Market Rules

Chapter 7
System Operations and Physical Markets

Power to Ontario.
On Demand.

Public

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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 and 10, the following *real-time markets* in an integrated fashion:

1.3.2.1 a market in *energy*, measured in MWh;

1.3.2.2 a market in several classes of *operating reserve*, measured in MW; and

1.3.2.3 if activated by the *IESO Board*, a market in *capacity reserve*, measured in MW.

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; and/or

2.2.2.2 for the offering of *capacity reserve* pursuant to the provisions of section 10.

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*; and
- 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 synchronise to and de-synchronise 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, according to the timelines and in the form specified in the applicable *market manual*, submitted to

the *IESO* the following data for the *generation facility*: fuel costs for start up and ramp to *minimum loading point*; the *minimum run-time*; the *minimum loading point;* the *minimum generation block run-time;* and any incremental operating and maintenance costs associated with the *facility* for start-up and ramp to *minimum loading point* for that *facility,* and that the *IESO* accepts the data as reasonable.

2.2B.2 The *IESO* may, at any time, audit the data submitted in accordance with section 2.2B.1.4 if the *market participant* receives a generation cost guarantee payment pursuant to section 4.7B.3 of Chapter 9 on the basis of that data. If, as a result of such an audit, the *IESO* determines that the actual costs differed from the submitted data, the *IESO* shall recover any resulting over-payments made to the *market participant.*

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 The aggregation of *facilities* for the purpose of:

2.3.1A.1 participating in a *capacity reserve* auction; and

2.3.1A.2 as described in section 10.2B.2, compliance by a *registered market participant* with the obligations of the *capacity reserve market*,

shall be governed by section 10.2.4.

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.

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* as of the date specified in the notice filed by the *market participant* pursuant to section 2.4.3*;* 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 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*.

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 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 not or is not likely to have an unacceptable impact on the *reliability* of the *IESO-controlled grid*, the *IESO* shall:

2.4.6.1 if the *registered facility* is not *connected* to the *IESO-controlled grid*, de-register the *registered facility* promptly upon completion of the

technical assessment 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

2.4.6.2 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.

2.4.7 A *transmitter* that receives a *disconnection order* from the *IESO* pursuant to section 2.4.4.2(a) or 2.4.6.2(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 identify 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* equal to the proposed transferee's *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* 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 violate any *applicable law*, endanger the safety of any person or damage property or the environment.

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, or *dispatchable load facility* 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 s*chedule 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 R*egistered 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;

3.4.1.2 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 to the extent that, for the *registered market participant* submitting such *bids*, the total value of the *physical services* taken from the *real-time markets* 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;

3.4.1.2A [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. For an *intermittent generator* that is a *variable generator*, this section shall cease to have effect on a date to be determined by the *IESO* with such date to be *published* by the *IESO*;

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

3.4.1.5 if the *capacity reserve market* has been activated pursuant to section 10.1.3, for all *registered facilities* providing *capacity reserve*, an *offer* to provide *capacity reserve*.

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.

3.5.5 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 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 hour*s 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* or a *dispatchable generation facility* 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 the most current system status report prepared pursuant to section 12.1;

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 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*;

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 synchronise 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 synchronised 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 synchronise 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 synchronise 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.

5.8 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 desynchronize 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 synchronise pursuant to section 5.7 of Chapter 7, that *generation facility* shall synchronise, 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-synchronise 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 of record* 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 desynchronize 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.1or 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*; and

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*.

6.4.2A 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 ho*ur 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*,

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*.

7.1.1C 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*.

7.1.2B 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]

7.1.3C [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.

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 facility* satisfies the *IESO* that it has remedied the conditions causing the non-conformance.

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* 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 $HOEP_h$ 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*; or

8.4A.2.4 the *IESO* has implemented one or more *emergency* control actions as described in the applicable *market manual*, and the *IESO* determines that *operating reserve market prices* or *energy market prices* have changed as a result and in a manner that is not consistent with prevailing market conditions. The operation of this section 8.4A.2.4 shall expire on October 1, 2005 or such other date as determined by resolution of the *IESO Board*;

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, 8.4A.2.3, or 8.4A.2.4 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, 8.4A.2.3, or 8.4A.2.4 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, 8.4A.2.3, or 8.4A.2.4 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:

$$\text{Compensation} = (-1) * OP(EMP_h^{m,t^*}, AQEI_{k,h}^{m,t^*}, BE)$$

Where:

t* = *metering interval* of administrative price period

EMP_h^{m,t^*} is the administrative price in the metering interval t* of settlement hour h

OP is the profit function as described in Chapter 9, Section 3.5.2

Dispatchable Load and Export:

$$\text{Compensation} = OP(EMP_h^{m,t^*}, AQEW_{k,h}^{m,t^*}, BL)$$

Where:

t* = *metering interval* of administrative price period

$EMP_h^{m,t*}$ is the administrative price in the metering interval t* of settlement hour h

OP is 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;

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; and

8.4A.17.5 where section 8.4A.2.4 applies, from the commencement of the first *dispatch interval* after the *operating reserve prices* or *energy market prices* referred to in that section are no longer inconsistent with prevailing market conditions.

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 be limited in term to not more than 36 months; and

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 r*egistered 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 any *licence* or as a result of any *connection* requirements provided for in Chapter 4.

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.

9.6.10 [Intentionally left blank]

9.6.10.1 [Intentionally left blank]

9.6.10.2 [Intentionally left blank]

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]

9.6.12.1 [Intentionally left blank]

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* shall be resolved using the dispute resolution process set forth in section 2 of Chapter 3.

10. The Capacity Reserve Market

10.1 Purpose and Activation of the Capacity Reserve Market

10.1.1 The *capacity reserve market* will, if activated, provide payments to *registered facilities* in addition to the payments for *energy* and *operating reserve* described in this Chapter, particularly during periods when system reserve margins are low.

10.1.2 The provisions of sections 10.2 to 10.6 apply only after the *IESO Board* activates the *capacity reserve market* in accordance with section 10.1.3.

10.1.3 The *IESO Board* may at its discretion activate the *capacity reserve market* where appropriate based on the annual or monthly assessments referred to in section 7.3 of Chapter 5 and considering such factors as, but not limited to, prospects for new generation in Ontario or neighbouring regions and assessments of the ability of demand-side responses and transmission options to relieve any expected *capacity reserve* shortages. Where the *IESO Board* activates the *capacity reserve market*, the *IESO* shall *publish* a notice to that effect no later than 60 days prior to the date of the first *capacity reserve* auction to be conducted in accordance with section 10.2A.1.

10.1.4 Once the *IESO Board* activates the *capacity reserve market*, the *IESO* may not deactivate the *capacity reserve market* except by *amending* this section 10.1.4 in accordance with section 4 of Chapter 3.

10.1.5 If the *IESO Board* activates the *capacity reserve market*, it shall at the same time determine and *publish* the value of the following parameters of the *capacity reserve market* after an analysis of the effects of different values:

10.1.5.1 the *capacity reserve ratio*: this is a number greater than one (e.g., 1.2), by which the *IESO* will multiply the maximum forecast *demand* from the *IESO-controlled grid* for the applicable *obligation period* to determine the *capacity reserve target* for the applicable *capacity reserve* auction. The *IESO* must apply the same *capacity reserve ratio*, as may be increased from time to time by the *IESO Board* in respect of a given *capacity reserve* auction, to all *hours* within the applicable *obligation period*. The *IESO Board* may increase the *capacity reserve ratio* at any time, but it may not decrease the *capacity reserve ratio* except by *amending* this section 10.1.5.1 in accordance with section 4 of Chapter 3; and

10.1.5.2 the *maximum capacity reserve price* or *MCRP:* this price, in $/MW, is in respect of a given *capacity reserve* auction the maximum price that may be contained in an *offer* to provide *capacity reserve* in a *capacity reserve* auction and the maximum *settlement amount* for *capacity reserve* during the *obligation period* associated with that *capacity reserve* auction. The *IESO Board* may increase the *maximum capacity reserve price* for any *capacity reserve* auction relative to the *maximum capacity reserve price* applicable to the preceding *capacity reserve* auction, but it may not decrease such *maximum capacity reserve price* except by *amending* this section 10.1.5.2 in accordance with section 4 of Chapter 3.

10.1.5.3 [Intentionally left blank]

10.2 Eligibility

10.2.1 A *registered market participant* may submit, and the *IESO* shall accept, *offers* to provide *capacity reserve* in a *capacity reserve* auction only with respect to *facilities* which are *generation facilities* that are *registered facilities* for the provision of *capacity reserve*.

10.2.2 The *IESO* shall approve an application for *facility* registration of a *facility* as a *registered facility* for the provision of *capacity reserve* if the applying *market participant* submits the registration information required by this section 10.2 and the *IESO* is satisfied on reasonable grounds that the *facility* is capable of operating as described in the registration information.

10.2.3 The *market participant* designated in the registration information as the *market participant* authorised to submit *dispatch data* with respect to a *registered facility* for the provision of *capacity reserve* must already be the *registered market participant* for that same *registered facility* for purposes of participation in the *real-time market* for *energy* or *operating reserve*.

10.2.4 The *IESO* shall define and *publish* in the applicable *market manual* the form and content of information required for registration as a *registered facility* for the provision of *capacity reserve.*

10.2.4A A *market participant* may apply to the *IESO* to aggregate several *generation facilities* into a single *registered facility* for the purpose of participating in a *capacity reserve* auction provided that:

10.2.4A.1 the *generation facilities* proposed to be aggregated are identified in the application for registration as a *registered facility* for the provision of *capacity reserve*;

10.2.4A.2 none of the *generation facilities* proposed to be aggregated as a single *registered facility* are or become *registered facilities* for the provision of *capacity reserve*:

a. on an individual basis; or

b. as part of any other aggregated *registered facility*; and

10.2.4A.3 each of the *generation facilities* proposed to be aggregated has been registered:

a. on an individual basis as a *registered facility*; or

b. as part of an aggregated *registered facility* pursuant to section 2.3,

for the purpose of participating in the *real-time energy market*.

Upon *IESO* approval, the aggregated *generation facility* shall be treated as a single *registered facility* for the provision of *capacity reserve*:

10.2.4A.4 by the *registered market participant* for purposes of the submission of *offers* to provide *capacity reserve* in a *capacity reserve* auction; and

10.2.4A.5 by the *IESO* for purposes of conducting a *capacity reserve* auction.

10.2.4B No *generation facility* shall be registered, individually or on an aggregated basis pursuant to section 10.2.4A, as a *registered facility* for the provision of *capacity reserve* unless the *market participant* applying to register the *generation facility* demonstrates that *energy offers* can be submitted in respect of:

10.2.4B.1 the *generation facility*, where registered on an individual basis for the provision of *capacity reserve*; or

102.4B.2 each *generation facility* comprised in an aggregated *registered facility*, where registered as part of an aggregated *registered facility* pursuant to section 10.2.4A.

10.2.5 [Intentionally left blank]

10.2.6 [Intentionally left blank]

10.2.7 [Intentionally left blank]

10.2.7.1 [Intentionally left blank]

10.2.7.2 [Intentionally left blank]

10.2A Timing of the Capacity Reserve Auction

10.2A.1 The *IESO* shall conduct the first *capacity reserve* auction at 14:00 EST on the date specified for such purpose in the notice referred to in section 10.1.3.

10.2A.2 The second and each subsequent *capacity reserve* auction shall be conducted by the *IESO* at 14:00 EST on the first *business day* of the sixth calendar month following the end of the calendar month in which the previous *capacity reserve* auction was conducted.

10.2B Obligations from Capacity Reserve Auction

10.2B.1 A *registered market participant* whose *offer* to provide *capacity reserve* is accepted during a *capacity reserve* auction shall, during the *obligation period* associated with that *capacity reserve* auction, submit *energy offers* and, where applicable, *offers* to provide *operating reserve* when called upon to do so by the *IESO* in accordance with this section 10. The amounts called upon by the *IESO* shall not exceed the quantity contained in the accepted *offer* to provide *capacity reserve*.

10.2B.2 Where:

10.2B.2.1 *generation facilities* have been aggregated as a single *registered facility* pursuant to section 10.4.2A; and

10.2B.2.2 the individual *generation facilities* comprising such aggregated *registered facility* have not all been aggregated into a single *registered facility* pursuant to section 2.3 for the purpose of participation in the *real-time energy market*,

the *registered market participant* shall comply with the obligation referred to in section 10.2B.1 by submitting individual *energy offers* and, where applicable, *offers* to provide *operating reserve* in respect of one or more, as may be required to satisfy such obligation, of the individual *generation facilities* comprising such aggregated *registered facility*.

10.3 Capacity Reserve Offers

10.3.1 An *offer* to provide *capacity reserve* submitted with respect to a given *capacity reserve* auction:

10.3.1.1 [Intentionally left blank]

10.3.1.2 may be submitted or revised only between 06:00 EST and 11:00 EST on the day of the *capacity reserve* auction; and

10.3.1.3 shall be time-stamped by the *IESO* when received.

10.3.1A An *offer* to provide *capacity reserve* shall only be accepted by the *IESO* in respect of a given *capacity reserve* auction if:

10.3.1A.1 the *registered facility* to which the *offer* to provide *capacity reserve* relates, is not scheduled to undergo *planned outages* that in the aggregate exceed 90 days during the *obligation period* associated with that *capacity reserve* auction, determined in the case of an aggregated *registered facility* by reference to the aggregate number of days of *planned outages* scheduled in respect of all of the aggregated *facilities*; and

10.3.1A.2 the *registered facility* or, in the case of an aggregated *registered facility*, each of the aggregated *facilities*, has not been disqualified from participation in the *capacity reserve market* pursuant to section 10.6.3.

10.3.2 *Offers* to provide *capacity reserve* in a given *capacity reserve* auction may include up to four *price-quantity pairs* and shall comply with the following:

10.3.2.1 the *offer* shall be for and applicable over the entire *obligation period* associated with that *capacity reserve* auction;

10.3.2.2 the *offer* price in any *price-quantity pair* shall be expressed in dollars and whole cents per MW of *capacity reserve* to be provided in each hour of the *obligation period* associated with that *capacity reserve* auction, must not be less than 0.0 $/MW and must not exceed the applicable *maximum capacity reserve price*;

10.3.2.3 the *offer* quantity in any *price-quantity pair* shall be expressed in MW to not more than two decimal places and must not be less than 1 MW and must not exceed the installed capacity of the *registered facility*, determined in the case of an aggregated *registered facility* by

reference to the installed capacity of each of the aggregated *facilities* in respect of which the *offer* is being submitted; and

10.3.2.4 the *offer* price in each *price-quantity pair* must not decrease as the associated *offer* quantity increases.

10.4 The Capacity Reserve Target and Capacity Reserve Price

10.4.1 The *IESO* shall, in each *capacity reserve* auction, determine for each hour in the *obligation period* associated with such *capacity reserve* auction:

10.4.1.1 the *capacity reserve price*; and

10.4.1.2 the *capacity reserve quantities* for each *registered facility*

using the process described in this section 10.4.

10.4.2 The *IESO* shall determine a single *capacity reserve* supply curve by ranking the valid *offers* to provide *capacity reserve* in order of increasing *offer* price.

10.4.3 The *capacity reserve* target used in a given *capacity reserve* auction shall be the product of the *capacity reserve ratio* established for that *capacity reserve* auction and the maximum forecast *demand* over the *obligation period* associated with that *capacity reserve* auction, such maximum forecast *demand* being determined on the basis of the *demand* forecasts *published* pursuant to section 7.1.1.4 of Chapter 5.

10.4.4 The *IESO* shall, in each *capacity reserve* auction, determine the *capacity reserve* price by determining a price that equates the amount of *capacity reserve offered* in that *capacity reserve* auction and the *capacity reserve* target for that *capacity reserve* auction determined in accordance with section 10.4.3 and:

10.4.4.1 if it is not possible to equate the *offers* to provide *capacity reserve* with the *capacity reserve* target, the *capacity reserve price* shall be *MCRP*;

10.4.4.2 where there is a unique price less than *MCRP* at which *offers* to provide *capacity reserve* equal the *capacity reserve* target, that unique price shall be the *capacity reserve price*; or

10.4.4.3 where there is a range of prices less than *MCRP* at which *offers* to provide *capacity reserve* equal the *capacity reserve* target (i.e., if the

supply curve is vertical precisely at the *capacity reserve* target), the *capacity reserve* price shall be at the mid-point of the range of such prices.

10.4.5 The *IESO* shall, in each *capacity reserve* auction, determine the *capacity reserve quantity*, in MW, to be provided by each *registered facility* in each hour of the *obligation period* associated with such *capacity reserve* auction in accordance with the following process:

10.4.5.1 if there is a unique quantity of *capacity reserve offered* by each *registered market participant* at the market-clearing price (i.e., the supply curve is vertical at this price) all quantities of *capacity reserve offered* at this price shall be accepted, and the corresponding quantities of *capacity reserve* shall be provided by the corresponding *registered facility*; or

10.4.5.2 where there is a range of *capacity reserve quantities* at the market-clearing price (i.e., the supply curve is horizontal at this price), the quantity *offered* at this price by each *registered market participant* shall be reduced in the same proportion so that the total quantity *offered* equals the *capacity reserve* target determined for that *capacity reserve* auction in accordance with section 10.4.3. This reduced quantity shall be provided by each *registered facility*.

10.4.6 The *IESO* shall submit the market-clearing quantities of *capacity reserve* for each *registered facility*, as determined in accordance with section 10.4.5, to the *settlement process* defined in Chapter 9.

10.4.6.1 [Intentionally left blank]

10.4.6.2 [Intentionally left blank]

10.4.7 The *IESO* shall, within one hour after each *capacity reserve* auction, publish the *capacity reserve* target, the *capacity reserve* price and any shortfalls in *capacity reserve* associated with such *capacity reserve* auction and notify each *registered market participant* of the *capacity reserve quantity* to be provided by the *registered market participant's registered facilities* in each hour of the *obligation period* associated with such *capacity reserve* auction.

10.5 Calling Capacity Reserve

10.5.1 [Intentionally left blank]

10.5.2 The *IESO* may call *capacity reserve* if it projects a shortage of *energy* or *operating reserve* during an *obligation period*. By 16:00 EST on day "N", the *IESO* shall, subject to section 10.5.2A, call upon any *registered market participants* whose *offers* to provide *capacity reserve* were accepted for that *obligation period* to submit *offers* to provide *energy*, *offers* to provide *operating reserve*, or both, for *pre-dispatch day* "N+1" and for *dispatch day* "N+2" if the *IESO* determines that there would otherwise be a shortfall of *energy* or *operating reserve* on *dispatch day* "N+2", in which case the *IESO* shall call enough *capacity reserve* to eliminate the projected *energy* or *operating reserve* shortfall on *dispatch day* "N+2".

10.5.2A The *IESO* may only call upon a *registered market participant* to submit an *offer* to provide *operating reserve* pursuant to section 10.5.2 to the extent that the applicable *registered facility* is registered in the *real-time market* for *energy* or *operating reserve* as being capable of providing sufficient *operating reserve* to meet the *IESO's* call.

10.5.3 [Intentionally left blank]

10.5.4 [Intentionally left blank]

10.6 Failure to Submit Offers for Energy or Operating Reserve

10.6.1 A *registered market participant* that:

10.6.1.1 fails to submit adequate *offers* to provide *energy*, *operating reserve*, or both, when called upon to do so pursuant to section 10.5.2 in the amount required; or

10.6.1.2 submits an *offer* for *energy*, *operating reserve* or both, as the case may be, but fails to provide *energy*, *operating reserve* or both in respect of some or the whole of the amount required,

shall, in addition to any sanctions that may be imposed on the *registered market participant* pursuant to section 6 of Chapter 3, be subject to the withholding of *settlement amounts* associated with *capacity reserve* as provided in section 10.6.2.

10.6.2 The *IESO* may, in the circumstances referred to in section 10.6.1, withhold from a *registered market participant* any *settlement amount* that it would otherwise be required to credit to the *registered market participant* in respect of *capacity reserve* for those hours in which it is called upon to submit *energy offers*, *offers* to provide *operating reserve*, or both. The duration of any period for which such

settlement amount shall be withheld shall be determined in accordance with the applicable *market manual* and shall depend on:

10.6.2.1 the degree of deviation from the applicable obligation or requirement; and

10.6.2.2 the performance history of the *registered market participant* or the *registered facility* in the *capacity reserve market*.

10.6.3 The *IESO* may disqualify from future participation in the *capacity reserve market* any *registered facility* or a *generation facility* aggregated as part of a *registered facility* pursuant to section 10.2.4, that repeatedly fails to honour the obligations of the *capacity reserve market* to submit an *offer* to supply *energy*, *operating reserve* or both when called upon to do so in accordance with this section 10.

11. Generator Synchronisation Procedures

11.1 Introduction

11.1.1 No *generator*:

11.1.1.1 may physically *connect* and synchronise to the *IESO-controlled grid* or de-synchronise and *disconnect* from the *IESO-controlled grid*; or

11.1.1.2 if an *embedded generator*, may physically *connect* and synchronise to the embedding *facility* or de-synchronise 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 Synchronisation

11.2.1 A *generator* that intends to synchronise 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 synchronisation 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 synchronisation, or any shorter interval allowed by an under-generation system advisory notice, the *IESO* may approve synchronisation only if, in the *IESO*'s judgement, synchronisation 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* synchronisation plans within 5 minutes of receiving such plans. In the event that the *IESO* does not approve synchronisation, 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 synchronise 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-synchronisation 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 synchronisation 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 synchronisation plans without delay. Upon receipt of such notice, the *IESO* shall re-assess any prior acceptance of a synchronisation plan and shall notify the *generator* accordingly.

11.3 Process for De-synchronisation

11.3.1 A *generator* intending to de-synchronise 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-synchronisation time, unless a system advisory notice for over-generation is in effect, in which event the *generation unit* may de-synchronise 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-synchronisation, or any shorter interval allowed by an over-generation system advisory notice, the *IESO* may approve de-synchronisation only if, in the *IESO*'s judgement, the unit's de-synchronisation 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-synchronise 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 synchronised 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-synchronisation plans within 5 minutes of receiving such plans.

11.3.5 The exact time of de-synchronisation 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-synchronisation plans without delay. Upon receipt of such notice, the *IESO* shall re-assess any prior acceptance of a de-synchronisation plan and shall notify the *generator* accordingly.

12. Status Reports, Advisories, and Protocols

12.1 IESO System Status Reports

12.1.1 The *IESO* shall *publish* system status reports with respect to each *dispatch day* at the following times:

12.1.1.1 15:30 EST of the day two days prior to the *dispatch day*;

12.1.1.2 05:30 EST of the *pre-dispatch day*;

12.1.1.3 9:00 EST of the *pre-dispatch day*;

12.1.1.4 any time of the *pre-dispatch day* subsequent to 9:00 EST if there is a material change to the information in the previous system status report for the *dispatch day*; and

12.1.1.5 any time during the *dispatch day*, for the current and remaining *dispatch hours* of the *dispatch day*, if there is a material change to the information in the previous system status report for such *dispatch hours*.

12.1.2 Each system status report shall contain information on the following variables, as projected for future *dispatch hours* and as estimated for the current *dispatch hour* where appropriate:

12.1.2.1 deviations in transmission *facility* ratings from normal values;

12.1.2.2 minimum *operating reserve* requirements by area;

12.1.2.3 total system load;

12.1.2.4 total system generation from *intermittent generators*, *transitional scheduling generators* and *self-scheduling generation facilities*;

12.1.2.5 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*;

12.1.2.6 *facilities* instructed to bid under *capacity reserve market* obligations if the *capacity reserve market* is activated in accordance with section 10.1;

12.1.2.7 extent of any expected *contracted ancillary service* shortfalls;

12.1.2.8 extent of any expected over-generation or under-generation; and

12.1.2.9 extent of any expected shortfall in *operating reserve*.

12.1.3 If required, a system status report shall contain advisory notices as follows:

12.1.3.1 a major change advisory if a major change in expected load, *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*. 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.*

12.2 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-synchronise 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 synchronise 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.

13.5.2 [Intentionally left blank]

13.5.2.1 [Intentionally left blank]

13.5.2.2 [Intentionally left blank]

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.

13.6.3 [Intentionally left blank]

13.6.3A [Intentionally left blank]

13.6.3A.1 [Intentionally left blank]

13.6.3A.2 [Intentionally left blank]

13.6.3B [Intentionally left blank]

13.6.3B.1 [Intentionally left blank]

13.6.3B.2 [Intentionally left blank]

13.6.4 [Intentionally left blank]

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.

14. Transitional Demand Response

14.1 Description of Transitional Demand Response Program

14.1.1 The Transitional Demand Response Program is a temporary program to reduce barriers to *demand* response inside the *IESO control area*.

14.1.2 The *IESO* shall implement and administer the Transitional Demand Response Program in accordance with the parameters established by the *IESO Board*. The *IESO* shall document eligibility criteria, program procedures, *energy* price thresholds and other program details in the applicable *market manual*.

15. Emergency Load Reduction Program

15.1 Eligibility Requirements for the Emergency Load Reduction Program

15.1.1 A *market participant* is eligible to participate in the Emergency Load Reduction Program provided that:

15.1.1.1 the *market participant* demonstrates to the satisfaction of the *IESO* that it can provide a minimum level of 1 MW of *demand* reduction; and,

15.1.1.2 the *market participant* has submitted to the *IESO* a measurement and verification plan and the *IESO* is satisfied with the plan.

15.1.2 The *IESO* may refuse participation in the Emergency Load Reduction Program by a *market participant* if their participation would negatively impact the *reliable* operation of the *IESO-controlled grid.*

15.1.3 The *IESO* may remove a *market participant* that is participating in the Emergency Load Reduction Program if its continued participation would negatively impact the *reliable* operation of the *IESO-controlled grid.* The *IESO* may temporarily remove a *market participant* that is participating in the Emergency Load Reduction Program if the conditions on the *IESO-controlled grid* are such that their participation would negatively impact the *reliable* operation of the *IESO-controlled grid.*

15.2 Emergency Load Reduction Program Parameters

15.2.1 The *IESO Board* shall set the prices to be paid for standby fees and activation fees necessary for the operation of the Emergency Load Reduction Program.

15.2.2 The *IESO Board* or its delegate may establish the program parameters for the operation of the Emergency Load Reduction Program including but not limited to the following:

15.2.2.1 the days of operation;

15.2.2.2 the hours of operation; and,

15.2.2.3 the number of activation notices per Emergency Load Reduction Program participant per day.

15.2.3 The *IESO* shall *publish* all Emergency Load Reduction Program parameters and prices established under section 15.2.1 and 15.2.2.

15.2.4 The *IESO* shall notify *market participants* at least 5 *business days* in advance of:

- the day the Emergency Load Reduction Program could first be used;
- the day that any adjustments to the program parameters determined under section 15.2.2 will come into effect; and,
- the day that any adjustments to the prices determined by the *IESO Board* under section 15.2.1 will come into effect.

15.3 Operation of the Emergency Load Reduction Program

15.3.1 The *IESO* shall notify *market participants* and *publish*, in accordance with the applicable *market manual*, the initiation of the Emergency Load Reduction Program for a given *dispatch day*.

15.3.2 Following the *IESO* notification under section 15.3.1 a *market participant* that intends to participate in the Emergency Load Reduction Program for the *dispatch day* shall notify the *IESO*, in accordance with the applicable *market manual*, of its intent to provide a *demand* reduction of a minimum of 1 MW for the *dispatch day*. Upon this notification the *market participant* shall be eligible to receive a standby payment.

15.3.3 A *market participant* participating in the Emergency Load Reduction Program which has notified the *IESO* in accordance with section 15.3.2, shall, upon the *IESO's* direction, activate its *demand* reduction in accordance with the applicable *market manual* unless such activation would endanger the safety of any person, damage equipment, or violate any applicable law.

15.3.4 If a *market participant* does not reduce its demand in accordance with section 15.3.3, the *IESO* may reduce or not pay at all the *market participant's*

standby fee. The *market participant* shall also be subject to compliance actions in accordance with section 6 of Chapter 3.

15.3.5 A *market participant* participating in the Emergency Load Reduction Program shall confirm in accordance with the applicable *market manual* to the *IESO* that any activated *demand* reduction was not also applied to any other *demand* reduction program or service.

15.3.6 The *IESO* shall report, in accordance with the applicable *market manual*, any *demand* reduction activation under the Emergency Load Reduction Program and the results thereof.