# Project 2008-12 - Coordinate Interchange Standards

Mapping Document

**Project Purpose**

The purpose of Project 2008-12 is to revise the set of Coordinate Interchange standards to ensure that each requirement is assigned to an owner, operator or user of the bulk power system, and not to a tool used to coordinate interchange. The drafting team also addressed the Interchange Subcommittee concerns related to the dynamic Transfers and Pseudo-ties and addressed previously identified stakeholder comments and applicable directives from Order 693. These issues and directives include defining communications on reloading interchange transactions due to different operational conditions and to bringing the set of Coordinate Interchange standards into conformance with the latest versions of the Reliability Standards Development Procedure, ERO Sanctions Guidelines and Uniform Compliance Monitoring and Enforcement Program.

| Standard: INT-001-3, Interchange Information | | |
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| **Requirement in Approved Standard** | **Translation to New Standard or Other Action** | **Comments** |
| **R1.** The Load-Serving, Purchasing-Selling Entity shall ensure that Arranged Interchange is submitted to the Interchange Authority for:<br>**R1.1.** All Dynamic Schedules at the expected average MW profile for each hour. | Revised and Moved into INT-004-3 | **INT-004-3:**<br>R1. Each Load-Serving Entity that secures energy to serve Load via a Dynamic Schedule or Pseudo-Tie shall ensure that a Request for Interchange is submitted as an on-time Arranged Interchange to the Sink Balancing Authority for that Dynamic Schedule or Pseudo-Tie at either: [Violation Risk Factor: Lower] [Time Horizon: |

| Standard: INT-001-3, Interchange Information | | |
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| **Requirement in Approved Standard** | **Translation to New Standard or Other Action** | **Comments** |
| | | Operations Planning, Same-day Operations]<br>• The expected average MW profile for each hour if a forecast for the Dynamic Schedule or Pseudo-Tie is available, or<br>• The expected maximum MW profile for each hour if no forecast for the Dynamic Schedule or Pseudo-Tie is available. |
| **R2.** The Sink Balancing Authority shall ensure that Arranged Interchange is submitted to the Interchange Authority:<br>**R2.1.** If a Purchasing-Selling Entity is not involved in the Interchange, such as delivery from a jointly owned generator.<br>**R2.2.** For each bilateral Inadvertent Interchange payback. | Retired | The CI SDT believes that this requirement is no longer necessary for reliability. Since the proposed INT-009-2 R2 makes is clear that the Net Scheduled Interchange term in the control equation can only include Confirmed Interchange as agreed to between Balancing Authorities and metered values for Dynamic Schedules, this by definition requires that an Arranged Interchange be created in order to implement the schedules listed in R2.1 and R2.2. From a reliability perspective, it is unimportant who creates these Arranged interchanges – only that they be created and confirmed prior to being entered into the control equation. |

| Standard: INT-003-3, Interchange Transaction Implementation | | |
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| **Requirement in Approved Standard** | **Translation to New Standard or Other Action** | **Comments** |
| **R1.** Each Receiving Balancing Authority shall confirm Interchange Schedules with the Sending Balancing Authority prior to implementation in the Balancing Authority's ACE equation.<br>**R1.1.** The Sending Balancing Authority and Receiving Balancing Authority shall agree on Interchange as received from the Interchange Authority, including:<br>**R1.1.1.** Interchange Schedule start and end time.<br>**R1.1.2.** Energy profile.<br>**R1.2.** If a high voltage direct current (HVDC) tie is on the Scheduling Path, then the Sending Balancing Authorities and Receiving Balancing Authorities shall coordinate the Interchange Schedule with the Transmission Operator of the HVDC tie. | Revised and Moved into INT-009-2 | **INT-009-2:**<br><br>R1. Each Balancing Authority shall agree with each of its Adjacent Balancing Authorities that its Composite Confirmed Interchange with that Balancing Authority, at mutually agreed upon time intervals, excluding Dynamic Schedules and Pseudo-Ties and including any interchange as directed per INT-010-2 not yet captured in the Composite Confirmed Interchange, is: [Violation Risk Factor: Medium] [Time Horizon: Real Time Operations]<br>1.1. Identical in magnitude to that of the Adjacent Balancing Authority, and<br>1.2. Opposite in sign to that of the Adjacent Balancing Authority.<br><br>R2. The Attaining Balancing Authority and the Native Balancing Authority shall use a dynamic value emanating from an agreed upon common source to account for the Pseudo-Tie in the Net Interchange Actual term of their respective control ACE (or alternate control process). [Violation Risk Factor: Medium] [Time Horizon: Real Time |

| Standard: INT-001-3, Interchange Information | | |
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| **Requirement in Approved Standard** | **Translation to New Standard or Other Action** | **Comments** |
| | | Operations]<br><br>R3. Each Balancing Authority in whose area the HVDC tie is controlled shall coordinate the Confirmed Interchange prior to its implementation with the Transmission Operator of the HVDC tie if applicable. [Violation Risk Factor: Medium] [Time Horizon: Real Time Operations, Operations Planning] |

| Standard: INT-004-2, Dynamic Interchange Transaction Modifications | | |
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| **Requirement in Approved Standard** | **Translation to New Standard or Other Action** | **Comments** |
| **R1.** At such time as the reliability event allows for the reloading of the transaction, the entity that initiated the curtailment shall release the limit on the Interchange Transaction tag to allow reloading the transaction and shall communicate the release of the limit to the Sink Balancing Authority. | Retired | The CI SDT believes that at a minimum, this requirement does not belong in the "Dynamic Schedules" standard. However, for several reasons, the CI SDT further believes that this specific requirement is no longer required:<br>• It mandates a practice (releasing of E-Tag limits) that is process related.<br>• The practice is already addressed in related NAESB standards (WEQ-004 Appendix B - E-Tag Actions).<br>• Use of a limit (and the associated release of that limit) is only one particular way to address curtailments. Other ways exist that could be used in lieu of this approach. The reliability standard should not mandate a single approach when others may suffice. |
| **R2.** The Purchasing-Selling Entity responsible for tagging a Dynamic Interchange Schedule shall ensure the tag is updated for the next available scheduling hour and future hours when any one of the following occurs: | Revised | R2. Each Load-Serving Entity that secures energy to serve Load via a Dynamic Schedule or Pseudo-Tie shall ensure the Confirmed Interchange associated with that Dynamic Schedule or Pseudo-Tie is reviewed and |

| Standard: INT-004-2, Dynamic Interchange Transaction Modifications | | |
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| **Requirement in Approved Standard** | **Translation to New Standard or Other Action** | **Comments** |
| **R2.1.** The average energy profile in an hour is greater than 250 MW and in that hour the actual hourly integrated energy deviates from the hourly average energy profile indicated on the tag by more than +10%.<br>**R2.2.** The average energy profile in an hour is less than or equal to 250 MW and in that hour the actual hourly integrated energy deviates from the hourly average energy profile indicated on the tag by more than +25 megawatt-hours.<br>**R2.3.** A Reliability Coordinator or Transmission Operator determines the deviation, regardless of magnitude, to be a reliability concern and notifies the Purchasing-Selling Entity of that determination and the reasons. | | updated if needed for the next available scheduling hour and future hours if any one of the following occurs: [Violation Risk Factor: Lower] [Time Horizon: Operations Planning, Same Day Operations, Real Time Operations]<br>2.1. For Confirmed Interchange using the expected average MW profile, if the average energy profile in an hour is greater than 250 MW and in that hour the actual hourly integrated energy deviates from the hourly average energy profile for the next hour indicated in the Confirmed Interchange by more than 10%.<br>2.1.1. The Load-Serving Entity shall ensure that the Confirmed Interchange associated with that Dynamic Schedule or Pseudo-Tie is updated for future hours if the review performed in R2 indicates that a deviation of more than 10% will persist.<br>2.2. For Confirmed Interchange using the expected average MW profile, if the average energy profile in an hour is less than or equal to 250 MW and in that hour the actual hourly integrated energy deviates from the hourly average energy profile indicated in the Confirmed Interchange by more than 25 MW and this deviation is |

| Standard: INT-004-2, Dynamic Interchange Transaction Modifications | | |
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| **Requirement in Approved Standard** | **Translation to New Standard or Other Action** | **Comments** |
| | | expected to continue in future hours.<br>2.2.1. The Load-Serving Entity shall ensure that the Confirmed Interchange associated with that Dynamic Schedule or Pseudo-Tie is updated for future hours if the review performed in R2 indicates that a deviation of more than 25 MW will persist.<br>2.3. Receipt of notification from a Reliability Coordinator or Transmission Operator that a deviation from the hourly energy profile indicated in the Confirmed Interchange, regardless of magnitude, is a reliability concern and requires that the Confirmed Interchange be updated. |

| Standard: INT-005-3, Interchange Authority Distributes Arranged Interchange | | |
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| **Requirement in Approved Standard** | **Translation to New Standard or Other Action** | **Comments** |
| **R1.** Prior to the expiration of the time period defined in the timing requirements tables in this standard, Column A, the Interchange Authority shall distribute the Arranged Interchange information for reliability assessment to all reliability entities involved in the Interchange.<br>**R1.1.** When a Balancing Authority or Reliability Coordinator initiates a Curtailment to Confirmed or Implemented Interchange for reliability, the Interchange Authority shall distribute the Arranged Interchange information for reliability assessment only to the Source Balancing Authority and the Sink Balancing Authority. | Revised and moved into INT-006-4 | **INT-006-4:**<br><br>R1. Each Sink Balancing Authority shall distribute each Arranged Interchange to the Source Balancing Authority, each Intermediate Balancing Authority, and each Transmission Service Provider included in the Arranged Interchange so that these entities can conduct a reliability assessment of the Arranged Interchange before the Arranged Interchange is implemented. When distributing Arranged Interchange, each Sink Balancing Authority shall ensure that each distribution exceeding the times specified in Attachment 1, Column A, does not result in either of the following: [Violation Risk Factor: Medium] [Time Horizon: Operations Planning, Same-day Operations, Real-time Operations]<br><br>1.1. On-time Arranged Interchange where not all Balancing Authorities and Transmission Service Providers either approved or denied as specified in R2, R3, and R4. |

| Standard: INT-005-3, Interchange Authority Distributes Arranged Interchange | | |
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| **Requirement in Approved Standard** | **Translation to New Standard or Other Action** | **Comments** |
| | | 1.2. On-time Arranged Interchange being transitioned to Confirmed Interchange without enough time to incorporate into scheduling systems prior to ramp start as specified in Attachment 1, Column D. |

| Standard: INT-006-3, Response to Interchange Authority | | |
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| **Requirement in Approved Standard** | **Translation to New Standard or Other Action** | **Comments** |
| **R1.** Prior to the expiration of the reliability assessment period defined in the timing requirements tables in this standard, Column B, the Balancing Authority and Transmission Service Provider shall respond to each On-time Request for Interchange (RFI), and to each Emergency RFI and Reliability Adjustment RFI from an Interchange Authority to transition an Arranged Interchange to a Confirmed Interchange.<br>**R1.1.** Each involved Balancing Authority shall evaluate the Arranged Interchange with respect to:<br>**R1.1.1.** Energy profile (ability to support the magnitude of the Interchange).<br>**R1.1.2.** Ramp (ability of generation maneuverability to accommodate).<br>**R1.1.3.** Scheduling path (proper connectivity of Adjacent Balancing Authorities).<br>**R1.2.** Each involved Transmission Service Provider shall confirm that the transmission service arrangements associated with the | Revised | R2. With the exception of the provisions in R5, each Balancing Authority receiving an on-time Arranged Interchange or an emergency Arranged Interchange shall approve or deny its transition to Confirmed Interchange prior to the expiration of the reliability assessment period defined in the timing requirements in Attachment 1, Column B. [Violation Risk Factor: Lower] [Time Horizon: Operations Planning, Same-day Operations, Real-time Operations]<br>2.1. Each Source and Sink Balancing Authority shall deny the Arranged Interchange or curtail Confirmed Interchange if it does not expect to be capable of supporting the magnitude of the Interchange, including ramping, throughout the duration of the Arranged Interchange.<br>2.2. Each Balancing Authority shall deny the Arranged Interchange or curtail Confirmed Interchange if the scheduling path (proper connectivity of Adjacent Balancing Authorities) between it and its Adjacent Balancing Authorities is invalid. |

| Standard: INT-006-3, Response to Interchange Authority | | |
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| **Requirement in Approved Standard** | **Translation to New Standard or Other Action** | **Comments** |
| Arranged Interchange have adjacent Transmission Service Provider connectivity, are valid and prevailing transmission system limits will not be violated. | | R3. Each Transmission Service Provider receiving an on-time Arranged Interchange or an emergency Arranged Interchange, shall approve or deny its transition to Confirmed Interchange prior to the expiration of the reliability assessment period defined in the timing requirements in Attachment 1, Column B. [Violation Risk Factor: Lower] [Time Horizon: Operations Planning, Same-day Operations, Real-time Operations]<br>3.1. Each Transmission Service Provider shall deny the Arranged Interchange or curtail Confirmed Interchange if the transmission path (proper connectivity of adjacent Transmission Service Providers) between it and its adjacent Transmission Service Providers is invalid. |

| Standard: INT-007-1, Interchange Confirmation | | |
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| **Requirement in Approved Standard** | **Translation to New Standard or Other Action** | **Comments** |
| **R1.** The Interchange Authority shall verify that Arranged Interchange is balanced and valid prior to transitioning Arranged Interchange to Confirmed Interchange by verifying the following:<br>**R1.1.** Source Balancing Authority megawatts equal sink Balancing Authority megawatts (adjusted for losses, if appropriate).<br>**R1.2.** All reliability entities involved in the Arranged Interchange are currently in the NERC registry.<br>**R1.3.** The following are defined:<br>**R1.3.1.** Generation source and load sink.<br>**R1.3.2.** Megawatt profile.<br>**R1.3.3.** Ramp start and stop times.<br>**R1.3.4.** Interchange duration.<br>**R1.4.** Each Balancing Authority and Transmission Service Provider that received the Arranged Interchange information from the Interchange Authority for reliability assessment has provided approval. | Revised and moved into INT-006-4 | R1.1, R1.2 and R1.3 ensure the data submitted on the interchange is valid. This activity occurs in software validation and is not appropriate for a reliability standard; these items are included in the Technical Basis and Guidelines section of INT-006. Interchange that does not meet these criteria would not be an Arranged Interchange.<br><br>R1.4 . is addressed in a INT-006, R5. If the Arranged Interchange does not fall under any of the criteria in this new requirement, it would be transitioned from Arranged Interchange to Confirmed Interchange.<br><br>R5. Each Sink Balancing Authority shall not transition an Arranged Interchange to Confirmed Interchange under any of the following conditions: [Violation Risk Factor: Lower] [Time Horizon: Operations Planning, Same-day Operations, Real-time Operations]<br>5.1. It is a Reliability Adjustment Arranged Interchange, the time period specified in Attachment 1, Column B has elapsed, and the |

| Standard: INT-007-1, Interchange Confirmation | | |
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| **Requirement in Approved Standard** | **Translation to New Standard or Other Action** | **Comments** |
| | | Source Balancing Authority or the Sink Balancing Authority associated with the Arranged Interchange has not communicated its approval of the transition.<br><br>5.2. It is not a Reliability Adjustment Arranged Interchange, the time period specified in Attachment 1, Column B, has elapsed, and not all Balancing Authorities and Transmission Service Providers associated with the Arranged Interchange have communicated their approval of the transition.<br><br>5.3. It is not a Reliability Adjustment Arranged Interchange, the time period specified in Attachment 1, Column B, has elapsed, and any entity associated with the Arranged Interchange has communicated its denial of the transition. |

| Standard: INT-008-3, Interchange Authority Distributes Status | | |
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| **Requirement in Approved Standard** | **Translation to New Standard or Other Action** | **Comments** |
| **R1.** Prior to the expiration of the time period defined in the Timing Table, Column C, the Interchange Authority shall distribute to all Balancing Authorities (including Balancing Authorities on both sides of a direct current tie), Transmission Service Providers and Purchasing-Selling Entities involved in the Arranged Interchange whether or not the Arranged Interchange has transitioned to a Confirmed Interchange.<br>**R1.1.** For Confirmed Interchange, the Interchange Authority shall also communicate:<br>**R1.1.1.** Start and stop times, ramps, and megawatt profile to Balancing Authorities.<br>**R1.1.2.** Necessary Interchange information to NERC-identified reliability analysis services. | Revised and moved into INT-006-4 | **INT-006-4:**<br>R6. Each Sink Balancing Authority shall distribute all notifications of whether an Arranged Interchange was transitioned to Confirmed Interchange to the following entities, and notifications of on-time Confirmed Interchange shall be distributed such that they are delivered in time to be incorporated into scheduling systems prior to ramp start as specified in Attachment 1, Column D: [Violation Risk Factor: Lower] [Time Horizon: Operations Planning, Same-day Operations, Real-time Operations]<br>6.1. The Source Balancing Authority,<br>6.2. Each Intermediate Balancing Authority,<br>6.3. Each Reliability Coordinator associated with each Balancing Authority included in the Arranged Interchange,<br>6.4. Each Transmission Service Provider included in the Arranged Interchange, and<br>6.5. Each Purchasing Selling Entity included in the Arranged Interchange. |

| Standard: INT-009-1, Implementation of Interchange | | |
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| **Requirement in Approved Standard** | **Translation to New Standard or Other Action** | **Comments** |
| **R1.** The Balancing Authority shall implement Confirmed Interchange as received from the Interchange Authority. | Revised | **R1.** Each Balancing Authority shall agree with each of its Adjacent Balancing Authorities that its Composite Confirmed Interchange with that Balancing Authority, at mutually agreed upon time intervals, excluding Dynamic Schedules and Pseudo-Ties and including any interchange as directed per INT-010-2 not yet captured in the Composite Confirmed Interchange, is: [Violation Risk Factor: Medium] [Time Horizon: Real Time Operations]<br>1.1. Identical in magnitude to that of the Adjacent Balancing Authority, and<br>1.2. Opposite in sign to that of the Adjacent Balancing Authority. |

| Standard: INT-010-1, Interchange Coordination Exemptions | | |
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| **Requirement in Approved Standard** | **Translation to New Standard or Other Action** | **Comments** |
| **R1.** The Balancing Authority that experiences a loss of resources covered by an energy sharing agreement shall ensure that a request for an Arranged Interchange is submitted with a start time no more than 60 minutes beyond the resource loss. If the use of the energy sharing agreement does not exceed 60 minutes from the time of the resource loss, no request for Arranged Interchange is required. | Revised | **INT-010-2:**<br><br>**R1.** Each Sink Balancing Authority shall ensure that a Request for Interchange is created within 60 minutes of the start of the energy sharing, and with a start time no more than 60 minutes beyond the start of the energy sharing for Interchange scheduled in duration of more than 60 minutes as part of an energy sharing agreement,. [Violation Risk Factor: Lower] [Time Horizon: Real Time Operations] |
| **R2.** For a modification to an existing Interchange schedule that is directed by a Reliability Coordinator for current or imminent reliability-related reasons, the Reliability Coordinator shall direct a Balancing Authority to submit the modified Arranged Interchange reflecting that modification within 60 minutes of the initiation of the event. | Revised | **INT-010-2:**<br><br>**R2.** Each Sink Balancing Authority shall ensure that a Reliability Adjustment Arranged Interchange reflecting that modification is created within 60 minutes of the start of the modification if a Reliability Coordinator directs the modification of a Confirmed Interchange or Implemented Interchange for actual or anticipated reliability-related reasons. [Violation Risk Factor: Lower] |

| Standard: INT-010-1, Interchange Coordination Exemptions | | |
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| **Requirement in Approved Standard** | **Translation to New Standard or Other Action** | **Comments** |
| | | [Time Horizon: Real Time Operations] |
| **R3.** For a new Interchange schedule that is directed by a Reliability Coordinator for current or imminent reliability-related reasons, the Reliability Coordinator shall direct a Balancing Authority to submit an Arranged Interchange reflecting that Interchange schedule within 60 minutes of the initiation of the event. | Revised | **INT-010-2:**<br><br>**R3.** Each Sink Balancing Authority shall ensure that a Request for Interchange is created reflecting that Interchange schedule within 60 minutes of the start of the scheduled Interchange if a Reliability Coordinator directs the scheduling of Interchange for actual or anticipated reliability-related reasons. [Violation Risk Factor: Lower] [Time Horizon: Real Time Operations]<br><br>**R4.** Each Reliability Coordinator, Balancing Authority or Transmission Service Provider that initiates a Reliability Adjustment Arranged Interchange must have experienced one or more of the following: [Violation Risk Factor: Lower ] [Time Horizon: Operations Planning, Same Day Operations, Real Time Operations]<br>4.1. The loss or non-performance of generation supplying the Interchange.<br>4.2. The loss of Load served by the Interchange. |

| Standard: INT-010-1, Interchange Coordination Exemptions | | |
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| **Requirement in Approved Standard** | **Translation to New Standard or Other Action** | **Comments** |
| | | 4.3. The loss of one or more Transmission Facilities.<br>4.4. An actual or potential System Operating Limit (SOL) or Interconnection Reliability Operating Limit (IROL) exceedance.<br>4.5. Any real-time reliability concern related to a specific Confirmed Interchange. |