section 6.4.
- (c) Each Supplier shall provide the Independent Coordinator with:
  - (i) Delivery Requirements of its contracts for the supply of Power and Energy;
  - (ii) the Power and Energy generation Capability of such Supplier's Production Facilities;
  - (iii) equipment maintenance requirements of such Supplier;
  - (iv) a forecast of short and long term delivery requirements of such Supplier;
  - (v) copies of a licence, lease or other instrument granting water rights of such Supplier;
  - (vi) plans and requirements respecting such Supplier's construction or commissioning activities;

- (vii) transmission availabilities of such Supplier;
- (viii) the forecast of inflows of such Supplier; and
- (ix) historical data for modelling, detailed model data, discharge curves, water transport times and pre-spill protocols; and
- (x) such additional information as the Water Management Committee may determine;

and shall regularly update any changes to them, all prepared in a manner consistent with Good Utility Practice.

## 4.4 Information Sharing

Information and data shall be shared between the Suppliers and by the Suppliers with the Independent Coordinator as necessary for the Independent Coordinator to perform its functions under this Agreement, including records, data and models, and the Independent Coordinator shall have physical and computer access to those facilities as required to obtain and verify such information and data.

## 4.5 Access to Records

The Water Management Committee shall have access at all reasonable times to the pertinent and relevant records of the Suppliers required to substantiate any fact or matter pertaining to this Agreement.

## 4.6 Record Keeping

Each Supplier shall maintain, for a period of not less than seven years, records required of it to undertake its responsibilities under this Agreement and the Regulations, which records shall be available, upon request, to the Board or the Minister.

## 4.7 Scheduling

- (a) In no event shall the Power requests made to the Independent Coordinator by a Supplier for a period exceed the maximum generating Capability of the Production Facilities of that Supplier for the period requested.
- (b) At such times as the Water Management Committee shall determine, each Supplier shall provide the Independent Coordinator with:
  - (i) its Delivery Requirements for the week following, and
  - (ii) an estimate of its Delivery Requirements for the three weeks thereafter.
- (c) The Delivery Requirements provided pursuant to Subsection 4.7(b)(i) shall constitute each Supplier's request for Power for that week to the extent and at the times indicated by the Delivery Requirements, but each Supplier shall have the right to make further changes to its Delivery Requirements.

(d) It is expressly acknowledged that CF(L)Co shall have the right to modify its Delivery Requirements to fulfill its obligations under any Prior Power Contract.

## Article 5 WATER MANAGEMENT COMMITTEE

## 5.1 Appointment and Replacements

- (a) The Suppliers shall establish, after the date of the approval of this Agreement by the Board pursuant to Subsection 5.4(3)(a) of the Act, and maintain the Water Management Committee consisting of four members, two appointed by CF(L)Co and two appointed by Nalcor.
- (b) Each Supplier shall designate in writing at least one alternate member to the Water Management Committee for the members of the Water Management Committee appointed by such Supplier.
- (c) Should a member be unable to attend a meeting of the Water Management Committee, such member shall be represented at the meeting by an alternate member or, in the absence of the latter, by a person designated in writing by the member or by the person to whom such member reports administratively.
- (d) Prompt notice in writing shall be given by a Supplier to the other Supplier of appointments, removals and replacements of members of the Water Management Committee appointed by the Supplier giving notice.

## 5.2 Powers and Duties

- (a) Subject to this Agreement, the Water Management Committee shall be authorized to deal with all substantive matters, other than those expressly assigned to the Independent Coordinator, as necessary to administer this Agreement and any ancillary documents and agreements, including the validation of the tools and information sources to be used for the implementation and operation of this Agreement.
- (b) The Water Management Committee shall appoint the Independent Coordinator and may, from time to time, establish operating procedures or guidelines for the Independent Coordinator, may give directions to the Independent Coordinator and may amend, modify or supplement Annex "A" to this Agreement, in accordance with and subject to Subsection 7.1(h).
- (c) The Water Management Committee may provide for mechanisms and procedures to facilitate the administration of this Agreement and any ancillary documents and agreements during times of emergency, including, without limitation, to preserve system stability and the integrity of Production Facilities.

## 5.3 Meetings

The Water Management Committee shall meet as often as required to fulfill its duties, but no less than every six (6) months, at such times and places as it shall determine from

time to time. Such meetings may be held in person or by telephone or such other means of communication as the Water Management Committee may decide. A quorum for the Water Management Committee shall be four (4) members.

## 5.4 Decisions

All decisions of the Water Management Committee shall be unanimous. Any impasse shall be resolved in accordance with the Dispute resolution mechanism provided under Article 13.

#### 5.5 Limitation on Powers

The Water Management Committee shall not act in a manner inconsistent with any provision of this Agreement, the Act or the Regulations.

## Article 6 INDEPENDENT COORDINATOR

#### 6.1 Appointment

- (a) The Independent Coordinator shall consist of one or more persons. All appointments, removals or replacements of a person as Independent Coordinator shall be effected by the Water Management Committee.
- (b) Any Supplier may call for the replacement of any person or persons appointed as Independent Coordinator if such person or persons breach in any manner the Independent Coordinator Code of Conduct. The replacement procedure shall be undertaken in accordance with the regular appointment procedures provided in Subsection 6.1(a). For greater certainty, no person appointed as Independent Coordinator shall be removed pursuant to this Subsection 6.1(b) before that person's replacement is appointed.
- (c) Disputes and disagreements relating to the appointment, removal or replacement of the Independent Coordinator shall be subject to the Dispute resolution mechanisms provided under Article 13.

#### 6.2 Duties

(a) The Independent Coordinator shall, based on the information provided by the Suppliers, and in the exercise of reasonable judgment, establish short and long term Production Schedules for all Production Facilities on the Churchill River, through the coordination of production scheduling of the Suppliers based upon the use of the aggregate generating Capability, storage and transmission facilities of any Supplier on the Churchill River, in accordance with the objectives set out at Section 3(1) of the Regulations and with this Agreement. The duties of the Independent Coordinator in this regard shall include, without limitation, the following:

- ensuring that forecasts for Delivery Requirements, inflows, potential spills, generating Capability and storage volumes of each Supplier are received;
- (ii) accounting for and recording all Nalcor Banked Energy and CF(L)Co Banked Energy, in accordance with the mechanisms provided in Annex "A" hereto;
- (iii) co-operating with any Transmission Provider;
- (iv) maintaining, for a period of not less than seven years, records required of the Independent Coordinator to undertake its responsibilities under this Agreement and the Regulations and such records shall be available, upon request, to the Board or the Minister;
- (v) providing the Suppliers and the Water Management Committee with reports on its activities at regular intervals to be established in consultation with the Suppliers and the Water Management Committee;
- (vi) providing to the Minister and, on request, the Board, an annual report summarizing its activities in a form acceptable to the Minister; and
- (vii) performing such other duties or functions in furtherance of the objective of this Agreement as the Water Management Committee may from time to time assign.
- (b) The Independent Coordinator shall determine the total Power to be produced at any time from the Suppliers' Production Facilities as the aggregate of the Delivery Requirements submitted by each of the Suppliers, as modified in accordance with Subsections 4.7(c) and 4.7(d).
- (c) The Independent Coordinator shall determine and prepare the Production Schedules which shall specify the amount of Power to be produced by each Supplier's Production Facilities in accordance with the provisions of this Agreement.
- (d) The Independent Coordinator shall not act in a manner inconsistent with any provision of this Agreement, the Act, the Regulations, or any procedures, directions or guidelines established by the Water Management Committee.

## 6.3 Limitation on Powers

- (a) The parties acknowledge and agree that the following shall exceed the powers and duties of the Independent Coordinator:
  - Scheduling CF(L)Co production for Nalcor, to the extent that such production conflicts with CF(L)Co's obligations under Prior Power Contracts; and

- (ii) Scheduling CF(L)Co production for Nalcor in excess of the then current Nalcor Banked Energy, except in circumstances and to the extent necessary to avoid or limit water spillage from CF(L)Co reservoirs, in which case the Energy produced by CF(L)Co for Nalcor shall be calculated and accounted for in accordance with Subsection 7.1(c)(ii).
- (b) Notwithstanding any other provision of this Agreement, the Independent Coordinator shall not schedule production by CF(L)Co for Nalcor that would result in Nalcor Banked Energy being a negative value.

## 6.4 Liability Insurance

Liability insurance or other similar and adequate insurance coverage shall be secured for the Independent Coordinator's fault, negligence, error, omission, breach of duty, acting in excess of powers, or other default, in the course of execution of its functions, including, without limitation, a breach of the Independent Coordinator Code of Conduct. The cost of such insurance shall be shared by the Suppliers in accordance with Section 11.1.

## Article 7

## ENERGY STORAGE AND ENERGY LOSSES ASSIGNMENT

## 7.1 Energy Storage and Energy Losses Assignment

- (a) Each Supplier shall continue to have the same rights to store water in its reservoirs as it did prior to this Agreement, while at the same time recognizing the requirement to allow Energy banking by the other Supplier pursuant to the terms of this Agreement.
- (b) In no event shall the generating Capability, storage capacity, or transmission Capability available to a Supplier from all Production Facilities on the Churchill River be less than the amounts of then available generating Capability, storage capacity, or transmission Capability of the Production Facilities owned by that Supplier on the Churchill River.
- (c) The Independent Coordinator shall appropriately assign Nalcor Banked Energy and CF(L)Co Banked Energy to each Supplier in accordance with the following provisions and Annex "A":
  - (i) In the event that the Production Schedule established by the Independent Coordinator results in a production increase at the Nalcor Production Facilities and a production decrease at the CF(L)Co Production Facilities relative to the production required for each Supplier to meet its own Delivery Requirements:
    - If the production increase at the Nalcor Production Facilities is less than the CF(L)Co Banked Energy, then the CF(L)Co Banked Energy shall be decreased by the amount of the production increase at the

Nalcor Production Facilities to the extent of any CF(L)Co Banked Energy, in accordance with Annex "A"; or

- If the production increase at the Nalcor Production Facilities is greater than the CF(L)Co Banked Energy, then the Nalcor Banked Energy shall be increased by the amount of the production decrease at the CF(L)Co Production Facilities, in accordance with Annex "A".
- (ii) Subject to Section 6.3, in the event that the Production Schedule established by the Independent Coordinator results in a production increase at the CF(L)Co Production Facilities and a production decrease at the Nalcor Production Facilities relative to the production required for each Supplier to meet its own Delivery Requirements:
  - If the production increase at the CF(L)Co Production Facilities is less than the Nalcor Banked Energy, then the Nalcor Banked Energy shall be decreased by the amount of the production increase at the CF(L)Co Production Facilities to the extent of any Nalcor Banked Energy, in accordance with Annex "A"; or
  - If the production increase at the CF(L)Co Production Facilities is greater than the Nalcor Banked Energy, then the CF(L)Co Banked Energy shall be increased by the amount of the production decrease at the Nalcor Production Facilities, in accordance with Annex "A".
- (iii) In the event that the Production Schedule established by the Independent Coordinator matches the Suppliers' Delivery Requirements, no adjustments to CF(L)Co Banked Energy or to Nalcor Banked Energy are required.
- (d) For greater certainty, the Independent Coordinator shall make only one of the calculations provided in Subsections 7.1(c)(i) to 7.1(c)(iii), as applicable, in any given hour or other interval contemplated in Annex "A".
- (e) The amount of Nalcor Banked Energy and CF(L)Co Banked Energy shall be determined based upon Energy Conversion Rates for the respective Production Facilities calculated in accordance with Annex "A" based upon the best data source available as tested in accordance with Good Utility Practice.
- (f) The Independent Coordinator shall assign lost Energy fairly to each Supplier in the event of water spillage by deducting any applicable spillage amount from Nalcor Banked Energy or CF(L)Co Banked Energy in accordance with the following provisions and Annex "A":
  - (i) In the event of a spill from the CF(L)Co reservoirs and forebays that results from excess water in storage or flood control pre-spills, the water associated with Nalcor Banked Energy shall be the first water spilled, and the associated Energy loss shall be borne solely by Nalcor and shall be

assigned and recorded as a reduction in Nalcor Banked Energy, to the extent of any Nalcor Banked Energy;

- (ii) Water spilled from CF(L)Co reservoirs and forebays that results from operational error, the failure of equipment, the effects of a customer's change in demand, the failure to follow Good Utility Practice or the failure of any containment or control structures shall not be assigned and recorded as a reduction to Nalcor Banked Energy, except to the extent that the cause of the spillage is attributable to Nalcor or its customers, to the extent of any Nalcor Banked Energy;
- (iii) In the event of a spill from the Nalcor reservoirs and forebays that results from excess water in storage or flood control pre-spills, the water associated with CF(L)Co Banked Energy shall be the first water spilled, and the associated Energy loss shall be borne solely by CF(L)Co and shall be assigned and recorded as a reduction in CF(L)Co Banked Energy, to the extent of any CF(L)Co Banked Energy; and
- (iv) Water spilled from the Nalcor reservoirs and forebays that results from operational error, the failure of equipment, the effects of a customer's change in demand, the failure to follow Good Utility Practice or the failure of any containment or control structures shall not be assigned and recorded as a reduction to CF(L)Co Banked Energy, except to the extent that the cause of the spillage is attributable to CF(L)Co or its customers, to the extent of any CF(L)Co Banked Energy.
- (g) At regular intervals to be established by the Water Management Committee, but not less frequently than annually, adjustments shall be made to each Supplier's available Energy for subsequent intervals for Energy losses incurred in the previous period by each Supplier as a result of changes to its Energy Capability caused by the application of this Agreement, in accordance with Annex "A".
- (h) Annex "A" may be amended, modified, or supplemented from time to time by the Water Management Committee, provided that no such amendment, modification or supplement shall:
  - (i) adversely affect any provision of a Prior Power Contract; or
  - (ii) conflict with any provision of this Agreement, the Act or the Regulations.

## Article 8 METERING AND MEASUREMENT

#### 8.1 Metering and Measurement

(a) The Suppliers shall establish and maintain adequate and reliable metering and measuring facilities necessary to monitor the Suppliers' compliance with their Power and Energy storage, generation and transmission obligations pursuant to this Agreement. Such metering and measuring facilities, including, without limitation, the choice of technical devices and their final set-up and installation, shall be acceptable to all Suppliers.

- (b) The parties agree that CF(L)Co shall bear no responsibility for any additional metering and measuring facilities or upgrades or modifications to existing metering and measuring facilities that the parties determine are required pursuant to or resulting from this Agreement, including the cost of establishing, maintaining, repairing or replacing same, provided that any metering and measuring facilities located on CF(L)Co's facility shall become the property of CF(L)Co on and from the date of installation, and shall thereafter be maintained, repaired and replaced by CF(L)Co, subject to cost recovery therefor by CF(L)Co from Nalcor.
- (c) Each of CF(L)Co and Nalcor shall provide to the other all measurements, data and information from the metering and measuring facilities under its control as required for the implementation or operation of this Agreement.
- (d) All metering and measuring facilities required for the implementation or operation of this Agreement shall be tested and calibrated at regular intervals established by the Water Management Committee as may be required in accordance with agreed standards. Each Supplier shall give sufficient prior notice to the other of any test which it intends to conduct and the other Supplier may have representatives present for such testing.
- (e) Any metering or measuring facility required for the implementation or operation of this Agreement which breaks down, fails to meet the standards as agreed to or set out by the Water Management Committee or otherwise malfunctions, shall be promptly adjusted, repaired or replaced by a similar facility meeting the agreed standards and having the required accuracy, the cost of which shall be the responsibility of Nalcor pursuant to Section 11.2.
- (f) Should any metering or measuring facility required for the implementation or operation of this Agreement break down or fail to have the required accuracy, the Suppliers shall determine, through the Water Management Committee, the amount of Power and Energy supplied during the period of failure or inaccuracy, the associated Nalcor Banked Energy and CF(L)Co Banked Energy, and the duration of such period of failure or inaccuracy. In making such determinations, the parties shall rely on the data and information which the Suppliers consider most conducive to achieving as accurate a determination as circumstances permit.

#### Article 9 MAINTENANCE

#### 9.1 Maintenance Scheduling

Subject to the requirements of Prior Power Contracts and the provisions of this Agreement, CF(L)Co and Nalcor shall cooperate with each other and the Independent

Coordinator in scheduling equipment outages and derating for the maintenance of Production Facilities.

## Article 10 DEFICIENCIES

## 10.1 Allocation of Deficiencies

When a Deficiency occurs, or is projected to occur:

- (a) subject to the limitations contained in Section 4.2, Subsection 4.7(a) and Section 6.3, appropriate adjustments shall be made to the Power and Energy production levels and Production Schedules of all Production Facilities on the Churchill River to the extent practicable to remedy the Deficiency or anticipated Deficiency; and
- (b) where a Deficiency occurs despite Subsection 10.1(a), and as a result of that Deficiency, a Supplier incurs Damages under a provision of a Prior Power Contract, such Damages shall be paid by the Supplier that caused the Deficiency, notwithstanding Section 14.4. If the cause of the Deficiency is common to both parties, or cannot be attributed to either, the Deficiency shall be allocated to Nalcor and CF(L)Co in proportion to their respective shortages in generation Capability to fulfill their respective Delivery Requirements.

## Article 11 COSTS AND EXPENSES

## **11.1** Joint Costs and Expenses

The Suppliers shall jointly pay in proportion to the Energy Benefits obtained by each Supplier from the administration of this Agreement, all costs and expenses of or associated with each of the following:

- (a) the establishment, organization and operation of the Water Management Committee, pursuant to Article 5;
- (b) the appointment, organization and administration of the Independent Coordinator, pursuant to Subsections 4.3(a) and 4.3(b) and Article 6;
- (c) incremental administrative costs, including, without limitation, costs related to information gathering, record keeping, reporting, efficiency modeling and establishment of new conversion curves; and
- (d) subject to Sections 11.2 and 11.3, any other costs or expenses incurred in connection with the implementation, operation and administration of this Agreement.

## 11.2 Costs and Expenses for the Account of Nalcor

Nalcor shall pay all costs and expenses of or associated with the purchase, installation, maintenance, repair and replacement of any additional equipment and facilities, and upgrades or modifications to any existing equipment and facilities, required for the implementation and operation of, or resulting from, this Agreement and which, but for this Agreement, would not have been required by CF(L)Co, provided that any equipment and facilities located on CF(L)Co's Production Facilities shall become the property of CF(L)Co on and from the date of installation, and shall thereafter be maintained, repaired and replaced by CF(L)Co, subject to cost recovery therefor by CF(L)Co from Nalcor. In addition, any CF(L)Co equipment or facilities damaged during work associated with the foregoing shall be repaired or replaced at the expense of Nalcor, unless such damage was caused by CF(L)Co or a contractor of CF(L)Co.

#### **11.3** Interconnection Costs

- (a) CF(L)Co shall not be responsible for the costs and expenses of or associated with the purchase, installation, upgrading, maintenance, repair and replacement of transmission facilities, connections and ancillary equipment required to connect CF(L)Co's Production Facilities to Nalcor's Production Facilities.
- (b) Notwithstanding Subsection 11.3(a), all transmission facilities, connections and ancillary equipment directly connected to CF(L)Co's Production Facilities shall be subject to CF(L)Co's approval, which approval shall not be unreasonably withheld, and any such facilities, connections and equipment located on CF(L)Co's Production Facilities shall become the property of CF(L)Co on and from the date of installation.

#### 11.4 Transmission Losses

Nalcor shall bear all increases in and benefit from all decreases to transmission losses resulting from or relating to, directly or indirectly, transmissions undertaken pursuant to or in accordance with the terms of this Agreement and Annex "A".

#### 11.5 Reimbursement Assurances

Should CF(L)Co have to incur costs or expenses which are the responsibility of Nalcor pursuant to this Agreement, CF(L)Co shall have the option, if it is not fully satisfied, acting reasonably, that Nalcor has the capacity to reimburse such costs promptly to CF(L)Co, to require payment of such costs in advance by Nalcor, or such other form of security as CF(L)Co deems reasonably acceptable. In all cases where Nalcor is required, pursuant to this Agreement, to reimburse CF(L)Co for expenditures it has made and for which payment in advance was not made by Nalcor to CF(L)Co, payments associated with such reimbursement shall be due and payable by Nalcor to CF(L)Co within thirty (30) days following receipt of an invoice supported by documentation which is reasonably required to verify the amounts billed therein. Any amount remaining unpaid after the expiration of the thirty (30) day period shall bear interest at a rate per annum of two percent (2%) above the prime rate accorded for loans to commercial borrowers by the Bank of Nova Scotia. The prime rate to be used in the determination of the interest rate shall be the prime rate on the date such amounts first become overdue. Amounts

disputed by Nalcor shall be communicated to CF(L)Co in writing prior to the due date. Disputed amounts may be withheld by Nalcor until such time as the dispute is resolved and shall not bear interest unless the disputed amount or a portion thereof is subsequently resolved in favour of CF(L)Co, in which case interest shall apply from the date the amounts became overdue. All undisputed amounts of an invoice, and that portion of a disputed amount which is not in dispute, shall be due and payable by Nalcor to CF(L)Co within thirty (30) days following receipt of the invoice in accordance with the terms of this section 11.5.

## Article 12 EFFECTIVE DATE AND TERM

# 12.1 Effective Date

This Agreement shall come into effect on the date of the approval of this Agreement by the Board pursuant to Subsection 5.4(3)(a) of the Act, save that Sections 4.2, 4.7 and 6.2 to 6.4, and Articles 7, 9 and 10 shall become operational on the Operational Date. Nalcor shall give CF(L)Co at least 90 days written notice of the Operational Date.

## 12.2 Term of Agreement

This Agreement shall continue in force until the earliest of (i) the permanent cessation of all operations at either of the CF(L)Co Production Facilities or the Nalcor Production Facilities, and (ii) any earlier date agreed to by the Suppliers, subject to the execution of a new water management agreement agreed to by the Suppliers and approved by the Board pursuant to Subsection 5.4(3)(a) of the Act.

## Article 13 DISPUTE RESOLUTION

## 13.1 Water Management Committee

In the event that a dispute or difference ("**Dispute**") arises between the parties out of or in connection with this Agreement, the parties shall first refer the Dispute to the Water Management Committee for resolution.

#### 13.2 Mediation

Should the Water Management Committee fail to resolve the Dispute within 14 days of referral pursuant to Section 13.1, the parties may submit the Dispute to a mediator appointed by agreement of the parties and possessing the necessary technical knowledge to assist the parties in resolving the Dispute. Either party may give written notice to the other describing the nature of the Dispute, requiring the Dispute to be submitted to a mediator and proposing the name of a suitable person to be appointed.

## 13.3 Application to Board

Notwithstanding Sections 13.1 and 13.2, the Dispute may be submitted to the Board by either party for resolution pursuant to Section 8 of the Regulations.

## Article 14 MISCELLANEOUS PROVISIONS

#### 14.1 Equitable Relief

In the event of a violation, contravention, breach or threatened breach of this Agreement by either party, the other party shall be entitled to both temporary and permanent injunctive relief and specific performance. The right of a party to injunctive relief and specific performance shall be in addition to any and all other remedies available to it and shall not be construed to prevent it from pursuing, either consecutively or concurrently, any and all other legal or equitable remedies available to it.

## 14.2 **Relationship of Parties**

Nothing in this Agreement is intended to create a partnership, joint venture or other joint legal entity making any party liable for the acts or omissions of any other party. Nothing in this Agreement is intended to create a principal / agency relationship between the parties and, except as expressly provided herein, no party shall have any authority, in any way, to bind any other party. Notwithstanding the terms hereof, each party is acting in its separate independent capacity and has the full right to enforce its rights against the other under this Agreement.

#### 14.3 Assignment and Transfer

No voluntary transfer of this Agreement or of the rights of a Supplier shall be made except:

- (a) to an unrelated third party of such Supplier which acquires all, or substantially all, of the assets devoted to production, transmission, distribution and sale of Power and Energy of such Supplier, with the prior written consent of the other Supplier, which consent shall not be unreasonably withheld; or
- (b) to a Subsidiary or Affiliate of such Supplier in the event of a transfer to said Subsidiary of Affiliate of all, or substantially all, of the assets devoted to production, transmission, distribution and sale of Power and Energy on the Churchill River of such Supplier, upon prior written notice by the assignor to the other Supplier.

Any successor to or assignee of the rights of any party hereto, whether by voluntary transfer, judicial sale or otherwise, shall be subject to all the terms and conditions of this Agreement to the same extent as though such successor or assignee were the original party hereunder.

## 14.4 Force Majeure

An Affected Party shall be excused from the performance of its obligations hereunder or liability for Damages to the other party, if and to the extent it shall be delayed in or prevented from performing or carrying out any of the provisions of this Agreement, except the obligation to pay any amount when due, by reason of a Force Majeure Event, provided that an Affected Party claiming a Force Majeure Event shall notify the other party of such Force Majeure Event, and shall use reasonable efforts, at its own cost, to mitigate the effects of the relevant Force Majeure Event and to remove the condition that prevents the Affected Party's performance, and shall perform its obligations as soon as possible and to as full an extent as possible.

#### 14.5 Confidentiality of Information

Each party covenants and agrees that, except as otherwise expressly authorized in writing by the other party or as required by law, neither party nor its representatives, agents or employees will disclose to third parties, directly or indirectly, any confidential information or confidential data relating to the other party or its business.

#### 14.6 Notices

(a) Any notice or other communication required or permitted to be given hereunder shall be in writing and shall be delivered in person, transmitted by facsimile or similar means of recorded electronic communication or sent by registered mail, charges prepaid, addressed as follows:

(i)	if to CF(L)Co:	Churchill Falls (Labrador) Corporation 500 Columbus Drive P.O. Box 12500 St. John's, NL A1B 3T5	
		Attention: Vice President and General Manager Facsimile: (709) 737-1782	
(ii)	if to Nalcor:	Nalcor Energy 500 Columbus Drive P.O. Box 12800 St. John's, NL A1B 0C9 Attention: Vice President, Lower Churchill Preis	

Attention: Vice President, Lower Churchill Project Facsimile: (709) 737-1782

- (b) Any such notice or other communication shall be deemed to have been given and received on the day on which it was delivered or transmitted (or, if such day is not a Business Day, on the next following Business Day) or, if mailed, on the fifth Business Day following the date of mailing; provided, however, that if at the time of mailing or within five Business Days thereafter there is or occurs a labour dispute or other event that might reasonably be expected to disrupt the delivery of documents by mail, any notice or other communication hereunder shall be delivered or transmitted by means of recorded electronic communication as aforesaid.
- (c) Any party may at any time change its address for service from time to time by giving notice to the other party in accordance with this Section 14.6.

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## 14.7 Counterparts

This Agreement may be executed in counterparts, each of which shall constitute an original and all of which together shall constitute one and the same instrument.

IN WITNESS WHEREOF this Agreement has been executed by the parties as of the day and year first before written.

# CHURCHILL FALLS (LABRADOR) CORPORATION LIMITED

Witness:		Per:	Per:	
	Name:		Name:	
	Title:		Title:	
Witness:		Per:		
	Name:		Name:	
	Title:		Title:	
			NALCOR ENERGY	
Witness:		Per:		
	Name:		Name:	
	Title:		Title:	
Witness:		Per:		
	Name:	<u>.                                    </u>	Name:	
	Title:		Title:	

# Annex "A"

# 1. Introduction

Subject to the restrictions and limitations contained in the Agreement, this Annex "A" provides the necessary calculations to appropriately assign Energy storage amounts and Energy losses to each Supplier for the application of Article 7 of the Agreement.

# 2. Definitions

- 2.1 "CF(L)Co Cumulative Water Volume" means the net volume of water in the Nalcor reservoirs associated with CF(L)Co Banked Energy after additions to and subtractions of CF(L)Co Hourly Water Volume and any adjustments for spillage, denominated in millions of cubic metres (hectometres cubed);
- 2.2 "CF(L)Co Hourly Water Volume" means the amount of water calculated in accordance with Section 6.4 of this Annex "A", denominated in millions of cubic metres (hectometres cubed);
- 2.3 **"Nalcor Cumulative Water Volume**" means the net volume of water in the CF(L)Co reservoirs associated with Nalcor Banked Energy after additions to and subtractions of Nalcor Hourly Water Volume and adjustments for spillage, denominated in millions of cubic metres (hectometres cubed); and
- 2.4 "Nalcor Hourly Water Volume" means the amount of water calculated in accordance with Section 6.3 of this Annex "A", denominated in millions of cubic metres (hectometres cubed).

# 3. Production Scheduling

- 3.1 Production by Nalcor for CF(L)Co shall be the amount of Energy produced at the Nalcor generator bus required to provide the requested Energy at the required CF(L)Co delivery point(s);
- **3.2** Production by CF(L)Co for Nalcor shall be the amount of Energy produced at the CF(L)Co generator bus required to provide the requested Energy at the required Nalcor delivery point(s).

# 4. Energy Conversion Rates

Energy Conversion Rates for each Production Facility shall be determined at plant load set points for each combination of unit dispatch up to the Production Facility's Capability for the full range of net heads possible during operation.

# 5. Water Spillage

5.1 The volume of water spilled from a reservoir shall be calculated based on the gate openings, the discharge rating tables for the gate, and the duration of the

period when the gate was open, and the Nalcor Cumulative Water Volume or the CF(L)Co Cumulative Water Volume shall be reduced accordingly.

5.2 The lost Energy associated with the volume of water spilled from a reservoir for the purpose of assignment to the Suppliers and adjustments to the Nalcor Banked Energy and to the CF(L)Co Banked Energy shall be the volume of water spilled at a Supplier's Production Facility multiplied by the appropriate Energy Conversion Rate applicable to such Production Facility.

#### 6. Calculation of Energy Banking and Adjustment of Energy Losses

6.1 The calculation of the change in the Nalcor Banked Energy, the Nalcor Hourly Water Volume, the Nalcor Cumulative Water Volume, the CF(L)Co Banked Energy, the CF(L)Co Hourly Water Volume, the CF(L)Co Cumulative Water Volume and any necessary adjustments for spillage shall be made hourly by the Independent Coordinator.

At the end of each hour, the Independent Coordinator shall account for any changes in the Energy Conversion Rates or transmission losses that occurred in that hour and adjust Nalcor Banked Energy and CF(L)Co Banked Energy accordingly.

- 6.2 The calculation of Nalcor Banked Energy, the Nalcor Hourly Water Volume, the CF(L)Co Banked Energy and the CF(L)Co Hourly Water Volume shall recognize the net head and unit loading that would have existed to fulfill each Supplier's Delivery Requirements and those which actually existed to fulfill the Production Schedule when choosing the appropriate Energy Conversion Rates. These calculations shall also recognize the increases and decreases in electrical losses resulting from each Supplier fulfilling the Production Schedule instead of its own Delivery Requirements.
- 6.3 The Nalcor Hourly Water Volume shall be calculated as follows:
- (a) Nalcor Hourly Water Volume =  $Vol_{d(CF)} Vol_{p(CF)}$ , where :
  - Vol<sub>d(CF)</sub> = volume that would have been used at the CF(L)Co Production Facilities if CF(L)Co had fulfilled its own Delivery Requirements, denominated in millions of cubic metres (hectometres cubed);
  - (ii) Vol<sub>p(CF)</sub> = volume used at the CF(L)Co Production Facilities to satisfy the Independent Coordinator's Production Schedule, denominated in millions of cubic metres (hectometres cubed);
- (b) where, using an hourly interval,  $Vol_{d(CP)}$ , and  $Vol_{p(CP)}$  are calculated to be :
  - (i)  $Vol_{d(CF)} = (MW_{d(CF)} \times 1 \text{ hour}) \times (1/ECR_{d(CF)}) \times (1 \text{ GWh} / 1,000 \text{ MWh})$
  - (ii)  $Vol_{p(CF)} = (MW_{p(CF)} \times 1 \text{ hour}) \times (1 / ECR_{p(CF)}) \times (1 \text{ GWh} / 1,000 \text{ MWh})$

- (c) and where :
  - (i) MW<sub>d(CF)</sub> = production setting at the CF(L)Co Production Facilities as measured at the same point used for determining the Energy Conversion Rate in Section 4 of this Annex "A", required to satisfy CF(L)Co's Delivery Requirements after accounting for electrical losses between the CF(L)Co generator bus and the specified delivery point, denominated in MW;
  - (ii) MW<sub>p(CF)</sub> = production setting at the CF(L)Co Production Facilities as measured at the same point used for determining the Energy Conversion Rate in Section 4 of this Annex "A", required to satisfy the Production Schedule set by the Independent Coordinator for CF(L)Co, denominated in MW;
- (d) therefore,
  - (i)  $ECR_{d(CF)}$  = the Energy Conversion Rate determined pursuant to Section 4 of this Annex "A" that would have existed at CF(L)Co Production Facilities if CF(L)Co had fulfilled its own Delivery Requirements, taking into account the electrical output, net head, unit loading, and other relevant factors that would have existed if CF(L)Co had fulfilled its own Delivery Requirements, denominated in GWh per million cubic metres (hectometres cubed) of water.
  - (ii)  $ECR_{p(CF)}$  = the Energy Conversion Rate determined pursuant to Section 4 of this Annex "A" that actually existed at the CF(L)Co Production Facilities where Energy banking is taking place for the Production Schedule, taking into account the electrical output, net head, unit loading and other relevant factors during the time interval of the banking calculation, denominated in GWh per million cubic metres (hectometres cubed) of water.
- 6.4 The CF(L)Co Hourly Water Volume shall be calculated as follows:
- (a) CF(L)Co Hourly Water Volume =  $Vol_{d(LC)}$   $Vol_{p(LC)}$ , where :
  - Vol<sub>d(LC)</sub> = volume that would have been used at the Nalcor Production Facilities if Nalcor had fulfilled its own Delivery Requirements, denominated in millions of cubic metres (hectometres cubed);
  - (ii) Vol<sub>p(LC)</sub> = volume used at the Nalcor Production Facilities to satisfy the Independent Coordinator's Production Schedule, denominated in millions of cubic metres (hectometres cubed);
- (b) where, using an hourly interval,  $Vol_{d(LC)}$ , and  $Vol_{p(LC)}$  are calculated to be :

(i)  $Vol_{d(LC)} = (MW_{d(LC)} \times 1 \text{ hour}) \times (1/ ECR_{d(LC)}) \times (1 \text{ GWh} / 1,000 \text{ MWh})$ 

- (ii)  $Vol_{p(LC)} = (MW_{p(LC)} \times 1 \text{ hour}) \times (1 / ECR_{p(LC)}) \times (1 \text{ GWh} / 1,000 \text{ MWh})$
- (c) and where :
  - (i)  $MW_{d(LC)}$  = production setting at the Nalcor Production Facilities as measured at the same point used for determining the Energy Conversion Rate in Section 4 of this Annex "A", required to satisfy Nalcor's Delivery Requirements after accounting for electrical losses between the Nalcor generator bus and the specified delivery point, denominated in MW;
  - (ii)  $MW_{p(LC)}$  = production setting at the Nalcor Production Facilities as measured at the same point used for determining the Energy Conversion Rate in Section 4 of this Annex "A", required to satisfy the Production Schedule set by the Independent Coordinator for Nalcor, denominated in MW;
- (d) therefore,
  - (i)  $ECR_{d(LC)}$  = the Energy Conversion Rate determined pursuant to Section 4 of this Annex "A" that would have existed at the Nalcor Production Facilities if Nalcor had fulfilled its own Delivery Requirements, taking into account the electrical output, net head, unit loading, and other relevant factors that would have existed if Nalcor had fulfilled its own Delivery Requirements, denominated in GWh per million cubic metres (hectometres cubed) of water.
  - (ii)  $ECR_{p(LC)}$  = the Energy Conversion Rate determined pursuant to Section 4 of this Annex "A" that actually existed at the Nalcor Production Facilities where Energy banking is taking place for the Production Schedule, taking into account the electrical output, net head, unit loading, and other relevant factors during the time interval of the banking calculation, denominated in GWh per million cubic metres (hectometres cubed) of water.

## 7. Energy Benefits

- 7.1 Energy Benefits for each Supplier shall be determined by the Water Management Committee, in accordance with the Agreement, for each period established by the Water Management Committee, which period shall not exceed one year.
- 7.2 CF(L)Co may, at its option, either fund the administration of the Independent Coordinator in an amount proportional to its Energy Benefits, or it may deliver to Nalcor an amount of Energy equal to CF(L)Co's Energy Benefit for the period in question.