

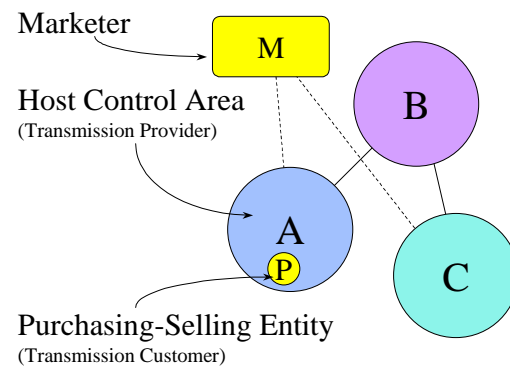
Appendix 3A – Interchange Transactions and Schedules

Appendix Subsections

- A. Scenarios of Interchange Schedules and Parties to Interchange Schedules
- B. Interchange Transaction Request Template and Examples

A. Scenarios of Interchange Schedules and Parties to Interchange Schedules

For the interconnected CONTROL AREAS A, B and C in the figure to the right, the following transactions, numbered 1 through 8, are each considered to be one INTERCHANGE SCHEDULE as referred to in Policy 3A, Requirement 1.1. All parties to that INTERCHANGE SCHEDULE shall be known to each of the participating CONTROL AREAS in advance of the SCHEDULE being implemented. Items 9 and 10 describe interchange scenarios involving PURCHASING-SELLING ENTITIES with load or generation (P) and power marketers (M). Items 11/12 and 13/14 cover multiple transactions.



1. A sells to B. Parties are A and B.
2. B sells to C. Parties are B and C.
3. C sells to B. Parties are B and C.
4. B sells to A. Parties are A and B.
5. A sells to C using Transmission Service through B. Parties are A, B, and C.
6. C sells to A using Transmission Service through B. Parties are A, B, and C.
7. Upon request from A or C, B buys from A and sells to C, billing C the price of power from A plus an approved transmission service charge, *and the power from A is continuously identified as the power to C*. Parties are A, B, and C.
8. Upon request from A or C, B buys from C and sells to A, billing A the price of power from C plus an approved transmission service charge, *and the power from C is continuously identified as the power to A*. Parties are A, B, and C.
9. PURCHASING-SELLING ENTITY P in HOST CONTROL AREA A buys from B. Parties are A and B. PURCHASING-SELLING ENTITY P has arranged for Interconnected Operations Services with its HOST CONTROL AREA A, and possibly B and C.

Appendix 3A – Interchange Transactions and Schedules

A. Scenarios of Interchange Schedules and Parties to Interchange Schedules

10. PURCHASING-SELLING ENTITY in HOST CONTROL AREA A buys from Marketer M. Marketer M buys from C. Parties are A, B and C. PURCHASING-SELLING ENTITY P has arranged for Interconnected Operations Services with its HOST CONTROL AREA A, and possibly B and C. Marketer M has revealed to A, B, and C that C is the SENDING CONTROL AREA, A is the RECEIVING CONTROL AREA, and B is providing transmission services.
- 11/12. B schedules its share of generation located in CONTROL AREA A and sells to CONTROL AREA C. Therefore, A and B are parties of one INTERCHANGE SCHEDULE, and B and C are parties to a second INTERCHANGE SCHEDULE.
- 13/14. B buys from A and possibly also from other CONTROL AREAS, utilizing the purchased power as system resources to meet its load and reserve requirements. Opportunities arise to sell power to C and possibly other CONTROL AREAS from these system resources.

These opportunity sales from the system resources would *not* be considered to be part of the same INTERCHANGE SCHEDULES as the purchased power because the sales could come from any combination of purchases and internal generation. In this case, the power from A (and others) could not be continuously identified with the power to C (and others). Therefore, A and B are parties to one interchange schedule, and B and C are parties to a second interchange schedule.

In this case where power purchases cannot be continuously identified with specific sales, the involved CONTROL AREAS must be receptive to information requests from CONTROL AREAS with loading problems, and make best efforts to provide flow path information to help resolve the problem.

B. Interchange Transaction Request Template and Examples

These are the instructions for completing the INTERCHANGE TRANSACTION Request Template.

Party Identification

1. **INTERCHANGE TRANSACTION ID.** The ID assigned by the PURCHASING-SELLING ENTITY (PSE) serving the load unless otherwise agreed to by the PSEs that are party to the INTERCHANGE TRANSACTION. It will be in the format of Source CONTROL AREA, PSE acronym, PSE Unique Number, Transaction Revision Number, Sink CONTROL AREA. (SCA_PSE####A###_RCA). Transaction Revision Number will have a default value of 001 and shall be incremented if tag revisions are necessary. Standard four-character acronyms will be used to designate CONTROL AREAS and six-character acronyms for PSEs. *This INTERCHANGE TRANSACTION ID shall not be repeated for at least one year after the transaction is completed to prevent confusion in the implementation of the interim Interchange Distribution Calculator.*
2. **Superseded Transaction ID# (if any).** If the current transaction supersedes a transaction, enter the **INTERCHANGE TRANSACTION ID Number** of the superseded transaction.
3. **Transaction Start and Stop Dates.** The dates the transaction will start and end. For an off-peak INTERCHANGE TRANSACTION that spans Hour Ending 2400, only one template needs to be submitted. There is no limit to the period of a transaction.
4. **Transaction Days.** The days of the week to which the tag applies. Allows transactions of fewer than seven days duration to repeat in consecutive weeks.
5. **Time Zone.** The Time Zone that will be used for the start and stop time of the transaction. Use the standard TSIN.COM two-character designation: (Atlantic Daylight [AD]; Atlantic Standard [AS]; Central Daylight [CD]; Central Standard [CS]; Eastern Daylight [ED]; Eastern Standard [ES]; Mountain Daylight [MD]; Mountain Standard [MS]; Pacific Daylight [PD]; Pacific Standard [PS]).
6. **PURCHASING-SELLING ENTITY.** The name of the deal-maker or any entity that is requesting the INTERCHANGE TRANSACTION. Use the registered NERC six-character designation.
7. **PSE Deal Reference. [Optional]** The deal number the PSE uses to identify the INTERCHANGE TRANSACTION if different from the INTERCHANGE TRANSACTION ID Number. For his own purposes, the PSE may use the same deal reference for multiple transactions that are part of the same deal.
8. **PSE Contact Name.** Individual or position at the PSE responsible for notifying all parties in the INTERCHANGE TRANSACTION chain of any changes. In addition, this is the position that will be notified by the CONTROL AREAS if a curtailment occurs.
9. **PSE Contact Telephone Number**

B. Interchange Transaction Request Template and Examples

10. **PSE Contact 24-hour Telephone Number**
11. **PSE Contact Fax Number**
12. **PSE Contact e-mail address**
13. **Source Generator Name. [Optional]** May be used to designate individual generation supplier within a CONTROL AREA.
14. **Source Generator Phone Number [Optional]**
15. **SENDING CONTROL AREA ID** Each INTERCHANGE TRANSACTION shall contain only a single SENDING CONTROL AREA-RECEIVING CONTROL AREA pair until automated processes have been established for managing the Transaction Identification information.
16. **SENDING CONTROL AREA Phone Number**
17. **SENDING CONTROL AREA Fax Number**
18. **SENDING CONTROL AREA e-mail Address**
19. **Load or Sink Entity. [Optional]** Identity of the load serving entity of the electricity (e.g., load or sink).
20. **RECEIVING CONTROL AREA ID.** Each INTERCHANGE TRANSACTION shall contain only a single SENDING CONTROL AREA-RECEIVING CONTROL AREA pair until automated processes have been established for managing the Transaction Identification information.
21. **RECEIVING CONTROL AREA Telephone Number**
22. **RECEIVING CONTROL AREA Fax**
23. **RECEIVING CONTROL AREA e-mail Address**
24. **Remarks.** Terms for interruption of the transaction and other important remarks.

Energy Profile

(The SENDING CONTROL AREA and RECEIVING CONTROL AREA must agree on these parameters. [Policy 3.C., "Schedule Specifications"])

25. **Start Time.** Start time (in 24-hour time format) of the transaction, defined as the specific time of the beginning of service at the SENDING CONTROL AREA. "Hour ending" convention shall *not* be used.
26. **Stop Time.** Stop time (in 24-hour time format) of the transaction, defined as the specific time of the termination of service at the SENDING CONTROL AREA. "Hour ending" convention shall *not* be used.
27. **MW.** The maximum amount of megawatts transported for the hour.

B. Interchange Transaction Request Template and Examples

- 28. **MWH.** The accumulated amount of megawatts transferred for the period defined by the Start and Stop Times and Ramp Start and Duration.
- 29. **Ramp Start. [Optional]** The time (in 24-hour time format) when the ramp(s) used to start, change, or terminate the schedule begin.
- 30. **Ramp Duration. [Optional]** The ramp duration in minutes. The default if not defined is ten minutes.

Transaction Path

- 31. **CONTROL AREA.** The NERC defined CONTROL AREA. Use the standard TSIN.COM CONTROL AREA four-character designation. Each CONTROL AREA shall be shown in this column.
- 32. **Transmission Provider.** The provider of the transmission facilities for this portion of the path. Use the standard TSIN.COM Transmission Provider four-character designation.
- 33. **PURCHASING-SELLING ENTITY.** The responsible owner of the transmission rights for each point of the path. Use the registered NERC PSE six-character designation. In addition, it is optional to show change of title of transmission rights.
- 34. **Path (POR/POD).** The points of receipt and delivery between each Transmission Provider entity in the path.
- 35. **Product.** The product or service that the entity is providing from the following standard list. Transmission service curtailment order (as described in the "NERC Security Coordinator Procedures, Appendix C — Transmission Loading Relief Procedures") is also indicated with the abbreviation.

- Transmission: Non-Firm Secondary [NS-1]
Non-Firm Hourly [NH-2]
Non-Firm Daily [ND-3]
Non-Firm Weekly [NW-4]
Non-Firm Monthly [NM-5]
Non-Firm Network [NN-6]
Firm [F-7]
- Energy: Non-Firm [NF]
Firm [F]
Generation [G]
Load [L]

- 36. **OASIS Assignment or Contract Reference Number.** The standard number may be augmented with additional specific nomenclature.

B. Interchange Transaction Request Template and Examples

Loss Accounting

(Loss accounting may be required at transmission provider option)

- 50. **TP.** The Transmission Provider that requires accounting for megawatt losses for the INTERCHANGE TRANSACTION.
- 51. **Start.** The time in 24-hour format defining the specific time the loss accounting will start. The start time shall not be outside of the times listed in the Energy Profile section. “Hour ending” convention shall *not* be used.
- 52. **Stop.** The time in 24-hour format defining the specific time the loss accounting will end. The end time shall not be outside of the times listed in the Energy Profile section. “Hour ending” convention shall *not* be used.
- 53. **Losses.** The megawatt amount that is accounted for as losses across a Transmission Provider or a CONTROL AREA or a “\$” to show that losses are included in the transmission provider’s pricing. If MW losses are shown, then completion of **MW at POR** and **MW at POD** fields is required.
- 54. **MW at POR.** The amount of megawatts received by the CONTROL AREA/Transmission Provider at the Point of Receipt (POR) in the time period defined by the Start/Stop times.
- 55. **MW at POD.** The amount of megawatts delivered by the CONTROL AREA/Transmission Provider at the Point of Delivery (POD) in the time period defined by the Start/Stop times.

Administrative

(Optional - For use by the CONTROL AREA. This section may be used differently by each CONTROL AREA.)

- 60. **Request Received.** The date and time the request was received plus the initials of the person receiving the request.
- 61. **Request Approved/Denied.** “Approved” or “Denied” should be circled to reflect the decision of the CONTROL AREA receiving the request, with the time that the decision was made, and the initials of the person posting the acceptance or denial. A circle is provided to select “approved” or “denied.”
- 62. **Transaction Curtailed.** Curtailment refers to reducing the energy profile of the transaction. If curtailment occurs, enter date, time, and the standard identifier of the entity requiring curtailment.
- 63. **Transaction Canceled.** Cancellation refers to ending a transaction before it starts. If cancellation occurs, enter date, time, and the standard identifier of the entity requiring cancellation.
- 64. **Transaction Terminated.** Termination refers to ending a transaction after it starts. If termination occurs, enter date, time, and the standard identifier of the entity requiring termination.
- 65. **Superseded By.** If the transaction or a portion thereof is superseded by a new transaction, enter the **INTERCHANGE TRANSACTION ID Number(s)** of the new transaction(s).

B. Interchange Transaction Request Template and Examples

66. **Reason.** A hand-written explanation of the reason given for denial, curtailment, cancellation, or termination of the transaction.

Modifications to INTERCHANGE TRANSACTION Information

(Information to supply when modifying an INTERCHANGE TRANSACTION)

INTERCHANGE TRANSACTION modifications. PURCHASING-SELLING ENTITIES that reallocate (“aggregate” or “split”) an INTERCHANGE TRANSACTION shall submit new INTERCHANGE TRANSACTION(S) request to displace the modified transactions(s).

- **INTERCHANGE TRANSACTIONS in progress.** If an INTERCHANGE TRANSACTION is modified while it is in progress, the transaction is terminated and a new transaction request is required for the remainder of the transaction period.

- **Energy Profile Modifications.**
 - **Modification during curtailment.** The energy profile of a transaction may be modified by a CONTROL AREA for curtailment purposes without replacing the existing transaction request.

 - **Modification During Normal Operations.** If the energy profile of a transaction is modified by a Purchasing-Selling Entity, that entity shall modify the original tag by incrementing the version number within the unique INTERCHANGE TRANSACTION identification number. The new version applies to the 24-hour set (including the current hour in which the new version is submitted) for all future periods.

Additional information on the INTERCHANGE TRANSACTION information process is contained in "Transaction Information System Frequently Asked Questions."

Example 1

Description

A transaction between Big Rivers Electric Coop. and TUElectric arranged by Electric Clearinghouse, Inc. for 200 MW of non-firm energy for 24 hours on 1/11/97

Transaction Path

BREC, BRECM, G; NF

Big Rivers Electric Coop. (BREC) is the generator of the energy (source) and the CONTROL AREA where the Generator is located. Big Rivers Merchant (BREM) group (purchasing-selling entity) is selling energy as a “non-firm” product.

BRET, BRECM, BREC/TVA, NH, 4892

BRECM secures non-firm hourly transmission service (OASIS reservation #4892) over the BREC transmission system (BRET) to the BREC tie with TVA.

TVA, TVAT, ECI, BREC/EES, NH, 1448

Electric Clearinghouse, Inc. (ECI) has purchased the energy from BREC and has secured from the OASIS NODE a transmission reservation (#1448) for access across TVA’s transmission system, which is located within TVA’s CONTROL AREA for transportation of the NF energy.

EES, EEST, ECI, TVA/CSW, NH, 198

ECI has secured from the OASIS NODE a transmission reservation (#198) for access across EES’s transmission system, which is located within EES’s CONTROL AREA for transportation of the NF energy.

CSW, CSWT, ECI, EES/TUET, NH, N/A

ECI contacted CSW for transmission access of the NF energy across the HVDC tie into ERCOT. An OASIS reservation is not necessary to schedule energy across the tie. This process is accomplished directly with CSW as operator of the tie.

TU, TUET, TUEG, L; NF, N/A

ECI will have the NF energy moved over TUElectric’s transmission system (TUET) to TUElectric’s merchant function (TUEG), which is the load or ultimate point of delivery. An OASIS reservation is not required within ERCOT as all transmission capacity is purchased on an annual basis by the load entities.

Losses

Losses across the TVA system are included in their pricing scheme (TVA accepts monetary considerations for the losses) and are not required to be shown. Losses of 1% (2 MW of the 200 MW transaction) across the EES system are taken as “megawatts in kind” and are shown. Losses across the CSW system are included in their pricing (again, not shown).

Example 2

Description

A simple adjacent CONTROL AREA INTERCHANGE TRANSACTION, involving only the affiliated PSE(s) for Commonwealth Edison (CE) and American Electric Power (AEP). The AEP marketing group (AEPM) has filled out the template and sent it to the transmission provider groups, the CONTROL AREA operations group¹ for each organization, and the source (CE).

The INTERCHANGE TRANSACTION will start and stop on 7/1/97, and the agreed time zone will be Central Standard Time.

The Transaction ID number is formatted as the *Sending CA, unique PSE ID & Version #, Receiving CA*: CE, AEPM102A001, AEP. The number was assigned by AEPM.

In the area titled "Remarks or Key info" it is noted that because this INTERCHANGE TRANSACTION is for native load, no OASIS reservation is required, indicating that no OASIS reference number will be listed with the AEP portion of the transmission service.

Transaction Path

CE, CEM, G, NF-Daily

CE — Commonwealth Edison is the SENDING CONTROL AREA and the generator (G) of the product.

CEM — The affiliated PSE for Commonwealth Edison.

G, NF — DAILY — The product sold as non-firm daily energy.

CE, CE, CE/AEP, ND, 7273

CE — Transmission provider² and CONTROL AREA.

POR\CE — POD\AEP — The point of receipt (POR) from the CE transmission provider perspective is the CE system; the point delivery (POD) is the AEP system.

ND — The product sold as non-firm daily.

AEP, AEP, CE/AEP, ND

AEP — Transmission provider and CONTROL AREA.

POR\CE — POD\AEP — The point of receipt (POR) from the AEP transmission provider perspective is the CE system; the point delivery (POD) is the AEP system

ND — The product sold as non-firm daily.

AEP, AEPM, L, NF-Daily

AEP — American Electric Power is the RECEIVING CONTROL AREA and has the "load" (L) for the non-firm energy product sold.

Request Received — Date and time the template was received, and initials of the person that received the request.

¹ This example assumes that generation dispatch is done by someone in the control area operations group.

² If the transmission provider resides in a "host control area" the control area should be listed in the CA column.

B. Interchange Transaction Request Template and Examples

Approved — The date and time that the information contained on the template has been verified and approved.

Energy Profile

Start — the specific time that the interchange schedule will begin (0615)

Stop — the specific time that the interchange schedule will end (0645)³

MW — the amount of megawatts scheduled in the time period defined by the “Start” and “Stop” times.

MWH — The accumulated megawatts for the time period defined by the “Start” and “Stop” times.⁴

Ramp Start — Listed at 0615 which indicated the ramp will start with the start of the interchange schedule (if AEP and CE agreed to start the ramp five minutes before the start of the interchange schedule it would have been listed as 0610).

Ramp Duration — AEP and CE have agreed to ramp onto the schedule over a ten-period.

Loss Accounting

No entries in this example.

³ Several energy schedules are utilized to represent varying megawatt levels throughout the interchange transaction.

⁴ If ramping on or off a schedule occurs before or after an interchange schedule defined by the start and stop times MWH accumulation may occur outside of those defined times.

Example 3

Description

A transaction involving energy marketers from November 4, 1996 to November 29, 1996. The transaction will start at 1100 PST and stop at 1700 PST on Monday through Friday of each week.

Transaction Path

SRP G, FC

SRP is the generator of the energy, the CONTROL AREA operator where the generation and the switchyard is located, and is providing contingent firm energy with capacity.

ECI, PV5

SRP sells the energy to ECI at Palo Verde 500 kV switchyard (PV5). ECI is a PURCHASING-SELLING ENTITY and takes title to the energy at PV5.

LDEP

ECI sells the energy to LDEP. LDEP is a purchasing — selling entity and takes title to the energy at PV5. LDEP buys transmission from APS to move the energy from PV5 to WW5.

APS F PV5/WW5, 12345

APS is a transmission provider. The transmission is non-recallable. APS provides transmission for LDEP from PV5 to WW5. The transmission reservation number is 12345. Note that this transmission path is not located entirely within the APS CONTROL AREA so APS is not identified as the CONTROL AREA operator for the path. Losses are shown in MW.

SRP PV5 (HCA)

SRP is the host CONTROL AREA at PV5 for the transmission path (PV5 to WW5), which APS provided to LDEP.

APS WW5 (HCA)

APS is the host CONTROL AREA at WW5 for the transmission path (PV5 to WW5), which APS provided to LDEP.

LDEP

LDEP has wheeled the energy to WW5 and is the titleholder of the energy at WW5.

PACE

LDEP sells the energy to PACE at WW5. Although PACE is a CONTROL AREA operator they are not using their generation to back up this transaction. They are therefore acting only as a

Scenarios of Interchange Schedules and Parties to Interchange Schedules

B. Interchange Transaction Request Template and Examples

PURCHASING-SELLING ENTITY and are identified as such. PACE takes title to the energy at WW5. PACE buys transmission from APS to move the energy from WW5 to WW3.

APS APS F WW5/WW3, 67891

APS is a transmission provider. The transmission is non-recallable. APS is also the CONTROL AREA operator for the entire transmission path. APS provides transmission for PACE from WW5 to WW3. The transmission reservation number is 67891.

PACE

PACE has wheeled the energy to WW3 and is the titleholder of the energy at WW3.

TEP L

PACE sells the energy to TEP at WW3. TEP is the ultimate receiver (load) of the energy. TEP is also the CONTROL AREA operator where the load is located.

