

**INTERCONNECTION AND OPERATING AGREEMENT**

entered into by

Manitoba Hydro  
(Transmission and Distribution Business Unit)

and

Manitoba Hydro  
(Power Supply Business Unit)

on the 4<sup>th</sup> day of May, 2005

**INTERCONNECTION AND OPERATING AGREEMENT**

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## INTERCONNECTION AND OPERATING AGREEMENT

**THIS AGREEMENT** is made and entered into this 4<sup>th</sup> day of May 2005, by and between Manitoba Hydro (Power Supply Business Unit), sometimes hereinafter referred to as "Generator" and Manitoba Hydro (Transmission and Distribution Business Unit), incorporated pursuant to *The Manitoba Hydro Act*, R.S.M. 1987, c.H190, sometimes hereinafter referred to as "Transmission Owner." Generator and Transmission Owner, each may be referred to as a "Party" or collectively as the "Parties."

### RECITALS

**WHEREAS**, Generator intends to own and operate the Facility identified in Appendix B;

**AND WHEREAS**, the Facility is located adjacent to the System owned by Transmission Owner;

**AND WHEREAS**, Generator has requested, and Transmission Owner has agreed to enter into this Interconnection and Operating Agreement with Generator for the purposes of interconnecting the Facility with the System and to define the continuing responsibilities and obligations of the Parties with respect thereto;

**NOW, THEREFORE**, in consideration of and subject to the mutual covenants contained herein, it is agreed:

### ARTICLE 1 DEFINITIONS

Wherever used in this Agreement with initial capitalization, the following terms shall have the meanings specified or referred to in this Article 1. Terms used in this Agreement with initial capitalization not defined in this Article 1 shall have the meanings specified in the Manitoba Hydro Open Access Interconnection Tariff:

- 1.1 "Ancillary Services" shall mean the services provided by a generating facility that are necessary to support the transmission of capacity and energy from resources to loads while maintaining reliable operation of the System in accordance with Good Utility Practice.
- 1.2 "Applicable Laws and Regulations" shall mean Canadian federal, provincial and local laws, ordinances, rules and regulations, and all duly promulgated orders and other duly authorized actions of any Governmental Authority having jurisdiction over the Parties, their respective facilities and/or the respective services they provide.
- 1.3 "Applicable Reliability Organization" shall mean any of the regional reliability councils of NERC or any other reliability standards organization

whose standards the Transmission Owner has contracted to adhere to or having authority in the region in which the Facility is located.

- 1.4 “Black Start Service” shall mean the ability of Generator to commence operation of its Facility when Station Power is not available from the System.
- 1.5 “Breach” shall mean, subject to Section 11.2, the failure of a Party to perform or observe any term or condition of this Agreement and shall include, but not be limited to, the events described in Section 17.1.
- 1.6 “Breaching Party” shall mean a Party that is in Breach of this Agreement.
- 1.7 “Confidential Information” shall mean any confidential, proprietary or trade secret information of a plan, specification, pattern, procedure, design, device, list, concept, policy or compilation relating to the present or planned business of a Party, which is designated as Confidential by the Party supplying the information, whether conveyed orally, electronically, in writing, through inspection, or otherwise, and shall include, without limitation, all information relating to a Party's technology, research and development, business affairs, and pricing, and any information supplied by either of the Parties to the other prior to the execution of this Agreement. Information is Confidential Information only if it is clearly designated or marked in writing as confidential on the face of the document, whether provided electronically or in hard copy, or, if the information is conveyed orally or by inspection, if the Party providing the information orally informs the Party receiving the information that the information is confidential, or if the information is deemed Confidential Information pursuant to the provisions of this Agreement.
- 1.8 “Control Area” shall mean an electric power system or combination of electric power systems to which a common automatic generation control scheme is applied in order to:
  - (a) match, at all times, the power output of the generators within the electric power system(s) and capacity and energy purchased from entities outside the electric power system(s), with the load within the electric power system(s);
  - (b) maintain scheduled interchange with other Control Areas, within the limits of Good Utility Practice;
  - (c) maintain the frequency of the electric power system(s) within reasonable limits in accordance with Good Utility Practice; and
  - (d) provide sufficient generating capacity to maintain operating reserves in accordance with Good Utility Practice.
- 1.9 “Default” shall mean the failure of a Party in Breach of this Agreement to cure such Breach in accordance with the provisions of Article 17.

- 1.10** “Effective Date” shall mean the date on which this Agreement becomes effective in accordance with Section 2.1.
- 1.11** “Emergency Condition” shall mean a condition or situation (i) that in the judgment of either Party is imminently likely to endanger life or property; or (ii) that in the judgment of the Transmission Owner is imminently likely to cause a material adverse effect on the security of, or damage to the System or the electrical or transmission systems of others to which the System is directly or indirectly connected; or (iii) that in the judgment of Generator is imminently likely to cause damage to the Facility. Any condition or situation that results from lack of sufficient generating capacity to meet load requirements or that results solely from economic conditions shall not constitute an Emergency Condition, unless one of the enumerated conditions or situations identified in this definition also exists.
- 1.12** “Facility” shall mean Generator's electric generating facility identified in the “as built” drawings provided to the Transmission Owner in accordance with Section 4.2 and in Appendix B, but shall not include Generator Interconnection Facilities.
- 1.13** “Force Majeure” shall mean any cause beyond the control of the Party affected, including but not restricted to acts of God, flood, drought, earthquake, storm, fire, lightning, epidemic, war, riot, civil disturbance or disobedience, labour dispute, labour or material shortage, sabotage, acts of public enemy, explosions, orders, regulations or restrictions imposed by governmental, military, or lawfully established civilian authorities, which, in any of the foregoing cases, by exercise of due diligence such Party could not reasonably have been expected to avoid, and which, by the exercise of due diligence, it has been unable to overcome. No Party shall be relieved of liability for failure of performance to the extent that such failure is due to causes arising out of its own negligence or due to removable or remediable causes which it fails to remove or remedy within a reasonable time. Nothing contained in this Agreement shall be construed to require a Party to settle any strike or labour dispute. Mere economic hardship of a Party does not constitute Force Majeure. A Force Majeure event does not include an act of negligence or intentional wrongdoing.
- 1.14** “Generator Interconnection Facilities” shall mean all facilities and equipment owned and/or controlled, operated and maintained by Generator on Generator's side of the Point of Interconnection as identified in Appendix B, including any modifications, additions, or upgrades made to such facilities and equipment.
- 1.15** “Good Utility Practice” shall have the same meaning as assigned to such term in the Manitoba Hydro Open Access Interconnection Tariff.

- 1.16** “Governmental Authority” shall mean any federal, provincial, local or other governmental, regulatory or administrative agency, court, commission, department, board, or other governmental subdivision, legislature, rulemaking board, tribunal, arbitrating body, or other governmental authority having jurisdiction over either Party.
- 1.17** “Hazardous Substances” shall mean any chemicals, materials or substances defined as or included in the definition of “hazardous substances,” “hazardous wastes,” “hazardous materials,” “hazardous constituents,” “restricted hazardous materials,” “extremely hazardous substances,” “toxic substances,” “contaminants,” “pollutants,” “toxic pollutants” or words of similar meaning and regulatory effect under any applicable Environmental Law, or any other chemical, material or substance, exposure to which is prohibited, limited or regulated by any applicable Environmental Law. For purposes of this Agreement, the term “Environmental Law” shall mean federal, provincial, and local laws, regulations, rules, ordinances, codes, decrees, judgments, directives, or judicial or administrative orders relating to pollution or protection of the environment, natural resources or human health and safety.
- 1.18** “Interconnection Facilities” shall mean the facilities and equipment that are necessary to physically and electrically interconnect the Facility to the System, consisting of the Transmission Owner Interconnection Facilities and the Generator Interconnection Facilities identified in Appendices A and B.
- 1.19** “Interconnection Request” shall mean the information and other requirements prescribed by Attachment 1 of the Manitoba Hydro Open Access Interconnection Tariff.
- 1.20** “Interconnection Requirements” shall mean the Transmission Owner’s Transmission System Interconnection Requirements as published and revised from time to time or, with respect to connections to the Transmission Owner’s distribution system at 25 kV and below, the Transmission Owner’s Interconnection Guidelines for Connecting Distributed Resources to the Manitoba Hydro Distribution System as published and revised from time to time.
- 1.21** “Interconnection Service” shall mean the services provided by Transmission Owner to interconnect the Facility with the System pursuant to the terms of this Agreement. Interconnection Service does not include the right to obtain Transmission Service on the System, which service shall be obtained in accordance with the provisions of the Manitoba Hydro OATT.
- 1.22** “Interconnection System Upgrades” shall mean the minimum necessary upgrades to the System that would not have been required but for an

Interconnection Request, including (i) upgrades necessary to remove overloads and voltage criteria violations, and (ii) upgrades necessary to remedy short-circuit and/or stability problems resulting from the connection of the Facility to the System. Interconnection System Upgrades shall not include upgrades to the System that may be required to move power from the Point of Interconnection to load and shall not include Transmission Owner Interconnection Facilities. Interconnection System Upgrades are identified in Appendix A and are owned by the Transmission Owner.

- 1.23** “Manitoba Hydro OATT” shall mean the Open Access Transmission Tariff of Manitoba Hydro in effect, as amended or superseded from time to time, under which Transmission Service is provided on the System.
- 1.24** “Metering Equipment” shall mean all metering equipment installed at the metering points designated in Appendix A.
- 1.25** “NERC” shall mean the North American Electric Reliability Council, or its successor agency assuming or charged with similar responsibilities related to the operation and reliability of the North American electric interconnected transmission grid.
- 1.26** “Non-Breaching Party” shall mean a Party that is not in Breach of this Agreement with regard to a specific event of Breach by another Party.
- 1.27** “Operation Date” shall mean the day commencing at 00:01 hours on the day following the day during which all necessary Interconnection Facilities, any necessary Interconnection System Upgrades, and the Facility have been completed as required by this Agreement and energized in parallel operation with the System as confirmed in a writing substantially in the form shown in Appendix C.
- 1.28** “Operating Requirements” shall mean the operating requirements identified in Appendix D.
- 1.29** “Point of Interconnection” shall mean the point or points, shown in Appendix A, where the Generator Interconnection Facilities interconnect with the Transmission Owner Interconnection Facilities.
- 1.30** “Prime Lending Rate” shall mean the then current prime interest rate per annum as publicly announced from time to time by the Royal Bank of Canada at its main office in the City of Winnipeg, Manitoba as its preferred lending rate of interest charged to its most creditworthy Canadian customers, whether or not such interest rate is actually charged by said bank to any customer.

- 1.31** “Reasonable Efforts” shall mean, with respect to any action required to be made, attempted, or taken by a Party under this Agreement in the exercise of “Reasonable Efforts,” such efforts as are timely and consistent with Good Utility Practice that would be undertaken by a Party for the protection of its own interests under the conditions affecting such action, including but not limited to the amount of notice of the need to take such action and the duration and type of such action.
- 1.32** “Secondary Systems” shall mean control or power circuits that operate below 600 volts, AC or DC, including, but not limited to, any hardware, control or protective devices, cables, conductors, electric raceways, secondary equipment panels, transducers, batteries, chargers, and voltage and current transformers.
- 1.33** “Station Power” shall mean energy used for operating the electrical equipment on the site of a Facility and/or for lighting, heating, air conditioning and office equipment needs of buildings located at such site used in the operation, maintenance or repair of the Facility, but excluding energy used for synchronous condenser operation and pumped storage.
- 1.34** “Subsequent Generator” shall mean any person or persons, other than Generator, that enters into an Interconnection and Operating Agreement with the Transmission Owner on or after the date of this Agreement.
- 1.35** “Switching and Tagging Rules” shall mean the Manitoba Hydro Corporate Safety and Occupational Health Rules as they may be amended from time to time.
- 1.36** “System” shall mean the transmission, subtransmission and distribution facilities owned and operated by Manitoba Hydro.
- 1.37** “System Protection Facilities” shall mean the equipment required to protect (i) the System, other delivery systems and/or other generating systems connected to the System from faults or other electrical disturbance occurring at the Facility, and (ii) the Facility from faults or other electrical system disturbance occurring on the System or on other delivery systems and/or other generating systems to which the System is directly or indirectly connected. System Protection Facilities shall include such protective and regulating devices as are identified in the Interconnection Requirements or that are required by Applicable Law and Regulations or as are otherwise necessary to protect personnel and equipment and to minimize deleterious effects to the System arising from the Facility.
- 1.38** “Transmission Owner Interconnection Facilities” shall mean all facilities and equipment owned and controlled, operated and maintained by the Transmission Owner on the Transmission Owner’s side of the Point of Interconnection as identified in Appendix A, including any modifications,

additions or upgrades made to such facilities and equipment, that are necessary to physically and electrically interconnect the Facility to the Transmission System. Transmission Owner Interconnection Facilities do not include Interconnection System Upgrades, which are separately identified in Appendix A.

- 1.39** “Transmission Service” shall mean the delivery of electrical energy over the Transmission System pursuant to the terms and conditions of Manitoba Hydro’s Open Access Transmission Tariff (OATT).
- 1.40** “Transmission System” shall mean the facilities controlled or operated by the Transmission Owner that are used to provide Transmission Service under the Manitoba Hydro OATT.

## **ARTICLE 2 TERM OF AGREEMENT**

- 2.1 Effective Date.** This Agreement shall become effective on the later of: (i) the date on which this Agreement is executed by the Parties; (ii) the date upon which all required regulatory or legal authorizations are received by the Parties; (iii) the date upon which all rates, terms and conditions have been established pursuant to Sections 9.1, 9.4, 9.6 and 9.8 hereof.
- 2.2 Term.** This Agreement shall become effective as provided in Section 2.1 and shall continue in full force and effect until (i) the Parties mutually agree to terminate this Agreement; (ii) the date on which the Facility permanently ceases commercial operations for causes beyond the Generator’s control; (iii) termination for Default occurs pursuant to Section 17.7 of this Agreement; (iv) the Agreement is deemed terminated after suspension of construction pursuant to Section 4.1.5.3; or (v) Generator, having no outstanding contractual obligations to the Transmission Owner under this Agreement, terminates this Agreement after providing the Transmission Owner with written notice at least sixty (60) days prior to the proposed termination date. No termination of this Agreement shall be effective until the Parties have complied with all Applicable Laws and Regulations applicable to such termination.
- 2.3 Survival.** The applicable provisions of this Agreement shall continue in effect after termination hereof to the extent necessary to provide for final billings, billing adjustments, the determination and enforcement of liability and indemnification obligations arising from acts or events that occurred while this Agreement was in effect and for the enforcement of obligations that continue beyond the term of this Agreement as specifically provided herein.

**ARTICLE 3**  
**INTERCONNECTION SERVICE**

- 3.1 Obligation to Provide Service.** The Transmission Owner shall provide Generator with Interconnection Service for the Facility at the Point of Interconnection for the term of this Agreement.
- 3.2 Limitations on Scope of Service.** Except as otherwise provided under this Agreement, Transmission Owner shall have no obligation under this Agreement (i) to pay Generator any wheeling or other charges for electric power and/or energy transferred through the Facility and/or the Generator Interconnection Facilities or for power or Ancillary Services provided by Generator; (ii) to make arrangements or pay for Transmission Service and Ancillary Services associated with the delivery of electricity and ancillary electrical products produced by the Facility; (iii) to procure or supply electricity and ancillary electrical products to satisfy Generator's Station Power, maintenance or other electricity supply requirements; or (iv) to make arrangements under applicable tariffs for transmission service, losses, and ancillary services for the delivery of electricity and ancillary electrical products to the Facility.
- 3.3 No Representations.** The Transmission Owner makes no representations to Generator regarding the availability of Transmission Service on the System, and Generator agrees that the availability of Transmission Service on the System may not be inferred or implied from the Transmission Owner's execution of this Agreement. If Generator wishes to obtain Transmission Service on the System, Generator must request such service in accordance with the provisions of the Manitoba Hydro OATT.
- 3.4 Third-Party Impacts.** Generator acknowledges and agrees that from time to time during the term of this Agreement other persons may develop, construct and operate, or acquire and operate generating facilities located in the Control Area of the Transmission Owner, and construction or acquisition and operation of any such facilities, and reservations by any such other persons of Transmission Service under the Manitoba Hydro OATT may adversely affect the availability of Transmission Service for the Facility's electric output. Generator acknowledges and agrees that the Transmission Owner has no obligation under this Agreement to disclose to Generator any information with respect to third-party developments or circumstances, including the identity or existence of any such person or other facilities, except as otherwise provided under Article 5 and elsewhere in this Agreement.



**ARTICLE 4**  
**CONSTRUCTION AND MODIFICATION OF**  
**INTERCONNECTION FACILITIES AND INTERCONNECTION SYSTEM**  
**UPGRADES**

**4.1 Construction.**

- 4.1.1 Generator Obligations.** Generator shall, at its expense, design, procure, construct, and install the Facility and the Generator Interconnection Facilities in accordance with the Interconnection Evaluation Study, the Interconnection Facilities Study, Interconnection Requirements and Good Utility Practice. The Generator Interconnection Facilities shall satisfy all requirements of applicable safety and/or engineering codes, including the Transmission Owner's, and further, shall satisfy Applicable Laws and Regulations. Generator shall enter into any necessary arrangements and agreements with interconnected transmission owners and/or operators related to upgrades or construction on the systems of third parties to accommodate the Generator's interconnection.
- 4.1.2 Generator Specifications.** Generator shall submit all final specifications for Generator Interconnection Facilities, including System Protection Facilities, to the Transmission Owner for review and approval at least ninety (90) days prior to interconnecting Generator Interconnection Facilities with the System in order to ensure that the design, construction and installation of the Generator Interconnection Facilities are consistent with operational control, reliability, and/or safety standards or requirements of the Transmission Owner, the Interconnection Facilities Study and Interconnection Requirements. The Transmission Owner shall review and comment on such specifications within thirty (30) days.
- 4.1.3 Transmission Owner Review.** The Transmission Owner's review of Generator's specifications shall be construed neither as confirming nor as endorsing the design, nor as any warranty as to fitness, safety, durability or reliability of the Generator Interconnection Facilities. Transmission Owner shall not, by reason of such review or failure to review, be responsible for strength, details of design, adequacy or capacity of Generator Interconnection Facilities, nor shall the Transmission Owner's acceptance be deemed to be an endorsement of all or any part of the Generator Interconnection Facilities. Generator shall make changes to the Generator Interconnection Facilities as may be required by the Transmission Owner in accordance with Good

Utility Practice. The cost of such changes shall be borne in accordance with Section 4.3.4.

- 4.1.4 Transmission Owner Obligations.** The Transmission Owner shall design, procure, construct and install, and Generator shall pay, consistent with Section 13.3, the cost of, all Transmission Owner Interconnection Facilities and Interconnection System Upgrades identified in Appendix A. Such costs shall include taxes, amounts in lieu thereof, financing costs, costs associated with seeking and obtaining all necessary approvals of designing, engineering, constructing, and testing the Transmission Owner Interconnection Facilities and Interconnection System Upgrades (“Construction Expenditures”). All Transmission Owner Interconnection Facilities and Interconnection System Upgrades designed, procured, constructed, installed and maintained by the Transmission Owner pursuant to this Agreement shall satisfy all requirements of applicable safety and/or engineering codes, including those of the Transmission Owner, and comply with Good Utility Practice, and further, shall satisfy all Applicable Laws and Regulations. Transmission Owner Interconnection Facilities and Interconnection System Upgrades shall be owned by the Transmission Owner.

#### 4.1.5 Suspension of Work.

**4.1.5.1 Right to Suspend on Notice.** Generator reserves the right, upon written notice to the Transmission Owner, to suspend, at any time, all work by the Transmission Owner associated with the construction and installation of the Transmission Owner Interconnection Facilities and/or the Interconnection System Upgrades. In such event, Generator shall be responsible for the costs which the Transmission Owner incurs (i) in accordance with this Agreement prior to the suspension, and (ii) in suspending such work, including any costs incurred in order to perform such work as may be necessary to ensure the safety of persons and property and the integrity of the System and, if applicable, any costs incurred in connection with the cancellation of contracts and orders for material which the Transmission Owner cannot reasonably avoid; provided, however, that, prior to canceling any such contracts or orders, the Transmission Owner shall obtain Generator's authorization. The Transmission Owner shall invoice Generator pursuant to Article 13 and use Reasonable Efforts to minimize its costs.

**4.1.5.2 Recommencing of Work.** If Generator requests the Transmission Owner to recommence such work, the Transmission Owner shall have no obligation to afford such work the priority it would have had but for the prior actions of Generator to suspend the work. In such event, Generator shall be responsible for any costs incurred in recommencing the work.

**4.1.5.3 Deemed Termination.** Once work has been recommenced, if Generator attempts to suspend the work a second time, this Agreement shall be deemed terminated. In the event Generator suspends the performance of work by the Transmission Owner pursuant to this Section 4.1.5 and has not requested resumption of such work required hereunder by written request to the Transmission Owner on or before the three hundred and sixty-fifth (365th) day after such requested suspension, this Agreement shall be deemed terminated.

**4.1.5.4 Right to Suspend Due to Default.** Transmission Owner reserves the right, upon written notice to

Generator, to suspend, at any time, work by the Transmission Owner and the incurrence of additional expenses associated with the construction and installation of the Transmission Owner Interconnection Facilities and/or the Interconnection System Upgrades upon the occurrence of a Default by Generator pursuant to Section 17.5. Any form of suspension by Transmission Owner shall not affect Transmission Owner's right to terminate the work or this Agreement pursuant to Section 17.7. In such events, Generator shall be responsible for costs which the Transmission Owner incurs as set forth in Section 4.1.5.1.

**4.1.5.5 Right to Suspend Due to Other Systems.** Transmission Owner, after consultation with Generator and representatives of such other systems, may defer construction of the Transmission Owner Interconnection Facilities or Interconnection System Upgrades if the upgrades on another system cannot be completed in a timely manner. Transmission Owner shall notify Generator in writing of the basis for any decision to defer construction and of the specific problems which must be resolved before Transmission Owner will initiate or resume construction.

#### **4.1.6 Construction Status.**

**4.1.6.1 Transmission Owner Status Reports.** The Transmission Owner shall inform Generator on a regular basis, and at such other times as Generator reasonably requests, of the status of the construction and installation of the Transmission Owner Interconnection Facilities and the Interconnection System Upgrades, including, but not limited to, the following information: (i) progress to date; (ii) a description of scheduled activities for the next period; (iii) the delivery status of all equipment ordered; and (iv) the identification of any event which the Transmission Owner reasonably expects may delay construction of, or may increase the cost by ten percent (10%) or more of, the Transmission Owner Interconnection Facilities and/or Interconnection System Upgrades.

**4.1.6.2 Generator Status Reports.** Generator shall inform Transmission Owner on a regular basis, and at such other times as Transmission Owner reasonably requests, of the status of the construction and installation of the Generator Interconnection Facilities including the following information: (i) progress to date; (ii) a description of scheduled activities for the next period; (iii) the delivery status of all equipment ordered; and (iv) the identification of any event which Generator reasonably expects may delay construction.

**4.1.7 Land Rights.** Upon reasonable notice and supervision by a Party, a Party ("Granting Party") shall furnish at no cost to the other Party ("Access Party") any necessary access for ingress and egress across lands owned or controlled by the Granting Party and/or its affiliates for the construction, operation and maintenance of necessary lines, substations, and other equipment to accomplish and operate interconnection of the Facility with the System under this Agreement and shall, at all reasonable times, give the Access Party, or its agents, free access for ingress and egress to such lines, substations, and equipment, for the purpose of implementing the provisions of this Agreement, and subject to the following provisions of this Section 4.1.7 and Subsections 4.1.7.1 and 4.1.7.2; provided, however, that, in exercising such access rights, the Access Party shall not unreasonably disrupt or interfere with normal operation of the Granting Party's business, shall act in a manner consistent with Good Utility Practice, and adhere to the safety rules and procedures established by the Granting Party. An accessible, protected and satisfactory site selected upon mutual agreement by the Parties and located on Generator's premises shall be provided by and at Generator's expense for installation of metering devices, unless the Transmission Owner elects to install meters on poles or other locations controlled by it. Generator grants to the Transmission Owner at all reasonable times and with reasonable supervision, the right of free ingress and egress to Generator's premises for the purpose of installing, testing, reading, inspecting, repairing, operating, altering or removing any of the Transmission Owner's property located on Generator's premises.

**4.1.7.1 Other Property Owners.** Unless Generator is directed to do so by Transmission Owner, Transmission Owner shall make Reasonable Efforts to procure from the owners of any property not owned by Generator upon which the Transmission Owner Interconnection Facilities are to be installed any

necessary rights of use, licenses, rights of way and easements, in a form reasonably satisfactory to the Transmission Owner, for the construction, operation, maintenance and replacement of the Transmission Owner Interconnection Facilities upon such property. Generator shall reimburse the Transmission Owner for all reasonable and documented costs incurred by the Transmission Owner in securing such rights.

**4.1.7.2 Safety.** In connection with the Access Party's exercise of rights under Section 4.1.7, while on the Granting Party's premises, the Access Party's personnel and agents shall comply with all applicable safety rules or regulations of the Granting Party that are communicated by the Granting Party to the Access Party. Further, the Access Party shall indemnify and hold harmless the Granting Party in accordance with the provisions of Article 16 from and against any claims or damages resulting from such access.

#### **4.1.8 Timely Completion and Testing.**

**4.1.8.1 Generator Obligations.** Generator shall use Reasonable Efforts to design, procure, construct, install, and test the Generator Interconnection Facilities in accordance with the schedule set forth in Appendix A, which schedule may be revised from time to time by mutual agreement of the Parties.

**4.1.8.2 Transmission Owner Obligations.** The Transmission Owner shall use Reasonable Efforts to design, procure, construct, install, and test the Transmission Owner Interconnection Facilities and Interconnection System Upgrades in accordance with the schedule set forth in Appendix A, which schedule may be revised from time to time by mutual agreement of the Parties. If any event occurs that will affect the time for completion of the Transmission Owner Interconnection Facilities or the Interconnection System Upgrades, or the ability to complete any of them, the Transmission Owner shall promptly notify Generator. In such circumstances, the Transmission Owner shall, within fifteen (15) days after notifying Generator of such an event and corresponding delay, convene a technical meeting between Generator and Transmission Owner to

evaluate the alternatives available to Generator. The Transmission Owner shall also make available to Generator all studies and work papers related to the event and corresponding delay, including all information that is in the possession of the Transmission Owner that is reasonably needed by Generator to evaluate alternatives. The Transmission Owner shall, at Generator's request and expense, use Reasonable Efforts to accelerate its work under this Agreement in order to meet the schedule set forth in Appendix A, provided that Generator authorizes such actions and the costs associated therewith in advance.

- 4.1.9 Limited Operation.** If any of the Interconnection System Upgrades are not reasonably expected to be completed prior to the commercial operation date of the Facility, Generator may, at its option, have operating studies performed at its expense to determine the maximum allowable output of the Facility and, subject to Applicable Laws and Regulations and applicable Transmission Owner and Applicable Reliability Organization criteria and requirements, Generator shall be permitted to operate the Facility, provided such limited operation of the Facility does not adversely affect the safety and reliability of the System.
- 4.1.10 Outage Costs.** If an outage of any part of the System is necessary to complete the process of constructing and installing the Interconnection Facilities or Interconnection System Upgrades, Generator shall be responsible for any verifiable costs or penalties incurred by Transmission Owner associated with any redispatch or market-related costs arising from such an outage. Such costs shall include, but shall not be limited to, switching costs, increased transmission losses and any redispatch or market-related costs.
- 4.1.11 Pre-Commercial Testing.** Prior to the interconnection and operation of the Facility in parallel with the System (the Operation Date), the Interconnection Facilities and Interconnection System Upgrades shall be tested to ensure, to the Transmission Owner's satisfaction, their safe and reliable operation in accordance with Good Utility Practice, any applicable Transmission Owner and Applicable Reliability Organization criteria and requirements, including Interconnection Requirements and any Applicable Laws and Regulations ("Pre-Commercial Testing"). Similar testing may be required after initial energization, but prior to Operation Date and again as required by Transmission Owner or the

above-mentioned organizations. The cost of all such testing shall be borne by Generator. In generating test energy, Generator shall be responsible for complying with all Manitoba Hydro OATT provisions as well as any applicable generator imbalance provisions.

**4.1.12 Modifications Prior to Operation Date.** Based upon the Pre-Commercial Testing, Generator shall be responsible for making any modifications prior to the Operation Date that are necessary to ensure the safe and reliable operation of the Facility and Generator Interconnection Facilities in accordance with Good Utility Practice, all applicable Transmission Owner and Applicable Reliability Organization criteria and requirements, and all Applicable Laws and Regulations, and the Transmission Owner is responsible for making any modifications prior to the Operation Date that are necessary to ensure the safe and reliable operation of the Transmission Owner Interconnection Facilities and Interconnection System Upgrades in accordance with Good Utility Practice and all applicable Transmission Owner and Applicable Reliability Organization criteria and requirements, and all Applicable Laws and Regulations. The costs of all such modifications are to be borne by Generator.

**4.2 Drawings.** Subject to the requirements of Article 20, upon completion of any construction or modification to the Facility and/or the Generator Interconnection Facilities that may reasonably be expected to affect the System, but not later than ninety (90) days thereafter, Generator shall issue "as built" drawings to the Transmission Owner, unless the Parties reasonably agree that such drawings are not necessary.

**4.3 Modifications Subsequent to Operation Date.**

**4.3.1 General.** Subject to the remainder of the provisions in this Section 4.3, either Party may undertake modifications, additions or replacements ("modification") to its facilities subsequent to the Operation Date. In the event a Party plans to undertake a modification that reasonably may be expected to impact the other Party's facilities, that Party, in accordance with Good Utility Practice, shall provide the other Party with sufficient information regarding such modification, so that the other Party may evaluate the potential impact of such modification prior to commencement of the work, including information regarding when such additions, modifications or replacements are expected to be made; how long such additions, modifications or replacements are expected to take; whether such additions, modifications or replacements are



expected to reduce or interrupt the flow of electricity from the Facility; and any other information that will enable the other Party to evaluate the impact of the proposed additions, modifications, or replacements on its facilities and/or operations prior to the commencement of work. The Party desiring to perform such work shall provide the relevant drawings, plans, and specifications to the other Party at least ninety (90) days in advance of the beginning of the work, except in cases of an Emergency Condition, or such shorter period upon which the Parties may agree, which agreement shall not unreasonably be withheld or delayed.

- 4.3.2 Scheduling.** Except in cases of an Emergency Condition, if such additions, modifications or replacements are expected to interrupt or reduce the flow of electricity from the Facility, the Parties shall mutually agree in advance upon a schedule for such additions, modifications or replacements. Such agreement shall not be unreasonably withheld, conditioned or delayed. Any additions, modifications or replacements by Generator to the Facility that require Transmission Owner to make additions, modifications or replacements to the Transmission Owner Interconnection Facilities or the System shall not be scheduled until the Transmission Owner has completed the necessary modifications to its facilities and Generator has made payment pursuant to Section 4.3.4.
- 4.3.3 Standards.** Any additions, modifications, or replacements made to a Party's facilities shall be constructed and operated in accordance with this Agreement, Good Utility Practice, Applicable Laws and Regulations, Applicable Reliability Organization guidelines, and Transmission Owner guidelines.
- 4.3.4 Modification Costs.** Unless required by Applicable Laws and Regulations, Generator shall not be responsible for the costs of any additions, modifications, or replacements made to the Transmission Owner Interconnection Facilities or the System by the Transmission Owner in its discretion or in order to facilitate the interconnection of a third-party to the Transmission Owner Interconnection Facilities or the System, or the provision of Transmission Service under the Manitoba Hydro OATT for such third-party. Generator shall, however, be responsible for payment in advance of the costs of (i) any additions, modifications, or replacements made to the Transmission Owner Interconnection Facilities or the System as a result of any additions, modifications, or replacements made by Generator to the Facility or (ii) additions, modifications, or replacements reasonably necessary to

maintain or update the Generator Interconnection Facilities for reliability and safety purposes to the extent required by a review conducted pursuant to Section 4.1.3, Good Utility Practice or to comply with changes in Applicable Laws and Regulations, or Applicable Reliability Organization requirements.

- 4.3.5 Compliance with Interconnection Tariff.** The provisions of this Section 4.3 shall not apply to any Generator modifications that result in an increase in the capacity of a Facility or a Substantial Modification to a Facility, as defined by the Transmission Owner's Interconnection Requirements. Such modifications shall require the submission of an Interconnection Request pursuant to the Transmission Owner's Open Access Interconnection Tariff and shall be governed by the terms and conditions of said Tariff.

## **ARTICLE 5 OPERATIONS**

- 5.1 General.** The respective operations of the Transmission Owner and Generator under this Agreement shall comply with Interconnection Requirements, the Operating Requirements attached hereto as Appendix D and the requirements, directions, manuals, standards, and guidelines of the Applicable Reliability Organization and the Control Area in which the Facility is electrically located. To the extent that this Agreement does not specifically address or provide the mechanisms necessary to comply with such Interconnection Requirements, the Applicable Reliability Organization and Control Area requirements, directions, manuals, standards, or guidelines, each Party shall provide to the other Party all such information available or reasonably obtainable as may reasonably be required to comply with such requirements, directions, manuals, standards, or guidelines and shall operate, or cause to be operated, their respective facilities in accordance with such requirements, directions, manuals, standards, or guidelines. To the extent that the Transmission Owner is assessed any penalties or other costs by NERC, the Applicable Reliability Organization or such Control Area and such penalties or other costs are due to Generator's action or inaction, Generator shall reimburse the Transmission Owner for such penalties or other costs.
- 5.2 Adverse Impacts.** Each Party shall use Reasonable Efforts to minimize any adverse impact on the other Party arising from its operations, including any action necessary to promptly reestablish the connection of the Generator Interconnection Facility to the System in accordance with Good Utility Practice.

- 5.3 Operational Contact.** The Parties shall each identify one representative to serve as an Operational Contact to be the initial point of contact to coordinate the operational communication between the Parties to administer the implementation of this Agreement. Each Party shall notify the other Party in writing of the personnel that it has appointed. Prompt notice in writing of changes to the identity of the Operational Contact shall be given by each Party to the other.
- 5.4 Transmission Owner Obligations.** The Transmission Owner shall cause the System and the Transmission Owner Interconnection Facilities to be operated, maintained and controlled (i) in a safe and reliable manner; (ii) in accordance with Good Utility Practice; (iii) in accordance with the Interconnection Requirements, applicable operational and/or reliability criteria, protocols, and directives, including those of the Applicable Reliability Organization and the Operating Requirements established pursuant to this Agreement; (iv) in accordance with Applicable Laws and Regulations; and (v) in accordance with the provisions of this Agreement.
- 5.5 Operating Instructions.** The Transmission Owner shall have direct control of the System. This responsibility and control will require that, from time to time, the Transmission Owner will provide operating instructions to Generator consistent with this Agreement, Good Utility Practice, applicable operational and/or reliability criteria, protocols, and directives, including those of the Applicable Reliability Organization and Applicable Laws and Regulations. Generator shall inform the Transmission Owner of any consequential, negative impacts on Generator of the direction provided by the Transmission Owner to Generator. The Transmission Owner shall factor these impacts into the direction it then provides to Generator, to the extent considered feasible by the Transmission Owner. Any direction provided to Generator shall follow Good Utility Practice, applicable operational and/or reliability criteria, protocols, and directives, including those of the Applicable Reliability Organization and Applicable Laws and Regulations, and shall consider the machine limitations of the Facility and shall be consistent with this Agreement.
- 5.6 Generator Obligations.** Generator shall operate and control the Facility and the Generator Interconnection Facilities (i) in a safe and reliable manner; (ii) in accordance with Good Utility Practice; (iii) in accordance with the Interconnection Requirements, applicable operational and/or reliability criteria, protocols, and directives, including those of the Applicable Reliability Organization, the Transmission Owner and the Operating Requirements established pursuant to this Agreement; (iv) in accordance with Applicable Laws and Regulations; and (v) in accordance with the provisions of this Agreement. The Generator shall operate the Facility and the Generator Interconnection Facilities in accordance with the requirements of the Control Area of which it is part and in accordance

with all directives of its Control Area operator and security coordinator, provided that such requirements and directives are not inconsistent with this Agreement, the Manitoba Hydro OATT, Good Utility Practice and Applicable Reliability Organization policies and requirements and the directives of the Transmission Owner in accordance therewith.

**5.7 Operating Requirements.** Prior to the Operation Date, the Transmission Owner shall establish Operating Requirements to promote coordinated and reliable operation of the Parties' respective facilities.

**5.7.1 Scope.** The Operating Requirements shall be attached as Appendix D and shall address, but not be limited to, the following items:

- i) System Protection Facilities;
- ii) Switching and Tagging Procedures;
- iii) Communications Requirements;
- iv) Metering Requirements;
- v) Data Reporting Requirements;
- vi) Training;
- vii) Capacity Determination and Verification;
- viii) Emergency Operations;
- ix) Identified Must-run Conditions;
- x) Provision of Ancillary Services;
- xi) Stability Requirements;
- xii) Generation Level Forecasting, Scheduling and Updates;
- xiii) Limitation of Operations;
- xiv) Maintenance and Testing;
- xv) Generation and Operation Control.

**5.7.2 Revisions.** Transmission Owner shall have the right to revise the Operating Requirements from time to time as deemed necessary without the consent of Generator. Written notice of the revised Operating Requirements and their effective date shall be provided to Generator and included by the Parties in Appendix D.

**5.7.3 Effect.** Operating Requirements as established pursuant to Section 5.7 and as amended from time to time by the Transmission Owner shall be incorporated into and form part of this Agreement.

**5.8 Work Protection.** The Parties shall abide by Switching and Tagging Rules for:

- a) all work protection required to provide isolation at the Point of Interconnection;
- b) all work protection required for work conducted by Transmission Owner personnel.

- 5.9 Redispatch for Congestion Management.** Generator shall comply with the congestion management policies and procedures of Transmission Owner.
- 5.10 Operating Expenses.** Generator shall be responsible for all expenses associated with operating the Facility and the Generator Interconnection Facilities. Generator shall reimburse the Transmission Owner, by way of monthly payments pursuant to Section 13.4, for the actual cost incurred by the Transmission Owner for operating and maintaining the Transmission Owner Interconnection Facilities and Interconnection System Upgrades including, but not limited to, the cost of ordinary and extraordinary maintenance, replacements of equipment, taxes or grants in lieu of taxes, insurance and applicable administrative and general overheads. Notwithstanding the foregoing, Generator shall have no obligations under this Section 5.10 with respect to Interconnection System Upgrades to the extent that the Interconnection System Upgrades are rolled into the Transmission Owner's rate base.
- 5.11 Protection and System Quality.** Generator shall, at its expense, install, maintain, and operate System Protection Facilities as a part of the Facility and the Generator Interconnection Facilities. Any System Protection Facilities that may be required on the Transmission Owner Interconnection Facilities or the System in connection with the operation of the Facility shall be installed by the Transmission Owner at Generator's expense.
- 5.11.1 Requirements for Protection.** In compliance with applicable Interconnection Requirements, and Applicable Reliability Organization requirements, Generator shall provide, install, own, and maintain relays, circuit breakers, and all other devices necessary to promptly remove any fault contribution of the Facility to any short circuit occurring on the System not otherwise isolated by the Transmission Owner equipment. Such protective equipment shall include, without limitation, a high speed disconnecting device or switch with load and short circuit interrupting capability to be located between the Facility and the System at an accessible, protected, and satisfactory site selected upon mutual agreement of the Parties. Generator shall be responsible for protection of the Facility and Generator's other equipment from such conditions as negative sequence currents, over-or under-frequency, sudden load rejection, over-or under-voltage, and generator loss-of-field. Generator shall be solely responsible for provisions to disconnect the Facility and Generator's other equipment when conditions on the System could adversely affect the Facility.

- 5.11.2 System Quality.** The design and operation of the Facility shall not cause excessive voltage excursions nor cause the voltage to drop below or rise above the range specified in the planning criteria defined in the Interconnection Requirements and consistent with Generator's obligation to meet the voltage schedule specified by the Transmission Owner. The Facility and Generator Interconnection Facilities shall not cause excessive voltage flicker nor introduce excessive distortion to the sinusoidal voltage or current waves as defined by the Interconnection Requirements and Applicable Reliability Organization requirements.
- 5.11.3 Notice of Changes.** Generator shall notify Transmission Owner 30 days in advance of Generator's intention to change protection and control settings. Transmission Owner may disallow any changes that, in the Transmission Owner's reasonably exercised discretion would result in a negative impact on the Transmission Owner's operation of its transmission facilities.
- 5.11.4 Transmission Owner Right to Inspect.** The Transmission Owner shall have the right, but shall have no obligation or responsibility to (i) observe Generator's tests and/or inspection of any of Generator's System Protection Facilities and other protective equipment; (ii) review the settings of Generator's System Protection Facilities and other protective equipment; and (iii) review Generator's maintenance records relative to the Facility, Generator Interconnection Facilities and/or Generator's System Protection Facilities and other protective equipment; (iv) direct changes to be undertaken by Generator to Generator's Facility, Generator Interconnection Facilities, System Protection Facilities and other protective equipment, based on such observations and/or reviews, for lack of compliance with Interconnection Requirements. The foregoing rights may be exercised by the Transmission Owner from time to time as deemed necessary by the Transmission Owner upon reasonable notice to Generator. However, the exercise or non-exercise by the Transmission Owner of any of the foregoing rights of observation, review or inspection shall be construed neither as an endorsement or confirmation of any aspect, feature, element, or condition of the Facility, the Generator Interconnection Facilities or Generator's System Protection Facilities or other protective equipment or the operation thereof, nor as a warranty as to the fitness, safety, desirability, or reliability of same. Any information obtained by the Transmission Owner through the exercise of any of its rights under this Section 5.11.4 shall be deemed to be Confidential Information.

**5.11.5 Generator Right to Inspect.** Generator shall have the right, but shall have no obligation or responsibility to (i) observe Transmission Owner's tests and/or inspection of any of Transmission Owner Interconnection Facilities and associated protective equipment; (ii) review the settings of such Transmission Owner's protective equipment; and (iii) review Transmission Owner's maintenance records relative to the Transmission Owner Interconnection Facilities and associated protective equipment. The foregoing rights may be exercised by Generator from time to time as deemed necessary by the Generator upon reasonable notice to Transmission Owner. However, the exercise or non-exercise by Generator of any of the foregoing rights of observation, review or inspection shall be construed neither as an endorsement or confirmation of any aspect, feature, element, or condition of the Transmission Owner Interconnection Facilities and associated protective equipment or the operation thereof, nor as a warranty as to the fitness, safety, desirability, or reliability of same.

## **5.12 Outage Restoration, Interruptions, and Disconnection.**

### **5.12.1 Outage Restoration.**

**5.12.1.1 Unplanned Outage.** In the event of an unplanned outage of a Party's facility that adversely affects the other Party's facilities, the Party that owns or controls the facility out of service shall use Reasonable Efforts to promptly restore that facility to service.

**5.12.1.2 Planned Outage.** In the event of a planned outage of a Party's facility that adversely affects the other Party's facilities, the Party that owns or controls the facility out of service shall use Reasonable Efforts to promptly restore that facility to service.

### **5.12.2 Disconnection.**

**5.12.2.1 Disconnection after Agreement Terminates.** Upon termination of this Agreement by its terms, the Transmission Owner may disconnect the Facility from the System in accordance with a plan for disconnection upon which the Parties agree.

### **5.12.3 Interruptions.**

**5.12.3.1 Preservation of Reliable Operations.** Subject to the provisions of this Section 5.12.3.1, if required by

Good Utility Practice to do so, the Transmission Owner may require Generator to curtail, interrupt or reduce deliveries of electricity if such delivery of electricity adversely affects the Transmission Owner's ability to perform such activities as are necessary to safely and reliably operate the System or interconnected sub-transmission or distribution system or if the Transmission Owner determines that curtailment, interruption or reduction is necessary because of an Emergency Condition, forced outages, operating conditions on its system, or any reason otherwise required by Applicable Laws and Regulations. The following provisions shall apply to any curtailment, interruption or reduction permitted under this Section 5.12.3.1:

- (a) The curtailment, interruption, or reduction shall continue only for so long as reasonably necessary under Good Utility Practice;
- (b) Any such curtailment, interruption, or reduction shall be made in accordance with the terms and conditions of the Manitoba Hydro OATT;
- (c) Except during the existence of an Emergency Condition, when the curtailment, interruption, or reduction can be scheduled, the Transmission Owner shall notify Generator in advance regarding the timing of such scheduling and further notify Generator of the expected duration.;
- (d) The Parties shall cooperate and coordinate with each other to the extent necessary in order to restore the Facility, Interconnection Facilities, and the System to their normal operating state, consistent with system conditions and Good Utility Practice; and

**5.12.3.2 Interruptions for Other Causes.** Notwithstanding any other provision of this Agreement, the Transmission Owner shall not be obligated to accept, and the Transmission Owner may require Generator to curtail, interrupt or reduce, deliveries of energy if such delivery of energy impairs the ability of the Transmission Owner to construct, install, repair,



replace or remove any of its equipment or any part of its system. Prior to any such curtailment, interruption or reduction, the Transmission Owner shall exercise good faith efforts under the circumstances to provide Generator with reasonable notice thereof.

## **ARTICLE 6 MAINTENANCE**

- 6.1 Transmission Owner Obligations.** Transmission Owner shall maintain the Transmission Owner Interconnection Facilities and Interconnection System Upgrades to the extent they might reasonably be expected to have an impact on the operation of the Facility and Generator Interconnection Facilities (i) in a safe and reliable manner; (ii) in accordance with Good Utility Practice; (iii) in accordance with the Interconnection Requirements, applicable operational and/or reliability criteria, protocols, and directives, including the Operating Requirements and those of the Applicable Reliability Organization; (iv) in accordance with Applicable Laws and Regulations; and (v) in accordance with the provisions of this Agreement.
- 6.2 Generator Obligations.** Generator shall maintain the Facility and the Generator Interconnection Facilities, (i) in a safe and reliable manner; (ii) in accordance with Good Utility Practice; (iii) in accordance with Interconnection Guidelines, applicable operational and/or reliability criteria, protocols, and directives, including the Operating Requirements and those of the Applicable Reliability Organization; (iv) in accordance with Applicable Laws and Regulations; and (v) in accordance with the provisions of this Agreement.
- 6.3 Maintenance Expenses.** Generator shall be responsible for all expenses associated with maintaining the Facility and the Generator Interconnection Facilities. The expense incurred by the Transmission Owner in maintaining the Transmission Owner Interconnection Facilities and Interconnection System Upgrades, including any costs related to switching requests made by Generator, shall be included in the actual cost of operation and maintenance reimbursed to Transmission Owner as set forth in Section 5.10.
- 6.4 Coordination.** The Parties shall confer regularly to coordinate the planning and scheduling of preventative and corrective maintenance.
- 6.5 Inspections and Testing.** Each Party shall perform routine inspection and testing of its facilities and equipment in accordance with Good Utility Practice as may be necessary to ensure the continued interconnection of the Facility with the System in a safe and reliable manner.

- 6.6 Right to Observe Testing.** Each Party shall, at its own expense, have the right to observe the testing of any of the other Party's Interconnection Facilities whose performance may reasonably be expected to affect the reliability of the observing Party's facilities and equipment. Each Party shall notify the other Party in advance of its performance of tests of its Interconnection Facilities, and the other Party may have a representative attend and be present during such testing.
- 6.7 Cooperation.** Each Party agrees to cooperate with the other in the inspection, maintenance, and testing of those Secondary Systems directly affecting the operation of a Party's facilities and equipment which may reasonably be expected to impact the other Party. Each Party shall provide advance notice to the other Party before undertaking any work in these areas, especially in electrical circuits involving circuit breaker trip and close contacts, current transformers, or potential transformers.
- 6.8 Observation of Deficiencies.** If a Party observes any deficiencies or defects on, or becomes aware of a lack of scheduled maintenance and testing with respect to, the other Party's facilities and equipment that might reasonably be expected to adversely affect the observing Party's facilities and equipment, the observing Party shall provide notice to the other Party that is prompt under the circumstance, and the other Party shall make any corrections required in accordance with Good Utility Practice. Any Party's review, inspection, and approval related to the other Party's facilities and equipment shall be limited to the purpose of assessing the safety, reliability, protection and control of the System and shall not be construed as confirming or endorsing the design of such facilities and equipment, or as a warranty of any type, including safety, durability or reliability thereof. Notwithstanding the foregoing, the inspecting Party shall have no liability whatsoever for failure to give a deficiency notice to the other Party and the Party owning the Interconnection Facilities shall remain fully liable for its failure to determine and correct deficiencies and defects in its facilities and equipment.
- 6.9 Exchange of Planned Outage Schedules.** On or before July 15th of each year and subject to Article 20, the Parties shall exchange non-binding schedules of planned outages for the following twelve (12) month calendar-year period for those facilities that could be expected to have a material effect upon the other Party with respect to operations or performance under this Agreement. Such schedules shall be developed in accordance with Good Utility Practice and shall be presented in a format agreed upon by the Parties. Such schedules shall include all applicable information including the following:
- (a) month, day and time of requested outage;
  - (b) facilities impacted (such as unit number and description);
  - (c) duration of outage;

- (d) purpose of outage;
- (e) amount of electrical capacity (in MWs) which is expected to be derated or off-line;
- (f) special conditions and remarks;
- (g) interaction/switching required;

**6.10 Review of Planned Outage Schedule.** Transmission Owner shall have the right, on a non-discriminatory basis, to review or to request modification of such schedules by September 15<sup>th</sup> of each year, consistent with the terms of this Agreement. The Parties shall use Reasonable Efforts to reach agreement on any such requested modifications by October 15th of each year.

- (a) Each Party shall use Reasonable Efforts to accomplish all planned outages in accordance with the agreed upon schedule.
- (b) Subsequent changes to the agreed upon planned outage schedule may be requested and Transmission Owner shall use Reasonable Efforts to accommodate such changes but without any obligation to agree to revise the planned outage schedule.

**6.11 Generator Schedule Changes.** If Generator voluntarily accepts a change to the maintenance schedule submitted to the Transmission Owner to support a Transmission Owner request, Generator shall be compensated for any verifiable unavoidable costs of rescheduling such maintenance. To the extent practicable, these costs shall be determined by negotiation between the Transmission Owner and Generator prior to implementation of the voluntary change in maintenance schedules and shall not reflect costs recovered in accordance with Section 7.6.

**6.12 Transmission Owner Schedule Changes.** If, at any time, Generator desires Transmission Owner to perform maintenance during a time period other than as scheduled Transmission Owner shall exercise Reasonable Efforts to meet Generator's request as long as it would not reasonably be expected to have an adverse impact upon Transmission Owner operations or cost of operations. If Generator's request is reasonably expected to have such an adverse impact and Generator agrees to reimburse Transmission Owner for any verifiable costs incurred in complying with the request, Transmission Owner shall exercise Reasonable Efforts to comply with Generator's request.

## ARTICLE 7 EMERGENCIES

- 7.1 Obligations.** Each Party agrees to comply with the Emergency Condition procedures of the Applicable Reliability Organization, the Transmission Owner, and of Generator.
- 7.2 Notice.** The Transmission Owner shall provide Generator with prompt notification of an Emergency Condition regarding the Transmission Owner Interconnection Facilities and/or the System that may reasonably be expected to affect Generator's operation of the Facility, if the Transmission Owner is aware of the Emergency Condition. Generator shall provide the Transmission Owner with prompt notification of an Emergency Condition regarding the Facility and/or the Generator Interconnection Facilities which may reasonably be expected to affect the System or the Transmission Owner Interconnection Facilities, if Generator is aware of the Emergency Condition. If the Party becoming aware of an Emergency Condition is aware of the facts of the Emergency Condition, such notification shall describe the Emergency Condition, the extent of the damage or deficiency, the expected effect on the operation of Generator's or the Transmission Owner's facilities and operations, its anticipated duration, and the corrective action taken and/or to be taken, and shall be followed as soon as practicable with written notice.
- 7.3 Immediate Action.** In the event Generator has identified an Emergency Condition involving the System, Generator shall obtain the consent of the Transmission Owner personnel prior to performing any manual switching operations at the Facility unless, in Generator's reasonable judgment, immediate action is required.
- 7.4 Transmission Owner Authority.** The Transmission Owner may, consistent with Good Utility Practice, take whatever actions or inactions with regard to the System it deems necessary during an Emergency Condition in order to (i) preserve public health and safety; (ii) preserve the reliability of the System and interconnected sub-transmission and distribution system; (iii) limit or prevent damage; and (iv) expedite restoration of service. The Transmission Owner shall use Reasonable Efforts to minimize the effect of such actions or inactions on the Facility. An Emergency Condition may be declared on a day ahead basis by the Transmission Owner to ensure a secure and reliable System under expected normal operating and first contingency conditions. Notwithstanding any other provision of this Agreement, the Facility may be called upon by the Transmission Owner during a potential or an actual Emergency Condition to mitigate such Emergency Condition by, but not limited to, requesting Generator to start-up, shut-down, and increase or decrease the real or reactive power output of the Facility consistent with the provisions of Sections 9.3. As requested by the Transmission Owner, Generator shall assist the Transmission Owner with any restoration efforts of the System resulting from an Emergency Condition with compensation to be paid in accordance with Sections 7.6, 9.4 and 9.6.

- 7.5 Generator Authority.** Generator may, consistent with Good Utility Practice, take whatever actions or inactions with regard to the Facility it deems necessary during an Emergency Condition in order to (i) preserve public health and safety; (ii) preserve the reliability of the Facility; (iii) limit or prevent damage; and (iv) expedite restoration of service. Generator shall use Reasonable Efforts to minimize the effect of such actions or inaction on the System. The Transmission Owner shall use Reasonable Efforts to assist Generator in such actions.
- 7.6 Generator Compensation for Emergency Condition.** Generator shall be compensated for its provision of real power, and any unavoidable costs related to changes in maintenance and outage schedules directed by Transmission Owner for Emergency Condition purposes and other Emergency Condition services needed to support the System during an Emergency Condition. Compensation shall be in an amount equal to one hundred and twenty percent (120%) of the Generator's verifiable costs, excluding lost opportunity costs.
- 7.7 Interruption for Emergency Condition.** If at any time, in the Transmission Owner's reasonable judgment exercised in accordance with Good Utility Practice, the continued operation of the Facility would cause an Emergency Condition, the Transmission Owner may curtail, interrupt, or reduce energy delivered from the Facility to the System subject to Section 5.1.12.3 until the condition which would cause the Emergency Condition is corrected and, where practicable, allow suitable time for Generator to remove or remedy such condition before any such curtailment, interruption, or reduction commences.
- 7.8 Disconnection in Event of Emergency Condition.** The Transmission Owner or Generator shall have the right to disconnect the Facility without notice if, in the Transmission Owner's or Generator's judgment, an Emergency Condition exists and immediate disconnection is necessary to protect persons or property from damage or interference caused by Generator's interconnection or lack of proper or properly operating System Protection Facilities. The other Party shall be notified of such disconnection. For purposes of this Section 7.8, System Protection Facilities may be deemed by the Transmission Owner to be not properly operating if the Transmission Owner's review under Article 6 discloses irregular or otherwise insufficient maintenance on the System Protection Facilities or that maintenance records do not exist or are otherwise insufficient to demonstrate that adequate maintenance has been and is being performed. If such maintenance records do not exist or are otherwise insufficient to demonstrate that adequate maintenance has been and is being performed, Generator shall have a reasonable opportunity to demonstrate to the Transmission Owner that the System Protection Facilities are operating properly through alternative documentation or by

physical demonstration, provided that such alternative documentation or physical demonstration shall be subject to acceptance by the Transmission Owner in the exercise of its reasonable judgment.

- 7.9 Audit Rights.** Each Party shall keep and maintain records of actions taken during an Emergency Condition that may reasonably be expected to impact the other Party's facilities and make such records available for audit in accordance with Section 21.2.
- 7.10 Limited Liability.** No Party shall be liable to any other for any action it takes in responding to an Emergency Condition so long as such action is made in good faith and consistent with Good Utility Practice.

## **ARTICLE 8 SAFETY**

- 8.1 General.** All work performed by either Party that may reasonably be expected to affect the other Party shall be performed in accordance with Good Utility Practice and all Applicable Laws and Regulations pertaining to the safety of persons or property. A Party performing work within the boundaries of the other Party's facilities must abide by the safety rules applicable to the site.
- 8.2 Environmental Releases.** Each Party shall notify the other Party, first verbally and then in writing, of the release of any Hazardous Substances, any asbestos or lead abatement activities, or any type of remediation activities, related to the Facility, the Interconnection Facilities, each of which may reasonably be expected to affect the other Parties. The notifying Party shall (i) provide the notice as soon as possible; (ii) make a good faith effort to provide the notice within twenty-four (24) hours after the Party becomes aware of the occurrence; and (iii) promptly furnish to the other Parties copies of any publicly available reports filed with any Governmental Authorities addressing such events.

## **ARTICLE 9 GENERATOR SERVICES**

- 9.1 Ancillary Services.** Subject to Section 9.2, if considered necessary through performance of an Interconnection Facilities Study, Generator is obligated to provide those Ancillary Services which the Transmission Owner is obligated to supply pursuant to the provisions of the Manitoba Hydro OATT, within its manufacturer's design limitations, to Transmission Owner at rates, terms and conditions negotiated by the Parties prior to the Effective Date of this Agreement and attached as Appendix E hereto.

- 9.2 Obligation to Supply Reactive Power.** The Facility's minimum capacitive reactive power capability shall meet the greater of the requirements specified in the Interconnection Requirements and the requirements specified in the Interconnection Facilities Study. Generator shall promptly supply reactive power to the System as directed by Transmission Owner, in accordance with Good Utility Practice, applicable operational and/or reliability criteria, protocols, and directives, including those of the Applicable Reliability Organization, Applicable Laws and Regulations and this Agreement. Generator shall respond to requests from the Transmission Owner to increase or decrease generator reactive power output in a manner consistent with Generator's obligation to operate and control the Facility as set forth in Article 5.
- 9.3 Reactive Power Operations.** Generator shall operate the Facility to maintain voltage schedules, reactive schedules, or power factor schedules at the Point of Interconnection as prescribed by the Transmission Owner. Generator shall not be entitled to compensation for the supply of reactive power as required by Section 9.2. If the Transmission Owner requests Generator to install reactive power capability that exceeds the capability specified in Section 9.2, and Generator provides such capability, then Generator is entitled to compensation in accordance with Section 9.4. In the case where the Generator has installed reactive capability greater than specified by the Transmission Owner in Section 9.2 (other than pursuant to a request from Transmission Owner) and the Transmission Owner requests Generator to supply this excess capability, from time to time, Generator shall be entitled to compensation as per Section 9.4. In the event that under normal System operating conditions the Facility is unable to consistently maintain a voltage schedule, a reactive schedule or power factor schedule, whichever is applicable, at the Point of Interconnection as specified in Section 9.2, Transmission Owner may direct Generator to curtail the output of its Facility until voltage schedules, reactive schedules or power factor schedules, whichever is applicable are maintained, unless Generator has taken all such steps as are appropriate, in Transmission Owner's judgment, within the manufacturer's design limitations of the Facility, to reconfigure and/or operate the Facility to meet the standards specified by this Section. Records of requests made by the Transmission Owner, and records indicating actual responses to these requests, shall be maintained by the Transmission Owner and subject to a third-party independent audit at Generator's request and expense. Any such request for an audit shall be presented to the Transmission Owner by Generator no later than twenty-four (24) months following a request by the Transmission Owner request for reactive power in accordance with this Section 9.3. For purposes of this Section, physical availability of equipment or the Facility shall not be based on economic considerations.
- 9.4 Compensation for Reactive Power.** Generator shall be entitled to compensation for reactive power as follows:

- For the amount of excess reactive power capability installed by Generator at the request of the Transmission Owner in accordance with Section 9.3, the Transmission Owner shall pay Generator, at Transmission Owner's discretion, either the amount of the verifiable capital, operating, maintenance and administration costs directly attributable to the generation of the excess reactive power as identified by Generator in Appendix E or a rate established by Generator that recovers such costs as identified in Appendix E.
- For the amount of reactive power which Generator installed in excess of that required under Section 9.2, but which was not requested to be installed by Transmission Owner, which Generator is requested to produce from time to time, compensation shall be based on Generator's rate schedule as specified in Appendix E. Compensation shall be provided only for the lesser of the amount of reactive power requested and the amount of reactive power provided, and only for each time period and duration as requested by the Transmission Owner.

- 9.5 Black Start Service.** Generator shall be obligated to provide Black Start Service if deemed necessary by the Transmission Owner pursuant to the Interconnection Facilities Study.
- 9.6 Compensation for Black Start Service.** Generator shall be entitled to compensation for verifiable costs associated with installation, operation and maintenance of the facilities necessary to provide Black Start Service in an amount to be determined by the Parties prior to this Agreement becoming effective.
- 9.7 Station Service.** Generator shall be responsible for making all appropriate arrangements for Station Power requirements, including Transmission Service, if applicable. If Generator supplies its Station Power, the station service loads shall be instantaneously netted against Generator's output. Generator shall procure Station Power through one of the following means: (i) self supply; (ii) the retail purchase of energy; (iii) treating Station Power as Network Load to be scheduled and delivered through the reservation of Network Integration Transmission Service by the Generator pursuant to the Manitoba Hydro OATT.
- 9.8 Must Run Service.** If Transmission Owner has designated one or more units of Generator's Facility as a must run unit, pursuant to the provisions of the Transmission Owner's Open Access Interconnection Tariff, Generator and Transmission Owner shall enter into good faith negotiations to determine the rates, terms and conditions upon which Generator shall provide such must run service. Said rates, terms and conditions must be agreed upon prior to this Agreement becoming effective.



## ARTICLE 10 METERING

- 10.1 General.** Unless otherwise agreed by the Parties, the Transmission Owner shall provide, install, operate, maintain, own and/or control suitable Metering Equipment at the Point of Interconnection prior to any operation of the Facility, excluding check metering. Generator shall supply, own, install and maintain check metering if Generator determines that such metering is desirable. Power flows to and from the Facility shall be measured at or, at the Transmission Owner's option, compensated to the Point of Interconnection. Metering quantities, in analog and/or digital form, shall be provided to Generator upon request. All costs associated with the operation, maintenance and administration of Metering Equipment and communication facilities and the provision of metering data to Generator shall be borne by Generator. The costs of providing metering data shall be separately itemized on the Transmission Owner's invoice to Generator. All reasonable costs associated with either the initial installation of metering or any changes to Metering Equipment, shall be borne by Generator.
- 10.2 Standards.** Revenue quality Metering Equipment shall be installed, calibrated, repaired, replaced, maintained and tested in accordance with the provisions of the *Electricity and Gas Inspection Act* (R.S.C. 1985, c.E-4) as amended from time to time, Interconnection Requirements, Operating Requirements, and any policies of the Transmission Owner.
- 10.3 Testing of Metering Equipment.** The Transmission Owner shall, at Generator's expense, inspect and test all Transmission Owner-owned Metering Equipment upon installation and at least once every two (2) years thereafter. If requested to do so by Generator, the Transmission Owner shall inspect or test Metering Equipment more frequently than every two (2) years, at the expense of Generator. The Transmission Owner shall give reasonable notice of the time when any inspection or test shall take place, and Generator may have representatives present at the test or inspection. Unless provided otherwise by the *Electricity and Gas Inspection Act* or other Applicable Laws and Regulations, if Metering Equipment is found to be inaccurate or defective, it shall be adjusted, repaired or replaced at Generator's expense, in order to provide accurate metering. If Metering Equipment fails to register, or if the measurement made by Metering Equipment during a test varies by more than one percent (1%) from the measurement made by the standard meter used in the test, adjustment shall be made correcting all measurements made by the inaccurate meter for (i) the actual period during which inaccurate measurements were made, if the period can be determined, or if not, (ii) the period immediately preceding the test of the Metering Equipment equal to one-half the time from the date of the last test of the Metering

Equipment; provided that the period covered by the correction shall not exceed six months. Each Party shall maintain and make available for review by the other Party records and/or copies of such records of all meter tests and maintenance conducted by such Party pursuant to this Section 10.3.

**10.4 Metering Data.** If the Parties have not made other arrangements, if hourly and/or daily energy readings are not available to be transmitted to the Transmission Owner and the readings are available to Generator and if such data are requested by the Transmission Owner, Generator shall report same to the Transmission Owner's representatives as indicated in Operating Requirements established pursuant to Article 5 and attached as Appendix D, by telephone or electronically or as the Parties otherwise agree, on a schedule to be agreed upon. At Generator's expense, Generator's metered data shall be telemetered to a location designated by the Transmission Owner and one or more locations designated by Generator.

**10.5 Communications.**

**10.5.1 Generator Obligations.** At Generator's expense, Generator shall maintain satisfactory operating communications with the Transmission Owner's system dispatcher or representative, as designated by the Transmission Owner, as applicable. Generator shall provide standard voice line, dedicated voice line and facsimile communications at its Facility control room and control facility through use of the public telephone system. Generator shall also provide the dedicated data circuit(s) necessary to provide necessary generator data to the Transmission Owner as identified in Operating Requirements established pursuant to Article 5 and attached as Appendix D. The data circuit(s) shall extend from the Facility to a location(s) specified by the Transmission Owner or its designate. Any required maintenance of such communications equipment shall be performed at Generator's expense, and may be performed by Generator or by the Transmission Owner. Operational communications shall be activated and maintained under, but not be limited to, the following events: (i) system paralleling or separation; (ii) scheduled and unscheduled shutdowns; (iii) equipment clearances; and (iv) hourly and daily load data.

**10.5.2 Remote Terminal Unit.** Prior to any operation of the Facility, a Remote Terminal Unit ("RTU") or equivalent data collection and transfer equipment acceptable to both Parties shall be installed by Generator, or by the Transmission Owner at Generator's expense, to gather accumulated and instantaneous data to be telemetered to a location(s) designated by the Transmission Owner through

use of a dedicated point-to-point data circuit(s) as indicated in Section 10.5.1. The communication protocol for this data circuit(s) shall be specified by the Transmission Owner. Instantaneous bi-directional analog real power and reactive power flow information must be telemetered directly to the location(s) specified by the Transmission Owner. Generator shall, subject to Article 20 electronically provide the real time status of station switching equipment (e.g., power circuit breakers, motor operated air break switches) and real time measurements of electrical parameters, including step-up transformer telemetry, bus voltages and line/transformer watt var and ampere flows to Transmission Owner's control center or successor in function. Transmission Owner shall specify communications protocols for this telemetry. The accuracy of this metering equipment shall be plus or minus two percent (+/- 2%) or better.

- 10.6 Removal of Metering Equipment.** Upon termination of this Agreement, each Party owning Metering Equipment, including any check-metering equipment, on the other Party's property shall remove, within ninety (90) days, such Metering Equipment from the premises of the other Party.

## **ARTICLE 11 FORCE MAJEURE**

- 11.1 Notice.** The Party unable to carry out an obligation imposed on it by this Agreement due to Force Majeure shall notify the other Party in writing or by telephone within a reasonable time after the occurrence of the cause relied on.
- 11.2 Duration of Force Majeure.** Except as set forth in Section 11.3, no Party shall be considered in Breach or Default as to any obligation under this Agreement if prevented from fulfilling the obligation due to an event of Force Majeure. A Party shall not be responsible for any non-performance or be considered in Breach or Default under this Agreement due to Force Majeure whether occurring on the System, the Facility, the Interconnection Facilities or any connecting electric generating, transmission or distribution system affecting the Party's operations. A Party shall be excused from whatever performance is affected only for the duration of the Force Majeure and while the Party exercises Reasonable Efforts to alleviate such situation. As soon as the non-performing Party is able to resume performance of its obligations excused as a result of the occurrence of Force Majeure, such Party shall give prompt notice thereof to the other Parties.

- 11.3 Obligation to Make Payments.** Any Party's obligation to make payments for services incurred shall not be suspended by Force Majeure.

## **ARTICLE 12 INFORMATION REPORTING**

- 12.1 Information Reporting Obligations.** Each Party shall, in accordance with Good Utility Practice, promptly provide to the other Parties all relevant information, documents, or data regarding the Party's facilities and equipment which may reasonably be expected to pertain to the reliability of the other Party's facilities and equipment and which has been reasonably requested by the other Party.

## **ARTICLE 13 CREDITWORTHINESS, BILLING AND PAYMENTS**

- 13.1 Creditworthiness.** By the earlier of (i) thirty (30) days prior to the due date for Generator's first payment under the payment schedule specified in Appendix A or (ii) the first date specified in Appendix A for the ordering of equipment by Transmission Owner for installing the Transmission Owner Interconnection Facilities and/or Interconnection System Upgrades, Generator shall provide the Transmission Owner, at Transmission Owner's option, with a form of adequate assurance of creditworthiness satisfactory to Transmission Owner. If the adequate assurance is a parental guarantee or surety bond, it must be made by an entity that meets the creditworthiness requirements of the Transmission Owner, have terms and conditions reasonably acceptable to the Transmission Owner and guarantee payment of the entire estimated amount that will be due under this Agreement during its term. If the adequate assurance is a standby letter of credit, it must be irrevocable, issued by a bank reasonably acceptable to the Transmission Owner and must be acceptable to the Transmission Owner and the Transmission Owner's financial institution and the issuing bank, specify a reasonable expiration date and may provide that the maximum amount available to be drawn under the letter shall reduce on a monthly basis in accordance with the monthly payment schedule. The surety bond must be issued by an insurer reasonably acceptable to the Transmission Owner, specify a reasonable expiration date and may provide that the maximum amount assured under the bond shall reduce on a monthly basis in accordance with the monthly payment schedule. After the interconnection has been placed in service, Generator shall, subject to the standards of this Section 13.1, maintain a parental guarantee, surety bond, letter of credit, or some other credit assurance sufficient to meet its monthly payment obligation under Section 5.10 and its obligations under Section 13.7. At least sixty (60) days prior to the date on which the interconnection is anticipated to be

placed in service and at least annually thereafter, the Transmission Owner shall notify Generator of the estimated monthly payment obligation under Section 5.10. Generator's estimated liability under Section 13.7 is stated in Appendix A.

**13.2 Generator's Continuing Creditworthiness.** In the event Generator's creditworthiness becomes unsatisfactory to Transmission Owner, in its reasonably exercised discretion, for amounts for which payment is not otherwise assured, Transmission Owner may demand that Generator provide, at Generator's option (but subject to Transmission Owner's acceptance based upon reasonably exercised discretion), either (i) the posting of a standby irrevocable letter of credit acceptable to the Transmission Owner, Transmission Owner's financial institution and the issuing bank; (ii) a cash prepayment; (iii) the posting of other acceptable collateral or security by the Generator; (iv) a guarantee agreement executed by a creditworthy entity not affiliated with Generator; or (v) some other mutually agreeable method of providing assurance of payment satisfying Transmission Owner. Failure of Generator to provide such reasonably satisfactory assurances of its ability to make payment under this Agreement within seven (7) days of demand therefore shall be an event of Default under Article 17 of this Agreement and Transmission Owner shall have the right to exercise any of the remedies provided for in Article 17. For the purposes of this Section, the Generator's creditworthiness shall be considered unsatisfactory to the Transmission Owner, in its reasonably exercised discretion, for any of, but not limited to, the following reasons: failure of Generator to pay third parties; substandard performance by Generator of this Agreement; failure of Generator to pay Transmission Owner under separate contract(s); threat of Generator not to perform this Agreement; suspected insolvency of Generator; credit rating downgrades of Generator; other material adverse changes in the Generator's financial condition. In order to assist the Transmission Owner in such a determination, Generator shall deliver to Transmission Owner (i) within 120 days following the end of each fiscal year, a copy of Generator's annual report containing audited consolidated financial statements for such fiscal year and (ii) within 60 days after the end of each of its first three fiscal quarters of each fiscal year, a copy of Generator's quarterly report containing unaudited consolidated financial statements for such fiscal quarter. In all cases the statements shall be for the most recent accounting period and prepared in accordance with generally accepted accounting principles or such other principles then in effect, provided, however, that should any such statements not be available on a timely basis due to a delay in preparation or certification, Generator shall diligently pursue the preparation, certification and delivery of the statements.

**13.3 Construction Costs and Credits.**

- 13.3.1 Costs.** Generator shall pay to the Transmission Owner the actual costs (including taxes, amounts in lieu thereof, interest and financing costs) associated with seeking and obtaining all necessary approvals and of designing, engineering, constructing, and testing the Transmission Owner Interconnection Facilities and the Interconnection System Upgrades (“Construction Expenditures”), as identified in Appendix A, in accordance with this Section 13.3.
- 13.3.2 Advance Payment.** Prior to the Transmission Owner commencing construction of the Transmission Owner Interconnection Facilities and any Interconnection System Upgrades and continuing throughout the construction period, Generator shall provide Transmission Owner with monthly cash deposits by wire transfer to the bank designated by Transmission Owner in amounts to be determined by the Transmission Owner in accordance with the payment schedule attached as Appendix A. Transmission Owner shall provide Generator with monthly invoices itemizing the Construction Expenditures which have been drawn against the cash deposit. Transmission Owner shall have the right to adjust the estimated Construction Expenditures and the amount of the cash deposit(s) required from Generator as construction advances if actual Construction Expenditures begin to exceed the estimate. Interest shall be payable by or to Generator, as the case may be, on amounts by which the Generator’s deposit for payment of Construction Expenditures pursuant to this Section, based on estimated costs, exceeds or is less than the actual costs incurred by Transmission Owner each month. Interest shall be calculated monthly at the rate of one percent less than the Prime Lending Rate, as in effect on the first day of the month, for the entire month.
- 13.3.3 Final Invoice for Construction Expenditures.** Within six (6) months after completion of the construction of the Transmission Owner Interconnection Facilities and the Interconnection System Upgrades, the Transmission Owner shall provide an invoice of the final Construction Expenditures for the Transmission Owner Interconnection Facilities and the Interconnection System Upgrades and shall set forth such costs in sufficient detail to enable Generator to compare the actual Construction Expenditures with the estimates and to ascertain deviations, if any, from the cost estimates. To the extent that the final, actual Construction Expenditures that Generator is obligated to pay hereunder for the construction of the Transmission Owner Interconnection Facilities and the Interconnection System Upgrades exceeds the estimated costs

already paid by Generator hereunder for such purposes, Generator shall reimburse the Transmission Owner for the amount of such difference within thirty (30) days after receipt of an invoice for such amount in accordance with Section 13.6 of this Agreement. To the extent that the estimated costs already paid by Generator hereunder for such purposes exceed the final, actual costs that Generator is obligated to pay hereunder for such purposes, the Transmission Owner shall refund to Generator an amount equal to the difference within thirty (30) days of the issuance of such final cost invoice. The Transmission Owner shall use Reasonable Efforts to minimize its costs.

**13.3.4 Credits.** Credits to Generator, if any, for amounts paid by Generator under this Section 13.3 for Interconnection System Upgrades (bearing interest from the date of payment in accordance with the interest calculation set forth in Section 13.3.2.), shall be provided against Transmission Service charges under the Manitoba Hydro OATT if:

- (i) Generator either becomes a Network Customer or its Facility becomes a Network Resource under the Manitoba Hydro OATT; and
- (ii) Transmission Owner is entitled to recover costs paid by Generator from the Transmission Owner's rate base. Notwithstanding the foregoing, Generator shall not be entitled to credits for amounts paid pursuant to Section 4.1.5.1, Section 4.1.5.2, Section 4.1.9 or Section 18.2.2.

**13.4 Invoices For Other Costs.** Each Party shall render invoices to the other Party on a monthly basis for reimbursable services provided or reimbursable costs incurred under this Agreement other than Construction Expenditures paid by Generator under Section 13.3.

**13.5 Invoice Requirements.** Each invoice issued pursuant to Section 13.4 shall (i) delineate the month in which the services were provided and/or costs incurred; (ii) fully describe the services to be rendered and/or costs incurred; and (iii) itemize the services and/or costs.

**13.6 Payment.** An invoice issued pursuant to Section 13.4 shall be paid within thirty (30) days of receipt. All payments shall be made in immediately available funds payable to the other Party, or by wire transfer to a bank named and account designated by the invoicing Party.

**13.7 Taxes.**

**13.7.1 Indemnification for Contributions in Aid of Construction.** The Parties acknowledge that as of the date of this Agreement all payments made by Generator to Transmission Owner for the installation of the Transmission Owner Interconnection Facilities and the Interconnection System Upgrades are not subject to provincial or federal income tax pursuant to the provisions of the *Income Tax Act* (R.S.C. 1952, c.148, as am.) and *The Income Tax Act* (R.S.M. 1987, c.110). With regard only to such contributions, Transmission Owner shall not include a gross-up for income taxes in the amounts it charges Generator for the installation of the Transmission Owner Interconnection Facilities and the Interconnection System Upgrades. Notwithstanding the foregoing provisions of this Section 13.7.1, in the event that at any time subsequent to the Effective Date the receipt of such payments by the Transmission Owner becomes subject to taxation, or any amount in lieu thereof, Generator shall protect, indemnify and hold harmless Transmission Owner and its affiliated and associated companies, from all claims by any Governmental Authority for any tax, amount in lieu thereof, interest and/or penalties. Generator shall not be required to pay Transmission Owner for the tax, amount in lieu thereof, interest and/or penalties prior to the seventh (7th) day before the date on which Transmission Owner is required to pay the tax, amount in lieu thereof, interest and/or penalties. In accordance with this Article 13, Generator shall provide Transmission Owner with credit assurances sufficient to meet Generator's estimated liability for reimbursement of Transmission Owner for taxes, amounts in lieu thereof, interest and/or penalties under this Section 13.7.1. Such estimated liability shall be stated in Appendix A.

**13.7.2 Other Taxes.** The Transmission Owner and Generator shall cooperate in good faith to appeal, protest, seek abatement of, or otherwise contest any tax (other than income tax) or amount in lieu thereof asserted or assessed against the Transmission Owner for which Generator may be required to reimburse the Transmission Owner under the terms of this Agreement.

**13.8 Billing Disputes.** In the event of a billing dispute between the Transmission Owner, and/or Generator, the Transmission Owner shall continue to provide Interconnection Service under this Agreement as long as Generator pays disputed amounts on or before the due date. If Generator fails to meet this requirement for continuation of service, then the Transmission Owner may provide notice to Generator of a Breach



pursuant to Section 17.4. In the event the dispute is resolved in favor of the Generator, the Transmission Owner shall, within thirty (30) days of the resolution, make payment to the Generator with interest calculated in accordance with Section 13.10.

- 13.9 Waiver.** Payment of an invoice shall not relieve the paying Party from any other responsibilities or obligations it has under this Agreement, nor shall such payment constitute a waiver of any claims arising hereunder.
- 13.10 Interest.** Interest on any unpaid amounts owing pursuant to Sections 13.3.3 and 13.6 shall be calculated daily at the Prime Lending Rate plus two percent (2%) per annum, or the maximum rate permitted by law, whichever is less, from the date due until the date upon which payment is made.
- 13.11 Payment During Dispute.** Subject to Section 13.8, in the event of a billing dispute between the Transmission Owner and Generator, each Party shall continue to perform its obligations under this Agreement.
- 13.12 Set Off.** In the event that any payment required under this Agreement is not made within ninety (90) days following the date upon which it is due, a Party shall have the right, without liability, to offset any payments, including interest, due such Party against any payments owed to the other Party under this Agreement; provided, that a Party shall not be allowed to offset disputed amounts that have been paid pursuant to Section 13.8 pending resolution of a billing dispute.

#### **ARTICLE 14 ASSIGNMENT**

- 14.1 General.** Neither Party shall voluntarily assign its rights nor delegate its duties under this Agreement, or any part of such rights or duties, without the written consent of the other Party, which consent shall not be unreasonably withheld or delayed, except in connection with the sale, merger, or transfer of a substantial portion or all of its properties including the Interconnection Facilities which it owns so long as the assignee in such a sale, merger, or transfer directly assumes in writing all rights, duties and obligations arising under this Agreement. Prior to the effective date of any assignment pursuant to this Section 14.1 by Generator, the assignee shall demonstrate to the Transmission Owner that the assignee will comply with the requirements of Article 13 on the effective date of the assignment, and such assignor shall be, without further action, released from its obligation hereunder. Any such assignment or delegation made without such written consent shall be null and void. In addition, the Transmission Owner shall be entitled to assign this Agreement to any wholly-owned direct or indirect subsidiary of the Transmission Owner.

**14.2 Assignment.** Notwithstanding the provisions of Section 14.1, Generator may assign this Agreement, including the right to receive Transmission Service credits under Section 13.3.4, and shall be, without further action, released from the obligations of this Agreement, without the Transmission Owner's prior consent to any future owner that purchases or otherwise acquires, directly or indirectly, all or substantially all of the Facility provided that prior to the effective date of any such assignment, the assignee demonstrates to Transmission Owner that the assignee will comply with the provisions of Article 13 on the effective date of the assignment and assumes all other rights, duties, and obligations arising under this Agreement in a writing provided to the Transmission Owner. In addition and also notwithstanding the provisions of Section 14.1, Generator or its assignee may assign this Agreement to the persons, entities or institutions providing financing or refinancing for the development, design, construction or operation of the Facility and Generator Interconnection Facilities, provided that such assignment does not affect compliance with Article 13 and with all other rights, duties and obligations arising under this Agreement. If Generator provides notice thereof to the Transmission Owner, the Transmission Owner shall provide notice and reasonable opportunity for such lenders to cure any Default under this Agreement. The Transmission Owner shall, if requested by such lenders, execute its standard documents and certificates as may be requested with respect to the assignment and status of this Agreement, provided such documents do not change the rights of the Transmission Owner under this Agreement. Such standard documents and certificates shall include, if true at the time the statement is to be made, statements that (i) this Agreement is in full force and effect and that neither Generator, nor Transmission Owner are in Default; (ii) all representations made by the Transmission Owner in this Agreement are true and complete as of the specified date; and (iii) all conditions to be satisfied by the Transmission Owner on or prior to the specified date have been satisfied. In the event of any foreclosure by such lenders, the purchasers at such foreclosure or any subsequent purchaser, shall upon request, be entitled to the rights and benefits of (and be bound by) this Agreement so long as it is an entity entitled to interconnect with the System. The Generator shall pay for the cost of providing such standard documents and certificates.

## ARTICLE 15 INSURANCE AND ASSESSMENTS

**15.1 Generator Insurance.** Subject to Section 15.2, and without limiting any obligations or liabilities under this Agreement, Generator shall, at its expense, provide and maintain in effect for the term of this Agreement, minimum insurance coverage (in any combination of primary and excess layers) as follows:

**15.1.1 Commercial General Liability.** If the generating capacity addition is equal to or exceeds 20MW, commercial general liability insurance, including contractual liability coverage, for liabilities assumed under this Agreement and personal injury coverage in the minimum amount of thirty million dollars (\$30,000,000) per occurrence for bodily injury and property damage. Depending on the nature of Generator's operations and Facility, Transmission Owner may require additional insurance coverage as determined by Transmission Owner in a commercially reasonable manner. Notwithstanding the foregoing, said minimum amount of commercial general liability insurance coverage shall not apply to capacity additions involving wind generation utilizing induction machines that are supplied with electricity from a single transmission line. Required amounts of commercial general liability insurance coverage for wind generation capacity additions of the foregoing type and for capacity additions of less than 20MW shall be determined by the Transmission Owner, in its sole judgment, on a case by case basis depending on the characteristics of the capacity addition and the characteristics of the interconnection. The policy shall be endorsed to include the Transmission Owner as an additional insured with a provision substantially in the form of the following:

The inclusion of more than one insured under this policy shall not operate to impair the rights of one insured against another insured and the coverages afforded by this policy shall apply as though separate policies had been issued to each insured. The inclusion of more than one insured shall not, however, operate to increase the limits of the carrier's liability. The Transmission Owner shall not, by reason of their inclusion under this policy, incur liability to the insurance carrier for payment of premium for this policy.

**15.2 Generator Self-Insurance.** Generator, at its option, may, upon terms and conditions satisfactory to Transmission Owner, self-insure all or part of the insurance required in this Article 15; provided, however, that all other provisions of this Article 15, including, but not limited to, waiver of subrogation, waiver of rights of recourse, and additional insured status, which provide or are intended to provide protection for the Transmission Owner under this Agreement, shall remain enforceable. Generator's election to self-insure shall not impair, limit, or in any manner result in a reduction of rights and/or benefits otherwise available to the Transmission

Owner through formal insurance policies and endorsements as specified in the above paragraphs of this Article 15. All amounts of self-insurance, retentions and/or deductibles are the responsibility of and shall be borne by Generator.

**15.3 Transmission Owner Insurance.** Subject to Section 15.4, and without limiting any obligations or liabilities under this Agreement, the Transmission Owner shall, at its expense, provide and maintain in effect for the life of this Agreement, minimum insurance coverage (in any combination of primary and excess layers) as follows:

**15.3.1 Commercial General Liability.** Commercial general liability insurance, including contractual liability coverage for liabilities assumed under this Agreement, and personal injury coverage in the same amount as required from Generator pursuant to Section 15.1.1. The policy shall be endorsed to include Generator and its affiliated and associated companies as additional insureds with a provision substantially in the form of the following:

The inclusion of more than one insured under this policy shall not operate to impair the rights of one insured against another insured and the coverages afforded by this policy shall apply as though separate policies had been issued to each insured. The inclusion of more than one insured shall not, however, operate to increase the limits of the carrier's liability. Generator shall not, by reason of its inclusion under this policy, incur liability to the insurance carrier for payment of premium for this policy.

**15.4 Transmission Owner Self-Insurance.** The Transmission Owner, at its option, may self-insure all or part of the insurance required in this Article 15; provided, however, that all other provisions of this Article 15, including, but not limited to, waiver of subrogation, waiver of rights of recourse, and additional insured status, which provide or are intended to provide protection for Generator and its affiliated and associated companies under this Agreement, shall remain enforceable. The Transmission Owner's election to self-insure shall not impair, limit, or in any manner result in a reduction of rights and/or benefits otherwise available to Generator and its affiliated and associated companies through formal insurance policies and endorsements as specified in the above paragraphs of this Article 15. All amounts of self-insurance, retentions and/or deductibles are the responsibility of and shall be borne by the Transmission Owner.

- 15.5 Notices and Certificates of Insurance.** All policies of insurance shall provide for thirty (30) days prior written notice of cancellation or material adverse change. Prior to the date the Facility is first operated in parallel with the System and annually thereafter during the term of this Agreement, certificates of insurance shall be furnished by the Transmission Owner to Generator.
- 15.6 Workers Compensation.** The Generator shall register with the Workers Compensation Board of Manitoba and shall at all times pay, or cause to be paid, any assessment or compensation required to be paid pursuant to The Workers Compensation Act (R.S.M. 1987, c.W200) and upon failure to do so, the Transmission Owner may pay such assessment or compensation to the Workers Compensation Board and may add the amount thereof from monies due or to become due and owing from the Generator. The Transmission Owner may, at any time during the performance of this Agreement, require a declaration from The Workers Compensation Board that such assessments or compensation have been paid in full.

## **ARTICLE 16 INDEMNITY**

- 16.1 General.** Each Party shall indemnify and hold harmless the other Party, and the other Party's respective officers, shareholders, stakeholders, managers, representatives, directors, agents and employees, and affiliated and associated companies, from and against any and all loss, liability, damage, cost or expense, including damage and liability for bodily injury to or death of persons, or damage to property of persons (including reasonable legal fees and expenses, litigation costs, consultant fees, investigation fees and sums paid in settlements of claims and any such fees and expenses incurred in enforcing this indemnity or collecting any sums due hereunder) (collectively, "Loss") to the extent arising out of, in connection with or resulting from (i) the indemnifying Party's breach of any of the representations or warranties made in, or failure to perform any of its obligations under, this Agreement; or (ii) the negligence or willful misconduct of the indemnifying Party or its contractors and regardless whether arising under Applicable Laws and Regulations or otherwise; *provided*, however, that no Party shall have any indemnification obligations under this Section 16.1 with respect to any Loss to the extent the Loss results from the gross negligence or willful misconduct of the Party seeking indemnity.
- 16.2 Notice and Defense.** Promptly after receipt by a person entitled to indemnity ("Indemnified Person") of any claim or notice of the commencement of any action or administrative or legal proceeding or investigation as to which the indemnity provided for in Section 16.1 may apply, the Indemnified Person shall notify the indemnifying Party of such

fact, but any failure of or delay in such notification shall not affect a Party's indemnification obligation unless such failure or delay shall be materially prejudicial to the indemnifying Party. The indemnifying Party shall have the right to assume the defense thereof with counsel designated by such indemnifying Party and reasonable satisfaction to the Indemnified Person; *provided*, however, that if the defendants in any such action include one or more Indemnified Persons and the indemnifying Party and the Indemnified Person shall have reasonably concluded that there may be legal defenses available to it and/or other Indemnified Persons which are different from or additional to those available to the indemnifying Party, the Indemnified Person shall have the right to select separate counsel to assert such legal defenses and to otherwise participate in the defense of such action on behalf of such Indemnified Person; *provided*, further that the indemnifying Party shall only be required to pay the fees and expenses of one additional law firm to represent an Indemnified Person or Indemnified Persons having such differing or additional legal defenses. The Indemnified Person shall be entitled, at its expense, to participate in any action, suit or proceeding, the defense of which has been assumed by the indemnifying Party. Notwithstanding the foregoing, the indemnifying Party (i) shall not be entitled to assume and control the defense of any such action, suit or proceedings if and to the extent that, in the opinion of the Indemnified Person and its counsel, such action, suit or proceeding involves the potential imposition of criminal liability on the Indemnified Person or there exists a conflict or adversity of interest between the Indemnified Person and the indemnifying Party, and in such event the indemnifying Party shall pay the reasonable expenses of the Indemnified Person in such defense, and (ii) shall not settle or consent to the entry of any judgment in any action, suit or proceeding without the consent of the Indemnified Person, which shall not be unreasonably withheld or delayed.

- 16.3 Indemnified Person.** If an Indemnified Person is entitled to indemnification under this Article 16 as a result of a claim by a third party, and the indemnifying Party fails to assume the defense of such claim, such Indemnified Person may at the expense of the indemnifying Party contest, settle, consent to the entry of any judgment with respect to, or pay in full, such claim.
- 16.4 Amount Owing.** If an indemnifying Party is obligated to indemnify and hold any Indemnified Person harmless under this Article 16, the amount owing to the Indemnified Person shall be the amount of such Indemnified Person's actual Loss, not of any insurance or other recovery.
- 16.5 Limitation on Damages.** MANITOBA HYDRO SHALL NOT BE LIABLE, WHETHER BASED ON CONTRACT, INDEMNIFICATION, WARRANTY, TORT, STRICT LIABILITY OR OTHERWISE TO GENERATOR OR ANY THIRD PARTY FOR ANY DAMAGES WHATSOEVER, INCLUDING WITHOUT LIMITATION, DIRECT,

INCIDENTAL, CONSEQUENTIAL, PUNITIVE, SPECIAL, EXEMPLARY OR INDIRECT DAMAGES ARISING OR RESULTING FROM ANY ACT OR OMISSION IN ANY WAY ASSOCIATED WITH SERVICE PROVIDED UNDER THIS TARIFF, INCLUDING BUT NOT LIMITED TO ANY ACT OR OMISSION THAT RESULTS IN AN INTERRUPTION, DEFICIENCY OR IMPERFECTION OF SERVICE, EXCEPT TO THE EXTENT THAT MANITOBA HYDRO IS FOUND LIABLE FOR GROSS NEGLIGENCE OR INTENTIONAL MISCONDUCT, IN WHICH CASE MANITOBA HYDRO SHALL NOT BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL, PUNITIVE, SPECIAL, EXEMPLARY OR INDIRECT DAMAGES. MANITOBA HYDRO SHALL NOT BE LIABLE FOR DAMAGES ARISING OUT OF SERVICES PROVIDED UNDER THIS TARIFF, INCLUDING BUT NOT LIMITED TO, ANY ACT OR OMISSION THAT RESULTS IN AN INTERRUPTION, DEFICIENCY OR IMPERFECTION OF SERVICE OCCURRING AS A RESULT OF CONDITIONS OR CIRCUMSTANCES RESULTING FROM ELECTRIC SYSTEM DESIGN COMMON TO THE NORTH AMERICAN ELECTRIC UTILITY INDUSTRY OR ELECTRIC SYSTEM OPERATION PRACTICES OR CONDITIONS COMMON TO THE NORTH AMERICAN ELECTRIC UTILITY INDUSTRY.

#### **ARTICLE 17 BREACH, CURE AND DEFAULT**

- 17.1 Events of Breach.** A Breach of this Agreement shall include the failure to comply with any term or condition of this Agreement, including but not limited to any Breach of a representation, warranty or covenant made in this Agreement.
- 17.2 Obligation to Report.** A Party shall notify the other Party when it becomes aware of its inability to comply with the provisions of this Agreement for a reason other than Force Majeure. The Parties agree to provide necessary information regarding such inability to comply, including, but not limited to, the date, duration, reason for the inability to comply, and corrective actions taken or planned to be taken with respect to such inability to comply. However, nothing in this section, including any acknowledgement by a Party as to corrective actions to be taken, shall be construed as a waiver of such non-compliance. In the event of Force Majeure, a Party unable to comply with the provisions of this Agreement shall notify the other Parties in accordance with the provisions of Article 11.
- 17.3 Continued Operation.** In the event of a Breach or Default by a Party, the Parties shall continue to operate and maintain, as applicable, such DC power systems, protection and Metering Equipment, telemetering

equipment, SCADA equipment, transformers, Secondary Systems, communications equipment, building facilities, software, documentation, structural components, and other facilities and appurtenances that are reasonably necessary for the Transmission Owner to operate and maintain the System, or for Generator to operate and maintain the Facility, in a safe and reliable manner until such time as this Agreement is terminated in accordance with Section 17.7.

- 17.4 Cure.** Upon the occurrence of an event of Breach, the Party not in Breach, when it becomes aware of the Breach, shall give written notice of the Breach to the Breaching Party and to any other person a Party to this Agreement identified in writing in advance to the other Party. Such notice shall set forth, in reasonable detail, the nature of the Breach, and where known and applicable, the steps necessary to cure such Breach. Upon receiving written notice of the Breach hereunder, the Breaching Party shall have thirty (30) days to cure such Breach unless such Breach is due to a failure to pay any amount when due in which case the cure period will be five (5) days. If the Breach is such that it cannot be cured within thirty (30) days, the Breaching Party shall commence in good faith all steps as are reasonable and appropriate to cure the Breach within such thirty (30) day time period and thereafter diligently pursue such action to completion. Notwithstanding the foregoing, this Section 17.4 shall not apply to a Generator's breach of its obligation pursuant to Section 13.2 to provide assurance of payment within seven (7) days of demand, in which case no cure period shall apply.
- 17.5 Default.** A Party shall be considered in Default: (a) subject to Section 24.10, in the event the Breaching Party fails to cure a Breach within the applicable cure period specified in Section 17.4; (b) in the event that a Party (i) is adjudicated bankrupt; (ii) files a voluntary petition in bankruptcy under any provision of any bankruptcy law or becomes subject to the filing of any bankruptcy or reorganization petition against it under any similar law; (iii) makes a general assignment for the benefit of its creditors; or (iv) has a receiver, trustee or liquidator appointed with respect to its assets; (c) in the event that the Party fails to provide assurance of payment in accordance with Section 13.2.
- 17.6 Right to Compel Performance.** Notwithstanding the foregoing, upon the occurrence of an event of Default, the non-Defaulting Party shall be entitled to (i) commence an action to require the Defaulting Party to remedy such Default and specifically perform its duties and obligations hereunder in accordance with the terms and conditions hereof, and (ii) exercise such other rights and remedies as it may have in equity or at law.
- 17.7 Right to Terminate.** A Party may terminate this Agreement upon the Default of the other Party in accordance with this Agreement. In the event



of a Default, a non-Defaulting Party may terminate this Agreement only upon its giving a minimum of three (3) days written notice of termination to the other Party.

- 17.8 Acceleration.** Notwithstanding any other provision of this Agreement to the contrary, on Default of a Party all expenditures for which a Party is liable shall become immediately due and payable. On Default of Generator, all costs associated with operating and maintaining the Transmission Owner Interconnection Facilities and Interconnection System Upgrades over the lifetime of said facilities shall be accelerated and become immediately due and payable.

## **ARTICLE 18 TERMINATION**

- 18.1 Termination of Interconnection Service.** Subject to the provisions of this Article, Interconnection Service for the Facility shall terminate upon termination of this Agreement in accordance with Section 2.2 and, if applicable, Section 17.7.

**18.2 Disposition of Facilities Upon Termination of Agreement.**

**18.2.1 Transmission Owner Obligations.** Upon termination of this Agreement, unless otherwise agreed by the Generator in writing, Transmission Owner shall:

- (a) prior to the construction and installation of any portion of the Transmission Owner Interconnection Facilities and Interconnection System Upgrades and to the extent possible, cancel any pending orders of, or return, such facilities to the extent that such orders or facilities are not required to provide Interconnection Service to a Subsequent Generator;
- (b) keep in place any portion of the Transmission Owner Interconnection Facilities and Interconnection System Upgrades already constructed and installed, that are necessary to maintain Transmissions System reliability; and
- (c) perform such work as may be necessary to ensure the safety of persons and property and to preserve the integrity of the System (e.g., construction demobilization, wind-up work).

- 18.2.2 Generator Obligations.** Upon billing by Transmission Owner, Generator shall reimburse Transmission Owner for any costs incurred by Transmission Owner in performance of the actions required or permitted by Section 18.2.1 and for the cost of any Transmission Owner Interconnection Facilities and Interconnection System Upgrades described in Appendix A, including any study or redesign costs associated therewith, that are necessary for the provision of Interconnection Service to a Subsequent Generator that has entered into an Interconnection and Operating Agreement with Transmission Owner on or before the date of the termination of this Agreement. The Transmission Owner shall use Reasonable Efforts to minimize costs and shall offset the amounts owed by any salvage value of facilities, if applicable. Generator shall pay these costs pursuant to Section 13.4 and 13.6 of this Agreement.
- 18.2.3 Pre-construction or Installation.** Upon termination of this Agreement prior to the construction and installation of any portion of the Transmission Owner Interconnection Facilities or Interconnection System Upgrades, Transmission Owner may, at its option, retain any portion of such facilities not able to be cancelled or returned in accordance with Section 18.2.1(a), in which case Transmission Owner shall be responsible for all costs associated with procuring such facilities. To the extent that Generator has already paid Transmission Owner for any or all of such costs, Transmission Owner shall refund such amounts to Generator. If Transmission Owner elects not to retain any portion of such facilities, Transmission Owner shall convey and make available to Generator such facilities as soon as practicable. Generator shall be responsible for payment for such facilities in accordance with Article 13.
- 18.3 Destruction or Return of Confidential Information.** Upon termination of this Agreement for any reason, a Party shall, within ten (10) days after receipt of a written request from the other Party, use Reasonable Efforts to destroy, erase, or delete (with such destruction, erasure and deletion certified in writing to the other Party) or return to the other Party, without retaining copies thereof, any and all written or electronic Confidential Information received from the other Party.
- 18.4 Survival of Rights.** Termination of this Agreement shall not relieve any Party of any of its liabilities and obligations arising hereunder prior to the date termination becomes effective, and each Party may take whatever judicial or administrative actions as appear necessary or desirable to enforce its rights hereunder. Section 10.6, Section 18.3 and Article 20 shall survive termination of this Agreement.

## ARTICLE 19 SUBCONTRACTORS

- 19.1 Subcontractors.** Nothing in this Agreement shall prevent a Party from utilizing the services of subcontractors, as it deems appropriate, to perform its obligations under this Agreement; provided, however, that each Party shall require its subcontractors to comply with all applicable terms and conditions of this Agreement in providing such services and each Party shall remain primarily liable to the other Party for the performance of such subcontractor.
- 19.1.1 Responsibility of Principal.** The creation of any subcontract relationship shall not relieve the hiring Party of any of its obligations under this Agreement. In accordance with the provisions of this Agreement, each Party shall be fully responsible to the other Party for the acts or omissions of any subcontractor it hires as if no subcontract had been made. Any applicable obligation imposed by this Agreement upon a Party shall be equally binding upon, and shall be construed as having application to, any subcontractor of such Party.
- 19.1.2 No Third-Party Beneficiary.** Except as may be specifically set forth to the contrary herein, no subcontractor or any other party is intended to be, nor will it be deemed to be, a third-party beneficiary of this Agreement.
- 19.1.3 No Limitation by Insurance.** The obligations under this Article 19 shall not be limited in any way by any limitation of subcontractor's insurance.

## ARTICLE 20 CONFIDENTIALITY

- 20.1 Term.** During the term of this Agreement, and for a period of three (3) years after the expiration or termination of this Agreement, except as otherwise provided in this Article 20, each Party shall hold in confidence and shall not disclose to any person Confidential Information.
- 20.2 Scope.** Confidential Information shall not include information that the receiving Party can demonstrate (i) is generally available to the public other than as a result of a disclosure by the receiving Party; (ii) was in the lawful possession of the receiving Party on a non-confidential basis before receiving it from the disclosing Party; (iii) was supplied to the receiving Party without restriction by a third party, who, to the knowledge of the receiving Party, after due inquiry, was under no obligation to the other

Party to keep such information confidential; (iv) was independently developed by the receiving Party without reference to Confidential Information of the disclosing Party; (v) is, or becomes, publicly known, through no wrongful act or omission of the receiving Party or breach of this Agreement; or (vi) is required, in accordance with Section 20.7 of this Agreement, to be disclosed to any Governmental Authority as long as such information is made available to the public, is otherwise required to be disclosed by Applicable Laws and Regulations or subpoena, or is necessary in any legal proceeding establishing rights and obligations under this Agreement. Information designated as Confidential Information shall no longer be deemed confidential if the Party that designated the information as confidential notifies the other Party that it no longer is confidential.

- 20.3 Release of Confidential Information.** No Party shall release or disclose Confidential Information to any other person, except on a need-to-know basis, to its employees, consultants or to parties who may be or considering providing financing to or equity participation with Generator in connection with this Agreement, unless such person has first been advised of the confidentiality provisions of this Article 20 and has agreed to comply with such provisions. Notwithstanding the foregoing, a Party providing Confidential Information to any person receiving the initial Confidential Information shall remain primarily responsible for any release of Confidential Information in contravention of this Article 20.
- 20.4 Rights.** Each Party retains all rights, title, and interest in the Confidential Information that each Party discloses to another Party. The disclosure by each Party to another Party of Confidential Information shall not be deemed a waiver by either Party or any other person or entity of the right to protect the Confidential Information from public disclosure.
- 20.5 No Warranties.** By providing Confidential Information, no Party makes any warranties or representations as to its accuracy or completeness. In addition, by supplying Confidential Information, no Party obligates itself to provide any particular information or Confidential Information to another Party nor to enter into any further agreements or proceed with any other relationship or joint venture.
- 20.6 Standard of Care.** Each Party shall use at least the same standard of care to protect Confidential Information it receives as that it uses to protect its own Confidential Information from unauthorized disclosure, publication or dissemination. Each Party may use Confidential Information solely to fulfill its obligations to other Parties under this Agreement or to comply with Applicable Laws and Regulations.
- 20.7 Order of Disclosure.** If a Governmental Authority with the right, power, and apparent authority to do so requests or requires a Party, by subpoena,

demand for discovery, oral deposition, interrogatories, requests for production of documents, data request, administrative order, or otherwise, to disclose Confidential Information, that Party shall provide the other Party with prompt prior written notice to the extent possible of such request(s) or requirement(s) so that the other Party may seek an appropriate protective order or agreement, or waive compliance with the terms of this Agreement. Notwithstanding the absence of a protective order or agreement, or waiver, the Party may disclose such Confidential Information which, in the opinion of its counsel, the Party is legally compelled to disclose. Each Party shall use Reasonable Efforts to obtain reliable assurance that confidential treatment will be accorded any Confidential Information so furnished.

- 20.8 Remedies.** The Parties expressly agree that monetary damages would be inadequate to compensate a Party for another Party's Breach of its obligations under this Article 20. Each Party accordingly expressly agrees that the other Party shall be entitled to equitable relief, by way of injunction or otherwise, if the first Party breaches or threatens to breach its obligations under this Article 20, which equitable relief shall be granted without bond or proof of damages, and the receiving Party shall not plead in defense that there would be an adequate remedy at law. Such remedy shall not be deemed to be an exclusive remedy for the breach of this Article 20, but shall be in addition to all other remedies available at law or in equity. The Parties further acknowledge and agree that the covenants contained herein are necessary for the protection of legitimate business interests and are reasonable in scope. No Party, however, shall be liable for indirect, incidental or consequential or punitive damages of any nature or kind resulting from or arising in connection with this Article 20.

## ARTICLE 21 INFORMATION ACCESS AND AUDIT RIGHTS

- 21.1 Information Access.** Each Party shall make available to the other Party information necessary to verify the costs incurred by the other Party for which the requesting Party is responsible under this Agreement and to carry out obligations and responsibilities under this Agreement. The Parties shall not use such information for purposes other than the purposes set forth in this Section 21.1 and to enforce their rights under this Agreement.
- 21.2 Audit Rights.** Subject to the requirements of confidentiality under Article 20, a Party at its expense shall have the right, during normal business hours, and upon prior reasonable notice to another Party, to audit each other's accounts and records pertaining to a Party's performance and/or satisfaction of obligations arising under this Agreement during the twenty-four (24) month period prior to commencement of the audit, other

than an audit relating to the performance of the Transmission Owner under Section 9.3, which shall be subject to the audit provisions of such Section. Any audit authorized by this Section 21.2 shall be performed at the offices where such accounts and records are maintained and shall be limited to those portions of such accounts and records that relate to obligations under this Agreement.

## ARTICLE 22 DISPUTES

- 22.1 Submission.** Any claim or dispute, which a Party may have against the other Party, arising out of this Agreement shall be submitted for resolution in accordance with the dispute resolution provisions of the Manitoba Hydro Open Access Interconnection Tariff as published and in effect at the time of the claim or dispute.
- 22.2 Equitable Remedies.** Subject to Section 22.3, nothing in this Article shall prevent either Party from pursuing or seeking any equitable remedy available to it under Applicable Laws and Regulations, at any time.
- 22.3 Attornment to Jurisdiction.** The Parties agree to the exclusive jurisdiction of the Manitoba Court of Queen's Bench and the Manitoba Court of Appeal for the resolution of disputes arising from this Agreement which are not resolved by arbitration.

## ARTICLE 23 NOTICES

- 23.1 General.** Any notice, demand or request required or permitted to be given by a Party to the other and any instrument required or permitted to be tendered or delivered by a Party in writing to the other may be so given, tendered or delivered, as the case may be, by depositing the same with Canada Post with postage prepaid, for transmission by certified or registered mail, addressed to the Party, or personally delivered to the Party, at the address set out below:

To Transmission Owner:  
Manager, Transmission Services  
Manitoba Hydro  
P.O. Box 815  
Winnipeg, Manitoba R3C 2P4

To Generator:

Generation North Division Manager  
Manitoba Hydro (Power Supply Business Unit)  
Box 699  
GILLAM, Manitoba R0B 0L0

**23.2 Billings and Payments.** Billings and payments shall be sent to the addresses shown in Section 23.1.

**23.3 Alternative Forms of Notice.** Any notice or request required or permitted to be given by either Party to the other and not required by this Agreement to be given in writing may be so given by telephone, facsimile or email to the telephone numbers and email addresses set out below:

To Transmission Owner:

Voice telephone – 204-487-5349  
Facsimile telephone – 204-487-5368  
Email address – cmickey@hydro.mb.ca

To Generator:

Voice telephone – 204-652-5131  
Facsimile telephone – 204-652-5155  
Email address – fpmacinnis@hydro.mb.ca

**ARTICLE 24  
MISCELLANEOUS**

- 24.1 Waiver.** Any waiver at any time by a Party of its rights with respect to a Default under this Agreement, or with respect to any other matters arising in connection with this Agreement, shall not be deemed a waiver or continuing waiver with respect to any subsequent Default or other matter.
- 24.2 Governing Law.** The validity, interpretation and performance of this Agreement and each of its provisions shall be governed by the laws of the Province of Manitoba without regard to the conflicts of law provisions.
- 24.3 Headings Not to Affect Meaning.** The descriptive headings of the various Sections and Articles of this Agreement have been inserted for convenience of reference only and shall in no way modify or restrict any of the terms and provisions hereof.
- 24.4 Amendments.** Subject to Section 5.7.2, this Agreement may be amended by and only by a written instrument duly executed by the Parties. Upon

satisfaction of all Applicable Laws and Regulations, an amendment to this Agreement shall become effective and a part of this Agreement.

- 24.5 **Entire Agreement.** This Agreement constitutes the entire agreement among the Parties hereto with reference to the subject matter hereof and supercedes all prior oral and written communications pertaining hereto, except as specifically incorporated herein.
- 24.6 **Counterparts.** This Agreement may be executed in any number of counterparts, and each executed counterpart shall have the same force and effect as an original instrument.
- 24.7 **Binding Effect.** This Agreement and the rights and obligations hereof, shall be binding upon and shall inure to the benefit of the successors and assigns of the Parties hereto.
- 24.8 **Conflicts.** In the event of a conflict between the body of this Agreement and any attachment, appendix or exhibit hereto, the terms and provisions of the body of this Agreement shall prevail and be deemed to be the final intent of the Parties.
- 24.9 **Regulatory Requirements.** Each Party's obligations under this Agreement shall be subject to its receipt and the continued effectiveness of any required approval or certificate from one or more Governmental Authorities in the form and substance satisfactory to the receiving Party, or the Party making any required filings with, or providing notice to, such Governmental Authorities, and the expiration of any time period associated therewith. Each Party shall in good faith seek these other approvals as soon as is reasonably practicable.
- 24.10 **Material Adverse Change.** In the event of a material change in law or regulation that adversely affects, or may reasonably be expected to adversely affect a Party's rights and/or obligations under this Agreement, the Parties shall negotiate in good faith any amendments to this Agreement necessary to adapt the terms of this Agreement to such change in law or regulation. If, within sixty (60) days after the occurrence of any event described in this Section 24.10, the Parties are unable to reach agreement as to any necessary amendments, the Parties may proceed to terminate this Agreement in accordance with paragraph (i) or (v) of Section 2.2.
- 24.11 **Reciprocity.** A Generator receiving Interconnection Service under this Agreement agrees to provide comparable Interconnection Service that it is capable of providing to Transmission Owner on similar terms and conditions with respect to facilities used for the transmission of electric energy owned, controlled or operated by the Generator and facilities used for the transmission of electric energy owned, controlled or operated by



the Generator's corporate affiliates. A Generator that is a member of a power pool or regional transmission group also agrees to provide comparable Interconnection Service to the members of such power pool and regional transmission group on similar terms and conditions over facilities used for the transmission of electric energy owned, controlled or operated by the Generator and over facilities used for the transmission of electric energy owned, controlled or operated by the Generator's corporate affiliates. The requirements of this Section may be waived by Transmission Owner.

- 24.12 Currency.** All monetary amounts specified in the Agreement are stated in lawful money of Canada, unless specified otherwise. Unless otherwise agreed, monetary transactions, accounting and cost calculations between the Parties shall be determined and stated in lawful money of Canada. If required for any such monetary transactions, accounting or cost calculation, the rate to be used to convert from the currency of the United States of America to that of Canada for each day shall be the Bank of Canada noon spot exchange rate as published by the Royal Bank of Canada, Winnipeg, Manitoba, Canada, or the last published rate if not published for such day. If any monetary transaction is for a period of time exceeding one day, the weighted average of such noon spot exchange rates for each day in the respective period of time shall be used. The weighting shall be based in proportion to the dollar value of each day's transaction.

## ARTICLE 25 REPRESENTATIONS AND WARRANTIES

- 25.1 General.** Each Party hereby represents, warrants and covenants as follows with these representations, warranties, and covenants effective as to the Party during the full time this Agreement is effective:
- 25.1.1 Good Standing.** Such Party is duly organized or formed, as applicable, validly existing and in good standing under the laws of its jurisdiction, and is in good standing under the laws of its jurisdiction as stated in the preamble of this Agreement.
  - 25.1.2 Authority.** Such Party has the right, power and authority to enter into this Agreement, to become a party hereto and to perform its obligations hereunder.
  - 25.1.3 No Conflict.** The execution, delivery and performance of this Agreement does not violate or conflict with the organizational or formation documents, or bylaws or operating agreement, of either Party, or any judgment, license, permit or order or material agreement or instrument applicable to or binding upon either Party or any of its assets.

**25.1.4 Consent and Approval.** That it has sought or obtained, or, in accordance with this Agreement will seek or obtain, each consent, approval, authorization or order of, or acceptance of a filing with, or notice to, any Governmental Authority with jurisdiction concerning this Agreement, in connection with the execution, delivery and performance of this Agreement.

**25.1.5 Solvency.** That each Party is financially solvent.

**IN WITNESS WHEREOF**, the Parties hereto have caused this Agreement to be duly executed by their duly authorized officers or agents on the day and year first above written.

**Manitoba Hydro (Power Supply Business Unit)**

By: "Joanne Flynn"

Name: Joanne Flynn

Title: Export Power Marketing Manager

**Manitoba Hydro (Transmission and Distribution Business Unit)**

By: "Tanasy Edward Tymofichuk"

Name: Tanasy Edward Tymofichuk

Title: Transmission Systems Operations Manager

**APPENDIX A**  
**POINT OF INTERCONNECTION, TRANSMISSION OWNER**  
**INTERCONNECTION FACILITIES, INTERCONNECTION SYSTEM**  
**UPGRADES, COST ESTIMATES AND RESPONSIBILITY, TRANSMISSION**  
**CREDITS, CONSTRUCTION SCHEDULE, MONTHLY PAYMENT SCHEDULE**

This Appendix A is part of the Interconnection and Operating Agreement (“Agreement”) between Generator and Transmission Owner.

- 1.1 Point of Interconnection.** The Point(s) of Interconnection shall be at the point(s) on the output (high) side of the step-up transformer (located on the tailrace deck of the Facility) at which each of the three generators comprising the Facility connects to each of the three 230 kV transmission lines running from the Facility to the new 230 kV switching station. See Drawing dated 2004 06 01 which drawing is attached hereto as Attachment A-1 and made a part hereof. The metering point(s) shall be located at the low side of the Facility’s step up transformer as shown on Attachment A-1.
- 1.2 Transmission Owner Interconnection Facilities (including metering equipment) to be constructed by Transmission Owner.** The Transmission Owner shall construct all Transmission Owner Interconnection Facilities, including, but not limited to, three (3) 230 kV transmission lines approximately 1.4 km in length from the output (high) side of the Facility’s step-up transformers to the Wuskwatim Switching Station 230 kV bus in accordance with the final Interconnection Facilities Study dated November 19, 2004 (“Interconnection Facilities Study”). The Transmission Owner Interconnection Facilities shall include three (3) 230 kV circuit breakers in the Wuskwatim Switching Station. The Transmission Owner Interconnection Facilities are shown on the single line diagram attached hereto as Attachment A-1.
- 1.3 Transmission Owner Interconnection Facilities (including metering equipment) to be constructed by Generator.** No Transmission Owner Interconnection Facilities shall be constructed by Generator.
- 1.4 Interconnection System Upgrades to be installed by the Transmission Owner.** In accordance with the Interconnection Facilities Study, the Transmission Owner shall undertake all Interconnection System Upgrades identified in the Interconnection Facilities Study including, but not limited to, the following:

  - Construct a 230 kV station at Mystery Lake, Township 77, Range 3, WPM (“Wuskwatim Switching Station”);
  - Construct a 230 kV station at Section 32, Township 75, Range 7, WPM (“Birchtree Station”);

- Construct two (2) 230 kV transmission lines (designated as H73W and H74W) approximately 137 km in length from Wuskwatim Switching Station to Herblet Lake Station;
- Construct a 230 kV transmission line (designated as B76W) approximately 45 km in length from Wuskwatim Switching Station to Birchtree Station;
- Construct a 230 kV Transmission line (designated as H75P) approximately 165 km in length from Herblet Lake Station to Ralls Island Station;
- Modify 230 kV Herblet Lake Station to connect the new transmission lines H73W and H74W to Herblet Lake Station from Wuskwatim Switching Station;
- Modify 230 kV Herblet Lake Station to connect transmission line H75P to Herblet Lake Station from Ralls Island Station;
- Modify 230 kV Ralls Island Station to connect the new transmission line H75P to Ralls Island Station from Herblet Lake Station.

The Interconnection System Upgrades are shown in Attachment A-1 to this Appendix A.

**1.5 Cost Estimates and Responsibility.** Generator and Transmission Owner hereby acknowledge and agree that the costs tabulated below are an estimate and that Generator hereby agrees to and shall reimburse the Transmission Owner for all actual costs associated with the construction and installation by the Transmission Owner of the Transmission Owner Interconnection Facilities and the Interconnection System Upgrades. Notwithstanding the foregoing, Generator may be entitled to a cash repayment, pursuant to Section 1.5.10.1 of this Appendix A, with respect to a portion of the construction and installation costs of the Interconnection System Upgrades which would otherwise be required by Transmission Owner, but are being advanced.

- 1.5.1** The cost for the Transmission Owner Interconnection Facilities to be constructed by the Transmission Owner is estimated at \$9,871,492.00 not including Goods and Services Tax or Retail Sales Tax.
- 1.5.2** The cost for the Interconnection System Upgrades is estimated at \$200,561,475.00, not including Goods and Services Tax or Retail Sales Tax.
- 1.5.3** The total cost for the Transmission Owner Interconnection Facilities and Interconnection System Upgrades is estimated at \$210,432,967.00 not including Goods and Services Tax or Retail Sales Tax.
- 1.5.4** Generator's liability for reimbursement of Transmission Owner for taxes, grants in lieu of taxes, interest and/or penalties under Section 13.7 of the Agreement is estimated at \$0. This amount is not included in the

total cost for Transmission Owner Interconnection Facilities and Interconnection System Upgrades stated in Section 1.5.3 of this Appendix A.

- 1.5.5** Generator shall comply with the payment schedule as set forth in Attachment A-2 to this Appendix A as revised from time to time by the Transmission Owner. The Parties acknowledge that, as of the date of execution, the payment schedule in Attachment A-2 is based on an Effective Date of this Agreement being on or before May 1, 2005 and that Attachment A-2 may be revised by the Transmission Owner in the event of a later Effective Date or pursuant to Section 1.5.8 of this Appendix or Section 13.3.2 of this Agreement.
- 1.5.6** The first payment for activities authorized under this Agreement is due during the first calendar month which is at least thirty (30) days following the Effective Date of this Agreement. The first payment shall include compensation for costs incurred by Transmission Owner with respect to the Transmission Owner Interconnection Facilities prior to publication of its Open Access Interconnection Tariff, that is, November 20, 2003 plus financing costs incurred prior to the date of first payment under this Agreement. Based on an Effective Date on or before May 1, 2005, such compensation shall be in the sum of \$11,205,642.00, and will be subject to adjustment by the Transmission Owner in the event of a later Effective Date. Payments thereafter shall be on a monthly basis in accordance with the above-referenced payment schedule. Payments are to be made on the first day of each month, or the nearest banking day thereafter in the event that the first day of the month is not a banking day.
- 1.5.7** The monthly payment shall include estimated construction costs plus GST pursuant to the *Excise Tax Act* (R.S.C. 1985, c. E-15). For the purposes of any GST rebate to which the Generator may be entitled, the Transmission Owner's GST registration number is 12206 3779.
- 1.5.8** The Parties acknowledge that as of the date of execution of this Agreement the following costs have been or will be incurred with respect to the Transmission Owner Interconnection Facilities and Interconnection System Upgrades referenced in Sections 1.2 and 1.4, pursuant to a Letter Agreement dated June 2, 2004 regarding interconnection of the Facility. Amounts payable pursuant to the payment schedule attached to this Appendix shall be adjusted by Transmission Owner to account for any payments pursuant to the Letter Agreement (or other agreement) made prior to the Effective Date of this Agreement.
- |               |              |
|---------------|--------------|
| 2003 December | \$243,785.00 |
| 2004 January  | \$184,714.00 |

2004 February	\$1,108,941.00
2004 March	\$505,585.00
2004 April	\$125,365.00
2004 May	\$112,989.00
2004 June	\$239,738.00
2004 July	\$277,875.00
2004 August	\$99,320.00
2004 September	\$115,802.00
2004 October	\$73,552.00
2004 November	\$1,102,962.00
2004 December	(\$143,393.00)
2005 January	\$989,950.00
2005 February	\$1,616,468.00
2005 March	\$3,157,803.00
2005 April	\$1,787,274.00
2005 May	\$3,972,328.00

**1.5.9** Payments by way of certified cheque shall be made payable to: Manitoba Hydro. Payments by interbank wire transfer shall be made to:

Beneficiary : Manitoba Hydro  
 Bank Name: 003 Royal Bank of Canada, Main Branch  
 Bank Address: 220 Portage Avenue, Winnipeg, Manitoba R3C 0A5  
 Account: 1043413  
 Transit: 00007

**1.5.10.1** In consideration of payments made by Generator for construction and installation costs of Interconnection System Upgrades that would otherwise be constructed by Transmission Owner were it not for Generator's Interconnection Request but are being constructed in advance of Transmission Owner's planned in-service date ("Advanced Facilities"), Generator shall be entitled to a cash repayment, calculated in accordance with Section 1.5.10.3 of this Appendix A provided that:

- a) Transmission Owner is authorized to include construction and installation costs (including interest) of the Advanced Facilities in Transmission Owner's retail electricity rates; and
- b) Generator is not entitled to transmission service credits pursuant to Section 13.3.4 of this Agreement.

**1.5.10.2** The Interconnection Facilities Study has identified the following as Advanced Facilities:

- a) 230 kV Transmission line (designated as H75P) approximately 165 kM in length from Herblet Lake Station to Ralls Island Station;

- b) Modification of 230 kV Herblet Lake Station to connect the new transmission line H75P to Herblet Lake Station from Ralls Island Station;
- c) Modification of 230 kV Ralls Island Station to connect the new transmission line H75P to Ralls Island Station from Herblet Lake Station.

**1.5.10.3** The cash repayment shall include the actual construction and installation costs incurred by Generator with respect to the Advanced Facilities (except for payments made by Generator pursuant to Sections 4.1.5.1, 4.1.5.2, 4.1.9 and 18.2.2 of this Agreement) as determined by Transmission Owner, plus interest for the period of construction of the Advanced Facilities. Interest shall be calculated at the Transmission Owner's Long Term Canadian Debt Rate as determined by adding: (a) the Yield of Benchmark Ten Year Government of Canada Bond; plus (b) Province of Manitoba Credit Spread and Commissions; plus (c) Transmission Owner's Debt Guarantee Rate and by converting this semi-annual rate to a monthly compound rate. Components (a) through (c) of the interest rate shall be determined by the Transmission Owner using information published by an investment dealer recognized by the Province of Manitoba. The applicable interest rate shall be calculated for each month of the period of construction as at the last working day of the month.

**1.5.10.4** The cash repayment shall be payable in one lump sum within thirty (30) days following the date when the costs of the Advanced Facilities are included in the Transmission Owner's retail electricity rates pursuant to Section 1.5.10.1 of this Agreement, which is estimated to be November 1, 2010 provided all the conditions of Section 1.5.10.1 of this Appendix A have been met.

**1.5.10.5** Pursuant to Section 5.10 of this Agreement, Generator shall be responsible for operating and maintenance costs for the Advanced Facilities identified in Section 1.5.10.1 of this Appendix A until such costs are rolled into the Transmission Owner's retail rates. As of said date, no operating and maintenance costs with respect to said facilities shall be payable pursuant to Sections 5.10, 6.3, and 17.8 of this Agreement.

**1.6 First Equipment Order.** For the purposes of Section 13.1 of this Agreement, the first date for ordering of equipment under this Agreement by the Transmission Owner for installing Transmission Owner Interconnection Facilities and/or Interconnection System Upgrades is thirty days after the Effective Date of this Agreement.

**1.7 Transmission Credits.** The portion of the Interconnection System Upgrades that are subject to the transmission service credits described in Section 13.3.4 of this Agreement is estimated to be \$0.

**1.8 Construction Schedule.** As at the time of execution of this Agreement, construction of the Facility, Generator Interconnection Facilities, the Transmission Owner Interconnection Facilities and Interconnection System Upgrades is scheduled to take place in accordance with the Construction Schedule attached to this Appendix as Attachment A-3. The estimated completion date for the Transmission Owner Interconnection Facilities is scheduled for August 31, 2010. Transmission Owner shall notify Generator of delays to this construction schedule in accordance with Section 4.1.6.1 of this Agreement. The estimated date for Pre-Commercial Testing pursuant to Section 4.1.11 of this Agreement is estimated to be September 1, 2010.

**1.9 Permits, Licenses and Authorizations.** The Transmission Owner shall obtain all permits, licenses, and authorizations required for construction of the Transmission Owner Interconnection Facilities and Interconnection System Upgrades.

**2.0 Clarifications.** The following clarifications are made to this Agreement:

**2.2 Section 9.1: Ancillary Services**

**2.2.1** Transmission Owner deems it unnecessary for Generator to provide Scheduling, Control and Dispatch Service.

**2.2.2** Transmission Owner deems it unnecessary for Generator to provide Reactive Supply and Voltage Control Ancillary Service .

**2.2.3** Transmission Owner deems it unnecessary for Generator to provide Regulation and Frequency Response pursuant to Section 9.1.

**2.2.4** Transmission Owner deems it unnecessary for Generator to provide Energy Imbalance Service pursuant to Section 9.1.

**2.2.5** Transmission Owner deems it unnecessary for Generator to provide Spinning Reserve Service pursuant to Section 9.1, provided that Generator does not supply electricity to retail customers in Transmission Owner's reliability region.

**2.2.6** Transmission Owner deems it unnecessary for Generator to provide Supplemental Reserve Service pursuant to Section 9.1, provided that Generator does not supply electricity to retail customers in Transmission Owner's reliability region.



- 2.3 Section 9.2, Section 5.7.1(x) and Obligation to Supply Reactive Power and Provision of Ancillary Services:** Generator shall provide sufficient reactive power facilities as described in the Interconnection Facilities Study, to maintain power delivery at continuous rated power output at a power factors within the range of 0.85 leading to 0.95 lagging. Generator is obligated to meet the voltage schedule specified by the Transmission Owner, which is set forth in Appendix D to this Agreement.
- 2.4 Section 9.4 Excess Reactive Power Capability:** Transmission Owner does not request installation of excess reactive power capability.
- 2.5 Sections 9.5, 9.6 Black Start Service:** Pursuant to the Interconnection Facilities Study, Transmission Owner deems it necessary for Generator to provide Black Start Service. In accordance with Section 9.6 of this Agreement, Generator shall be entitled to compensation for verifiable costs associated with installation, operation and maintenance of the facilities necessary to supply Black Start Service as outlined in Attachment A-4 hereto.
- 2.6 Section 9.8 Must Run:** Transmission Owner has not designated any units of Generator's Facility as a must-run unit.
- 2.7 Section 13.1 Credit Assurance Prior to Operation Date:** Subject to Section 2.8 of this Appendix A, Generator shall not be required to provide credit assurance prior to the Operation Date.
- 2.8** In the event that this Agreement is assigned by Generator to the Wuskwatim Power Limited Partnership ("Assignee"), Transmission Owner agrees that execution of a financing agreement by the Assignee, in form and substance acceptable to the Transmission Owner, ("Financing Agreement"), as determined by the Transmission Owner in its sole, unfettered discretion, shall be considered adequate assurance of creditworthiness pursuant to Section 13.1 of this Agreement with respect to the costs associated with constructing and installing, operating and maintaining the Transmission Owner Interconnection Facilities and Interconnection System Upgrades, for so long as the Financing Agreement remains in full force and effect, provided that:
- a) Manitoba Hydro is the Lender pursuant to said Financing Agreement and no assignment has been made of said Financing Agreement by Manitoba Hydro to a third party without obtaining the consent of the Transmission Owner;
  - b) The Assignee agrees that it shall exercise its rights pursuant to said Financing Agreement for the advancement of funds required to pay all construction and installation costs owing to Transmission Owner pursuant to Section 13.3 of this Agreement as such payments become due if Assignee does not have sufficient funds to pay such costs;

- c) The Assignee agrees that all funds advanced to the Assignee pursuant to the Financing Agreement with respect to amounts owing pursuant to Section 13.3 of this Agreement shall be paid to Transmission Owner as such amounts become due;
- d) The Assignee acknowledges and agrees that in the event that Generator fails to fulfill its obligations pursuant to this Section 2.8 of Appendix A, a court judgment in favour of Transmission Owner for damages is not an adequate remedy and accordingly, that Transmission Owner shall be entitled, in addition to any other remedies, to an order for specific performance by the Assignee of its obligations pursuant to this Section 2.8.
- e) In the event that any of these conditions are not met:
  - (i) Assignee shall provide the Transmission Owner with a standby letter of credit, in accordance with the requirements of Section 13.1 of this Agreement, in the amount of \$195,035,484.00 plus GST; less any payments received under the Letter Agreement. The amount of the letter of credit may reduce on a monthly basis in accordance with payments made in accordance with Section 1.5.5 of this Appendix A;
  - (ii) During each year after the Operation Date, the Assignee shall provide an irrevocable standby letter of credit for a one year term to secure monthly payments owing pursuant to Sections 5.10 and 13.7 of this Agreement. For the first year after the Operation Date, the amount of the letter of credit shall be \$ 3,000,000.00.

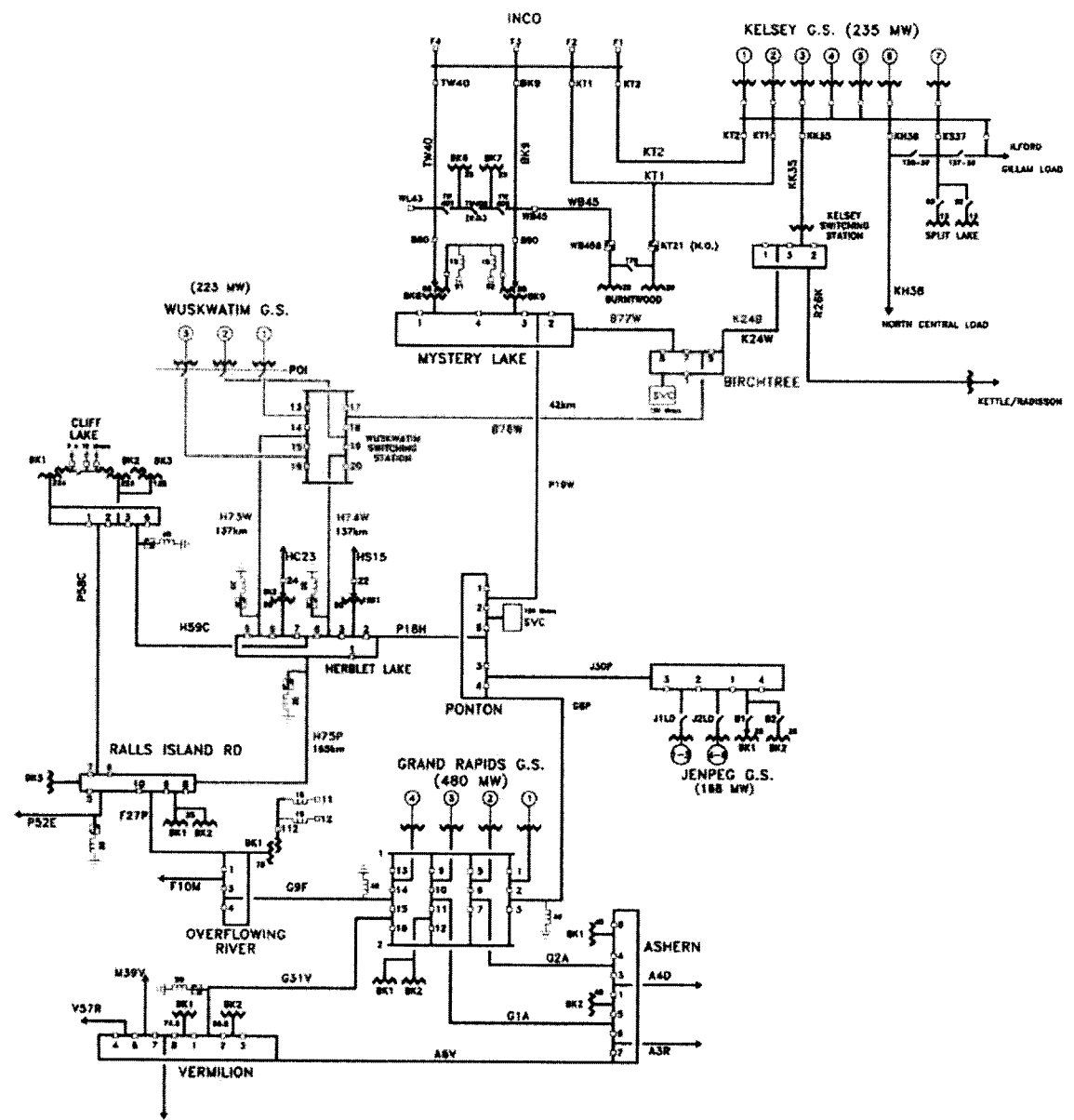
**2.9 Section 13.1 Credit Assurance After Operation Date:** Subject to Section 2.8, Generator is not required to provide credit assurance after the Operation Date in order to secure monthly payments owing pursuant to Sections 5.10 and 13.7 of this Agreement.

**2.10 Section 15.1.1 Commercial General Liability:** Generator shall maintain commercial general liability insurance coverage in the amount of \$ 30,000,000 per occurrence for bodily injury and property damage in accordance with Section 15.1.1 of this Agreement.

CAPITAL BUDGET COMPLEX CONCEPTUAL DESIGN  
**WUSKWATH GENERATING FACILITY  
 TRANSMISSION**  
 REVISED 200-06-08 040 ISSUED BY: DAJ  
 IM NO. 151192

ATTACHMENT A-1

LEGEND	
CIF (Computer Information Facilities)	—————
ISU (Information System Upgrade)	—————
TOW (Transmission Owner Information Facilities)	—————
EXISTING SYSTEM	—————
POI (Point of Interconnection)	—————



**WUSKWATIM TRANSMISSION COMPLEX - Gross Cost & Escalation by Project by Period**

	Wusk SS to Birchtree T/L	Wusk SS to Herblet T/Ls	Birchtree Station	Birchtree Station (SVC)	Wuskwatim Station	Herblet Station (terminate Wusk T/L)	Kelsey Station (protection)	Mystery Lk Station (protection)	Wuskwatim Environmental & Licensing	Wusk GS to Wusk SS T/L	Telecommunic ations	Wusk Development fund	unamortized planning & Environment	Wuskwatim Transmission
	P:6850	P:6852	P:6853	P:6854	P:6855	P:6856	P:6857	P:6858	P:6859	P:6865	P:6866	P:6867	P:8850	
2004/009 December 2003														-
2004/010 January 2004			9,467											9,467
2004/011 February 2004			8,968											8,968
2004/012 March 2004	689		9,965											10,654
2005/001 April 2004	2,960				8,225									29,391
2005/002 May 2004	227,441				8,237						658	17,548		253,885
2005/003 June 2004	3,489				8,682						659	17,548		31,338
2005/004 July 2004	4,154				8,695						695	18,472		32,017
2005/005 August 2004	5,182				8,707						696	18,472		33,058
2005/006 September 2004	7,892				8,283						697	17,548		34,386
2005/007 October 2004	10,644				8,295						663	17,548		37,151
2005/008 November 2004	15,577				8,744						664	17,548		43,492
2005/009 December 2004	214,331				8,318						699	17,548		240,862
2005/010 January 2005	245,413				7,891						665	17,548		270,560
2005/011 February 2005	503,820				7,902						631	16,625		528,979
2005/012 March 2005	2,917,328				8,793						632	16,625		2,945,296
2006/001 April 2005	266,308	1,025,282			66,361				30,695		703	18,472		1,676,642
2006/002 May 2005	2,374,856	1,081,027			69,969				32,364		187,720	100,276		3,861,696
2006/003 June 2005	106,393	1,082,813			70,085				32,418		197,926	105,554		1,595,516
2006/004 July 2005	467,422	1,030,371			66,691				30,848		198,253	105,554		1,884,259
2006/005 August 2005	1,553,997	1,140,712			73,832				34,151		188,651	100,276		2,829,509
2006/006 September 2005	1,408,320	1,033,777			66,911				30,950		208,854	110,831	15,397,483	18,519,860
2006/007 October 2005	920,801	1,035,485			67,022				30,950		189,275	100,276		2,344,173
2006/008 November 2005	186,402	1,091,784			70,666				31,001		189,588	100,276		1,686,987
2006/009 December 2005	422,781	984,228			63,704				32,686		199,895	105,554		1,775,380
2006/010 January 2006	385,963	1,040,624			67,354				29,466		180,203	94,998		1,815,900
2006/011 February 2006	134,830	987,482			63,915				31,155		190,528	100,276		1,491,588
2006/012 March 2006	153,875	1,153,965			74,690				29,564		180,799	94,998		1,739,189
2007/001 April 2006	134,530	1,649,940	31,947	15,206	276,371	18,042			34,548		211,280	110,831		2,269,585
2007/002 May 2006	90,178	2,041,528	39,529	18,815	341,964	22,358			30,143		10,948	102,458		2,731,782
2007/003 June 2006		1,947,524	37,709	17,949	326,218	21,361			37,297		13,547	126,566		2,519,802
2007/004 July 2006		1,853,203	35,882	17,079	310,419	20,358			35,579		12,923	120,539		2,397,606
2007/005 August 2006		2,051,660	39,725	18,908	343,661	34,886			33,856		12,297	114,512		2,666,502
2007/006 September 2006		1,761,470	34,106	16,234	295,053	62,272			37,482		13,614	126,566		2,582,592
2007/007 October 2006		1,960,422	37,958	18,068	328,378	68,403			32,180		11,688	108,485		2,703,396
2007/008 November 2006		2,061,842	39,922	19,002	345,366	59,348			35,815		13,009	120,539		2,738,090
2007/009 December 2006		1,671,867	32,371	15,408	280,044	51,237			37,668		13,682	126,566		2,646,924
2007/010 January 2007		1,970,151	38,147	18,157	330,008	71,646			30,543		11,094	102,458		2,991,100
2007/011 February 2007		1,776,064	34,389	16,369	297,498	87,406			35,993		13,073	120,539		2,661,883
2007/012 March 2007		1,976,664	34,445	18,217	331,099	207,898			32,447		11,785	108,485		2,835,926
2008/001 April 2007		1,774,288	-	32,704	446,004	175,449			36,112		13,116	120,539		2,650,093
2008/002 May 2007		2,073,422	31,904	38,218	521,198	71,281			36,891		58,949	122,639		3,071,034
2008/003 June 2007		1,879,051	33,732	34,635	472,339	11,174			43,110		68,888	143,079		2,991,100
2008/004 July 2007		1,981,216	19,120	36,518	498,020	57,769			39,069		62,430	129,453		2,661,883
2008/005 August 2007		2,083,712	59,939	38,408	523,785	109,557			41,193		65,824	136,266		2,835,926
2008/006 September 2007		1,788,989	78,212	32,975	449,700	80,943			43,324		69,230	143,079		2,650,093
2008/007 October 2007		2,090,601	85,028	38,535	525,516	128,089			37,197		59,438	122,639		3,123,775
2008/008 November 2007		2,094,053	97,049	38,598	526,384	114,100			43,468		69,459	143,079		3,126,375
2008/009 December 2007		1,697,986	139,186	31,298	426,824	91,547			43,539		69,573	143,079		2,594,385
2008/010 January 2008		2,000,930	173,894	36,882	502,976	96,228			35,304		56,414	115,826		3,055,258
2008/011 February 2008		1,904,023	170,170	35,096	478,616	153,564			41,603		66,479	136,266		2,973,770
2008/012 March 2008		1,806,790	182,083	33,303	454,174	116,458			39,588		63,260	129,453		2,813,043
2009/001 April 2008		26,038	199,432	185,324	598,134	134,022	4,154	10,479	37,567		60,029	122,639		1,369,089
2009/002 May 2008		26,081	506,205	185,630	599,122	331,462	4,161	10,497	46,226	30,208	62,269	72,803		1,874,893
2009/003 June 2008		24,818	1,001,945	176,640	570,106	520,460	3,959	9,988	46,302	30,258	62,372	72,803		2,509,281
2009/004 July 2008		27,476	1,257,580	195,556	631,158	153,778	4,383	11,058	44,060	28,792	59,351	69,162		2,503,793
									48,778	31,876	65,707	76,443		

2009/005 August 2008	24,900	767,228	178,643	571,990	148,655	3,972	10,021	44,205	28,888	59,547	69,162	1,907,211		
2009/006 September 2008	26,254	153,111	192,547	603,090	101,893	4,188	10,566	46,609	30,458	62,785	72,803	1,304,304		
2009/007 October 2008	27,612	1,311,531	202,774	634,290	391,375	4,405	11,113	49,020	32,034	66,033	76,443	2,806,630		
2009/008 November 2008	23,707	539,906	170,643	544,575	475,554	3,782	9,541	42,087	27,503	56,693	65,522	1,959,513		
2009/009 December 2008	23,746	5,567	170,581	545,474	144,279	3,788	9,557	42,156	27,548	56,787	65,522	1,095,005		
2009/010 January 2009	25,106	8,386	184,900	576,730	104,784	4,005	10,104	44,572	29,127	60,041	69,162	1,116,917		
2009/011 February 2009	23,824	7,958	176,986	547,278	30,510	3,801	9,588	42,295	27,639	56,975	65,522	992,376		
2009/012 March 2009	26,515	8,857	207,870	609,091	8,329	4,230	10,671	47,073	30,761	63,410	72,803	1,089,610		
2010/001 April 2009		8,428	49,423	912,429	342,934	9,689	24,360	17,305	32,785	60,861	95,827	1,554,041		
2010/002 May 2009		17,291	55,003	913,936	228,615	9,705	24,400	17,334	32,839	60,962	95,827	1,455,912		
2010/003 June 2009		45,725	-	963,627	241,374	10,232	25,727	18,276	34,625	64,276	100,870	1,504,732		
2010/004 July 2009		47,354	274,434	1,013,480	254,207	10,762	27,058	19,222	36,416	67,601	105,914	1,856,448		
2010/005 August 2009		61,844	618,496	870,132	220,496	9,239	23,231	16,503	31,265	58,040	90,783	2,000,029		
2010/006 September 2009		78,911	759,815	968,410	275,886	10,283	25,855	18,367	34,797	64,595	100,870	2,337,789		
2010/007 October 2009		585,283	1,481,636	970,009	268,564	10,300	25,897	18,397	34,854	64,702	100,870	3,560,512		
2010/008 November 2009		374,230	1,335,674		220,525	9,285	23,346	16,585	31,421	58,328	90,783	2,160,177		
2010/009 December 2009		76,794	1,412,207		233,474	9,817	24,684	17,535	33,221	61,670	95,827	1,965,229		
2010/010 January 2010		148,901	1,390,658		221,848	9,316	23,423	16,640	31,524	58,521	90,783	1,991,614		
2010/011 February 2010		1,027,891	1,672,179		222,511	9,331	23,462	16,667	31,577	58,617	90,783	3,153,018		
2010/012 March 2010		1,498,371	2,307,681		260,370	10,905	27,417	19,477	36,900	68,500	105,914	4,335,535		
2011/001 April 2010		130,744	267,882			753	1,882	1,142	40,433	1,109	14,834	458,779		
2011/002 May 2010		3,025	192,854			715	1,786	1,083		1,052	14,053	214,568		
2011/003 June 2010		92,329	225,368			835	2,087	1,266		1,229	16,395	339,509		
2011/004 July 2010		272,774	459,013			797	1,991	1,208		1,173	15,615	752,571		
2011/005 August 2010		195,943	204,578			758	1,895	1,149		1,116	14,834	420,273		
2011/006 September 2010		41,319	215,701			799	1,998	1,212		1,177	15,615	277,821		
2011/007 October 2010			205,255			760	1,901	1,153		1,120	14,834	225,023		
2011/008 November 2010			205,594			762	1,904	1,155		1,121	14,834	225,370		
2011/009 December 2010			205,933			763	1,907	1,157		1,123	14,834	225,717		
2011/010 January 2011			195,417			724	1,810	1,098		1,066	14,053	214,168		
2011/011 February 2011			195,740			725	1,813	1,099		1,068	14,053	214,498		
2011/012 March 2011			228,740			847	2,119	1,285		1,248	16,395	250,634		
Result	12,765,576	58,891,023	12,009,710	17,023,957	24,196,648	7,467,279	176,930	445,136	2,046,512	797,749	4,744,028	6,622,349	15,397,483	147,186,897

P:8850 Planning & Licensing costs flowed in August 2005

15,397,483

Balanced to SAP 2005 03 18

\$ 162,584,380

Activity ID	Activity Description	Life Start	Life Finish												
<b>WASKWATIM SWITCHING STATION</b>															
000	INVESTIGATION & DESIGN	2000/01/01	2000/01/01												
000	PROPERTY OF EQUIPMENT OWNER	2000/01/01	2000/01/01												
000	PERMITS	2000/01/01	2000/01/01												
000	CONSTRUCTION	2000/01/01	2000/01/01												
000	OPER. RELIABILITY	2000/01/01	2000/01/01												
000	ELECTRICAL COMPLETION	2000/01/01	2000/01/01												
000	COMMISSIONING	2000/01/01	2000/01/01												
<b>BACHINIZ STATION</b>															
000	INVESTIGATION & DESIGN	2000/01/01	2000/01/01												
000	PROPERTY OF EQUIPMENT OWNER	2000/01/01	2000/01/01												
000	PERMITS	2000/01/01	2000/01/01												
000	CONSTRUCTION	2000/01/01	2000/01/01												
000	OPER. RELIABILITY	2000/01/01	2000/01/01												
000	ELECTRICAL COMPLETION	2000/01/01	2000/01/01												
000	COMMISSIONING	2000/01/01	2000/01/01												
<b>MUSKIEE LAKE STATION</b>															
000	INVESTIGATION & DESIGN	2000/01/01	2000/01/01												
000	PROPERTY OF EQUIPMENT OWNER	2000/01/01	2000/01/01												
000	PERMITS	2000/01/01	2000/01/01												
000	CONSTRUCTION	2000/01/01	2000/01/01												
000	OPER. RELIABILITY	2000/01/01	2000/01/01												
000	ELECTRICAL COMPLETION	2000/01/01	2000/01/01												
000	COMMISSIONING	2000/01/01	2000/01/01												
<b>THE PASQUILL'S ISLAND STATION</b>															
000	INVESTIGATION & DESIGN	2000/01/01	2000/01/01												
000	PROPERTY OF EQUIPMENT OWNER	2000/01/01	2000/01/01												
000	PERMITS	2000/01/01	2000/01/01												
000	CONSTRUCTION	2000/01/01	2000/01/01												
000	OPER. RELIABILITY	2000/01/01	2000/01/01												
000	ELECTRICAL COMPLETION	2000/01/01	2000/01/01												
000	COMMISSIONING	2000/01/01	2000/01/01												
<b>1112 COMMUNICATIONS FOR WASKWATIM TRANSMISSION</b>															
000	DESIGN	2000/01/01	2000/01/01												
000	PROPERTY OF EQUIPMENT OWNER	2000/01/01	2000/01/01												
000	PERMITS	2000/01/01	2000/01/01												
000	CONSTRUCTION	2000/01/01	2000/01/01												

180

Start Date: \_\_\_\_\_  
 Finish Date: \_\_\_\_\_  
 Issue Date: \_\_\_\_\_  
 Rev Date: \_\_\_\_\_

CLASS: \_\_\_\_\_  
 TITLE: \_\_\_\_\_  
 SCALE: 1:1

Rev 1  
 Rev 2  
 Rev 3  
 Rev 4

Approved By: \_\_\_\_\_  
 Checked By: \_\_\_\_\_

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**WASKWATIM T&D FACILITIES**  
 Transmission and Distribution  
 T&D Scheduling Services



Date	Revision	Checked	Approved
2000/01/01	01		
2000/01/01	02		
2000/01/01	03		
2000/01/01	04		

Activity ID	Activity Description	Life Span	Life Phase	Gantt Chart Area											
<b>WUSKATIM - ROBERT LAKE TL</b>															
001	PLANNING	2000	2000	[Gantt bar]											
002	PERMIT ACQUISITION & DESIGN	2000	2000	[Gantt bar]											
003	CONSTRUCTION	2000	2000	[Gantt bar]											
004	OPERATION	2000	2000	[Gantt bar]											
<b>ROBERT LAKE - THE PAS TL</b>															
001	PLANNING	2000	2000	[Gantt bar]											
002	PERMIT ACQUISITION & DESIGN	2000	2000	[Gantt bar]											
003	CONSTRUCTION	2000	2000	[Gantt bar]											
004	OPERATION	2000	2000	[Gantt bar]											
<b>WUSKATIM - JINI LINES</b>															
001	PLANNING	2000	2000	[Gantt bar]											
002	PERMIT ACQUISITION & DESIGN	2000	2000	[Gantt bar]											
003	CONSTRUCTION	2000	2000	[Gantt bar]											

Start Date  
Finish Date  
Start Date  
Start Date

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Sheet 2 of 7

**WUSKATIM T&D FACILITIES**

Transmission and Distribution  
T&D Scheduling Services



Date	Revision	Created By	Approved By
2000/07/20	Original Revision	BLA/ST	
2000/07/20	Rev 02		

## **ATTACHMENT A-4**

### **Black Start Service**

#### **1.1 Eligibility**

In order for Generator to be eligible for compensation from Transmission Owner for Black Start Service, Generator's Facility shall meet the Black Start operating, maintenance and testing criteria outlined in Appendix D to this Agreement and the requirements of Section 1.4 of this Attachment.

#### **1.2 Compensation**

Generator shall be reimbursed for Black Start Service supplied on or after the Operation Date based on Generator's annual revenue requirement for the facilities required to supply Black Start Service ("Black Start Revenue Requirement"), calculated in accordance with the terms of this Attachment. Reimbursement shall be on a monthly basis for 1/12 of the Black Start Revenue Requirement, upon being invoiced by Generator in accordance with Section 13.4 of this Agreement.

#### **1.3 Black Start Revenue Requirement Calculation**

The formula for calculating Generator's Black Start Revenue Requirement shall be:

[Fixed Costs] + [Operating and Maintenance Costs] + [Training Costs] + [Fuel Storage and Carrying Costs]; as such capitalized terms are defined in this Section.

##### **1.3.1 Calculation of Fixed Costs**

The Fixed Costs for this Facility to be included in the Black Start Revenue Requirement shall be 23.81% of the verifiable total annual interest and depreciation costs for assets used by Generator to provide Black Start Service.

The pro rata share of 23.81% is based on the increased capacity required for Black Start Service, which for this Facility is 125 kW/525 kW and is derived as follows. The Facility requires 400 kW of diesel backup capability in order to meet the Facility's internal operational requirements. An additional 125 kW of diesel backup capability is required to meet the Black Start Service capability requirements for the Facility.

##### **1.3.2 Calculation of Operating and Maintenance Costs**

The Operating and Maintenance Costs for this Facility to be included in the Black Start Revenue Requirement shall be 23.81% of the verifiable total annual operating and maintenance costs for assets used by Generator to provide Black Start Service, excluding Fuel Storage and Carrying Costs.



The pro rata share of 23.81% is based on the increased capacity required for Black Start Service, which for this Facility is 125 kW/525 kW.

### 1.3.3 Calculation of Training Costs

The Training Costs for this Facility to be included in the Black Start Revenue Requirement shall include all verifiable annual costs related to onsite training of personnel with respect to local Black Start Service operating procedures and any verifiable annual costs related to additional training requested by the Transmission Owner.

### 1.3.4 Calculation of Fuel Storage and Carrying Costs

Fuel Storage and Carrying Costs shall be calculated as follows: (Run Hours) \* (Fuel Burn Rate) \* (12 Month Average Fuel Cost) \* (Interest Rate), where:

- Run Hours are actual run hours required for Black Start unit to run, which shall be a minimum of 16 hours or as defined by the Transmission Owner restoration plan;
- Fuel Burn Rate is actual fuel burn rate, as specified by the manufacturer,
- 12 Month Average Fuel Cost is the average price for the fuel purchased for the Black Start unit in the previous 12 months;
- Interest shall be calculated at the rate of one percent less than the Prime Lending Rate (as defined in Section 1.30 of this Agreement), as in effect on April 1<sup>st</sup>.

## 1.4 Terms and Conditions

### 1.4.1 Data Submission

Generator shall submit its Black Start Revenue Requirement to the Transmission Owner on an annual basis. For the first year of operation, the submission shall be based on projected costs and shall be made ninety (90) days prior to the Operation Date. Thereafter, the submission shall be made by the first of May to coincide with the Transmission Owner's fiscal year ending in March. The Generator shall submit a breakdown of the Black Start Revenue Requirement as follows;

- a) Fixed Costs
  - i) interest expense
  - ii) depreciation expense
- b) Operating and Maintenance Costs
  - i) operating costs
  - ii) maintenance costs
- c) Training Costs
  - i) onsite training by Generator
  - ii) additional training requested by Transmission Owner
- d) Fuel Storage and Carrying Costs
  - i) run hours

- ii) fuel burn rate
- iii) 12 month average fuel cost
- iv) interest rate
- e) Total Black Start Revenue Requirement

#### **1.4.2 Verification of Costs**

For the first year of operation and thereafter upon request of Transmission Owner, Generator shall submit sufficient data to Transmission Owner to verify, to the satisfaction of Transmission Owner, costs upon which the Black Start Revenue Requirement is based.

#### **1.4.3 True Up**

After the first year of operation, Transmission Owner shall perform a true-up of the Generator's projected and actual Black Start Revenue Requirement. Generator shall refund any excess and Transmission Owner shall remit any deficiency to the other Party within 30 days respectively of being invoiced or calculation of the true-up.

#### **1.4.4 Testing**

- (a) In order to receive compensation for Black Start Service, Generator must meet the certification requirements of Section 3.11.2 of Appendix D to this Agreement and have the successful Black Start Service tests for its Facility on record with the Transmission Owner.
- (b) If a unit facility fails a Black Start Service test when initially conducted, Generator shall be given a ten day grace period within which Generator may re-test once without financial penalty.
- (c) If the unit does not successfully pass a Black Start Service test either initially or within the ten day grace period immediately following a failed test, monthly compensation for Black Start Service shall be forfeited from the time of the first unsuccessful test until the Facility successfully passes a Black Start Service test.

## APPENDIX B FACILITY AND GENERATOR INTERCONNECTION FACILITIES

This Appendix B is part of the Interconnection and Operating Agreement between Generator and Transmission Owner.

- 1.1 Facility.** Generator intends to own and operate a 200 MW hydro electric generating facility (“Wuskwatim Generating Station” or “Facility”) located at Taskingup Falls below Wuskwatim Lake on the Burntwood River, in the Province of Manitoba, approximately 45 km southwest of the City of Thompson and 35 km southeast of the NCN community of Nelson House.

The Facility shall consist of:

- a) a 300 metre long Main Dam,
- b) Power House / Service Bay Complex consisting of:
  - (i) Forebay with 21-22 m head;
  - (ii) 3 hydro electric turbine generators rated at 74.3 MW each with a rated discharge of 367 cms;
  - (iii) Standby Emergency Generator Facilities;
  - (iv) Stepup Transformers;
  - (v) Generator Switchgear;
  - (vi) Control & Protection facilities.
- c) Spillway with 3 sluice gates capable of discharging 2650 cms designed to pass the probable maximum flood safely.

Each hydro-electric turbine generator is connected via 13.8 kV isolated phase bus duct to a 13.8 kV breaker then to a 13.8 kV/230 kV step up transformer located on the tailrace deck of the powerhouse. The output of the Facility is then transmitted from the stepup transformers via three 1.4 km transmission lines to Transmission Owner’s Wuskwatim Switching Station.

**1.2 Generator Interconnection Facilities to be constructed by Generator.**

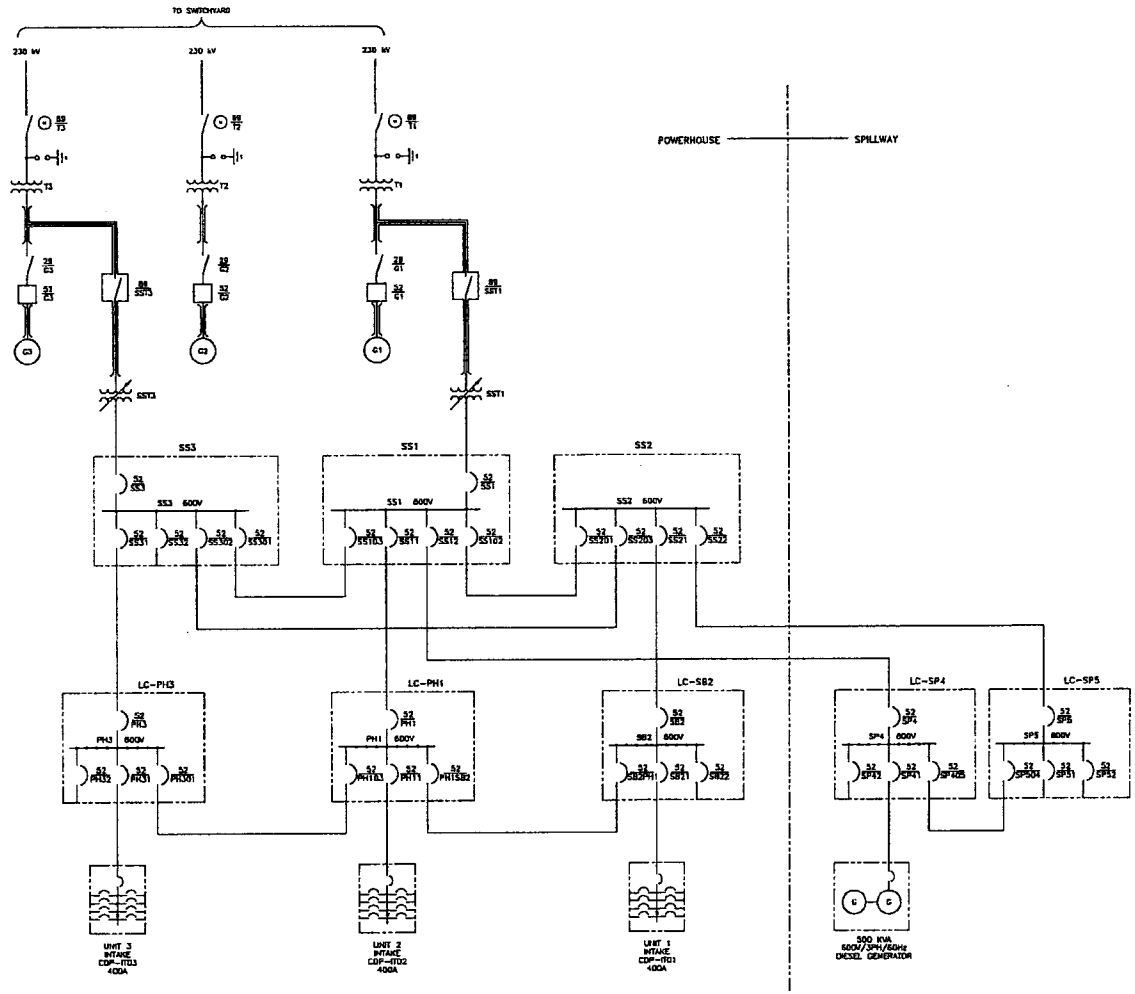
Generator Interconnection Facilities shall consist of three 230 kV deadend structures located at the power house to terminate Transmission Owner’s new 230 kV transmission lines designated as W1, W2, W3 which connect the step up transformers to the Wuskwatim Switching Station.

The above-referenced Generator Interconnection Facilities shall be constructed in accordance with the Single Line Diagram (Plate 34) attached as Attachment B-1 to this Appendix B.

Metering shall be owned by Transmission Owner and shall be located on the low side of the step up transformer.

**1.3 Permits, Licenses and Authorizations.** Generator shall obtain all the necessary approvals and authorizations for the Facility and the Generation Interconnection Facilities including but not limited to those listed in Attachment B-2:

Generator shall advise Transmission Owner in writing once all necessary approvals and authorizations are received and the date of receipt.



LEGEND

- G1 - G3 GENERATOR, 87.4MVA, 85%<sub>f</sub>, 13.8KV, 100 RPM
- IS1/G1 - G3 ISOLATOR SWITCHES
- SB1/G1 - G3 GENERATOR BREAKERS, 5000A, 13.8KV
- T1 - T3 GENERATOR STEP UP TRANSFORMER, 85/87.4MVA, 0.004/0.004, 13.8-230KV
- DS1/T1 - T3 TRANSFORMER DISCONNECT SWITCHES, 800A, 230KV
- SST1 & 3 STATION SERVICE TRANSFORMER, DISCONNECT SWITCHES, 1200A, 13.8KV, NON-LOAD BREAK
- SST2 & 3 STATION SERVICE TRANSFORMER, 3/4MVA, 13.8KV/6.9KV, 13.8KV-800V ON LOAD TAP CHANGES
- SS1, 2 & 3 600V STATION SERVICE SWITCHGEAR, 4000A MARS
- LC-PH1 POWERHOUSE LOAD CENTRE 1, 600V
- LC-PH3 POWERHOUSE LOAD CENTRE 3, 600V
- LC-SB2 SERVICE BAY LOAD CENTRE 2, 600V
- LC-SP4 SPILLWAY LOAD CENTRE 4, 600V
- LC-SP5 SPILLWAY LOAD CENTRE 5, 600V
- LC-SPS 600V/500V/400V DIESEL GENERATOR
- CDP-SD1 INTAKE CENTRAL DISTRIBUTION PANEL 1, 600V
- CDP-SD2 INTAKE CENTRAL DISTRIBUTION PANEL 2, 600V
- CDP-SD3 INTAKE CENTRAL DISTRIBUTION PANEL 3, 600V

THIS PLATE IS BASED ON DRAWING NO. 1-00184-CD-08970-0002 REV A

<p>ACRES</p> <p>PLATE</p> <p>34</p>	NO. 03-04-30	ISSUED AS A PLATE FOR STAGE 4 STUDY REPORT (HYDROPOWER P-8.1)	REVISED	BY	CHKD.
	ACRES MANITOBA LIMITED				
	MANITOBA HYDRO				
	WUSKWATIM GENERATING STATION				
STAGE 4 STUDIES					
STATION					
SINGLE LINE DIAGRAM					
DATE 2003-08-20	PLT.S.		DATE	BY	001 00

## ATTACHMENT B-2

## Wuskwatim Licences, Permits and Authorizations

PROVINCIAL STATUTES	APPROVAL REQUIRED	REGULATORY AUTHORITY for submission of applications
<p>The Water Power Act Water Power Regulation</p>	Licence to divert, use or store water	Water Stewardship, Water Branch
<p>The Environment Act</p> <ul style="list-style-type: none"> <li>• Classes of Development Regulation</li>         <li>• Storage and Handling of Gasoline and Associated Products Regulation</li>   <li>• Waste Disposal Grounds Regulation</li>   <li>• Onsite Wastewater Management Systems Regulation</li>   <li>• Water and Wastewater Facility Operators Regulation</li> </ul>	<p>Class III licence for Wuskwatim Project</p>   <p>Licence (s) for sewage treatment facilities for start-up camp, main camp &amp; GS</p> <p>Registration of storage tanks</p> <p>Registration of waste disposal site (if required)</p> <p>Authorization for sewage holding tanks for road start-up camp</p> <p>Certification of water and wastewater system classification (may be required)</p>	<p>Manitoba Conservation, Environmental Stewardship Division, Environmental Approvals Branch</p>        <p>Regional Conservation staff</p>

<p>The Public Health Act</p> <ul style="list-style-type: none"> <li>• Collection and Disposal of Wastes Regulation</li> <li>• Water Works, Sewerage and Sewage Disposal Regulation</li> </ul>	<p>- Approval of waste disposal ground site on annual basis</p> <p>-Approvals for domestic water systems for road camp, start-up camp, main camp and GS</p> <p>-Approval for sewage holding tanks for road start-up camp</p> <p>- Approval for sewage treatment plant for start-up camp</p> <p>-Approval for sewage lagoon main-camp</p> <p>- Approval for sewage treatment plant for GS</p>	<p>Manitoba Conservation, Environmental Stewardship Division, Environmental Approvals Branch, Manitoba Health</p>
<p>The Crown Lands Act</p>	<p>Permit /licence (s) for occupation and use of Crown Lands for the transmission lines, and temporary and permanent GS facilities.</p>	<p>Manitoba Conservation, Lands Branch or Regional Natural Resource Officer</p>
<p>The Wildlife Act</p>	<p>Licence/permit/authorization for:</p> <ul style="list-style-type: none"> <li>-destruction of habitat</li> <li>-destruction of nests or eggs (if required)</li> <li>-kill permits (if required)</li> </ul>	<p>Manitoba Conservation, Wildlife and Ecosystem Protection Branch or Regional Natural Resource Officer</p>
<p>The Water Rights Act</p>	<p>Licence (s) to construct works:</p> <ul style="list-style-type: none"> <li>- Road start-up camp water supply</li> <li>- Water intake for start-up and main camp</li> <li>-water intake for concrete batch plant</li> <li>-G.S.</li> </ul>	<p>Water Stewardship, Water Branch</p>
<p>The Forest Act</p>	<p>Licence or permit for cutting timber on Crown Lands for road construction, G.S. site and transmission lines</p>	<p>Manitoba Conservation, Forestry Branch or Regional Natural Resource Officers</p>

The Fire Prevention and Emergency Response Act	Permits for burning	Manitoba Labour and Immigration, Office of the Fire Commissioner or Regional Natural Resource Officer
The Mines and Minerals Act	Permits to establish borrow pit and quarries	Manitoba Industry, Economic Development and Mines, Mineral Resource Division, Mines Branch or Regional Natural Resource Officer
The Ground Water and Water Wells Act Wells Drilling Regulation	Approval of proposed locations of wells and well drilling methods	Water Stewardship, Water Branch
<b>FEDERAL STATUTES</b>		
Fisheries Act	Authorization (s) for the harmful, alteration, disruption, or destruction of fish habitat.	Fisheries and Oceans Canada, Habitat Management
The Navigable Waters Protection Act	Authorization (s) to permit the construction of the dam and associated structures in waterways	Fisheries and Oceans Canada, Coast Guard
Canadian Environmental Assessment Act	Review of project	Environment Canada, (RA Fisheries and Oceans Canada)
The Explosives Act	Permit/licence for an explosives magazine or explosive manufacture	Natural Resources Canada, Explosives Regulatory Division



**APPENDIX C - OPERATION DATE**

This Appendix C is a part of the Interconnection and Operating Agreement between Generator and Transmission Owner.

**[Date]**

**[Generator]**

**[Address]**

**[Address]**

**[Address]**

**Re: [Facility]**

**Dear \_\_\_\_\_**

**On [Date], the Transmission Owner, Manitoba Hydro, and \_\_\_\_\_ (the "Generator") completed to their mutual satisfaction all work on the [Facility] and associated Interconnection Facilities and related equipment required to interconnect the Facility with the Transmission Owner's System and have energized the Facility in parallel operation with the Transmission Owner's System. This letter confirms that the Facility may commence commercial operation of the Facility and associated Interconnection Facilities effective as of [Date plus one day].**

**Thank you.**

**[Signature]**

**[Transmission Owner Representative]**

**APPENDIX D**

**to**

**INTERCONNECTION AND OPERATING  
AGREEMENT**

**Entered into by**

**Manitoba Hydro  
(Transmission and Distribution)**

**Transmission Owner**

**And**

**Manitoba Hydro  
(Power Supply)**

**Generator**

**on \_\_\_\_\_, 2005**

## APPENDIX D OPERATING REQUIREMENTS

### 1.0 Introduction

#### 1.1 Purpose

This Appendix D forms part of the Interconnection and Operating Agreement (IOA) between Manitoba Hydro (Transmission and Distribution) (“Transmission Owner”) and Manitoba Hydro (Power Supply) (“Generator”) governing the interconnection of the Facility known as Wuskwatim Generating Station. The purpose of this Appendix is to establish the Operating Requirements to promote the coordinated and reliable operation of the Generator’s and Transmission Owner’s facilities as required by Section 5.7 of the IOA.

#### 1.2 Description of Facilities

The Generator’s Facility is connected to Transmission Owner’s Wuskwatim substation via three (3) 1.4 km transmission lines (W1, W2, W3). The Transmission Owner is the owner of the 230 kV transmission lines (W1, W2, W3) from the Facility to Wuskwatim Switching Station. The Point(s) of Interconnection shall be at the point(s) on the output (high) side of the step-up transformer (located on the tailrace deck of the Facility) at which each of the three generators comprising the Facility connects to each of the three 230 kV transmission lines running from the Facility to the new 230 kV Wuskwatim Switching Station.

#### 1.3 Division of Responsibilities

The Transmission Owner is responsible for the safe and reliable operation of the 230 kV transmission lines (W1, W2, W3) from the Point of Interconnection to the Transmission System. Generator is responsible for the safe and reliable operation of the Facility and Generator Interconnection Facilities in accordance with Section 5.6 of the IOA. These Facilities include: 13.8 kV generator turbines, 13.8 kV generator switchgear, the 230kV/13.8 kV step up transformers rated at 65/87.4 MVA, and the 600V standby generator.

### 2.0 Interpretation

#### 2.1 Abbreviations

The following abbreviations as used throughout this Appendix shall refer to the following terms:

“CVT”	: Capacitive Voltage Transformer
“CT”	: Current Transformer
“HOD”	: Hand Operated Disconnect
“HV”	: High Voltage
“IOA”	: Interconnection and Operating Agreement
“LTC”	: Load Tap Changer
“MISO”	: Midwest Independent Transmission System Operator

“MOD”	: Motor Operated Disconnect
“OASIS”	: Open Access Same Time Information System
“PCB”	: Polychlorinated Bi-Phenyls
“SCADA”	: System Control and Data Acquisition
“SCC”	: Transmission Owner System Control Center
“TSD”	: Transmission Services Department

## 2.2 Definitions

The following capitalized terms shall have the meanings specified in this section. Capitalized words not otherwise defined herein that have well known and generally accepted technical meanings are used herein in accordance with such recognized meanings.

“Interconnection and Operating Agreement” : shall refer to this Agreement, excluding any Appendices

“Operation Orders” : shall mean a set of instructions prepared by the Transmission Owner to isolate or restore electrical equipment from or to a source of electricity

## 2.3 Transmission Owner Personnel

The following capitalized terms refer to the titles of specific personnel of the Transmission Owner:

District Operator;  
 Line Maintenance;  
 Generation Reliability Officer;  
 Generation System Operator;  
 System Performance Department;  
 Transmission Services Department  
 Transmission System Operator.

## 3.0 General Operations

### 3.1 Normal Operating Configuration

Under normal operating conditions, the Generator shall operate the Facility in accordance with the normal operating configuration of this Facility as per the MH-WUSKWATIM Operating Single Line Diagram Figure 1 - Attached to this Appendix D.

### 3.2 Maximum Output

Generator shall ensure that the maximum output of the Facility does not exceed 200 MW.

### 3.3 Adverse Impacts

Each Party shall use Reasonable Efforts to minimize any adverse impact on the other Party arising from its operations. For the purposes of this section, Reasonable Efforts

includes any action necessary to promptly re-establish the connection of the Generator Interconnection Facilities to the System in accordance with Good Utility Practice.<sup>1</sup>

### 3.4 **Transmission Owner Obligations**

The Transmission Owner shall cause the System and the Transmission Owner Interconnection Facilities to be operated, maintained and controlled (i) in a safe and reliable manner; (ii) in accordance with Good Utility Practice; (iii) in accordance with the Interconnection Requirements, applicable operational and/or reliability criteria, protocols, and directives, including those of the Applicable Reliability Organization and the Operating Requirements established pursuant to this Agreement; (iv) in accordance with Applicable Laws and Regulations; and (v) in accordance with the provisions of this Agreement.<sup>2</sup>

### 3.5 **Operating Instructions**

The Transmission Owner shall have direct control of the System. This responsibility and control will require that, from time to time, the Transmission Owner will provide operating instructions to Generator consistent with this Agreement, Good Utility Practice, applicable operational and/or reliability criteria, protocols, and directives, including those of the Applicable Reliability Organization and Applicable Laws and Regulations. Generator shall inform the Transmission Owner of any consequential, negative impacts on Generator of the direction provided by the Transmission Owner to Generator. The Transmission Owner shall factor these impacts into the direction it then provides to Generator, to the extent considered feasible by the Transmission Owner. **Any direction provided to Generator shall follow Good Utility Practice**, applicable operational and/or reliability criteria, protocols, and directives, including those of the Applicable Reliability Organization and Applicable Laws and Regulations, **and shall consider the machine limitations of the Facility and shall be consistent with this Agreement.**<sup>3</sup>

### 3.6 **Generator Obligations**

Generator shall operate and control the Facility and the Generator Interconnection Facilities (i) in a safe and reliable manner; (ii) in accordance with Good Utility Practice; (iii) in accordance with the Interconnection Requirements, applicable operational and/or reliability criteria, protocols, and directives, including those of the Applicable Reliability Organization, the Transmission Owner and the Operating Requirements established pursuant to this Agreement; (iv) in accordance with Applicable Laws and Regulations; and (v) in accordance with the provisions of this Agreement. The Generator shall operate the Facility and the Generator Interconnection Facilities in accordance with the requirements of the Control Area of which it is part and in accordance with all directives of its Control Area operator and security coordinator, provided that such requirements and directives are not inconsistent with this Agreement, the Manitoba Hydro OATT, Good Utility Practice and Applicable Reliability Organization policies and requirements and the directives of the Transmission Owner in accordance therewith.<sup>4</sup>

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<sup>1</sup> Section 5.2 of the IOA

<sup>2</sup> Section 5.4 of the IOA

<sup>3</sup> Section 5.5 of the IOA

<sup>4</sup> Section 5.6 of the IOA

### **3.7 Generation Turbine Operations**

- a) Each generating unit shall have its own control systems that automatically monitor and adjust the generating unit operations, utilizing inputs such as voltage, frequency, generating unit output, generator speed, and mechanical status.
- b) The control systems shall automatically adjust the output of the generating unit in response to electrical and mechanical events. Adjustments in response to electrical events shall include adjustment of generating unit output due to fluctuations in voltage or frequency and initiating a shutdown of the generating unit due to electrical protection signals. The control systems shall monitor the generating unit's vital functions which could cause damage or jeopardize its safe operation and initiate a shut down sequence for events which could damage the generator turbine. Remote generator dispatch and local generator control will be effected through the control systems. The control systems shall gather and store data related to operations and provide the ability to retrieve data and statistical information on a real time or historic basis for additional analysis.
- c) The generating units shall be dispatched and controlled by Transmission Owner (SCC) in a non-discriminatory manner with respect to all other generators interconnected with the Transmission System. The Transmission Owner's (SCC) dispatch control over the generating units will include:
  - (i) generator starting/stopping,
  - (ii) generator MW/MVAR raise/lower,
  - (iii) starting of Supplemental generating unit under black start conditions

### **3.8 Generation Scheduling**

- a) The Transmission Owner shall dispatch the Facility in accordance with Generator's instructions, except as deemed necessary by the Transmission Owner to maintain Control Area reliability.
- b) Generator shall provide Transmission Owner with generation schedules seven days prior to date of dispatch.

### **3.9 Reactive Power Operations**

#### **3.9.1 Voltage Schedule**

The Facility will receive automated operational signals from Transmission Owner (SCC). Pursuant to Section 9.3 of this IOA, Generator shall operate the Facility to maintain voltage schedules, reactive schedules, at the Point of Interconnection.

#### **3.9.2 Voltage Monitoring**

The Transmission Owner (Generation System Operator) shall monitor the voltage at the Wuskwatim 230 kV station and send operational signals for adjustment of the Facility voltage as required.

### **3.9.3 Excess Reactive Power Capability**

Transmission Owner and Generator acknowledge that the Generator has not installed excess reactive power capability for this Facility.

### **3.10 Forebay / Spillway Operations**

The Generator shall receive automated operational signals from Transmission Owner (SCC) and operate the Facility to maintain forebay schedules and plant discharge schedules. The forebay schedules and plant discharge schedules shall be operated within the license limits of the Facility. The Generator may impose additional limitations or requirements on forebay operations and plant discharge schedules upon providing 30 days notice to the Transmission Owner. Spillway operations shall be performed locally by Generator staff. In accordance with Section 5.11.3 of the IOA, Generator shall notify the Transmission Owner of the license limits and any other limitations or requirements (control setting) of the Facility a minimum of 30 days prior to pre-commercial testing of the Facility so the limits can be incorporated into Transmission Owner (SCC) operations and into this Appendix D.

### **3.11 Black Start Operations**

#### **3.11.1 Black Start Capability**

- a) Generator shall install a supplemental generator in the form of a standby diesel generator, with sufficient capacity to start one generating unit. That generating unit ("Black Start Unit") shall then be used to energize transmission lines and restart other generating units for Black Start Service.
- b) Generator shall ensure that the supplemental generator, controls, and communications have backup power supplies so full communications and functionality is maintained in the event that grid power is lost.
- c) Generator shall at all times (24 hours x 7 days per week) either: (i) have trained operating staff on site; or (ii) have remote Black Start Service capability installed.

#### **3.11.2 Certification**

In order for Generator to receive compensation for Black Start Service, Transmission Owner must certify the Generator's Black Start Service facilities. Four certification tests are required to be conducted jointly by Transmission Owner and Generator as follows:

- a) Black Start Service facilities shall be tested annually. Service facility test shall be comprised of the following sequence:
  - (i) verification of communications between Transmission Owner and Generator;
  - (ii) startup of the supplemental generator;
  - (iii) startup of the Black Start Unit.
- b) Line energizing test shall be performed once every 3 years for a minimum 30 minute period or otherwise tested by steady state and dynamic computer simulation.

- c) Load carrying test determines the ability of the Black Start Service facilities to remain stable and to control voltage and frequency while supplying restoration power to the generator or load that the restoration plan calls for. This is to be conducted at least every 5 years for a minimum 30 minute period, but if this is impractical, test may be conducted by steady state and dynamic computer simulation.
- d) Any supplemental generators (diesel generators, batteries, etc.) and auxiliary equipment that may be required for support of the Black Start Service process shall be tested at least monthly.

### **3.11.3 Scope of Certification Testing**

Black Start Service testing performed pursuant to Section 3.10.2 shall include the following components:

- a) Black Start Service facilities;
- b) Back up power supplies;
- c) Any facilities used to control and / or protect main or supplemental generating units such as computers, programmable logic controllers or protective relaying;
- d) Local service facilities to ensure critical plant loads (lighting, heating, air conditioning) are available during black start conditions;
- e) Communication systems.

For the purposes of this Section 3.11.3, “critical plant loads” shall mean the plant infrastructure necessary for a plant operator to perform Black Start Service obligations.

### **3.11.4 Verification of Tests**

Black Start Service tests shall be verified by the Transmission Owner’s System Performance **Department** through steady state and dynamic computer simulations. Simulations to verify load carrying ability shall be conducted at least every five years.

### **3.11.5 Test Duration**

Any supplemental generating unit shall be started, synchronized and carry load for at least 15 minutes per month. The Black Start Service facilities shall demonstrate the ability to deliver acceptable voltages and frequency values for a minimum of thirty minutes at both no load and during load pickup. The reactive supply and voltage control shall maintain system voltage within emergency voltage limits over a range from no external load to full external load.

### **3.11.6 Performance Requirements**

- a) Black Start Service facilities shall demonstrate the capability to start the generating units while isolated from all power sources and auxiliaries not expected to be available under actual black start conditions.
- b) To meet certification requirements, the generating unit(s) must be started and synchronized to the system within a time specified by the



Transmission Owner. This includes being isolated from any other unrelated unit support except that of a supplemental generator designated specifically for Black Start Service.

- c) All key operating aids and auxiliary systems used in the Black Start Service tests such as voice communications and control systems shall be verified to operate adequately without dependency on the interconnected power system or other unrelated generation support. The test shall include starting the generating unit(s) from a shutdown state with the head gates closed and the governor system depressurized to the alarm state.
- d) Generator's Black Start Unit shall be capable of energizing an initially dead station and auxiliary bus condition and shall be able to safely withstand the sudden and unplanned loss of synchronization with the Transmission System and maintain generating capacity for a specified period of time. All auxiliary loads shall be isolated from the power system. Black Start Units shall be capable of re-energizing the plant auxiliaries to start one or more additional units. Black Start Units shall be capable of picking up external load.
- e) The Transmission Owner shall conduct testing or simulation or both to verify the Black Start Service facilities are operable in accordance with the Transmission Owner's system restoration plan. These tests and/or simulations shall ensure the Black Start Service facilities and Transmission System are configured such that the Black Start Service facilities resources are able to energize the appropriate portions of the Transmission System and supply restoration power to the generating unit or loads as required by the restoration plan. If it is not feasible to isolate the transmission and loads in the black start path then computer simulations will be carried out at least every five years to ensure the Black Start Service facilities are able to perform as intended in the black start plans. The Black Start Service facilities must provide frequency and voltage within prescribed limits during line energization and remote load pickup. The Transmission Owner shall verify the actual performance of the Black Start Service facilities. The MW capability of the Black Start Service facilities must be accredited by the Transmission Owner.

### **3.12 Guidelines for Clearance and Restoration of Equipment**

All switching of Transmission Owner facilities must be completed utilizing Operation Orders as outlined in section 9.5 of this Appendix D. Generator and Transmission Owner (District Operator) must receive permission from the Transmission Owner (SCC) prior to performing any switching operations.

### 3.12.1 Transmission Lines W1, W2, W3 (Lines from Gen Step Transformer)

#### 3.12.1.1 Equipment Clearance

The following procedure shall generally be used as a guideline when Transmission Owner drafts an Operation Order for clearing transmission lines W1, W2 or W3:

- a) Generator and Transmission Owner (TSD) arrange a mutually agreeable date for outage.
- b) On day of outage, Transmission Owner (District Operator) contacts Transmission Owner (SCC) to arrange a clearance on W1 or W2 or W3 Line.
- c) Transmission Owner (SCC) contacts the Generator to make arrangements to clear W1 or W2 or W3 Line.
- d) Transmission Owner (SCC) reduces output of Unit G1 or Unit G2 or Unit G3 to zero and opens 13.8 kV Unit G1 or Unit G2 or Unit G3 Breaker at the Facility.
- e) Generator opens local service disconnect for SST1 for line W1 or SST3 for W2.
- f) Transmission Owner (SCC) opens 230 kV Ring Breaker xx at Wuskwatim Switching Station.
- g) Transmission Owner (SCC) opens 230 kV Ring Breaker xx at Wuskwatim Switching Station.
- h) Transmission Owner (SCC) opens 230 kV Line W1 or W2 or W3 MO Disconnect and places hold card at Wuskwatim Switching Station.
- i) Transmission Owner (SCC) closes 230 kV Ring Breaker xx at Wuskwatim Switching Station.
- j) Transmission Owner (SCC) closes 230 kV Ring Breaker xx at Wuskwatim Switching Station.
- k) Generator opens 230 kV Line T1 or T2 or T3 HO Disconnect located at the Facility.
- l) Transmission Owner (District Operator) proceeds to the Facility and places a hold card and lock on 230 kV Line T1 or T2 or T3 HOD.
- m) Transmission Owner (District Operator) closes the 230 kV Line W1 OR W2 OR W3 MOD ground switch, locks the 230 kV Line W1 OR W2 OR W3 MOD ground switch in closed position at Wuskwatim Switching Station.
- n) Clearance issued to appropriate Transmission Owner or Generator personnel.

#### 3.12.1.2 Equipment Restoration

The following procedure shall generally be used as a guideline when Transmission Owner drafts an Operation Order to restore transmission lines W1, W2, W3:

- a) Transmission Owner (District Operator) contacts Transmission Owner (SCC) to make arrangements to restore Transmission 230 kV Line W1 or W2 or W3 to service.
- b) Transmission Owner (SCC) contacts the Generator to advise 230 kV Line W1 or W2 or OR W3 will be returned to service.
- c) Transmission Owner (District Operator) removes hold card and opens the 230 kV Line W1 or W2 or W3 ground switch at the Wuskwatim Switching Station.
- d) Transmission Owner (District Operator) removes clearance locks and hold cards off the 230 kV Line W1 or W2 or W3 MO Disconnect at Wuskwatim Switching Station.

- e) Transmission Owner (District Operator) removes the locks and cards off 230 kV Line T1 or T2 or T3 Disconnects located at the Facility.
- f) Generator confirms 13.8 kV G1 Unit Breaker and SST1 Disconnect or G2 Unit Breaker or G3 Unit Breaker and SST3 Disconnect are in the open position and closes 230 kV Line T1 or T2 or T3 HO Disconnects located at Facility.
- g) Transmission Owner (SCC) opens 230 kV Ring Breaker xx at Wuskwatim Switching Station.
- h) Transmission Owner (SCC) opens 230 kV Ring Breaker xx at Wuskwatim Switching Station.
- i) Transmission Owner (SCC) closes 230 kV Line W1 or W2 or W3 MO Disconnect.
- j) Transmission Owner (SCC) closes 230 kV Ring Breaker xx at Wuskwatim Switching Station.
- k) Transmission Owner (SCC) closes 230 kV Ring Breaker xx at Wuskwatim Switching Station energizing line W1 or W2 or W3 completing the bay.
- l) Transmission Owner (SCC) starts and synchronizes Unit G1 or G2 or G3 and closes 13.8 kV Unit G1 or Unit G2 or Unit G3.
- m) Transmission Owner (SCC) ramps up generation at the Facility.

### **3.12.2 Wuskwatim 230 kV Equipment**

#### **3.12.2.1 Clearance of Equipment**

The following procedure shall generally be used as a guideline when Transmission Owner drafts an Operation Order to clear Wuskwatim 230 kV equipment:

- a) Generator and Transmission Owner (TSD) arrange a mutually agreeable date for an outage.
- b) On day of outage Generator notifies Transmission Owner (SCC) that xxx 230 kV equipment at the Facility and that 13.8 kV Unit G1 or G2 or G3 will be coming off line.
- c) Transmission Owner (SCC) reduces the output of 13.8 kV Unit G1 or G2 or G3 to zero and opens the corresponding unit Breaker at the Facility.
- d) Generator opens 230 kV Line T1 or T2 or T3 Disconnect at Facility, locks Disconnect and places hold card as per Generator safety procedures.
- e) Generator completes clearance of equipment internal to the Facility under Generator's local operating authority.

#### **3.12.2.2 Restoration of Equipment**

The following procedure shall generally be used as a guideline when Transmission Owner drafts an Operation Order to restore Wuskwatim 230 kV equipment.

- a) Generator restores equipment internal to the Facility under Generator's local operating authority.
- b) Generator contacts Transmission Owner (SCC) to restore Transmission Service to facility.
- c) Generator Operator removes hold cards and unlocks 230 kV Line T1 or T2 or T3 Disconnect.
- d) Generator closes 230 kV Line T1 or T2 or T3 Disconnect located at Facility.

- e) Transmission Owner (SCC) starts and synchronizes unit G1 or G2 or G3 and closes unit breaker G1 or G2 or G3.
- f) Transmission Owner (SCC) ramps up generation at the Facility.

### **3.12.2.3 230 kV Disconnect**

Generator must receive permission from Transmission Owner (SCC) prior to operating 230 kV Disconnect and connecting to the Transmission System.

## **3.13 Guidelines for Safety Hold Off**

### **3.13.1 Arranging Safety Hold Off**

The following procedures shall generally be used as a guideline when Transmission Owner drafts an Operation Order to arrange a safety hold off on Lines W1, W2 or W3.

- a) Transmission Owner (Line Maintenance) contacts TSD to arrange a date for a safety hold off on Line W1 or W2 or W3.
- b) On day of the line work Transmission Owner (District Operator) contacts Transmission Owner (SCC) to arrange a safety hold off on W1 or W2 or W3 Line.
- c) Transmission Owner (SCC) contacts the Generator to make arrangements for a safety hold off on W1 or W2 or W3 Line.
- d) Transmission Owner (SCC) advises the Transmission Owner (District Operator) to proceed with safety hold off preparations.
- e) Transmission Owner (SCC) operator places SCADA safety hold off cards on Ring Breakers Rxx and Rxx at Wuskwatim Switching Station.
- f) Transmission Owner (District Operator) meets Generator at Facility and places a safety hold off card on the xx kV Breaker B1.
- g) Generator blocks all auto re-closing devices or automatic transfers that would energize the line or equipment. (Note – Generator has not installed any auto re-closing devices)
- h) Transmission Owner (SCC) contacts Transmission Owner (Line Maintenance) and advises safety hold off cards have been placed and all auto re-closing devices have been blocked and safety hold off has been issued.

### **3.13.2 Returning Safety Hold Off**

The following procedures shall generally be used as a guideline when Transmission Owner drafts an Operating Order to return a safety hold off:

- a) Transmission Owner (Line Maintenance) contacts Transmission Owner (SCC) to arrange return of safety hold off.
- b) Transmission Owner (SCC) contacts Transmission Owner (District Operator) to advise safety hold off is being returned.
- c) Transmission Owner (SCC) contacts Generator Operator to advise safety hold off is being returned.
- d) Transmission Owner (District Operator) meets Generator at Facility and removes safety hold off cards on the xx kV Breaker B1.
- e) Generator enables all auto-reclosing devices or automatic transfers that would energize the line or equipment. (Note – Generator has not installed any auto re-closing devices)
- f) Verify the reclosing function on Generator SEL relays is enabled).

- g) Transmission Owner (SCC) Transmission System Operator removes SCADA safety hold off cards on Rx and Rx Breakers at Wuskwatim Switching Station.
- h) Transmission Owner (District Operator) contacts Transmission Owner (SCC) advises Safety Hold Off Cards have been removed and all auto re-closing devices have been placed back into service.

### **3.13.3 Re-Energizing Circuits**

In the event of a trip-out on a circuit bearing a “Caution” – safety hold off card, the circuit shall not be re-energized until assurance is received from the hold off protection holder that workmen are clear and the equipment or circuit is safe to be re-energized. Safety hold off protection must be surrendered immediately upon completion of work or when no longer required. This includes times such as lunch periods and overnight.

## **4.0 System Protection Facilities**

### **4.1 Installation**

Transmission Owner shall prepare a system protection report for the Transmission Owner Interconnection Facilities and Interconnection System Upgrades. Generator shall prepare a system protection report for the Facility and the Generation Interconnection Facilities and submit the Generator’s specifications for System Protection Facilities as required by Section 4.1.2 of the IOA. Final protection diagrams and reports of the Generator’s Facility, the Generator Interconnection Facilities and Transmission Owner Interconnection Facilities shall be added to this Appendix. Generator shall install System Protection Facilities in accordance with Generator’s system protection report issued prior to the Operation Date and as revised from time to time.

### **4.2 Modification**

**Protection and control changes are deemed by the Transmission System Interconnection Requirements to be a substantial modification to the Facility Substantial modifications to the Facility after the in-service date require the Generator to submit an interconnection Request. The Transmission Owner shall review the protection and control changes following the study procedures and timelines outlined in the Transmission Owner’s Open Access Interconnection Tariff.**

## **5.0 Metering Requirements**

Transmission Owner and Generator shall comply with the metering requirements of Section 5.1 through and including 5.5 of this Appendix.

### **5.1 Metering Data**

- a) The following quantities shall be measured utilizing interval data meter reading techniques, other measurement methods or calculated from such data and communicated via Transmission Owner’s communication system from the Facility to the Transmission Owner metering system:
  - i) indication of station bus voltages and bus frequency (sensitive areas);
  - ii) indication of suitable 'system' frequency applicable for Automatic Generator Control (AGC) control;
  - iii) indication of generator MW, MQ, last hour MWh;

- iv) indication of generating plant Station Power MWh;
  - v) indication of plant forebay levels, tailrace levels, and sluice gate elevation;
  - vi) indication of individual unit and total plant hourly discharge;
  - vii) indication of individual spillway gate and total plant hourly spill
  - viii) indication of line amps, MW, MQ and voltage.
- b) The metering interval data which shall be forwarded to Generator on an hourly basis: Volts (kV), amps, Megawatts (generated / consumed), MegaVars (generated/consumed).

## 5.2 SCADA Metering

- a) SCADA reading shall be taken in 5 second intervals. SCADA readings are stored on-line for 30 days. Readings in excess of 30 days are stored utilizing off-line media storage.
- b) Transmission Owner SCADA readings shall include:
- i) indication of station bus voltages and bus frequency (sensitive areas)
  - ii) indication of suitable system frequency applicable for AGC control;
  - iii) indication of generator MW, MQ, last hour MWh;
  - iv) indication of generating plant Station Power MWh;
  - v) indication of plant forebay levels, tailrace levels, and sluicgate elevation;
  - vi) indication of individual unit and total plant hourly discharge;
  - vii) indication of individual spillway gate and total plant hourly spill;
  - viii) indication of line amps, MW, MQ and voltage.

## 5.3 Meter Seals

Meters shall be sealed and the seals may be broken only by an inspector or accredited meter verifier appointed under the *Electricity and Gas Inspection Act*, R.S.C. 1985, c.E-4 and then only for the purposes of inspection, verification, testing, re-verification or adjustment in accordance with provisions of the *Electricity and Gas Inspection Act*.

## 5.4 Testing of Metering Equipment

### 5.4.1 Notification

Transmission Owner shall provide a minimum of one week advance notification for the time of the test.

### 5.4.2 Metering Equipment Tests

Metering Equipment Tests shall include but not be limited to some or all of the following.

#### a) Instrument Transformers

- i) Confirm nameplate details against registration details;
- ii) Connections and secondary wiring;
- iii) Ratios are consistent with meter rating and with the ratios applied to the meter;
- iv) Polarity check;
- v) Magnetization curves;
- vi) Measured or calculated burdens are within rating of instrument transformers;

- vii) Burden tests on instrument transformers;
  - viii) Test certificates.
- b) **Meters and Data Loggers**
- i) Confirm nameplate details against registration and MV-90 site specific configuration data (where applicable);
  - ii) Conformance to an agreed upon standard;
  - iii) Voltage, current and load checks;
  - iv) Meter multipliers, pulse multipliers and instrument transformer multipliers are correctly applied;
  - v) Accuracy test of meter and data logger as applicable;
  - vi) Recorded time is within limits;
  - vii) Data logging channels are correctly allocated;
  - viii) Any error correction and/or loss compensation factors that have been applied to the meter are correct.
- c) **Alarms and Monitoring Facilities**  
Where applicable, confirm that alarms and monitoring facilities are functioning correctly.
- d) **Communications Test**  
Confirm that the remote communications facilities are functioning correctly.

- e) **General Quality**  
Inspect general quality of installation (e.g. labeling, test facilities, fusing) and the security of the installation.
- f) **Site Documentation**  
Check the records of the metering installation including commissioning results, test certificates, registration details, security and sealing details, Measurement Canada replacement dates and other maintenance details.
- g) **Error Correction Factors**  
Compensation factors for instrument transformer errors and burdens have been correctly applied and registered. The supporting documentation is current and appropriately approved.
- h) **Loss Adjustments**  
Power transformer and line loss factors are correctly calculated, applied and registered. The supporting documentation is current and appropriately approved.

## 5.5 Metering Installation Security Audit

The Transmission Owner shall have the right, upon 48 hours written notice, to audit the site security of the metering installation. The security audit shall include, but not be limited to, some or all of the following:

### 5.5.1 Instrument Transformers

- a) Confirm any potential fuses at the voltage transformer are sealed and the serial numbers correctly recorded.
- b) Confirm that any secondary wiring terminal boxes on-route to the metering panel are adequately secured and sealed and the serial numbers correctly recorded.

### 5.5.2 Meters and Data Loggers

- a) Confirm that Measurement Canada seals are intact and have a valid date.
- b) Confirm the metering panel is sealed and the serial numbers correctly recorded and panel is locked with an individually keyed lock.
- c) All testing facilities, isolating links/fuses, meter/data logger terminal covers, etc. are adequately secure, or are sealed and the serial numbers correctly recorded, so as to prevent unauthorized access to any part of the metering installation.

## 6.0 Abnormal Operations

### 6.1 Congestion Management

- a) Generator shall comply with the congestion management policies and procedures of Transmission Owner.<sup>5</sup> As of the date of this Agreement, Transmission Owner's congestion management procedures follow the NERC Appendix 9C1 Transmission Loading Relief (TLR) Procedure of NERC's Eastern Interconnection. The NERC procedure allows the Transmission Owner's reliability coordinator (MISO) to respect Transmission Service reservation priorities and mitigate potential or actual operating security limit violations.

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<sup>5</sup> Section 5.9 of the IOA



- b) Upon notification from the Transmission Owner that a potential or actual operating security limit violation has occurred, the Generator shall adjust the output of the Facility as directed by the Transmission Owner.

## **6.2 Transmission Line Outages**

- a) At least thirty (30) days prior to the Operation Date, Transmission Owner shall issue operating guides to Generator governing planned and unplanned transmission line outages of equipment and/or facilities on the Transmission System.
- b) The Transmission Owner may issue temporary operating instructions to Generator in accordance with the aforesaid guides which limit the output of the Facility. In the event of an unplanned line outage, if the line cannot be restored to service by Transmission Owner within 30 minutes through implementation of operating guides, Transmission Owner has the right to direct Generator to further curtail the output of the Facility
- c) Curtailments due to any line or equipment outage, may include, but are not limited to, any of the following line or equipment outages A4D, A3R, G1A, G2A, F27P, Ponton SVC, Birchtree SVC, G8P, H75P, H73W, H74W, H59C, B76W, P19W, P18H.
- d) Generator shall comply with Transmission Owner's instructions to curtail output of the Facility.

## **7.0 Emergency Operations**

### **7.1 Obligations**

Each Party agrees to comply with the Emergency Condition procedures of the Applicable Reliability Organization, the Transmission Owner, and of Generator.<sup>6</sup>

### **7.2 Notice**

- a) The Transmission Owner shall provide Generator with prompt notification of an Emergency Condition regarding the Transmission Owner Interconnection Facilities and/or the System that may reasonably be expected to affect Generator's operation of the Facility, if the Transmission Owner is aware of the Emergency Condition.
- b) Generator shall provide the Transmission Owner with prompt notification of an Emergency Condition regarding the Facility and/or the Generator Interconnection Facilities which may reasonably be expected to affect the System or the Transmission Owner Interconnection Facilities, if Generator is aware of the Emergency Condition. Notification shall be provided immediately to Transmission Owner (SCC) if an Emergency Condition involves:
  - i) serious bodily injury to staff and/or member(s) of the public;
  - ii) explosions and/or fire damage to facilities;
  - iii) an environmental accident involving Generator's equipment and/or staff;
  - iv) sabotage.

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<sup>6</sup> Section 7.1 of the IOA

- c) For the purposes of section 7.2(b)(iii) of this Appendix, an “environmental accident” shall mean any spill or burning of PCB materials (over 1L or 1kg), and hazardous, non-PCB materials (over 5L or 5kg).
- d) If the Party becoming aware of an Emergency Condition is aware of the facts of the Emergency Condition, such notification shall describe the Emergency Condition, the extent of the damage or deficiency, the expected effect on the operation of Generator’s or the Transmission Owner’s facilities and operations, its anticipated duration, and the corrective action taken and/or to be taken, and shall be followed as soon as practicable with written notice.<sup>7</sup>

### **7.3 Immediate Action**

In the event Generator has identified an Emergency Condition involving the System, Generator shall obtain the consent of the Transmission Owner personnel prior to performing any manual switching operations at the Facility unless, in Generator's reasonable judgment, immediate action is required.<sup>8</sup>

### **7.4 Transmission Owner Authority**

- a) The Transmission Owner may, consistent with Good Utility Practice, take whatever actions or inactions with regard to the System it deems necessary during an Emergency Condition in order to:
  - (i) preserve public health and safety
  - (ii) preserve the reliability of the System and interconnected sub-transmission and distribution system;
  - (iii) limit or prevent damage;
  - (iv) expedite restoration of service.
- b) The Transmission Owner shall use Reasonable Efforts to minimize the effect of such actions or inactions on the Facility. An Emergency Condition may be declared on a day ahead basis by the Transmission Owner to ensure a secure and reliable System under expected normal operating and first contingency conditions.
- c) Notwithstanding any other provision of this Agreement, the Facility may be called upon by the Transmission Owner during a potential or an actual Emergency Condition to mitigate such Emergency Condition by, but not limited to, requesting Generator to start-up, shut-down, and increase or decrease the real or reactive power output of the Facility consistent with the provisions of Section 9.3 of the IOA.
- d) As requested by the Transmission Owner, Generator shall assist the Transmission Owner with any restoration efforts of the System resulting from an Emergency Condition with compensation to be paid in accordance with Sections 7.6, 9.4 and 9.6 of the IOA.<sup>9</sup>

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<sup>7</sup> Section 7.2 of the IOA

<sup>8</sup> Section 7.3 of the IOA

<sup>9</sup> Section 7.4 of the IOA

### 7.5 Generator Authority

Generator may, consistent with Good Utility Practice, take whatever actions or inactions with regard to the Facility it deems necessary during an Emergency Condition in order to

- (i) preserve public health and safety;
- (ii) preserve the reliability of the Facility;
- (iii) limit or prevent damage;
- (iv) expedite restoration of service.

Generator shall use Reasonable Efforts to minimize the effect of such actions or inaction on the System. The Transmission Owner shall use Reasonable Efforts to assist Generator in such actions.<sup>10</sup>

### 7.6 Restoration of Service

a) In the event the Facility is isolated from the Transmission System by any of the following means:

- (i) automatically via the operation of System Protection Facilities;
- (ii) under authority of the Transmission Owner;
- (iii) under authority of the Generator,

the restoration of service shall be as follows:

- i) Transmission Owner (SCC) and the Generator shall contact one another to determine if the problems occurred on the Transmission Owner Interconnection Facilities or the Generator Interconnection Facilities.
- ii) If the problems occurred on the Transmission Owner Interconnection Facilities, Transmission Owner shall use reasonable efforts to advise the Generator when service will be restored.
- iii) If the problems occurred on the Generator Interconnection Facilities, the Generator shall use reasonable efforts to advise Transmission Owner when the Generator Interconnection Facilities will become available.
- iv) Once the problems have been rectified on the affected facilities, Transmission Owner (SCC) shall contact the Generator to direct restoration efforts and connect the Facility to the Transmission System.

### 7.7 Emergency Response Plan

The Generator shall develop an emergency response plan for dealing with major problems such as fires, explosions, dam failure and environmental spills at the Facility. The emergency response plan shall be forwarded to the Transmission Owner for review prior to Operation Date and signing of Appendix C. This Section 7.7 shall be subject to modification by the Transmission Owner based on its review of Generator's emergency response plan.

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<sup>10</sup> Section 7.5 of the IOA

**8.0 Station Power**

Generator shall ensure that the Facility has a 230 kV Station Power supply for startup energy and to supply heating and operating energy when all units are off line due to insufficient flows or maintenance.

**9.0 Safety****9.1 Work Protection**

The Parties shall abide by Switching and Tagging Rules for:

- a) all work protection required to provide isolation at the Point of Interconnection;
- b) all work protection required for work conducted by Transmission Owner personnel.<sup>11</sup>

**9.2 Training****9.2.1 Safety Orientation**

Prior to the Operation Date, the Generator shall provide a safety orientation for Transmission Owner personnel at the Facility, and advise Transmission Owner of all electrical and other facilities that contain or may contain PCBs and /or any other environmental contaminants or risks to personal health and safety at the Facility.

**9.2.2 Switching and Tagging Rules**

Prior to the Operation Date, the Transmission Owner and Generator shall conduct training to ensure that personnel authorized to hold a clearance on the Interconnection Facilities are trained with respect to the safety rules of both the Transmission Owner and the Generator.

**9.3 Switching Procedures**

**9.3.1** All switching procedures for the Transmission Owner Interconnection Facilities shall strictly adhere to the Switching and Tagging Rules.

**9.3.2** All switching procedures for the Generator Interconnection Facilities shall strictly adhere to the Switching and Tagging Rules.

**9.3.3** Permission shall be obtained from the Transmission Owner (SCC) before any switching or clearing is done on live or de-energized 230 kV equipment at the Wuskwatim Switching Station or at the Facility.

**9.3.4** Switching operations shall only be performed by persons who have approved switching authority.

**9.3.5** Transmission Owner staff shall only accept clearance to work on lines or apparatus, when issued by the Transmission Owner's Transmission System Operator.

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<sup>11</sup> Section 5.8 of the IOA

**9.3.6** All switching procedures to achieve working clearance shall be issued in writing using an Operation Order.

**9.4 Equipment Outages & Work Request Order Form**

**9.4.1** Requests by Generator for equipment outages shall be made to the Transmission Owner (TSD Generation Reliability Officer) as listed in section 12.5 of this Appendix D.

**9.4.2** Exchange of Planned Outage Schedules. On or before July 15th of each year and subject to the confidentiality provisions of Article 20 of the IOA, the Parties shall exchange non-binding schedules of planned outages for the following twelve (12) month calendar-year period for those facilities that could be expected to have a material effect upon the other Party with respect to operations or performance under this Agreement. Such schedules shall be developed in accordance with Good Utility Practice and shall be presented in a format agreed upon by the Parties. Such schedules shall include all applicable information including the following:<sup>12</sup>

- (a) month, day and time of requested outage;
- (b) facilities impacted (such as unit number and description);
- (c) duration of outage;
- (d) purpose of outage;
- (e) amount of electrical capacity (in MWs) which is expected to be derated or off-line;
- (f) special conditions and remarks;
- (g) interaction/switching required.

Generator shall submit a planned outage schedule for all outages on units 1, 2 & 3 and the standby diesel unit used to provide Black Start Service for generating units.

**9.4.3 Review of Planned Outage Schedule.** Transmission Owner shall have the right, on a non-discriminatory basis, to review and to request modification of such schedules by September 15th of each year, consistent with the terms of this Agreement. The Parties shall use Reasonable Efforts to reach agreement on any such requested modifications by October 15th of each year.<sup>13</sup>

- (a) Each Party shall use Reasonable Efforts to accomplish all planned outages in accordance with the agreed upon schedule.
- (b) Subsequent changes to the agreed upon planned outage schedule may be requested and Transmission Owner shall use Reasonable Efforts to accommodate such changes but without any obligation to agree to revise the planned outage schedule.

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<sup>12</sup> Section 6.9 of the IOA

<sup>13</sup> Section 6.10 of the IOA

- 9.4.4** A minimum of 2 weeks notification is required if either Party desires to change the maintenance plan for the Interconnection Facilities. Change requests will be accommodated if practicable and shall be processed in accordance with Sections 6.11 and 6.12 of the IOA.
- 9.4.5** Emergency outages may be arranged with Transmission Owner (SCC) on-shift staff as required and will be accommodated if practicable. Such outages shall be processed in accordance with Sections 6.11 and 6.12 of the IOA.
- 9.4.6** Urgent outages may be arranged with one day's notice depending upon the urgency of the outage and prevailing system conditions. Such outages will be accommodated if practicable and shall be processed in accordance with Sections 6.11 and 6.12 of the IOA.
- 9.4.7** Only qualified persons as identified by Transmission Owner or by Generator are authorized to officially request line or equipment clearances and live line safety hold-offs from the Transmission Owner's Transmission System Operators.

## **9.5 Operation Order Form**

- 9.5.1** Switching shall not be performed nor working clearances issued on any Interconnection Facilities without an Operation Order prepared by a system operator of the Transmission Owner, detailing a step by step switching procedure except for: (i) emergency line or equipment switching following trip-outs, or (ii) emergency switching where safety of personnel or equipment is involved.
- 9.5.2** Operation Order forms shall be completed as detailed in the Transmission Owner's safety manual.
- 9.5.3** Operation Orders shall be forwarded to Generator contact as listed in section 12.6 of this Appendix D.

## **9.6 Permission to Further Isolate**

When a permission to further isolate is issued by Transmission Owner (SCC) this means all possible energizing points from the Transmission System are opened with visual isolation and have protective cards installed. The Generator shall further isolate all other connection points that could energize the equipment on which work is to be performed.

## **9.7 Tagging Procedures**

Protection cards shall be placed by the Transmission Owner on electrical conductors and equipment, mechanical equipment, hydraulic systems, pneumatic systems, vehicles and other equipment or facilities as may be required to prevent unauthorized operation or to ensure that certain precautions are observed. All required information shall be filled out on the protection card. Protection cards should be removed as soon as practical but shall not be removed until the purpose for which they were placed has been achieved. The card shall not be removed until the person for whom the card was placed authorizes its

removal. There are three different protective cards used by Transmission Owner which may be used at this Facility, as outlined below.

- (i) Hold Cards (Do Not Operate) - **“Hold”** cards are used to prevent unauthorized operation. Electrical conductors and equipment, mechanical equipment, hydraulic systems, pneumatic systems, vehicles and other equipment or facilities on which a **“Hold”** card has been placed shall not be operated by any person (including the person for whom the hold card was placed) until the person for whom the card was placed authorizes its removal.
- (ii) Test and Operate Cards - **“Test and Operate”** cards shall be completed in full and limited to use on equipment or a portion of equipment that requires a change in status in order to perform tests and shall be limited to that purpose only.
- (iii) Caution-Safety Hold-Off Cards - When workers are working on or in the immediate vicinity of energized high voltage conductors **“CAUTION”-Safety Hold-Off** cards must be used to provide a **“safety hold-off”** in case of a trip out. Auto reclosing devices or automatic transfers that would energize the line or equipment must be blocked.

## 10.0 Testing & Maintenance

The Transmission Owner and Generator shall test and maintain their respective equipment in accordance with the following provisions.

### 10.1 Transmission Owner Equipment

Transmission Owner shall test and inspect its equipment as outlined in Sections 10.1.1 through 10.1.8 of this Appendix.

#### 10.1.1 Protective Relaying

Task	Electro-mechanical	Solid State	Digital Not Monitored	Digital Monitored
Function Check	72 months (6 yrs)	96 months (8 yrs)	96 months (8 yrs)	108 months (9 yrs)
Calibration Check	72 months (6 yrs)	96 months (8 yrs)	96 months (8 yrs)	108 months (9 yrs)
Load Readings	72 months (6 yrs)	96 months (8 yrs)	96 months (8 yrs)	108 months (9 yrs)
Functional Check	Visual inspection/remote interrogation, Trip test relay electrically or mechanically.			
Calibration Check	Check relay calibration point, including operating characteristics of relay as per maintenance standards.			
Load Readings	Insitu readings (verify with local board meters and SCADA).			

**10.1.2 Metering**

Task	Frequency	Description
Functional Check	12 months (1 yr)	Visual inspection/remote interrogation.
Calibration Check	24 months (2 yrs)	Check relay calibration point, including operating characteristics of meter as per maintenance standards.

**10.1.3 Disconnects**

Task	Frequency	Description
Integrity Check	12 months (1 yr)	Visual inspection of disconnect and associated equipment such as arc restrictors, arc interrupters, insulators, operating mechanism, structure, grounds, identification security or auxiliary switches. The visual inspection is performed without removing disconnect from service or interfering with its operation.

**10.1.4 Motor Operated Disconnects**

Task	Frequency	Description
Integrity Check	12 months (1 yr)	Visual inspection of motor operated disconnect and associated equipment such as motor housing, thermostat, heaters, drive chain, arc restrictors, arc interrupters, insulators, operating mechanism, structure, grounds, identification security or auxiliary switches. The visual inspection is performed without removing motor operated disconnect from service or interfering with its operation.
Functional Check	60 months (5 yrs)	Ensure proper operation of the motor operated mechanisms' basic components. The inspection includes an electrical open and close. The inspection may be performed when the MOD is operated as a step in a switching order intended for clearing apparatus other than the MOD.

**10.1.5 Capacitive Voltage Transformer**

Task	Frequency	Description
Voltage Check	6 months	Secondary voltage readings.
Integrity	12 months	Visual inspection, porcelain condition, oil leaks,



Check	(1 yr)	primary connection, riser tension, frame ground connection.
Insulation Check	60 months (5 yrs)	Model GR1615 bridge test of CVT.

### 10.1.6 Transmission Lines

Task	Frequency	Description
Aerial Patrol	3 months (4 x 1 yr)	Visual Inspection for broken insulators, vegetation growth, downed conductors, public incursion into transmission right of way.
Ground Patrol & Inspection	12 months (1 yr)	Tower inspection, verify elevations of tower footings, verify dimensions of tower spacings, visual examination of conductor and hardware.

### 10.1.7 Circuit Breaker 230 kV

Task	Frequency	Description
Integrity Check	6 months	A visual inspection of the foundation, frame, frame grounds, CT cables and supports, bushings, primary bus, gas pressure, control cabinet, breaker operations and fault operations.
Functional Check	< 1 operation in 24 months	Validate the operation of a circuit breaker which has remained static in the open or closed period.
Density Monitor Check	60 months (5 yrs)	Validate the operation of the switch contacts used to indicate low gas pressure in the circuit breaker and to activate a safety lock-out if the gas pressure drops below a predefined level. Each density monitor on the circuit breaker is to be tested. This is an out of service test.
Main Contact Check		Determine the percentage of erosion of the circuit breaker's main arcing contact and evaluate the condition of the circuit breaker's main contacts. This is an out of service, non-invasive test.
Mechanism Check		Evaluate the performance of the operating mechanism utilized to drive the circuit breaker's main contacts.

### 10.1.8 Communication Equipment

Task	Frequency	Description
Functional Check	12 months (1 yr)	Visual inspection/remote interrogation.
Calibration Check	24 months (2 yrs)	Check relay calibration point, including operating characteristics of meter as per Transmission owner maintenance standards.

## 10.2 Generator Equipment

Generator shall test and inspect its equipment in accordance with Sections 10.2.1 through 10.2.10 of this Appendix.

### 10.2.1 Disconnect Switches and Motor Operators

Task	Frequency	Description
Integrity Checks	Monthly	In-service visual check for contacts making properly and everything normal. Look for any broken porcelain, loose parts, etc.
Integrity Checks	Annual	Perform an in-service infra-red inspection for any temperature differentials on switch live parts.
Functional Checks	Five (5) years.	Remove from service - Operate switch. Visual check for proper operation with contacts making properly and operator working smoothly. Perform maintenance on motor operators. Look for any broken porcelain, loose parts, etc.

### 10.2.2 High Voltage Breakers

Task	Frequency	Description
Integrity Checks	Monthly	In-service visual check for any visible damage. Inspect mechanism, record operation counter and observe that breaker SF6 pressures are normal.
Integrity Checks	Annual	In-service infra-red inspection for any temperature differentials on breaker particularly the bushings and the HV connectors.
Functional Checks	As the breaker is operated in the protection scheme or for normal switching	Observe for proper operation and relay targets. Take appropriate action as required.
Minor Maintenance	Five (5) years	Out of service checks. Check dashpot oil level, SF6 densimeter, counter

		operation, contact wear, etc as per manufacturer's recommendations.
Major Maintenance	Five (5) years <u>and</u> after 2,500 switching operations.	Out of service checks. As per manufacturer's recommendations, but includes timing, ductor, power factor, SF6 moisture check, contact wear.

### 10.2.3 Main Power Transformer

Task	Frequency	Description
Integrity Checks	Monthly	In-service visual check for any obvious damage. Inspect LTC mechanism, record counter, and record transformer temperature and pressure readings.
Integrity Checks	Annual	In-service dissolved gas in oil test. Infra-red inspection of electrical connections, LTC and main tank.
LTC Maintenance	Five (5) Years or 50,000 operations whichever occur first	Remove from service - Perform LTC maintenance per manufacturer's recommendation.
Transformer Testing	Five (5) Years	Remove from service – Perform Power factor tests, ratio, and excitation tests. Perform an oil screen test.

### 10.2.4 Coupling Capacitor Voltage Transformers

Task	Frequency	Description
Integrity Checks	Monthly	In-service visual check for any visible damage.
Integrity Checks	Annual	In-service infra-red inspection, check secondary voltage.
CCVT Testing	Five (5) Years.	Remove from service - Perform power factor and capacitance tests on the CVT.

### 10.2.5 Lightning Arresters

Task	Frequency	Description
Integrity Checks	Monthly	In-service visual check for any visible damage.
Integrity Checks	Annual	In-service infra-red inspection.
Arrester Testing	Five (5) Years.	Remove from service - Perform a watts loss test on the arrester.

**10.2.6 Station Service Transformers**

Task	Frequency	Description
Integrity Checks	Monthly	In-service visual check for any visible damage.
Integrity Checks	Annual	In-service infra-red inspection, check secondary voltages
VT Testing	Five (5) Years.	Remove from service - Perform a power factor and ratio test.

**10.2.7 Protective Relays and Controls**

Task	Frequency	Description
Integrity Checks	Monthly	In-service visual check for any visible problems.
Relay Maintenance	Five (5) Years	Remove from service - Check calibration and functional performance.

**10.2.8 Power Fuses**

Task	Frequency	Description
Integrity Checks	Monthly	In-service visual check for any visible damage.
Integrity Checks	Annual	In-service infra-red inspection.

**10.2.9 HV Bus and Connectors**

Task	Frequency	Description
Integrity Checks	Monthly	In-service visual check for any visible damage.
Integrity Checks	Annual	In-service infra-red inspection.

**10.2.10 Capacity Determination & Verification**

Generator shall perform annually an URGE (Uniform Rating of Generating Equipment) test of each generator, as prescribed by the Applicable Reliability Organization. This is a one hour test run plant normally run with all generators at full gate. Prior to the annual test Transmission Owner shall provide a detailed URGE test procedure for the Facility.

**11.0 Revisions**

Transmission Owner shall have the right to revise the Operating Requirements from time to time as deemed necessary without the consent of Generator. Written notice of the revised Operating Requirements and their effective date shall be provided to Generator and included by the Parties in Appendix D.<sup>14</sup>

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<sup>14</sup> Section 5.7.2 of the IOA

## 12.0 Notifications

### 12.1 Transmission Owner Curtailment Notification

(a) Transmission Owner (SCC) shall provide verbal notification to the Generator whenever curtailment of the output of the Facility is necessary due to unplanned events. The Generator shall only be notified of the output limit on the Facility and an anticipated duration if available. The reason for the curtailment shall be posted on the OASIS website. Transmission Owner (SCC) shall provide verbal notification to the Generator once conditions have returned to normal.

b) One business day after the output curtailment at the Facility has terminated, the Transmission Owner shall provide a written record to the Generator of unplanned curtailments to the Facility lasting greater than one hour.

### 12.2 Voice Recording

The Generator acknowledges that all voice communications between Generator's operations personnel and the Transmission Owner (SCC) are recorded and consents to such recording.

### 12.3 Availability of Generator Operating Personnel

In the event the Transmission Owner is unable to contact Generator operating personnel in order to modify operations at the Facility and maintain system reliability the Transmission Owner may disconnect the Facility from the Transmission System.

### 12.4 Generation Owner Notification Responsibilities

Generator shall provide verbal notification to Transmission Owner (SCC) whenever it is necessary to curtail the output of the Facility due to unplanned events.

### 12.5 Transmission Owner Contacts

Generator shall contact the following Transmission Owner personnel for communications regarding the matters outlined below. The contact information in this Section 12.5 shall be completed by Transmission Owner at least thirty (30) days prior to Operation Date.

Purpose of Contact	Name	Title	Phone	Email
Operational Contact (IOA Section 5.3)		Tariff Administration		
Outage Coordination		Security Assessment Officer		
Daily Operations Generation & Emergency Contact	On Shift SCC Staff	Generation System Operator		

Daily Operations Transmission & Emergency Contact	On Shift SCC Staff	Transmission System Operator		
Field Switching Operations		District Operator		
Metering & Protection		Protection Mtce. Engineer		
Generation Forecasting		Supply Adequacy Assessment Officer		
MISO Curtailments	Not applicable	Not applicable	Not applicable	<a href="http://oasis.midwestiso.org/OASIS/MISO">http://oasis.midwestiso.org/OASIS/MISO</a>
MHEB Curtailments	Not applicable	Not applicable	Not applicable	<a href="http://oasis.midwestiso.org/OASIS/MHEB">http://oasis.midwestiso.org/OASIS/MHEB</a>

\*\* Confidential – Phone numbers shall not be released to Third Parties without written consent of Manitoba Hydro.

#### 12.6 Generator Contacts

Transmission Owner shall contact the following Generator personnel for communications regarding the matters outlined below. The contact information in this Section 12.6 shall be completed by Generator at least thirty (30) days prior to Operation Date.

Purpose of Contact	Name	Title	Phone	Email
Operational Contact				
Daily Operations				
Outage Coordination				
Emergency Contact				
After Hours Contact				
Operator with Switching Authority				

WUSKWATIM SWITCHING STATION

H74W  
(HERBLET LAKE)

B76W  
(BIRCH TREE)

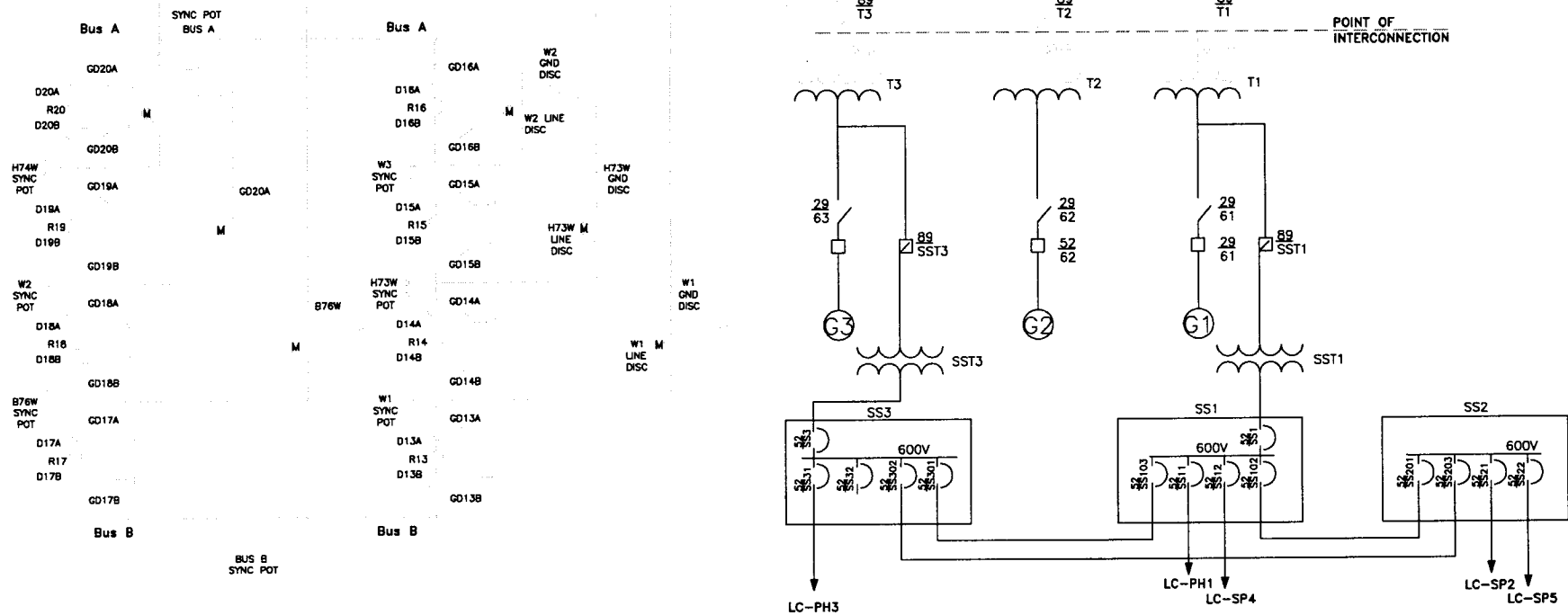
H73W  
(HERBLET LAKE)

W3

W2

W1

WUSKWATIM GENERATING STATION



Manitoba Hydro

NO.	DATE	REVISION	BY	CHKD.	APP.

STATION OPERATING SINGLE LINE DIAGRAM  
PLANNING & PROTECTION/T&D  
WUSKWATIM G.S.

DRAWN CB

CHECKED

APPROVED

DATE 04 08 05

WUSKWATIM STATION

2825