

## **302 ALBERTA-SASKATCHEWAN INTERCONNECTION SCHEDULING**

### **1. Purpose**

To define the policies and procedures for the system controller (SC) and the policies for market participants when scheduling interchange transactions on the Alberta-Saskatchewan interconnection.

### **2. Background**

The Alberta and Saskatchewan electric systems are interconnected through a back-to-back direct current (DC) converter station that is owned and operated by ATCO Electric.

The interconnection point is where the 230 kV transmission line 9LS1M crosses the inter-provincial boundary between Saskatchewan and Alberta. Revenue class metering is installed between the McNeill 901T transformer and the McNeill 9LS1M line disconnect (9LS1MD1) and line loss is compensated to the interconnection point.

Interchange scheduling is an important function in facilitating the transfer of energy to meet market supply and demand, while maintaining the operational reliability of the Alberta and Saskatchewan control areas.

The SC must coordinate with the SaskPower system operator and the ATCO Electric transmission operator to schedule energy transfers across the interconnection.

### **3. Policy**

- Available transfer capacity (ATC) limits on the Alberta-Saskatchewan interconnection must be adhered to at all times.
- The Alberta-Saskatchewan interchange schedule starts at hh:00 and ends at hh:60. Interchange schedule changes within the hour are not allowed except for:
  - The delivery of emergency energy such as external supplemental reserve or emergency assistance.
  - System reliability reasons.
- The Alberta-Saskatchewan interchange ramp duration is 10 minutes and ramp starts five minutes before the schedule start time and end time, unless otherwise agreed to by both the SaskPower system operator and the SC.
- All imports priced at \$0.00 and exports priced at \$999.99 in the energy market merit order will be dispatched. Any import priced higher than \$0.00 or export priced at lower than \$999.99 will not be dispatched.
- Except for emergency energy and contingency reserves, an import or export block in the energy market merit order must have a corresponding electronic tag(s) (e-tag) that is in the implemented state before it will be included in the interchange schedule.

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- E-tags or modifications to previously submitted e-tags, for imports and exports with a late status, may or may not be approved depending upon the SC's ability to manage the request. Those import or export blocks may or may not be included in the interchange schedule for the next hour.
- The dispatch level of an import block must agree with the MW volume in the corresponding e-tag(s), except during a supply shortfall in accordance with [OPP 801](#). If the e-tag volume for an import is less than the dispatched volume, then an importer must restate their available capability (AC) to match the e-tag volume and provide an acceptable operational reason for the restatement.
- The dispatch level of an export block must agree with the MW volume in the corresponding e-tag(s). If the e-tag volume for an export is less than the dispatched volume, then an exporter must restate their AC to match the e-tag volume and provide an acceptable operational reason for the restatement.
- An e-tag submitted for an interchange transaction will be subject to the following AESO validation:
  - Does not cause ramp capability of the Alberta Interconnected Electric System (AIES) to be exceeded.
  - ATC limit is not exceeded.
  - Purchasing Selling Entity (PSE) is a valid AESO participant.
  - Connectivity of the interchange transaction is with an adjacent Control Area to the AIES.
  - AESO is identified as a Transmission Provider (TP) in the physical path.
- All imports and exports with e-tags that are submitted by hh:40, have passed AESO validation, have been approved by all approval entities, and that have e-tag status changed to the implemented state, will be included in the interchange schedule for the next hour.
- If an e-tag is curtailed, the importer or exporter must restate their import offer or export bid to match with the curtailed volume of the e-tag.
  - If an e-tag for a wheel-through interchange transaction is curtailed, then the importer or exporter must restate both the import offers and the export bids, corresponding to the wheel-through interchange transaction in the e-tag, to the curtailed volume.
- Minimum flow over the McNeill back-to-back DC converter is 15 MW in either direction; that is, the net interchange schedule over the converter must not be less than 15 MW (other than zero) in either direction.

If the minimum flow limit is not met, the net interchange schedule will be curtailed to +15 MW, 0 MW, or -15 MW, whichever the required curtailment volume in MW is the least.

If the least curtailment volume happens to be import, the import tag(s) will be curtailed on a last-in-first-out basis. Likewise, if the least curtailment volume happens to be export, the export tag(s) will be curtailed on a last-in-first-out basis.

## **4. Responsibilities**

### **4.1 ISO**

The ISO is responsible for updating this OPP as required.

#### **System Controller**

The SC is responsible for interchange scheduling in Alberta.

### **4.2 SaskPower System Operator**

The SaskPower system operator will:

- Be responsible for interchange scheduling within the Saskatchewan control area.
- If, by hh:45, the total volume of energy in approved e-tags exceeds the ATC, reduce the scheduled energy transfer to within the ATC level according to the SaskPower schedule interruption practice by:
  - Requesting the Purchasing Selling Entity to withdraw, cancel or adjust e-tags, or
  - Curtailing e-tags, or
  - Requesting e-tags be curtailed by the sink control area.

### **4.3 Market Participants**

The market participant will:

- Ensure transactions on the Alberta-Saskatchewan interconnection for energy they offer are firm transactions.
- Ensure imports are offered at \$0.00 and export bids are priced at \$999.99.
- Ensure a valid e-tag(s) is submitted for every non-zero MW import and export block in the energy market.
- Ensure the MW volume in the e-tag(s) agrees with the MW volume in the corresponding import or export block in the energy market merit order.
- If an e-tag is denied, either correct and re-submit the e-tag to pass AESO validation or restate the MW volume of the associated import or export block if an acceptable operational reason applies.
- If an e-tag is curtailed, restate their import offers or export bids to match with the e-tag curtailed volume. If an e-tag for a wheel-through interchange transaction is curtailed, restate both the corresponding import offers and export bids to match with the e-tag curtailed volume.

### **4.4 ATCO Electric Transmission Operator**

The ATCO Electric transmission operator will:

- Operate the McNeill DC converter station under the direction of the SC.
- Notify the SC as soon as practical if the interchange schedule cannot be ramped as requested.

## **5. System Controller Procedures**

### **5.1 Scheduling transactions on the Alberta-Saskatchewan interconnection**

The SC will:

1. Issue advance energy dispatches to all imports priced at \$0.00 and exports priced at \$999.99, with a dispatch time as the start of the next hour.
2. Approve all valid e-tags up to and above the posted import or export ATC level on the Alberta-Saskatchewan interconnection.
3. Approve adjusted requests or curtailments made to e-tags to reduce scheduled energy transfer to the posted ATC level according to the SaskPower schedule interruption practice.
4. If Alberta is the sink control area, curtail e-tags as requested by the SaskPower system operator to reduce scheduled energy transfer to within the ATC level according to the SaskPower schedule interruption practice. Record the reason for the curtailment in the e-tag as SaskPower curtailment.
5. By hh:40, verify the implemented e-tags transaction information is transferred to the webTrans System Controller Display.
6. At hh:45, call the SaskPower system operator and confirm:
  - a. The SaskPower system operator has initiated curtailment orders if the total e-tag MW volume is greater than the ATC. If not, the SC will initiate ISO curtailment orders on a last-in-first-out basis to reduce the e-tag amount to within the ATC level. The reason stated for the curtailment will be Alberta curtailment. Curtail the net interchange schedule as described in Section 5.2 when the minimum flow of McNeill Converter cannot be met.
  - b. The net interchange schedule amount (MW).
  - c. The ramp start time if different than five minutes before the schedule start time, as agreed to by both parties.
  - d. The ramp duration if different than 10 minutes, as agreed to by both parties.
7. Call and notify the ATCO Electric transmission operator of:
  - a. The net interchange schedule amount (MW).
  - b. The ramp start time if it is different than five minutes before the schedule start time, as agreed to by both parties.
  - c. The ramp duration if it is different than 10 minutes, as agreed to by both parties.
8. Notify the Manager, System Coordination Centre (SCC), by email if the ISO curtailment order was used to curtail e-tags.

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### 5.2 Curtailing the net interchange schedule to meet the operating limit of McNeill Converter

If the net interchange schedule is less than 15 MW (other than zero) in either direction, the SC will:

1. Determine the curtailment volume in MW that can allow the net interchange schedule to be +15 MW.
2. Determine the curtailment volume in MW that can allow the net interchange schedule to be 0 MW.
3. Determine the curtailment volume in MW that can allow the net interchange schedule to be -15 MW.
4. From the three volumes as determined in Steps 1, 2 and 3, select the least curtailment volume in MW to be curtailed.
5. If the least curtailment volume happens to be import, curtail the import tag(s) on a last-in-first-out basis.
6. If the least curtailment volume happens to be export, curtail the export tag(s) on a last-in-first-out basis.
7. Enter “Converter operating restriction” as the reason for the curtailment.

## 6. Revision History

Issued	Description
2009-05-28	Supersedes 2008-11-13
2008-11-13	Supersedes 2007-12-03
2007-12-03	Supersedes 2004-03-03
2004-03-03	Supersedes 2003-07-28
2003-07-28	Revised to ISO Operating Policies and Procedures