

**SCHEDULES AND BIDS PROTOCOL (SBP)**

**SBP 1 OBJECTIVES, DEFINITIONS AND SCOPE**

**SBP 1.1 Objectives**

The objectives of this Protocol are:

- (a) to require the provision of scheduling data to enable the ISO to undertake its scheduling process as described in the ISO Tariff and in the Scheduling Protocol (SP) taking into account the exercise of Firm Transmission Rights and rights under Existing Contracts for transmission service;
- (b) to require the provision of Ancillary Services Schedules and bidding data required by the ISO to enable the ISO to conduct its Ancillary Services auction as described in the ISO Tariff and in the SP; and
- (c) to specify the contents of Schedules and to specify in detail the bidding data referred to in the ISO Tariff. The scheduling process and timing of the submission of data referred to are set forth in the SP.

**SBP 1.2 Definitions**

**SBP 1.2.1 Master Definitions Supplement**

Unless the context requires otherwise, any word or expression defined in the Master Definitions Supplement to the ISO Tariff shall have the same meaning where used in this Protocol. A reference to a Section or an Appendix is to a Section or an Appendix of the ISO Tariff unless otherwise specified. References to SBP are to this Protocol or to the stated paragraph of this Protocol.

**SBP 1.2.2 Special Definitions for this Protocol**

In this Protocol, the following words and expressions shall have the meanings set opposite them:

**“Existing Rights”** as defined in Section 2.4.4.1.1 of the ISO Tariff, **“Non-Converted Rights”** and **“Converted Rights”** as defined in Section 2.4.4.2.1 of the ISO Tariff shall have the same meanings where used in this Protocol.

Schedules and bid. Except as noted, each of the following data sections can be submitted up to seven (7) days in advance.

**SBP 2.1.1 Generation Section of a Balanced Schedule and Adjustment Bid Data**

The Generation section of a Balanced Schedule will include the following information for each Generating Unit:

- (a) SC's ID code;
- (b) type of market (Day-Ahead or Hour-Ahead) and Trading Day;
- (c) name of Generating Unit scheduled;
- (d) type of Schedule: Preferred or Revised (refer to the SP for details);
- (e) priority type, if applicable, to the Settlement Period (use OTHER if scheduling the use of Existing Contract rights or RLB\_MUST\_RUN) for Reliability Must-Run Generation;
- (f) contract reference number for Reliability Must-Run Generation;
- (g) Congestion Management flag – "Yes" indicates that any Adjustment Bid submitted under item (k) below should be used;
- (h) publish Adjustment Bid flag, which will not be functional on the ISO Operations Date. In the future, "Yes" will indicate that the SC wishes the ISO to publish its Adjustment Bids;
- (i) Generating Unit ramp rate in MW/minute;
- (j) hourly scheduled Generating Unit output in MWh (the ISO will multiply these values by the hourly Generation Meter Multipliers), including any zero values, for each Settlement Period of the Trading Day (in the case of a Day-Ahead Schedule) and for the relevant Settlement Period (in the case of an Hour-Ahead Schedule); and
- (k) the MW and \$/MWh values for each Generating Unit for which an Adjustment Bid is being submitted consistent with SBP 4.

**SBP 2.1.2 Demand Section of a Balanced Schedule and Adjustment Bid Data**

The Demand section of a Balanced Schedule will include the following information for each Demand location:

- (a) SC's ID code;
- (b) type of market (Day-Ahead or Hour-Ahead) and Trading Day;
- (c) Demand ID – Demand location (which must be the name of a Demand Zone, Load group or bus);
- (d) type of Schedule: Preferred or Revised (refer to the SP for details);
- (e) hourly scheduled MWh for each Settlement Period of the Trading Day that uses the Existing Contract indicated in (e) above (which values should be less than or equal to the values indicated in (i) below);
- (f) Congestion Management flag – “Yes” indicates that any Adjustment Bid submitted for a Dispatchable Load under item (i) below should be used;
- (g) publish Adjustment Bid flag, which will not be functional on the ISO Operations Date. In the future, “Yes” will indicate that the SC wishes the ISO to publish its Adjustment Bids;
- (h) hourly scheduled MWh, including any zero values, for each Settlement Period of the Trading Day (in the case of a Day-Ahead Schedule) and for the relevant Settlement Period (in the case of an Hour-Ahead Schedule); and
- (i) the MW and \$/MWh values for each Dispatchable Load for which an Adjustment Bid is being submitted consistent with SBP 4.

**SBP 2.1.3 External Import/Export Section of a Balanced Schedule and Adjustment Bid Data**

The external import/export section of a Balanced Schedule will include the following information for each import or export:

- (a) SC's ID code;
- (b) type of market (Day-Ahead or Hour-Ahead) and Trading Day;
- (c) Scheduling Point (the name);

- (d) type of Schedule: Preferred or Revised (refer to the SP for details);
- (e) interchange ID (the name of the selling entity, the buying entity, and a numeric identifier);
- (f) Energy type – firm (FIRM), non-firm (NFRM) or dynamic (DYN) or Wheeling (WHEEL);
- (g) external Control Area ID;
- (h) priority type, if applicable, to the Settlement Period (use OTHER if scheduling the use of Existing Contract rights or RLB\_MUST\_RUN for Reliability Must-Run Generation);
- (i) contract reference number for Reliability Must-Run Generation or Existing Contract (or set of interdependent Existing Contracts);
- (j) contract type – transmission (TRNS), Energy (ENGY) or both (TR\_EN);
- (k) Schedule ID (NERC ID number);
- (l) Congestion Management flag - “Yes” indicates that any Adjustment Bid submitted for an external import/export in item (q) below should be used;
- (m) publish Adjustment Bid flag, which will not be functional on the ISO Operations Date. In the future, “Yes” will indicate that the SC wishes the ISO to publish its Adjustment Bids;
- (n) complete WSCC tag;
- (o) hourly scheduled external imports/exports in MWh (the ISO will multiply these values by the hourly Generation Meter Multipliers), including any zero values, for each Settlement Period of the Trading Day (in the case of a Day-Ahead Schedule) and for the relevant Settlement Period (in the case of an Hour-Ahead Schedule) and with external imports into the ISO Controlled Grid reported as negative quantities and external exports from the ISO Controlled Grid reported as positive quantities; and
- (p) the MW and \$/MWh values for each external import/export for which an Adjustment Bid is being submitted consistent with SBP 4.

- (b) type of market (Day-Ahead or Hour-Ahead) and Trading Day;
- (c) Trading SC (buyer or seller);
- (d) Trading Zone;
- (e) Schedule type-Regulation Up (ARGU), Regulation Down (ARGD), Spinning Reserve (ASPN), Non-Spinning Reserve (ANSP) or Replacement Reserve (AREP); and
- (f) Contracted MW amount of traded Ancillary Service obligation.

**SBP 2.1.6**

**Contract Usage Template Associated with a Balanced Schedule that Includes the Use of Existing Contract Rights or Firm Transmission Rights**

The contract usage template can be submitted the day prior to the Trading Day, as set forth in the timing requirements of the SP. The contract usage template can be submitted seven days in advance. However, the contract usage template will not be validated till the trade day. Each contract usage template must include the following information, in compliance with the ISO Data Templates and Validation Rules document which contains the format for submission of contract usage templates:

- (a) SC's ID code:
- (b) Type of market (Day-Ahead or Hour-Ahead) and Trading Day;
- (c) From Zone (must be different than "to Zone"), is the Zone in which all sources specified in the contract usage template must be located;
- (d) To Zone (must be different than "from Zone"), is the Zone in which all sinks specified in the contract usage template must be located;
- (e) Contract reference number for each Inter-Zonal Interface for which transmission capacity has been reserved under Existing Contract or Firm Transmission Right. Up to four contract reference numbers can be specified in this field, delimited by commas, for either Existing Contract usage or Firm Transmission Right usage, but not for both (i.e. Existing Contract rights and Firm Transmission Rights cannot be used together in linking sources and sinks on contract usage template). If the use of multiple Inter-Zonal Interfaces are being scheduled, the contract reference numbers must represent a contiguous string of contracts rights from one Zone to the next (although the contract

reference numbers need not be listed in any particular order since they will be arranged by the ISO's scheduling program to connect the "from Zone" to "to Zone");

- (f) Usage ID (a unique identifier that allows a SC to submit multiple usages for a given Inter-Zonal Interface);
- (g) Contract usage, in hourly scheduled MW, for the 24 hours of the Trading Day (for Generators, contract usage can be either positive or negative [i.e., for pumps]; for loads, contract usage must be positive; for external imports and Inter-SC Trade imports, contract usage must be negative; for external exports, contract usage must be positive). Each contract usage amount must be less than or equal to the amount of Existing Contract rights specified by the relevant Participating Transmission Owner(s) of Firm Transmission Rights, whichever the case may be. Additionally, any Adjustment Bids that may also be submitted for any particular resource (source or sink) that is also identified on a contract usage template must not overlap the contract usages specified for a particular resource in a contract usage template;
- (h) Priority usage, relative to all contract usages specified in a SC's Balanced Schedule, as expressed on a scale of one to ten (with 1 having least priority and 10 having highest priority). For Existing Transmission Contracts, this priority will be used to adjust usage quantities when scheduled usages exceed the reserved existing transmission reservations; and
- (i) Sources or sinks, of hourly scheduled MWH (in the case of Energy usages) or MW (in the case of Ancillary Services usages), specified on the contract usage template must be balanced (except for Ancillary Services which need not be specified with sinks). Each Energy schedule or Ancillary Service bid or self-provided schedule associated with a particular source or sink must have an hourly usage schedule that is greater than or equal to the amounts specified on contract usage templates. The source/sink section of a contract usage template will include the following information (up to five combinations of sources and sinks can be specified on a single contract usage template if an SC is submitting the templates in accordance with SBP 7.2(a), or up to 20 combinations of sources and sinks if an SC is submitting the templates in accordance with SBP 7.2(b) or SBP 7.2(c));
  - (1) Type of resource - generation (GEN), load (LOAD), interchange (INTRCHANGE) or Inter-SC Trade (INTER\_SC);

- (2) Resource\_ID - generator\_ID, load\_ID, tie\_point or trading SC;
- (3) Resource\_ID2 (required only for individual interchange schedules and Inter-SC Trades);
- (4) Energy type - firm (FIRM), non-firm (NFIRM), wheeling (WHEEL), dynamic (DYN), Energy (ENGY), Spinning Reserve (CSPN), Non-Spinning Reserve (CNSPN) or Replacement Reserve (CRPLC); and
- (5) Hourly scheduled Energy or Ancillary Service, utilizing the same sign convention as set forth in (g) above.

**SBP 2.2 Validation of Balanced Schedules**

Each SC will be assigned a workspace within the ISO's scheduling system. Each workspace will have a work area for Day-Ahead and Hour-Ahead Schedules, Adjustment Bids and Supplemental Energy bids. The SC shall only be allowed to access and manipulate its Schedule and bid data within this workspace. Each area is organized into segments. A segment is used to hold the SC's Schedules relating to the same Trading Day. The Schedule validation process is divided into two stages. The ISO shall carry out the first stage validation immediately after it has received a Schedule. The ISO shall carry out the second stage validation ten (10) minutes before (pre-validation) and immediately after each deadline (as specified in the SP) for submission of Schedules. However, a SC can also initiate the stage two validation at any time prior to that deadline, as described in more detail in the SP. If the SC adds a new Schedule or modifies an existing Schedule, that Schedule must be re-validated. SCs must comply with the ISO Data Templates and Validation Rules document, which contains the validation criteria for Balanced Schedules.

**SBP 2.2.1 Stage One Validation**

During stage one validation, each incoming Schedule will be validated to verify proper content, format and syntax. The ISO will check that the SC had not exceeded its Security Amount and verify that the SC is certified in accordance with the ISO Tariff. The ISO will further verify that the SC has inputted valid Generating Unit and Demand location identification. Scheduled Reliability Must-Run Generation will be verified against the contract reference numbers in the ISO's Scheduling Coordinator database. A technical validation will be performed verifying that a scheduled Generating

Unit's output is not beyond its declared capacity and/or operating limits. If there is an error found during stage one validation, the SC will be notified immediately through WEnet. The SC can then look at the notification messages to review the detailed list of errors, make changes, and resubmit the Schedule if it is still within the timing requirements of the SP. Additionally, if the ISO detects an invalid contract usage (of either Existing Contract rights or Firm Transmission Rights), the ISO will issue an error message in similar manner to the SC and allow the SC to view the message(s), to make changes, and to resubmit the contract usage template(s) if it is still within the timing requirements of the SP. The SC is also notified of successful validation via WEnet.

**SBP 2.2.2 Stage Two Validation**

During stage two validation, Schedules will be checked to determine whether each SC's aggregate Generation and external imports (adjusted for Transmission Losses) and Inter-Scheduling Coordinator Energy Trades (whether purchases or sales) equals the SC's aggregate Demand forecast, including external exports. The SC must take into account the applicable Generation Meter Multipliers (GMMs) as described in the SP. The SC will be notified if the counterpart trade to any Inter-Scheduling Coordinator Ancillary Service Trade has not been submitted, or is infeasible (i.e. if both SCs are selling or both are buying). Mismatches in Inter-Scheduling Coordinator Ancillary Service Trades shall be adjusted to be equal to the amount specified by the selling SC. This validation is performed in accordance with the timing requirement described in the SP. An SC can also check whether its Schedules will pass the ISO's stage two validation by manually initiating validation of its Preferred Schedules or Revised Schedules, as described in the SP, at any time prior to the deadline for submission of Preferred Schedules or Revised Schedules (as the case may be). It is the SC's responsibility to perform such checks, if desired. The SC will be notified immediately through WEnet of any validation errors. For each error detected, an error message will be generated by the ISO in the SC's notification screen which will specify the nature of the error. If the ISO detects a mismatch in Inter-Scheduling Coordinator Trades, the ISO will notify both SCs of the mismatch in Energy quantity and/or location. The SC can then look at the

particular contract paths, in the order of: (1) non-firm, (2) each priority of conditional firm, and (3) each priority of firm rights. Priorities for firm and conditional firm transmission service are indicated using contract usage templates, as described in the SBP 2.1.5 and in the SP.

**SBP 3.3.3 Instructions that can be Exercised Independent of the ISO's Day-to-Day Involvement**

In relation to instructions that define the transmission rights within which uses may be scheduled or curtailed and that can be exercised independent of the ISO's day-to-day involvement, without involving an Inter-Zonal Interface, the outcomes shall be forwarded to the ISO by the SC. These instructions must be submitted to the ISO in accordance with SBP 3.3.1. The outcomes must be delivered by the SC to the ISO at or before 5:00 pm of the fifth (5<sup>th</sup>) day of the month for each Settlement Period of the preceding month and must include, at a minimum, the following attributed specifically to each Existing Contract or set of interdependent Existing Contracts:

- (a) the amount (in MW) and type of transmission service (firm, conditional firm, or non-firm) accounted to each rights holder between each of the Zones and locations identified by the Responsible PTO in the instructions; and
- (b) the amount (in MW) of transmission service curtailments, if any, applied to each rights holder within each Zone identified by the Responsible PTO in the instructions.

**SBP 3.3.4 Instructions that cannot be Exercised Independent of the ISO's Day-to-Day Involvement**

Those instructions that define the transmission rights within which uses may be scheduled or curtailed and that cannot be exercised independent of the ISO's day-to-day involvement must be submitted to the ISO in accordance with SBP 3.3.1. These instructions will be provided by the Responsible PTO to the ISO for implementation unless the parties to the Existing Contracts otherwise agree that the rights holder will do so. For these instructions, the SCs representing the holders of Existing Rights and/or Non-Converted Rights will submit their Schedules to the ISO for implementation in accordance with the instructions.

**SBP 3.3.5 Timing of Submission of Instructions to ISO**

**SBP 3.3.5.1 Initial Submittal of Instructions**

The Responsible PTOs shall submit instructions to the ISO associated with Existing Contracts or sets of interdependent Existing Contracts thirty (30) days prior to either (a) the ISO Operations Date or (b) the date on which the scheduling or curtailment of the use of the Existing Rights or Non-Converted Rights is to commence pursuant to Sections 2.4.3 or 2.4.4 of the ISO Tariff.

**SBP 3.3.5.2 Changes to Instructions**

Updates or changes to the instructions must be submitted to the ISO by the Responsible PTO, on an as needed or as required basis determined by the parties to the Existing Contracts. The ISO will implement the updated or changed instructions as soon as practicable but not later than seven (7) days after receiving clear and unambiguous details of the updated or changed instructions. If the ISO finds the instructions to be inconsistent with respect to the ISO Protocols or the ISO Tariff, the ISO will notify the Responsible PTO within forty-eight (48) hours after receipt of the updated or changed instructions indicating the nature of the problem and allowing the Responsible PTO to resubmit the instructions as if they were new, updated or changed instructions to which the provisions of this SBP 3.3 will apply. If the ISO finds the updated or changed instructions to be acceptable, the ISO will time-stamp the updated instructions as received, confirm such receipt to the Responsible PTO, and indicate the time at which the updated instructions take effect if prior to the seven (7) day deadline referred to above.

**SBP 3.4 Validation of Existing Contract Schedules**

Each Schedule submitted to the ISO by a SC representing a rights holder to an Existing Contract must include a valid contract reference number in accordance with SBP 3.3. If the Schedule includes an Inter-Scheduling Coordinator Trade, only one of the SCs should submit a contract reference number. If a match of the Schedule's contract reference number is found in the ISO's database and the Schedule is consistent with the instructions submitted previously by the Responsible PTO, the Schedule will be implemented in accordance with the instructions. If a match of the Schedule's contract reference number cannot be found in the ISO's database or if both SCs which are parties to an Inter-Scheduling Coordinator Trade submit contract reference numbers, the ISO will issue an error message to the SC via WEnet (as described in SBP 2.2.1) and indicate the nature of the problem. The ISO

will assist the SC, within reason, in resolving the problem so that the SC is able to submit the Schedule successfully as soon as possible within the timing requirements of the SP. If the SC uses a contract reference number for which the responsible PTO has not reserved transmission capacity on a particular path (*i.e.*, the contract reference Number(s) included on a contract usage template cannot be found in the ISO's scheduling applications table of contract reference numbers), the scheduled use will be invalidated and the SC notified by the ISO's issuance of an invalidated usage information template.

**SBP 4                   ADJUSTMENT BIDS**

Adjustment Bids will be used by the ISO for Congestion Management as described in the SP and are initially valid only for the markets into which they are bid, being the Day-Ahead Market or the Hour-Ahead Market. These Adjustment Bids will not be transformed into Supplemental Energy bids. However, these Adjustment Bids are treated as standing offers to the ISO and may be used by the ISO in the Real Time Market for the purpose of managing Intra-Zonal Congestion and Overgeneration conditions.

**SBP 4.1               Content of Adjustment Bids**

Adjustment Bids are contained in Preferred Schedules and Revised Schedules submitted by SCs for particular Generating Units, Dispatchable Loads and external imports/exports. Adjustment Bids cannot be submitted with respect to Inter-Scheduling Coordinator Energy Trades.

Each SC is required to submit a preferred operating point for each Generating Unit, Dispatchable Load and external import/export (these quantities are presented in the SC's submitted Schedule as "Hourly MWh"). The SC's preferred operating point for each Generating Unit, Dispatchable Load and external import/export must be within the range of any Adjustment Bids to be used by the ISO. The minimum MW output level, which may be zero MW (or negative for pumped storage resources), and the maximum MW output level must be physically achievable.

**SBP 4.2               Format of Adjustment Bids**

Adjustment Bids will be presented in the form of a monotonically non-decreasing staircase function for Generating Units and external imports. Adjustment Bids will be presented in the form of a monotonically non-increasing staircase function for Dispatchable Loads and external exports. These staircase functions will be