



New Brunswick System Operator

Market Procedure

MP-23

Bid-Based Demand Response

Issue: 00

Effective Date: 2006 11 01

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- PF-17-01 Static Dispatch Data Submission Following Systems
Implementation Date - Thermal and Other Facilities
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Implementation Date - Thermal and Other Facilities

Note: Please refer to Market Procedure MP-17 for Participant Forms PF-17-01 and PF-17-03.

Part 6 Appendices

None

Part 1 Document Control

1.1 Change History

Issue	Date	Reason for Issue
00	2006 11 01	Initial Publication

1.2 Contact for queries and submissions

For queries concerning the application or interpretation of this Market Procedure, contact:

Contact: NBSO Power System Operations

Phone: 506 458-4656

Address: P. O. Box 2020
77 Canada Street
Fredericton
New Brunswick
E3B 5G4

E-Mail: info@nbsso.ca

Web Site: www.nbsso.ca

All documents required to be submitted to the SO under this Market Procedure must be submitted to the attention of this contact at the coordinates noted above in accordance with the requirements of section 2.7.

1.3 Authority for Market Procedures

This Market Procedure is made under the authority of section 3.3 of the Market Rules.

1.4 Relationship with Market Rules and Transmission Tariff

Nothing in this Market Procedure supersedes or over-rides any provision of the Market Rules or of the Transmission Tariff. Where there is a discrepancy between the requirements in this Market Procedure and the Market Rules, the Market Rules prevail. Similarly, where there is a discrepancy between the requirements in this Market Procedure and the Transmission Tariff, the Transmission Tariff prevails. Any user of this Market Procedure who identifies any discrepancy between this Market Procedure and either the Market Rules or the Transmission Tariff should notify the contact identified in section 1.2.

Any summary of a provision or requirement of the Market Rules or of the Transmission Tariff contained in this Market Procedure is provided for convenience of reference only. Users of this Market Procedure are reminded that the obligations that need to be met are as stated in the Market Rules and the Transmission Tariff.

1.5 Definitions and Terminology

Terms capitalized in this Market Procedure that are not otherwise defined in this Market Procedure have the meanings given to them in chapter 10 of the Market Rules. The rules of interpretation contained in chapter 10 of the Market Rules apply to this Market Procedure, with such modifications as the context may require.

This Market Procedure should be read in conjunction with Market Procedure MP-00, which specifies certain terminology common to all Market Procedures.

1.6 Updating this Market Procedure

Changes may from time to time be made to this Market Procedure in accordance with the Market Rules. All such changes will be Published by the SO but may not yet be included in a consolidated version of this Market Procedure. It is the responsibility of each user of this Market Procedure to use the most up-to-date information and documents. Users wishing confirmation of any changes to this Market Procedure that have not yet been incorporated into this consolidation should contact the person identified in section 1.2.

Part 2 Introduction

2.1 Purpose of this Market Procedure

The purpose of this Market Procedure is to define the process, documents and forms to be used in relation to Market Participant participation in the Bid-Based Demand Response program, and the treatment by the SO of submissions under this program.

This Market Procedure also establishes the process to be used by a Market Participant that wishes to change its participation.

2.2 Purpose of Bid-Based Demand Response

The purpose of the Bid-Based Demand Response (BBDR) program is to (i) increase the competitiveness of balancing energy supply, (ii) provide an opportunity for both firm and interruptible customers to gain new revenues, and (iii) to provide experience to customers that may assist them in converting firm load to Interruptible Load in the future.

2.3 Market Rules - References

- Section 2.2 of the Market Rules sets out BBDR as a separate class of Market Participant.
- Section 2.3 identifies the requirements for eligibility for accreditation for participation in the BBDR program.
- Section 2.5 indicates the opportunity for exemption from credit support for participation in the BBDR program.
- Section 2.6 identifies the opportunity for the Market Participant for BBDR with respect to a given Facility to be a different Market Participant than the Market Participant for all other purposes, that is, the Market Participant for the Load Facility.
- Section 4.0 assigns the responsibility for technical and connection requirements, and testing and commissioning to the Market Participant for the Load Facility other than the specifics noted in Sections 4.1 and 4.5 relative to communications and metering respectively.
- Section 4.1 identifies the requirement of the Market Participant for BBDR to have an appropriate level of communications.
- Section 4.5 identifies the requirement of a Facility that is participating in the BBDR program to have interval metering.
- Section 5.0 excludes applicability of Chapter 5 to the Market Participant for BBDR participants other than the case where the Market Participant for BBDR is also the Market Participant for the Load Facility.

- Section 6.0.5 excludes the applicability of sections 6.2 and 6.4 for Market Participants for BBDR.
- Section 6.5 requires that the Dispatch Data for a BBDR Facility shall meet the requirements for a Generation Facility, but that the SO shall make allowances for the unique aspects of each BBDR Facility in its review of such Dispatch Data. The SO may specify a simplified form of Dispatch Data for BBDR Facilities through an appropriate Market Procedure.
- Section 6.6.6 identifies the opportunity for Day Ahead submissions of Dispatch Data for BBDR Facilities.
- Sections 6.9.8 and 6.9.11 respectively obligate the SO to provide the BBDR Market Participant with a Final Day Ahead Commitment Schedule (FDAC) and the BBDR Market Participant to acknowledge the FDAC.
- Sections 6.10.3, 6.10.13, and 6.11.1(c) provide opportunity for the BBDR Market Participant and the SO to respond to changes in conditions.
- Sections 6.13.3 and 6.13.4 specify the issuance of dispatch instructions by the SO and the compliance of the BBDR Market Participant.
- Section 6.15 specifies BBDR Market Participant obligation to report Forced Outages.
- Section 7.4 identifies the treatment of BBDR in settlement, including adjustments to the standard offer provider where applicable.

2.4 Scope and Application

This Market Procedure describes

- accreditation of a Market Participant in order to participate in the BBDR program,
- registration of a given Facility for participation in the BBDR program,
- the submission of Dispatch Data for a BBDR Facility,
- SO optimization and settlement.

2.5 Responsibilities of Parties Under this Procedure

It is the responsibility of the Market Participant participating in the BBDR program to undertake any appropriate due diligence to inform itself of the actual and expected status of the BBDR Facilities and of any other information it considers necessary for its decision-making, prior to submission, revision or withdrawal of BBDR-related information.

It is the responsibility of the BBDR Market Participant to ensure that:

- its market Participant Accreditation information is valid and in accordance with the Market Rules and Procedures,

- its BBDR Facility registration information is valid and in accordance with the Market Rules and Procedures,
- its Dispatch Data is valid and in accordance with the Market Rules and Procedures

It is the responsibility of the SO to validate the Market Participant accreditation, Facility registration, and Dispatch Data submitted, and to advise the Market Participant responsible in the event that a Market Participant submission fails validation or is otherwise identified as anomalous.

It is the responsibility of the BBDR Market Participant to monitor the SO's postings for identification of any errors or anomalies, and to make revised submissions to incorporate any appropriate corrections.

2.6 Other Market Procedures

Due to the broad scope of this Market Procedure, there is substantial overlap with other Market Procedures. The reason for the broad scope of this procedure is to reduce the need for Market Participants for BBDR Facilities that are not familiar with those other Market Procedures to refer to multiple procedures.

The process for accreditation as a Market Participant for purposes including participation in the BBDR program is defined in Market Procedure MP-01. This Market Procedure MP-23 includes the specific process by which Market Participants for BBDR Facilities may become accredited for the purpose of participation in the BBDR program.

The process by which all Market Participants may register Facilities is defined in Market Procedure MP-03. This Market Procedure MP-23 includes the specific process by which Market Participants for BBDR Facilities may register Facilities and includes the definition of the information required with respect to operating capabilities and limits of Facilities.

The process by which all Market Participants submit Dispatch Data is defined in Market Procedure MP-17. This Market Procedure MP-23 includes the specific process by which Market Participants for BBDR Facilities are to submit their Dispatch Data.

Dispatch Data submitted in accordance with this Market Procedure may be used in conjunction with, and used for validation of Balanced Schedules submitted in accordance with Market Procedure MP-16.

The SO's optimization of the system, using Balanced Schedules, Dispatch Data, and other information, for purposes of issuing Commitment Schedules and Dispatch Instructions is described in Market Procedure MP-18.

2.7 Form and Means of Communication

Communications under this Market Procedure fall into two categories:

- Operational communications, including the submission of Dispatch Data, the communication of validation results, the identification of any anomalies, the revision or withdrawal of Dispatch Data, requests for special approvals of changes, and similar information. These operational communications will be primarily electronic, using secure Market Participant access to the SO's web-site. Telephone communications between the Market Participant and *the market operations group* may be used for the expeditious resolution of problems: **(506) 443-6520**.

In the event of any failure of web-based communications, Market Participants shall submit Dispatch Data by fax to: **(506) 458-4642**.

- Other communications shall be in accordance with the following general provision.
- All documents that are required by this Market Procedure to be signed are required to be delivered to the SO by personal delivery, courier or mail. The SO may accept advance copies by other means of communication, but shall only recognize the document as having been submitted on the date of receipt of the signed original in hard copy. All other documents and information may be communicated by personal delivery, courier, mail, fax, e-mail or voice communications as considered appropriate by the sending person. Where a document or information is provided other than by means of the transmission of an original in hard copy, the SO retains the right to require written confirmation of the document or information by an authorized representative of the sending person or to require that an original be provided in hard copy. Similarly, the SO may require such written confirmation of information already in its possession where the SO intends to use such information in any way under this Market Procedure.

2.8 Confidentiality

Section 3.7 of the Market Rules and Market Procedure MP-06 contain the rules applicable to the treatment of Confidential Information by the SO, by Market Participants and by Transmitters. These rules apply to information disclosed under this Market Procedure, including information disclosed to or by an applicant for Accreditation, and shall be interpreted accordingly.

Where a person submits information to the SO that the person has identified as Confidential Information, the SO will maintain the confidentiality of such information except to the extent that the information is required or permitted by the Market Rules or a Market Procedure to be disclosed. As indicated in section 3.12, the SO will Publish information relating to the processes described in this Market Procedure. Such information is not considered to be Confidential Information for the purposes of the Market Rules or of any Market Procedure.

Dispatch Data is considered to be Confidential Information, and does not require to be specifically identified as such by the Market Participant that submits it.

Part 3 Process Description

3.1 Market Participant BBDR Accreditation

- 3.1.1 An applicant for Accreditation must complete the Application for Accreditation in form PF-01-01 electronically or by hand, and submit it to the contact person identified in section 1.2 in accordance with the requirements of section 2.7.
- 3.1.2 Existing accredited Market Participants may become accredited to participate in the BBDR program by updating their accreditation in accordance with section 3.7 of Market Procedure MP-01.
- 3.1.3 New entrants to the BBDR program that are not, nor wish to be, accredited as a Market Participant for the purpose of participating in any market activity other than the BBDR program are to submit an accreditation application form PF-01-01 Application for Accreditation with the following sections to be completed as shown below.

Market Rule Section & 'Description	<i>Indicate "Y" Against Classes(es) Applied for</i>
2.2.1(a)(i) Generation Facilities, Directly Connected	N
2.2.1(a)(ii) Embedded Generation Facilities	N
2.2.1(a)(iii) Other Wholesale Suppliers	N
2.2.1(b)(i) Load Facilities, Directly Connected	N
2.2.1(b)(ii) Other Load Serving Entities	N
2.2.1(b)(iii) Other Wholesale Purchasers	N
2.2.1(c) Other Transmission Customers	N
2.2.1(d) Bid-Based Demand Response	Y

Does applicant intend to export electricity from/through New Brunswick to the United States? If so: <ul style="list-style-type: none"> • does applicant hold an export permit/license issued by the National Energy Board? If so, attach a copy. • can applicant support NERC tagging? 	Not Applicable
Attach a copy of all Licences issued to applicant under Division A of Part V of the Act and/or of all License applications filed by applicant with the PUB.	Not Applicable
Identify the form(s) of Credit Support that applicant proposes to use to satisfy the Credit Support requirements of the Market Rules? Attach completed originals of all forms required by Market Procedure MP-02 to be filed with this Application.	Not Applicable

- 3.1.4 The Market Participant for the purpose of BBDR need not be, but can be, the Market Participant for the Facility.
- 3.1.5 All references to quantities in this Market Procedure refer to the MWh withdrawn from the SO-controlled Grid at the relevant Delivery Point in any clock hour, and are therefore net of embedded generation and output transformer losses.

3.2 BBDR Facility Registration

Registration of a Facility for the purpose of BBDR is to be done in accordance with MP-03 and in accordance with the applicable forms which may include a simplified form specific to the BBDR program.

If the Market Participant for the BBDR Facility is not also the Market Participant for the respective Load Facility, then the BBDR applicant shall, prior to completion of the BBDR registration process, copy the SO on its notice to the Market Participant for the Facility of the applicant's intention to participate in Bid-Based Demand Response at that Facility.

3.3 Technical Requirements

- 3.3.1 Each Market Participant participating in BBDR shall, in accordance with the Market Rules section 4.1.1, maintain and monitor the following communications facilities:
- (a) a voice line,
 - (b) an email address,
 - (c) a workstation with web communications and download capabilities,
 - (d) a digital certificate.
- 3.3.2 Each Market Participant for a BBDR Facility shall, in accordance with the Market Rules section 4.1.2, designate a Control Authority for such Facility and shall ensure that the Control Authority has the authority and ability to control the Facility in response to BBDR dispatch instructions from the SO.
- 3.3.3 Each Market Participant participating in BBDR shall, in accordance with the Market Rules section 4.1.3, provide
- (a) a dedicated dial-up telephone line for communications between (i) the Control Authority and (ii) the SO and the applicable Transmitter, and
 - (b) a workstation with web communications and download capabilities for use by the Control Authority if the Control Authority is at a different location than the BBDR Market Participant.

3.3.4 Each BBDR Facility shall be equipped with metering in accordance with Appendix 4B of the Market Rules at the expense of the Transmitter, or alternatively, the BBDR Market Participant may apply to the SO for acceptance of an alternative metering arrangement for the purpose of BBDR settlement with any associated incremental cost being at the expense of the BBDR applicant. As an example, given the inherent accuracy limitations of the baseline that will be used in settlement, metering information from specific customer processes that provide BBDR may be an acceptable input to the settlement process. Such an arrangement in no way removes the obligation of the respective Transmitter to install and maintain metering for the Load Facility in accordance with the Market Rules. In any event, polled interval metering is preferred for the purposes of measuring and settling BBDR in a timely fashion.

3.4 Static and Dynamic Dispatch Data

3.4.1 Dispatch Data comprises static Dispatch Data and dynamic Dispatch Data. Standing Dispatch data includes static Dispatch Data and any dynamic Dispatch Data that is carried over from one day to the next.

3.4.2 Static Dispatch Data is the portion of Dispatch Data that is subject to occasional change only, and is generally dependent on the characteristics of each Facility.

3.4.3 Dynamic Dispatch Data is the portion of Dispatch Data that relates to the marginal operation of Facilities, and may be modified on a dynamic basis.

3.4.4 The actual contents of static Dispatch Data and dynamic Dispatch Data are described in sections 3.3 to 3.6.

3.5 Requirements for Dispatch Data – BBDR Facilities

3.5.1 This section 3.3 is applicable in respect of all BBDR Facilities.

3.5.2 The required static Dispatch Data comprises:

- a) start-up costs, if non-zero, expressed in \$/start, as defined in section 6.5.1. (a) of the Market Rules, which would typically comprise the costs only as they relate to the final two hours immediately prior to load reduction. Such costs specifically exclude all contributions to fixed costs and profit.
- b) Minimum Run Quantity (MRQ), which shall be the lowest level of response for stable operation of the BBDR Facility at the system and ambient conditions then expected to prevail, if non-zero. The MRQ shall generally correspond to the information provided in the Facility registration data unless due to particular changed circumstances.
- c) Minimum Run Time (MRT), which shall be the normal minimum period of operation at no less than the MRQ in order to avoid undue stress and damage to equipment if non-zero.

- d) Minimum Run Cost (MRC), which is the cost of load response equal to MRQ, comprising only incremental per unit process cost if non-zero.

3.5.3 The required dynamic Dispatch Data comprises:

For each hour of the day, from one to ten P/Q Pairs, such that

- Price P(1) is the incremental price in \$ / MWh for each MWh of reduction in the withdrawal from the SO-controlled Grid in excess of the MRQ but less than or equal to Q(1), in the relevant clock hour.
- Price P(n) is the incremental price in \$ / MWh for each MWh of reduction in the withdrawal from the SO-controlled Grid in excess of Q(n-1) but less than or equal to Q(n), in the relevant clock hour
- The following constraints apply:
 - $MRQ < Q(1) < Q(2) < \dots < Q(n_{max}-1) < Q(n_{max})$
 - $-\$2,000 \leq P(1) < P(2) < \dots < P(n_{max}-1) < P(n_{max}) \leq \$2,000$
 - Q(n) shall be stated in MWh in whole MW
 - P(n) shall be stated in \$ to two places of decimals

A negative value of P(n) means that, for the relevant increment of output, a Market Participant is prepared to pay the SO for the right to reduce its withdrawal from the SO-controlled Grid.

3.5.4 Static Dispatch Data shall have the form of standing data, valid for all hours of every day until revised. Dynamic Dispatch Data will be viewed as a 24 hour strip of data to be carried over to the next day in the absence of any new Dispatch Data for that next day.

3.5.5 An example of Dispatch Data for a BBDR Facility is:

Start-up costs = \$0

Minimum Run Quantity (MRQ) = 0 MW

Minimum Run Time (MRT) = 0 hours

Only one P/Q Pair, with P(1) = \$150/MWh and Q(1) = 20 MW

The start-up costs, if non-zero, are to reflect an estimate of actual costs, otherwise, the values to be submitted for each of these parameters is at the discretion of the Market Participant for the BBDR Facility. The 20 MW value is the load reduction that the load is willing to provide, as an hourly average relative to the baseline value.

3.6 Dispatch Data Status and Status Indicators

3.6.1 In view of the carry-forward provisions with respect to Dispatch Data, substantially all Dispatch Data submissions are in effect revisions.

3.6.2 The Dispatch Data submissions are subject to:

- Validation to confirm that data entry is complete and appears to conform to requirements. Dispatch data cannot be submitted until it has completed validation.
- Acceptance for inclusion in the dispatch database. Acceptance is automatic until 11:00 of the Day Ahead. Acceptance is automatic in respect of changes to dynamic Dispatch Data of less than 10% in any quantity or amount (from that in effect at 11:00 of the Day Ahead) until 15:00 of the Day Ahead. All other changes are discretionary by the SO. Acceptance does not imply acceptance that Dispatch Data satisfy, or are not in conflict with, a Market Participant's obligations under the Market Rules, including under an Ancillary Services Contract.

3.6.3 When Dispatch Data is accepted in respect of a given Dispatch Day, it replaces the previous submission.

3.6.4 Not used.

3.6.5 The following status indicators are used to communicate status of a Dispatch Data submission:

- Submitted: submission passed validation and awaiting review by the SO. Previous accepted Dispatch Data remains in effect.
- Submitted by SO: used if the SO enters Dispatch Data on behalf of a Market Participant; the data has not yet been accepted.
- Accepted: submission passed validation and accepted automatically or by SO
- Rejected: submission rejected; previous accepted Dispatch Data remains in effect.
- Modified by SO: used if the SO enters or corrects Dispatch Data on behalf of a Market Participant; the data has been accepted automatically by the SO.
- Standing Data: displayed whenever the accepted Dispatch Data has been carried ahead from a previous date.

In order to remove a Dispatch Data submission, the Market Participant will be required to re-submit zero values. The Dispatch Data for a Facility that is on a Forced Outage, or a Planned Outage does not have to be removed, however, when the Facility becomes available for dispatch by the SO the Standing Data will be used.

3.7 Submission of Static Dispatch Data and Revisions to Static Dispatch Data

3.7.1 Static Dispatch Data shall be submitted electronically via the SO web site using the form described in PF-17-01 (Thermal and Other Facilities).

3.7.2 Static Dispatch Data in respect of any Dispatch Day shall be submitted no later than 11:00 of the Day Ahead (the final Business Day prior to the Dispatch Day). In the event that the SO has received no valid static Dispatch Data by 11:00 on

- the Day Ahead, then the latest previous valid static Dispatch Data shall be brought forward.
- 3.7.3 A Market Participant may submit revised static Dispatch Data prior to 15:00 on the Day Ahead, and such revised Dispatch Data shall, if any price or quantity is revised by more than 10%, be subject to review and acceptance or rejection by the SO in accordance with section 6.9.3 of the Market Rules.
- 3.7.4 Section 6.10.5B of the Market Rules allows later changes to Dispatch Data, provided that such changes would not threaten the Reliability of the SO-controlled Grid.
- 3.7.5 Static Dispatch Data is required to be a genuine pre-estimate of actual costs and equipment capabilities. The SO may therefore require that a Market Participant provide substantiation of static Dispatch Data in respect of any period. Any such Market Participant shall promptly provide such substantiation, and shall resolve any queries to the reasonable satisfaction of the SO.
- 3.7.6 Only one set of static Dispatch Data may exist for any Facility at any one time. The acceptance by the SO of any set of static Dispatch Data for a Facility automatically results in the replacement of the old set by the new set.

3.8 Submission of Dynamic Dispatch Data and Revisions to Dynamic Dispatch Data

- 3.8.1 Dynamic Dispatch Data shall be submitted electronically via the SO web site using the form described in PF-17-03 (Thermal and Other Facilities).
- 3.8.2 Dynamic Provisional Dispatch Data in respect of any Dispatch Day shall be submitted no later than 11:00 of the Day Ahead (the final Business Day prior to the Dispatch Day). In the event that the SO has received no valid dynamic Dispatch Data by 11:00 on the Day Ahead, then the latest previous valid dynamic Dispatch Data shall be brought forward
- 3.8.3 A Market Participant may submit revised dynamic Dispatch Data prior to 15:00 on the Day Ahead, and such revised Dispatch Data shall, if any price or quantity is revised by more than 10%, be subject to review and acceptance or rejection by the SO in accordance with section 6.9.3 of the Market Rules.
- 3.8.4 Section 6.10.5B of the Market Rules allows later changes to Dispatch Data, provided that such changes would not threaten the Reliability of the SO-controlled Grid.
- 3.8.5 No more than one set of dynamic Dispatch Data may be in effect for a given Dispatch Day for any Facility. The acceptance by the SO of any set of dynamic Dispatch Data for a Facility for a given Dispatch Day automatically results in the replacement of the old set by the new set.

3.9 SO Validation of Dispatch Data

- 3.9.1 The on-line automatic validation of static Dispatch Data is indicated in the description of forms PF-17-01 and PF-17-02. This on-line validation may be carried out on data entry into a field or as part of the pre-submission validation. The pre-submission validation is initiated by the attempted submission of a form, and is carried out before the submission will be permitted.
- 3.9.2 The on-line automatic validation of dynamic Dispatch Data is indicated in the description of forms PF-17-03 and PF-17-04. This on-line validation may be carried out on data entry into a field or as part of the pre-submission validation. The pre-submission validation is initiated by the attempted submission of a form, and is carried out before the submission will be permitted.
- 3.9.3 Submissions validated on line, and made before 11:00 of the Day Ahead are accepted automatically. Validated submissions before 15:00 of the Day Ahead and that do not change relevant parameters by more than 10% are also accepted automatically.
- 3.9.4 Note that the acceptance by the SO of Dispatch Data does not imply that the submission of such a Dispatch Data is in accordance with, or in any way satisfies, a Market Participant's obligations under the Market Rules. Market Participants are not relieved of any obligations, including for example those with respect to submitting Dispatch Data for the full Committed Capacity of a Capacity Resource, or with respect to pricing in accordance with terms of Ancillary Services Contracts.
- 3.9.5 If submission is after 15:00 of the Day Ahead, the submission will be subject to review by the SO before acceptance.

3.10 Revision and Withdrawal of Dispatch Data

- 3.10.1 Only the Market Participant submitting Dispatch Data may revise it or withdraw it.
- 3.10.2 Revision of Dispatch data is effected by submission of a revised set of static or dynamic Dispatch Data, and the SO's acceptance of such revised Dispatch Data.
- 3.10.3 Withdrawal of dynamic Dispatch Data is affected by submission and discretionary acceptance by the SO of a revised set of dynamic Dispatch Data with zero values.

3.11 Posting of Dispatch Data Information

- 3.11.1 Dispatch Data that has been submitted and accepted, but not superseded or withdrawn, will be web-site accessible to the Market Participant that submitted it, for inspection, and downloading. The final Dispatch Data in effect for each day shall continue to be available until the end of the month after the month of the Dispatch Day.

3.12 Settlement

3.12.1 The BBDR participant is expected to use reasonable commercial efforts to comply with such dispatch instructions, but this is not an absolute commitment. To the extent that a BBDR participant receives a dispatch instruction and varies from that, the variance is settled at the FHMC, which will generally provide incentive not to underachieve. All performance will be measured against a baseline level of output.

3.12.2 The objective of all demand response measurement approaches and baseline calculation methodologies is to accurately determine what the customer's load would have been if the customer had not undertaken some form of demand response action. The default approach is that a baseline based on the highest ten of eleven preceding weekdays will be used. Given that the unique characteristics of individual industrial customer processes, the SO will consider alternative arrangements such as the persistence method. Also, adjustments for weather will be considered in the case of Distribution System loads.

3.12.3 The following quantities will be used in settlement

- BMW; Baseline MW, which may include interruptible as well as firm load (eg 9 MW in the example)
- DMW; Dispatched MW = Baseline MW – DR dispatch (eg 6 MW in the example)
- AMW; Actual MWh as metered for the hour (eg 6 MW for full compliance, 5 MW for over-compliance, and 7 MW for under-compliance in respective scenarios)
- DRD; DR Dispatch (eg 3 MW in the example)
- DRA; DR Actual = BMW – AMW (eg 3 MW for full compliance, 4 MW for over-compliance, and 2 MW for under-compliance in respective scenarios)
- DRV: DR Variance = DRA – DRD (and can be negative if the participant underachieves) (eg 0 MW for full compliance, 1 MW for over-achievement, and -1 MW for under-achievement in respective scenarios)

3.12.4 SO – BBDR Participant Settlement

The SO will make monthly payments calculated on an hourly basis for all hours in which it issued a dispatch instruction. The amount in each hour is $(DDR \times \text{Offer price}) + (DR \text{ Variance} \times \text{FHMC})$. This settles for dispatched DR at the offer price and for variance from the dispatch quantity in the SO Bid-based Demand Response standard manner. In order to provide treatment equivalent to generators providing equivalent re-dispatch service, the quantities are not adjusted for transmission losses. SO will account for these costs in the same way as for costs of re-dispatch of generators.

3.12.5 SO – Standard service provider (i.e. D&CS) settlement

If the BBDR Market Participant is not the standard service provider, then an additional settlement between the SO and the standard service provider is necessary in order to keep the service provider whole. While the D&CS bilateral schedule will be unchanged by a BBDR dispatch, the metered load will vary. D&CS needs to be held whole. In order to do this the demand response actual (DRA) will be added to the D&CS energy variance for each hour in question, so as to hold D&CS neutral with respect to the reduction in actual load. In effect, D&CS is thus settled on the baseline, and is not impacted by the BBDR activity. Given that the baseline would be derived as an average of previous periods' activity, it is very unlikely that the baseline could set the monthly peak demand. Impacts on demand charges are therefore not expected to be material, so that demand charges can continue to be settled on metered values.

3.12.6 D&CS – BBDR participant default supply settlement

The BBDR participant will pay D&CS for energy on the basis of the baseline during a DR event (ie, what its consumption would have otherwise been had it not provided DR to the SO). D&CS is thus not impacted by the BBDR activity. Demand charge considerations are the same as for the SO – D&CS settlement.

3.12.7 Examples

Description		Case 1	Case 2	Case 3
Baseline MW	BMW	9	9	9
Actual MW	AMW	6	5	7
Demand Response Dispatched MW	DRD	3	3	3
Demand Response Actual MW	DRA=BMW-AMW	3	4	2
Demand Response Variance MW	DRV=DRA-DRD	0	1	-1
Final Hourly Marginal Cost	FHMC	\$200	\$200	\$200
Offer Price (per MWh)	OP	\$150	\$150	\$150
SO-Participant Settlement				
Demand Response Dispatch	DRD * OP	\$450	\$450	\$450
Demand Response Variance	DRV * FHMC	\$0	\$150	-\$150
Total		\$450	\$600	\$300
SO-Standard Service Settlement ⁽¹⁾	Variance adjusted by DRA			
D&CS-Participant Settlement ⁽¹⁾	Participant billed on AMW			

(1) Applicable if the customer is on standard service.

3.13 Publication

3.13.1 The SO publishes no information on individual Bid-Based Demand Response bids, but will publish figures of aggregate monthly BBDR energy dispatched. The SO will publish a list of Market Participants registered to participate in the Bid-Based Demand Response Program.

Part 4 Flow Charts

None

Part 5 Forms

PF-17-01 Static Dispatch Data Submission Following Systems
Implementation Date - Thermal and Other Facilities

PF-17-03 Dynamic Dispatch Data Submission Following Systems
Implementation Date - Thermal and Other Facilities

Note: Please refer to Market Procedure MP-17 for Participant Forms PF-17-01 and PF-17-03.

Part 6 Appendices

None