

**COORDINATION AGREEMENT
BY AND BETWEEN**

MIDCONTINENT INDEPENDENT SYSTEM OPERATOR INC.

AND

MANITOBA HYDRO

This agreement, made on the 27th day of September, 2001, is amended this 1st day of June, 2014, by and between the Midcontinent Independent System Operator Inc. ("ISO") and Manitoba Hydro (each a "Party" and collectively the "Parties").

WHEREAS Manitoba Hydro is a Canadian Crown corporation incorporated pursuant to the provisions of *The Manitoba Hydro Act*, (Revised Statutes of Manitoba 1987, chapter H190) that owns and operates electric transmission facilities in the Province of Manitoba; and

WHEREAS the ISO is a Delaware non-stock, not-for-profit corporation incorporated pursuant to Title 8, Chapter 1 of the laws of the State of Delaware of the United States of America, and established by U.S. transmission facility Owners pursuant to the ISO Agreement; and

WHEREAS the ISO has functional control and provides transmission service over the transmission facilities of Owners pursuant to the ISO Agreement and also administers Energy and Operating Reserve Markets for the ISO Tariff Zone; and

WHEREAS Manitoba Hydro is not an Owner as defined in the ISO Agreement, but wishes to retain the services of the ISO to ensure the coordination of transmission service over the facilities comprising Manitoba Hydro's transmission system with transmission service over the facilities of Owners, collectively referred to as the "Combined Systems" and to administer a Reserve Sharing Group between the Parties; and

WHEREAS the Parties recognize the benefits of having comparable, non-discriminatory access, the elimination of Transmission Service charge pancaking and coordinated congestion management procedures for the transmission facilities comprising the Combined Systems;

WHEREAS the Parties, as NERC-certified Balancing Authorities, wish to establish a Reserve Sharing Group for the purposes of collectively maintaining, allocating and supplying Contingency Reserve in accordance with NERC Reliability Standards; and

WHEREAS each of the Parties is a Planning Coordinator and recognizes the benefits of coordinated transmission planning; and

WHEREAS the Parties desire to enter into this Coordination Agreement to supercede that certain amended Coordination Agreement entered into between Manitoba Hydro and MISO dated October 9, 2009.

NOW THEREFORE in consideration of the mutual covenants herein contained, and other good and valuable consideration (the receipt and sufficiency of which is hereby acknowledged), the Parties hereto agree as follows:

I. DEFINITIONS

1.1 The capitalized terms used herein shall have the same meaning as set forth in the Manitoba Hydro Tariff, unless defined otherwise in this Article I.

1.2 The following terms shall have the following meanings:

"Access Charge" shall mean any additional Transmission Service charge or penalty assessed on certain Transmission Customers based on whether any party to the transaction has not transferred functional operational control of their transmission facilities to a regional transmission organization or otherwise joined the organization.

"Agreed Interest Rate" shall mean the rate of two percent per annum plus the prime lending rate per annum in effect and applicable to each day of the interest period. The prime lending rate shall be the rate of interest per annum, 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 per annum is actually charged by said bank to any customer. Notwithstanding the foregoing, in no event shall the Agreed Interest Rate ever exceed the maximum rate of interest allowed under Canadian Law.

"Agreement" shall mean this Agreement, and any amendments thereto in writing agreed between the Parties.

"Area Control Error" or "ACE" shall have the same meaning as defined in the NERC Glossary of Terms.

"Balancing Authority" or "BA" shall have the same meaning as defined in the NERC Glossary of Terms.

"Canadian Law" shall mean the substantive common law of Canada as amended by and in addition to Canadian federal statutes and regulations and Manitoba provincial statutes, regulations, orders-in-council and applicable municipal by-laws.

"Canadian Transmission Facilities" shall mean the transmission facilities of Manitoba Hydro over which Transmission Service is offered pursuant to the Manitoba Hydro Tariff.

"Combined Systems" shall mean the Transmission System (as defined in the ISO Tariff) and Canadian Transmission Facilities.

"Contingency" shall have the same meaning as defined in the NERC Glossary of Terms.

"Contingency Reserve" shall have the same meaning as defined in the NERC Glossary of Terms.

"Contingency Reserve Activation" shall mean the initiation of the supply of Contingency Reserve, at the request of a Party, in response to a Contingency or Disturbance.

“Contingency Reserve Obligation” shall mean the total amount of Contingency Reserve, expressed in MW, to be carried by the Reserve Sharing Group, equal to the sum of the Contingency Reserve Requirement of both Parties.

“Contingency Reserve Requirement” or “CRR” shall mean the amount of Contingency Reserve, expressed in MW, to be carried by a Party pursuant to Appendix B of this Agreement.

“Contingency Reserve Sharing Group Committee” shall mean the committee established pursuant to Section 2 of Appendix B of this Agreement to implement and oversee the operation of the MISO-MBHydro Contingency Reserve Sharing Group.

“Contingency Resource(s)” shall mean electric generating resource that meets the requirements of a Network Resource under the applicable tariff of the supplying Party, or interruptible load, that is capable of providing Contingency Reserve.

“Contingent System” shall mean the Party requesting Contingency Reserve Activation.

“CP Node” shall have the same meaning as defined in the ISO Tariff.

“Coordinated Flowgate” shall mean a flowgate impacted by an operating entity, as determined by the Parties in accordance with the Seams Operating Agreement between the Parties dated September 25, 2006 as amended from time to time.

“Day-Two Congestion Management” shall mean the ISO’s market-based mechanism for managing congestion on the Transmission System using Locational Marginal Pricing pursuant to the provisions in Module C of the ISO Tariff.

“Delivery System” shall mean the Party that has deployed Contingency Resources in response to a Contingency Reserve Activation.

“Disturbance” shall have the same meaning as defined in the NERC Glossary of Terms.

“Disturbance Control Standard” or “DCS” shall mean NERC Reliability Standard BAL-002-0, or its successor thereto, as amended from time to time.

“Disturbance Recovery Period” shall mean the period of time within which a Balancing Authority or Reserve Sharing Group must return its ACE to zero or its pre-Disturbance Value after a Reportable Disturbance, in accordance with NERC DCS.

“Emergency Energy” shall mean the energy supplied by a Delivery System through the deployment of Contingency Resources in response to a Contingency Reserve Activation, pursuant to Section 3 of Appendix B to this Agreement.

“Energy Markets” shall mean collectively the Real-Time and Day-Ahead Energy Markets, pursuant to Module C of the ISO Tariff as administered by the ISO commencing on April 1, 2005.

“Energy and Operating Reserve Markets” shall mean collectively the Real-Time and Day-Ahead Energy and Operating Reserve Markets administered by the ISO pursuant to Module C of the ISO Tariff.

“FERC” shall mean the U.S. Federal Energy Regulatory Commission, or a successor agency.

“Financial Transmission Right(s)” shall mean a financial instrument that entitles the holder to receive compensation for or requires the holder to pay certain congestion related transmission charges that arise when the Transmission System is congested and differences in LMPs result for the redispatch of resources out of economic merit order to relieve the congestion.

“Generation Resource” shall mean an electricity producing facility, with the appropriate metering facilities and ability to comply with the ISO’s dispatch instructions, capable of supplying energy, capacity and/or ancillary services.

“Group Administrator” shall mean the entity responsible for providing administrative services to the Reserve Sharing Group pursuant to Appendix B of this Agreement.

“ISO” shall mean the Midcontinent Independent System Operator Inc. or any successor organization.

“ISO Agreement” shall mean the Agreement of Transmission Facilities Owners to Organize The Midcontinent Independent System Operator Inc., a Delaware Non-Stock Corporation as may be amended from time to time.

“ISO Cost Adder” shall mean the charge assessed pursuant to Schedule 10 of the ISO Tariff, but shall not include charges assessed pursuant to Schedules 16 and 17 of the ISO Tariff.

“ISO Tariff” shall mean the Open-Access-Transmission, Energy, and Operating Reserve Markets Tariff for the ISO on file with FERC, as may be amended from time to time.

"ISO Tariff Zone" shall mean the combination of all rate zones included within the ISO Tariff.

"Interconnection Service" shall mean the design, construction, installation or modification of transmission facilities in response to a request by a generator to interconnect with the transmission system of a transmission provider or modify an existing interconnection.

"Interconnection Study" shall mean a study conducted under the Manitoba Hydro Open Access Interconnection Tariff or the ISO Tariff (as "Interconnection Study" is defined in each of the respective tariffs) pursuant to a request for Interconnection Service.

"Locational Marginal Price" or "LMP" shall mean the market clearing price for energy at a given commercial node in the Transmission Provider Region which shall be equivalent to the marginal cost of serving demand at the commercial node.

"Manitoba Hydro Tariff" shall mean the applicable Open Access Transmission Tariff governing Manitoba Hydro's Canadian Transmission Facilities.

"Manitoba Hydro Zone" shall have the same meaning as set forth in Section 4.4.1 of this Agreement.

"Manitoba-ISO Interface" shall mean the interface between the international transmission lines owned by Manitoba Hydro and the interconnected transmission lines of the United States transmission owners.

"Market Participant" shall mean an entity that (i) has successfully completed the registration process with the ISO and is qualified by the ISO as a Market Participant, (ii) is financially responsible to the ISO for all of its market activities and obligations, and (iii) has demonstrated the capability to participate in its relevant market activities.

"Member" shall mean a member of the ISO as defined in the ISO Agreement.

"MISO Transmission Expansion Plan" shall mean the regional transmission plan developed by the ISO as referred to in Appendix B of the ISO Agreement and Attachment FF of the ISO Tariff and defined in Module A of the ISO Tariff.

“NEB Cost Adder” shall mean an administrative charge imposed under the Manitoba Hydro Tariff to recover the costs imposed by the National Energy Board of Canada on Manitoba Hydro, as a Canadian international power line owner, related to the regulatory costs associated with electricity exports to the United States over Manitoba Hydro’s international power lines.

“NERC” shall mean the North American Electric Reliability Corporation, or its successor.

“NERC Glossary of Terms” shall mean the “Glossary of Terms Used in Reliability Standards” adopted by NERC, as amended from time to time.

“NERC Reliability Standards” or “Reliability Standard(s)” shall mean the standards promulgated by NERC and which are legally in force in both Manitoba and the ISO Tariff Zone, as amended from time to time.

“OASIS” shall mean the Open Access Same Time Information System referred to in Part 37 of the FERC’s regulations as amended from time to time.

“Operating Guide” shall mean a written set of operating practices that affect the Combined Systems to be followed for transmission and generation operation, including implementing procedures, actions, and sequences of actions to be taken to maintain operations within operating reliability criteria.

“Operating Reserve-Spinning” shall have the same meaning as defined in the NERC Glossary of Terms. For further clarity, however, the MISO-MBHydro CRSG Agreement does not impose Regulating Reserve requirements upon the Parties.

“Operating Reserve-Supplemental” shall have the same meaning as defined in the NERC Glossary of Terms.

“Owner” shall have the same meaning as defined in the ISO Agreement.

“Planning Coordinator” shall have the same meaning as defined in the NERC Reliability Functional Model.

“Point of Delivery” shall mean, for the purposes of Appendix B to this Agreement only, the point at which title to and risk of loss for Emergency Energy passes from the Delivery System to the Contingent System.

"Public Utilities Board" shall mean the Manitoba regulatory board established pursuant to The Public Utilities Board Act, Revised Statutes of Manitoba 1987, chapter P280.

"Reciprocal Coordinated Flowgate" or **"RCF"** shall mean a Coordinated Flowgate with respect to which a reciprocal agreement has been written and to which apply reciprocal coordination procedures. An RCF is either (1) a Coordinated Flowgate affected by the transmission of energy by both Parties, or by both Parties and one or more other Reciprocal Entities, or (2) a Flowgate which both Parties mutually agree should be a Reciprocal Coordinated Flowgate, and for which reciprocal coordination will occur. An RCF may be under the operational control of one of the Parties, or may be under the operational control of a third party Reciprocal Entity.

"Reciprocal Entity" shall mean an entity that coordinates the future-looking management of flowgate capacity in accordance with a reciprocal agreement, or pursuant to a congestion management process approved by the Federal Energy Regulatory Commission.

"Regional Entity" or "RE" shall mean a regional reliability organization that has enforcement authority with respect to NERC Reliability Standards in the ISO Tariff Zone and/or the province of Manitoba.

"Reliability Coordinator" shall mean the entity responsible for security monitoring and emergency response functions for transmission facilities, as outlined in Appendix A hereto.

"Reliability Transmission Plan(s)" shall mean Manitoba Hydro's long term transmission development plan for the Manitoba Hydro Tariff region and/or the MISO Transmission Expansion Plan.

"Reportable Disturbance" shall have the same meaning as defined in the NERC Glossary of Terms.

"Reserve Sharing Group" or "RSG" shall have the same meaning as defined in the NERC Glossary of Terms.

"Services" shall mean the services provided by the ISO as set forth in Article II hereof.

“System Operating Limit” shall have the same meaning as defined in the NERC Glossary of Terms.

“Transfer Capability” shall have the same meaning as defined in the NERC Glossary of Terms.

"Transmission Customer" shall mean a customer receiving Point-to-Point Transmission Service or Network Integration Transmission Service under a Party's transmission tariff.

“Transmission Provider Region” shall mean the transmission system, load and Generation Resources interconnected to the Transmission System that: (i) function as a centrally coordinated system and (ii) operate, subject to the single set of dispatch instructions determined and issued by the ISO and does not include Manitoba Hydro's Canadian Transmission Facilities.

"Transmission Service" shall mean all forms of transmission service available under a Party's transmission tariff, including Point-to-Point Transmission Service and Network Integration Transmission Service.

"Transmission System" shall mean the transmission facilities owned or controlled by entities that have conveyed operational control to the ISO, and that are used to provide Transmission Service under Module B of the ISO Tariff, including facilities subject to an Agency Agreement, as defined in the ISO Tariff.

"Zone" shall mean the rate zones referred to in Schedules 7, 8 and 9 of the ISO Tariff.

II. SERVICES TO BE PROVIDED BY THE ISO

2.1 Manitoba Hydro agrees to retain the ISO as an independent contractor to provide the following Services and the ISO agrees to provide said Services on the terms and conditions set forth herein:

2.1.1. establish an OASIS web page for Transmission Service under the Manitoba Hydro Tariff;

2.1.2. post available transmission capability calculations for Manitoba Hydro's Canadian Transmission Facilities on the OASIS based on component data submitted by Manitoba Hydro;

2.1.3. provide notification to Manitoba Hydro of all requests for Long-Term Firm Point-to-Point Transmission Service under the Manitoba Hydro Tariff;

2.1.4. evaluate requests for Non-Firm Point-to-Point Transmission Service and Short-Term Firm Point-to-Point Transmission Service against Manitoba Hydro's posted available transmission capability;

2.1.5. accept, counter offer, or reject requests for Non-firm Point-to-Point Transmission Service and Short-Term Firm Point-to-Point Transmission Service based on the evaluation performed pursuant to Section 2.1.4 and the Manitoba Hydro Tariff, provided that the ISO shall obtain the concurrence of Manitoba Hydro prior to accepting requests for monthly Short-Term Firm Point-to-Point Transmission Service.

2.1.6. post the status of all Point-to-Point Transmission Service requests over Manitoba Hydro's Canadian Transmission Facilities on the OASIS, based on the ISO's determinations pursuant to Section 2.1.5 and information submitted by Manitoba Hydro for Long-Term Firm Point-to-Point Transmission Service requests;

2.1.7. upon request, collect and provide Manitoba Hydro with Transmission Service transaction information for Manitoba Hydro's Canadian Transmission Facilities, except that the ISO shall not be required to retain such information for a period longer than that required by FERC regulations for similar transactions on the Transmission System;

2.1.8. provide financial administration of Point-to-Point Transmission Service transactions under the Manitoba Hydro Tariff. This shall include the determination, collection, and payment of monies owing to Manitoba Hydro for Transmission Service and related services provided by Manitoba Hydro under the Manitoba Hydro Tariff, including but not limited to Ancillary Services and the NEB Cost Adder. Notwithstanding the foregoing, financial administration of Point-to-Point Transmission Service shall not include the collection of deposits or payments for studies under the Manitoba Hydro Tariff.

- 2.1.9. act as Reliability Coordinator for Manitoba Hydro's Canadian Transmission Facilities in accordance with the responsibilities specified in Appendix A hereto;
 - 2.1.10 serve as Group Administrator for the Reserve Sharing Group pursuant to Appendix B of this Agreement; and
 - 2.1.11 any other services equivalent to those provided by the ISO to Owners pursuant to the ISO Agreement, as mutually agreed to by the Parties.
- 2.2 The ISO shall not be deemed to be an employee of Manitoba Hydro for any purpose.
 - 2.3 The ISO shall have full discretion as to the manner of providing the Services, provided that the ISO acts in compliance with the provisions of this Agreement, the applicable tariffs governing Manitoba Hydro's Canadian Transmission Facilities, and Canadian Law.

III. MANITOBA HYDRO'S TARIFF OBLIGATIONS

- 3.1 Manitoba Hydro shall calculate the components of available transmission capability for its Canadian Transmission Facilities in accordance with NERC requirements and any regional reliability requirements binding on Manitoba Hydro by way of contract or Canadian legislation.
- 3.2 Manitoba Hydro shall offer to provide Ancillary Services pursuant to the provisions of the Manitoba Hydro Tariff. To the maximum extent permitted by Canadian Law, all such services will be provided and offered under rates, terms and conditions that are consistent with FERC standards. Manitoba Hydro shall not be required to continue to provide and offer these services if FERC no longer requires a utility operating as a Control Area to offer them.
- 3.3 Manitoba Hydro shall determine the facilities to be included as Canadian Transmission Facilities in accordance with the seven factor test set forth in FERC Order No. 888.
- 3.4 To facilitate the billing, collection and distribution of monies required by Section 2.1.8 of this Agreement, Manitoba Hydro shall require that each Transmission Customer taking

service under the Manitoba Hydro Tariff provide the ISO with adequate financial and customer information to perform the Services.

- 3.5 Manitoba Hydro shall provide the ISO with all such information as is reasonably necessary for the ISO to provide the Services herein, including, but not limited to, the following information:

3.5.1 transmission-related Operating Guides;

3.5.2 information regarding the ratings of all transmission facilities;

3.5.3 schedules for planned outages and the status of forced outages of Canadian Transmission Facilities and any generation facilities connected to those facilities where any such outage would affect transfer capability on the Combined Systems;

3.5.4 information regarding the operation of Manitoba Hydro's Canadian Transmission Facilities, including, but not limited to, information relating to all breakers, switches, capacitor banks, reactors, phase shifters, and flows;

3.5.5 Manitoba Hydro shall provide the ISO with any additional information requested by the ISO after the initiation of the ISO's Energy Markets unless the incremental costs to Manitoba Hydro of providing such data would exceed \$50,000.00 (Cdn) per data request, and such costs are not reimbursable by the ISO. This restriction shall not apply to information required by the ISO pursuant to Sections 3.5.1 through 3.5.4, to the extent that such information was routinely provided prior to initiation of the ISO's Energy Market, nor to information required by the ISO pursuant to its obligations as Reliability Coordinator as set forth in Appendix A.

- 3.6 For greater certainty of interpretation, Manitoba Hydro shall be solely responsible for determining the energy resources required to meet load in Manitoba, notwithstanding any provisions in the ISO Agreement or ISO Tariff.

IV. TRANSMISSION SERVICE AVAILABILITY, PRICING AND REVENUE DISTRIBUTION

Availability

- 4.1 The Parties acknowledge that, pursuant to Section 6 of the ISO Tariff and Section 6 of the Manitoba Hydro Tariff, the Parties provide comparable Transmission Service under the terms and conditions of their respective tariffs.
- 4.2 It is a continuing condition of this Agreement that Manitoba Hydro and any of its power marketing affiliates shall be entitled to all forms of Transmission Service available under the ISO Tariff and that all ISO Members and eligible customers under the ISO Tariff shall be entitled to all forms of Transmission Service available under the Manitoba Hydro Tariff. Failure of this condition to be fulfilled, for reasons other than as specified in Section 10.2 of this Agreement, shall result in either the immediate termination or lack of effectiveness of this Agreement, whichever is applicable.

Pricing

- 4.3 The Parties agree that Manitoba Hydro shall not be subject to Access Charges for Transmission Service under the ISO Tariff and that Members of the ISO shall not be subject to Access Charges for Transmission Service under the Manitoba Hydro Tariff.
- 4.4 In order to eliminate the pancaking of Transmission Service charges between the Canadian Transmission Facilities and the Transmission System, the Parties agree as follows:
 - 4.4.1 For the purposes of Transmission Service pricing, generation or load located in the Province of Manitoba and connected directly to Manitoba Hydro's Canadian Transmission Facilities shall be considered in the "Manitoba Hydro Zone";
 - 4.4.2 The Parties acknowledge that their respective Transmission Service rates for Point-to-Point and Network Integration Transmission Service shall be priced independently.
 - 4.4.3 For Point-to-Point and Network Integration Transmission Service charges under the ISO Tariff involving service from a generating source located either inside or outside the ISO Tariff Zone to load in the Manitoba Hydro Zone, the ISO shall waive all

Transmission Service charges (including the ISO Cost Adder) under the ISO Tariff with the exception of charges associated with the following: Regulating Reserve; Energy Imbalance Service; Operating Reserve-Spinning Reserve Service; Operating Reserve-Supplemental Reserve Service; and Generator Imbalance Service.

4.4.4 Manitoba Hydro shall waive all Transmission Service charges (including the administrative charge imposed pursuant to Section 4.6) for Point-to-Point and Network Integration Transmission Service involving service from a generating source inside or outside the Manitoba Hydro Zone and through the Manitoba Hydro Zone to a load that is located inside the ISO Tariff Zone, with the exception of charges associated with the following: Regulation and Frequency Response Service; Energy Imbalance Service; Operating Reserve-Spinning Reserve Service; Operating Reserve-Supplemental Reserve Service; Generator Imbalance Service; and NEB Cost Adder. For greater certainty of interpretation, this Section shall apply regardless of whether the ISO applies a Transmission Service charge for Transmission Service provided under the ISO Tariff associated with Energy and Operating Reserve Markets transactions.

4.5 For greater certainty of interpretation:

- (a) A Transmission Customer shall be entitled to reserve Transmission Service from a Point of Receipt in the Manitoba Hydro Zone to the Canada-United States international boundary as the designated Point of Delivery, and the Transmission Service charges for said transaction shall be determined based on the location of the load being served, as follows:
 - (i) if the load being served is in the ISO Tariff Zone, there shall be no Transmission Service charges under the Manitoba Hydro Tariff except for: Regulation and Frequency Response Service; Energy Imbalance Service; Operating Reserve-Spinning Reserve Service; Operating Reserve-Supplemental Reserve Service; Generator Imbalance Service and NEB Cost Adder.
 - (ii) if the load being served is outside the ISO Tariff Zone, all applicable Transmission Service charges under the Manitoba Hydro Tariff shall be applied.

(b) The provisions of this Section 4.5 shall apply to Transmission Service reserved for Energy and Operating Reserve Markets transactions, regardless of whether the ISO charges for Transmission Service under the ISO Tariff to serve load in the ISO Tariff Zone.

4.6 Subject to the provisions of Section 4.4.4, Manitoba Hydro shall impose an administrative charge equal to the ISO Cost Adder on all Point-to-Point transactions under the Manitoba Hydro Tariff and the recovery received under that adder shall be provided to the ISO pursuant to Section 8.3.

Revenue Distribution

4.7 The ISO shall remit to Manitoba Hydro all transmission revenues for Transmission Service administered by the ISO under the Manitoba Hydro Tariff on a monthly basis. All funds shall be remitted in accordance with the provisions of this Agreement.

4.8 All revenues for Transmission Service under the Manitoba Hydro Tariff shall be received, held, used, managed, and distributed in trust for the benefit of Manitoba Hydro in accordance with this Agreement and the Manitoba Hydro Tariff. The ISO shall hold all such collected revenues for Transmission Service provided pursuant to the Manitoba Hydro Tariff, in trust for the benefit of Manitoba Hydro, subject to the ISO's right pursuant to Section 8.3 of this Agreement to deduct from such funds certain authorized fees and expenses that are payable directly to the ISO in accordance with the Manitoba Hydro Tariff and this Agreement. The ISO shall hold such collected revenues for Transmission Service in a separate operating account from other funds, with the exception of funds collected by the ISO for Transmission Service under the ISO Tariff and held in trust for Owners pursuant to the ISO Tariff and the ISO Agreement. The ISO shall also hold disputed payments collected for Transmission Service under the Manitoba Hydro Tariff in trust for the benefit of Manitoba Hydro in a separate account from other funds, with the exception of similar funds for disputed payments collected for Owners under the ISO Tariff. This Agreement is intended to create a trust for the benefit of Manitoba Hydro under applicable law for the foregoing purposes. The ISO will take all action reasonably necessary to ensure that the revenues for Transmission Service under the Manitoba Hydro Tariff are treated under applicable law as trust property held for the benefit of Manitoba Hydro and not as separate property of the ISO.

V. COORDINATION OF TRANSMISSION PLANNING

- 5.1 The Parties agree to coordinate transmission planning in their respective Planning Coordinator regions through the exchange of information as provided herein and through the development and adoption of planning coordination procedures in accordance with Section 5.4.
- 5.2 The Parties shall exchange information, in accordance with planning coordination procedures adopted pursuant to Section 5.4, regarding Transmission Service requests, Interconnection Service requests and their respective proposed Regional Transmission Plans that could directly or indirectly impact the Combined Systems and information concerning the Parties' respective methodologies for calculating System Operating Limits and Transfer Capability.
- 5.3 The Parties shall coordinate, in accordance with planning coordination procedures adopted pursuant to Section 5.4, the performance of System Impact Studies, Facilities Studies, Interconnection Studies and other studies for Transmission Service requests, Interconnection Service requests and Regional Transmission Plans that could directly or indirectly impact the Combined Systems.
- 5.4 The Planning Coordination Sub-Committee shall develop planning coordination procedures for adoption by the Coordinating Committee pursuant to Section 9.2 of this Agreement. Such planning coordination procedures shall include, but not be limited to, procedures governing:
- (a) Review and coordination of methodologies (including use of consistent input and modeling assumptions) for determination of Transfer Capability as required of Planning Coordinators pursuant to applicable NERC Reliability Standards to ensure consistency;
 - (b) Review and coordination of methodologies (including base case assumptions and reliability margins) for performing System Impact Studies, Facilities Studies (including those System Impact Studies and Facilities Studies related to redirect requests) and Interconnection Studies to ensure consistency;

- (c) Coordination of queues for Transmission Service requests and Interconnection Service requests received by a Party under the ISO Tariff or the Manitoba Hydro Tariff that may impact the transmission system operated by the other Party;
- (d) Establishment of criteria for determining when a request for Transmission Service or Interconnection Service received by a Party under the ISO Tariff or Manitoba Hydro Tariff shall be considered as materially impacting the system owned or operated by the other Party;
- (e) Development of procedures to ensure the mitigation of material impacts by third parties resulting from Transmission Service and Interconnection Requests under the other Party's Tariff;
- (f) Collaboration on the nature of new and/or modified facilities, including special protection systems, required or best suited to grant Transmission Service and Interconnection Service requests involving improvements to the Manitoba-ISO Interface;
- (g) Coordination of planning procedures adopted pursuant to this Agreement with those developed pursuant to interconnection agreements between Manitoba Hydro and owners of interconnected transmission facilities;
- (h) Coordination of data provided to NERC regarding the Manitoba-ISO Interface pursuant to NERC Reliability Standards, such as, data required to perform loss of load expectation studies for the annual NERC long term reliability assessment.

5.5 The Parties may consider, on a case by case basis, inter-regional cost sharing for transmission projects that benefit the Combined Systems, subject to any necessary government, regulatory or other approvals.

VI. COORDINATION OF DAY TWO CONGESTION MANAGEMENT

- 6.1 The Parties acknowledge that, unlike the ISO Tariff, the Manitoba Hydro Tariff will not be revised to include congestion charges based on Locational Marginal Pricing or to make available Financial Transmission Rights;
- 6.2 The Parties acknowledge that Manitoba Hydro will not employ economic redispatch of generation facilities in Manitoba as a congestion management mechanism available to Transmission Customers under the Manitoba Hydro Tariff in order to reduce or eliminate congestion on Canadian Transmission facilities;
- 6.3 Notwithstanding the foregoing, the ISO shall model and identify flows over Manitoba Hydro's Canadian Transmission Facilities in order to monitor congestion on Manitoba Hydro's Canadian Transmission Facilities caused by flows from the Transmission System and the transmission systems of Reciprocal Entities.
- 6.4 In order to coordinate Manitoba Hydro's use of curtailment procedures for the relief of transmission congestion on Canadian Transmission Facilities with the ISO's use of economic redispatch for the relief of transmission congestion on the Transmission System and the congestion management procedures of Reciprocal Entities, which coordination shall have the purpose of observing transfer capability for Coordinated Flowgates and transfer capability allocations for Reciprocal Coordinated Flowgates, the Parties have entered into that certain "Seams Operating Agreement Between the Midwest Independent Transmission System Operator, Inc. And Manitoba Hydro" dated September 25, 2006.

VII. RESERVE SHARING

- 7.1 Commencing January 1, 2010, the Parties shall implement the Contingency Reserve sharing provisions of Appendix B to this Agreement.

VIII. COMPENSATION FOR SERVICES

- 8.1 (a) The ISO's costs of providing the Services to Manitoba Hydro, excluding Group Administrator services, shall be included in the ISO's operating costs used to

determine the ISO Cost Adder pursuant to Schedule 10 of the ISO Tariff which shall be charged to Transmission Customers under the Parties' respective tariffs in accordance with this Agreement and the ISO Tariff.

- (b) In addition, Manitoba Hydro shall pay the ISO such sums equivalent to that which would be paid by Manitoba Hydro if it were a Transmission Owner serving Manitoba Hydro's bundled native load customers under the ISO Tariff and on the same basis as they would become due under the ISO Tariff, provided that all FERC jurisdictional Transmission Owners are required by FERC to make such payments.

- 8.2 The ISO's costs of providing Group Administrator services shall be paid by Manitoba Hydro on a monthly basis in accordance with Schedule CR-2 of this Agreement.
- 8.3 Payment of the ISO Cost Adder collected by the ISO from Transmission Customers pursuant to Section 8.1(a) hereof and any payments made by Manitoba Hydro pursuant to Sections 8.1(b) and 8.2 hereof shall be considered full and sufficient compensation to the ISO for performing the Services.
- 8.4 If Manitoba Hydro terminates this Agreement or if the ISO terminates this Agreement either for default under Article XIII or pursuant to Section 10.2, Manitoba Hydro shall be bound by the provisions of Article Five, subsection II.A of the ISO Agreement as if it were a signatory.

IX. COORDINATING COMMITTEE

- 9.1 A Coordinating Committee is hereby established. The Coordinating Committee shall only administer this Agreement, excluding Article VII which shall be administered by the Contingency Reserve Sharing Group Committee, and shall not be used as a mechanism to effect changes in the Agreement that would have cost consequences.
- 9.2 The Coordinating Committee shall be responsible for:
 - (a) developing and/or adopting procedures for the implementation of the operating and technical requirements of this Agreement, excluding Article VII;

- (b) the creation of sub-committees, including an Operating Sub-Committee and a Planning Coordination Sub-Committee, to undertake work related to the implementation of this Agreement;
 - (c) approval of any terms of reference for such sub-committees, subject to the requirement that any decision made by such sub-committee shall be subject to approval by the Coordinating Committee;
 - (d) any other matters referred to herein or necessary for implementation, administration or operation of this Agreement, excluding Article VII.
- 9.3 The ISO and Manitoba Hydro shall each appoint one member to the Coordinating Committee and each Party shall pay the expenses of its member(s) on the Coordinating Committee and any of its sub-committees.
- 9.4 A Party's Coordinating Committee representative shall be a person of reasonable competency and with such authority as to uphold the decisions made. Subcommittee members appointed by the Coordinating Committee shall be employees of the respective Parties with appropriate qualifications and competency for the tasks that are delegated to them.
- 9.5 The Coordinating Committee shall meet at least semi-annually.
- 9.6 Decisions of the Coordinating Committee and its sub-committees shall be unanimous. If a sub-committee is unable to reach consensus on a proposal or other matter, the subcommittee shall present the matter to the Coordinating Committee for further discussion and attempt at resolution at the next meeting of the Coordinating Committee.
- 9.7 All procedures and decisions of the Coordinating Committee shall be in writing and signed by the Coordinating Committee representatives and shall form part of this Agreement, but shall not be inconsistent with and shall not serve to contradict any terms or conditions of this Agreement in effect at the time of such procedures or decisions being made or developed.
- 9.8 Subject to consent of the Owners, Manitoba Hydro's representative on the Coordinating Committee shall be considered a voting member of the Owners Committee established pursuant to the ISO Agreement.

- 9.9 Within thirty days of the effective date of this Agreement, the Coordinating Committee shall establish a Planning Coordination Sub-Committee responsible for the coordination of transmission planning of the Combined Systems pursuant to Article V of this Agreement.
- 9.10 The Planning Coordination Sub-Committee shall consist of three representatives from each Party. The Parties may from time to time change their respective representatives on the Planning Coordination Sub-Committee and shall fill any vacancy promptly. Written notice of appointments, removals and replacements shall be given by each Party to the other.
- 9.11 The Planning Coordination Sub-Committee shall meet at least annually, in person at the request of either party, and at such other times agreed to by the Parties either in person or via teleconference.
- 9.12 Within thirty days of the effective date of this Agreement, the Coordinating Committee shall establish an Operating Sub-Committee responsible for implementing the provisions of this Agreement related to transmission operations.
- 9.13 The Operating Sub-Committee shall consist of two representatives from each Party. The Parties may from time to time change their respective representatives on the Operating Sub-Committee and shall fill any vacancy promptly. Written notice of appointments, removals and replacements shall be given by each Party to the other.
- 9.14 The Operating Sub-Committee shall meet at least annually, in person at the request of either party, and shall meet either in person or via teleconference, at such other times agreed to by the Parties.
- 9.15 The Operating Sub-Committee shall develop operating coordination procedures for adoption by the Coordinating Committee pursuant to Section 9.2 of this Agreement. Such operating coordination procedures shall include, but not be limited to, procedures governing:
- (a) Data required pursuant to Sections 3.5 and Appendix A, Section 3;
 - (b) Methods of transferring data required pursuant to this Agreement;

- (c) Coordination of changes to protection systems under the operational control of a Party that may impact the reliable operations of the other Party;

9.16 The Operating Sub-Committee shall develop a list of operating coordination procedures that the Operating Sub-Committee shall review on an annual or seasonal basis.

X. TERM

10.1 Subject to Sections 4.2 and 10.2 of this Agreement, this Agreement shall continue in effect until the earlier of:

10.1.1 termination for default in accordance with Article XIII; or

10.1.2 termination upon 12 months written notice by either Party.

10.2 Notwithstanding the foregoing, this Agreement is conditional upon each Party's ability under Canadian Law and U.S. law to satisfy their obligations hereunder and is entered into in reliance upon the terms and conditions of the ISO Agreement, ISO Tariff and Manitoba Hydro Tariff in effect as of the effective date of this Agreement. If there is any change to the ISO Agreement, ISO Tariff, the Manitoba Hydro Tariff, Canadian Law or U.S., law or U.S. regulatory order that would affect: 1) either Party's ability to satisfy its obligations hereunder, or 2) the substance of a Party's obligations hereunder, the Parties shall enter into good faith negotiations to amend this Agreement, provided that the Party disadvantaged by any such change, shall have the right to terminate this Agreement on no less than sixty days notice. The ISO shall provide Manitoba Hydro with timely written notice of any changes to the ISO Agreement, ISO Tariff, U.S. laws or U.S. regulatory orders that affect performance or the substance of the ISO's obligations under this Agreement. Manitoba Hydro shall provide the ISO with timely written notice of any changes in the Manitoba Hydro Tariff or Canadian Law that affect performance of or the substance of Manitoba Hydro's obligations hereunder.

10.3 Upon termination of this Agreement, Manitoba Hydro and the ISO shall each remain responsible for any financial obligations incurred under this Agreement prior to termination until completion of any such obligation.

XI. INDEMNITIES AND ASSUMPTION OF LIABILITY

- 11.1 The ISO shall indemnify and hold Manitoba Hydro harmless from and against all claims, costs, expenses, liabilities, obligations, losses or damages, paid or incurred by Manitoba Hydro arising out of or related to the ISO's performance or neglect of its obligations under this Agreement, except in cases where and only to the extent that the negligence or intentional wrongdoing of Manitoba Hydro contributes to the claimed loss, damage, liability, cost or expense.
- 11.2 Manitoba Hydro shall indemnify and hold the ISO harmless from and against all claims, costs, expenses, liabilities, obligations, losses or damages, paid or incurred by the ISO arising out of or related to Manitoba Hydro's performance or neglect of its obligations under this Agreement, except in cases where and only to the extent that the negligence or intentional wrongdoing of the ISO contributes to the claimed loss, damage, liability, cost or expense.
- 11.3 Manitoba Hydro shall accept and abide by Article Four, Section II, paragraph D of the ISO Agreement as if it were a signatory to that agreement and the Owners under the ISO Agreement agree to provide Manitoba Hydro the same protections under that paragraph provided to all signatories.

XII. INSURANCE

- 12.1 The ISO shall obtain and maintain in full force and effect at all times during the term of this Agreement, professional liability insurance (errors and omission) through insurance policies with authorized insurance companies in such amounts and for such coverage and upon such terms conforming to standard commercial practice. The ISO shall supply Manitoba Hydro with a Certificate of Insurance and shall be responsible for any deductible amounts under the policy.

XIII. DEFAULT

- 13.1 The ISO shall be deemed to be in default if the ISO fails to compensate Manitoba Hydro for all amounts due to Manitoba Hydro pursuant to this Agreement for ninety (90) days.

- 13.2 Manitoba Hydro shall be deemed to be in default if Manitoba Hydro fails to compensate the ISO for all amounts due to the ISO pursuant to this Agreement for ninety (90) days.
- 13.3 If a default is deemed to have occurred under this Section, upon providing 30 days written notice, the non-defaulting party may terminate this Agreement.

XIV. GENERAL

14.1 Governing Law and Jurisdiction

This Agreement shall be governed by and construed in accordance with Canadian Law. 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 pursuant to Article XV hereof.

14.2 Headings

Headings are inserted solely for convenience of reference, do not form part of this Agreement, and are not to be used as an aid in the interpretation of this Agreement.

14.3 Severability

Any provision of this Agreement that is declared or rendered unlawful by a court of law, or deemed unlawful because of statutory change, will not otherwise affect the lawfulness, enforceability and applicability of the remaining provisions of this Agreement. The Parties will use their best efforts to agree on the replacement of the unlawful provision(s) with legally acceptable clauses that correspond as closely as possible to the purpose of the affected provision(s) and this Agreement as a whole. If the Parties are unable to reach agreement on a change to a material provision, either party may terminate this Agreement effective immediately.

14.4 Inspection and Auditing

The ISO shall grant Manitoba Hydro, its employees or agents, such access to the books and records of the ISO as is necessary to verify compliance by the ISO with this Agreement and to audit and verify the calculation of the ISO Cost Adder and any other financial transactions

pursuant to this Agreement. Such access shall be at reasonable times and upon reasonable notice.

14.5 Notice of Claims

Each Party shall promptly notify the other Party of claims, demands or actions which may result in a claim for indemnity. Failure to notify shall not relieve a Party from liability unless and then only to the extent that such failure results in the forfeiture by such Party of a substantial right or defence. No settlement of any claim which may result in a claim for indemnity shall be made by either Party without the prior written consent of the other Party, which consent shall not be unreasonably withheld. A Party shall not be liable under this Agreement in respect of any settlement of a claim unless said Party has consented in writing to such settlement.

14.6 Assignment

This Agreement shall not be assigned by a Party without the written consent of the other Party.

14.7 Waiver of Default

The failure on the part of either party to exercise or enforce any right conferred upon it under or pursuant to this Agreement shall not be deemed to be a waiver of any such right or operate to bar the exercise or enforcement thereof at any time or times thereafter.

14.8 Force Majeure

The Parties shall not be responsible or liable to each other for any loss or damage resulting from failure to perform obligations hereunder as a result of any cause beyond their control which could not have been reasonably foreseen and which could not have reasonably been avoided, including but not limited to, acts of God, strikes, injunctions, breakdowns or repairs. The Parties shall be prompt and diligent in removing, if practicable, the cause of such failure to perform after said cause has been removed; however a Party shall not be obligated to agree to any settlement of a strike or labour dispute which, in that Party's sole opinion, may be inadvisable or detrimental.

14.9 Entire Agreement

Subject to Section 9.7, this Agreement represents the entire agreement between the Parties with respect to the subject matter hereof and supersedes all prior oral and written proposals and communications pertaining hereto. There are no representations, conditions, warranties or agreements, express or implied, statutory or otherwise, with respect to or collateral to this Agreement other than contained herein or expressly incorporated herein.

14.10 Amendments

No amendments, addition to or modification of any provision of this Agreement shall be binding upon either Party, and neither Party shall be deemed to have waived any provision hereof or any remedy available to it unless such amendment, addition, modification or waiver is in writing and signed by duly authorized representatives of Manitoba Hydro and the ISO.

14.11 Notices

14.11.1 Any notice, demand, request or communication required or authorized by this Agreement shall be delivered either by hand, facsimile, electronic mail, overnight courier or mailed by certified mail, return receipt requested, with postage prepaid to:

Manitoba Hydro:
820 Taylor Avenue
WINNIPEG, MB R3C 2P4
Canada
ATTENTION: Vice-President – Transmission Business Unit

ISO:
P.O. Box 4202
CARMEL, IN 46082-4202
U.S.A.
ATTENTION: President

14.11.2 Delivery of any such notice, request or communication shall be deemed received upon actual receipt by the Party to whom addressed, or at least three business days after being sent.

14.11.3 The designation and titles of the person to be notified or the address of such person may be changed at any time by written notice by either Party.

14.12 Confidentiality

Any data submitted by Manitoba Hydro to the ISO pursuant to Section 3.5 and Appendix A of this Agreement shall be deemed confidential and shall not be disclosed by the ISO to a third party without the prior written consent of Manitoba Hydro, except as authorized herein or required by NERC Reliability Standards. Notwithstanding the foregoing, this obligation of confidentiality does not extend to data which is required to be disclosed by subpoena, applicable law or a directive of a court, or administrative agency or arbitrator that has jurisdiction over such data. Notwithstanding the foregoing, the Parties acknowledge that FERC does not have jurisdiction over Manitoba Hydro's data regarding its Canadian Transmission Facilities provided to the ISO pursuant to this Agreement. The ISO agrees to provide Manitoba Hydro with prompt written notice of a request or requirement for disclosure in order to: (a) enable Manitoba Hydro to seek injunctive relief, a protective order or other remedy; and/or (b) consult with the ISO regarding steps to resist or narrow the scope of such request or legal process. In the event that the confidential data becomes subject to disclosure, the ISO agrees to furnish only that portion of the confidential data which the ISO's legal counsel advises is legally required and to exercise best efforts to obtain assurance that confidential treatment will be accorded to such data. In addition, the ISO shall ensure that its employees, subcontractors and agents to whom confidential data is exposed agree to be bound by the provisions of this Section 14.12 and the ISO shall be liable for any breach of this Section by its employees, subcontractors and agents.

XV. DISPUTE RESOLUTION

15.1 Condition Precedent to Arbitration

Prior to initiation of arbitration or legal proceedings, any controversy, claim or dispute regarding an alleged breach of this Agreement shall be first submitted to the Coordinating Committee for review and decision. If the controversy, claim or dispute is not resolved within 30 calendar days after submission to the Coordinating Committee, it shall be referred in writing by the Coordinating Committee to the Executive Officers of the Parties, as specified in Section 14.11 of this Agreement, who shall meet for the purpose of discussing and resolving the controversy, claim or dispute to the satisfaction of the Parties. Any decision by the Executive Officers to

resolve a controversy, claim or dispute must be unanimous. If the controversy, claim or dispute is not resolved within 30 calendar days after referral to the Executive officers, either Party with the consent of the other Party, may proceed to arbitration, in accordance with Sections 15.2 through 15.10 hereof.

15.2 Initiation

Arbitration proceedings must be initiated within 120 calendar days of the date the controversy, claim or dispute was first submitted to the Coordinating Committee and shall be initiated by written notice to the other Party setting forth the point or points in dispute. Unless otherwise agreed to in writing by the Parties, failure to initiate arbitration within such 120 day period shall be deemed a waiver of the right to arbitrate that controversy, claim or dispute. Provided however, that any such waiver shall not preclude a Party from initiating arbitration proceedings in respect of a similar claim, controversy or dispute based on facts which arise subsequent to the date the controversy, claim or dispute was first submitted to the Coordinating Committee.

15.3 Arbitration Proceedings

For greater clarity and certainty, arbitration shall not be available to anyone who is not a Party to this Agreement, and an agreement by the Parties to arbitrate shall not preclude a Party from seeking contribution, indemnification or damages from the other Party in proceedings instituted by third parties in courts of competent jurisdiction. Unless otherwise agreed or specified herein, the arbitration shall be conducted in Winnipeg, Manitoba before three arbitrators and shall be conducted in accordance with *The Arbitration Act* of Manitoba (Chapter A120 of the Consolidated Statutes of Manitoba as amended and then in effect). All arbitrators shall be competent by virtue of education and experience in the particular matter subject to arbitration. The arbitrators shall require witnesses to testify under oath administered by a duly qualified person. The arbitrators shall have jurisdiction and authority only to interpret, apply or determine compliance with the provisions of this Agreement insofar as shall be necessary to determine the particular matter subject to arbitration. The arbitrators shall not have jurisdiction or authority to add to, detract from, or alter the provisions of this Agreement or any applicable law or rule of civil procedure. The arbitrators shall have the power to order specific performance under any and all provisions of this Agreement and no Party can avoid specific performance based on an argument that the other Party has an adequate remedy at law.

15.4 Jurisdiction

The arbitrators may rule on their own jurisdiction, including any objections with respect to the existence or validity of an agreement to arbitrate. If a Party disputes the authority or jurisdiction of the arbitrators, the Party shall notify the other Party as soon as the matter alleged to be beyond the authority or jurisdiction of the arbitrators is raised during the arbitration proceedings. The arbitrators may rule on the issue as to whether or not they have the authority or jurisdiction in dispute, either as a preliminary question or in an award on the merits.

15.5 Discovery

Each Party shall have the rights of discovery in accordance with the applicable rules of *The Arbitration Act* of Manitoba. All issues subject to discovery shall be determined by order of the arbitrators upon motion made to them by either Party. When a Party is asked to reveal material which the Party considers to be proprietary information or trade secrets, the Party shall bring the matter to the attention of the arbitrators who shall make such protective orders as are reasonable and necessary or as otherwise provided by law.

15.6 Continuation of Performance

Pending the final decision of the arbitrators, the Parties agree to diligently proceed with the performance of all obligations, including the payment of all sums required by this Agreement. Interest shall accrue at the Agreed Interest Rate and shall be compounded daily on all overpayments and underpayments which occur pending resolution of a controversy, claim or dispute.

15.7 Costs

All fees, costs and expenses of the arbitrators and the Parties incurred in connection with the arbitration shall be allocated between the Parties by the arbitrators. The nature of the dispute and the outcome of the arbitration shall be factors considered by the arbitrators when allocating such fees, costs and expenses. Fees, costs and expenses to be allocated shall include the Party's own employees, expert consultants and legal fees, the costs of exhibits and other incidental costs.

15.8 Enforcement

Any decision (including orders arising out of disputes as to the scope or appropriateness of a request for, or a response to, discovery) of an arbitrator may be enforced in a court of competent jurisdiction. All costs of enforcing an arbitral decision including court costs and attorney's fees (on a party and party basis) and disbursements shall be paid by the Party in default or in error. Judgment upon the award rendered by the arbitrators may be entered in any court of competent jurisdiction.

15.9 Correction and Interpretation of Award; Additional Award

Within 30 calendar days after receipt of an award, a Party, with notice to the other Party, may request the arbitrators to correct in the award any errors in computation, any clerical or typographical errors or any errors of similar nature, or may request the arbitrators to give an interpretation of a specific point or a part of the request. The interpretation shall form part of the award. The arbitrators may correct any error as herein-before referred to on their own initiative within 30 calendar days after the date of an award. In addition, within 30 calendar days after receipt of an award, a Party with notice to the other Party, may request the arbitrators to make an additional award as to claims presented in the arbitration but omitted from the award. If the arbitrators consider the request to be justified, they shall make an additional award within 60 calendar days after receipt of the request. The arbitrators may extend, if necessary, the period of time within which it shall make a correction, interpretation or an additional award.

Appendix A

RELIABILITY COORDINATOR RESPONSIBILITY

1. Interpretation

- 1.1 Capitalized terms used in this Appendix A and not otherwise defined in Article I of this Coordination Agreement shall have the meanings specified in the NERC “Glossary of Terms Used in Reliability Standards” as revised from time to time.

2. Reliability Coordinator Responsibilities

- 2.1 As Reliability Coordinator for Manitoba Hydro, the ISO shall have the authority to monitor and direct Manitoba Hydro’s actions with respect to Manitoba Hydro’s Canadian Transmission Facilities (“Manitoba Transmission Facilities”) as provided in Section 2 of this Appendix, in order to preserve the integrity and reliability of the Bulk Electric System.

Notwithstanding the foregoing, the Parties acknowledge that Manitoba Hydro may also monitor the Manitoba Transmission Facilities.

- 2.2 The ISO shall monitor, on a continuous basis and direct actions with respect to the Manitoba Transmission Facilities, so as to ensure that operating parameters are maintained within NERC and regional reliability limits.
- 2.3 The ISO shall periodically perform load-flow and stability studies of the Manitoba Facilities to identify and address reliability problems.
- 2.4 The ISO shall be responsible for the exchange of operating information related to the Manitoba Transmission Facilities with adjoining Reliability Coordinators and other operating entities within the ISO’s Reliability Coordinator Area that require Manitoba Hydro’s operational data for reliability-related purposes or for calculation of ATC and its components.
- 2.5 The ISO shall develop, for approval by the NERC Operating Committee, a regional reliability plan and procedures for responding to emergencies which include the Manitoba Transmission Facilities.

- 2.6 For the purposes of mitigating an IROL or SOL violation so as to return the Bulk Electric System to a reliable state, the ISO shall have authority to direct Manitoba Hydro to:
- (a) redispatch generation;
 - (b) reconfigure transmission, including the rescheduling of transmission outages;
 - (c) manage interchange transactions;
 - (d) reduce system demand.
- 2.7 Actions directed by the ISO pursuant to Section 2.6 shall be consistent with Operating Guides for the Manitoba Transmission Facilities.
- 2.8 The ISO shall have a Reliability Coordinator Area restoration plan that provides coordination between the restoration plans of Manitoba Hydro and other transmission operators and that ensures that reliability is maintained during system restoration events.
- 2.9 The ISO shall monitor Manitoba Hydro's restoration progress when implementing Manitoba Hydro's system restoration plan and shall coordinate any assistance needed by Manitoba Hydro.
- 2.10 The ISO shall act in the interests of reliability for the overall Reliability Coordinator Area and the Interconnection, rather than any individual entity.

3. Manitoba Hydro Responsibilities

- 3.1 Manitoba Hydro shall have responsibility for taking actions with respect to the Manitoba Transmission Facilities, so as to maintain the reliability of the Bulk Electric System in a manner consistent with NERC and applicable regional reliability requirements.
- 3.2 All actions taken by Manitoba Hydro pursuant to Section 3.1 shall be consistent with Operating Guides.
- 3.3 Manitoba Hydro shall be responsible for developing, maintaining and implementing a set of plans to mitigate operating emergencies.
- 3.4 Manitoba Hydro shall be responsible for developing a system restoration plan for the Manitoba Transmission Facilities that is consistent with the ISO's Reliability Coordinator Area system restoration plan, provided that such consistency: (a) does not endanger the supply of electricity in Manitoba; (b) does not endanger equipment or physical safety; (c) does not contravene Canadian law or regulatory orders.

- 3.5 Manitoba Hydro shall provide the ISO with all of Manitoba Hydro's operational data required by the ISO to perform its role as Reliability Coordinator as described in this Appendix A.
- 3.6 Upon request, Manitoba Hydro shall provide to other Balancing Authorities and Transmission Operators, operating data necessary to allow the Balancing Authorities and Transmission Operators to perform operational reliability assessments and to coordinate reliable operations.
- 3.7 Manitoba Hydro shall provide the ISO with a document defining the criteria used by Manitoba Hydro in developing its Operating Guides.
- 3.8 Manitoba Hydro shall take such action with respect to the Manitoba Facilities as directed by the ISO pursuant to Section 2.6 and Operating Guides for the MHEX, SPC and IESO interfaces within 30 minutes of receiving direction from the ISO, unless such actions would endanger safety or equipment or violate Canadian Law or regulatory requirements. Under these circumstances, Manitoba Hydro shall immediately inform the ISO of its inability to perform the directive so that the ISO may implement alternate remedial actions.
- 3.9 Manitoba Hydro shall obtain approval of the ISO before taking out of service or reconnecting the Manitoba Transmission Facilities, except where doing so would endanger the safety of employees or the public or would cause damage to facilities or the environment.

Appendix B

CONTINGENCY RESERVE SHARING

1. Formation of Reserve Sharing Group
- 1.1 The Parties elect to fulfill their NERC Contingency Reserve obligations as a Reserve Sharing Group, referred to herein as the “MISO-MBHydro Contingency Reserve Sharing Group” or “MISO-MBHydro CRSG.” Accordingly, the Parties shall collectively maintain, allocate and supply Contingency Reserve required for each Party’s use in recovering from Contingencies or Disturbances occurring on the transmission systems operated by either Party in accordance with the provisions of this Appendix B.
2. Establishment and Responsibilities of Contingency Reserve Sharing Group Committee
- 2.1 The Contingency Reserve Sharing Group Committee (“CRSGC”) is hereby established to implement and oversee the operation of the MISO-MB Hydro CRSG in compliance with applicable NERC Reliability Standards, Regional Entity (“RE”) requirements and this Appendix.
- 2.2 The CRSGC shall be composed of one primary member and one alternate member representing each of the Parties.
- 2.3 The CRSGC shall meet at least once annually, and at such other times as agreed to by the CRSGC.
- 2.4 Meetings shall be held in person or by teleconference.
- 2.5 The CRSGC shall act solely by written resolutions agreed to by both Parties.
- 2.6 The CRSGC has the following duties and responsibilities under this Agreement:
 - 2.6.1 Development and revision, from time to time, of Operating Protocols necessary for the implementation of the RSG provisions of this Agreement. The Operating Protocols shall include, but not be limited to the following:
 - (i) the criteria for Contingency Resources, including any limitations imposed on interruptible load;
 - (ii) specification of the Reserve Sharing Group Reportable Disturbance;
 - (iii) requirements related to the deliverability of Contingency Resources;
 - (iv) specification of the permissible mix of Operating Reserve - Spinning and Operating Reserve - Supplemental for a Party’s Contingency Reserve Requirement;

- (v) the procedures for initiating a Contingency Reserve Activation;
- (vi) the procedures for apportioning NERC penalties and/or sanctions between the Parties for MISO-MB Hydro CRSG violations of NERC Reliability Standards.

2.6.2 Reviewing the total Contingency Reserve Obligation of the MISO-MB Hydro CRSG and its allocation among the Parties in accordance with applicable NERC Reliability Standards, to determine if any adjustments are necessary.

2.6.3 Ensuring that Appendix B of this Agreement and any Operating Protocols developed by the CRSGC are consistent with applicable NERC and RE standards. The CRSGC shall review proposed new and revised NERC and RE requirements and implement or recommend implementation of amendments to this Appendix and/or the Operating Protocols to reflect those requirements.

2.6.4 Overseeing the activities of the Group Administrator.

2.6.5 Review and approval of the budget of the Group Administrator and the costs to be recovered pursuant to Schedule CR-2. No later than December 31 of each year, the RSGC shall recommend to the Group Administrator any changes to the budget for the next January 1 to December 31 twelve-month period, and Schedule CR-2 hereof shall be modified accordingly, subject to the receipt of any required regulatory approvals.

3. Reserve Sharing Obligations

3.1 The Contingency Reserve Obligation of the MISO-MB Hydro CRSG shall be 2000 MWs unless specified otherwise in the NERC Disturbance Control Standard as a result of non-compliance with DCS.

3.2 Each Party shall maintain during each hour, its allocation of Contingency Reserve in an amount equal to or greater than its Contingency Reserve Requirement. The Contingency Reserve Requirement for the ISO shall be 1850 MWs and the Contingency Reserve Requirement for Manitoba Hydro shall be 150 MWs. If the Contingency Reserve Obligation is changed as set forth in Section 3.1, the Parties shall determine each Party's adjusted Contingency Reserve Requirement as set forth in the Operating Protocols.

3.3 Each Party shall maintain its allocation of Contingency Reserve through providing or arranging for Contingency Resources that are capable of supplying that Party's Contingency Reserve Requirement on a firm basis, without interruption for economic conditions, and with such other characteristics as set forth in the Operating Protocols.

3.4 The Parties shall not both count the same Contingency Resources, or portion thereof, as Contingency Reserve.

- 3.5 Each Party shall ensure that their Contingency Resources are deliverable to the Point of Delivery, as specified in Section 3.1 of Schedule CR-1, through applicable arrangements specified in the Operating Protocols.
- 3.6 A Party supplying Emergency Energy during a Contingency Reserve Activation shall provide or arrange for Network Integration Transmission Service or Firm Point-to-Point Transmission Service to the Point of Delivery, as specified in Section 3.1 of Schedule CR-1.
- 3.7 Each Party shall respond to a Contingency Reserve Activation by delivering its Contingency Resources to the Contingent System on the terms and conditions set forth in the Operating Protocols.
- 3.8 Each Party shall pay the other Party for Emergency Energy supplied as a result of the deployment of the other Party's Contingency Resources, pursuant to Schedule CR-1 of this Agreement.
- 3.9 The Disturbance Recovery Period shall be 15 minutes.
- 3.10 DCS compliance shall be reported using ACE values as permitted by NERC Standard BAL-002-0, Requirement 5.1 or 5.2.
- 3.11 Each Party shall adhere to the provisions of the Operating Protocols, developed by the CRSGC, and as duly amended from time to time.
- 3.12 Each Party shall have or make arrangements for the necessary metering and data recording capability as determined by the CRSGC to measure Contingency Reserve deployment and adherence to applicable NERC Reliability Standards or RE requirements.
- 3.13 A Party to this Agreement may have a different Balancing Authority provide its Contingency Reserve Requirement, and/or may enter into other reserve sharing arrangements in addition to this Agreement if agreed to by the CRSGC.
- 3.14 The parties acknowledge that as of the effective date of this Appendix B, the most severe Contingency is 1500 MW.
- 4. Group Administrator
 - 4.1 The ISO shall perform the services of Group Administrator to assist the Parties in implementing the provisions of this Appendix B and the Operating Protocols.
 - 4.2 The duties of the Group Administrator shall be determined by the CRSGC and shall include, but not be limited to:

- (i) Maintaining a secure and reliable software application (ARS System) for the entry of a request for Contingency Reserve Activation; such application shall provide information on Contingency Reserve levels in real-time;
 - (ii) Implementing changes to the software application so as to fulfill the requirements of this Appendix B and the Operating Protocols;
 - (iii) Collecting and maintaining data necessary to perform the Group Administrator's duties including, but not limited to, data regarding the most severe single contingency, and ARS System data;
 - (iv) Collecting and reviewing real-time data from each Party to make an initial determination, subject to CRSGC review, of the amount and allocation of any NERC penalties;
 - (v) Keeping financial records, and invoicing and collecting any costs and charges due from and to the Parties pursuant to this Appendix B, and distributing those funds in accordance with this Agreement;
 - (vi) Performing forecasts, studies, or analyses required to administer the provisions of this Appendix B and the Operating Protocols as directed by the CRSGC;
 - (vii) Supporting the development and implementation, with the participation of the CRSGC, of training programs, the relevant manuals describing the practices, rules and procedures for the operation, planning, and accounting requirements of the CRSG;
 - (viii) Calculating the MISO-MB Hydro CRSG's compliance with NERC Disturbance Control Standard, for approval by the CRSGC, and reporting approved calculations to NERC and, if applicable, the RE;
 - (ix) Billing and settlement of charges for Emergency Energy and associated delivery costs pursuant to Schedule CR-1 of this Agreement, including the collection of revenue for Emergency Energy and associated delivery costs from the Contingent System, collection of billing determinants from the Parties to determine revenue distribution, and dispersing the revenue to the Delivery System;
 - (x) Assisting in preparing responses relating to the MISO-MBHydro CRSG including, but not limited to, compliance audits and inquiries from third parties.
- 4.3 The ISO's costs of performing the functions of Group Administrator pursuant to Section 4.2 hereof shall be allocated to and recovered from the Parties pursuant to Schedule CR-2 attached hereto and incorporated herein by this reference.
5. Billing and Payment
- 5.1 The Group Administrator shall issue invoices to the Parties: (i) periodically, setting forth any amounts due from or to that Party as a result of any charges imposed for Contingency Reserve Activation pursuant to Schedule CR-1 of this Agreement; and (ii) monthly, setting forth that Party's share of any costs related to Group Administrator services allocated to that Party pursuant to Schedule CR-2 to this Agreement.

- 5.2 Promptly after each Contingency Reserve Activation, the Group Administrator shall prepare, or cause to be prepared, and, within fifteen (15) days of the end of the calendar month in which such transaction occurs, render to the Party requesting Contingency Reserve Activation (“Contingent System”) an invoice for any amounts payable to the Party that has deployed Contingency Resources (“Delivery System”) hereunder.
- 5.3 All invoices issued to a Party under this Appendix B shall be due and payable in immediately available same-day funds, in accordance with the invoice instructions, within seven (7) days following the Party’s receipt of the invoice. If such a day is not a banking day, then payment is due and payable on the first banking day common to the Parties following the due date. Each Party shall make payments by electronic funds transfer in the currency of the United States of America, or by other mutually agreeable method(s), to the account designated by the Group Administrator.
- 5.4 If the rendering of an invoice hereunder is unavoidably delayed, the Group Administrator may issue an interim invoice based on estimated charges. Each final invoice shall be subject to adjustment for any errors in calculation, meter readings, estimating or otherwise. Any such adjustments shall be made as promptly as practical, but in no event later than six months after issuing the invoice.
- 5.5 If no mutual debts or payment obligations under this Appendix B exist and only one of the Parties owes a debt or obligation under this Appendix B to the other Party during the billing period, including, but not limited to, any payment or credits, that Party shall pay such sum in full when due.
- 5.6 Any amount not paid by the due date shall be deemed delinquent.
- 5.7 If a Party objects to all or a portion of any invoice issued pursuant to Section 5.1 of this Appendix, that Party shall, on or before the date payment of the invoice is due, pay the full amount of the invoice and give notice to the invoicing Party, within thirty (30) days from the date the invoice is rendered, setting forth in specific details the basis for its objection and the amount thereof in dispute. The authorized officers of the Parties, or their designees, shall use their best efforts to develop a solution to the billing dispute. The authorized officers may submit the billing dispute to the dispute resolution procedures set forth in Article XV of this Agreement. If the objection is upheld resulting in a refund, the disputing Party shall receive interest upon such amount at the Agreed Interest Rate from the date payment was received until the date upon which refund is made. Any refunds will be paid, with interest, on or before the thirtieth (30th) day following the date an agreement or determination is reached. If such a day is not a banking day, then payment is due and payable on the first banking day common to the Parties following the due date.
- 5.8 Notwithstanding any other provision of this Appendix B, the ISO Tariff shall govern the billing and payment terms for all amounts owing as between the ISO and its Market Participants for Transmission Service provided by the ISO and for Energy and Operating

Reserves Market transactions administered by the ISO to fulfill its obligations under this Agreement.

SCHEDULE CR-1
CONTINGENCY RESERVE ACTIVATION CHARGES

1. Emergency Energy

The rate to be charged by each Party when supplying Emergency Energy during a Contingency Reserve Activation shall be the rate as stated in this Schedule CR-1 as such rate may be changed from time to time, subject to regulatory approval where required by a Party.

- 1.1 The rate for Emergency Energy supplied by the ISO to Manitoba Hydro from the Energy and Operating Reserve Markets shall be the hourly LMP at the MHEB Interface CP Node plus \$50.00 per megawatt hour of Emergency Energy supplied.
- 1.2 The rate for Emergency Energy supplied by Manitoba Hydro to the ISO (for and on behalf of its Market Participants), shall be the hourly LMP at the MHEB Interface CP Node plus \$50.00 per megawatt hour of Emergency Energy supplied.
- 1.3 Quantities of Emergency Energy shall be accounted for in whole megawatt hours.

2. Transmission Service

- 2.1 In addition to the charges outlined above, the Contingent System shall pay any applicable Transmission Service charges incurred by the Delivery System for delivering Emergency Energy to the Point of Delivery, including charges for losses, if any.

3. Point of Delivery

- 3.1 The Point of Delivery for Emergency Energy shall be the Canada-United States international border.

SCHEDULE CR-2
COST RECOVERY FOR GROUP ADMINISTRATOR SERVICES

- 1.0 Manitoba Hydro shall pay the lesser of \$3,000.00/month, or fifty percent (50%) of the ISO's annual RSG Administration Costs, as defined in section 2.0 hereof. The ISO shall pay the remainder. The Parties agree to negotiate in good faith adjustments to these cost sharing provisions, in the event of unanticipated increases in RSG Administration Costs.
- 2.0 RSG Administration Costs shall include the operating costs incurred by the Group Administrator on behalf of the MISO-MB Hydro CRSG to implement the terms and conditions of Appendix B to this Agreement and Operating Protocols. Such costs shall include software and hardware maintenance costs. RSG Administration Costs do not include software and hardware capital costs required to implement the terms and conditions of Appendix B to this Agreement and the Operating Protocols.
- 3.0 Cost recovery for capital projects undertaken by the Group Administrator shall be determined by the RSGC in advance of the proposed project.



MISO-MBHydro CRSG Operating Protocols

Effective January 1, 2010

Effective On: November 19, 2013

Revision History

Filename	Reason For Issuance	Revised By	Issued Date	Effective Date
MISO-MBHydro CRSG Operating Protocols (20090914 - clean).doc	Clean version	K. Gawne	20090914	20100101

1. ENFORCEABILITY

- 1.1 These Operating Protocols have been developed by the MISO-MB Hydro CRSG pursuant to Appendix B of the Coordination Agreement between the Midwest Independent Transmission System Operator, Inc. (“MISO”) and Manitoba Hydro (the “Agreement”) and are made binding on the Parties by Section 3.11 of Appendix B to the Agreement.
- 1.2 These Operating Protocols shall become effective upon implementation of Appendix B of the Agreement.

2. APPLICATION OF COORDINATION AGREEMENT TO OPERATING PROTOCOLS

- 2.1 The following sections of the Coordination Agreement are incorporated by reference into these Operating Protocols, “mutatis mutandis”, as if the reference to the “Agreement” were a reference to these Operating Protocols: Sections 10.3, 11.1, 11.2, 14.1, 14.3, 14.5, 14.7, 14.8, 14.9, 15.1 through and including 15.10.

3. INTERPRETATION

- 3.1 Terms used with initial capitalization in these Operating Protocols and not otherwise defined in these Operating Protocols shall have the respective meanings provided in Article I of the Agreement. Words not otherwise defined in these Operating Protocols or the Agreement that have well known and generally accepted technical meanings are used herein in accordance with such recognized meanings.
- 3.2 **Definitions**
 - 3.2.1 “Average Recovery Deficiency” shall have the meaning provided in Section 10.1.1 of these Operating Protocols.
 - 3.2.2 “Balancing Authority Adjustment” shall mean an adjustment made by a Balancing Authority to their Contingency Reserve data entered in the ARS System.
 - 3.2.3 “Compliance Deficiency” shall mean the amount by which the CRSG is deficient in providing Contingency Reserve, as calculated in accordance with Section 9.1.4 of these Operating Protocols.
 - 3.2.4 “Contingency Reserve Restoration Period” shall have the same meaning as provided in NERC DCS.

- 3.2.5 “Contingency Reserve-Spinning” shall mean that portion of Operating Reserve-Spinning that a Party maintains for the purpose of Contingency Reserve.
- 3.2.6 “Contingency Reserve-Supplemental” shall mean that portion of Operating Reserve-Supplemental that a Party maintains for the purpose of Contingency Reserve.
- 3.2.7 “Energy Emergency Alert” shall have the same meaning as provided in NERC Reliability Standard EOP-002-2.1 or its successor thereto.
- 3.2.8 “Extra Contingency Reserve-Supplemental” shall mean Operating Reserve-Spinning or Contingency Reserve Supplemental in excess of a Party's Contingency Reserve Requirement that is supplied pursuant to Section 5.3.3 of these Operating Protocols.
- 3.2.9 “Firm Transmission Service” shall mean Firm Point-to-Point Transmission Service or Network Integration Transmission Service.
- 3.2.10 “Jointly Owned Unit” or “JOU” shall mean an electric generating facility that is owned by more than one entity.
- 3.2.11 “Operating Reserve-Spinning” shall have the same meaning as defined in the NERC Glossary of Terms. For further clarity, however, the MISO-MBHydro CRSG Agreement does not impose Regulating Reserve requirements upon the Parties.
- 3.2.12 “Other Extreme Conditions” shall have the meaning provided in Section 5.2.5.3 of these Operating Protocols.
- 3.2.13 “Percentage Recovery” shall have the meaning provided in Section 9.1.3 of these Operating Protocols.
- 3.2.14 “Recovery Deficiency” shall have the meaning provided in Section 8.3.1.3 of these Operating Protocols.
- 3.2.15 “Reporting Party” shall mean a Party that is obligated to provide data to the Group Administrator following a possible DCS Reportable Disturbance.
- 3.2.16 "Seams Agreement" shall mean an agreement between MISO and an adjacent Transmission Provider to coordinate congestion management between the two adjacent regions, whether independently negotiated or executed pursuant to Part II of Module F of the ISO Tariff.

4. GENERAL OBLIGATIONS

- 4.1. The MISO-MBHydro CRSG shall comply with the NERC Disturbance Control Standard (“DCS”) as a single Reserve Sharing Group.
- 4.2. Each Balancing Authority shall comply with the NERC Disturbance Control Standard by returning its ACE to the lesser of zero or its pre-Disturbance level within the default NERC Disturbance Recovery Period.
- 4.3. The MISO-MBHydro CRSG Contingency Reserve Obligation shall be 2,000 MW. MISO’s Contingency Reserve Requirement shall be 1,850 MWs, and MHEB’s Contingency Reserve Requirement shall be 150 MWs.
- 4.4. The amount of Operating Reserve-Spinning of a Party’s Contingency Reserve Requirement shall meet the NERC or Regional Entity requirements, or 40% of a Party’s CRR, whichever is greater. Because the MISO-MBHydro CRSG Agreement does not impose Regulating Reserve requirements upon the Parties, this shall be considered a Party’s Contingency Reserve-Spinning obligation to the CRSG.
- 4.5. Contingency Reserve shall be made available by each Party as necessary to satisfy the NERC DCS. Contingency Reserve shall be made available by each Party in an amount no less than the Party’s Contingency Reserve Requirement as specified in Section 4.3, and according to the breakdown specified is in Section 4.4. Adjustments to Contingency Reserve Requirements are permitted under the terms specified in Section 5.3.
- 4.6. Contingency Reserve shall be replenished by each Party at the conclusion of the Contingency Reserve Activation or 90 minutes from the end of the DCS period, whichever is the lesser time.
- 4.7. In determining the response time required of Contingency Resources, each Party shall consider the time delay in the Contingency Reserve Activation, the processing time between the Contingency Reserve Activation and the Party receiving the reserve request, and any other time required for the Party to notify its Contingency Resources to deploy, in order to ensure full deployment of the Contingency Reserve Requirement within the Disturbance Recovery Period.

- 4.8. Controllable load resources (also referred to as demand response or interruptible load) used to meet a Party's Contingency Reserve Requirement shall meet the applicable NERC and Regional Entity criteria and applicable tariff requirements of the Party.
 - 4.8.1 Controllable load resources shall be load that is removed from the system for the amount designated as Contingency Reserve within the Disturbance Recovery Period following the Contingency.
 - 4.8.2 Commitment of controllable load resources shall meet the Parties' Regional Entity requirements for such resource(s).
- 4.9. A Party may use behind-the-meter generation in meeting its Contingency Reserve Requirement.
- 4.10. Transactions of immediately recallable energy sales (i.e. sales interruptible in less than ten minutes) used to meet a Party's Contingency Reserve Requirement are subject to the following requirements and conditions:
 - 4.10.1 Transactions of immediately recallable energy shall include requirements that obligate the buyer to carry the equivalent amount of Contingency Reserve and respond with resources up to the amount sold, and equal to the curtailed MW amount, within the Disturbance Recovery Period in order to count towards the seller's Contingency Reserve Requirement.
 - 4.10.2 Transactions of immediately recallable energy shall include requirements that obligate the buyer and seller to reflect the schedule change in their ACE.
 - 4.10.3 The MISO-MBHydro CRSG is not responsible for compliance to the NERC Disturbance Control Standard of entities external to the MISO-MBHydro CRSG that buy immediately recallable energy. Reporting of compliance data for entities external to the MISO-MBHydro CRSG is the responsibility of the parties to the immediately recallable energy transaction.
 - 4.10.4 To the extent that the MISO-MBHydro CRSG receives a penalty associated with the buyer and/or seller of immediately recallable energy being non-compliant to the DCS event, the associated penalty shall be fully allocated to the Party selling the recallable energy.
- 4.11. The Reserve Group Reportable Disturbance level is 1000 megawatts.
 - 4.11.1 The MISO-MBHydro CRSG shall be measured against the NERC DCS as a Reserve Sharing Group if: (1) a single Balancing Authority experiences a Disturbance, or multiple Disturbances within one minute that equal or exceed the Reserve Group Reportable Disturbance level, and that Balancing Authority requests Contingency Reserve Activation from the MISO-MBHydro CRSG; or (2) a single JOU that has pseudo-tied shares within the MISO-MBHydro CRSG that total greater than or equal to the Reserve Group Reportable Disturbance level is lost and at least one of the associated Balancing Authorities of that unit requests Contingency Reserve Activation of the MISO-MBHydro CRSG.
 - 4.11.2 If a Balancing Authority experiences a Disturbance or multiple Disturbances within one minute that equal or exceed the Reserve Group Reportable

Disturbance level and it does not request Contingency Reserve Activation, that Balancing Authority shall report its DCS compliance according to the Reserve Group Reportable Disturbance level and be measured against the NERC DCS as a single Balancing Authority.

- 4.11.3 If a single JOU that has pseudo-tied shares within the MISO-MBHydro CRSG that total greater than or equal to the Reserve Group Reportable Disturbance level is lost and none of the associated Balancing Authorities request Contingency Reserve Activation of the MISO-MBHydro CRSG, then those Balancing Authorities shall report its DCS compliance according to the Reserve Sharing Group Reportable Disturbance level and be measured against the NERC DCS as Balancing Authorities outside of the MISO-MBHydro CRSG, either collectively or individually.
- 4.12. Each Party shall make known to the Group Administrator the location (BA level) of the Contingency Resources used to satisfy its Contingency Reserve Requirement and each Party shall ensure that the same portion of resource capacity (e.g. reserves from Jointly Owned Units) shall not be counted more than once as Contingency Reserve by the same Balancing Authority or multiple Balancing Authorities. MISO and MHEB Balancing Authorities shall make known to the Group Administrator the location (BA level) and amount of Contingency Reserves-Spinning, and the location and amount of Contingency Reserves-Supplemental carried outside of their respective Balancing Authority Areas.
- 4.13. If the MISO-MBHydro CRSG receives a DCS compliance penalty per NERC Reliability Standard BAL-002, as then in effect, then the allocation of the penalty shall be in accordance with the provisions of Section 10 of these Operating Protocols.
- 4.14. Parties shall provide all data necessary to determine compliance with NERC and Regional Entity standards to the Group Administrator. The Group Administrator shall compile the data and report necessary data to the applicable Regional Entities for determination of compliance with the requirements of the NERC DCS found in NERC Reliability Standard BAL-002, as then in effect.
- 4.15. Group Administrator shall provide a backup process (BU ARS) for failure of the primary ARS process. The Group Administrator shall employ the following back-up hierarchy for degrading conditions:
- 4.15.1 Backup ARS Tool used by the Group Administrator to allocate deployment of Contingency Resources on a tiered basis, as similar as practically possible to the primary ARS software. This tool will programmatically provide data to the MISO's market system, and the Group Administrator shall verbally communicate the allocation to the Parties.

4.15.2 EXCEL spreadsheet used by the Group Administrator to allocate the deployment of Contingency Resources on a pro-rata basis, as an equal percentage of the Contingency Reserve Requirement of each Party. The Group Administrator shall verbally communicate the allocation to the Parties.

5. CONTINGENCY RESERVE ACTIVATION REQUIREMENTS

5.1 Roles of MISO-MBHydro CRSG Parties and Group Administrator

5.1.1 A Market Participant operating as a Balancing Authority Operator shall have access to the ARS System in the “BA Operator – Market Affiliations” role;

5.1.2 The following lists the functionality provided under each role:

Role	Functionality
BA operator – reliability	<ul style="list-style-type: none"> • See all events. • * Request ARS activation for themselves and their associated LSE. • * Edit, extend or cancel events initiated by themselves or their LSE. • * Acknowledge alerts for themselves. • View all reports for all events. • Manage invoices for themselves.. • * Modify current reserves for themselves. • They cannot cancel events or administer the system. • Modify current reserves/adjustments.
BA operator – market affiliations	<ul style="list-style-type: none"> • Functionality the same as the “BA operator – reliability” except the “BA operator market Affiliations” can only see events in which they are involved. • Viewing reports ability subject to code of conduct delay.
load serving entity (LSE)	<ul style="list-style-type: none"> • See all events in which they are involved. • * Request ARS activation for themselves. • * Edit, extend or cancel (second extensions only) events initiated by themselves. • Acknowledge alerts for themselves. • View Contingency Report for events in which they, or their BA, are involved. • Manage invoices for events in which they, or their BA, are involved. • * Cannot modify current reserves for themselves. • They cannot cancel events or administer the system.
group admin	<ul style="list-style-type: none"> • Perform all functions for BAs and LSEs if they lose connectivity. • See all events. • Receive and acknowledge information-only alerts. • See all reports for all events. • Cancel all events – per criteria as defined in this document. • Administer the system.
tariffs / scheduling	<ul style="list-style-type: none"> • See all events. • Receive and acknowledge information-only alerts. • View all reports for all events. • They cannot add, edit, extend or cancel events, manage invoices, modify current reserves, or administer the system.

* these items will require agreements or working protocols between the BA with their associated LSEs that establish the criteria and conditions by which the LSE will perform such functions and the conditions that the BA will take over the responsibility.

5.2 MISO-MBHydro CRSG Disturbances

- 5.2.1 Per NERC DCS Reliability Standard BAL-002, each Balancing Authority shall meet, and be measured against, the requirements of each Reserve Sharing Group Reportable Disturbance. If a Balancing Authority within the MISO-MBHydro CRSG, or multiple Balancing Authorities within the MISO-MBHydro CRSG, with a pseudo-tied JOU have experienced a Reserve Sharing Group Reportable Disturbance, but does not call for Contingency Reserve Sharing Activation, then that Balancing Authority shall report per the NERC DCS standard as outlined in Section 4.11 of these Operating Protocols.
- 5.2.2 When a MISO-MBHydro CRSG Balancing Authority, or both MISO-MBHydro CRSG Balancing Authorities with a pseudo-tied JOU, has a Disturbance that is equal to or greater than the Reserve Group Reportable Disturbance, the Balancing Authority(ies) shall request Contingency Reserve Activation using the ARS System as soon as possible.
- 5.2.3 If the Contingent System(s) fails to request Contingency Reserve Activation within 3 minutes of the event start time, any Delivery System with a calculated Recovery Deficiency greater than zero for that event shall have that event excluded from its performance for the quarter. The Delivery Systems with a calculated Recovery Deficiency equal to zero for that event shall include that event in their performance for the quarter. In the case that the MISO-MBHydro CRSG is non-compliant to an event where the Contingent System calls upon Contingency Reserve Activation after 3 minutes, the Contingent System shall report its Recovery Deficiency according to Section 8.4, and the resulting performance for the Contingent System(s) shall be included in its quarterly performance.
- 5.2.4 The maximum amount of Contingency Reserve that can be requested through the ARS System for multiple Contingency Reserve Activations is the sum of each Party's available Contingency Reserve as reflected in the ARS System.
 - 5.2.4.1 If multiple Contingency Reserve Activations have fully deployed available CRR as reflected in the ARS System, the remaining portion of the requested Contingency Reserves shall be pro-rated to the Parties that have offered Extra Contingency Reserve-Supplemental.
 - 5.2.4.2 If total available Contingency Reserves (CRR plus Extra Contingency Reserve-Supplemental) drops below the MISO-MBHydro CRSG's most severe single contingency, ARS will alarm the Parties to voluntarily offer Extra Contingency Reserve-Supplemental to cover the MISO-MBHydro CRSG's most severe single contingency.

5.2.5 Valid Reasons for Contingency Reserve Activations

A party may request Contingency Reserve Activation upon the occurrence of a Contingency or Disturbance, subject to the limitations provided in this Section 5.2.5 and Section 5.2.6.

5.2.5.1 Loss of Generation

For the loss of generation, a Party may request Contingency Reserve Activation. The sum of Contingency Reserve Activation requests for loss of a generating unit modeled in the ARS System shall not exceed the capability of that generating unit.

5.2.5.2 Loss of Schedule on Firm Transmission

For the loss of interchange schedules due to the curtailment of firm transmission service, if a Party loses firm scheduled interchange, a Party may request a Contingency Reserve Activation up to the amount of the interchange schedules curtailed on firm transmission service. The Group Administrator shall handle the request in the same manner as the loss of a Contingency Resource. A Party may request a Contingency Reserve Activation for loss of scheduled interchange due to curtailment of non-firm transmission service if applicable under Section 5.2.5.3.

5.2.5.3 Other Extreme Conditions

A Party may request Contingency Reserve Activation when such activation is needed by a Party to prevent the curtailment of firm load, or as needed for a Balancing Authority to restore its ACE within acceptable limits as required to maintain compliance with applicable NERC or Regional Entity standards.

5.2.6 The Contingent System shall not make subsequent requests for Contingency Reserve Activation for any single event that will cause Contingency Reserve deployment beyond the Contingency Reserve Restoration Period, unless the following conditions are met:

5.2.6.1 The Contingent System, or its Balancing Authority if applicable, has taken action as required under NERC Reliability Standard EOP-002-2 and has requested its Reliability Coordinator to call a NERC Energy Emergency Alert on its behalf.

5.2.6.2 The Contingent System, or its Balancing Authority if applicable, has curtailed, or is in the process of curtailing, all non-firm exports as required under NERC Reliability Standard EOP-002-2.

5.2.6.3 The Contingent System has deployed its own Contingency Resources and reduced its available Contingency Reserve in the ARS system to zero.

5.2.6.4 The Contingent System has contacted, or is in the process of contacting, the Contingent System's Reliability Coordinator and

Transmission Service Provider to request elevating the transmission service priority of existing and new purchase schedules from Priority 6 (Network Integration Transmission Service from Non-designated Resources) to Priority 7 (Network Integration Transmission Service from designated Network Resources), and is taking action to procure additional resources using the elevated transmission service to meet its energy requirements.

- 5.2.6.5 Notwithstanding these provisions, in the event the MISO-MBHydro CRSG is deemed non-compliant to NERC standard(s) due partially or fully to the Party utilizing the MISO-MBHydro CRSG's Contingency Reserves for subsequent requests, the Party making the subsequent requests shall bear any penalties or sanctions attributable to the non-replenishment of the MISO-MBHydro CRSG's Contingency Reserves, as determined by CRSGC.
- 5.2.7 The Contingent System shall utilize the assistance available from the MISO-MBHydro CRSG only for the period necessary to prevent the curtailment of firm load while implementing the steps in Section 5.2.6 and other actions as required under NERC Reliability Standard EOP-002-2.
- 5.2.8 For JOUs that are dynamically scheduled, the host Balancing Authority shall be measured against the Reserve Group Reportable Disturbance level based on the total unit output. If any dynamic schedules are with Balancing Authorities external to the MISO-MBHydro CRSG, such Balancing Authorities may also have to report compliance to DCS if applicable under NERC Reliability Standard BAL-002.
- 5.2.9 For the loss of a JOU that has pseudo-tied shares within the MISO-MBHydro CRSG that total greater than or equal to the Reserve Group Reportable Disturbance:
 - 5.2.9.1 If all of the Balancing Authorities with a pseudo-tied JOU call for Contingency Reserve Activation, then the MISO-MBHydro CRSG shall be responsible for compliance with the NERC DCS.
 - 5.2.9.2 If at least one, but not all of the Balancing Authorities with a pseudo-tied JOU call for Contingency Reserve Activation, then the MISO-MBHydro CRSG shall report compliance to the NERC DCS, however the Balancing Authority(ies) that did not call for Contingency Reserve Activation shall include the loss of their respective share(s) in their ACE calculation(s), and thus be responsible for the recovery of such shares.
 - 5.2.9.3 If none of the Balancing Authorities with a pseudo-tied JOU call for Contingency Reserve Activation, then those Balancing Authorities

are responsible for reporting compliance with the NERC DCS, either collectively or individually.

5.3 Contingency Reserve Allocation

5.3.1 Each Party's Contingency Reserve Requirement is subject to adjustment as a result of changes in the most severe single contingency in operation at the time. Any such changes shall be agreed to between the Parties, and shall require a 205 Filing to be in effect.

5.3.2 The Balancing Authority Adjustment field in the ARS System allows Parties to adjust their amount of available Contingency Reserve. Acceptable uses of this field include:

5.3.2.1 A Party may adjust the make-up of its Contingency Reserve being carried to satisfy its Contingency Reserve Requirement. Contingency Reserve-Spinning for the Party must be at least 40% of the total Contingency Reserve Requirement, but can be increased through the Spinning adjustment field as long as the total Contingency Reserve reflected as Contingency Reserve-Spinning does not exceed 100%.

5.3.2.2 A Party may offer Contingency Reserve above the amount required. This added Contingency Reserve shall be considered an adjustment to the Contingency Reserve-Supplemental and shall be considered part of that Party's CRR and shall be similarly available to both Parties. This adjustment shall be allowed only under the following conditions:

5.3.2.2.1 Transfer of Contingency Reserve responsibility between two Balancing Authorities as allowed under Section 11 of these Operating Protocols and documented with the Balancing Authorities and Group Administrator.

5.3.2.2.2 To the extent that a Balancing Authority is required under a NERC or Regional Entity Reliability Standard to carry Contingency Reserve greater than its Contingency Reserve Requirement under the Agreement, it may enter the Contingency Reserve required into the ARS System in the field for Contingency Reserve-Supplemental.

5.3.2.2.3 The additional Contingency Reserve shall be deployed and subject to the terms and conditions of the Agreement and these Operating Protocols.

5.3.2.3 A Party may reduce its Contingency Reserves in the ARS System for a declaration of a NERC EEA2 for that same Party. If the Party anticipates it will be unable to replenish reserves within 90 minutes, the Party shall notify the Group Administrator, per Attachment 3. Notwithstanding these provisions, in the event the MISO-MBHydro

CRSG is deemed non-compliant to NERC Reliability Standard(s) due in part or full to the Party not replenishing its Contingency Reserve, that Party shall bear any penalties or sanctions attributable to the non-replenishment of that Party's Contingency Reserve, as determined by CRSGC.

- 5.3.3 The Balancing Authorities may offer Extra Contingency Reserve-Supplemental into the ARS System to allow the MISO-MBHydro CRSG to cover the next most severe single contingency after Contingency Reserves have been deployed for an event.
- 5.3.4 The Extra Contingency Reserve-Supplemental may be used first to meet the internal loss of a Party.
- 5.3.4.1 These reserves shall be available for the other Party to activate when both Parties' CRRs are already fully deployed.
- 5.3.4.1 Extra Contingency Reserve-Supplemental offered shall be offered on the same terms and conditions as other Contingency Reserves, including the calculation of any penalties arising under the Agreement or these Operating Protocols for the particular Contingency Reserve Activation.
- 5.3.5 The ARS System shall allocate the Contingency Reserve Activation as follows:
- 5.3.5.1. Contingency Reserves are utilized in the following order
- 5.3.5.1.1 DCS Reportable Disturbance
- Use Contingency Reserve-Spinning of Contingent System
 - Use Contingency Reserve-Supplemental of Contingent System- if selected by the Contingent System
 - Use Extra Contingency Reserve-Supplemental of Contingent System, if selected by Contingent System
 - Use Contingency Reserve-Spinning of Delivery System
 - Use Contingency Reserve-Supplemental of Contingent System and Delivery System, apportioned pro-rata to each System
 - Use Extra Contingency Reserve-Supplemental of Contingent System
 - Use Extra Contingency Reserve-Supplemental of Delivery System
- 5.3.5.1.2 Non-DCS Reportable Disturbance

- Use Contingency Reserve -Spinning of Contingent System
- Use Contingency Reserve-Supplemental of Contingent System- regardless whether it is selected by the Contingent System
- Use Extra Contingency Reserve-Supplemental of Contingent System, if selected by Contingent System
- Use Contingency Reserve-Spinning of Delivery System
- Use Contingency Reserve-Supplemental of Delivery System
- Use Extra Contingency Reserve-Supplemental of Contingent System
- Use Extra Contingency Reserve-Supplemental of Delivery System

5.3.5.2 Each Party shall acknowledge a Contingency Reserve Activation on the ARS System and respond with its share of Emergency Energy.

5.4 Contingency Reserve Activation

- 5.4.1 A Contingent System shall make a Contingency Reserve Activation by identifying the Contingency type (lost resource, other extreme conditions or loss of schedule) and the MW amount of the reserve request. This information shall be entered in the ARS System. The ARS System will calculate the share of the total megawatts of Contingency Reserves to be provided by each Party and will notify the Contingent System and each Delivery System of their respective requirements.
- 5.4.2 The Parties may request assistance from the MISO-MBHydro CRSG for events less than the Reserve Sharing Group Reportable Disturbance.
- 5.4.3 To the extent that a Party has an event less than a DCS Reportable Disturbance requiring utilization of some or all of its Contingency Reserve, and assistance from other Parties is not needed, the Party shall enter the event in the ARS System, such that Contingency Reserve availability is appropriately accounted for.
- 5.4.4 Emergency Energy Schedules
- 5.4.4.1 Upon receipt of a Contingency Reserve Activation, schedules for Emergency Energy shall immediately be implemented utilizing an instantaneous or zero (0) Ramp. The minimum schedule will be 30 minutes and the schedule shall end on the nearest half or top of the

hour after the 30 minute minimum requirement unless the event is canceled according to provisions in Section 5.6.

- 5.4.4.2 Emergency Energy shall be supplied to any Party making a Contingency Reserve Activation using the ARS System.
- 5.4.4.3 Parties shall be responsible for providing Emergency Energy under these Operating Protocols up to the maximum specified herein.
- 5.4.5 When Contingency Reserve Activations reduce the available Contingency Reserves to less than the MISO-MBHydro CRSG's most severe single contingency, the ARS software will notify the MISO-MBHydro CRSG of the available Contingency Reserves and request that Extra Contingency Reserve-Supplemental be offered on a voluntary basis. Contingency Reserve Activation shall be limited to the amount of available Contingency Reserves. These Extra Contingency Reserve-Supplemental are deployed after the available CRR of the MISO-MBHydro CRSG are fully deployed.
- 5.4.6 If a Contingency Reserve Activation is made at a time when a prior Contingency Reserve Activation is still in effect, the ARS System will create additional schedules to attempt to accommodate such later Contingency Reserve Activations without modifying any previously determined schedules for prior Contingency Reserve Activations.
 - 5.4.6.1 These additional schedules shall include the amount of remaining Contingency Reserve, including Extra Contingency Reserve-Supplemental, if required, that was not being supplied with the previous Contingency Reserve Activation.
 - 5.4.6.2 The ARS System will then compare the total Contingency Reserve Activations in effect to the total Contingency Reserve Obligation to ensure that the total requests for Emergency Energy do not exceed the Contingency Reserve Obligation plus offered Extra Contingency Reserve-Supplemental.
 - 5.4.6.3 If a Delivery System experiences a sudden unscheduled loss of a Contingency Resource while it is providing Emergency Energy to a Contingent System, it shall continue to provide that Emergency Energy.
- 5.4.7 After reserve assistance has been activated through the ARS software, the Contingent System may verbally request the Delivery System to deliver additional Emergency Energy. On a voluntary basis, if the Delivery System has reserves available, above that which is committed to the MISO-MBHydro CRSG, it can choose to deliver additional Emergency Energy for the Contingency. This additional Emergency Energy:
 - 5.4.7.1 Shall be requested only for an event believed to be DCS level.
 - 5.4.7.2 Shall be requested within the first 5 minutes after the loss of the resource, if possible.

- 5.4.7.3 Shall continue to be delivered until the stop time of the event.
- 5.4.7.4 The additional verbal MWs will be reflected as starting at the start time of the event for integration purposes within the ARS reports and invoicing.
- 5.4.7.5 Shall not impact the reserves available to the MISO-MBHydro CRSG.
- 5.4.7.6 Shall be reflected manually in each Party's Net Scheduled Interchange (NSI), above the amount allocated by the ARS software for the event.
- 5.4.7.7 Shall be updated in the ARS software after the event is over, by either the Contingent System, or the Group Administrator. The amount of additional Emergency Energy provided is entered into the ARS software after the fact, so it can be included in the ARS reports to be included in the TSR and Interchange Schedule amounts, and in the ARS invoicing.

5.5 Contingency Reserve Extensions

- 5.5.1 The Contingent System may request an extension at least 20 minutes prior to the termination of the original Contingency Reserve Activation.
 - 5.5.1.1 This extension shall end on a quarter hour and shall not extend the total Contingency Reserve Activation to greater than 105 minutes in order to ensure that reserves are replenished within the 90 minute Contingency Reserve Restoration Period after the 15 minute Disturbance Recovery Period.
 - 5.5.1.2 During this extension the Contingency Reserve Activation shall not be increased but may be reduced. If Contingency System needs additional assistance during the extension, that system may do so by making a second new Contingency Reserve Activation under Other Extreme Conditions criteria.

5.6 Contingency Reserve Cancellations

- 5.6.1 The Parties may cancel, via a verbal request to the CRSG Administrator, any Contingency Reserve Activation after the initial 15 minute Disturbance Recovery Period, provided the Contingency Reserve has been restored and:
 - 5.6.1.1 the event is solely within the Contingent System's BA Area; or
 - 5.6.1.2 upon verbal approval of the Delivery System for any event involving multiple BAs.
- 5.6.2 The Group Administrator may cancel a Contingency Reserve Activation for software problems or at the direction of the MISO Reliability Coordinator.
- 5.6.3 Any DCS non-compliance associated with cancellation of a Contingency Reserve Activation at the direction of the MISO Reliability Coordinator shall

be reviewed and considered for submittal to NERC for exclusion in the calculation of DCS compliance.

5.7 Contingency Reserve Termination

- 5.7.1 The Contingency Reserve Ramp Rate for terminating a Contingency Reserve Activation shall be 10 minutes Ramp out.

5.8 Invoicing and Billing

- 5.8.1 All accounting for Emergency Energy shall be in whole megawatt-hours. The minimum amount of Emergency Energy billable shall be one megawatt-hour in accordance with applicable agreements and tariffs.

- 5.8.2 One invoice shall be generated per month.

- 5.8.3 24 hours after the Contingency Reserve event termination, the display for entering billing determinants by the Delivery System shall be available and open for viewing by Contingent System.

- 5.8.4 On a monthly periodicity, the following invoicing and billing process shall be followed to meet the terms and conditions of the Agreement.

- 5.8.4.1 Until the invoicing process has started (end of the month plus 14 days), billing determinants can be entered and changed. Once the invoicing process has started, all entered billing determinants can only be changed through a dispute resolution process, as described in Article XV of the Agreement.

- 5.8.4.2 If the Party does not enter the billing determinants within the first month, the Party shall be allowed one additional month to enter billing determinants for the present month's billing. If determinants are not entered after the second month, then the Delivery System forfeits the right to enter billing determinants, and it shall be assumed that the Delivery System does not require compensation.

- 5.8.5 The Group Administrator is authorized to modify the cost entry of the invoice display under the following circumstances:

- 5.8.5.1 The entry exceeds an equivalent cost of \$1000.00 per megawatt hour for the assistance supplied, and

- 5.8.5.2 The Contingent System or the Delivery System requests, via e-mail and direct verbal communication with the Group Administrator prior to close of business on the last business day of the applicable entry, that the Group Administrator intervene in the invoiced charge and reduce the entry equal to the cap of \$1000.00 per megawatt hour, and

- 5.8.5.3 The Contingent System is not able to contact the Delivery System, or the Delivery System is unable to change the entry. The Group

Administrator shall notify the Delivery System of the modification to the cost entered via e-mail.

5.8.6 Disputes may be entered up to 45 days after the billing month.

5.8.7 The following template shall be used for entering billing determinants in the Comments section of the “open invoice detail” screen of the ARS System. Billing determinants are to be in accordance with Schedule CR-1 of the Agreement. When entering the information in the “comments” section, it is necessary for Parties to use the same format for entry so there will be no confusion on what the comment states.

Last Day for entry	Data to be entered
End of Month + 10 days	Billing Determinants entered by Delivery Systems per Section 4 of the Operating Protocols
End of Month + 14 days	Contingent System reviews Billing Determinants entered by Delivery Systems for errors in entry.
End of Month + 15 days	Group Administrator submits an invoice to Contingent System
End of Month + 22 days	Contingency System payment is due
End of Month + 25 days	Group Administrator disperses payment to the Delivery Systems
End of Month + 45 days	Last available date for Contingent System to dispute
Monthly period	Group Administrator shall pick up and invoice missing billing determinants from previous events
	Billing Determinants after invoicing has been initiated must use the Dispute Resolution process.

5.8.7.1 Letter coding in front of the entry shall be as follows:

HE (Hour Ending in EST)

MWh (Megawatt-hour)

L (LMP price)

T (Total Transmission Costs for the hour) which shall be zero between MISO and MHEB

Example between MISO and MHEB

HEXX MWhXX * \$50.00 + T\$0

5.8.7.2 Each hour of the reserving sharing event shall be entered in the comment field in the manner described in 2.8.7.1.

6. REQUIRED DATA

To perform the studies required to review the Contingency Reserve Obligation, its allocation to the Parties under the Agreement, and compliance with the obligations imposed by the Agreement, each Party shall submit data to the Group Administrator in conformance with the following minimum requirements:

- 6.1 All data submitted shall satisfy the requirements, as they may change from time to time, of any procedures adopted by the CRSGC.
- 6.2 Data shall be submitted in an electronic format, or as otherwise specified by the CRSGC and/or Group Administrator.
- 6.3 On or before December 31 of each calendar year, the Balancing Authorities' most severe single contingency for that calendar year shall be submitted to the Group Administrator. Such data shall be updated at any time for any known material changes. Based on each Balancing Authority's most severe single contingency, the MISO-MBHydro CRSG's most severe single contingency shall be reviewed and updated as necessary, but no less frequently than annually.
- 6.4 The Parties acknowledge that additional information necessary to review the Contingency Reserve Obligation is to be obtained by the Group Administrator from the Parties in accordance with the provisions of the Agreement.

7. PROCESS FOR DETERMINING BILLING DETERMINANTS

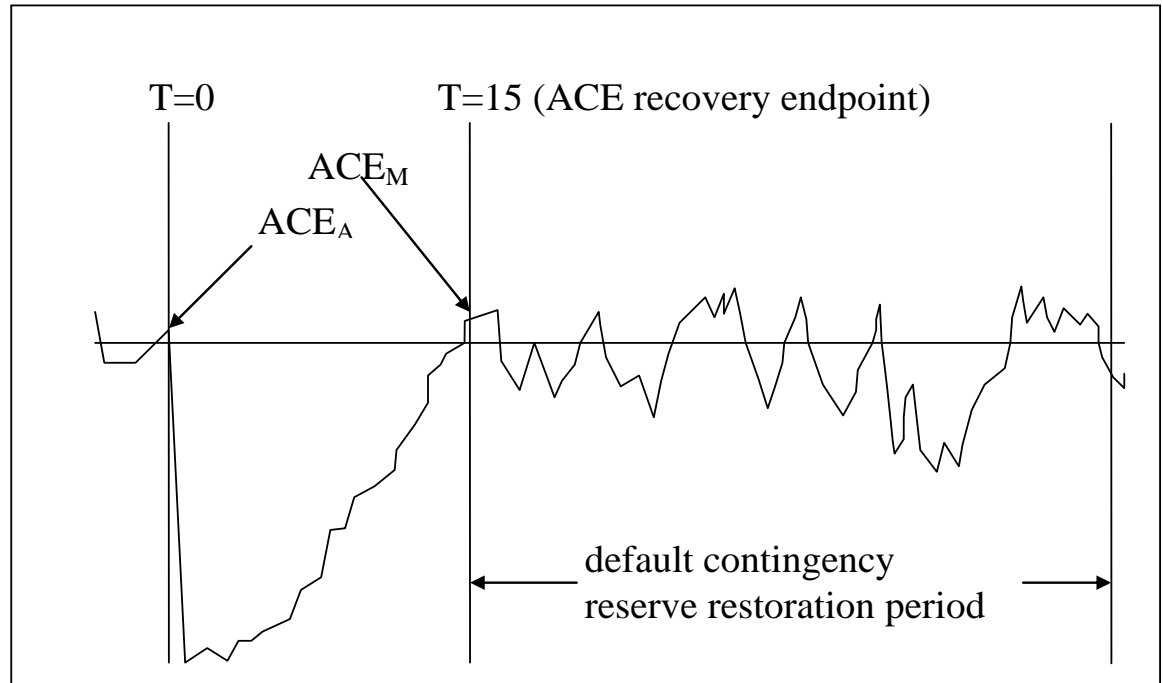
Pursuant to the Agreement, the Group Administrator shall request the billing determinants from the Delivery System(s) for each Contingency Reserve Activation. The Delivery System(s) shall provide the billing determinants for each Contingency Reserve Activation using Attachment 1 as a reference. The billing determinants shall be netted with compensation received for operation within the MISO Energy and Operating Reserve Markets.

8. COMPLIANCE DATA SUBMITTAL

The group participants shall collect the data and perform the calculations necessary for each DCS Reportable Disturbance to determine MISO-MBHydro CRSG compliance and individual participant performance according to these Operating Protocols.

- 8.1 Balancing Authority shall be a Reporting Party for the purpose of compliance data submittal.
- 8.2 No later than 3 business days after each Contingency Reserve Activation for a DCS Reportable Disturbance, the Contingent System shall provide the Group Administrator with the actual time of the disturbance ("T₀") in hour, minute, and second detail in Eastern Standard Time ("EST"), indication of whether or not the loss is a Reportable Disturbance, and the MW amount of the disturbance. The Contingent System shall also provide the Group Administrator one hour of frequency data surrounding the event. The Group Administrator shall use this data to line up frequency data to the Contingent System actual loss time.
 - 8.2.1 The Contingent System is responsible for the accurate determination of T₀ in accordance with NERC Reliability Standard BAL-002 and bears all

responsibility for any associated non-compliance of the MISO-MBHydro CRSG for incorrectly determining the actual loss time, T_0 .



- 8.3 If the Contingent System requests a Contingency Reserve Activation within three minutes of T_0 , the following shall apply:
- 8.3.1 Based upon the actual time of the disturbance, T_0 , each Reporting Party shall determine the following for each DCS Reportable Disturbance:
- 8.3.1.1 ACE_A , the pre-disturbance ACE
- 8.3.1.2 ACE_M , the maximum ACE of a) the Contingent System over the 15-minute Disturbance Recovery Period, or b) the Delivery System between the time its ARS schedule is reflected in the calculation of ACE, and the end of the DCS Recovery Period.
- 8.3.1.3 The Recovery Deficiency for reserve event i (“ RD_i ”), calculated as follows:
- If $ACE_A < 0$ then $RD_i = \max(0, ACE_A - ACE_M)$
- If $ACE_A \geq 0$ then $RD_i = \max(0, -ACE_M)$
- 8.4 If the Contingent System(s) fails to request assistance within 3 minutes of T_0 , the following shall apply for the DCS Reportable Event:

If the Recovery Deficiency for the Contingent System as calculated in Section 8.3.1.3 is less than the deficiency calculated for the MISO-MBHydro CRSG

Recovery Deficiency under section 9.1.4, then the Group Administrator shall adjust the RD_i reported by the Contingent System to the value calculated under section 9.1.4 for reserve event i .

- 8.5 In a format agreed to by the CRSGC, each Reporting Party shall provide its ACE, frequency error, and other four-second data for the period starting 15 minutes prior to the ARS request time, and ending 45 minutes after the ARS request time. The data provided shall be from the same source data as used by the Reporting Party for determining compliance to the NERC CPS1 and CPS2 under NERC Reliability Standard BAL-001.
- 8.6 Additional Contingencies that occur after one minute of the start of a Reportable Disturbance but before the end of the Disturbance Recovery Period can be excluded from evaluation upon the approval of the CRSGC. The Reporting Party or Parties, subject to the CRSGC approval, shall:
 - 8.6.1 Provide its data as required in Section 8.5.
 - 8.6.2 Determine the DCS compliance of the initial Reportable Disturbance by performing a reasonable estimation of the response that would have occurred had the second and subsequent Contingencies not occurred and provide a second data file reflecting its reasonable estimation as an ACE adjustment to the four-second data provided under Section 8.5.
 - 8.6.3 Use the adjusted ACE provided under Section 8.6.2 in determining its ACE_A and ACE_M as required in Section 8.3.
- 8.7 The Reporting Party shall provide the Group Administrator with the information required in Section 8.5 and Section 8.6 no later than 7 calendar days after the request for data from the Group Administrator for each DCS Reportable Event.
 - 8.7.1 All data provided to the Group Administrator may be subject to review under a NERC compliance audit.
 - 8.7.2 The Reporting Party shall be responsible for the accuracy of all data provided to the Group Administrator and bears all responsibility for any associated non-compliance of the MISO-MBHydro CRSG directly attributed to the quality or accuracy of the data provided.

9. CALCULATION OF MISO-MBHydro CRSG COMPLIANCE TO THE DCS

The Group Administrator shall collect the data and perform the calculations necessary to determine the MISO-MBHydro CRSG compliance to the NERC Disturbance Control Standard.

- 9.1 To determine compliance for a DCS Reportable Event, a MISO-MBHydro CRSG ACE is calculated from the algebraic summation of the ACE values of all Reporting Parties participating in the Contingency Reserve Activation. The Reporting Parties

are the Contingent System, and all Delivery Systems for that event. For compliance, the MISO-MBHydro CRSG ACE must cross zero (or return to the pre-contingency MISO-MBHydro CRSG ACE value if the initial MISO-MBHydro CRSG ACE value was negative just prior to the contingency) within the 15 minutes from the start of the contingency. If necessary, the Group Administrator shall adjust Reporting Parties' ACE data to reflect the ARS Schedule at the ARS event start time. The values to be calculated for the MISO-MBHydro CRSG compliance are:

- 9.1.1 ACE_A , the pre-Disturbance ACE,
- 9.1.2 ACE_M , the maximum ACE recovery over the 15-minute Disturbance Recovery Period.
- 9.1.3 Percentage Recovery for reserve event i (" R_i "), calculated as follows:

If $ACE_A < 0$ then $R_i = 100\% \times (MW_{Loss} - \max(0, ACE_A - ACE_M)) / MW_{Loss}$

If $ACE_A \geq 0$ then $R_i = 100\% \times (MW_{Loss} - \max(0, -ACE_M)) / MW_{Loss}$

Where MW_{Loss} is the MW amount of the loss on the Contingent System.

- 9.1.4 MISO-MBHydro CRSG Compliance Deficiency for reserve event calculated as follows:

If $ACE_A < 0$ then MISO-MBHydro CRSG $RD_i = \max(0, ACE_A - ACE_M)$

If $ACE_A \geq 0$ then MISO-MBHydro CRSG $RD_i = \max(0, -ACE_M)$

- 9.2 The Group Administrator shall utilize the information provided by the Reporting Parties to determine:

- 9.2.1 The number of DCS Reportable Events (shown as column A in Attachment 2, Table 2)
- 9.2.2 The average percentage recovery of the MISO-MBHydro CRSG (shown as column B in Attachment 2, Table 2)
- 9.2.3 The percentage multiplier to the Contingency Reserves equal to 200% minus the average percentage recovery determined in Section 9.2.2 (shown as column C in Attachment 2, Table 2)
- 9.2.4 The CRSG adjusted minimum Contingency Reserve requirement calculated as the most severe single contingency for the calendar quarter times the percentage multiplier determined in Section 9.2.3 (shown as column E in Attachment 2, Table 2).
- 9.2.5 The MW increase in RSG Contingency Reserve Obligation, which is the difference between the CRSG adjusted minimum Contingency Reserve requirement determined in Section 9.2.4 and the prior quarter's RSG minimum Contingency Reserve requirement (shown as column F in Attachment 2, Table 2)

10. DISTURBANCE CONTROL STANDARD (DCS) PENALTY ALLOCATION

The purpose of this section is to outline the process for allocating the NERC and Regional Entity compliance penalties in the event DCS has not been met for the calendar quarter.

- 10.1 According to NERC Reliability Standards, if the MISO-MBHydro CRSG does not meet the NERC DCS requirements for a calendar quarter, then the Contingency Reserve Obligation for MISO-MBHydro CRSG shall be increased. Any such Contingency Reserve Obligation increase shall be allocated to both Parties to the Agreement that did not meet the performance requirements specified herein during that quarter. The allocation shall be calculated as indicated in Attachment 2 as follows:
 - 10.1.1 The average Recovery Deficiency for a Reporting Party over a calendar quarter (shown in column I of Attachment 2, Table 2) which is the sum of RD_i over the calendar quarter for the Reporting Party divided by the number of reportable DCS events i for which the Reporting Party responded over the calendar quarter (shown in column H in Attachment 2 Table 2).
 - 10.1.2 The adjusted average Recovery Deficiency for each Reporting Party (shown in column J in Attachment 2 Table 2) shall equal the Reporting Party's average Recovery Deficiency determined under Section 10.1.1, times the ratio of the Contingency Reserve adjustment to the sum of the Reporting Parties average Recovery Deficiency. This adjustment is performed to have the sum of the adjusted Average Recovery Deficiencies of the Reporting Parties add up to the Contingency Reserve Adjustment for the MISO-MBHydro CRSG.
 - 10.1.3 Next quarter's Contingency Reserve Requirement = Contingency Reserve Requirement plus the adjusted average Recovery Deficiency (J) plus an adjustment if necessary to address rounding.
- 10.2 A report similar to that provided in Attachment 2, Table 2, shall be made and sent as a report to each Party no later than the 10th calendar day following the end of the calendar quarter (i.e. April 10th, July 10th, October 10th, January 10th).
- 10.3 Any change in the Contingency Reserve Obligation shall be implemented the first day of calendar month following the report month (i.e. May 1st, August 1st, November 1st, February 1st) following the review of the CRSGC.
- 10.4 In the event that the MISO-MBHydro CRSG receives a financial penalty associated with non-compliance to the NERC DCS performance, the Group Administrator shall be responsible for the allocation of the financial penalty to each Party by the ratio of each Party's average Recovery Deficiency determined in Section 10.1.2 to the MW increase in Contingency Reserve Obligation determined in Section 9.2.5.
- 10.5 In the event that the MISO-MBHydro CRSG is non-compliant to NERC DCS, the affected Party (or Parties) that is expected to be assessed a Contingency Reserve increase and/or financial penalty associated with the non-compliance shall be copied on communications to the Regional Entities and shall be advised of related

communications from the Regional Entities to the MISO-MBHydro CRSG. The affected Party is entitled to participate in drafting a MISO-MBHydro CRSG mitigation plan, should a plan be requested by one or more of the applicable Regional Entities.

11. CONTINGENCY RESERVE DELIVERABILITY REQUIREMENTS

11.1 RESERVE ZONES

- 11.1 Parties external to the MISO Balancing Authority that have resources Pseudo-tied into the ASM, shall have those resources included in the ASM reserve zone calculation, both in establishing the reserve zone boundary and the reserve zone minimum levels.

11.2 TRANSMISSION RELIABILITY MARGIN (“TRM”) DETERMINATION

- 11.2.1 TRM is the responsibility of the applicable Transmission Service Provider within and connected to the MISO-MBHydro CRSG region. The CRSGC and Group Administrator shall work with the applicable Transmission Service Providers through Seams Agreements on proper determination of the TRM for Contingency Reserves Activations.
- 11.2.2 Per Seams Agreement, TRM determination for the Combined Systems will consider generating contingencies in the region of the Seams Agreement’s counterparties.
- 11.2.3 Per Seams Agreement, TRM determination for the Seams Agreements counter parties region will consider generating contingencies within the Combined Systems.
- 11.2.4 Per Seams Agreement, it is the responsibility of each Seams Agreement Party to maintain the appropriate level of TRM on their system for reserve sharing.
- 11.2.5 Contingency Resources must be deliverable. Deliverability shall be demonstrated by either obtaining or providing for Network Transmission Service or Firm Point-To-Point Transmission Service from the applicable Transmission Service Provider within the Combined Systems. In addition, for Contingency Resources located outside the metered boundaries of the Combined Systems that are used to meet the Contingency Reserve Obligation, the capacity and energy of such Contingency Resources must be delivered to the metered boundaries of the Combined Systems through Firm Transmission Service.
- 11.2.6 Certification of deliverability means that the physical capability of the Transmission System has been studied by the applicable Transmission Service Provider(s) and found to be capable of providing that service, consistent with the assessment of available transfer capability as set forth in the applicable tariffs.
- 11.2.7 Maintaining Contingency Reserve Deliverability
 - 11.2.7.1 In the Planning Horizon, deliverability of Contingency Reserve is maintained through withholding TRM from Firm Transmission Service usage.

11.2.7.2 In the real-time operations, deliverability of Contingency Reserve is maintained through initiating redispatch and/or TLR from analytical tool result, including, but not limited to Real-time Contingency Analysis (RTCA), Operating guides, etc.

11.3 RELOCATION OF CONTINGENCY RESERVES TO ANOTHER PARTY

- 11.3.1 From time to time, Parties may acquire Contingency Resources from the other Party, or a third party.
- 11.3.2 Upon a request to adjust the modeled location of a Party's Contingency Reserve, the Group Administrator shall request the applicable Transmission Service Provider(s) to review the impact on TRM.
- 11.3.3 If the required TRM does not increase, the request shall be granted.
- 11.3.4 If the required TRM increases, the Party submitting the request to relocate its Contingency Reserves must agree to accept any additional congestion and loss charges that result from the implementation of the requested relocation of the Contingency Reserves.
- 11.3.5 Upon acceptance by the Party of the obligation to pay additional congestion and loss charges that may result, the increased TRM shall be reflected in the AFC calculations.
- 11.3.6 The requesting Party is solely responsible for making Firm Transmission Service arrangements and for complying with all other obligations under the Agreement to meet the deliverability requirements for the newly designated Contingency Reserves.
- 11.3.7 The Group Administrator shall adjust the ARS System deployment to reflect the changed Contingency Reserves location.
- 11.3.8 If a Balancing Authority transfers its entire Contingency Reserve Requirement to another Balancing Authority, then the Balancing Authority taking on the obligation shall be the Reporting Party, per Section 8, whenever either Balancing Authority is a Contingent System or Delivery System.
 - 11.3.8.1 In the event that the Balancing Authority that transferred its reserve responsibility is the Contingent System, the Balancing Authority that has taken on the Contingency Reserve Requirement shall report an ACE that is the aggregate of its own ACE, and the Balancing Authority whose obligation they have taken on.
- 11.3.9 If a Balancing Authority transfers its entire Contingency Reserve Requirement to another Balancing Authority, then the Balancing Authority taking on the obligation shall be fully responsible for any non-compliance penalties assessed per section 10.1. The penalties will be assessed based upon the combined Contingency Reserve requirements of the two Balancing Authorities.
- 11.3.10 If a Balancing Authority transfers a portion, but not all, of its Contingency Reserve Requirement to another Balancing Authority, then the change in the Contingency Reserve Requirement for each Balancing Authority shall be modeled in the ARS System and each Balancing Authority shall be fully

responsible for any non-compliance penalties assessed per Section 10.1 for the adjusted Contingency Reserve Requirement.

- 11.3.11 Any changes to the Contingency Reserve modeled in the ARS System shall be for the purposes of Reserve allocation and Contingency Resource deployment, and assessment of any non-compliance penalties per Section 10.1.

Attachment 1

Billing Process and Examples for MISO-MBHydro CRSG Activations

Final Bill Determination and LMP Process

The settlement for Emergency Energy in and out of the MISO BA shall be based on MISO's real-time market prices and that settlement data will be available from MISO approximately seven days after the operating day.

Manitoba Hydro will have an external interface commercial node, where MISO will post the real-time hourly integrated locational marginal price (LMP), the marginal loss component (MLC), and the marginal congestion component (MCC).

For Emergency Energy deliveries from MISO to Manitoba Hydro, Manitoba Hydro will be the market participant for the service leaving the MISO footprint. MISO will charge Manitoba Hydro for schedules 17 and 24 under the ISO Tariff for all service out of the MISO footprint. Also, pricing of Emergency Energy delivered from the MISO members to Manitoba Hydro will be based on the external interface commercial node real-time LMP prices.

For deliveries to Manitoba Hydro from the MISO BA, MISO BA will receive LMP revenue through market settlement for ARS energy based on the MHEB interface real-time LMP price. In addition MISO BA will invoice a \$50 per MWH adder to the price through the ARS invoicing process.

For deliveries to the MISO BA from Manitoba Hydro, Manitoba Hydro will receive LMP revenue through market settlement for ARS energy based on the Manitoba Hydro interface real-time LMP price. In addition MHEB will invoice a \$50 per MWH adder to the price through the ARS invoicing process.

The cost (if any) of Transmission Service to deliver Emergency Energy from Manitoba Hydro to the MISO BA, or vice versa, can be added to the final bill.

MISO to MHEB Example

MISO BA to MHEB of 150 MW

- MHEB calls for an activation of ARS due to loss of a unit at 1330 EST.
- MISO will enter a MISO tag-like schedule.
- MHEB will be the recipient of emergency energy and will be the market participant on the MISO tag-like schedule. MISO will bill MHEB for MISO Schedules 17 and 24 and LMP energy through the MISO market settlement process.
- ARS lasts until 1400 EST.
- LMP at the MHEB CPN for HE 1400 EST is 74 \$/MWh.

Energy bill from MISO to MHEB for tagged export will be based on $MWh \times LMP_{MHEB}$
For energy from 1330 to 1400 = $150 \text{ MW} \times 0.5 \text{ hr} \times 74 \text{ $/MWh} = \$5,550.00$ through market settlement MISO will also invoice the \$50 adder, $150 \text{ MW} \times 0.5 \text{ hr} \times 50 \text{ $/MWh} = \$3,750.00$, through the ARS application.

MHEB to MISO Example

MHEB to MISO BA of 100 MW

- MISO calls for an activation of ARS due to loss of a unit at 1300 EST.
- MISO will enter a MISO tag-like schedule.
- MISO will be the recipient of emergency energy and MHEB will be the market participant on the MISO tag-like schedule. MISO will credit MHEB for LMP energy through the MISO market settlement process.
- ARS lasts until 1400 EST.
- LMP at the MHEB CPN for HE 1400 EST is 90 \$/MWh.

Energy bill from MHEB to MISO for tagged import will be based on $MWh \times LMP_{MHEB}$
For energy from 1300 to 1400 = $100 \text{ MW} \times 1.0 \text{ hr} \times 90 \text{ $/MWh} = \$9,000.00$ through market settlement.

MHEB will also invoice the \$50 adder, $100 \text{ MW} \times 1.0 \text{ hr} \times 50 \text{ $/MWh} = \$5,000$, through the ARS application.

Attachment 2

Data Submittal and DCS Performance Calculation

Data Submittal

The Parties and Group Administrator shall collect the data and perform the calculations necessary to determine MISO-MBHydro CRSG and individual Party compliance under this Agreement. Data shall be submitted by each Party no later than 7 calendar days after the request for data from the Group Administrator for each DCS Reportable Disturbance.

For each DCS Reportable Disturbance, the Group Administrator shall provide a spreadsheet to all Reporting Parties for completion. Information from the Contingent System will be provided indicating, among other items, the date and T_0 associated with the disturbance. Based upon the information, the Reporting Party will review its Actual Frequency data to determine if the frequency excursion associated with the loss is reflected in its data at a different scan time than T_0 (adjusted for the time zone) according to its EMS system time. To the extent that a Reporting Party is able to determine a more accurate time of the actual loss according to its frequency data and EMS system time than the value of T_0 provided by the Contingent System, it shall use the more accurate time for determining its pre-disturbance ACE, ACE_A , and maximum ACE recovery, ACE_M .

Table 1 – Sample DCS Survey Submission

Information from the Contingent System:		
Date	1/01/08	Date of the disturbance (Eastern Standard Time)
Event ID	1	
T ₀	16:42:18	Actual time of the disturbance, T ₀ (Eastern Standard Time)
CR Request Time	16:43:15	Time of Request for Reserve Assistance in ARS System
BA Name	BA	Contingent System
LSE Name		Contingent LSE
Unit/Schedule	Unit 1	Name of unit/schedule causing ARS Request from Contingent System
Actual Loss	1000	Actual MW amount lost
ARS Request	1000	Amount of Contingency Reserves requested to be implemented

All Reporting Systems to Complete:		
BA	BA	Reporting BA
CR _{Deployed}	60.0	Amount of Contingency Reserves implemented within reporting area (for the Contingent System this includes any amount of the MWs lost but reserve assistance is not requested though the ARS system)
ACE _A	-20.0	ACE _A , the pre-disturbance ACE, calculated per NERC Standard BAL-002.
ACE _M	-25.0	ACE _M , the maximum ACE of a) the Contingent System over the 15-minute DCS Recovery Period, or b) the Delivery System between the time its ARS schedule is reflected in the calculation of ACE, and the end of the DCS Recovery Period.
T ₀	16:42:18	Time used for T ₀ on Reporting System (Eastern Standard Time)
T _M	16:50:00	Actual time of ACE _M (Eastern Standard Time)
ARS Schedule	16:44:00	Actual time when the ARS Schedule is reflected in the calculation of ACE (Eastern Standard Time)
RD _i	5.00	Recovery Deficiency for reserve event i ("RD _i "), calculated as follows: If ACE _A < 0 then RD _i = max(0, ACE _A - ACE _M) If ACE _A ≥ 0 then RD _i = max(0, -ACE _M)

As indicated in Section 8.5 of the Operating Protocols, each Reporting Party shall provide its ACE, frequency error, and other four-second data for the period starting 15 minutes prior to the ARS request time, and ending 45 minutes after the ARS request time. The data provided shall be from the same source data as used by the Reporting Party for determining compliance to the NERC CPS1 and CPS2 under BAL-001. The data is to be provided in Eastern Standard Time. A sample of the four second data and the format which it is required to be provided is illustrated below:

Data for one hour starting 15 minutes prior to ARS Request Time Insert your scan-rate data (4-second) on this sheet.					
BA	DATE	TIME (EST)	ACE	Freq. Dev.	Sched. Int.
BA	7/30/07	17:45:00	-0.8	0.022	100.00
BA	7/30/07	17:45:04	2.7	0.025	100.00
BA	7/30/07	17:45:08	6.5	0.026	100.00
BA	7/30/07	17:45:12	14	0.027	100.00
BA	7/30/07	17:45:16	14.7	0.030	100.00
BA	7/30/07	17:45:20	18.4	0.030	100.00
BA	7/30/07	17:45:24	24.6	0.032	100.00
BA	7/30/07	17:45:28	29.2	0.034	100.00
BA	7/30/07	17:45:32	46.8	0.034	100.00
BA	7/30/07	17:45:36	47.9	0.036	100.00
BA	7/30/07	17:45:40	35.4	0.038	100.00
BA	7/30/07	17:45:44	21.3	0.040	100.00
BA	7/30/07	17:45:48	28.9	0.040	100.00
BA	7/30/07	17:45:52	31.8	0.037	100.00
BA	7/30/07	17:45:56	18.3	0.035	100.00
BA	7/30/07	17:46:00	15	0.028	100.00
BA	7/30/07	17:46:04	0.5	0.001	100.00
BA	7/30/07	17:46:08	-0.5	-0.005	100.00
BA	7/30/07	17:46:12	21.4	-0.005	100.00
BA	7/30/07	17:46:16	27.1	-0.007	100.00
BA	7/30/07	17:46:20	45.6	-0.007	100.00

FIELD	DETAIL and FORMAT
BA	Reporting Party NERC Acronym
Date	Date format (MM/DD/YYYY)
Time	24-hour time format (hh:mm:ss) in Eastern Standard Time
ACE	Area Control Error (MW) (Minimum of 1 digit to right of decimal point)
Freq. Dev.	Frequency Error (Hz) = Actual Frequency minus Scheduled Frequency, (Minimum of three digits to right of decimal point)
Sched. Int..	Net Scheduled Interchange

Table 2 – Sample Compliance Calculation

MISO-MBHydro CRSG DCS Compliance and Allocation of Non-Compliance Penalties							EXAMPLE DCS Non-Compliance Financial Penalty
Quarter 1 DCS	(A) Number of Reportable Disturbances	(B) CRSG Average % Recovery	(C) DCS- Mandated % Multiplier To Reserves	(D) Minimum NERC CR Requirement (MSSC)	(E) Adjusted Minimum CR Requirement	(F) Contingency Reserve Penalty	
MISO-MBHydro CRSG	3	97.30%	102.70%	1500	1540.54	40.54	\$0.00
Contingency Reserve Penalty Allocation							(M) Pro-Rata Allocation of Financial Penalty based on Average Recovery Deficiency
Participant	(G) Contingency Reserve Requirement	(H) Number of Reserve Responses	(I) Average Recovery Deficiency (MW)	(J) Adjusted Average Recovery Deficiency to Meet CRSG Contingency Reserve Penalty	(K) CRR plus Reserve Adjustment	(L) Reserves Carried for 3- month period starting one month after the end of the reporting quarter (rounded to nearest MW)	
MHEB	150	3	0.00	0.00	150.00	150	\$0.00
MISO	1850	3	2.67	40.54	1890.54	1891	\$0.00
	2000		2.67	40.54	2040.54	2041	\$0.00
rounding adjustment → 0.0000							

Table 3 - Quarterly Average Recovery Deficiency Calculation

		CRSG	100.00%		100.00%		91.89%		3	97.30%
		DCS 20100130		DCS 20100131		DCS 20100228				
		1200	1280	1200	1250	1250	1200			
		CR _{Deployed}	Recovery Deficiency (MW)	CR _{Deployed}	Recovery Deficiency (MW)	CR _{Deployed}	Recovery Deficiency (MW)	Count	Average Recovery Deficiency (MW)	
Manitoba Hydro	150	MHEB	150	0.00	120	0.00	94	0.00	3	0.00
Midwest ISO	1850	MISO	1130	0.00	1130	0.00	1156	8.00	3	2.67
		1280	0.0	1250	0.0	1250	8.0		2.67	

Attachment 3

Energy deficient BA needs to communicate the following items in their phone call to the MISO-MBHydro CRSG Group Administrator:

- 1) Validate that they are in an EEA2
- 2) Validate that they have deployed all of their available Operating Reserve in accordance with EOP-002-2, R6.2.
- 3) Validate that they have made their reserves unavailable to the Reserve Sharing Group through the use of a Contingency Reserve BA Adjustment in the ARS System.
- 4) Confirm the number of MWs of Contingency Reserves that they have made unavailable, as well as the amount that is Contingency Reserve-Spinning vs. Contingency Reserve-Supplemental.
- 5) Nature of the EEA2 and the expected duration of the EEA2.

Additionally, the Energy Deficient BA, upon restoration of their Contingency Reserve should:

- 1) Make their Contingency Reserve available to the MISO-MBHydro CRSG by removing the BA Adjustment.
- 2) Call the Group Administrator, and inform them of the change of EEA status.
- 3) Validate that the Contingency Reserve BA Adjustment has been removed.