

Proposed Intertie ISO Rule Term Sheet including proposed changes to Available Transfer Capability (ATC) Allocation Rules

The middle column indicates where changes to the current rules are proposed. Sections left blank indicate no change in intent to current authoritative provisions. This set of rule changes focuses on available transfer capability allocation and expansion of provisions for the British Columbia and Saskatchewan interties to include the Montana intertie. As rule drafting proceeds, expansion of intertie rule language to include Montana will be inserted.

As per the Intertie Framework, further work will be addressed on price setting and tariff products. These changes are not in scope for this set of rule changes at present.

Key Topical Areas for Inclusion in the New Draft Intertie ISO Rule including rules related to Available Transfer Capacity	Proposed Change in Rule / Policy	Mapping to Current ISO Rules
I. Limits		
<p>The ISO will determine the available transfer capability limits for each of:</p> <ol style="list-style-type: none"> 1. Import and export limits for each intertie. 2. Net alternating current (AC) intertie limits (Montana and BC), and 3. The overall net interconnected electric system limit. <p>A total transmission capacity will be set for each intertie and will be determined by the lesser of:</p> <ol style="list-style-type: none"> (1) The total transmission capacity determined by the ISO, or (2) The total transmission capacity determined by the adjacent balancing authority. 	<p>The ISO will add language as necessary to reference the Alberta-Montana intertie.</p>	<p>OPP 304, Section 3 sets out the criteria for the determination of the transfer limit on the Alberta-British Columbia intertie.</p> <p>OPP 307, Section 3 sets out the criteria for the determination of the transfer limit on the Alberta-Saskatchewan intertie.</p>

<p>Available transfer capacity is equal to:</p> <p>The sum of the total transfer capability minus the transmission reliability margin.</p> <ul style="list-style-type: none"> • The available transfer capacity for imports is determined by the AC and intertie limits of the interconnected electric system. • Additional import opportunities may occur through counterflow through scheduled exports. • The available transfer capacity for export is determined by the AC and intertie limits of the interconnected electric system. • Additional export opportunities may occur through counterflow through scheduled imports. <p>For wheel-through interchange transactions, the available transfer capacity must exist on both interties.</p>		<p>OPP 304, Section 3 sets out the formula for determining the available transfer capacity on the Alberta-British Columbia intertie.</p> <p>OPP 307, Section 3 sets out the formula for determining the available transfer capacity on the Alberta-British Columbia intertie.</p> <p>OPP 304, Section 3 and Tables 2 and 3 set out limitations for the import total transfer capability for the Alberta-British Columbia intertie.</p> <p>OPP 304, Section 3 and Tables 4 and 5 set out limitations for the import total transfer capability for the Alberta-British Columbia intertie.</p> <p>6.3.3 Interconnection Dispatching, provision (d) states that importers and exporters must make reasonable efforts to procure transmission service for the offered available capability.</p>
<p>The ISO must post the Alberta available transfer capacity limits on the AESO website. Total ATC will be determined as noted above by both the Alberta ISO and adjacent balancing authorities.</p>		<p>OPP 304, Section 4 specifies posting of the available transfer capability for the Alberta-British Columbia intertie.</p> <p>OPP 307, Section 4 specifies posting of the available transfer capability for</p>

		the Alberta-Saskatchewan intertie.
II. Participation in Interchange Scheduling for Energy and Ancillary Services		
Intertie capacity is treated as transmission unless an e-tag with associated energy or ancillary services is submitted to the ISO for approval		<p>OPP 301, Section 3 specifies that import and export blocks must have corresponding e-tags for the Alberta-British Columbia intertie.</p> <p>OPP 302, Section 3 specifies that import and export blocks must have corresponding e-tags for the Alberta-Saskatchewan intertie.</p>
The ISO will schedule interties and issue dispatches for energy and ancillary services through e-tags.		<p>OPP 301, Section 3 states that all approved e-tags will be included in the interchange schedule for the next hour for the Alberta-British Columbia intertie.</p> <p>OPP 302, Section 3 states that all approved e-tags will be included in the interchange schedule for the next hour for the Alberta-Saskatchewan intertie.</p> <p>ISO Rule 6.3.3 states that pool participant must submit e-tags for each interchange transaction and wheel-through interchange transaction.</p>
Interchange Scheduling (1) Offers and bids submitted prior to T-2.		Rule 3 states – “A pool participant who has submitted an offer may

<p>(2) The ISO must create the interchange schedule before the delivery hour to allow for dispatch and ramping for next hour</p> <p>(3) The ISO will curtail any e-tags that exceed the posted available transfer capability at the end of the scheduling timeline and prior to ramping.</p> <p>(4) The interchange schedule is firm for the hour subject to emergency conditions listed below.</p>		<p>submit a price restatement prior to two hours before the start of a settlement interval within the trading day.”</p> <p>Section 5.1 of OPP 101 refers to interties being dispatching before the hour to allow for ramping.</p> <p>OPP 301, Section 3 states the ISO will curtail e-tags exceeding the available transfer capability for the Alberta-British Columbia intertie.</p> <p>OPP 301, Section 3 states the ISO will curtail e-tags exceeding the available transfer capability, at hh:45, for the Alberta-British Columbia intertie.</p> <p>In OPP 302, it is implied that the ISO will curtail e-tags exceeding the available transfer capability but hh:45 is not specified.</p>
<p>Imports and exports offer as price takers in the market</p> <p>(1) Pool participants transacting on the intertie must submit offers for imports and exports by using e-tags.</p> <p style="padding-left: 40px;">a. All imports must be offered in at \$0.00 in</p>		<p>Rule 3.5.1 issues importers and exporters one block each set at price floor and cap respectively.</p> <p>OPP 301, Section 3 states that imports must be priced at \$0.00 and exports priced at \$999.99 for the Alberta-British Columbia intertie.</p> <p>OPP 301, Section 3 also states that all</p>

<p>order to be considered for dispatch.</p> <p>b. All exports must be offered in at \$999.99 in order to be considered for dispatch.</p> <p>c. All import and export offers must be submitted by the start of the interchange hour.</p>		<p>approved e-tags submitted by hh:40 will be included in the interchange schedule for the next hour.</p> <p>OPP 302, Section 3 states that imports must be priced at \$0.00 and exports priced at \$999.99 for the Alberta-Saskatchewan intertie. OPP 302, Section 3 also states that all approved e-tags submitted by hh:40 will be included in the interchange schedule for the next hour.</p>
<p>III. Validation and Setting the Interchange Schedule</p>		
<p>All e-tags will be accepted subject to further validation as outlined below:</p> <ul style="list-style-type: none"> o An accepted e-tag is considered as offered energy or ancillary services and included in the respective merit orders. 		<p>See 6.3.3 (f) – the sum of the tags is considered as available capacity unless restated.</p>
<p>Prior to including an e-tag in the interchange schedule, the ISO will validate the transaction based on certain criteria including:</p> <ul style="list-style-type: none"> o Ramping capability o Pool participant status o Connectivity of the interchange transaction o ISO representation in the physical path o ensuring the dispatch level agrees with the e-tag, o ensuring the imports are offered at \$0 and exports at \$999.99 o ensuring the MW volume in the e-tag agrees with the MW volume in the energy market merit order 		<p>OPP 301, Section 3 sets out criteria for validation transactions for the Alberta-British Columbia intertie.</p> <p>OPP 302, Section 3 sets out criteria for validation transactions for the Alberta-Saskatchewan intertie.</p>

○ other		
All e-tags that have been submitted by the end of the scheduling timeline and that do not exceed the available transfer capability limit will be included in the interchange schedule.		<p>OPP 301, Section 3 states that all approved e-tags submitted by hh:40 will be included in the interchange schedule for the next hour for the Alberta-British Columbia intertie.</p> <p>OPP 302, Section 3 states that all approved e-tags submitted by hh:40 will be included in the interchange schedule for the next hour for the Alberta-Saskatchewan intertie.</p>
IV. Congestion Management for Interties		
The balancing authorities may curtail the import and export volumes indicated in the e-tag following the end of the scheduling period and prior to the ramping so that the available transfer capacity limit is not exceeded.		<p>OPP 301, Section 3 states that British Columbia may curtail e-tags prior to hh:45.</p> <p>OPP 302 for Alberta - Saskatchewan</p>
At the ISOs discretion, any e-tags submitted following the end of the scheduling period and prior to the ramping may or may not be included in the interchange schedule for the next hour.		<p>OPP 301, Section 3 states that e-tags or modifications submitted after hh:40 may or may not be approved by the ISO for the Alberta-British Columbia intertie..</p> <p>OPP 302 for Alberta - Saskatchewan</p>
Following the end of the scheduling hour or in real time as required, the ISO will address congestion on the interconnected electric system or on any individual	This methodology is a change from the existing protocols for managing congestion on the interties. The current methodology is based on last-in,	OPP 301 and OPP 302 specify that curtailments will occur on a last-in, first out basis before the delivery hour.

<p>intertie based on the following methodology:</p> <ul style="list-style-type: none"> (1) price, and (2) pro rata across schedules that can relieve congestion <p>Ancillary services e-tags are cut prior to energy e-tags.</p> <p>Further as wheel through interchange transactions do not always relieve congestion, they will only be curtailed if they relieve congestion. (See below)</p>	<p>first-out protocols.</p> <p>Price is introduced as a congestion management protocol on the interties to be consistent with the congestion management protocol. However, at present priced bids and offers will be equal as noted above in the current OPP 301, Section 3</p>	<p>OPPs 306 and 521 refer to pro rata methodology during delivery hour which will be applied during scheduling timeline as well.</p>
<p>The congestion will be managed first at the interconnected electric system level, then at the AC level, then at the intertie level to attempt to maximize utilization of the available transfer capacity.</p> <p>Each step in the methodology is explained in more detail below.</p>	<p>No change in current practices, though rule will provide clarity around process for congestion managed by price then pro rata</p> <p>Rule will also provide clarity around process for congestion management first at the interconnected electric system level, than at available capability level, then on intertie.</p>	<p>Currently addressed through interconnected electric system algorithms but not outlined in the rule.</p>
<p><u>Relieving congestion on the interties.</u></p> <p>The ISO will consider the following factors when determining the ability of a curtailment of any interchange transaction to relieve congestion:</p> <ul style="list-style-type: none"> (1) Determine the interties impacted by the constraint. Based on congestion area, one of the following calculations will be used to determine schedules that 	<p>Proposed rules consistent with current congestion management protocols.</p> <p>Since curtailment of wheel-through interchange transactions does not impact system or available capability congestion,</p>	<p>Currently addressed through interconnected electric system algorithms but not reflected in the rule.</p>

<p>may relieve congestion:</p> <ul style="list-style-type: none"> (a) If the congestion is across the interconnected electric system and impacts all interties, the system operating limit is used (i.e., in event of SOK congestion). In this case, curtailing all or any interchange transactions across all interties can relieve congestion. The intertie system limit is calculated using $BC + SK + MT$ (b) If the congestion occurs only on the AC system, only interchange transactions across the $BC + MT$ can relieve congestion (c) If the congestion occurs only on an individual intertie, interchange schedules on that intertie can relieve congestion. <p>(2) For any congestion event as determined above (interconnected electric system, AC, or intertie), all schedules applicable to that category will be assessed to relieve the constraint.</p> <p>(3) Since curtailment of wheel-through interchange transactions do not relieve interconnected electric system or AC congestion events, the wheel-through interchange transactions will be exempt from</p>	<p>wheel-through interchange transactions will be eliminated from these calculation. Wheel-through e-tags may be cut for an individual intertie congestion event.</p>	
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<p>congestion at this level.</p> <p>(4) If congestion exists at the intertie level, all e-tags including wheel-through interchange transactions can address the congestion.</p> <p>(5) Congestion will be managed by category first based on priced bids / offers, then based on prorated. Both of these methodologies are defined below.</p>		
<p><u>Price</u> When offers and bids are not equal in price, the ISO will curtail based on the following:</p> <p>(1) Submitted bids will be stacked from highest price to lowest price. Starting from the lowest price, bids will be curtailed to relieve any constraint for export.</p> <p>(2) Submitted offers will be stacked from lowest price to highest price. Starting from the highest price, offers will be curtailed to relieve any constraint for import.</p>	<p>As per OPP 301, all submitted imports and exports will have equal priced offers.</p>	<p>Aligned with OPP 101 for dispatching the merit order</p>
<p>In the event of congestion of equal prices, curtailments will be using a prorated allocation.</p> <p>Should congestion remain after applying price protocols, the ISO will address remaining congestion using pro rata</p>	<p>Proposed pro rata allocation methodology.</p> <p>Allocation based on available transfer capability per intertie.</p>	<p>New methodology to replace previous last in first out (LIFO) option in OPP 301 and 302</p> <p>Assumes rest of market is not at zero dollars, otherwise OPP 103 has effect.</p>

allocation as follows:

- (1) The congestion will be managed first at the interconnected electric system level, then at the AC (alternating current) level, then at the intertie level to attempt to maximize utilization of the available transfer capability.
- (2) All interchange transactions that can relieve the constraint are stacked.
- (3) Pro rata is determined based on equal proportion of interchange transactions over available total transfer capability (independent of intertie submitted or total transfer capability).
- (4) The congestion limit (interconnected electric system, AC, or line) is taken as a percentage of normal capacity available transfer capability to determine a percentage of available transfer capability. This percentage is then applied to all interchange transactions that can relieve congestion to determine the curtailment amounts. For example, in the event of an AC congestion event, the available transfer capability for BC and MT are added to determine the denominator (example, 700 + 300). If the congestion limit for the AC event is 500, then $\frac{1}{2}$ (or 500 / 1000) of AC available transfer

<p>capability is available and all schedules are cut by half.</p> <p>Pool participants with interchange transactions must enter restatements of imports and exports into the energy trading system.</p>		
V. Dispatching Intertie Schedules		
<p>The ISO will dispatch all e-tags accepted and included in the interchange schedule as offered energy or ancillary services into the energy market merit order and be subject to the “must offer must comply” ISO rules.</p>		<p>Must offer rule in 3.2, and details for interties in 6.3.3(f)</p> <p>The sum of the importer’s e-tag quantities (MW) and importer’s wheel-through interchange transaction e-tag quantities (MW) for a single import source asset may only be less than the available capability of such asset stated two hours before the start of the settlement interval if the importer has an acceptable operational reason.</p> <p>An intertie participant must comply with its dispatch for energy and ancillary services. Non compliance for AS results in liquidated damages (contract).</p>
<p>Interchange schedule changes within the delivery hour are not allowed except for:</p> <ol style="list-style-type: none"> (1) The delivery of emergency energy, external supplemental reserves, spinning reserves or contingency reserve obligations, or (2) Interconnected electric system reliability reasons. 		<p>OPP 301, Section 3 sets out that changes to interchange schedules are not allowed except for emergency or reliability reasons on the Alberta-British Columbia intertie.</p> <p>OPP 302, Section 3 sets out that</p>

<p>(3) Under OPP 801 wherein intra hour scheduling is permitted.</p>		<p>changes to interchange schedules are not allowed except for emergency or reliability reasons on the Alberta-Saskatchewan intertie.</p> <p>OPP 801</p>
<p>A participant must submit a restatement if an interchange schedule is changed from submitted either before the hour or during the real time delivery hour.</p>		<p>ISO Rule 3.5.3.2 states that pool participants must submit an energy restatement restating the available capability of the source asset for the applicable hours in the trading day, as soon as reasonably practicable, if there is a change to the available capability.</p>
<p>An interchange schedule is dispatched for the delivery hour and is permitted a ramping before the delivery hour.</p>		<p>OPP 101</p>
<p>VI. Real Time Management & Directives</p>		
<p>Should changes be required to the interchange schedule during the hour, the ISO will curtail e-tags as required and will issue dispatches reflecting the restatements received from the pool participants.</p>		<p>OPP 101 about dispatching the merit order plus OPP 103 about dispatching at zero dollars.</p>