Market Rules

Chapter 7
System Operations and Physical Markets

MDP_RUL_0002_07

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<td>Baseline 10.0</td>
<td>September 10, 2003</td>
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<td>Baseline 10.1</td>
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<td>Baseline 15.0</td>
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<td>June 7, 2006</td>
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<td>Issue 15.0</td>
<td>Baseline 16.0</td>
<td>September 13, 2006</td>
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<td>Baseline 16.1</td>
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<td>Issue 17.0</td>
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<td>Issue 29.0</td>
<td>Baseline 30.0</td>
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<td>June 3, 2015</td>
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<td>38.0</td>
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<th>Name</th>
<th>Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# Table of Contents

1. **Introductory Rules** ................................................................. 1
   1.1 Purpose .................................................................................... 1
   1.2 Application ............................................................................ 1
   1.3 Scope of the Physical Markets .............................................. 1
   1.4 Co-ordination with Control Areas Outside the IESO Control Area .... 2
   1.5 Delivery in Respect of Extra-provincial Intertie Transactions .......... 2
   1.6 Planned Outages for Maintenance and Upgrades of IESO-Administered Markets Software, Hardware and Communication Systems .......... 2
   1.7 IESO Authorities and Obligations Regarding the Operation of the Day-Ahead Commitment Process Functions ............................................. 3

2. **Registration for Physical Operations** ........................................ 4
   2.1 Requirements for Operating on the Grid .................................. 4
   2.2 Registered Facilities .............................................................. 5
   2.2A Registration of Commissioning Generation Facilities ............... 13
   2.2B Generation Facility Eligibility for the Real-Time Generation Cost Guarantee .......................................................... 15
   2.2C Generation Facility Eligibility for the Day-Ahead Production Cost Guarantee .......................................................... 17
   2.3 Aggregated Registered Facilities .............................................. 17
   2.4 De-registration of Facilities .................................................... 20
   2.5 Transfer of Registration of Facilities ........................................ 22

3. **Data Submissions for the Real-Time Markets** ............................. 23
   3.1 Applicability of this Section .................................................. 23
   3.2 The Data Submission Process .............................................. 23
   3.3 Dispatch Data Submissions .................................................... 24
   3.3A Dispatch Data Submissions for the Day-Ahead Commitment Process .............................................. 29
   3.4 The Form of Dispatch Data .................................................. 31
   3.5 Energy Offers and Energy Bids .............................................. 33
   3.6 Operating Reserve Offers ...................................................... 36
   3.7 Self-Scheduling Generators ................................................. 37
# Table of Contents

3.8    Intermittent Generators ........................................................................... 37  
3.8A   Transitional Scheduling Generators..............................................................37  
3.9    Transmission System Information.................................................................38  

4.    The Dispatch Algorithm ........................................................................... 38  
4.1   Purpose of the Dispatch Algorithm.................................................................38  
4.2   Uses of the Dispatch Algorithm .......................................................................39  
4.3   The Optimisation Objective ............................................................................39  
4.4   Inputs to the Dispatch Algorithm .....................................................................40  
4.5   The Constrained and Unconstrained IESO-Controlled Grids ....................42  
4.6   Outputs of the Dispatch Algorithm .................................................................42  

5.    The Pre-dispatch Scheduling Process ......................................................... 44  
5.1   Purpose and Timing of Pre-dispatch Schedules ............................................44  
5.2   Information Used to Determine Pre-dispatch Schedules ............................45  
5.3   Determining the Pre-dispatch Schedule .........................................................45  
5.4   Projected Market Schedules and Market Prices ............................................46  
5.5   Release of Pre-dispatch Schedule Information ...............................................47  
5.6   [Intentionally left blank – section deleted] .....................................................48  
5.7   Pre-Dispatch Scheduling of Generation Facilities Eligible for the Generation Cost Guarantee ..................................................................................49  
5.8   The Day-Ahead Commitment Scheduling Process .........................................50  

6.    The Real-Time Scheduling Process ............................................................. 51  
6.1   Purpose and Timing of Real-Time Schedules ...............................................51  
6.2   Information Used to Determine Real-Time Schedules ................................51  
6.3   Determining the Real-Time Schedule ............................................................51  
6.3A  Real-Time Scheduling of Generation Facilities Eligible for the Generation Cost Guarantee ..................................................................................52  
6.3B  Real-Time Scheduling of Generation Facilities Eligible for the Day-Ahead Production Cost Guarantee .............................................................53  
6.4   Market Schedules and Market Prices ............................................................53  
6.5   Publication of Real-Time Schedule Information ............................................55  

7.    IESO Dispatch Instructions............................................................................ 57  
7.1   Purpose and Timing of Dispatch Instructions..................................................57
<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.2</td>
<td>Information Used to Determine Dispatch Instructions</td>
</tr>
<tr>
<td>7.3</td>
<td>The Content of Dispatch Instructions</td>
</tr>
<tr>
<td>7.4</td>
<td>IESO Dispatch of Operating Reserve</td>
</tr>
<tr>
<td>7.5</td>
<td>Compliance with Dispatch Instructions</td>
</tr>
<tr>
<td>7.6</td>
<td>Dispatch Scheduling Errors</td>
</tr>
<tr>
<td>7.7</td>
<td>Additional IESO Powers in Emergency and High-Risk Conditions</td>
</tr>
<tr>
<td>7.8</td>
<td>Publication of Real-Time Dispatch Information</td>
</tr>
<tr>
<td>8.</td>
<td>Determining Market Prices</td>
</tr>
<tr>
<td>8.1</td>
<td>Purpose and Timing of Determining Market Prices</td>
</tr>
<tr>
<td>8.2</td>
<td>Ex-post Prices for Each Dispatch Interval</td>
</tr>
<tr>
<td>8.3</td>
<td>Uniform Ex-post Prices for Each Hour</td>
</tr>
<tr>
<td>8.4</td>
<td>[Intentionally left blank]</td>
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<td>8.4A</td>
<td>Administrative Pricing and Corresponding Schedules – Revised</td>
</tr>
<tr>
<td>9.</td>
<td>IESO Procurement Markets</td>
</tr>
<tr>
<td>9.1</td>
<td>Introduction</td>
</tr>
<tr>
<td>9.2</td>
<td>Definition of Contracted Ancillary Services</td>
</tr>
<tr>
<td>9.3</td>
<td>Contracted Ancillary Service Contracts</td>
</tr>
<tr>
<td>9.4</td>
<td>The Effect of Grid Connection Requirements</td>
</tr>
<tr>
<td>9.5</td>
<td>Payment for Ancillary Services and Recovery of Costs</td>
</tr>
<tr>
<td>9.6</td>
<td>Definition and Principles of Must-Run Contracts</td>
</tr>
<tr>
<td>9.7</td>
<td>Terms and Conditions of Must-Run Contracts</td>
</tr>
<tr>
<td>9.8</td>
<td>Publication of Procurement Contract Information</td>
</tr>
<tr>
<td>9.9</td>
<td>Dispute Resolution</td>
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<tr>
<td>10.6</td>
<td>[Intentionally left blank- section deleted]</td>
</tr>
</tbody>
</table>
11. Generator Synchronization Procedures ................................................. 91
   11.1 Introduction ...................................................................................... 91
   11.2 Process for Synchronization ............................................................ 92
   11.3 Process for De-synchronization ....................................................... 93

   12.1 IESO System Status Reports and Advisory Notices ...................... 94
   12.2 Over-Generation and Under-Generation Advisories ..................... 95

13. Suspension of Market Operations ........................................................... 97
   13.1 Introduction ...................................................................................... 97
   13.2 Market Suspension Events .............................................................. 97
   13.3 Insufficient Reasons for Market Suspension .................................... 98
   13.4 IESO Declaration of Market Suspension .......................................... 98
   13.5 IESO Responsibilities During Market Suspension ....................... 98
   13.6 Participant Responsibilities and Compensation ............................ 99
   13.7 Ending and Reporting on Market Suspension ................................. 100

14. [Intentionally left blank – section deleted] ............................................ 101
   14.1 [Intentionally left blank – section deleted]....................................... 101

15. [Intentionally left blank – section deleted] ............................................ 101
   15.1 [Intentionally left blank – section deleted]....................................... 101
   15.2 [Intentionally left blank – section deleted]....................................... 102
   15.3 [Intentionally left blank – section deleted]....................................... 102

16. [Intentionally left blank – section deleted] ............................................ 102
   16.1 [Intentionally left blank – section deleted]....................................... 102
   16.2 [Intentionally left blank – section deleted]....................................... 103
   16.3 [Intentionally left blank – section deleted]....................................... 103

17. [Intentionally left blank – section deleted] ............................................ 103
   17.1 [Intentionally left blank – section deleted]....................................... 103
   17.2 [Intentionally left blank – section deleted]....................................... 104
   17.3 [Intentionally left blank – section deleted]....................................... 104
   17.4 [Intentionally left blank – section deleted]....................................... 104
18. **Capacity Auctions** ................................................................. 105
    18.1 Purpose of Capacity Auctions .............................................. 105
    18.1A Capacity Auction – Transitional Market Rules .................... 105
    18.2 Participation in Capacity Auctions ....................................... 106
    18.3 Calculation of Capacity Auction Deposits .............................. 107
    18.4 Capacity Auction Deposits .................................................. 107
    18.5 Capacity Auction Parameters .............................................. 109
    18.6 Capacity Auction Offers ..................................................... 110
    18.7 Capacity Auction Clearing Prices and Quantities .................... 111
    18.8 Post-Auction Notification and Publication ............................ 112
    18.9 Capacity Obligation Transfers ............................................ 112

19. **Capacity Market Participants with Capacity Obligations** ........ 114
    19.1 Purpose ............................................................................... 114
    19.2 Eligibility Requirements for Hourly Demand Response Resources 114
    19.3 Eligibility Requirements for Capacity Dispatchable Load Resources 116
    19.4 Energy Market Participation for Hourly Demand Response Resources ............................................. 116
    19.5 Energy Market Participation for Capacity Dispatchable Load Resources ............................................. 119
    19.6 Eligibility Requirements for Capacity Generation Resources .... 120
    19.7 Energy Market Participation for *Capacity Generation Resources* . 121
    19.8 Eligibility Requirements for Capacity Import Resources .......... 122
    19.9 Energy Market Participation for Capacity Import Resources .......... 122
    19.10 Eligibility Requirements for Capacity Storage Resources .......... 123
    19.11 Energy Market Participation for Capacity Storage Resources ...... 124

20. **Capacity Exports in the IESO-Administered Market** .............. 125
    20.1 Capacity Export Request and IESO Review .............................. 125
    20.2 Capacity Export Commitment Process .................................... 126
    20.3 Called Capacity Exports ........................................................ 126
    20.4 Called Capacity Export Scheduling and Dispatch ........................ 126
1. Introductory Rules

1.1 Purpose

1.1.1 This Chapter sets forth rules governing the real-time operations of the electricity system, and the market-clearing and pricing process in the physical markets.

1.2 Application

1.2.1 The rules in this Chapter apply to:

1.2.1.1 the IESO;

1.2.1.2 any person who causes or permits electricity or any physical service to be conveyed into, through or out of the integrated power system;

1.2.1.3 any registered market participant that submits dispatch data with respect to any registered facility; and

1.2.1.4 transmitters.

1.2.2 The rules in this Chapter apply to both the 60 Hz and the 25 Hz portions of the electricity system.

1.2.3 In this Chapter, a reference to the term “area” in the context of operating reserve shall be construed as a reference to a portion of the IESO control area designated as such by the IESO and within which the IESO may impose limits on the amount of ten-minute operating reserve that can be scheduled from registered facilities located within that portion for the purpose of meeting the total requirement for ten-minute operating reserve within the IESO control area.

1.3 Scope of the Physical Markets

1.3.1 The IESO shall administer two types of physical markets: the real-time markets and the procurement markets.

1.3.2 The IESO shall administer, in accordance with sections 3 to 8 the following real-time markets in an integrated fashion:

1.3.2.1 a market in energy, measured in MWh; and

1.3.2.2 a market in several classes of operating reserve, measured in MW.

1.3.2.3 [Intentionally left blank- section deleted]
1.3.3 The IESO shall administer, in accordance with section 9, the following procurement markets to procure certain physical services required for reliable operation of the electricity system:

1.3.3.1 markets for contracted ancillary services, including regulation, reactive support service and voltage control service, and black-start capability; and

1.3.3.2 a market for reliability must-run contracts.

1.4 Co-ordination with Control Areas Outside the IESO Control Area

1.4.1 The IESO shall, where required or appropriate under duly constituted regional reliability agreements with one or more other control areas, and subject to any confidentiality agreements entered into with market participants or as part of such reliability agreements, share with other control area operators all relevant information concerning physical system operations in relation to the electricity system.

1.5 Delivery in Respect of Extra-provincial Intertie Transactions

1.5.1 Where energy or an ancillary service is being conveyed:

1.5.1.1 into the IESO-controlled grid from an intertie zone outside the Province of Ontario; or

1.5.1.2 out of the IESO-controlled grid to an intertie zone outside the Province of Ontario,

delivery of such energy or ancillary service to or from, as the case may be, the boundary entity shall, for all purposes under these market rules, be deemed to occur on the Ontario portion of the applicable intertie.

1.6 Planned Outages for Maintenance and Upgrades of IESO-Administered Markets Software, Hardware and Communication Systems

1.6.1 The IESO may, from time to time, undertake planned outages on IESO-administered markets software, hardware or communication systems for the purpose of maintenance and/or upgrades to those systems. These planned outages may result in temporary disruptions to some market activities, including but not limited to submission of dispatch data, scheduling, pricing, issuing of dispatch instructions and IESO report publishing.
1.6.2 The IESO shall, in respect of a planned outage referred to in section 1.6.1:

1.6.2.1 Notify all market participants, as far in advance as reasonably practicable, of the timing and duration of the planned outage;

1.6.2.2 Maintain normal market operations during the planned outage to the greatest extent practicable; and

1.6.2.3 Limit the impact and duration of the planned outage, and any resulting disruption to market operations to the greatest extent practicable.

1.6.3 If a planned outage referred to in section 1.6.1 is expected to result in a disruption to normal market operations, the IESO shall notify all market participants of the expected disruption and shall specify any required alternative procedures that will be in effect for the duration of the disruption. These alternative procedures shall be designed so as to permit normal market operations to the greatest extent practicable. These alternative procedures may include, but are not limited to:

1.6.3.1 Submission of dispatch data by an alternate means and/or in an alternative form pursuant to section 3.2.2; and

1.6.3.2 Establishment of administrative pricing pursuant to section 8.4A.

1.6.4 Market participants shall comply with the alternative procedures specified by the IESO in section 1.6.3.

1.7 IESO Authorities and Obligations Regarding the Operation of the Day-Ahead Commitment Process Functions

1.7.1 The Chief Executive Officer of the IESO shall determine when the day-ahead commitment process shall first be used.

1.7.2 [Intentionally left blank – section deleted]

1.7.3 The IESO shall notify market participants at least five business days in advance of the day the day-ahead commitment process will first be used.

1.7.4 The IESO shall cancel the day-ahead commitment process for a given dispatch day when process or software failures prevent one or more hourly day-ahead commitment process runs from meeting the minimum criteria for a minimum acceptable DACP run, as defined in the applicable market manual.

1.7.5 In accordance with the applicable market manual, if the IESO cancels the day-ahead commitment process for a given dispatch day, the IESO shall:
• inform *market participants* of the cancellation;
• inform *market participants* as to whether the day-ahead commitment process will resume for the subsequent *dispatch day*.

2. **Registration for Physical Operations**

2.1 **Requirements for Operating on the Grid**

2.1.1 No person shall participate in the *real-time markets* or cause or permit electricity or any *physical service* to be conveyed into, through or out of the *integrated power system* unless:

2.1.1.1 that person is authorised to be a *market participant* in accordance with Chapter 2;

2.1.1.2 the *facility* to or from which the electricity or *physical service* is to be so conveyed or the *boundary entity* to which the electricity or *physical service* relates has either been registered by the *IESO* as a *registered facility* pursuant to section 2.2 or section 2.2A, as the case may be, or is exempt from registration under section 2.1.3; and

2.1.1.3 subject to section 2.1.1A, where such *registered facility* is a *generation facility* that is connected electrically to a neighbouring *control area*, and the electricity or *physical service* is to be conveyed out of the *integrated power system* over a *radial intertie*:

a. the person complies with the requirements of Appendix 7.7;
b. the person has entered into a *connection agreement*;
c. the *IESO* has entered into an *interconnection agreement* with the *control area operator, security coordinator* or *interconnected transmitter* for the relevant *radial intertie*; and
d. the *interconnection agreement* referred to in section 2.1.1.3(c) supports the implementation of the requirements of Appendix 7.7.

2.1.1A Section 2.1.1.3 shall not apply in respect of:

2.1.1A.1 the delivery of electricity or a *physical service* out of the *integrated power system* over a *radial intertie* where such delivery is required to provide support in the case of an *emergency* in a *control area*;
2.1.1A.2 the delivery of electricity or a physical service out of the integrated power system over a radial intertie where such delivery is required to provide support in the case of an outage in a control area; or

2.1.1A.3 the delivery of electricity or a physical service out of the integrated power system over an intertie that is configured as a radial intertie following and as a result of a contingency event.

2.1.2 A market participant shall not submit, and the IESO shall not accept, any dispatch data with respect to a facility or boundary entity unless:

2.1.2.1 that facility or boundary entity is a registered facility for the provision of the physical service(s) to which the dispatch data relate;

2.1.2.2 that market participant is the registered market participant for that registered facility; and

2.1.2.3 the dispatch data are consistent with: (i) the registration information defining the capabilities of the registered facility; (ii) the market participant’s reasonable expectations of the current actual capabilities of the registered facility; and (iii) any revision in registration information requested by the IESO under section 7.5.6.2 or other provision of these market rules.

2.1.3 Subject to sections 2.3 and 10.2.6, no person that intends to participate in the IESO-administered markets or to cause or permit electricity or any physical service to be conveyed into, through or out of the integrated power system shall be required to register the facility to or from which the electricity or physical service is to be so conveyed as a registered facility if such facility is embedded within a distribution system, a load facility or a generation facility and that:

2.1.3.1 in the case of a generation facility, has a maximum rated generation capacity, net of auxiliary requirements, of less than 1 MW;

2.1.3.2 in the case of a load facility, has a maximum load capacity of less than 1 MW; or

2.1.3.3 in the case of a distribution system, has a maximum load capacity of less than 1 MW.

2.2 Registered Facilities

2.2.1 The IESO shall establish a process for registering a facility or boundary entity as a registered facility and for registering a market participant as a registered market participant. Such process shall include, but not be limited to, the certifications
referred to in sections 2.2.3.3 and 2.2.3.4 and the testing and inspection referred to in section 2.2.3.5.

2.2.1A [Intentionally left blank – section deleted]

2.2.2 A *market participant* may apply to register a *facility* or *boundary entity* as a *registered facility*:

2.2.2.1 for the delivery or withdrawal of specific *physical services* pursuant to the provisions of this section 2.2.

2.2.2.2 [Intentionally left blank – section deleted]

2.2.3 The *IESO* shall approve an application for registration of a *facility* or *boundary entity* as a *registered facility* if:

2.2.3.1 the applying *market participant* submits:

- a. the registration information required by this section 2.2;
- b. in the case of a *facility connected* to the *IESO-controlled grid*, a copy of the *connection agreement* pertaining to the *facility* and entered into with the applicable *transmitter*; and
- c. in the case of a *generation facility* or a *dispatchable load facility* embedded within a *distribution system*, a copy of the *connection agreement* pertaining to the *facility* and entered into with the applicable *distributor*;

2.2.3.2 the *IESO* is satisfied on reasonable grounds that the *facility* is capable of operating as described in the registration information or as otherwise provided by the *market rules* in respect of the relevant *physical service*;

2.2.3.3 the applying *market participant* certifies to the *IESO* that all of the facilities and equipment to which its application for registration relates comply with all applicable technical requirements, other than those referred to in section 6.2 of Chapter 2, set forth in these *market rules* applicable to all *market participants*, the class of *market participant* of which the applying *market participant* forms part and the *IESO-administered market* in which the applying *market participant* wishes to participate;

2.2.3.4 the applying *market participant* certifies to the *IESO* that it has adequate qualified employees or other personnel and organizational and other arrangements that are sufficient to enable the applying
market participant to perform all of the functions and obligations applicable to market participants, the class of market participant of which the applying market participant forms part and the IESO-administered market in which the applying market participant wishes to participate in respect of all of the facilities and equipment to which its application for registration relates;

2.2.3.5 the applying market participant successfully completes such testing and permits such inspection as the IESO may require for the purposes of testing or inspecting whether all of the facilities and equipment to which its application for registration relates meet all applicable technical requirements, other than those referred to in section 6.2 of Chapter 2, set forth in these market rules applicable to all market participants, the class of market participant of which the applying market participant forms part and the IESO-administered market in which the applying market participant wishes to participate;

2.2.3.6 the applying market participant certifies to the IESO in writing that all of the facilities and equipment to which its application for registration relates complies with the requirements identified in any applicable preliminary assessment or system impact assessment associated with that market participant’s facilities or equipment; and

2.2.3.7 the applying market participant certifies to the IESO that all of the facilities and equipment to which its application for registration relates does not differ materially from the configuration or technical parameters that were used by the IESO as the basis for which it issued any applicable approvals for such new or modified connection in accordance with section 6.1.14 to 6.1.18 of Chapter 4, unless the applicable market participant or connection applicant has obtained the approval of the IESO for the change in configuration or technical parameter in accordance with section 6.1.22 of Chapter 4;

2.2.3.8 [Intentionally left blank – section deleted]

2.2.3A [Intentionally left blank – section deleted]

2.2.3B [Intentionally left blank – section deleted]

2.2.4 The market participant designated in the registration information as the market participant authorised to submit dispatch data with respect to a registered facility shall be the registered market participant for that registered facility. The registered market participant designated for a registered facility may not be changed without the prior approval of the IESO.
2.2.5 The IESO shall define the form and content of information required for registration as a registered facility in accordance with sections 2.2.6 to 2.2.8.

2.2.6 Where the facility sought to be registered is within the IESO control area, the information required for registration as a registered facility shall, subject to any lesser requirements that may be published by the IESO in respect of the information required for registration of a given class or size of facility, include, but not be limited to:

2.2.6.1 the identity of the owner and the operator of the facility;

2.2.6.2 the identity of the market participant authorised to submit dispatch data with respect to the facility;

2.2.6.3 for a connected facility, information demonstrating that the facility has met the connection requirements set forth in Chapter 4;

2.2.6.4 information demonstrating that the market participant designated as the registered market participant for the facility has the operational control necessary to assure delivery or withdrawal of the relevant physical services as described in the registration information;

2.2.6.5 for a connected facility, the location of the facility and the identity of the primary RWM that will measure the flow of energy between the facility and the IESO-controlled grid;

2.2.6.6 for a facility embedded within a distribution system or within a connected facility within the IESO control area that is connected to the IESO-controlled grid, the location of that facility, the identity of the primary RWM(s) through which energy will flow between that facility and the IESO-controlled grid and information demonstrating that energy can flow to and from the identified primary RWM(s) with allocations and loss factors specified in the registration information;

2.2.6.7 standing technical data defining the ability of the facility to deliver or withdraw each physical service for which registration is sought including, where relevant, the trade-off functions among energy and operating reserves;

2.2.6.8 for a facility that will be subject to the IESO’s dispatch instructions, certification that the facility has a minimum rated generation capacity, net of auxiliary requirements, or a minimum dispatchable load capacity, of 1 MW. Individual facilities or units may be aggregated to
meet this minimum capacity requirement if they meet the aggregation requirements of section 2.3; and

2.2.6.9 [Intentionally left blank – section deleted]

2.2.6.10 for a cogeneration facility or enhanced combined cycle facility choosing to be either a dispatchable or self-scheduling generation facility, and the registered market participant wishes the compliance bands used to determine whether or not the facility is in compliance with its dispatch instructions or its current schedule, information as outlined in the applicable market manual concerning the impact that the production or supply of the other forms of useful energy within the facility has on energy production. The IESO may audit this information, which is to be used to determine appropriate compliance bands as outlined in section 3.3.8, at any time.

2.2.6A A registered market participant for a generation facility may submit the following facility specific information: forbidden regions; and period of steady operation. If the information regarding forbidden regions is submitted, the market participant shall respect such information when submitting dispatch data for the real-time market. If the dispatch data submitted does not respect such information the IESO shall reject the dispatch data submission for the affected resource and for the corresponding dispatch hour or dispatch hours and shall advise the submitting registered market participant accordingly.

2.2.6B A registered market participant for a dispatchable generation facility shall submit to the IESO the minimum loading point, the minimum generation block run-time, and the minimum run-time for the generation facility if the minimum loading point for the facility is greater than zero MW and if the minimum generation block run-time for the facility is greater than one hour.

2.2.6B.1 [Intentionally left blank – section deleted]

2.2.6B.2 [Intentionally left blank – section deleted]

2.2.6B.3 [Intentionally left blank – section deleted]

2.2.6C [Intentionally left blank – section deleted]

2.2.6D The IESO may request, and the registered market participant for a dispatchable generation facility shall submit to the IESO, the following information for the generation facility:

• start-up time; and
• minimum shut-down time.

2.2.6E If no facility specific data is submitted to the IESO for the generation facility’s minimum loading point, forbidden regions, or period of steady operation in accordance with sections 2.2.6A, and 2.2.6B, the IESO shall assign default values of zero for that data.

2.2.6F If facility specific data is submitted to the IESO in accordance with sections 2.2.6A, 2.2.6B, 2.2.6G or 2.2.6J the IESO shall respect the data as submitted in its determination of the real-time schedule in accordance with section 6 and day-ahead schedule in accordance with section 5.

2.2.6G In accordance with the applicable market manuals, a registered market participant that operates a combined cycle facility that is not aggregated under section 2.3 shall submit to the IESO the required data for that combined cycle facility, and for those registered market participants that wish to designate their non-aggregated combined cycle facility as a pseudo-unit in the day-ahead commitment process set out in section 5.8, the required data for that pseudo-unit.

2.2.6H A registered market participant for a dispatchable hydroelectric generation facility shall submit to the IESO where applicable the daily cascading hydroelectric dependency for that generation facility.

2.2.6I Subject to section 2.2.6G, the IESO shall determine, in accordance with the applicable market manual, the pseudo-unit technical parameters based on the facility specific data submitted under section 2.2.6J.

2.2.6J A registered market participant for a dispatchable generation facility that is not a quick-start facility may submit on a daily basis the minimum loading point, the minimum generation block run-time, the maximum number of starts per day and the minimum generation block down time, and, for facilities designated as a pseudo-unit under section 2.2.6G, the combustion turbine single cycle mode, and the IESO shall use this data in the day-ahead commitment process set out in section 5.8.

2.2.6K A registered market participant for a dispatchable generation facility shall submit to the IESO the elapsed time to dispatch for the generation facility.

2.2.7 Where a boundary entity is sought to be registered, a valid interconnection agreement over the relevant interconnection must have been entered into prior to the approval of the application. In addition, the information required for registration of the boundary entity as a registered facility shall include, but not be limited to:
2.2.7.1 identification of the *intertie RWM(s)* through which the *physical services* will be delivered to or withdrawn from the *IESO-controlled grid*, which shall determine the *intertie zone* within which the *boundary entity* is deemed to be located;

2.2.7.2 information confirming that the *market participant* authorized to submit *dispatch data* with respect to the *boundary entity* holds all licences, permits or other authorizations that may be required to permit such *market participant* to deliver or withdraw the *physical services* to or from the *intertie zone* within which the *boundary entity* is deemed to be located;

2.2.7.3 information demonstrating compliance with applicable requirements of all relevant *standards authorities* and completion of the necessary transmission service arrangements with affected *control areas*;

2.2.7.4 the identity of the *market participant* authorized to submit *dispatch data* with respect to the *boundary entity*; and

2.2.7.5 information defining the maximum quantities of each *physical service* that the *market participant* authorized to submit *dispatch data* in respect of the *boundary entity* is entitled to inject into or withdraw from the *IESO-controlled grid* in respect of the *boundary entity* including, where relevant, the trade-off functions among *energy* and *operating reserves*.

2.2.8 In addition to the information required by section 2.2.6 or 2.2.7, as the case may be, the registration information for a *facility or boundary entity* that will provide *operating reserves* shall include information in a form approved by the *IESO* demonstrating in the case of a *facility*, the ability of the *facility* or, in the case of a *boundary entity*, the ability of the resources comprising the *boundary entity*, to:

2.2.8.1 provide *energy* and *operating reserves* according to the trade-off functions described in, and with the response times indicated in, the registration information; and

2.2.8.2 deliver, when the *facility or boundary entity* is called upon to do so by the *IESO*, *energy* at the specified rate (in MWh/hour or MW) in accordance with its *operating reserve offer* for at least one hour.

2.2.9 A market participant may apply to register as a self-scheduling generation facility any generation facility:

2.2.9.1 with a name-plate rating of 1 MW or more but less than 10 MW;
2.2.9.2 that is a commissioning generation facility of any name-plate rating and that is sought to be registered pursuant to section 2.2A.1; or

2.2.9.3 that is a cogeneration facility or enhanced combined cycle facility with a name plate rating of 10 MW or more provided that the IESO determines that there are no adverse impacts on the reliable operation of the IESO-controlled grid of the facility being registered as a self-scheduling generation facility.

2.2.10 A self-scheduling generation facility may be registered:

- to provide energy and reactive support service and voltage control service;

- as a certified black start facility.

2.2.11 The IESO shall approve an application for registration as a self-scheduling generation facility if the information required by this section 2.2 is provided and the IESO determines that self-scheduling of the facility will not have a material adverse effect on power system security.

2.2.12 A self-scheduling generation facility whose application for facility registration has been approved by the IESO is a registered facility.

2.2.13 A market participant may apply to register an intermittent generator if it has a name-plate rating of not less than 1 MW.

2.2.14 An intermittent generator may not be registered to provide any physical service other than energy and reactive support service and voltage control service.

2.2.15 The IESO shall approve an application for registration as an intermittent generator if the information required by this section 2.2 is provided and the IESO determines that intermittent operation of the facility will not have a material adverse impact on power system security.

2.2.16 An intermittent generator whose application for facility registration has been approved by the IESO is a registered facility.

2.2.17 For the purposes of this Chapter, a distribution system connected to the IESO-controlled grid must be a registered facility.

2.2.18 The IESO shall develop procedures and requirements for registering a distribution system as a registered facility. Such procedures shall include, but not be limited to, the certifications referred to in sections 2.2.3.3 and 2.2.3.4 and the testing and inspection referred to in section 2.2.3.5.
2.2.19 A *market participant* may apply to register a *transitional scheduling generator* if it has a nameplate rating of not less than 1MW.

2.2.20 A *transitional scheduling generator* may be registered:

- to provide *energy* and *reactive support service* and *voltage control service* and
- as a *certified black start facility*.

2.2.21 The *IESO* shall approve an application for registration as a *transitional scheduling generator* if the information required by this section 2.2 is provided, and the *generator* is under contract with *OEFC* and will participate in the *real-time market* for energy.

2.2.22 A *transitional scheduling generator* whose application for *facility registration* has been approved by the *IESO* is a *registered facility*.

2.2.23 Within one month of the coming into effect of the amendments to the contract with *OEFC* required as a result of electricity industry restructuring in Ontario in respect of a *transitional scheduling generator*, the *registered market participant* for the *transitional scheduling generator* shall change registration for the applicable *generation facility* to one of the other *generation facility registrations*.

2.2.24 [Intentionally left blank – section deleted]

### 2.2A Registration of Commissioning Generation Facilities

2.2A.1 A *market participant* may apply to register a *commissioning generation facility* as a *self-scheduling generation facility*, in accordance with section 2.2, for the purpose of being permitted to convey electricity or a *physical service* into, through or out of the *integrated power system* or of participating in the *real-time markets* during the period in which the *commissioning generation facility* is undergoing the commissioning tests referred to in section 2.2A.4.

2.2A.2 The *IESO* shall approve an application for *facility registration* of a *commissioning generation facility* as a *self-scheduling facility* if it is satisfied that the requirements of section 2.2 have been met. Any such registration shall expire upon completion by the *commissioning generation unit* of the final commissioning test submitted to and approved by the *IESO* pursuant to section 2.2A.4.

2.2A.3 Upon expiry of the registration referred to in section 2.2A.2, a *market participant* shall not participate in the *real-time markets* nor cause or permit electricity or any *physical service* to be conveyed into, through or out of the *integrated power system* in respect of a former *commissioning generation facility* unless such
former commissioning generation facility has been registered as a generation facility, other than pursuant to this section 2.2A, in accordance with section 2.2.

2.2A.4 Where a commissioning generation facility has been registered by the IESO pursuant to section 2.2A.2, the market participant for that commissioning generation facility shall, while such registration is in effect:

2.2A.4.1 ensure that the commissioning generation facility:

   a. complies with all of the provisions of these market rules applicable to self-scheduling generation facilities; and
   
   b. where it will seek to be registered, other than pursuant to this section 2.2A, in accordance with section 2.2 as other than a self-scheduling generation facility, complies with all of the applicable requirements of section 7.3 of Chapter 4; and

2.2A.4.2 submit to the IESO, for approval and in accordance with section 2.2A.5, information detailing the commissioning test plans for the commissioning generation facility.

2.2A.5 The detailed commissioning test plans, referred to in section 2.2A.4.2 shall be submitted to the IESO for approval and shall be scheduled in accordance with the procedures applicable to the outage coordination process described in section 6 of Chapter 5 and with any applicable market manual and shall include, but not be limited to:

2.2A.5.1 the time required for the commissioning generation facility to synchronize to and de-synchronize from the IESO-controlled grid;

2.2A.5.2 energy and reactive output levels;

2.2A.5.3 the timing of and ramp rates associated with changes in energy and reactive output levels; and

2.2A.5.4 run-back or trip tests for the commissioning generation facility.

2.2A.6 Except as otherwise provided in this section 2.2A, where a commissioning generation facility has been registered by the IESO pursuant to section 2.2A.2, the IESO shall, while such registration is in effect, treat the commissioning generation facility as a self-scheduling generation facility for all purposes under these market rules including, but not limited to, the submission of dispatch data and settlement.
2.2B Generation Facility Eligibility for the Real-Time Generation Cost Guarantee

2.2B.1 A registered market participant for a generation facility shall be eligible for the guarantee of certain elements of its costs, calculated in accordance with section 4.7B of Chapter 9, provided the following criteria are met:

2.2B.1.1 the facility is not a quick-start facility;

2.2B.1.2 the facility is a dispatchable generation facility; and

2.2B.1.3 [Intentionally left blank – section deleted];

2.2B.1.4 the registered market participant has submitted to the IESO the following data for the generation facility, in accordance with the applicable market manual, and the IESO accepts the data as reasonable:

2.2B.1.4A the minimum run-time, minimum loading point, and minimum generation block run-time;

2.2B.1.4B the incremental fuel costs and incremental operating and maintenance costs determined in accordance with sections 2.2B.4, 2.2B.5 and 2.2B.6; and

2.2B.1.4C any other data, as reasonably requested by the IESO that is relevant to determine eligible costs in accordance with section 2.2B.4, from the registered market participant, any affiliate, service provider or contractual counter-party.

2.2B.2 The IESO may, at any time, audit the data submitted in accordance with section 2.2B.1.4, and the registered market participant shall provide the requested audit information in the time and manner specified by the IESO. If, as a result of such an audit, the IESO determines that the audit information provided does not support the submitted data, including, without limitation, that the IESO does not accept the data as reasonable, the IESO shall recover any resulting over-payments made to the market participant. Notwithstanding the foregoing sentence, where the registered market participant has submitted data in accordance with this section 2.2B and sections 10A.1 and 11.2.1 of Chapter 1, the IESO shall not retroactively revise pre-approved cost values determined in accordance with
section 2.2B.5 when calculating any amount to be recovered from that registered market participant.

2.2B.3 For purposes of sections 2.2B.1.4 and 2.2B.2, the registered market participant shall retain supporting documentation related to cost submissions, including data that may be required by the IESO to determine pre-approved cost values and methodologies, in accordance with the applicable market manual, for a period of 7 years from the date when a cost is paid.

Submitted Eligible Costs

2.2B.4 Submitted eligible costs pursuant to section 2.2B.1 shall be limited to:

2.2B.4.1 incremental fuel costs, incremental operating and maintenance costs resulting from wear and tear caused by the operation of a facility; and

2.2B.4.2 all other incremental operating and maintenance costs as set out in section 4.7B.5.2 of Chapter 9;

from either the point of ignition or synchronization to the IESO-controlled grid as applicable, until the facility reaches its minimum loading point, where that facility has met the eligibility criteria specified in sections 2.2B.1, 5.7 and 6.3A, as specified and further detailed in the applicable market manual.

2.2B.5 Subject to section 2.2B.6, for each cost specified in section 2.2B.4, the IESO shall determine pre-approved cost values and methodologies that are either universal or facility-specific, and calculate the submitted eligible costs in accordance with section 4.7B.5 of Chapter 9. The pre-approved cost values and methodologies shall remain in effect until revised by the IESO. The IESO shall review the pre-approved cost values and methodologies at least once every 3 years. The first review shall be completed no later than 3 years from the effective date of this section.

2.2B.6 In circumstances where pre-approved cost values and methodologies are not established under section 2.2B.5, the IESO may at its sole discretion allow a registered market participant to submit the incremental fuel costs and incremental operating and maintenance costs for each facility under section 2.2B.1.4B, in accordance with the applicable market manual.
2.2C Generation Facility Eligibility for the Day-Ahead Production Cost Guarantee

2.2C.1 A registered market participant for a generation facility shall be eligible for the guarantee of certain elements of the facility’s costs, calculated in accordance with section 4.7D of Chapter 9, provided the following criteria are met:

2.2C.1.1 the facility is not a quick-start facility;

2.2C.1.2 the facility is a dispatchable generation facility with a elapsed time to dispatch greater than one hour;

2.2C.1.3 [Intentionally left blank – section deleted];

2.2C.1.4 the registered market participant has, according to the timelines and in the form specified in the applicable market manual, submitted to the IESO the following information for the generation facility: the start-up costs; and the speed no-load costs; and

2.2C1.5 the registered market participant has, according to the timelines and in the form specified in the applicable market manual, submitted to the IESO the following information for the generation facility: the minimum loading point; and the minimum generation block run-time and the IESO accepts all such information as reasonable.

2.2C.2 [Intentionally left blank – section deleted]

2.3 Aggregated Registered Facilities

2.3.1 A market participant may apply to the IESO to aggregate several facilities for the purpose of delivering or withdrawing one or more physical services in the real-time energy market, the procurement markets or both. Upon IESO approval, the aggregated facilities shall, except as specifically stated in the registration information or the IESO’s approval of the aggregation, be treated as a single registered facility for the provision or withdrawal of the approved physical services:

2.3.1.1 by the registered market participant for purposes of the submission of dispatch data; and

2.3.1.2 by the IESO, for purposes of the scheduling and dispatch processes described in this Chapter.

2.3.1A [Intentionally left blank – section deleted]
2.3.1A.1 [Intentionally left blank – section deleted]

2.3.1A.2 [Intentionally left blank – section deleted]

2.3.2 The IESO shall approve an application for the aggregation of facilities into a single registered facility unless:

2.3.2.1 the registration information for the facilities proposed to be aggregated fails to satisfy the conditions of section 2.2;

2.3.2.2 the registration information fails to demonstrate one or more of the following in respect of the facilities proposed to be aggregated;

   a. that they are all located within the IESO control area;
   b. subject to section 2.3.2A, that they are all connected to the IESO-controlled grid at the same connection point;
   c. that they are all under the operational control of a single market participant and that such market participant is authorized to submit dispatch data for all of them;
   d. that operational communication between each of them and the IESO meets all applicable standards and protocols; or
   e. that they all have relevant metering systems to be used for settlements purposes that satisfy the requirements of Chapter 6; or

2.3.2.3 one or more of the facilities proposed to be aggregated is or includes a generating unit or a load facility:

   a. whose offer or bid information or whose in service or out of service status affects the numerical value of operating security limits in any manner;
   b. whose offer or bid information or whose in service or out of service status is information required by the IESO for conducting detailed security and resource adequacy assessment;
   c. whose offer or bid information or whose in service or out of service status is information required to be submitted to the market assessment unit or the market surveillance panel in furtherance of their respective functions and obligations under the Electricity Act, 1998, the Ontario Energy Board Act, 1998 and these market rules; or
   d. whose offer or bid information, in service or out of service status or other information is required by applicable law, by license, by
the Ontario Energy Board or by a standards authority to be submitted to or obtained by the IESO.

2.3.2.4 the applying market participant fails to provide the certification referred to in section 2.2.3.3 in respect of any of the facilities;

2.3.2.5 the applying market participant fails to provide the certification referred to in section 2.2.3.4 in respect of any of the facilities; or

2.3.2.6 the applying market participant fails to successfully complete the testing or to permit the inspection referred to in section 2.2.3.5 in respect of any of the facilities.

2.3.2A Notwithstanding section 2.3.2.2b, the IESO may approve an application for the aggregation of facilities into a single registered facility that are not all connected to the IESO-controlled grid at the same connection point, provided that, in the sole judgement of the IESO, they can be represented as a single point of injection or withdrawal without compromising the reliability of the IESO-controlled grid. Aggregation for the purposes of calculating transmission service charges is specified in the then current Ontario Energy Board Transmission Rate Order.

2.3.3 If a proposed aggregation of facilities meets one or more of the above conditions, the IESO:

2.3.3.1 shall provide to the market participant whose application is denied the reasons for such denial.

2.3.3.2 [Intentionally left blank]

2.3.3.3 [Intentionally left blank]

2.3.4 Approval of the aggregation of facilities shall be withdrawn by the IESO where, for any reason, one or more of the aggregation facilities commences to meet any one or more of the conditions described in section 2.3.2. The IESO shall give notice of the withdrawal to the market participant authorized to submit dispatch data in respect of the aggregated facilities and shall cease to treat those facilities as a single registered facility as of the date and time specified in the notice for such purpose. The date and time so specified shall not be less than 2 days from the date and time at which the notice of withdrawal is given to the market participant. If the market participant subsequently wishes to thereafter re-aggregate the facilities, it shall be required to re-apply to the IESO for approval of the aggregation in accordance with section 2.3.1.

2.3.5 A market participant authorized to submit dispatch data for aggregated facilities may give notice to the IESO that it no longer wishes to aggregate those facilities.
The *IESO* shall acknowledge receipt of the *market participant’s* notice and shall cease to treat those *facilities* as a single *registered facility* as of the date and time specified in the acknowledgement of receipt for that purpose. The date and time so specified shall be as soon as reasonably practicable following the date of receipt by the *IESO* of the *market participant’s* notice. If the *market participant* subsequently wishes to re-aggregate the *facilities*, it shall be required to re-apply to the *IESO* for approval of the aggregation in accordance with section 2.3.1.

### 2.4 De-registration of Facilities

#### 2.4.1

A *market participant* that wishes to de-register a *registered facility*, other than a *boundary entity*, which is being removed from service shall file with the *IESO* a notice of request to de-register in such form as may be specified by the *IESO*; provided, however, that a *market participant* shall not be entitled to file such a notice if it is no longer the beneficial owner of the *registered facility*.

#### 2.4.2

Within ten *business days* of the date of receipt of the notice referred to in section 2.4.1, the *IESO* shall notify the *market participant* and the *transmitter* to whose *transmission system* the *registered facility* is connected as to whether the *IESO* requires a technical assessment of the impact of the removal from service of the *registered facility* on the reliability of the *IESO-controlled grid* and, if so, of the expected date of completion of such assessment. Such date shall not be more than 45 days from the date of issuance by the *IESO* of such notice or such later date as may be agreed between the *IESO* and the *market participant*.

#### 2.4.3

Where the notice issued by the *IESO* pursuant to section 2.4.2 indicates that the *IESO* does not require a technical assessment or where the *IESO* conducts a technical assessment and concludes the removal from service of the *registered facility* will not or is not likely to have an unacceptable impact on the reliability of the *IESO-controlled grid*, the *market participant* shall file with the *IESO* a notice setting forth the date upon which the *market participant* wishes the *IESO* to de-register the *registered facility*. Such date shall not be less than five *business days* from the date of receipt by the *market participant* of the notice issued by the *IESO* pursuant to section 2.4.2 and, as applicable, shall be subject to the date on which the *registered facility* has been *disconnected* as confirmed by the relevant *transmitter* to the *IESO*.

#### 2.4.4

Where section 2.4.3 applies, the *IESO* shall:

- **2.4.4.1** if the *registered facility* is not *connected* to the *IESO-controlled grid*, de-register the *registered facility* promptly upon completion of the technical assessment if applicable, or as of the date specified in the notice filed by the *market participant* pursuant to section 2.4.3, whichever is the later, and shall so notify the *market participant*, the
metering service provider for the metering installation that relates to the registered facility, and any market participant within which the registered facility is embedded; or

2.4.4.2 if the registered facility is connected to the IESO-controlled grid:

a. issue to the relevant transmitter a disconnection order directing the relevant transmitter to disconnect the registered facility from the IESO-controlled grid on the date specified in the disconnection order which shall be no earlier than the date specified in the notice filed by the market participant pursuant to section 2.4.3; and

b. de-register the registered facility as of the date on which the relevant transmitter confirms to the IESO that the registered facility has been disconnected from the IESO-controlled grid.

and shall notify the market participant accordingly.

2.4.5 Where the IESO conducts the technical assessment referred to in section 2.4.2 and concludes that the removal from service of the registered facility will or is likely to have an unacceptable impact on the reliability of the IESO-controlled grid, the IESO and the market participant shall commence the process described in sections 9.6 and 9.7 and in section 4.8 of Chapter 5 with a view to concluding a reliability must-run contract for that registered facility. The registered facility shall not be removed from service during the course of such process.

2.4.6 [Intentionally left blank – section deleted]

2.4.6.1 [Intentionally left blank – section deleted]

2.4.6.2 [Intentionally left blank – section deleted]

2.4.7 A transmitter that receives a disconnection order from the IESO pursuant to section 2.4.4.2(a) shall:

2.4.7.1 subject only to section 3.4.1.5 of Chapter 5 and to the completion of any operating and decommissioning procedures contemplated in the connection agreement applicable to the registered facility, disconnect the registered facility from the IESO-controlled grid on the date and at the time specified in the disconnection order; and

2.4.7.2 promptly inform the IESO once the registered facility has been disconnected from the IESO-controlled grid.

Planned Retirements of Generation Facilities
2.4.8 Each *generator* shall provide the *IESO* not less than six months advance notice of the commencement of the planned retirement of any one of its *generation facilities* that are *registered facilities*, including notification of any plans the *generator* may have to construct replacement *facilities* for those being retired.

2.5 Transfer of Registration of Facilities

2.5.1 *A market participant* that wishes to transfer the registration of a *registered facility*, other than a *boundary entity*, as a result of the proposed transfer of the *registered facility* to another person by sale, assignment, lease, transfer of control or other means of disposition shall, not less than 10 *business days* prior to the date on which the transfer is proposed to take effect, file with the *IESO* and the relevant *transmitter* or *distributor*, a notice of request to transfer the registration of the *registered facility* in such form as may be specified by the *IESO*. Such notice shall specify:

2.5.1.1 the identity of the transferee and whether the transferee is or intends to be a *market participant*; and

2.5.1.2 the date upon which the transfer is proposed to take effect,

and shall be accompanied by a written declaration by the proposed transferee that it is willing and able to assume control of the *registered facility* and to comply with all provisions of these *market rules* and of any *reliability must-run contract* or *contracted ancillary services* contract applicable to such *registered facility*.

2.5.2 If the proposed transferee satisfies or is capable of satisfying the requirements of section 2.2, the *IESO* shall approve a request to transfer the registration of a *registered facility* unless the proposed transferee is a *suspended market participant* or is otherwise ineligible under these *market rules* to be a *market participant*.

2.5.3 Where the *IESO* approves a request to transfer the registration of a *registered facility*, the *IESO* shall transfer the registration of the *registered facility* to the proposed transferee:

2.5.3.1 on the date referred to in section 2.5.1.2, provided that the proposed transferee was a *market participant* at the time of filing of the notice referred to in section 2.5.1 and remains a *market participant* on such date; or

2.5.3.2 on such later date as may reasonably be required to permit the *IESO* to effect the transfer following the later of the date of authorization of the proposed transferee as a *market participant* and the date on which the proposed transferee meets the requirements of section 2.2.
2.5.4 Upon completion of the transfer of the registered facility, the proposed transferee will have to post with the IESO prudential support or capacity prudential support as applicable, equal to the proposed transferee’s prudential support obligation or capacity prudential support obligation. Until the proposed transferee has done so, the transferring market participant shall continue to be liable for the obligations of the proposed transferee in the IESO-administered markets. Such obligations shall include, without limitation, the cost of electricity withdrawn from the IESO-controlled grid by the proposed transferee and related charges as determined by the IESO in accordance with Chapter 9. The prudential support obligation and/or capacity prudential support obligation as applicable of the transferring market participant shall include all such amounts whether or not the transferring market participant has complied with the provisions of this section 2.5.

3. Data Submissions for the Real-Time Markets

3.1 Applicability of this Section

3.1.1 A registered market participant that intends one or more of its registered facilities to be eligible for dispatch by the IESO for a given dispatch hour of a dispatch day shall submit to the IESO dispatch data for each such registered facility for such dispatch hour in accordance with this section 3.

3.1.2 Dispatch data that are revised after initial submission as allowed under the provisions of this section 3 must satisfy all of the requirements that apply to initial dispatch data and shall be dispatch data.

3.1.3 [Intentionally left blank – section deleted]

3.2 The Data Submission Process

3.2.1 Each registered market participant shall submit its dispatch data to the IESO through the electronic information system or, when not available, by such alternative means and/or in such alternative simplified form as may be specified by the IESO pursuant to section 3.2.2.3.

3.2.2 The IESO shall:

3.2.2.1 stamp all dispatch data with the time that it was received by the IESO;

3.2.2.2 within five minutes, confirm receipt of all such dispatch data through the electronic information system; and
3.2.2.3 specify alternative means and/or an alternative simplified form of submitting and confirming dispatch data when the electronic information system is unavailable.

3.2.3 The IESO shall reject any dispatch data that does not comply with the rules set forth in this section 3 and shall provide to the registered market participant submitting such rejected dispatch data the reasons for such rejection.

3.2.4 A registered market participant that does not receive from the IESO confirmation of receipt of dispatch data in accordance with section 3.2.2.2 shall immediately contact the IESO by telephone or facsimile seeking confirmation of receipt.

3.2.5 A registered market participant shall, if requested by the IESO, resubmit dispatch data by such means as may be specified by the IESO in the request.

3.3 Dispatch Data Submissions

3.3.1 Subject to sections 3.3.9 and 3.3A, a registered market participant that submits or is required to submit dispatch data for the initial pre-dispatch schedule, shall submit initial dispatch data for each dispatch hour of the dispatch day after 06:00 EST but before 10:00 EST of each pre-dispatch day. Such initial dispatch data may thereafter be revised as permitted by this section 3.3.

3.3.2 Subject to section 3.3A.6, the IESO shall use the initial dispatch data submitted by registered market participants to determine and publish the initial pre-dispatch schedule in accordance with section 5.

3.3.3 Subject to section 3.3A.8, a registered market participant may submit revised dispatch data with respect to any dispatch hour without restriction until 2 hours prior to the beginning of that dispatch hour.

3.3.4 [Intentionally left blank – section deleted]

3.3.4A [Intentionally left blank – section deleted]

Replacement Energy Offers

3.3.4B A registered market participant for a hydroelectric generation facility, a combined cycle generation facility, an enhanced combined cycle facility or a cogeneration facility that experiences a forced outage may submit revised dispatch data for a related generation facility, with respect to any dispatch hour up until 10 minutes prior to the beginning of that dispatch hour. If the revised dispatch data is submitted less than 10 minutes prior to the beginning of that dispatch hour, the revised dispatch data will apply to the subsequent dispatch hour. This section is subject to the following conditions:
• The submission of revised dispatch data takes place no later than one hour after the generation facility experiences the forced outage and is limited to the MW amount on forced outage.

• The registered market participant whose generation facility experienced a forced outage notifies the IESO, in accordance with the applicable market manual, of its intention to submit revised dispatch data for the related generation facility for the next available dispatch hour and of its intention to provide replacement energy from the related generation facility.

• Where the related generation facility is not synchronized, the registered market participant notifies the IESO of its intention to synchronize the related generation facility and the IESO determines synchronization will have no adverse impact on the reliability of the IESO-controlled grid.

• The related generation facility and the generation facility experiencing the forced outage have the same registered market participant.

• The related generation facility and the generation facility experiencing the forced outage have the same metered market participant.

Related generation facilities are generation facilities that, in the case of a hydroelectric generation facility, can utilize the water of the generation facility experiencing the forced outage without delay. In the case of combined cycle facilities, enhanced combined cycle facilities or cogeneration facilities, related generation facilities are generation facilities that can make up the loss in steam production to the steam turbine unit that would otherwise have been produced by the gas turbine unit experiencing the forced outage.

3.3.4C In the period after the notification and before the market tools process the revised dispatch data, the IESO shall accept replacement energy from the related generation facility, provided there is no adverse impact on the reliability of the IESO-controlled grid. The replacement energy delivered shall be limited to the amount of energy originally scheduled for the generating facility experiencing the forced outage. The market participant may choose to provide replacement energy from a related generation facility without submitting revised dispatch data for the current dispatch hour or, if within 10 minutes of the next dispatch hour, the current and subsequent dispatch hour.

3.3.5 Except as permitted by sections 3.3.4B, 3.3.8, 3.3.9.2 and 3.3.11, no registered market participant may, without the approval of the IESO, submit revised dispatch data with respect to any dispatch hour within 2 hours of that dispatch hour.
IESO Approvals of Revised Dispatch Data

3.3.6 Where pursuant to section 3.3.5, the approval of the IESO is required for the submission of revised dispatch data, the IESO shall, unless the change in quantity poses risks in relation to the reliability or security of the electricity system, approve the submission of revised dispatch data where:

3.3.6.1 [Intentionally left blank – section deleted]

3.3.6.2 [Intentionally left blank – section deleted]

3.3.6.3 the registered market participant indicates, at the time of the submission of the revised dispatch data, that the revision is required in order to reflect a proposed change in the operational status of the registered facility designed solely to prevent the registered facility from operating in a manner that would endanger the safety of any person, damage equipment, or violate any applicable law.

The IESO may refer such changes or revision of dispatch data to the market surveillance panel.

3.3.7 Dispatch data submitted during the dispatch day to which it applies need refer only to the remaining dispatch hours of that dispatch day.

3.3.8 Notwithstanding any other provision of this section 3.3 and with the exception of testing specified in section 6.6 of Chapter 5, a registered market participant shall as soon as practical submit to the IESO revised dispatch data for any registered facility in respect of which it is the registered market participant if, for any dispatch hour in the current pre-dispatch schedule, the quantity of any physical service scheduled for that registered facility differs from the quantity the registered market participant reasonably expects to be delivered or withdrawn by more than the greater of:

(i) 2 percent;

(ii) such absolute amount as may be determined by the IESO based on considerations of reliability and facility specific characteristics;

(iii) in the case of a cogeneration facility that is either a dispatchable or self-scheduling generation facility, such amount based on the impact that the production of the other forms of useful energy within the facility has on energy production based on the information outlined in section 2.2.6.10, and the IESO; and
(iv) in the case of an *enhanced combined cycle facility* that is either a *dispatchable* or *self-scheduling generation facility*, such amount based on the impact that the recovery of waste heat from an industrial process/processes within the *facility* has on *energy* production based on the information outlined in section 2.2.6.10;

and the *IESO*:

3.3.8.1 shall, unless the change in quantity poses risks in relation to the *reliability* or *security* of the *electricity system*, include such change as an input in respect of any subsequent *market schedules* determined following receipt of the change; and

3.3.8.2 may refer such changes or revision of *dispatch data* to the *market surveillance panel*.

### Standing Dispatch Data

3.3.9 If the *dispatch data* for a *registered facility* for a given *trading day* of a *trading week* will not change from *trading week* to *trading week*, the *registered market participant* for that *registered facility* may, as and for its *dispatch data* described in section 3.3.1, submit standing *dispatch data* for that *registered facility*. Such standing *dispatch data* shall:

3.3.9.1 define the *dispatch data* for each *dispatch hour* of each *dispatch day*;

3.3.9.1A in respect of each *dispatch day* for which it is in effect, be deemed for the purposes of this section 3.3 to be initial *dispatch data* at 06:00 EST on the *pre-dispatch day*; and

3.3.9.2 remain in effect until the expiration date specified in the standing *dispatch data* unless earlier withdrawn or earlier revised by the *registered market participant*:

a. as standing *dispatch data* prior to 06:00 EST on the *pre-dispatch day*; or

b. in accordance with sections 3.3.3 to 3.3.8.

### IESO Authorities to Direct Submission or Revision of Dispatch Data

3.3.10 Notwithstanding sections 3.3.3, 3.3.4, 3.3.4B, 3.3.5 and 3.3.8, where the *IESO* determines, on the basis of the initial *pre-dispatch schedule* or any subsequent *pre-dispatch schedule* determined in accordance with section 5, that a revision to *dispatch data* will not allow it to maintain the *reliability* of the *IESO-controlled grid*, the *IESO* may, subject to sections 3.3.15 and 3.3.16:
3.3.10.1 refuse to accept a revision to the quantity element of dispatch data submitted by a registered market participant; or

3.3.10.2 direct a registered market participant to submit or to resubmit a revision to the quantity element of its dispatch data, or both. The IESO shall notify the registered market participant of a refusal referred to in section 3.3.10.1 and shall include in any direction issued pursuant to section 3.3.10.2 a description of the revised dispatch data to be submitted or resubmitted by the registered market participant.

3.3.10A A registered market participant in respect of a transitional scheduling generator may treat a direction referred to in section 3.3.10.2 that means an increase in the quantity element of its dispatch data as a request and shall confirm with the IESO its intention to comply or not comply with the request issued. If the registered market participant indicates its intentions are not to comply with the direction, the registered market participant shall provide the reasons for non-compliance to the IESO.

3.3.11 A registered market participant to which a direction has been issued pursuant to section 3.3.10.2 shall submit revised dispatch data to the IESO in accordance with the terms of the direction within 2 hours of the time of receipt of the direction.

3.3.12 If the IESO determines, on the basis of the initial pre-dispatch schedule or any subsequent pre-dispatch schedule determined in accordance with section 5, that it requires the supply of energy, ancillary services, other than contracted ancillary services, or both from additional registered facilities in order to maintain the reliability of the IESO-controlled grid, the IESO shall determine if there are additional registered facilities that have not submitted dispatch data and that can, to the IESO’s knowledge, be made available within the time required in order to help maintain the reliability of the IESO-controlled grid.

3.3.13 Subject to sections 3.3.14 to 3.3.16, the IESO may direct the registered market participant for an additional registered facility identified pursuant to section 3.3.12 to submit dispatch data, and shall include in such direction a description of the dispatch data to be submitted by the registered market participant.

3.3.14 A registered market participant to which a direction is issued pursuant to section 3.3.13 shall submit dispatch data to the IESO in accordance with the terms of the direction within 2 hours of the time of receipt of the direction.

3.3.15 The IESO shall not issue a direction pursuant to section 3.3.10 or 3.3.13 for the purposes of addressing a lack of overall adequacy of the IESO-controlled grid.
3.3.16 Where a registered facility to which a direction issued pursuant to section 3.3.10.2 or 3.3.13 relates has a reliability must-run contract with the IESO, any such direction shall, subject to the time period for the submission of dispatch data referred to in sections 3.3.11 and 3.3.14, be consistent with the terms of such reliability must-run contract.

3.3.17 Nothing in sections 3.3.10 to 3.3.16 shall preclude the application of the provisions of sections 7.3.2.3 or of Appendix 7.6 in respect of dispatch data that is revised or submitted in accordance with sections 3.3.10 to 3.3.16.

3.3.18 A registered market participant may, for any one or more of its registered facilities that is a dispatchable load, identify all or a portion of the consumption at such registered facilities as non-dispatchable load by submitting dispatch data in accordance with the applicable market manual.

3.3A Dispatch Data Submissions for the Day-Ahead Commitment Process

3.3A.1 Subject to section 1.7, defining when the day-ahead commitment process shall function, this section 3.3A shall be in effect.

3.3A.2 Subject to the standing dispatch data provisions of section 3.3.9, each registered market participant that intends its dispatchable generation facility, including a generation facility that intends to operate in segregated mode of operation in real-time, dispatchable load facility, or hourly demand response resource to be eligible for dispatch by the IESO for a given dispatch hour of a dispatch day shall, after 06:00 EST but before 10:00 EST of the pre-dispatch day, submit dispatch data for those dispatch hours of the dispatch day including, where applicable, the daily energy limit for the facility for the dispatch day. The registered market participant may then only revise such initial dispatch data as permitted by this section 3.3A.

3.3A.3 If a registered market participant for a dispatchable generation facility does not provide dispatch data in accordance with section 3.3A.2 the facility shall not operate in real-time without the approval of the IESO under section 3.3A.12.

3.3A.4 A registered market participant for a dispatchable load facility may, in the dispatch data submitted under section 3.3A.2, identify all or a portion of the consumption at such registered facility as non-dispatchable load in accordance with the applicable market manual.

3.3A.5 A registered market participant for a boundary entity may submit, between 6:00 EST and 10:00 EST of the pre-dispatch day, an import offer or export bid for the next dispatch day with a valid NERC tag identifier. If the import offer is included
in the schedule of record determined under section 5.8, the registered market participant will receive the day-ahead intertie offer guarantee determined under section 3.8A of Chapter 9.

3.3A.6 Registered market participants that submitted offers or bids in accordance with either section 3.3A.2 or section 3.3A.5 shall require IESO approval to modify those offers or bids between 10:00 EST and 14:00 EST except for registered market participants for:

- dispatchable hydroelectric generation facilities which submitted a daily cascading hydroelectric dependency in accordance with section 2.2.6K and which are designated by the IESO as eligible energy-limited resources, and

- physical generation units associated with a pseudo-unit designated in accordance with section 2.2.6G.

3.3A.7 [Intentionally left blank – section deleted]

### Market Participant Revisions to Dispatch Data

3.3A.8 Subject to sections 3.3A.9, 3.3A.10 and 3.3A.14, after 14:00 EST a registered market participant may submit revised dispatch data with respect to any dispatch hour without restriction until 2 hours prior to the beginning of that dispatch hour.

3.3A.9 Subject to sections 3.3A.10 and 3.3A.14, a registered market participant for a dispatchable generation facility who did submit dispatch data under section 3.3A.2 may revise its offer in real-time provided the revised dispatch data does not increase the number of hours offered or the offered quantity in any hour relative to the dispatch data submitted under section 3.3A.2. Revised offers which represent increases to the number of hours offered or increases to the offered quantity relative to the dispatch data submitted under section 3.3A.2 will require IESO approval. Changes to daily energy limits will not require IESO approval.

3.3A.10 A registered market participant for a dispatchable generation facility who was deemed to have accepted the day-ahead production cost guarantee in accordance with section 5.8.4 shall not increase the offer price associated with the minimum loading point of the facility.

3.3A.11 A registered market participant for a dispatchable load facility that declared its intent for all or a portion of its consumption to be non-dispatchable under sections 3.3A.2 and 3.3A.4 will require IESO approval to increase its declared bid quantity and bid that consumption in real-time as dispatchable load.
3.3A.12 The IESO shall approve increases to declared availability of a dispatchable facility if that generation facility or dispatchable load facility returns from outage earlier than planned, or if the IESO has solicited additional offers and bids, or if such increases will avoid an emergency operating state or high-risk operating state, or as permitted under section 3.3.6.3.

3.3A.13 A registered market participant for a boundary entity who is eligible to receive a day-ahead intertie offer guarantee for an import transaction in accordance with section 3.3A.5 shall not revise the submitted dispatch data to link that import transaction to an export transaction as described in section 3.5.8.2 of Chapter 7. If the IESO determines that the dispatch data was revised by the registered market participant in the manner described above, the IESO shall recover from the registered market participant any day-ahead intertie offer guarantee payment for that import transaction and shall redistribute the payment in accordance with chapter 9, section 4.8.2.11.

3.3A.14 A registered market participant for a dispatchable generation facility who was deemed to have accepted the day-ahead production cost guarantee in accordance with section 5.8.4 shall be subject to a withdrawal charge as per section 3.8F of Chapter 9 if the registered market participant withdraws the offer for the facility.

3.4 The Form of Dispatch Data
3.4.1 Dispatch data shall relate to a specified dispatch hour of the dispatch day and to a specified registered facility, shall comply with the applicable provisions of this section and sections 3.5 to 3.9 and shall take one of the following forms:

3.4.1.1 for a dispatchable generation facility, an offer to provide a physical service to the appropriate real-time market. Offers accepted result in sales in the real-time market only to the extent that, for the registered market participant submitting such offers, the total value of the physical services provided to the real-time markets is greater than the total value of the physical bilateral contract quantities notified to the IESO in respect of that registered market participant pursuant to Chapter 8;

3.4.1.1.1 for a dispatchable generation facility that is classified as variable generation, an offer to provide a physical service to the appropriate real-time market reflecting its generation facility’s full capacity available for production, determined in accordance with the applicable market manual.

3.4.1.2 for a dispatchable load facility, a bid to take energy from the energy market. Bids accepted result in purchases in the real-time market only
3.4.1.2A [Intentionally left blank – section deleted]

3.4.1.3 for a self-scheduling generation facility, a self-schedule for the provision of energy to the energy market. Energy actually provided by a self-scheduling generation facility results in sales in the real-time market only to the extent that, for the registered market participant designated for that self-scheduling generation facility, the total value of energy provided to the real-time market is greater than the total value of physical bilateral contract quantities notified to the IESO in respect of that registered market participant pursuant to Chapter 8;

3.4.1.4 for an intermittent generator, a forecast of energy expected to be provided to the energy market. Energy actually provided by an intermittent generator results in sales in the real-time market only to the extent that, for the registered market participant designated for such intermittent generator, the total value of energy provided to the real-time market is greater than the total value of physical bilateral contract quantities notified to the IESO by that registered market participant pursuant to Chapter 8;

3.4.1.4A for a transitional scheduling generator, a forecast schedule for the provision of energy to the energy market; and

3.4.1.4B [Intentionally left blank – section deleted]

3.4.1.5 [Intentionally left blank – section deleted]

3.4.1.6 for a capacity market participant with an hourly demand response resource, a demand response energy bid to reduce its energy consumption during a specified availability window and obligation period in accordance with the applicable market manual.

3.4.2 Each transmitter shall submit to the IESO information on the status of its transmission system as described in section 3.9.

3.4.3 Each offer or bid for any physical service shall contain prices, each with an associated quantity. A price and the associated quantity in an offer or bid is a price-quantity pair and shall comply with sections 3.5 and 3.6 and the following:
3.4.3.1 the quantity in any price-quantity pair, other than in the first price-quantity pair, shall be a cumulative quantity representing the maximum quantity the registered market participant is offering to sell or bidding to buy, respectively, at the associated price in the price-quantity pair;

3.4.3.1A [Intentionally left blank – section deleted]

3.4.3.2 in any offer, the price in each price-quantity pair must not decrease as the associated quantity increases; and

3.4.3.3 in any bid, the price in each price-quantity pair must not increase as the associated quantity increases.

3.4.4 The market price of energy, in $/MWh, at and below which the IESO may instruct a generation facility to reduce its energy output to zero shall be:

3.4.4.1 [Intentionally left blank]

3.4.4.2 in the case of a generation facility other than a self-scheduling generation facility or an intermittent generator, the lowest price in any price-quantity pair submitted with respect to such facility.

Such price may be zero or negative but may not be less than negative MMCP.

3.4.4A Every submission of dispatch data with respect to a self-scheduling generation facility or an intermittent generator shall specify a price, in $/MWh, at and below which the applicable registered market participant reasonably expects to reduce the energy output of such self-scheduling generation facility or intermittent generator to zero. Such price may be zero or negative but may not be less than negative MMCP.

3.4.5 Every submission of dispatch data with respect to a dispatchable load facility shall specify a market price of energy, in $/MWh, at and above which the IESO may instruct the facility to reduce its energy withdrawals to zero. Such price shall not be greater than MMCP.

3.5 Energy Offers and Energy Bids

3.5.1 A registered market participant may submit no more than one energy offer or one energy bid with respect to a given registered facility for any dispatch hour.

3.5.2 All energy offers and energy bids shall be submitted using such forms as may be specified by the IESO, which forms shall require, at a minimum, provision of all of the information specified in Appendices 7.1 and 7.2, respectively, except where
the IESO specifies an alternative means and/or an alternative simplified form pursuant to section 3.2.2.3.

3.5.3 Each energy offer or energy bid must contain at least 2 and, may contain up to 20 price-quantity pairs for each dispatch hour. The price in each such price-quantity pair shall be not more than the Maximum Market Clearing Price or MMCP and not less than the negative Maximum Market Clearing Price or negative MMCP and shall be expressed in dollars and whole cents per MWh. The quantity in each such price-quantity pair shall:

3.5.3.1 in the case of a registered facility other than a boundary entity, be expressed in MW (or MWh/hour) to one decimal place and shall not be less than 0.0 MW (or 0.0 MWh/hour); or

3.5.3.2 in the case of a registered facility that is a boundary entity, be expressed in whole MW (or MWh/hour) and shall not be less than 0 MW (or 0 MWh/hour).

The quantity in the first price-quantity pair shall be 0.0 MW (or 0.0 MWh/hour) or 0 MW (or 0 MWh/hour) as applicable. The price in the second price-quantity pair shall be the same as the price in the first price-quantity pair.

3.5.4 Prices in energy offers and energy bids may be negative and such negative price shall imply:

3.5.4.1 when in an energy offer, that the registered market participant is willing to pay up to that price for each MWh of energy it injects rather than reduce its output; and

3.5.4.2 when in an energy bid, that the registered market participant is willing to take or dispose of excess energy, but only if paid at least that price for each excess MWh taken or disposed of.

3.5.4A The IESO Board shall establish floor prices for energy offers from variable generators that are registered market participants and for energy offers from flexible nuclear generators for flexible nuclear generation, in accordance with the applicable market manual. The prices in each energy offer submitted by the variable generator or by a flexible nuclear generator in respect of flexible nuclear generation for each dispatch hour shall not be less than the floor prices specified in the applicable market manual.

3.5.5 Each energy offer or energy bid shall contain up to 5 sets of ramp quantity and ramp up/ramp down values for each dispatch hour. The ramp quantity in each
such set shall be the maximum MW quantity at which the corresponding ramp rate values apply, shall be expressed in MW to one decimal place and shall be greater than 0.0 MW. The ramp up and ramp down values in each such set shall be expressed in MW/minute to one decimal place and shall be greater than 0.0 MW/min. The laminations corresponding to such sets may be different from those of the price-quantity pairs contained in each energy bid or energy offer.

3.5.6 The largest quantity in any energy offer or energy bid for any dispatch hour must be at least 1.0 MWh but shall not exceed the lesser of:

3.5.6.1 the maximum output of energy in an hour indicated in the registration information for the relevant registered facility;

3.5.6.2 the maximum quantity of energy that can be supplied (for an energy offer) or taken (for an energy bid) in that dispatch hour by the registered facility, as estimated by the registered market participant for that registered facility; or

3.5.6.3 the maximum allowed injection (for an energy offer) or withdrawal (for an energy bid) in that dispatch hour through the relevant connection point, as limited by the lesser of (i) the capacity of any radial line connecting the registered facility to the connection point; (ii) the maximum injection or withdrawal as specified in the connection agreement applicable to the registered facility; or (iii) the maximum injection or withdrawal otherwise permitted by the relevant transmitter.

3.5.7 A registered market participant offering energy from a specified registered facility may submit dispatch data specifying a maximum amount of energy that can be scheduled by the IESO for that registered facility over a dispatch day. Such a limit shall be used only in the pre-dispatch schedule described in section 5, and only for the purpose of providing information that the registered market participant may use as a basis to revise its energy offers in subsequent submissions.

3.5.8 All wheeling through transactions shall consist of:

3.5.8.1 an individual energy offer from a boundary entity injecting energy into the IESO-controlled grid and an energy bid from a boundary entity withdrawing energy from the IESO-controlled grid; or

3.5.8.2 an individual energy offer from a boundary entity injecting energy into the IESO-controlled grid and an energy bid from a boundary entity withdrawing energy from the IESO-controlled grid, and an
identification of the desire for these to be linked, in accordance with the applicable market manual. The IESO shall assess so identified offers separately from their associated bids. The IESO shall schedule and dispatch the linked offers and bids such that both are equal to the lower of the offer or bid that would otherwise be scheduled and dispatched.

3.5.9 An energy bid submitted by a registered market participant for a boundary entity in respect of the withdrawal from the IESO-controlled grid of energy destined for an intertie zone in the United States of America shall constitute a declaration by a registered market participant for the boundary entity of an intention to export energy in the circumstances described in paragraphs 1(b) to 1(d) of Part V of Schedule VI of the Excise Tax Act (Canada).

3.6 Operating Reserve Offers

3.6.1 A registered market participant may not submit, for any registered facility, more than one offer to provide each class of operating reserve in any dispatch hour.

3.6.2 Each offer to provide operating reserve must contain at least 2 and may contain up to 5 price-quantity pairs for each class of operating reserve for each dispatch hour. The price in each such price-quantity pair shall be not more than the Maximum Operating Reserve Price or MORP and not less than zero and shall be expressed in dollars and whole cents per MW. The quantity in each such price-quantity pair shall:

3.6.2.1 in the case of a registered facility other than a boundary entity, be expressed in MW to one decimal place and shall not be less than 0.0 MW; or

3.6.2.2 in the case of a registered facility that is a boundary entity, be expressed in whole MW and shall not be less than 0 MW.

The quantity in the first price-quantity pair shall be 0.0 MW (or 0.0 MWh/hour) or 0 MW (or 0 MWh/hour) as applicable. The price in the second price-quantity pair shall be the same as the price in the first price-quantity pair.

3.6.3 Each offer to provide operating reserve shall be accompanied by a corresponding energy offer or energy bid that covers the same MW range.

3.6.4 Offers to supply operating reserve shall be submitted in such form as may be specified by the IESO, which form shall require, at a minimum, provision of all of the information specified in Appendix 7.3, except where the IESO specifies an alternative means and/or an alternative simplified form pursuant to section 3.2.2.3.
3.7 Self-Scheduling Generators

3.7.1 A registered market participant for a self-scheduling generation facility shall submit dispatch data indicating the amount of energy that the registered market participant reasonably expects to be provided by that self-scheduling generation facility in each dispatch hour. Such dispatch data shall:

3.7.1.1 be submitted to the IESO in such form as may be specified by the IESO, including provision of the applicable information specified in Appendix 7.1; and

3.7.1.2 comply with section 3.4.4A.

3.7.2 A registered market participant for a self-scheduling cogeneration facility or self-scheduling enhanced combined cycle facility shall ensure its facility operates in accordance with its dispatch data within the tolerances for updating dispatch data outlined in section 3.3.8.

3.7.3 Subject to section 1.7 defining when the day-ahead commitment process shall function, a registered market participant for a registered facility that is a self-scheduling generation facility shall submit dispatch data after 6:00 EST but before 10:00 EST of the pre-dispatch day in accordance with section 3.7.1.

3.8 Intermittent Generators

3.8.1 A registered market participant for an intermittent generator shall submit dispatch data indicating its best forecast of the amount of energy that the intermittent generator will inject in each dispatch hour. Such dispatch data shall:

3.8.1.1 be submitted to the IESO in such form as may be specified by the IESO, including provision of the applicable information specified in Appendix 7.1; and

3.8.1.2 comply with section 3.4.4A.

3.8.2 Subject to section 1.7 defining when the day-ahead commitment process shall function, a registered market participant for a registered facility that is an intermittent generator shall submit dispatch data after 6:00 EST but before 10:00 EST of the pre-dispatch day indicating its best forecast of the amount of energy that the intermittent generator will inject in each dispatch hour of the next dispatch day in accordance with section 3.8.1.

3.8A Transitional Scheduling Generators

3.8A.1 A registered market participant for a registered facility that is a transitional scheduling generator shall submit dispatch data indicating its forecast of the
amount of energy that the transitional scheduling generator will inject in each dispatch hour of the dispatch day. Such dispatch data shall be submitted to the IESO for the initial pre-dispatch schedule in accordance with section 3.3.1 and in such form as may be specified by the IESO.

3.8A.2 Subject to section 1.7 defining when the day-ahead commitment process shall function, a registered market participant for a registered facility that is a transitional scheduling generator shall submit dispatch data after 6:00 EST but before 10:00 EST of the pre-dispatch day indicating its forecast of the amount of energy that the transitional scheduling generator will inject in each dispatch hour of the next dispatch day in accordance with section 3.8A.1.

3.9 Transmission System Information
3.9.1 Each transmitter whose transmission system is part of the IESO-controlled grid shall provide the IESO with the transmission system information described in Appendix 7.4 in such form as the IESO may specify.

3.9.2 Each transmitter referred to in section 3.9.1 shall update the information described in Appendix 7.4 so that it is current at:

3.9.2.1 15:00 EST on the day which is two days prior to the relevant dispatch day;
3.9.2.2 05:00 EST on the pre-dispatch day;
3.9.2.3 10:00 EST on the pre-dispatch day; and
3.9.2.4 any time subsequent to 10:00 EST on the pre-dispatch day up to the beginning of the relevant dispatch hour if there is a material change in the information required by this section.

4. The Dispatch Algorithm
4.1 Purpose of the Dispatch Algorithm
4.1.1 The IESO shall determine the various schedules and prices required by this Chapter to be developed by it using a dispatch algorithm based on the mathematical techniques of constrained optimisation. The form and use of this dispatch algorithm are summarised in this section 4 and detailed in Appendix 7.5.
4.2 Uses of the Dispatch Algorithm

4.2.1 The *IESO* may use different numerical values in, or different computerised versions of, the *dispatch algorithm* for each of the several purposes described in this Chapter, but shall keep the objective, mathematical formulation and solution procedures the same, except as specifically noted.

4.2.2 The *IESO* shall, as far as practical, use the outputs of the *dispatch algorithm* to determine the *dispatch instructions* that guide actual physical operations of the *electricity system*. However, because any *dispatch algorithm* is only an approximation of a complex physical reality and may sometimes malfunction, the *IESO* may modify or override the results of the *dispatch algorithm* when issuing *dispatch instructions* pursuant to section 7.

4.2.3 The *IESO* shall no less than once in each calendar month, *publish* a report listing and giving reasons for all significant differences between *dispatch instructions* issued and the results of the *dispatch algorithm*.

4.2.4 Unless otherwise directed by the *IESO Board*, the *IESO* shall no less than once every two calendar years, commission and *publish* the results of an independent review of the operation and application of the *dispatch algorithm* and the related *dispatch* processes and procedures. The *IESO* shall use the results of such review to determine the need or otherwise for improvements in the related *dispatch* processes and procedures in meeting the objectives of the *market rules* and/or the mathematical representation of the *electricity system* or the solution procedures which form part of the market clearing logic. The first such review shall be completed no later than May 1, 2004.

4.3 The Optimisation Objective

4.3.1 The *dispatch algorithm* shall have as its mathematical objective function maximising the economic gain from trade among *market participants* as defined in section 4.3.2.

4.3.2 The economic gain from trade shall be defined as the difference between the value of the electricity produced (as indicated by the *energy demand* from *non-dispatchable loads* and the *energy bids* from *dispatchable loads*) and the cost of producing that electricity (as indicated by the *offers* to supply the *energy* and *operating reserves* necessary to *reliably* deliver that electricity to loads).

4.3.3 Maximising the economic gain from trade will determine quantities and prices that “clear the market,” in the sense that, given the market-clearing prices and the *dispatch data*, no *market participant* would be economically better off (in terms of the *dispatch data* it submitted itself) producing or withdrawing more or less than the market-clearing quantity of any *physical service*. 
4.4 **Inputs to the Dispatch Algorithm**

4.4.1 The *IESO* shall use as inputs to the *dispatch algorithm* the data and information outlined in section 4.4 and described in more detail in Appendix 7.5.

4.4.1A [Intentionally left blank]

4.4.2 The cost to suppliers of *energy* and *operating reserves* and the value to *dispatchable loads* of delivered electricity shall be based on the most recent valid *offers* and *bids* (including standing *dispatch data*) submitted by *registered market participants* with respect to *dispatchable generation facilities* and *dispatchable load facilities*.

4.4.3 Subject to section 4.4.3A, the price-insensitive load to be met shall be the sum of:

4.4.3.1 the net energy injections (injections minus withdrawals) by all *non-dispatchable load facilities*, *self-scheduling generation facilities* and *intermittent generators* and *transitional scheduling generators*; and

4.4.3.2 any net amount by which the actual net injections (injections minus withdrawals) by all *dispatchable generation facilities* and *dispatchable load facilities* is less than the net amount implied by the *IESO’s dispatch instructions* to such facilities.

4.4.3A Until such time that locational pricing is implemented in the *IESO-administered markets*, the price-insensitive load to be met shall be determined solely on the basis of the net *energy* injections referred to in section 4.4.3.1.

4.4.4 Limits on *intertie* flows between the *integrated power system* and neighbouring *transmission systems* shall be based on:

4.4.4.1 a simple model that assumes that each *intertie meter* is *connected* to an isolated *intertie zone* by a single transmission line;

4.4.4.2 the *IESO’s* best estimate of the maximum flow on the single transmission line to each *intertie zone*, given the status of the neighbouring *transmission systems* and expected or actual unscheduled flows (including as unscheduled flows any flows planned by the *IESO* to balance interchange accounts with other *control area operators*); and

4.4.4.3 a net *interchange schedule* limit to represent the *integrated power system’s* ability to respond to hourly *interchange schedule* deviations and maintain the *reliability* of the *IESO-controlled grid*. 
4.4.5 Constraints on the use of the IESO-controlled grid shall be determined on the basis of such system security requirements as the IESO may determine necessary to maintain reliable system operations, which requirements shall include, at a minimum, the following:

4.4.5.1 the largest applicable contingency events and any increments above these required to satisfy applicable reliability standards;

4.4.5.2 security constraints on identified facilities;

4.4.5.3 minimum requirements for each class of operating reserve;

4.4.5.4 the IESO’s commitments to neighbouring transmission systems for operating reserves and regulation;

4.4.5.5 the availability and need for contracted ancillary services and reliability must-run resources; and

4.4.5.6 reliability constraints associated with interchange schedules as referred to in section 4.4.4.3.

4.4.6 The following basic parameters of the dispatch algorithm shall be as specified from time to time by the IESO Board:

4.4.6.1 the maximum market clearing price or MMCP that defines the maximum allowable price for energy, and the negative of which defines the minimum allowable price for energy;

4.4.6.1A the maximum operating reserve price or MORP that defines the maximum allowable price for any class of operating reserve; and

4.4.6.2 the penalty functions for the violation of dispatch algorithm constraints.

If the output of the dispatch algorithm fails to satisfy non-dispatchable demand or the operating reserve requirements for any class of operating reserve then, subject to section 8.2.2, the penalty functions referred to in section 4.4.6.2 may influence the calculation of market prices for energy and operating reserve in a similar fashion to offers and bids.

4.4.7 Interchange schedule data shall be input as a constant value for the given dispatch hour unless otherwise specified by the IESO and shall be derived in accordance with the outputs of the dispatch algorithm for each dispatch hour as determined under section 4.6.
4.5 **The Constrained and Unconstrained IESO-Controlled Grids**

4.5.1 The *dispatch algorithm* shall be used to determine both operating schedules that reflect the realities of the *integrated power system* and uniform prices within the *IESO control area* that ignore transmission system constraints. Thus, the *dispatch algorithm* shall be capable of using the following two different models for the *integrated power system*:

- **4.5.1.1 an unconstrained IESO-controlled grid model**, which ignores transmission and other *security* constraints on the *IESO-controlled grid* and assumes, in effect, that all *physical services* are provided and consumed at a single, undesignated location *connected* to several isolated *intertie zones* by single transmission lines; and

- **4.5.1.2 a constrained IESO-controlled grid model**, which includes a full (but necessarily approximate) mathematical representation of the *integrated power system*, with *interconnections* modelled as single transmission lines to isolated *intertie zones* or as proportionately allocated to *intertie zones*.

4.6 **Outputs of the Dispatch Algorithm**

4.6.1 The *IESO* shall use the *dispatch algorithm* to determine the quantities and prices summarised in this section 4.6 and detailed in Appendix 7.5.

4.6.2 The *dispatch algorithm* shall be used with the *constrained IESO-controlled grid model* to determine, prior to each *dispatch hour* and to each *dispatch interval*, operating schedules and their associated costs and shadow prices. The principal outputs, for each *dispatch hour* or *dispatch interval*, as the case may be, shall be the following:

- **4.6.2.1 the amounts of energy** (in MW or MWh/hour) and of each class of *operating reserve* (in MW) scheduled to be provided to the *integrated power system* by each *registered facility*;

- **4.6.2.2 the amounts of energy** (in MW or MWh/hour) scheduled to be withdrawn from the *integrated power system* by each *registered facility*;

- **4.6.2.3 the deemed total cost**, as defined by the prices in *offers*, of the total amounts of *energy* and *operating reserve* scheduled to be provided by *registered facilities*;
4.6.2.4 the deemed total cost, as defined by the prices in energy bids, the MMCP and the penalty functions in the dispatch algorithm, of any dispatchable load reductions, any failure to meet non-dispatchable loads and any constraint violations;

4.6.2.5 power flows and energy losses on transmission lines;

4.6.2.6 the prices of providing energy at each set of transmission nodes identified by the IESO for this purpose and, subject to section 4.6.2B, the prices of each class of operating reserve in each reserve area identified by the IESO for this purpose.

4.6.2A [Intentionally left blank]

4.6.2B Until the date that is the first day of the fourth calendar month following the market commencement date, calculated from the first day of the calendar month immediately following the month in which the market commencement date occurs, the prices of each class of operating reserve in each reserve area referred to in section 4.6.2.6 shall not be included as a principal output of the dispatch algorithm.

4.6.3 The dispatch algorithm shall be used with the unconstrained IESO-controlled grid model to determine, prior to each dispatch hour and at several times after each dispatch interval, market schedules and the corresponding uniform prices within the IESO control area. The principal outputs of this process are the following:

4.6.3.1 the market schedule indicating the amounts of energy (in MW or MWh/hour) and of each class of operating reserve (in MW) that would be provided to the integrated power system by each registered facility if transmission were totally unconstrained on the IESO-controlled grid;

4.6.3.2 the amounts of energy (in MW or MWh/hour) that would be withdrawn from the integrated power system by each registered facility if transmission were totally unconstrained on the IESO-controlled grid;

4.6.3.3 the deemed total cost, as defined by the prices in offers, of the total amounts of energy and operating reserve in the market schedule;

4.6.3.4 the deemed total cost, as defined by the prices in energy bids, the MMCP and the penalty functions in the dispatch algorithm, of any dispatchable load reductions, any failure to meet non-dispatchable loads and any constraint violations;
loads, and any constraint violations that would occur if transmission were totally unconstrained on the IESO-controlled grid; and

4.6.3.5 the prices of providing energy and each class of operating reserve at any point within the IESO control area if transmission were totally unconstrained on the IESO-controlled grid. As provided in Chapter 9, the unconstrained prices for each dispatch interval shall be used for settlement purposes, except for non-dispatchable loads, who shall pay a uniform hourly Ontario energy price (HOEP) determined as described in section 8.3.1.

4.6.4 The dispatch algorithm shall be used with the constrained IESO-controlled grid model to determine, prior to each dispatch hour, interchange schedules and their associated costs. The interchange schedule for each dispatch hour shall be constant for the dispatch hour and used as inputs into the dispatch algorithm in accordance with section 4.4.

5. **The Pre-dispatch Scheduling Process**

5.1 **Purpose and Timing of Pre-dispatch Schedules**

5.1.1 The IESO shall determine pre-dispatch schedules in order to provide itself and market participants with advance information and projections necessary to plan the physical operation of the electricity system.

5.1.2 The IESO shall determine an initial pre-dispatch schedule for the 24 dispatch hours of each dispatch day no later than 16:00 EST on the pre-dispatch day.

5.1.3 The IESO shall prepare a revised pre-dispatch schedule for each dispatch day whenever the IESO determines that changed circumstances have made the previous pre-dispatch schedule materially incorrect. A revised pre-dispatch schedule shall be determined only for dispatch hours following the changes that make it necessary.

5.1.4 Each time the IESO determines a pre-dispatch schedule, it shall also determine the associated projected market prices for energy and operating reserve and the associated projected market schedule.

5.1.5 The IESO shall publish and release to market participants each pre-dispatch schedule as provided in section 5.5. The most recently published pre-dispatch schedule shall supersede all previous pre-dispatch schedules for the same dispatch hours.
5.2 Information Used to Determine Pre-dispatch Schedules

5.2.1 The IESO shall use the following information for determining and updating the pre-dispatch schedule in accordance with section 5.3, using in each case the most current valid information:

5.2.1.1 dispatch data submitted by registered market participants;

5.2.1.2 the IESO’s own forecasts of non-dispatchable load, and of generation by intermittent generators, transitional scheduling generators and self-scheduling generation facilities with name-plate ratings of less than 10 MW;

5.2.1.3 the transmission system information provided by each transmitter pursuant to section 3.9;

5.2.1.4 the amount and location of contracted ancillary services under contract to the IESO;

5.2.1.5 the expected initial loading of each generator and dispatchable load, as determined based on the most current pre-dispatch schedule or, if applicable, real-time schedule; and

5.2.1.6 such other available information as the IESO determines appropriate including the interchange schedule data which are a result of the applicable interchange schedule protocol as defined in the applicable market manual and which may result in setting an upper limit for energy quantities scheduled in subsequent pre-dispatch schedules.

5.3 Determining the Pre-dispatch Schedule

5.3.1 The IESO shall use the information described in section 5.2 and the dispatch algorithm to determine a pre-dispatch schedule as follows:

5.3.1.1 the constrained IESO-controlled grid model shall be used;

5.3.1.2 the parameters defining the condition of the integrated power system, and any unscheduled flows between the integrated power system and neighbouring control areas or neighbouring transmission systems, shall be represented at their expected values in each dispatch hour of the dispatch day;

5.3.1.3 a pre-dispatch schedule shall be determined for each of the 24 dispatch hours of the dispatch day in sequence, with each dispatch hour assumed to be independent of the others except that the loading
of each generator and dispatchable load for each dispatch hour shall be set equal to its value at the end of the preceding dispatch hour; and

5.3.1.4 for a registered facility that has specified a daily energy limit pursuant to section 3.5.7, hourly production amounts shall be cumulated until the first dispatch hour in which the energy limit is reached or exceeded, and the energy production of that registered facility shall be set to zero for all subsequent dispatch hours in that dispatch day.

5.3.2 If conditions or projections change materially during the pre-dispatch day or the dispatch day, the IESO shall use the dispatch algorithm with revised inputs reflecting the changes in conditions or projections to determine a revised pre-dispatch schedule for the remaining dispatch hours in the dispatch day.

5.4 Projected Market Schedules and Market Prices

5.4.1 Subject to section 5.4.2, the IESO shall, immediately after determining any pre-dispatch schedule, determine projected market schedules and projected market prices for each of the dispatch hours in that pre-dispatch schedule. For this purpose, the IESO shall use the same information and data used for determining the pre-dispatch schedule for those dispatch hours, except that:

5.4.1.1 the unconstrained IESO-controlled grid model shall be used;

5.4.1.2 the initial conditions to be used for any dispatch hour in the market schedule shall be the final conditions of the market schedule for the preceding dispatch hour;

5.4.1.3 the total demand (including losses) to be satisfied within a dispatch hour in the market schedule shall be the same as the total demand identified in the pre-dispatch schedule for that dispatch hour, and

5.4.1.4 total system energy losses determined in the pre-dispatch schedule shall be represented as an increase in non-dispatchable load within the IESO control area.

5.4.2 Where the transmission transfer capability of an interconnection is zero for a given dispatch hour by reason of the outage of that interconnection, the projected market prices for energy and operating reserve for the intertie zone associated with such interconnection shall be equal to the projected uniform market prices for energy and operating reserve for the IESO control area for that dispatch hour.

5.4.3 The IESO may use other available information for the purposes of determining market schedules including interchange schedule data which is the outcome of
those protocols identified in section 5.2.1.6 which may result in the setting of an upper limit for energy quantities scheduled in subsequent market schedules.

5.5 Release of Pre-dispatch Schedule Information

5.5.1 The IESO shall release the initial pre-dispatch schedule and associated projections of market schedules and shall publish market prices by 16:00 EST of each pre-dispatch day, and shall release any revised pre-dispatch schedules and projections of market schedules and shall publish market prices as soon as practical after they are determined. The information to be released to market participants is described in this section 5.5.

5.5.2 For each registered facility that is a boundary entity, a dispatchable load facility, a dispatchable generation facility or an hourly demand response resource in respect of which a valid bid or offer for at least one dispatch hour of the applicable dispatch day has been submitted, the IESO shall release the following information only to the registered market participant for that registered facility:

5.5.2.1 the pre-dispatch schedule for that registered facility;

5.5.2.2 the projected market schedule for that registered facility; and

5.5.2.3 [Intentionally left blank]

5.5.2.4 any requirement of that registered facility to submit an offer or bid under a reliability must-run contract and the expected scheduled use of that registered facility under contracted ancillary service contracts.

5.5.3 The IESO shall release to all market participants the following information for each dispatch hour:

5.5.3.1 total system load and total system losses;

5.5.3.2 area operating reserve requirements;

5.5.3.3 [Intentionally left blank]

5.5.3.4 projected hourly energy shortfalls;

5.5.3.5 aggregate reliability must-run resources being directed to submit offers or bids;

5.5.3.6 any area operating reserve shortfalls;
5.5.3.7 a list of the network constraints and security constraints that affect the pre-dispatch schedule;

5.5.3.8 [Intentionally left blank – section deleted]

5.5.3.9 the projected uniform market prices of energy and operating reserves in the IESO control area; and

5.5.3.10 the projected market prices of energy and operating reserves in each intertie zone outside the IESO control area.

5.5.3A Until the date that is the first day of the fourth calendar month following the market commencement date, calculated from the first day of the calendar month immediately following the month in which the market commencement date occurs, the IESO shall not be required to release the prices of each class of operating reserve referred to in section 5.5.3B.2.

5.5.3B Where the IESO determines and releases a pre-dispatch schedule, the IESO shall include in such pre-dispatch schedule, for information purposes only:

5.5.3B.1 the projected energy prices at each set of transmission nodes identified by the IESO for this purpose; and

5.5.3B.2 subject to section 5.5.3A, the projected prices of each class of operating reserve in each reserve area identified by the IESO for this purpose,

for the dispatch hour immediately following the hour in which such pre-dispatch schedule is determined and released.

5.5.4 If the IESO determines that release of specific types of information in the pre-dispatch schedule may facilitate anti-competitive behaviour, the IESO may limit the release of such information through an urgent amendment to these market rules. The IESO shall advise the market surveillance panel of the matter. The IESO Board may request the advice of the market surveillance panel of the need or otherwise for the urgent amendment to remain in effect.

5.6 [Intentionally left blank – section deleted]

5.6.1 [Intentionally left blank – section deleted]

5.6.2 [Intentionally left blank – section deleted]
5.7 Pre-Dispatch Scheduling of Generation Facilities Eligible for the Generation Cost Guarantee

5.7.1 A generation facility shall be eligible on a voluntary basis for the generation cost guarantee on a per-start basis for a given dispatch hour, provided that:

5.7.1.1 the criteria specified in section 2.2B have been met:

5.7.1.2 subject to section 5.7.2, the offer price in the submitted price-quantity pair corresponding to the minimum loading point for that generation facility for all hours of the minimum generation block run-time must be the same until after the IESO has constrained on the generation facility as specified in section 6.3A.2;

5.7.1.3 the generation facility is scheduled in any pre-dispatch schedule determined within 3 hours ahead of the dispatch hour:

a. for the dispatch hour; and

b. for at least half of minimum generation block run-time, rounded up, at minimum loading point or higher, during the period from dispatch hour until the earlier of:

- the end of the period representing minimum generation block run-time; or
- the end of the period representing minimum run-time;

Any schedule resulting from either a constraint associated with a day-ahead commitment or a manual constraint applied by the IESO at the generator’s request shall be excluded from the eligibility test in this section 5.7.1.3;

5.7.1.4 the registered market participant for the generation facility does not increase the offer prices in its submitted price-quantity pairs corresponding to the generation facility’s minimum loading point for the minimum generation block run-time after notifying the IESO of its intention to synchronize under section 5.7.1.6 or after the IESO has applied a manual constraint under section 6.3A.4;

5.7.1.5 the generation facility is not already synchronized at the time of the publication of the applicable pre-dispatch schedule referred to in section 5.7.1.3;
5.7.1.6 the registered market participant for the generation facility notifies the IESO of its intention to synchronize and then run for at least the minimum generation block run-time in accordance with applicable market manual; and

5.7.1.7 at the time of notification of intention to synchronize made in accordance with section 5.7.1.4, the registered market participant for the generation facility also notifies the IESO of its intention to qualify for the generation cost guarantee.

5.7.2 The offer price corresponding to minimum loading point in the minimum generation block run-time hours which contain a constraint associated with a day-ahead commitment will be excluded from the eligibility test in section 5.7.1.2.

5.8 The Day-Ahead Commitment Scheduling Process

5.8.1 Starting from 10:00 EST the IESO may in accordance with Appendix 7.5A determine the schedule of record.

5.8.2 Where the IESO determines the schedule of record in accordance with Section 5.8.1, it will be released by the IESO no later than 15:00 EST in accordance with the applicable market manual.

5.8.3 [Intentionally left blank – section deleted]

5.8.4 A registered market participant whose facility is eligible under section 2.2C for the day-ahead production cost guarantee and whose facility is included in the schedule of record is deemed to have accepted the guarantee for its facility.

5.8.5 Subject to sections 5.8.4 and 5.8.6, the IESO shall ensure that the scheduled output for a facility will meet or exceed its minimum loading point for all hours that it was included in the schedule of record in future iterations of the pre-dispatch schedule and in the real-time schedule.

5.8.6 The IESO may, to maintain the reliable operation of the IESO-controlled grid, require a generation facility that was included in the schedule of record to either de-synchronize from the IESO-controlled grid or to not synchronize to the IESO-controlled grid.

5.8.7 When determining the schedule of record applicable to the first hour of the next dispatch day, the IESO may disregard the net intertie scheduling limit.

5.8.8 [Intentionally left blank – section deleted]
6. The Real-Time Scheduling Process

6.1 Purpose and Timing of Real-Time Schedules

6.1.1 The IESO shall determine real-time schedules and use these as the primary determinant of the dispatch instructions the IESO issues to market participants regarding physical operation of registered facilities other than boundary entities.

6.1.2 The IESO shall determine, for registered facilities other than boundary entities, a real-time schedule for every dispatch interval two minutes before the dispatch interval to which it applies.

6.1.3 The IESO shall determine, for registered facilities that are boundary entities, a real-time schedule consisting of an interchange schedule for each dispatch hour using the outcome of the pre-dispatch schedule determined as at the preceding dispatch hour and modified as required by the IESO.

6.2 Information Used to Determine Real-Time Schedules

6.2.1 The IESO shall determine each real-time schedule in accordance with section 6.3 using the same type of information used for determining pre-dispatch schedules as described in section 5.2, updated to reflect the most recent valid dispatch data submitted by registered market participants, real-time system measurements, and the most recent projections of forecast data and other information pertaining to the electricity system which relates to future periods of time, as are available to the IESO.

6.3 Determining the Real-Time Schedule

6.3.1 The IESO shall use the information described in section 6.2 and the dispatch algorithm to determine a real-time schedule for each dispatch interval as follows:

6.3.1.1 the constrained IESO-controlled grid model shall be used;

6.3.1.2 intertie flows at the beginning of each dispatch interval shall be set at the IESO’s best estimate of their actual values, as determined from real-time system data or applicable interchange schedules to reflect actual unscheduled flows;

6.3.1.3 intertie flows at the end of each dispatch interval shall be set at the value ascribed to such flows in the relevant interchange schedule;

6.3.1.4 the output level of each generator and the withdrawal levels of each dispatchable load and of non-dispatchable loads at the beginning of the dispatch interval shall be set at the IESO’s best estimate of their
actual values, as determined from real-time system data or the real-time schedule for the preceding dispatch interval; and

6.3.1.5 no daily energy limit specified for a registered facility pursuant to section 3.5.7 shall be taken into account in determining real-time schedules.

6.3A Real-Time Scheduling of Generation Facilities Eligible for the Generation Cost Guarantee

6.3A.1 After the registered market participant for a generation facility eligible for the generation cost guarantee notifies the IESO of its intent to synchronize pursuant to section 5.7 of Chapter 7, that generation facility shall synchronize, unless otherwise agreed to by the IESO, before the end of the specified dispatch hour and, subject to section 6.3A.3, run until the end of the minimum generation block run-time.

6.3A.2 The IESO shall, unless there is an adverse impact on the reliable operation of the IESO-controlled grid, if necessary to respect the minimum generation block run-time submitted by the market participant for the generation facility, constrain on the facility at its minimum loading point for the specified minimum generation block run-time.

6.3A.3 If the IESO, for reasons of reliability, constrains off the generation facility such that the generation facility has to de-synchronize before the end of its minimum generation block run-time, the generation facility shall remain eligible for the generation cost guarantee.

6.3A.4 In consultation with the registered market participant, the IESO may, for reliability reasons, during the time period from the release of the pre-dispatch schedule until the dispatch hour, manually apply a constraint to a generation facility that submitted offers into the pre-dispatch schedule to ensure that the output from that generation facility is scheduled for at least its minimum generation block run time. If the IESO applies that manual constraint, the generator will be deemed to have accepted the generation cost guarantee provided that:

• the criteria specified in sections 5.7.1.1 and 5.7.1.4 are satisfied; and

• the generation facility is not synchronized at the time the manual constraint is applied.
6.3B Real-Time Scheduling of Generation Facilities Eligible for the Day-Ahead Production Cost Guarantee

6.3B.1 If the IESO, for reasons of reliability, requires a generation facility that was eligible for the day-ahead production cost guarantee under section 2.2C to either de-synchronize from the IESO-controlled grid or to not synchronize to the IESO-controlled grid such that the generation facility does not comply with its schedule of record, the generation facility shall remain eligible for the day-ahead production cost guarantee. The registered market participant for the generation facility may also apply to the IESO for additional compensation under section 4.7E.1 of Chapter 9.

6.3B.2 If a generation facility that was eligible for the day-ahead production cost guarantee under section 2.2C does not close its breaker by the start of the first interval of the first hour of its schedule of record due to reasons not specified in sections 6.3B.1 or 6.3B.3 then the generation facility shall not remain eligible for the day-ahead production cost guarantee associated with that start determined in accordance with section 5.8 nor shall the registered market participant for the generation facility be eligible to apply to the IESO for additional compensation under section 4.7E.1 of Chapter 9.

6.3B.3 If a generation facility that was eligible for the day-ahead production cost guarantee under section 2.2C does not comply with its schedule of record due to reasons specified in section 1.2.3 of Chapter 5 then the facility shall remain eligible for a pro-rated day-ahead production cost guarantee determined in accordance with section 4.7D of Chapter 9.

6.3B.4 If the registered market participant for a generation facility that was eligible for the day-ahead production cost guarantee under section 2.2C does not comply with its schedule of record by withdrawing the dispatch data for the generation facility the facility may not remain eligible for a day-ahead production cost guarantee and may be subject to a withdrawal charge as determined in accordance with section 3.8F of Chapter 9.

6.4 Market Schedules and Market Prices

6.4.1 Subject to section 8.4A the IESO shall, within five minutes after the end of each dispatch interval, use the dispatch algorithm to determine a market schedule and market prices for that dispatch interval based on the most recent real-time schedule for such dispatch interval.

6.4.2 Subject to section 8.4A for the purpose of determining the market schedule and market prices for any dispatch interval, the IESO shall use the same information and data used for determining the real-time schedule for that dispatch interval, except that:
6.4.2.1 the unconstrained *IESO-controlled grid* model shall be used;

6.4.2.2 subject to section 3.1.2 of Appendix 7.5, the initial conditions to be used for any *dispatch interval* in the *market schedule* shall be the final conditions of the *market schedule* for the preceding *dispatch interval*;

6.4.2.3 the total demand (including losses) to be satisfied within a *dispatch interval* in the *market schedule* shall be set at the *IESO’s* best estimate of its actual value, as determined from real-time system data;

6.4.2.4 total system *energy* losses determined in the *real-time schedule* shall be represented as an increase in *non-dispatchable load* within the *IESO control area*;

6.4.2.5 any *registered facility* in respect of which a *forced outage* has been detected during a *dispatch interval* shall be recognized by an adjustment to the input data;

6.4.2.6 subject to section 6.4.2A, the estimated deviations between scheduled quantities and actual quantities shall be represented as a change in *non-dispatchable load* in the *IESO control area*;

6.4.2.7 subject to section 6.4.2A, the *market schedule* shall reflect dispatch adjustments computed using scheduled injections from the *constrained schedule*, outlined in Appendix 7.5;

6.4.2.8 in accordance with section 4.13.1 of Appendix 7.5, the *market schedule* may use different trading period length to that of the *real-time schedule*;

6.4.2.9 in accordance with section 2.11.2 of Appendix 7.5, the *market schedule* may use a different ramp rate for *operating reserve* to that of the *real-time schedule*;

6.4.2.9A for a *variable generator* that is a *registered market participant*, if the *registered facility* is issued a *dispatch instruction* by the *IESO* in accordance with section 7.1, the quantity of *energy* scheduled for injection in the *market schedule* for the applicable *dispatch intervals* shall be limited to reflect the least of the maximum MW *energy* level associated with *energy offers* submitted for the *registered facility*, the *registered facility’s* full capacity less submitted *outages*, and the forecast of *energy* produced by the *forecasting entity* for the *registered facility*; and
6.4.2.9B for a variable generator that is a registered market participant, if the registered facility is issued a release notification by the IESO in accordance with section 7.1, which remains in effect for any dispatch interval, the quantity of energy scheduled for injection in the market schedule for the applicable dispatch intervals shall be limited to reflect the least of the maximum MW energy level associated with energy offers submitted for the registered facility, the registered facility’s full capacity less submitted outages, and the instantaneous energy output of the registered facility, as represented by its operating result for that facility, recorded at the end of each applicable dispatch interval as referred to in this section.

6.4.2A Until such time that locational pricing is implemented in the IESO-administered markets, in determining the market schedule and market prices for any dispatch interval, the IESO shall not have regard to the estimated deviations referred to in section 6.4.2.6 or to the dispatch adjustments referred to in section 6.4.2.7.

6.4.3 The IESO shall determine for registered facilities that are boundary entities a market schedule for each dispatch hour using the outcome of the projected market schedule determined as at the preceding dispatch hour and modified as required by the IESO.

6.5 Publication of Real-Time Schedule Information

6.5.1 For each registered facility that is a dispatchable load facility or a dispatchable generation facility in respect of which a valid bid or offer has been submitted for the applicable dispatch hour, the IESO shall, as soon as practical but no later than the start of the dispatch interval to which it relates, release the following information for each such registered facility only to the registered market participant for that registered facility:

6.5.1.1 the real-time schedule for that registered facility; and

6.5.1.2 [Intentionally left blank]

6.5.1.3 the scheduled use of that registered facility under contracted ancillary service contracts.

6.5.1.4 [Intentionally left blank]

6.5.1A Subject to section 8.4A, for each registered facility that is a dispatchable load facility or a dispatchable generation facility in respect of which a valid bid or offer has been submitted for the applicable dispatch hour, the IESO shall, within one hour after each dispatch hour, release to each registered market participant
the market schedule for their registered facilities for each dispatch interval of that dispatch hour.

6.5.2 Subject to section 8.4A the IESO shall, in the five minute period after the end of each dispatch interval, release to all market participants the uniform market prices of energy and operating reserves related to that dispatch interval.

6.5.3 The IESO shall, within one hour after each dispatch hour, release to all market participants the following information for each dispatch interval of that dispatch hour:

6.5.3.1 total system load and total system losses;

6.5.3.2 area operating reserve requirements;

6.5.3.3 for information purposes only, energy prices at each set of transmission nodes identified by the IESO for this purpose, decomposed as far as practical into an energy component, a loss component and a component for all other transmission and system constraints and, subject to section 6.5.3A, the prices of each class of operating reserve in each reserve area identified by the IESO for this purpose;

6.5.3.4 [Intentionally left blank]

6.5.3.5 [Intentionally left blank]

6.5.3.6 any area operating reserve shortfalls; and

6.5.3.7 a list of network and security constraints that affected the real-time schedule.

6.5.3A Until the date that is the first day of the fourth calendar month following the market commencement date, calculated from the first day of the calendar month immediately following the month in which the market commencement date occurs, the IESO shall not be required to release the prices of each class of operating reserve referred to in section 6.5.3.3.

6.5.4 Subject to section 8.4A, for each registered facility that is a boundary entity in respect of which the dispatch instructions for a given dispatch hour provides for the dispatch of more than 0 MW or for a reduction to 0 MW relative to the previous dispatch hour, the IESO shall, as soon as practical and consistent with relevant reliability standards, but no later than the start of the dispatch hour to
which it relates, release the following information for each such registered facility only to the registered market participant for that registered facility:

6.5.4.1 the interchange schedule for that registered facility;

6.5.4.2 [Intentionally left blank]

6.5.4.3 any request of that registered facility to submit an offer or bid under a reliability must-run contract and the scheduled use of that registered facility under contracted ancillary service contracts; and

6.5.4.4 the projected market schedule for that registered facility.

7. **IESO Dispatch Instructions**

7.1 **Purpose and Timing of Dispatch Instructions**

7.1.1 The IESO shall determine dispatch instructions for each registered facility as described in this section 7, as the primary means of co-ordinating the real-time operation of the electricity system.

7.1.1A The IESO shall only issue dispatch instructions for a physical service to a registered facility other than a boundary entity for a given dispatch interval when there is a change in the quantity of a physical service to be scheduled from that registered facility during that dispatch interval relative to the last dispatch instruction issued to the registered facility and with which the registered market participant has confirmed compliance in accordance with section 7.1.2 and 7.1.2A.

7.1.1B Where the IESO:

7.1.1B.1 is not required to issue a dispatch instruction at a registered facility other than a boundary entity for a given dispatch interval by virtue of section 7.1.1A; or

7.1.1B.2 for any reason fails to issue a dispatch instruction to a registered facility other than a boundary entity for a given dispatch interval, subject to section 7.1.1B1, the last dispatch instruction issued to the registered facility and with which the registered market participant has confirmed compliance in accordance with sections 7.1.2 and 7.1.2A shall, for all purposes under these market rules but subject to section 7.1.4 and 7.4.3, be deemed to be
the dispatch instruction issued for that dispatch interval for that registered facility.

7.1.1B1 For a variable generator that is a registered market participant, section 7.1.1B shall apply until the registered facility is issued a release notification.

7.1.1C Notwithstanding the identification of a portion of the consumption at a registered facility under section 3.3.18 as non-dispatchable load, the IESO shall issue dispatch instructions in accordance with the applicable market manual to that registered facility including that portion that has been identified pursuant to section 3.3.18 as non-dispatchable load.

7.1.2 Subject to section 7.1.1A, the IESO shall issue dispatch instructions for each registered facility, other than a boundary entity, for which a dispatch instruction is required no later than the start of each dispatch interval or, where section 7.1.4 or 7.4.3 applies, within a dispatch interval. The IESO shall:

7.1.2.1 [Intentionally left blank]

7.1.2.2 issue such dispatch instructions using the systems and protocols defined in the applicable market manual; and

7.1.2.3 record and time-stamp all such dispatch instructions, store such records for at least seven years and make such records available for purposes of audit and dispute resolution in accordance with these market rules.

7.1.2A Each registered market participant shall:

7.1.2A.1 acknowledge receipt of; and

7.1.2A.2 confirm its intention to comply or not to comply with,

each dispatch instruction issued to it in accordance with section 7.1.2 in respect of each of its registered facilities, other than a boundary entity, using the systems and protocols defined in the applicable market manual and within the time required by such market manual.

7.1.2A1 The IESO shall issue a release notification to a variable generator that is a registered market participant if the registered facility is not required to be at or below forecasted output. Each variable generator shall acknowledge receipt of each release notification using the systems and protocols defined in the applicable market manual and within the time required by such market manual.
7.1.2B Confirmation by a registered market participant of its intention not to comply with a dispatch instruction pursuant to section 7.1.2A shall constitute non-compliance with the dispatch instruction by the registered market participant for all purposes under these market rules, including but not limited to section 7.5.

7.1.2C Where a registered market participant has for a registered facility that is a dispatchable load identified pursuant to section 3.3.18 all or a portion of that registered facility’s consumption as non-dispatchable load and the IESO has issued a dispatch instruction requiring a reduction of such non-dispatchable consumption pursuant to section 7.1.1C, the registered market participant shall confirm its intention not to comply with each such dispatch instruction in accordance with section 7.1.2A and the applicable market manual.

7.1.2D Confirmation by a registered market participant of its intention not to comply with a dispatch instruction pursuant to section 7.1.2C shall not constitute non-compliance with the dispatch instruction by the registered market participant for all purposes under these market rules, including but not limited to section 7.5.

7.1.3 The IESO shall issue dispatch instructions, in the form of interchange schedules, for each registered facility that is a boundary entity, for which a dispatch instruction is required prior to each dispatch hour. The IESO shall:

7.1.3.1 [Intentionally left blank]

7.1.3.2 issue such dispatch instructions using the systems and protocols defined in the applicable market manual; and

7.1.3.3 record and time-stamp all such dispatch instructions, store such records for at least seven years and make such records available for purposes of audit and dispute resolution in accordance with these market rules.

7.1.3A Each registered market participant shall acknowledge receipt of each dispatch instruction issued to it in accordance with section 7.1.3 in respect of each of its registered facilities that is a boundary entity using the systems and protocols defined in the applicable market manual and within the time required by such market manual.

7.1.3B [Intentionally left blank – section deleted]

7.1.3B.1 [Intentionally left blank – section deleted]

7.1.3B.2 [Intentionally left blank – section deleted]
7.1.4 The IESO may issue dispatch instructions within the dispatch interval, instructing any registered facility with a valid energy offer or bid, to increase or decrease energy production or consumption as specified in its offers or bids for energy. When a dispatch instruction is issued within a dispatch interval pursuant to this section 7.1.4, the last dispatch instruction for energy or each class of operating reserve, as the case may be, shall be the sole dispatch instruction used for settlement purposes for that dispatch interval.

7.1.5 Where a contingency event is occurring or has occurred, the IESO may temporarily cease issuing dispatch instructions in the manner otherwise required by section 7.1.2. In such cases, registered market participants shall comply with section 7.3.3 or 7.4.3, as the case may be.

7.1.6 The IESO shall, on a best efforts basis, determine and issue dispatch advisories for each registered dispatchable facility, for information purposes only. Dispatch advisories are determined and issued every 5 minutes to each registered dispatchable facility to provide an indication of potential future dispatch instructions and operating reserve schedules.

7.2 Information Used to Determine Dispatch Instructions

7.2.1 The IESO shall use its best endeavours to ensure that the dispatch instructions issued with respect to each registered facility, that is not a boundary entity, for each dispatch interval closely approximate the most recent real-time schedule for that registered facility and dispatch interval. The IESO may, however, issue dispatch instructions that depart from the real-time schedule if:

7.2.1.1 the security and adequacy of the system would be endangered by implementing the most recent real-time schedule;

7.2.1.2 the dispatch algorithm has failed, or has produced a real-time schedule that is clearly and materially in error;

7.2.1.3 material changes subsequent to determination of the most recent real-time schedule, such as failure of an element of a transmission system or failure of a registered facility to follow dispatch instructions, have occurred; or

7.2.1.4 the operation of all or part of the IESO-administered markets has been suspended pursuant to section 13.

7.2.2 If the IESO anticipates that an over-generation or an under-generation condition may occur, it shall issue system advisory notices in accordance with section 12.1
but shall continue using the procedures described in sections 5 and 6 to determine *pre-dispatch schedules*, *real-time schedules* and the associated projected and *market prices* and *market schedules*.

7.2.3 If the *IESO* determines prior to issuing *dispatch instructions* that the market responses to the projected or *market prices* will be sufficient to eliminate the over-generation or under-generation condition, the *IESO* shall take no *emergency* action and shall issue system advisory notices so indicating.

7.2.4 If the *IESO* determines prior to issuing *dispatch instructions* that market responses will not eliminate the over-generation or under-generation condition, it shall declare an *emergency operating state* to resolve the conditions in accordance with section 7.7.

7.2.5 The *IESO* shall use its best endeavours to ensure that the *dispatch instructions* issued with respect to each *registered facility*, that is a *boundary entity*, for each *dispatch hour* reflect the *pre-dispatch schedule* for that *dispatch hour* as determined in accordance with section 6.1.3 of Chapter 7. The *IESO* may, however, issue *dispatch instructions* that depart from the *pre-dispatch schedule* if:

7.2.5.1 the *security* and *adequacy* of the system would be endangered by implementing the *pre-dispatch schedule*;

7.2.5.2 the *dispatch algorithm* has failed, or has produced a *pre-dispatch schedule* that is clearly and materially in error;

7.2.5.3 material changes subsequent to determination of the *pre-dispatch schedule*, such as failure of an element of a *transmission system* or failure of a *registered facility* to follow *dispatch instructions*, have occurred; or

7.2.5.4 the operation of all or part of the *IESO-administered markets* has been suspended pursuant to section 13; or

7.2.5.5 an external *control area operator* calls a *called capacity export* in accordance with section 20.

7.3 The Content of Dispatch Instructions

7.3.1 The *IESO* shall, subject to section 7.1.1A, issue *dispatch instructions* for each *dispatch interval* to each *registered facility* that is a not a *boundary entity* indicating for that *dispatch interval*:

7.3.1.1 the rate at which *energy* is to be injected into or withdrawn from the *IESO-controlled grid* (in MW) at the end of the *dispatch interval*;
7.3.1.2 the amount of each class of operating reserve that is to be in a condition to respond to a dispatch instruction issued pursuant to section 7.4.3 calling for additional energy production; and

7.3.1.3 the amount of reactive support and regulation that is to be provided under contracted ancillary service contracts or reliability must-run contracts or as a consequence of any requirement to provide same which derives from the application of these market rules.

7.3.2 The dispatch instructions for any registered facility that is not a boundary entity shall:

7.3.2.1 be consistent with the current operating status of that registered facility and with any operational constraints described in the most recent dispatch data submitted by the registered market participant for that registered facility;

7.3.2.2 be used by the IESO for the purpose of declaring the registered facility as non-conforming in accordance with section 7.5.4; and

7.3.2.3 subject to Appendix 7.6, be used in the IESO settlement process for determining any settlement amounts for congestion management pursuant to section 3.5 of Chapter 9.

7.3.3 [Intentionally left blank – section deleted]

7.3.4 The IESO shall issue dispatch instructions for each dispatch hour to each registered facility that is a boundary entity, indicating for that dispatch hour:

7.3.4.1 the rate at which energy is to be injected into or withdrawn from the IESO-controlled grid (in minutes) from the specified intertie zone, which rate shall be consistent with all relevant reliability standards;

7.3.4.2 the amount of each class of operating reserve that is scheduled and the ramp rates associated with the energy if called on; and

7.3.4.3 the amount of reactive support and regulation that is to be provided under reliability must-run contracts or as a consequence of any requirement to provide same which derives from the application of these market rules.

7.3.5 The dispatch instructions for any registered facility that is a boundary entity shall:
7.3.5.1 be consistent with the current dispatch data for that registered facility and with any interconnection limitations associated with the registered facility; and

7.3.5.2 be used in the IESO settlement process for determining any settlement amounts for congestion management pursuant to section 3.5 of Chapter 9.

7.3.6 [Intentionally left blank – section deleted]

7.4 IESO Dispatch of Operating Reserve

7.4.1 The IESO shall:

7.4.1.1 subject to section 7.1.1A, issue to each registered facility, other than a boundary entity, which has made an offer for the delivery of operating reserve for a particular dispatch hour, dispatch instructions for each dispatch interval consistent with the results of the dispatch algorithm and the procedures detailed in sections 6.2 to 6.4, instructing the registered market participant responsible for that registered facility as to the quantity of operating reserve that is to be provided by that registered facility in that dispatch interval; and

7.4.1.2 issue to each registered facility, that is a boundary entity, which has made an offer for the delivery of operating reserve for a particular dispatch hour, dispatch instructions for that dispatch hour consistent with the results of the dispatch algorithm and the procedures detailed in sections 6.1 to 6.4, instructing the registered market participant responsible for that registered facility as to the quantity of operating reserve to be provided by that registered facility in that dispatch hour.

7.4.2 Each registered facility to which section 7.4.1 applies shall maintain unused generation (or load reduction) capacity during that dispatch interval, consistent with the dispatch instructions issued to it under these market rules, so as to be able to increase energy production (or decrease energy withdrawal) as soon as possible upon being instructed to do so by the IESO pursuant to section 7.4.3.

7.4.3 Where a contingency event has occurred or is occurring, the IESO may issue dispatch instructions within the dispatch interval, instructing a registered facility, other than a boundary entity, providing operating reserve to begin increasing energy production as specified in its offers of operating reserve. Dispatch instructions issued in respect of a registered facility that is a boundary entity providing operating reserve shall be such as to ensure that the energy associated with each offer of operating reserve is scheduled by the IESO in a manner
consistent with all relevant reliability standards for activation of operating reserve and as agreed upon by the entity scheduling the resulting energy transfer.

7.4.4 The IESO shall, when dispatching registered facilities providing operating reserve to produce energy pursuant to section 7.4.3, call first on the registered facility in each area that has offered the lowest price (in $/MWh) for energy produced from scheduled operating reserve in that area. If such registered facility is instructed to produce energy but does not do so as rapidly as instructed, or if the IESO needs additional energy from operating reserve in that area, the IESO shall call upon the registered facility offering the next-lowest price for energy from operating reserve. If the IESO determines that calling upon registered facilities in strict order of increasing price of energy would mean that it would be unable to respond in a timely fashion to a contingency for which the IESO would issue a dispatch instruction pursuant to section 7.4.3, the IESO may call upon registered facilities out of such strict order but shall as far as is practical call registered facilities to reflect the intent of this section 7.4.4.

7.4.5 When operating reserves are activated as a result of a contingency event, the otherwise applicable ten-minute operating reserve requirements shall be reduced by a corresponding amount and shall subsequently be recovered to pre-contingency levels in a manner consistent with sections 4.5.10 and 4.5.21 of Chapter 5.

7.5 Compliance with Dispatch Instructions

7.5.1 Each registered market participant shall ensure that each of its registered facilities complies with dispatch instructions issued to it under these market rules. Without limiting the generality of section 6.2 of Chapter 3, non-compliance with dispatch instructions other than for the reasons referred to in section 7.5.3 shall be a breach of the market rules and may be sanctioned in accordance with section 6.2 of Chapter 3 and with this section 7.5.

7.5.2 A registered market participant that expects its registered facility, other than a boundary entity, to operate in a manner that, for any reason, differs materially from the dispatch instructions issued to it in accordance with these market rules shall so notify the IESO as soon as possible. The IESO shall issue guidelines defining when a difference is material and how notice shall be provided for the purposes of this section 7.5.2 and of section 7.5.3.

7.5.3 Compliance with a dispatch instruction for a registered facility other than a boundary entity is not required if such compliance would endanger the safety of any person, damage equipment, or violate any applicable law. A market participant that departs from dispatch instructions for any such reason shall so notify the IESO in accordance with section 7.5.2.
7.5.4 If failure by a registered facility, other than a boundary entity, to comply with a dispatch instruction endangers electricity system reliability, the IESO shall declare the registered facility to be non-conforming and shall take any actions allowed by sections 7.5.5 to 7.5.7 or any other provisions of these market rules which the IESO determines appropriate.

7.5.4A [Intentionally left blank – section deleted]

7.5.5 Subject to section 7.5.5A, if a registered facility other than a boundary entity produces or withdraws more or less energy in a dispatch interval than implied by a valid dispatch instruction issued by the IESO, the IESO shall, for pricing and settlement purposes:

7.5.5.1 treat the difference in energy production or withdrawal as a change in non-dispatchable load at its location, in accordance with sections 4.4.3.2, and 6.4.2.6; and

7.5.5.2 use any trade-off curves between energy and operating reserves in the dispatch data for that registered facility to determine an appropriate adjustment in the quantity of operating reserve of each class supplied by the registered facility.

7.5.5A Section 7.5.5 shall not apply until such time that locational pricing is implemented in the IESO-administered markets.

7.5.6 If the IESO declares a registered facility other than a boundary entity to be non-conforming under section 7.5.4:

7.5.6.1 the IESO shall require the registered market participant for that registered facility to explain the reason for the non-compliance and shall record the response;

7.5.6.2 if the IESO determines that the registered facility is physically incapable of implementing the dispatch instructions, the IESO may require revision in the registration information for the non-conforming registered facility; and

7.5.6.3 if the IESO is not satisfied that the registered facility will respond to future dispatch instructions, the IESO may direct the registered facility to follow, as closely as practicable, an output or withdrawal profile specified by the IESO, and shall thereafter represent the registered facility as a self-scheduling generation facility or non-dispatchable load having the specified profile until the non-conforming registered
7.5.7 Until the registered market participant for a non-conforming registered facility responds to the requirements of this section 7.5 to the satisfaction of the IESO, such registered facility shall continue to be designated as non-conforming, and such failure to respond on the part of that registered market participant may be referred by the IESO to the market surveillance panel at any time.

7.5.8 The IESO shall assume that a registered facility that is a boundary entity will comply fully with all dispatch instructions for energy or operating reserves upon confirmation of the relevant interchange schedule with the appropriate scheduling entity.

7.5.8A A registered market participant associated with a registered facility that is a boundary entity shall, other than for the bona fide and legitimate reasons referred to in section 7.5.8B, schedule energy and operating reserve, in accordance with section 6.1.3, with the appropriate scheduling entity, or scheduling entities as the case may be.

7.5.8B The IESO may take actions pursuant to section 6.6.10A of Chapter 3 and shall assess a real-time import or export failure charge as determined in section 3.8C of Chapter 9 where a registered market participant associated with a registered facility that is a boundary entity fails to schedule energy or operating reserve, in accordance with section 6.1.3 of Chapter 7, with the appropriate scheduling entity, or scheduling entities as the case may be, according to the applicable interchange schedule, other than for bona fide and legitimate reasons as determined by the IESO. Bona fide and legitimate reasons shall include failures caused by actions and circumstances beyond the control of the market participant or due to IESO or external scheduling entity error or action, including those reasons specified in the applicable market manual.

7.5.9 In addition to any other sanction or consequence provided for in these market rules, the IESO may disqualify from future participation in the operating reserve market any registered facilities that consistently fail to produce energy when called upon in accordance with Chapter 7.

7.6 Dispatch Scheduling Errors
7.6.1 A dispatch scheduling error shall be deemed to have occurred if either:

7.6.1.1 an arbitrator determines that the IESO has made a dispatch scheduling error; or
7.6.1.2 the IESO declares that it has made a dispatch scheduling error, on its own initiative or further to a notice of disagreement filed or other settlement dispute initiated by a market participant pursuant to section 6.6, 6.7 or 6.8 of Chapter 9.

7.6.2 When a dispatch scheduling error has occurred, the IESO shall not adjust market prices but shall, subject to section 7.6.3 and notwithstanding section 13.1.2 of Chapter 1, be strictly liable to compensate a market participant for damages suffered by the market participant as a result of the dispatch scheduling error, assessed in accordance with section 13.1.4 of Chapter 1.

7.6.3 A market participant that wishes to claim compensation pursuant to section 7.6.2 shall:

7.6.3.1 where the dispatch scheduling error was determined to have been made pursuant to section 7.6.1.1, request the arbitrator to determine the market participant’s entitlement to and amount of, if any, such compensation; and

7.6.3.2 where the dispatch scheduling error was determined to have been made pursuant to section 7.6.1.2, request that the IESO determine the market participant’s entitlement to and amount of, if any, such compensation,

with the amount, if any, in either case being determined in accordance with section 7.6.4.

7.6.4 Any amount determined by an arbitrator or by the IESO, as the case may be, pursuant to section 7.6.3 or 7.6.5 shall be assessed in accordance with section 13.1.4 of Chapter 1 and shall exclude such amount as may be required to account for any congestion management settlement credit triggered by the relevant dispatch scheduling error and already credited to the market participant.

7.6.5 If a market participant wishes to dispute a determination made by the IESO pursuant to section 7.6.3.2, it shall submit the matter to the dispute resolution process set forth in section 2 of Chapter 3 and shall, if the good faith negotiations referred to in section 2.4 of that Chapter fail to resolve the matter, request in the notice of dispute that the arbitrator determine the market participant’s entitlement to the compensation referred to in section 7.6.2, the amount, if any, of such compensation or both, as the case may be.
7.7 Additional IESO Powers in Emergency and High-Risk Conditions

7.7.1 During real-time operations, the IESO is responsible for declaring an emergency operating state or a high-risk operating state under circumstances described in sections 2.3 and 2.4 of Chapter 5.

7.7.2 The IESO’s primary responsibility in an emergency operating state or a high-risk operating state is to preserve system reliability, with a secondary responsibility to restore normal system conditions and operation of the IESO-administered markets as soon as practicable.

7.7.3 Where an emergency operating state or a high-risk operating state has been declared, the IESO may implement any of the actions detailed in sections 2.3, 2.4, 5.8 and 5.9 of Chapter 5.

7.7.4 The IESO may determine any additional compensation payable in respect of physical services acquired during an emergency operating state or a high-risk operating state.

7.8 Publication of Real-Time Dispatch Information

7.8.1 The IESO shall, within one hour after each dispatch hour, publish information concerning system results and events during that dispatch hour. This information shall include, but is not limited to:

7.8.1.1 total load met;
7.8.1.2 transmission capacity between the IESO-controlled grid and each intertie zone;
7.8.1.3 subject to section 7.8.2, any outages of transmission facilities;
7.8.1.4 total operating reserve scheduled, and total energy called from such operating reserve, by area;
7.8.1.5 the market prices for each dispatch interval; and
7.8.1.6 the uniform hourly Ontario energy price (HOEP) determined in accordance with section 8.3.1.

7.8.2 Until the date that is the first day of the fourth calendar month following the market commencement date, calculated from the first day of the calendar month immediately following the month in which the market commencement date
occurs, the IESO shall not publish information concerning outages of transmission facilities referred to in section 7.8.1.3.

8. Determining Market Prices

8.1 Purpose and Timing of Determining Market Prices

8.1.1 The IESO shall use the procedures in this section 8 to determine the uniform market prices in the IESO control area and the intertie zone prices for energy and operating reserve that are used for the market settlement process pursuant to the provisions of Chapter 9.

8.1.1A The IESO shall determine the intertie congestion price associated with each intertie zone for each dispatch hour based on the pre-dispatch schedule referred to in section 6.1.3.

8.1.2 Subject to section 8.4A, the IESO shall determine and publish market prices for energy and operating reserve in accordance with sections 8.2 and 8.3 within five minutes after the end of each dispatch interval, as provided in section 6.4.

8.1.2.1 [Intentionally left blank]

8.1.2.2 [Intentionally left blank]

8.1.2.3 [Intentionally left blank]

8.1.3 [Intentionally left blank]

8.2 Ex-post Prices for Each Dispatch Interval

8.2.1 The IESO shall determine market prices for energy and operating reserve for each dispatch interval, using the dispatch algorithm as follows:

8.2.1.1 the data and information described in section 4.4 shall be used as inputs, using the most recent valid dispatch data submitted by registered market participants and the most accurate system data and metering data for that dispatch interval that is available at the time the market prices are being determined;

8.2.1.2 the unconstrained IESO-controlled grid model shall be used;

8.2.1.3 the operating status of each registered facility, in the dispatch algorithm at the start of each dispatch interval shall be set equal to the operating status in the market schedule determined for the end of the
preceding dispatch interval for that registered facility and, subject to section 8.2.3, recognizing by the adjustment to the input data any registered facility in respect of which a forced outage has occurred or of which the interchange schedule has been curtailed due to constraints external to the IESO control area during that dispatch interval;

8.2.1.4 the dispatch algorithm shall be run to determine the market schedules that maximise the economic gains from trade under the assumptions made pursuant to this section 8.2.1; and

8.2.1.5 subject to section 8.2.2, the marginal costs from the dispatch algorithm for energy and each class of operating reserve, in the IESO control area and in each intertie zone, shall be the market prices for that dispatch interval.

8.2.2 The prices produced as part of the output of the market scheduling and pricing process described in Appendix 7.5 for a pricing run shall not necessarily be the prices that are used for settlement purposes. Without limiting the generality of the foregoing, the following prices shall be used for settlement purposes:

8.2.2.1 the energy price for an intertie zone adjoining the IESO control area shall for settlement purposes, and subject to sections 8.2.2.4 to 8.2.2.7, equal the uniform Ontario energy price modified by the difference between the intertie zone energy price and the uniform Ontario energy price determined in the projected market schedule;

8.2.2.2 the operating reserve price for each class of operating reserve supplied from within the IESO control area shall for settlement purposes, and subject to sections 8.2.2.4 to 8.2.2.7, be formed:

from the shadow prices associated with the operating reserve requirements within the IESO control area during dispatch intervals when such requirements can be met; or

from the greater of the highest priced offer associated with the scheduled operating reserve or the energy prices for the dispatch interval during which the operating reserve requirements within the IESO control area cannot be met;

8.2.2.3 the operating reserve price for each class of operating reserve in an intertie zone adjoining the IESO control area shall for settlement purposes, and subject to section 8.2.2.4 to 8.2.2.7, equal the corresponding uniform operating reserve price for the IESO control area.
area for that class of operating reserve modified by the difference between the corresponding operating reserve price for the intertie zone and the uniform operating reserve price for the IESO control area determined in the projected market schedule;

8.2.2.4 any energy price produced which exceeds MMCP shall be set equal to MMCP for settlement purposes;

8.2.2.5 any energy price produced which is less than negative MMCP shall be set equal to negative MMCP for settlement purposes;

8.2.2.6 any price for operating reserve produced which exceeds MORP shall be set equal to MORP for settlement purposes; and

8.2.2.7 any price for operating reserve produced which is negative will be set equal to zero for settlement purposes.

8.2.3 In the calculation of market prices, the IESO shall:

8.2.3.1 in the manner specified in section 8.2.1.3, adjust the input data at the start of a dispatch interval of a registered facility in respect of which a forced outage or interchange schedule curtailment due to constraints external to the IESO control area has occurred during the preceding or an earlier dispatch interval; and

8.2.3.2 make the adjustment referred to in section 8.2.1.3 in respect of such registered facility only to the extent that the input data can be adjusted having regard to the timing of the forced outage or interchange schedule curtailment due to constraints external to the IESO control area and the IESO’s procedures for updating input data.

8.3 Uniform Ex-post Prices for Each Hour

8.3.1 The IESO shall determine, for each dispatch hour, a uniform hourly Ontario energy price (HOEP) in accordance with the formulation described as HOEPₜ in section 3.1.3 of Chapter 9.

8.4 [Intentionally left blank]

8.4A Administrative Pricing and Corresponding Schedules – Revised

8.4A.1 This section 8.4A applies only in respect of the establishment of administrative prices for the real-time energy market and the operating reserve market.
8.4A.2 The IESO shall establish *administrative prices* and, where applicable, corresponding *market schedules* when:

8.4A.2.1 the *energy market* or the *operating reserve market* has been suspended in accordance with section 13;

8.4A.2.2 the IESO is unable to *publish* an energy market price or operating reserve market price in accordance with section 8.1.2 due to a failure in or planned outage of the software, hardware or communications systems that supports the operation of the *dispatch algorithm*;

8.4A.2.3 the IESO determines, pursuant to guidelines approved by the IESO Board relating to price error materiality and acceptable causal events, that a published energy market price or operating reserve market price is incorrect due to incorrect inputs which affected the outcome of the dispatch algorithm;

and all such *administrative prices* shall be the *energy market price* and the *operating reserve market price* for the applicable *dispatch interval* for all purposes under these *market rules*.

8.4A.3 Where the IESO establishes *administrative prices* pursuant to section 8.4A.2 it shall do so within two business days of the event causing market prices to be administered. The IESO shall inform market participants as soon as practicable whenever a published market price is an administrative price.

**Administration of Prices Due to Failures or Planned Outages of Market Systems, Publication of Incorrect Prices or Implementation of an Emergency Control Action**

8.4A.4 In circumstances where *administrative prices* are required under sections 8.4A.2.2, or 8.4A.2.3 the IESO shall establish *administrative prices* and corresponding *market schedules* that would, to the extent practical, reflect the market prices and corresponding market schedules that would have otherwise been produced by the *real-time markets*, but for the event causing market prices to be administered.

8.4A.5 Where the IESO establishes *administrative prices* pursuant to sections 8.4A.2.2, or 8.4A.2.3 in respect of one or more *dispatch intervals*, it shall use the best available dispatch data for energy or operating reserve, as the case may be, pertaining to the *dispatch interval* to which the administrative price is to be applied and the market prices and corresponding market schedule for that dispatch interval shall be as the IESO determines appropriate consistent with the
principle stated in section 8.4A.4, and shall be the market price and corresponding market schedule from:

8.4A.5.1 the closest preceding dispatch interval that has not been administered, up to a maximum of 24 dispatch intervals;

8.4A.5.2 the closest subsequent dispatch interval that has not been administered, up to a maximum of 24 dispatch intervals; or

8.4A.5.3 a combination of the closest preceding and closest subsequent dispatch intervals that have not been administered, provided that neither the preceding nor subsequent dispatch intervals are selected for more than 24 dispatch intervals and are applied in a continuous manner such that the administrative price chosen from the preceding dispatch interval shall apply until changed to the administrative price selected from the subsequent dispatch interval.

8.4A.6 Where the IESO establishes an administrative price pursuant to sections 8.4A.2.2, or 8.4A.2.3 the IESO shall, if the need for administrative prices extends beyond 48 dispatch intervals, establish administrative prices for the remaining dispatch intervals of the event causing market prices to be administered within the IESO control area and the intertie zones, using an average HOEP for the energy market and the hourly average of the operating reserve prices for the applicable dispatch intervals for the operating reserve markets, determined from the corresponding hour or hours from each of the 4 most recent business days or non-business days, as the case may be, excluding those hours from any day in which administrative pricing has been established under this section. Prices for the excluded hours shall be replaced by prices that have not been administered under this section from the corresponding hours of the most recent earlier business days or non-business days, as the case may be.

8.4A.7 Where the IESO establishes an administrative price for a dispatch interval pursuant to section 8.4A.6, there shall be no congestion management settlement credit payments made under section 3.5.2 of Chapter 9 for that dispatch interval.

Administration of Prices Due to Market Suspension

8.4A.8 Where the IESO establishes administrative prices during a market suspension pursuant to section 8.4A.2.1, it shall establish the administrative price as one of the following, as the IESO determines appropriate:

8.4A.8.1 where market operations have been suspended for reasons other than a failure in the software that generates market prices and operations of the IESO-controlled grid are based to some extent on market-based
information and signals, a market price calculated using that software; or

8.4A.8.2 where operations of the IESO-controlled grid are being conducted without regard to the market, for the IESO control area and the intertie zones, an average HOEP for the energy market and the hourly average of the operating reserve prices for the applicable dispatch intervals for the operating reserve markets, determined from the corresponding hour or hours from each of the 4 most recent business days or non-business days, as the case may be, excluding those hours from any day in which administrative pricing has been established under this section, and there shall be no congestion management settlement credit payments made under section 3.5.2 of Chapter 9 for the period of market suspension. Prices for the excluded hours shall be replaced by prices that have not been administered under this section from the corresponding hours of the most recent earlier business days or non-business days, as the case may be.

**Additional Compensation for Complying with Dispatch Instructions**

8.4A.9 Where the IESO has established an administrative price pursuant to sections 8.4A.6 and 8.4A.8.2 and subject to any materiality limits published in the applicable market manual,

8.4A.9.1 a market participant with a generation facility that has complied with dispatch instructions issued by the IESO shall be entitled to additional compensation determined under section 8.4A.10, and

8.4A.9.2 a market participant with a dispatchable load facility shall be entitled to additional compensation on those consumption amounts where their bid price is less than the administrative price, equal to the difference between its applicable bid price and the administrative price multiplied by those consumption amounts if:

- the market participant’s bid price, for the level of consumption to which it was dispatched, is less than the administrative price;

- the market participant has complied with dispatch instructions issued by the IESO; and

- the market participant issues to the IESO a notice of disagreement in accordance with section 6.6 of Chapter 9, and
the IESO shall recover any such compensation amounts in accordance with section 4.8 of Chapter 9.

8.4A.9A If the energy market is suspended and no bid prices are available to make the determination in section 8.4A.9.2 that a bid price is less than the administrative price, a market participant with a dispatchable load facility shall provide to the IESO evidence that its average historical bid price is less than the administrative price. Average historical bid prices shall be determined for each interval from the corresponding interval from each of the four most recent business days or non-business days, as the case may be, prior to the event that gave rise to the administrative price.

8.4A.10 The compensation referred to in section 8.4A.9.1 shall be calculated as the aggregate of:

8.4A.10.1 the fuel costs or, where applicable, the other costs referred to in section 8.4A.11, and the variable operating and maintenance costs incurred by the market participant in complying with the dispatch instructions issued by the IESO, which fuel costs or other costs and variable operating and maintenance costs shall be subject to verification and audit by the IESO; and

8.4A.10.2 subject to section 8.4A.11, an amount equal to 10% of the amount determined pursuant to section 8.4A.10.1, less the amount of the administrative price already paid or payable to the market participant under sections 8.4A.6 and 8.4A.8.2.

8.4A.11 Where the compensation referred to in sections 8.4A.9.1 relates to a generation facility that is energy limited by design or by bona fide contractual commitments, the IESO may accept, in lieu of the costs referred to in section 8.4A.10.1, such assessment of the expected future value or the opportunity costs of the fuel or water consumed:

8.4A.11.1 during the period while administrative prices were in effect; and

8.4A.11.2 in order to comply with the dispatch instruction issued by the IESO; as the IESO considers reasonable. Where such value or costs are submitted in lieu of the costs referred to in section 8.4A.10.1, no amount shall be payable pursuant to section 8.4A.10.2 if, in the IESO’s opinion, such value or costs include or adequately cover such amount.
8.4A.12 Any disputes concerning the additional compensation referred to in section 8.4A.9 shall be resolved using the dispute resolution process set forth in section 2 of Chapter 3.

**Settlement Amount Adjustments Resulting from Administration of Prices Due to Failures or Planned Outages of Market Systems or Due to Publication of Incorrect Prices**

8.4A.13 Where the IESO has established an administrative price pursuant to section 8.4A.5, a market participant may, subject to any materiality limits published in the applicable market manual, be eligible for an adjustment to its settlement amounts if:

8.4A.13.1 that market participant has been assessed a negative hourly congestion management settlement credit pursuant to section 3.5 of Chapter 9 for any of the applicable dispatch intervals;

8.4A.13.2 no intertie offer guarantee that would offset that negative hourly congestion management settlement credit has been assessed for that market participant pursuant to section 3.8A of Chapter 9;

8.4A.13.3 the market schedule determined pursuant to section 8.4A.5 is carried forward or backward to another dispatch hour that is the dispatch hour to which the negative congestion management settlement credit referred to in section 8.4A.13.1 applies;

8.4A.13.4 the price and/or quantity values in the dispatch data submitted by the market participant are different in the dispatch hour from which the market schedule referred to in section 8.4A.13.3 was established compared to the dispatch data submitted by the market participant for the dispatch hour to which the negative congestion management settlement credit referred to in section 8.4A.13.1 applies;

8.4A.13.5 the market participant complied with the dispatch instructions issued by the IESO for the applicable dispatch intervals;

8.4A.13.6 the negative hourly congestion management settlement credit referred to in section 8.4A.13.1 arose strictly due to the circumstances outlined in section 8.4A.13.3 through 8.4A.13.5; and

8.4A.13.7 the market participant issues to the IESO a notice of disagreement in accordance with section 6.6 of Chapter 9 providing evidence that the circumstances outlined in section 8.4A.13.1 through 8.4A.13.6 have occurred.
8.4A.14 If the market participant, pursuant to section 8.4A.13, has demonstrated to the satisfaction of the IESO that circumstances outlined in section 8.4A.13.1 through 8.4A.13.6 have occurred, the IESO shall, in accordance with section 6.6 of Chapter 9, adjust the market participant’s settlement amounts by an amount to offset the negative hourly congestion management settlement credit referred to in section 8.4A.13.1.

8.4A.15 Where the IESO has established an administrative price pursuant to section 8.4A.5, a market participant may, subject to any materiality limits published in the applicable market manual, be eligible for additional compensation if:

8.4A.15.1 the market participant has been assessed an hourly net energy market settlement credit for a dispatchable facility or boundary entity that represents either an underpayment or overcharge, as the case may be, when comparing the administrative price used for determining the hourly net energy market settlement credit to the market participant’s applicable offer or bid price;

8.4A.15.2 no intertie offer guarantee that would offset that underpayment has been assessed for that market participant pursuant to section 3.8A of Chapter 9;

8.4A.15.3 no hourly congestion management settlement credit that would offset that overcharge or underpayment has been assessed for that market participant pursuant to section 3.5 of chapter 9;

8.4A.15.4 the market schedule determined pursuant to section 8.4A.5 is carried forward or backward to another dispatch hour that is the dispatch hour to which the hourly net energy market settlement credit referred to in section 8.4A.15.1 applies;

8.4A.15.5 the price and/or quantity values in the dispatch data submitted by the market participant are different in the dispatch hour from which the market schedule referred to in section 8.4A.15.4 was established compared to the dispatch data submitted by the market participant for the dispatch hour to which the above hourly net energy market settlement credit applies referred to in section 8.4A.15.1;

8.4A.15.6 the market participant complied with the dispatch instructions issued by the IESO for the applicable dispatch intervals;

8.4A.15.7 the hourly net energy market settlement credit referred to in section 8.4A.15.1 and the resulting overcharge or underpayment arose strictly
due to the circumstances outlined in section 8.4A.15.4 through 8.4A.15.6; and

8.4A.15.8 the *market participant* issues to the *IESO a notice of disagreement* in accordance with section 6.6 of Chapter 9 providing evidence that the circumstances outlined in section 8.4A.15.1 through 8.4A.15.7 have occurred.

8.4A.16 If the *market participant*, pursuant to section 8.4A.15 has demonstrated to the satisfaction of the *IESO* that circumstances outlined in section 8.4A.15.1 through 8.4A.15.7 have occurred, the *IESO* shall, in accordance with section 6.6 of Chapter 9, adjust the *market participant’s settlement amounts* by the following amount to offset the overcharge or underpayment, referred to in section 8.4A.15.1, as the case may be.

**Dispatchable Generator and Import:**

\[
\text{Compensation} = (-1) \times \text{OP}(\text{EMP}_{h}^{m,t^{*}}, AQEI_{k,h}^{m,t^{*}}, \text{BE})
\]

Where:

- \(t^{*} = \textit{metering interval of administrative price period}\)
- \(\text{EMP}_{h}^{m,t^{*}} = \text{the administrative price in the metering interval } t^{*} \text{ of settlement hour } h\)
- \(\text{OP} = \text{the profit function as described in Chapter 9, Section 3.5.2}\)

**Dispatchable Load and Export:**

\[
\text{Compensation} = \text{OP}(\text{EMP}_{h}^{m,t^{*}}, AQEW_{k,h}^{m,t^{*}}, \text{BL})
\]

Where:

- \(t^{*} = \textit{metering interval of administrative price period}\)
- \(\text{EMP}_{h}^{m,t^{*}} = \text{the administrative price in the metering interval } t^{*} \text{ of settlement hour } h\)
- \(\text{OP} = \text{the profit function as described in Chapter 9, Section 3.5.2}\)

**Conditions to Cease the Administration of Prices**

8.4A.17 The *IESO* shall cease to apply *administrative prices*:

8.4A.17.1 where section 8.4A.2.1 applies, from the commencement of the first *dispatch interval* in the *dispatch hour* referred to in section 13.7.1.2;
8.4A.17.2 where section 8.4A.2.2 applies due to a failure in software, hardware or communications systems, from the commencement of the first dispatch interval after the failure referred to in that section has been rectified;

8.4A.17.3 where section 8.4A.2.2 applies due to a planned outage of software, hardware or communications systems, from the commencement of the first dispatch interval after the planned outage referred to in that section has been completed; and

8.4A.17.4 where section 8.4A.2.3 applies, from the commencement of the first dispatch interval after the incorrect inputs referred to in that section have been corrected.

9. IESO Procurement Markets

9.1 Introduction
9.1.1 The IESO shall procure, primarily through contracts, certain physical services that are needed to maintain reliable system operations but that are not offered in the real-time markets. The IESO may also enter into contracts allowing it to direct the operations of specific generation facilities or load facilities that are critical to system reliability under certain conditions. This section 9 describes such physical services and the manner in which the IESO shall procure them.

9.2 Definition of Contracted Ancillary Services
9.2.1 Subject to sections 9.4 and 9.5.2, the IESO shall procure contracted ancillary services through contracts between the IESO and ancillary service providers that are registered market participants who have demonstrated the ability to provide such contracted ancillary services from registered facilities in accordance with the performance standards and other applicable requirements of section 4 of Chapter 5. Contracted ancillary services shall meet all applicable standards set forth in section 4 of Chapter 5 and shall be procured such as to enable the IESO to meet its obligations thereunder.

9.2.2 The principal contracted ancillary services that the IESO will procure pursuant to section 9.2.1 are:

9.2.2.1 regulation: this ancillary service allows total system generation to match total system load (plus losses) minute-by-minute or even second-by-second as required on an electricity grid;
9.2.2.2 **voltage control** and **reactive support**: this **ancillary service** involves the control and maintenance of prescribed voltages at specific locations, using defined reactive capacity, **energy** and manoeuvrability to support system operations. **Reactive support** is provided by **generation units**, as well as by synchronous condensers, capacitors and other electrostatic equipment that is often owned and operated by **transmitters**; and

9.2.2.3 **black start capability**: this **ancillary service** involves **generation facilities** that are tested and/or assessed for their ability to be a **certified black start facility**, and from which the **IESO** may direct the delivery of power without assistance from the electrical system.

9.2.2.4 [Intentionally left blank – section deleted]

9.2.3 The **IESO** shall procure each contracted ancillary service:

9.2.3.1 in sufficient quantities and at the appropriate locations to enable the **IESO** to meet its obligations under Chapter 5 to ensure **reliable** operation of the **electricity system**, in accordance with all applicable **reliability standards**; and

9.2.3.2 using, to the extent practicable, competitive processes appropriate to the specific technical and market characteristics of each **contracted ancillary service**, to acquire each **contracted ancillary service** at competitively determined prices.

9.3 **Contracted Ancillary Service Contracts**

9.3.1 The **IESO** shall enter into **contracted ancillary service** contracts with **ancillary service providers**. Such agreements shall, subject to sections 9.3.4 and 9.3.6:

9.3.1.1 [Intentionally left blank – section deleted]

9.3.1.2 compensate any **ancillary service provider** for levels of service above those required to be provided by the **connection** requirements of Chapter 4.

9.3.2 Subject to section 9.3.6, the **IESO** shall use one or a combination of the following processes to conclude **contracted ancillary service** contracts with **ancillary service providers**:

9.3.2.1 where practical, the **IESO** shall employ a competitive tendering or negotiation process to identify multiple potential **ancillary service**
providers and to determine competitive prices and other terms for the contracted ancillary service contracts; or

9.3.2.2 the IESO may negotiate contracted ancillary service contracts with a single potential ancillary service provider where the IESO determines that this will result in reasonable prices and other terms.

9.3.3 [Intentionally left blank]

9.3.3.1 [Intentionally left blank]

9.3.3.2 [Intentionally left blank]

9.3.3.3 [Intentionally left blank]

9.3.4 The provisions of sections 9.3.1 and 9.5.1 shall be subject to any contrary provisions contained in:

9.3.4.1 any licence; or

9.3.4.2 the terms of any contracted ancillary service contract the terms of which are required by a licence to be, and have been, approved by the Ontario Energy Board.

9.3.5 Each person that:

9.3.5.1 has entered into a contracted ancillary service contract with the IESO; and

9.3.5.2 is not, at any time during the term of such contracted ancillary service contract, the registered market participant for that facility,

shall ensure that the registered market participant for that facility complies with the provisions of the contracted ancillary service contract.

9.3.6 Where the IESO and the ancillary service provider are unable to reach agreement upon the terms and condition of a proposed ancillary service contract, or an amendment to an ancillary service contract, the matter shall be determined by the Ontario Energy Board.

9.4 The Effect of Grid Connection Requirements

9.4.1 The IESO may at any time direct a registered facility to provide the level of any ancillary service that the registered facility is required to provide as a condition of
9.4.2 Subject to section 9.4.4, a registered facility shall not be entitled to compensation from the IESO for any ancillary service that must be provided pursuant to the connection requirements provided for in Chapter 4 unless and until the IESO develops a market for such ancillary service that pays all providers of the ancillary service and/or that requires any registered facility to pay for the failure to supply up to some standard that may be less than that attributable to the connection requirement.

9.4.3 If the IESO directs a registered facility to provide a level of any ancillary service above the levels required by the licence applicable to that registered facility or any connection requirements provided for in Chapter 4 and the registered facility is not otherwise subject to a contracted ancillary service contract with the IESO, the IESO shall compensate the registered facility for any costs, including lost opportunity costs, incurred by the registered facility in complying with the IESO’s direction.

9.4.4 If the IESO directs a registered facility to provide reactive support within the range required by the connection requirements provided for in Chapter 4, the IESO shall only be required to compensate the registered facility to the extent that the registered facility incurs additional costs, provided that such additional costs are demonstrated to the satisfaction of the IESO to have been incurred in order to comply with the IESO’s direction.

9.4.5 If the IESO directs a registered facility to provide reactive support within the range required by the connection requirements provided for in Chapter 4 or as stipulated in the applicable contracted ancillary service contract, and that registered facility has to reduce its active power output in order to comply with the IESO’s direction, that registered facility shall not be entitled to a congestion management settlement credit for that reduction in active power output.

9.5 Payment for Ancillary Services and Recovery of Costs

9.5.1 Subject to sections 9.3.4 and 9.3.6, the price payable by the IESO under a contracted ancillary service contract may cover any of the following:

9.5.1.1 the cost of being available to provide a contracted ancillary service if instructed by the IESO to do so;

9.5.1.2 the out-of-pocket costs and the opportunity costs of actually providing the contracted ancillary service when instructed by the IESO to do so; and
9.5.1.3 such other compensation as the IESO determines to be fair and reasonable under the circumstances.

9.5.2 The IESO is authorised, when necessary to maintain system reliability or when the IESO-controlled grid is in an emergency operating state to direct a registered facility to provide any class of contracted ancillary services even though the IESO does not have a contracted ancillary service contract with that registered facility. When this occurs:

9.5.2.1 the IESO shall compensate the registered facility for any costs, including opportunity costs, it incurs in complying with the IESO’s direction; and

9.5.2.2 any dispute about the compensation payable pursuant to section 9.5.2.1 shall be resolved using the dispute resolution process set forth in section 2 of Chapter 3.

9.5.3 The IESO shall, in accordance with section 4.2 of Chapter 9, recover from market participants any costs it incurs in procuring ancillary services.

9.6 Definition and Principles of Must-Run Contracts

9.6.1 The IESO may, under the conditions and in accordance with the processes specified in this section 9.6, enter into a reliability must-run contract with the registered market participant or the prospective registered market participant for a reliability must-run resource. Where the IESO and a registered market participant or prospective registered market participant enter into a reliability must-run contract with respect to a given reliability must-run resource, the IESO may direct that reliability must-run resource to operate in specific ways when instructed by the IESO to do so for reasons of reliability, other than for reasons of a lack of overall adequacy of the IESO-controlled grid, regardless of whether dispatch data has been submitted with respect to that reliability must-run resource. Nothing in this section shall be construed as preventing the IESO from taking such other action in respect of such reliability must-run resource as may be permitted by these market rules to address a concern for overall adequacy.

9.6.2 Subject to section 9.6.4, the IESO may enter into a reliability must-run contract based on studies performed by the IESO that indicate:

9.6.2.1 in accordance with section 9.6.3, that a reliability must-run resource is required to be available for the purposes of reliability, other than in situations of overall adequacy of the IESO-controlled grid; or
9.6.2.2 A reliability must-run resource is likely to be dispatched as a constrained on facility or a constrained off facility and that such a contract would avail to the mutual benefit of the parties.

9.6.3 The studies referred to in section 9.6.2.1 shall include a consideration of whether concerns regarding reliability, other than regarding a lack of overall adequacy of the IESO-controlled grid, can be addressed by means of the process for directing the submission of dispatch data or for imposing a restriction on the revision of dispatch data referred to in sections 3.3.10 to 3.3.17 or of the process by which the IESO approves outages pursuant to section 6 of Chapter 5.

9.6.4 The IESO shall enter into a reliability must-run contract pursuant to section 9.6.2.2 in respect of a reliability must-run resource only where the registered market participant or the prospective registered market participant for the reliability must-run resource so agrees.

9.6.5 Where:

9.6.5.1 the IESO would be required to reject, revoke advance approval of, or recall the planned outage of a registered facility pursuant to section 6 of Chapter 5 but for the availability of a reliability must-run resource; and

9.6.5.2 the reliability must-run resource referred to in section 9.6.5.1 has planned a temporary reduction in staff that would restrict or prevent operation of that other registered facility.

the IESO may enter into a reliability must-run contract in respect of the reliability must-run resource referred to in section 9.6.5.1 provided that:

9.6.5.3 staffing adequate to permit that reliability must-run resource to operate under the reliability must-run contract can be arranged by that reliability must-run resource within the time required; and

9.6.5.4 the conclusion of the reliability must-run contract referred to in section 9.6.5.3 would avoid the need for the IESO to reject, revoke advance approval of, or recall the planned outage referred to in section 9.6.5.1.

9.6.6 The IESO may call upon a reliability must-run resource that is subject to a reliability must-run contract if and only if the IESO determines that market participants will not offer sufficient physical services into the real-time markets to enable the IESO to maintain reliability, other than in respect of a lack of overall adequacy of the IESO-controlled grid.
9.6.7 Subject to section 9.6.13, the IESO shall use one or a combination of the following processes to conclude reliability must-run contracts pursuant to section 9.6.2:

9.6.7.1 where practical, the IESO shall employ a competitive tendering or negotiation process to identify multiple potential suppliers and to determine competitive prices and other terms for the reliability must-run contract; or

9.6.7.2 the IESO may negotiate reliability must-run contracts with a single potential supplier where the IESO determines that this will result in reasonable prices and other terms.

9.6.8 Subject to sections 9.6.11 and 9.6.13:

9.6.8.1 the IESO may develop standard forms of reliability must-run contracts for use in conjunction with sections 9.6 and 9.7,

provided that

9.6.8.2 a standard form reliability must-run contract developed for use in conjunction with a reliability must-run resource that has planned a temporary reduction in staff that would restrict or prevent its operation, including but not limited to the circumstances described in section 9.6.5, shall provide compensation only for the out-of-pocket costs including, but not limited to, the costs of providing adequate staffing, incurred solely to permit the reliability must-run resource to be prepared to provide physical services if dispatched to do so, but no such compensation shall be payable in respect of dispatch intervals when the reliability must-run resource is dispatched to provide such physical services and is entitled to payment therefore as a result of such dispatch.

9.6.9 Subject to sections 9.6.11 and 9.6.13, the IESO may include in any reliability must-run contract, other than a standard form reliability must-run contract referred to in section 9.6.8.2, the compensation provisions referred to in section 9.6.8.2 or such other compensation provisions as the IESO determines appropriate.

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9.6.10.3 [Intentionally left blank]

9.6.11 The provisions of sections 9.6.8, 9.6.9 and 9.7.1 shall be subject to any contrary provisions contained in:

9.6.11.1 any licence; or

9.6.11.2 the terms of any reliability must-run contract the terms of which are required by a licence to be, and have been, approved by the Ontario Energy Board.

9.6.12 [Intentionally left blank]

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9.6.12.2 [Intentionally left blank]

9.6.13 Where the IESO and the registered market participant or prospective registered market participant are unable to reach agreement upon the terms and condition of a proposed reliability must-run contract, or an amendment to a reliability must-run contract, the matter shall be determined by the Ontario Energy Board.

9.7 Terms and Conditions of Must-Run Contracts

9.7.1 Subject to sections 9.6.11 and 9.6.13, the IESO shall include in each reliability must-run contract terms and conditions that address, at a minimum, the following:

9.7.1.1 the duration of the reliability must-run contract, which shall not exceed 1 year;

9.7.1.2 the situations in which the reliability must-run resources may be called;

9.7.1.3 the situations under which some or all of the terms of the reliability must-run contract may be suspended;

9.7.1.4 the nature and timing of any advance notice required for the IESO to call upon the reliability must-run resources;

9.7.1.5 payment terms, including the amount and timing of any availability payment;

9.7.1.6 agreed dispatch data that the IESO shall use to dispatch the reliability must-run resource when it is called by the IESO to operate in various
modes under the reliability must-run contract, and provisions for the revision of such dispatch data, when necessary;

9.7.1.7 the process for amending the terms of the reliability must-run contract; and

9.7.1.8 any penalties payable by either party for failure to satisfy its obligations under the reliability must-run contract.

9.7.2 The IESO shall, in accordance with section 4.2 of Chapter 9, recover through charges on market participants the incremental costs of its reliability must-run contracts above any normal payments for energy and operating reserves recovered in the real-time markets.

9.8 Publication of Procurement Contract Information

9.8.1 The IESO shall treat information relating to the procurement of contracted ancillary services and reliability must-run contracts as follows:

9.8.1.1 the IESO shall publish annually the total costs of all contracted ancillary services subject to contracted ancillary service contracts and of all reliability must-run contracts;

9.8.1.2 the IESO shall publish annually the quantities of each contracted ancillary service covered under contracted ancillary service contracts and the quantities of each physical service provided under reliability must-run contracts, together with estimates of any additional quantities the IESO expects to acquire during the next 12 months;

9.8.1.3 where the IESO obtains contracted ancillary services or reliability must-run contracts in the absence of market power, the commercial terms of the contracted ancillary service contracts and of the reliability must-run contracts shall be treated as confidential information; and

9.8.1.4 where the IESO obtains contracted ancillary services or reliability must-run contracts in the presence of market power, as confirmed by the market surveillance panel, the IESO shall publish the relevant terms and conditions of the contracts, except for price which shall not be disclosed, in order to encourage competition.

9.9 Dispute Resolution

9.9.1 Subject to the licence of the IESO and of the relevant market participant, all disputes arising pursuant to a contracted ancillary services contract or a reliability must-run contract are subject to the dispute resolution process.
must-run contract shall be resolved using the dispute resolution process set forth in section 2 of Chapter 3.

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   a. [Intentionally left blank- section deleted]
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10.4.6.1 [Intentionally left blank – section deleted]
11. Generator Synchronization Procedures

11.1 Introduction

11.1.1 No generator: 

11.1.1.1 may physically connect and synchronize to the IESO-controlled grid or de-synchronize and disconnect from the IESO-controlled grid; or
11.1.1.2 if an *embedded generator*, may physically *connect* and synchronize to the embedding *facility* or de-synchronize and *disconnect* from the embedding *facility,* except as provided in Chapter 4 and in this section 11.

11.1.2 All *generation facilities* located within the *IESO control area* are subject to the provisions of this section 11 except for *self-scheduling generation facilities* with name-plate ratings of less than 10 MW, *intermittent generators,* any *generators* classified as *minor generation facilities* or as *small generation facilities,* *generation facilities* that, for the purposes of the application of the provisions of this section 11, have been designated by the *IESO* as not impairing the ability of the *IESO* to maintain the *security* or adequacy of the electricity system, and any *generators* exempt from the provisions of the *Electricity Act, 1998* by regulation made thereunder.

11.1.3 [Intentionally left blank]

11.2 **Process for Synchronization**

11.2.1 A *generator* that intends to synchronize a *generation unit* to the *IESO-controlled grid* or embedding *facility,* as the case may be, must notify the *IESO* at least two hours in advance of the intended synchronization time unless an under-generation system advisory notice is in force, in which case the *IESO* may reduce the required notification time to that specified in the system advisory notice.

11.2.2 If a *generator* does not advise the *IESO* at least two hours in advance of synchronization, or any shorter interval allowed by an under-generation system advisory notice, the *IESO* may approve synchronization only if, in the *IESO’s* judgement, synchronization will not impair the ability of the *IESO* to maintain the *security* or *adequacy* of the *electricity system.*

11.2.3 The *IESO* shall notify the *generator* of the *IESO’s* acceptance or rejection of the *generation unit’s* synchronization plans within 5 minutes of receiving such plans. In the event that the *IESO* does not approve synchronization, the *registered market participant* responsible for the *registered facility,* of which the *generation unit* is a part, must revise its *dispatch data* in accordance with section 3.

11.2.4 Receipt by the *generator* of notification of acceptance by the *IESO* under section 11.2.3 gives the *generator* the right to synchronize the *generation unit* to the *IESO-controlled grid* or the embedding *facility,* as the case may be. This right does not preclude the *IESO* from requiring de-synchronization of a *generation unit* in the event of over-generation in accordance with any applicable provisions of these *market rules* relating to over-generation.
11.2.5 The exact time of synchronization shall be subject to directions from the IESO and to the terms and conditions specified in the generator’s connection agreement or, in the case of an embedded generation unit, its connection agreement, in such form as may be prescribed by the OEB, with the distributor with whom it is connected.

11.2.6 Each generator shall notify the IESO of any revisions to its synchronization plans without delay. Upon receipt of such notice, the IESO shall re-assess any prior acceptance of a synchronization plan and shall notify the generator accordingly.

11.3 Process for De-synchronization

11.3.1 A generator intending to de-synchronize a generation unit from the IESO-controlled grid or embedding facility, as the case may be, shall notify the IESO 1 hour in advance of the intended de-synchronization time, unless a system advisory notice for over-generation is in effect, in which event the generation unit may de-synchronize at will subject to the conditions of the system advisory notice.

11.3.2 If a generator does not advise the IESO at least 1 hour prior to its planned de-synchronization, or any shorter interval allowed by an over-generation system advisory notice, the IESO may approve de-synchronization only if, in the IESO’s judgement, the unit’s de-synchronization will not impair the ability of the IESO to maintain the security or adequacy of the electricity system.

11.3.3 The IESO shall approve any request to de-synchronize unless:

11.3.3.1 the generation unit is operating under the provisions of a reliability must-run contract and the IESO has directed it to operate;

11.3.3.2 the IESO requires the generation unit to remain synchronized to maintain the security or adequacy of the electricity system; or

11.3.3.3 an under-generation system advisory notice is in force.

11.3.4 The IESO shall notify the generator of the IESO’s acceptance or rejection of the generation unit’s de-synchronization plans within 5 minutes of receiving such plans.

11.3.5 The exact time of de-synchronization shall be subject to directions from the IESO and to the terms and conditions specified in the generator’s connection agreement or, in the case of an embedded generation unit, its connection agreement, in such form as may be prescribed by the OEB, with the distributor with whom it is connected.
11.3.6 Receipt by the generator of notification of acceptance by the IESO under section 11.3.4 gives the generator the right to commence shut-down of the generation unit.

11.3.7 Each generator shall notify the IESO of any revisions to its de-synchronization plans without delay. Upon receipt of such notice, the IESO shall re-assess any prior acceptance of a de-synchronization plan and shall notify the generator accordingly.

12. Status Reports, Advisories, and Protocols

12.1 IESO System Status Reports and Advisory Notices

12.1.1 The IESO shall publish, in addition to the daily assessments specified in section 7.3.1.4 of Chapter 5, system status reports to:

12.1.1.1 to 12.1.1.5 [Intentionally left blank – sections deleted]

12.1.1.6 provide forecasts, with respect to each dispatch day, as projected for future dispatch hours and as estimated for the current dispatch hour, where appropriate, of expected hourly demand, generation capacity, energy capability of generation facilities, exports and imports of energy, and operating reserve requirements, published at the following times:

12.1.1.6.1 05:30 EST of the pre-dispatch day;

12.1.1.6.2 09:00 EST of the pre-dispatch day;

12.1.1.6.3 after each successful run of the day-ahead commitment process, of the pre-dispatch day;

12.1.1.6.4 after 15:00 EST, and hourly thereafter, of the pre-dispatch day; and

12.1.1.6.5 hourly on the dispatch day;

12.1.1.7 provide forecasts of expected transmission capacity with all elements in-service, published daily, as soon as practicable; and
12.1.1.8 provide forecasts of expected transmission limits with outages, for the dispatch day and the two days following the dispatch day, published hourly on the dispatch day.

12.1.2 [Intentionally left blank – section deleted]

12.1.2.1 to 12.1.2.9 [Intentionally left blank – sections deleted]

12.1.3 If required, the IESO shall publish, in accordance with the applicable market manual, advisory notices as follows:

12.1.3.1 a major change advisory if a major change in expected generation capacity or transmission capacity has occurred since the last system status report was issued;

12.1.3.2 a system advisory if the IESO expects over-generation, under-generation or shortfalls in operating reserve or contracted ancillary services, or an advisory of the total MW of energy being directed to submit bids or offers from the aggregate of reliability must run resources under reliability must run contracts. Any system advisory shall indicate the actions the IESO intends to take if the market does not or cannot respond sufficiently to eliminate the problem;

12.1.3.3 a system emergency advisory if the IESO expects an emergency operating state or a high-risk operating state. Any such system emergency advisory shall indicate the actions the IESO intends to take if the market does not or cannot respond sufficiently to eliminate the problem; and

12.1.3.4 a market suspension advisory or market resumption notice if the IESO is suspending or resuming operation of all or part of the IESO-administered markets.

12.1.4 Where applicable, the corresponding information related to the advisory notices in section 12.1.3 shall be included by the IESO in a subsequent publication of a scheduled report under section 12.1.1.

12.1.5 The reports referred to in section 12.1.1 and 12.1.3 shall be prepared by the IESO in such form and shall contain such information as may be specified in the applicable market manual.

12.2 Over-Generation and Under-Generation Advisories

12.2.1 If the IESO issues an over-generation system advisory notice pursuant to section 12.1.3, the IESO shall, unless the IESO determines that it is not able to do
so for operational or system security reasons, and notwithstanding any notification requirements or other conditions specified elsewhere in these market rules:

12.2.1.1 solicit and accept additional or revised bids from dispatchable loads willing to increase demand in response to low prices;

12.2.1.2 allow generators to de-synchronize from the IESO-controlled grid or the embedding facility, as the case may be, without penalty, some or all of the generation units within any registered facility in locations designated by the IESO; and/or

12.2.1.3 solicit and accept revised offers from generators or wholesale sellers that will decrease generation resources in response to low prices, in locations designated by the IESO.

12.2.2 If the IESO issues an under-generation system advisory notice pursuant to section 12.1.3, the IESO shall, unless the IESO determines that it is not able to do so for operational or system security reasons, and notwithstanding any notification requirements or other conditions specified elsewhere in these market rules:

12.2.2.1 solicit and accept additional or revised bids from dispatchable loads that will reduce load in response to higher prices;

12.2.2.2 allow generators to synchronize to the IESO-controlled grid or the embedding facility, as the case may be, without penalty, some or all of the generation units within any registered facility in locations designated by the IESO; and/or

12.2.2.3 solicit and accept additional or revised offers from generators or wholesale sellers that will increase generation resources in response to higher prices, in locations designated by the IESO.

12.2.3 If the IESO issues an operating reserve shortfall system advisory notice pursuant to section 12.1.3, the IESO shall, within the period specified in the advisory notice, accept additional or revised offers for operating reserve.
13. Suspension of Market Operations

13.1 Introduction

13.1.1 The IESO may, or may be required to, suspend the operation of all or part of the IESO-administered markets in accordance with this section 13. For purposes of this section 13, unless otherwise noted the term “market operations” shall mean the operation of all or part of the IESO-administered markets.

13.1.2 This section 13 sets forth the procedures the IESO must follow in:

13.1.2.1 determining whether to declare a suspension of market operations;

13.1.2.2 directing the operation of the IESO-controlled grid during suspension of market operations; and

13.1.2.3 restoring market operations once the conditions triggering suspension are eliminated.

13.1.3 This section 13 also sets forth the requirements that market participants must meet immediately prior to, during, and immediately after a suspension of market operations.

13.2 Market Suspension Events

13.2.1 Subject to section 13.3, the IESO may suspend market operations if it determines that any of the conditions described in section 13.2.4 exists or is imminent.

13.2.2 As soon as practical the IESO shall notify the IESO Board, the OEB and relevant government authorities of any suspension of market operations pursuant to this section 13.

13.2.3 Upon being notified under section 13.2.2, the IESO Board may determine whether to continue the suspension or to resume normal market operations under such conditions as the IESO Board may specify.

13.2.4 The IESO may suspend market operations in the event of:

13.2.4.1 market operations cannot be continued in a normal manner due to a failure in the software, hardware or communication systems that support market operations;

13.2.4.2 a major blackout;

13.2.4.2A the IESO-controlled grid breaks up into two or more electrical islands;
13.2.4.3 an emergency situation requiring the IESO to evacuate its principal control centre and move to a backup control centre, under conditions and subject to the requirements of Chapter 5; or

13.2.4.4 a declaration of an emergency by the Premier of Ontario or a direction from the Minister to the IESO or to a market participant to implement an emergency preparedness plan.

13.3 Insufficient Reasons for Market Suspension

13.3.1 Notwithstanding section 13.2.4, the IESO may suspend market operations in response to an event described in that section only if the IESO determines that its ability to operate the IESO-administered markets in accordance with these market rules has become substantially impaired.

13.3.2 The IESO shall not suspend market operations solely because:

13.3.2.1 the market price has reached positive or negative MMCP; or

13.3.2.2 some load has been curtailed.

13.4 IESO Declaration of Market Suspension

13.4.1 Only a declaration by the IESO may suspend market operations. If the IESO declares a suspension of market operations, the IESO shall:

13.4.1.1 immediately notify market participants; and

13.4.1.2 issue to market participants a market suspension notice via such means as the IESO determines will ensure timely notification, informing market participants of the nature and scope of the suspension and its expected duration, if known.

13.4.2 Any suspension of market operations shall commence at the start of the next dispatch after the IESO makes the declaration, unless the IESO suspends market operations to protect or restore reliability, in which case the suspension shall commence at the time the IESO makes the declaration.

13.4.3 The IESO may not declare a retroactive suspension of market operations.

13.5 IESO Responsibilities During Market Suspension

13.5.1 While a suspension of market operations is in effect, the IESO shall:

13.5.1.1 prescribe and apply procedures for restoring and maintaining reliable operation of the electricity system and restoring market operations as rapidly as practical, consistent with the safety of persons and facilities;
13.5.1.2 endeavour to continue use of normal market information, scheduling and pricing procedures to the extent practical;

13.5.1.3 prescribe and apply administrative prices in accordance with section 8.4A.8;

13.5.1.4 [Intentionally left blank]

13.5.1.5 provide timely information to market participants concerning the reasons for the suspension and efforts by the IESO to resume normal market operations; and

13.5.1.6 issue directions, through market suspension advisory notices to market participants, that will enable the IESO to continue reliable operations, continue non-suspended market operations and resume normal market operations as soon as practical.

13.6 Participant Responsibilities and Compensation

13.6.1 If the IESO suspends market operations, each market participant shall:

13.6.1.1 comply with the IESO’s market suspension advisory notices and any other directions issued by the IESO;

13.6.1.2 conduct their operations and interactions with the IESO in a manner consistent with such advisory notices and directions; and

13.6.1.3 upon resumption of normal market operations, resume normal operations and interactions with the IESO pursuant to these market rules.

13.6.2 The IESO may issue dispatch instructions while a suspension of market operations is in effect and shall compensate market participants for following these dispatch instructions based on administrative prices established in accordance with section 8.4A.8 rather than on market-determined prices.

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13.7 Ending and Reporting on Market Suspension

13.7.1 The IESO shall monitor the conditions which triggered the suspension of market operations and, subject to any decision or direction that the IESO Board may have given pursuant to section 13.2.3, shall issue a market advisory notice declaring the end of the suspension:

13.7.1.1 as soon as the IESO determines that normal market operations are possible and will maintain reliable system operations; and

13.7.1.2 indicating the dispatch hour for which normal market operations are to resume, providing at least one hour advance notice.

The IESO may, if circumstances warrant and in order to resume normal market operations as soon as possible, issue a market advisory declaring the end of the suspension prior to issuing the notice specified in section 13.2.2.

13.7.2 The IESO shall, immediately following the end of the suspension of market operations, begin a review of events leading to and occurring during the suspension. The IESO may require market participants to submit information regarding their operations immediately prior to and during the suspension and to assist the IESO in analysing the suspension.

13.7.3 Within 10 business days following the resumption of normal market operations, the IESO Board shall provide to all market participants, the OEB and relevant government authorities a preliminary report describing:

13.7.3.1 the circumstances that triggered suspension of market operations;

13.7.3.2 the steps taken by the IESO during the period of suspension to ensure reliable operations and remedy the causes of the suspension;

13.7.3.3 the actions of market participants during the suspension; and
13.7.3.4 any conclusions or recommendations for avoiding similar suspensions in the future.

13.7.4 The IESO Board shall provide a final report containing information in the nature of that described in section 13.7.3 to market participants and the public as soon as it is practicable to do so.

13.7.5 If the IESO Board determines that one or more corrective measures by market participants are warranted to avoid the recurrence of a suspension of market operations, the IESO may direct the affected market participants to implement the corrective measures and the affected market participants shall implement the corrective measures as soon as practicable.

13.7.6 A market participant directed by the IESO to implement corrective measures under section 13.7.5 may apply for compensation from the IESO where compliance with the IESO’s direction results in costs or damages to the market participant.

13.7.7 Any disputes regarding the compensation referred to in section 13.7.6 shall be resolved using the dispute resolution process set forth in section 2 of Chapter 3.

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18. **Capacity Auctions**

18.1 **Purpose of Capacity Auctions**

18.1.1 The *capacity auctions* will acquire *auction capacity* through a competitive auction.

18.1.2 The *IESO* shall specify and *publish* a target capacity amount to be acquired in each *capacity auction*, as specified in the applicable *market manual*.

18.1A **Capacity Auction – Transitional Market Rules**

18.1A.1 For the purposes of participation in a *capacity auction*, *market rules* and *market manuals* that specifically concern *capacity auction* participation, the satisfaction of *capacity obligations*, or the performance of requirements directly related to that participation, shall remain in effect from the date of the *capacity auction* until the end of its associated *commitment period*. 
18.1A.1 Notwithstanding sections 18.1A.1, in the case where a capacity auction is a demand response auction, the market rules and applicable market manuals that shall remain in effect until the end of the associated commitment period, in accordance with 18.1A.1, shall be the market rules and applicable market manuals in effect at the start of that demand response auction’s associated commitment period.

18.1A.2 Changes to the market rules and applicable market manuals that specifically concern capacity auction participation, the satisfaction of capacity obligations, or the performance of requirements directly related to that participation, and which are brought into effect between the date of a given capacity auction and the end of its associated commitment period, shall be applicable to subsequent capacity auctions and their associated commitment periods.

18.1A.3 Notwithstanding sections 18.1A.1 and 18.1A.2, nothing in this section 18.1A shall limit the effectiveness of an urgent rule amendment.

18.1A.4 The IESO shall maintain a published archive of market rules and applicable market manuals in effect on the date of a capacity auction for a period of 2 years following the end of its associated commitment period.

18.2 Participation in Capacity Auctions

18.2.1 No person may participate in a capacity auction nor receive a capacity obligation unless that person has:

18.2.1.1 been authorized by the IESO as a capacity auction participant in accordance with section 3 of Chapter 2 and in accordance with the applicable market manual;

18.2.1.2 submitted to the IESO enrolled capacity, using forms and procedures as may be established by the IESO in the applicable market manual; and

18.2.1.3 no less than five business days prior to the date on which a capacity auction is to be conducted, provided to the IESO a capacity auction deposit, in one or both of the forms set forth in section 18.4.

18.2.2 The following provisions of the market rules shall not apply to a capacity auction participant that is authorized by the IESO to participate only in a capacity auction with an hourly demand response resource:

18.2.2.1 Chapters 4, 5, and 6;
18.2.2.2 Chapter 7 other than this section 18; and

18.2.2.3 Chapters 8 and 10.

18.2.3 A capacity auction participant who obtains a capacity obligation shall apply to become authorized by the IESO as a capacity market participant in accordance with section 3 of Chapter 2.

18.3 Calculation of Capacity Auction Deposits

18.3.1 Upon receipt of enrolled capacity in accordance with section 18.2.1.2, the IESO shall determine for each capacity auction participant, a capacity auction deposit for a capacity auction as specified in the applicable market manual.

18.3.2 The IESO shall review the capacity auction deposit of a capacity transferee upon receipt of a request for a capacity obligation transfer in accordance with section 18.9.1. As a result of a transfer request, the IESO may increase the capacity auction deposit of a capacity transferee and the IESO shall notify the capacity transferee of any such increase.

18.3.3 Where the amount of a capacity auction deposit provided by a capacity auction participant exceeds the amount required by the IESO, the IESO shall return the excess amount to the capacity auction participant within five business days of such a request from the capacity auction participant. Otherwise, that amount shall be held by the IESO and shall form part of that capacity auction participant’s capacity auction deposit for its participation in a subsequent capacity auction.

18.4 Capacity Auction Deposits

18.4.1 A capacity auction deposit shall be in one or both of the following forms:

18.4.1.1 an irrevocable commercial letter of credit provided by a bank named in a Schedule to the Bank Act, S.C. 1991, c. 46; or

18.4.1.2 a cash deposit made with the IESO by or on behalf of the capacity auction participant.

18.4.2 Where all or part of a capacity auction deposit is in the form of a standby letter of credit, the following provisions shall apply:
18.4.2.1 the letter of credit shall provide that it is issued subject to either The Uniform Customs and Practice for Documentary Credits, 1993 Revision, ICE Publication No. 500 or The International Standby Practices 1998;

18.4.2.2 the IESO shall be named as beneficiary in the letter of credit, the letter of credit shall be irrevocable and partial draws on the letter of credit shall not be prohibited;

18.4.2.3 the only condition on the ability of the IESO to draw on the letter of credit shall be the delivery of a certificate by an officer of the IESO that a specified amount is owing by the capacity auction participant to the IESO and that, in accordance with the provisions of the market rules, the IESO is entitled to payment of that specified amount as of the date of delivery of the certificate;

18.4.2.4 the letter of credit shall either provide for automatic renewal (unless the issuing bank advises the IESO at least thirty days prior to the renewal date that the letter of credit will not be renewed) or be for a term of at least one (1) year. Where the IESO is advised that a letter of credit is not to be renewed or the term of the letter of credit is to expire, the capacity auction participant shall arrange for and deliver additional capacity auction deposits if the capacity auction participant intends to continue to participate in a capacity auction. If such additional capacity auction deposits are not received by the IESO ten (10) business days before the expiry of a letter of credit, the IESO shall be entitled as of that time to payment of the full face amount of the letter of credit which amount, once drawn by the IESO, shall be treated as a capacity auction deposit in the form of cash; and

18.4.2.5 by including a letter of credit as part of a capacity auction deposit, the capacity auction participant represents and warrants to the IESO that the issuance of the letter of credit is not prohibited in any other agreement, including without limitation, a negative pledge given by or in respect of the capacity auction participant.

18.4.3 Notwithstanding any other provision of these market rules, a person that applies for authorization to participate in the capacity auction and that has not applied for authorization to participate, or is not participating, in any other IESO-administered market shall not be required to comply with any requirements for authorization other than those set forth in sections 18.2.1.1 to 18.2.1.3.
18.4.4 In the event a capacity auction participant has not satisfied the applicable eligibility requirements specified in sections 19.2, 19.3 or 19.6 of Chapter 7 and has not elected to buy-out the capacity obligation in accordance with section 4.7J.3 of Chapter 9, the capacity auction participant shall, at the IESO’s sole discretion, forfeit its capacity auction deposit.

18.5 Capacity Auction Parameters

18.5.1 The IESO shall conduct capacity auctions at least on an annual basis to acquire capacity for a future one-year commitment period. In each capacity auction the IESO shall acquire auction capacity for each obligation period as specified in the applicable market manual.

Demand Curve, Zonal Constraints and Pre-Auction Reports

18.5.2 The IESO shall, in accordance with the applicable market manual, publish a pre-auction report in advance of each capacity auction, including the following capacity auction demand curve reference points:

18.5.2.1 a target capacity in accordance with section 18.1.2;

18.5.2.2 a capacity auction reference price;

18.5.2.3 a maximum and minimum capacity auction clearing price;

18.5.2.4 [Intentionally left blank – section deleted]

18.5.2.5 a maximum auction capacity limit at the maximum capacity auction clearing price that a capacity auction shall clear; and

18.5.2.6 a maximum auction capacity limit that a capacity auction shall clear.

18.5.3 The IESO shall define capacity auction zonal constraints for each capacity auction and the IESO shall publish, in the pre-auction report, those requirements as specified in the applicable market manual.

18.5.4 The IESO shall specify and publish in the pre-auction report the following timelines associated with a capacity auction:

18.5.4.1 the deadline to submit the amount of enrolled capacity the capacity auction participant is willing to provide pursuant to section 18.2.1.2;

18.5.4.2 the deadline for a capacity auction participant to submit a capacity auction deposit in accordance with section 18.2.1.3;
18.5.4.3 the dates in which a \textit{capacity auction participant} may submit \textit{capacity auction offers} for a \textit{capacity auction};

18.5.4.4 the period over which the \textit{IESO} shall conduct the \textit{capacity auction}; and

18.5.4.5 the date of \textit{capacity auction} post-auction reporting in accordance with sections 18.8.1 and 18.8.2.

18.5.5 The \textit{IESO} shall define the total \textit{auction capacity} that may be provided by all \textit{capacity import resources} in a \textit{capacity auction} for each \textit{obligation period}. The \textit{IESO} shall \textit{publish}, in the pre-auction report, these requirements as specified in the applicable \textit{market manual}.

18.5.6 The \textit{IESO} shall define the total \textit{auction capacity} that may be provided by all \textit{capacity import resources} on each applicable \textit{intertie} in a \textit{capacity auction} for each \textit{obligation period}. The \textit{IESO} shall \textit{publish}, in the pre-auction report, these requirements as specified in the applicable \textit{market manual}.

\section*{18.6 Capacity Auction Offers}

18.6.1 A \textit{capacity auction offer}:

18.6.1.1 may be submitted or revised by the \textit{capacity auction participant} on the dates specified in accordance with section 18.5.4 and the applicable \textit{market manual};

18.6.1.2 shall only be applicable to the \textit{obligation periods} for which a \textit{capacity auction participant} has submitted a \textit{capacity auction offer}, in accordance with the applicable \textit{market manual}; and

18.6.1.3 shall be time stamped by the \textit{IESO} when received.

18.6.2 A \textit{capacity auction offer} shall only be submitted in respect of a given \textit{capacity auction} if:

18.6.2.1 the \textit{capacity auction participant} complies with the \textit{capacity auction participant} requirements in section 18.2.1; and

18.6.2.2 the \textit{capacity auction participant} has not been disqualified from full or partial participation in the \textit{capacity auction} pursuant to sections 19.4.8, 19.5.4, 19.7.4, 19.9.4 or 19.11.4.
18.6.3 A capacity auction offer may include up to twenty price-quantity pairs for each obligation period and shall comply with the following:

18.6.3.1 the capacity auction offer shall be for and applicable over an entire obligation period associated with a capacity auction;

18.6.3.2 the capacity auction offer price in any price-quantity pair shall:
   • be expressed in dollars and whole cents per MW-day of auction capacity to be provided in each hour of the availability window throughout the obligation period associated with that capacity auction;
   • be greater than or equal to $0.00/MW-day;
   • not exceed the applicable maximum capacity auction clearing price; and
   • increase as the associated capacity auction offer quantity increases.

18.6.3.3 the capacity auction offer quantity in any price-quantity pair shall be expressed in MW to not more than one decimal place and the total offered quantity shall not exceed the enrolled capacity of the capacity auction resource, determined through the submission of auction capacity that a capacity auction participant is willing to provide in accordance with section 18.2.1.2; and

18.6.3.4 the capacity auction offer shall indicate whether the capacity auction participant is willing to clear a capacity auction with the full amount of auction capacity offered in a lamination or a partial amount of the auction capacity offered in a lamination, in accordance with the applicable market manual.

18.7 Capacity Auction Clearing Prices and Quantities

18.7.1 The IESO shall determine a capacity auction demand curve to be utilized for each obligation period based upon the capacity auction parameters detailed in the pre-auction report pursuant to section 18.5 and in accordance with the applicable market manual.

18.7.2 The IESO shall, in each capacity auction, determine for each obligation period the capacity auction clearing price in accordance with the applicable market manual.
18.7.3 The IESO shall, in each capacity auction, determine for each obligation period the capacity obligation for each capacity auction participant’s capacity auction resource(s) in accordance with section 18.7.5 and the applicable market manual.

18.7.4 The IESO shall, for each capacity auction, determine for each obligation period associated with the capacity auction:

- the capacity auction clearing prices for each electrical zone identified in the pre-auction report; and
- the zonal capacity obligation for each capacity auction participant’s capacity auction resource(s),

18.7.5 If two or more capacity auction participants submit a capacity auction offer at the same price, for the last available quantity, the capacity auction offer with the earlier time stamp shall be selected as the successful capacity auction offer, in accordance with the applicable market manual.

18.8 Post-Auction Notification and Publication

18.8.1 The IESO shall, as soon as practicable following the conclusion of a capacity auction, publish the following in accordance with the applicable market manual:

- the capacity auction clearing price;
- the amount of auction capacity that has been acquired in each electrical zone;
- those capacity auction participants who received a capacity obligation and all respective capacity obligations; and
- the enrolled capacity of each capacity auction participant.

18.8.2 The IESO shall, following the conclusion of a capacity auction, issue post-auction reports to each capacity auction participant by the date specified in the pre-auction report, to detail the capacity auction offers that have cleared in the capacity auction and the associated capacity obligations for each obligation period in accordance with the applicable market manual.

18.9 Capacity Obligation Transfers

18.9.1 A capacity transferor may, subject to IESO approval and in accordance with the applicable market manual, request a transfer of all or a portion of its capacity obligation to a capacity transferee provided that the following criteria are met:
18.9.1.1 the quantity to be transferred does not exceed the difference between the capacity transferee’s enrolled capacity, and its existing capacity obligation for the applicable obligation period;

18.9.1.1.1 for the purposes of 18.9.1.1, the enrolled capacity refers to the enrolled capacity received by the capacity transferee in the obligation period for which the quantity is being transferred.

18.9.1.2 the capacity transferor provides written confirmation to the IESO from the capacity transferee of its willingness to accept the transfer of a capacity obligation from the capacity transferor;

18.9.1.3 the capacity obligation transfer shall consist of the same attributes (e.g. physical or virtual), as detailed in the applicable market manual, as the capacity transferor’s capacity obligation;

18.9.1.4 the quantity to be transferred is in increments of 0.1MW, and the resulting capacity obligations for both the capacity transferor and capacity transferee following the transfer shall be 0 MW, or greater than or equal to 1 MW; and

18.9.1.5 [Intentionally left blank – section deleted]

18.9.1.6 [Intentionally left blank – section deleted]

18.9.1.7 [Intentionally left blank – section deleted]

18.9.1.8 capacity obligation transfers must not result in the violation of any constraint as defined in the pre-auction report

18.9.1A Where the capacity obligation is transferred between zones, the capacity transferee shall be settled based upon the capacity auction clearing price received by the capacity transferor when the capacity obligation first cleared the capacity auction in accordance with the applicable market manual.

18.9.2 For each transfer request that satisfies the criteria in section 18.9.1, the IESO shall determine the capacity transferee’s revised capacity auction deposit and/or capacity prudential support obligation, as applicable, in accordance with section 18.3.2 and section 5B.3.3 of Chapter 2.

18.9.3 The capacity transferee shall provide the IESO, within five business days of receiving notification from the IESO or within such a longer period of time as may be agreed between the IESO and the capacity transferee, any additional
capacity auction deposit and/or capacity prudential support obligation that may be required as a result of a transfer request.

18.9.4 After the revised capacity auction deposits and/or capacity prudential support obligations have been satisfied by the capacity transferee, the IESO shall notify the capacity transferor and capacity transferee of its approval or rejection, and the IESO shall publish updated post-auction reports pursuant to section 18.8.

19. Capacity Market Participants with Capacity Obligations

19.1 Purpose

19.1.1 This section details how a capacity market participant must satisfy a capacity obligation with a capacity auction resource.

19.1.2 Capacity auction resources eligible to satisfy a capacity obligation are:

19.1.2.1 an hourly demand response resource;

19.1.2.2 a capacity dispatchable load resource;

19.1.2.3 a capacity generation resource;

19.1.2.4 a capacity import resource; or

19.1.2.5 a capacity storage resource.

19.1.3 [Intentionally left blank – section deleted]

19.2 Eligibility Requirements for Hourly Demand Response Resources

19.2.1 A capacity market participant is eligible to satisfy its capacity obligation with an hourly demand response resource provided that the capacity market participant:

19.2.1.1 demonstrates to the satisfaction of the IESO that it can provide the capacity obligation, as specified in the applicable market manual;

19.2.1.2 registers its facilities and demand response contributors as applicable, to the satisfaction of the IESO, in accordance with the applicable market manual. The capacity market participant shall not modify, vary or amend in any material respect any of the features or
specifications of any facility without first requesting IESO authorization and approval in accordance with the applicable market manual;

19.2.1.3 [Intentionally left blank – section deleted]

19.2.1.4 has provided prudential support and capacity prudential support in accordance with section 5 of Chapter 2.

19.2.2 The IESO may refuse the participation of an hourly demand response resource in a future capacity auction if the resource’s participation would negatively impact the reliable operation of the IESO-controlled grid.

19.2.3 The IESO may remove or temporarily remove a capacity market participant’s hourly demand response resource from its participation as a capacity market participant if the resource’s continued participation would negatively impact the reliable operation of the IESO-controlled grid. A capacity market participant that is removed pursuant to this section 19.2.3 shall not receive an availability payment in accordance with section 19.4.1 for the duration of the removal.

19.2.4 The following provisions of the market rules shall not apply to a capacity market participant that is authorized by the IESO to participate only with an hourly demand response resource and is not a wholesale consumer that is a non-dispatchable load:

19.2.4.1 Chapter 2, sections 5A and 8;

19.2.4.2 Chapter 5, other than section 1.2.1 to 1.2.3, 2.3, 2.4, 5.8 and 5.9;

19.2.4.3 Chapter 7 section 7; and

19.2.4.4 Chapters 6, 8, 10.

19.2.5 A wholesale consumer that is a non-dispatchable load may participate as a demand response contributor to an hourly demand response resource to satisfy a capacity obligation, provided that the non-dispatchable load meets all the applicable eligibility requirements of this section 19.2, and the requirements in the market rules that are applicable to a wholesale consumer that is a non-dispatchable load.
19.3 Eligibility Requirements for Capacity Dispatchable Load Resources

19.3.1 A capacity market participant is eligible to satisfy its capacity obligation with a capacity dispatchable load resource, provided that the capacity market participant:

19.3.1.1 demonstrates to the satisfaction of the IESO that it can provide the capacity obligation, as specified in the applicable market manual;

19.3.1.2 is authorized as a wholesale consumer;

19.3.1.3 registers its facilities in accordance with the registration requirements for wholesale consumers that are dispatchable loads. The capacity market participant shall not modify, vary or amend in any material respect any of the features or specifications of any resource without first requesting IESO authorization and approval in accordance with the applicable market manual;

19.3.1.4 satisfies the connection assessment requirements in accordance with section 6 of Chapter 4, if required by the IESO in accordance with the applicable market manual;

19.3.1.5 has provided prudential support and capacity prudential support in accordance with section 5 of Chapter 2.

19.3.2 [Intentionally left blank – section deleted]

19.3.3 [Intentionally left blank – section deleted]

19.4 Energy Market Participation for Hourly Demand Response Resources

19.4.1 A capacity market participant with a capacity obligation participating with an hourly demand response resource shall receive an availability payment during the obligation period in accordance with this section and the applicable market manual. Availability payments may be offset by non-performance charges in accordance with section 4.7J of Chapter 9.

Standby and Activation Notices
19.4.2 If an hourly demand response resource has a day-ahead schedule of record or a pre-dispatch schedule less than the resource’s total bid quantity, or if the applicable pre-dispatch shadow price for an hourly demand response resource is equal to or greater than the standby notice price threshold, determined by the IESO, for at least one hour during the dispatch day availability window, the IESO shall issue a standby notice to the applicable capacity market participant by 07:00 EST in accordance with the applicable market manual.

19.4.3 If the IESO does not issue a standby notice to a capacity market participant by 07:00 EST, the capacity market participant shall remove their bids for the hourly demand response resource as soon as practicable and before 9:00 EST. A capacity market participant that does not remove their bids for the hourly demand response resource before 9:00 EST shall comply with any corresponding activation notices issued by the IESO in accordance with section 19.4.5.

19.4.4 The IESO shall issue an activation notice to a capacity market participant ahead of the activation period, in accordance with the applicable market manual if a standby notice has been issued in accordance with section 19.4.2 or a capacity market participant has not removed their bids in accordance with section 19.4.3, and the applicable hourly demand response resource has a pre-dispatch schedule less than the resource’s total bid quantity for at least one hour during the dispatch day availability window.

19.4.5 If a capacity market participant receives an activation notice pursuant to section 19.4.4, the capacity market participant shall comply with the activation notice, unless such a reduction would endanger the safety of any person, damage equipment, or violate any applicable law. In such circumstances, the capacity market participant shall notify the IESO as soon as practicable.

19.4.6 A capacity market participant may be subject to non-performance charges, and the IESO may take action pursuant to sections 19.2.2 and 19.2.3 if a capacity market participant does not comply with an activation notice pursuant to this section 19, in accordance with the applicable market manual. The capacity market participant may also be subject to compliance actions in accordance with section 6 of Chapter 3.

19.4.7 A capacity market participant that expects its hourly demand response resource to operate in a manner that differs from the activation notice issued to it in accordance with this section 19 shall notify the IESO as soon as possible and in accordance with the applicable market manual.

19.4.8 The IESO may disqualify from future participation in the capacity auction any capacity market participant that fails to reduce its consumption in order to satisfy its capacity obligation when called upon in accordance with this section 19.
Non-performance Events for Hourly Demand Response Resources

19.4.9 In the event of a reduction in the demand response capacity of an hourly demand response resource, associated with a capacity obligation acquired through a capacity auction, the capacity market participant shall notify the IESO as per the procedures and criteria specified in the applicable market manual.

19.4.9A [Intentionally left blank – section deleted]

19.4.10 A capacity market participant shall reduce its bid to take into account and reflect the maximum demand response capacity that it reasonably expects it can provide in accordance with section 3.5.6 and due to any non-performance event related to an hourly demand response resource in an obligation period.

Activation Testing for Hourly Demand Response Resources

19.4.11 The IESO may, in accordance with the applicable market manual, direct a capacity market participant with a capacity obligation to perform activation testing for each hourly demand response resource up to a maximum of two test activations per obligation period to verify that a capacity obligation can be satisfied for a duration specified in the applicable market manual by the capacity market participant.

19.4.12 If a capacity market participant fails activation testing performed pursuant to section 19.4.11, the capacity market participant shall be subject to non-performance charges in accordance with the applicable market manual. Failure during activation testing shall be considered a breach of the market rules and may result in sanctions in accordance with section 6.2 of Chapter 3.

19.4.13 The IESO shall provide a capacity market participant day-ahead notification of test activations pursuant to section 19.4.11 and the test activation shall occur within the availability window of an obligation period.

19.4.14 The test activation shall occur in accordance with the hourly demand response resource activation process specified in this section 19.4.

19.4.15 The hourly demand response resource shall be entitled to compensation for valid test activations conducted during a commitment period pursuant to this section 19.4 and in accordance with the applicable market manuals.

Activation of Hourly Demand Response Resources leading up to or during an Emergency Operating State
19.4.16 A capacity market participant satisfying a capacity obligation using an hourly demand response resource shall be entitled to compensation for an activation leading up to or during an emergency operating state pursuant to section 2.3 of Chapter 5, and in accordance with the applicable market manuals.

19.5 Energy Market Participation for Capacity Dispatchable Load Resources

19.5.1 A capacity market participant with a capacity obligation participating with a capacity dispatchable load resource shall receive an availability payment during the obligation period, in accordance with this section and the applicable market manual. Availability payments may be offset by non-performance charges in accordance with section 4.7J of Chapter 9.

Dispatch of Capacity Dispatchable Load Resources

19.5.2 The IESO shall schedule a capacity dispatchable load resource in the real-time market and issue a dispatch instruction in accordance with Chapter 7.

19.5.3 A capacity dispatchable load resource shall comply with IESO dispatch instructions in accordance with Chapter 7.

19.5.4 The IESO may disqualify from future participation in the capacity auction any capacity market participant that fails to reduce its consumption in order to satisfy its capacity obligation when called upon in accordance with this section 19.

Outage Notification Requirements for Capacity Dispatchable Load Resources

19.5.5 Each capacity dispatchable load resource shall comply with the outage notification requirements of Chapter 5.

19.5.6 A capacity dispatchable load resource shall reduce its bid to take into account and reflect the maximum demand response capacity that it reasonably expects it can consume in accordance with section 3.5.6.

Activation Testing for Capacity Dispatchable Load Resources

19.5.7 The IESO may, in accordance with the applicable market manual, direct a capacity dispatchable load resource to perform activation testing for each resource up to a maximum of two activation tests per obligation period to verify that a capacity obligation can be satisfied for a duration specified in the applicable market manual by the capacity market participant.
19.5.8 If a capacity market participant fails activation testing performed pursuant to section 19.5.7, the capacity market participant shall be subject to non-performance charges in accordance with the applicable market manual. Failure during activation testing shall be considered a breach of the market rules and may result in sanctions in accordance with section 6.2 of Chapter 3.

19.5.9 The IESO shall provide a capacity dispatchable load resource day-ahead notification of test activation and the test activation shall occur within the availability window of an obligation period.

19.5.10 The test activation shall occur in accordance with the dispatch instructions for a dispatchable load facility specified in this section 19.5.

19.5.11 The capacity dispatchable load resource shall not be entitled to compensation for any costs related to any valid test activation conducted during an obligation period pursuant to this section 19.5.

19.6 Eligibility Requirements for Capacity Generation Resources

19.6.1 A capacity market participant is eligible to satisfy its capacity obligation as a capacity generation resource, provided that the capacity market participant:

19.6.1.1 demonstrates to the satisfaction of the IESO that it can provide the capacity obligation, as specified in the applicable market manual;

19.6.1.2 is authorized as a generator;

19.6.1.3 registers its facilities in accordance with the registration requirements applicable to generation facilities. The capacity market participant shall not modify, vary or amend in any material respect any of the features or specifications of any facility without first requesting IESO authorization and approval in accordance with the applicable market manual;

19.6.1.4 satisfies the connection assessment requirements in accordance with section 6 of Chapter 4, if required by the IESO in accordance with the applicable market manual;

19.6.1.5 has provided prudential support and capacity prudential support in accordance with section 5 of Chapter 2.
19.7 Energy Market Participation for Capacity Generation Resources

19.7.1 A capacity market participant satisfying its capacity obligation with a capacity generation resource shall receive an availability payment during the obligation period, in accordance with this section and the applicable market manual. Availability payments may be offset by non-performance charges in accordance with section 4.7J of Chapter 9.

Dispatch of Resources

19.7.2 The IESO shall schedule a capacity generation resource in the energy market, and issue dispatch instructions in accordance with Chapter 7.

19.7.3 A capacity generation resource shall comply with IESO dispatch instructions in accordance with Chapter 7.

19.7.4 The IESO may disqualify from future participation in the capacity auction any capacity market participant that fails to inject energy in order to satisfy its capacity obligation when called upon in accordance with this section 19.

Outage Notification Requirements for Capacity Generation Resources

19.7.5 Each capacity generation resource shall comply with the outage notification requirements of Chapter 5.

19.7.6 A capacity generation resource shall reduce its offer to reflect the maximum capacity that it reasonably expects it can inject in accordance with section 3.5.6.

Activation Testing for Capacity Generation Resources

19.7.7 The IESO may, in accordance with the applicable market manual, direct a capacity market participant to perform activation testing for each capacity generation resource up to a maximum of two activation tests per obligation period to verify that a capacity obligation can be satisfied for a duration specified in the applicable market manual by the capacity market participant.

19.7.8 If a capacity market participant fails an activation test performed pursuant to section 19.7.7, the capacity market participant shall be subject to non-performance charges in accordance with the applicable market manual. Failure during activation testing shall be considered a breach of the market rules and may result in sanctions in accordance with section 6.2 of Chapter 3.
19.7.9 The IESO shall provide a capacity generation resource that is not a quick start facility day-ahead notification of the test activation and the test activation shall occur within the availability window of an obligation period.

19.7.9A The IESO shall provide a capacity generation resource that is a quick start facility notification at least one hour in advance of the dispatch hour of the test activation and the test activation shall occur within the availability window of an obligation period.

19.7.10 The test activation shall occur in accordance with the dispatch instructions specified in this section 19.7

19.8 Eligibility Requirements for Capacity Import Resources

19.8.1 A capacity market participant is eligible to satisfy its capacity obligation with a capacity import resource provided that the capacity market participant:

19.8.1.1 demonstrates to the satisfaction of the IESO that it can provide the capacity obligation, as specified in the applicable market manual;

19.8.1.2 is authorized as a market participant eligible to import energy;

19.8.1.3 is registered as a boundary entity pursuant to section 2.2.7; and

19.8.1.4 has provided prudential support and capacity prudential support in accordance with section 5 of Chapter 2.

19.9 Energy Market Participation for Capacity Import Resources

19.9.1 A capacity market participant satisfying its capacity obligation with a capacity import resource shall receive an availability payment during the obligation period, in accordance with this section and the applicable market manual. Availability payments may be offset by non-performance charges in accordance with section 4.7J of Chapter 9.

Dispatch of Capacity Import Resources

19.9.2 The IESO shall schedule a capacity import resource in the energy market, and issue dispatch instructions in accordance with Chapter 7.
19.9.3 A capacity import resource shall comply with IESO dispatch instructions in accordance with Chapter 7.

19.9.4 The IESO may disqualify from future participation in the capacity auction any capacity market participant that fails to schedule energy with the appropriate scheduling entity in order to satisfy its capacity obligation when called upon in accordance with this section 19.

Outage Notification Requirements for Capacity Import Resources

19.9.5 A capacity import resource shall reduce or remove its offer to reflect the maximum capacity that it reasonably expects it can provide in accordance with section 3.5.6.

Activation Testing for Capacity Import Resources

19.9.6 The IESO may, in accordance with the applicable market manual, direct a capacity market participant to perform activation testing for each capacity import resource up to a maximum of two activation tests per obligation period to verify that a capacity obligation can be satisfied for a duration specified in the applicable market manual by the capacity market participant.

19.9.7 If a capacity market participant fails an activation test performed pursuant to section 19.9.6, the capacity market participant shall be subject to non-performance charges in accordance with the applicable market manual. Failure during activation testing shall be considered a breach of the market rules and may result in sanctions in accordance with section 6.2 of Chapter 3.

19.9.8 The IESO shall provide a capacity import resource notification at least two hours in advance of the dispatch hour of the test activation and the test activation shall occur within the availability window of an obligation period.

19.9.9 The test activation shall occur in accordance with the dispatch instructions specified in this section 19.9.

19.10 Eligibility Requirements for Capacity Storage Resources

19.10.1 A capacity market participant is eligible to satisfy its capacity obligation with a capacity storage resource provided that the capacity market participant:

19.10.1.1 demonstrates to the satisfaction of the IESO that it can satisfy the capacity obligation, as specified in the applicable market manual.
Capacity storage resources must satisfy capacity obligations with injections of energy into the IESO-controlled grid;

19.10.1.2 is a registered market participant authorized as an electricity storage participant in accordance with the applicable market manual;

19.10.1.3 registers its facilities in accordance with the registration requirements applicable to generation facilities. The capacity market participant shall not modify, vary or amend in any material respect any of the features or specifications of any facility without first requesting IESO authorization and approval in accordance with the applicable market manual;

19.10.1.4 satisfies the connection assessment requirements in accordance with section 6 of Chapter 4, if required by the IESO in accordance with the applicable market manual;

19.10.1.5 has provided prudential support and capacity prudential support in accordance with section 5 of Chapter 2.

19.11 Energy Market Participation for Capacity Storage Resources

19.11.1 A capacity market participant satisfying its capacity obligation with a capacity storage resource shall receive an availability payment during the obligation period, in accordance with this section and the applicable market manual. Availability payments may be offset by non-performance charges in accordance with section 4.7J of Chapter 9.

Dispatch of Capacity Storage Resources

19.11.2 The IESO shall schedule a capacity storage resource as it would a generation facility in the energy market, and issue dispatch instructions in accordance with Chapter 7.

19.11.3 A capacity storage resource that is participating as a generation facility shall comply with IESO dispatch instructions in accordance with Chapter 7.

19.11.4 The IESO may disqualify from future participation in the capacity auction any capacity market participant that fails to inject energy in order to satisfy its capacity obligation when called upon in accordance with this section 19.
Outage Notification Requirements for Capacity Storage Resources

19.11.5 Each capacity storage resource shall comply with the outage notification requirements of a generation facility as outlined in Chapter 5.

19.11.6 A capacity storage resource shall reduce its offer to reflect the maximum capacity that it reasonably expects it can inject in accordance with section 3.5.6.

Activation Testing for Capacity Storage Resources

19.11.7 The IESO may, in accordance with the applicable market manual, direct a capacity market participant to perform activation testing for each capacity storage resource up to a maximum of two activation tests per obligation period to verify that a capacity obligation can be satisfied for a duration specified in the applicable market manual by the capacity market participant.

19.11.8 If a capacity market participant fails an activation test performed pursuant to section 19.11.7, the capacity market participant shall be subject to non-performance charges in accordance with the applicable market manual. Failure during activation testing shall be considered a breach of the market rules and may result in sanctions in accordance with section 6.2 of Chapter 3.

19.11.9 The IESO shall provide a capacity storage resource notification at least one hour in advance of the dispatch hour of the test activation and the test activation shall occur within the availability window of an obligation period.

19.11.10 The test activation shall occur in accordance with the dispatch instructions specified in this section 19.11.

20. Capacity Exports in the IESO-Administered Market

20.1 Capacity Export Request and IESO Review

20.1.1 A market participant that wishes to export eligible capacity shall submit a capacity export request to the IESO, in the form, within the timelines and as further prescribed in the applicable market manual.

20.1.2 The IESO shall approve or deny capacity export requests based on the IESO’s review, as prescribed in the applicable market manual.
20.1.3 The IESO may, after approving or partially approving a capacity export request and prior to the market participant committing capacity to an external control area, revoke an approval of a capacity export request in order to maintain the reliability of the IESO-controlled grid, or if the IESO becomes aware of any event or change in circumstances that may alter the IESO’s approval of a capacity export request.

20.2 Capacity Export Commitment Process

20.2.1 A market participant may only commit capacity to an external control area in accordance with the time periods, quantities and other terms and conditions of the IESO’s approval of the capacity export request.

20.2.2 A market participant that commits its capacity to an external control area shall notify the IESO of the commitment and any subsequent changes to the commitment in the time and manner prescribed in the applicable market manual.

20.3 Called Capacity Exports

20.3.1 The IESO shall only accept and schedule a called capacity export in accordance with section 20.4 when advised by the external control area operator that the applicable external control area is anticipating or experiencing an adequacy shortfall, as may be specified in the applicable capacity export agreement.

20.3.2 A market participant shall notify the IESO concerning the details of a called capacity export in the time and manner prescribed in the applicable market manual.

20.4 Called Capacity Export Scheduling and Dispatch

20.4.1 All export bids for called capacity exports shall be submitted in the form and within the timelines prescribed in the applicable market manual.

20.4.2 Notwithstanding any provision of the market rules that may require the IESO to restrict exports in order to maintain the adequacy of the IESO-controlled grid, the IESO may schedule and dispatch called capacity exports in accordance with applicable capacity export agreements (the relevant details of which are specified in the applicable market manual).