

## Market Rule Amendment Proposal Form

### Part 1 - Market Rule Information

Identification No.:	MR-00461-R00
Subject:	Market Renewal Program: Energy – Batch 1 Definition
Title:	Batch 1 Definitions
Nature of Proposal:	<input checked="" type="checkbox"/> Alteration <input checked="" type="checkbox"/> Deletion <input checked="" type="checkbox"/> Addition
Chapter:	11
Appendix:	
Sections:	
Sub-sections proposed for amending:	

### Part 2 - Proposal History

Version	Reason for Issuing	Version Date
1.0	Draft for Stakeholder Review	October 13, 2020
2.0	Draft for Stakeholder Review	December 4, 2020
3.0	Draft for Technical Panel Review	March 9, 2021
4.0	Publish for Stakeholder Review and Comment	March 25, 2021
5.0	Submitted for Technical Panel Provisional Vote	April 13, 2021

Approved Amendment Publication Date:

Approved Amendment Effective Date:

## Part 3 - Explanation for Proposed Amendment

Provide a brief description of the following:

- The reason for the proposed amendment and the impact on the *IESO-administered markets* if the amendment is not made.
- Alternative solutions considered.
- The proposed amendment, how the amendment addresses the above reason and impact of the proposed amendment on the *IESO-administered markets*.

### Summary

The IESO proposes to amend Chapter 11 definitions in the market rules related to the Market Renewal Program (MRP) Batch 1 market rules packages (MR-00450, MR-00451, MR-00453).

The proposed rule amendments:

1. Support changes related to MR-00453 Prudential Security;
2. Support changes related to MR-00450-R00 Participant Authorization market participant classes;
3. Support changes related to MR-00451-R00 Facility Registration;
4. Include changes to support the day-ahead market;
5. Implement new definition of "resource" and related changes;
6. Remove the registered facility definition; and
7. General definition clean-up.

This proposal is based on input from various stakeholder engagement initiatives for the MRP. Further information on MRP can be found on the [IESO's Market Renewal webpage](#).

### Background

In its mission to enhance the efficiency of Ontario's electricity markets, the IESO initiated the MRP with the following three initiatives for the energy work stream:

- Replace the two-schedule market with a single schedule market (SSM) to address current misalignments between price and dispatch and to better reflect the true cost of dispatching resources.
- Introduce a day-ahead market (DAM) to provide greater operational certainty to the IESO and greater financial certainty to market participants, ensuring more efficient scheduling of resources to meet anticipated system needs.
- Reduce the cost of scheduling resources to meet demand as it changes from the day-ahead to real-time through the enhanced real-time unit commitment (ERUC) initiative.

This redesign will address inefficiencies in the current market, implement best practices that have emerged over the past decade and prepare the IESO to more effectively manage future

change. In the end, MRP will deliver a more efficient, stable marketplace with competitive and transparent mechanisms that meet Ontario's electricity needs at the lowest cost possible.

## Discussion

The following amendments to the existing Chapter 11 market rules definitions are proposed to accompany the Batch 1 MRP market rule amendment packages:

### 1. Support changes related to MR-00453: Prudential Security

- Amend and create prudential support related definitions to incorporate physical and virtual transactions in the day-ahead market. Existing prudential support definitions have also been updated to include more descriptive language with the goal of making the prudential security related definitions more descriptive. Cross references have been added as required to the new day-ahead virtual transaction and consolidated monitoring sections of the market rules:
  - Amend the definitions for actual exposure, default protection amount, margin call, maximum net exposure, minimum trading limit, prudential support, prudential support obligation, self-assessed trading limit, trading limit.
  - Create new definitions for 'maximum daily trading limit,' 'virtual transaction,' and 'physical transaction.'

### 2. Support changes related to MR-00450-R00: Participant Authorization

- Add the definition for 'energy trader' to describe a market participant authorized by the IESO to participate in the energy market to provide physical services by importing, exporting, or wheeling energy or operating reserve.
- Delete the definition for 'financial market participant' as this term is replaced by more specific market participant classes: virtual traders and TR participants.
- Add the definition for 'virtual trader' as a new market participant class for those who are authorized to conduct virtual transactions.
- Amend the definition for 'wholesale consumer' to clarify that it is associated with a load resource.
- Amend the definition for 'wholesale seller' to clarify that it also includes market participants who are energy traders.

### 3. Support changes related to MR-00451-R00: Facility Registration

- Add the definition for 'duct firing 10-minute operating reserve capability' as a mandatory pseudo-unit registration parameter.
- Add the definition for 'hourly must run' as an optional hydroelectric generation resource registration parameter. If a market participant chooses to submit hourly must run dispatch parameters for downstream processes, this intention has to be submitted during the registration process.
- Amend the definition for 'period of steady operation' to reflect that this registration parameter is to be done on a resource level.
- Add the definition for 'shared daily energy limits' as an optional hydroelectric generation resource registration parameter.

- Add the definition for 'start indication value' as an optional hydroelectric generation resource registration parameter. If a market participant chooses to submit a start indication value, then the market participant needs to provide one or more MW values for each resource associated with the dispatchable hydroelectric generation resource.
  - Add the definition for 'time lag' as an optional dispatchable generation resource registration parameter during the registration process.
  - Add the definition for 'physical transaction' to describe a transaction in the IESO administered market that creates a financial obligation settled at the day-ahead market clearing price and a balancing obligation in the real-time market settled at the real-time market clearing price, or a transaction that is settled in the IESO-administered markets based on delivery or consumption of physical services in the real-time market.
  - Add the definition for 'price responsive load' as a new load type to be used by registered market participants in both the day-ahead market the real time market.
  - Add the definition for 'pre-dispatch schedule' as it is used to include day-ahead market in Chapter7, section 2.2.6F. Chapter 7, section 2.2.6F specifies that the IESO uses specific registration data submitted to determine the pre-dispatch schedule.
4. Include changes to support the day-ahead market
- Amend the definition for 'bid' to include the day-ahead market.
  - Add the definition of 'day-ahead market.'
  - Add the definition of 'day-ahead schedule.'
  - Amend the definition of 'dispatch data' to include the day-head market schedule.
  - Amend the definition of 'offer' to include the day-ahead market.
5. Establish the new definition of "resource"
- Add the definition of 'resource' to mean an IESO-modelled representation of one or more generation units or loads. This representation is used for the secure operations of the IESO control area or to participate in the IESO-administered market.

The following terms are added, modified, or deleted to support definition re-alignment by introducing the new "resource" definition:

- Amend the definition of 'boundary entity' to refer to a set of boundary entity resources within an intertie zone.
- Add the definition of 'boundary entity resource' to refer to a resource that facilitates intertie flow between the IESO-controlled grid and an interties zone.
- Amend the definition of 'dispatch' to reference to a resource being used on a real-time operations level.
- Amend the definition of 'dispatch instruction' to reference a resource or boundary entity resource.
- Amend the definition of 'dispatchable load' to reference to a load resource.
- Amend the definition of 'elapsed time to dispatch' to reference to a generation resource.
- Amend the definition of 'forbidden region' to reference to a hydroelectric generation resource.

- Amend the definition of 'generation facility' to include details on the fact that it is composed of physical equipment such as generation units.
  - Add the definition of 'generation resource' to represent one or more generation units.
  - Amend the definition of 'generation unit' to clarify that it refers to the principal equipment at a generation facility used to generate electricity.
  - Add the definition for 'load' to include physical equipment that consumes energy from the integrated power system.
  - Add the definition for 'load resource' to represent loads.
  - Amend the definition for 'minimum generation block run-time' to reference a resource.
  - Amend the definition for 'minimum loading point' to reference a resource.
  - Amend the definition for 'minimum run time' to reference a resource.
  - Amend the definition for 'non-dispatchable load' to reference a resource.
  - Amend the definition for 'pseudo-unit' to reference a resource.
  - Amend the definition for 'registered market participant' to reference the use of a resource.
  - Amend the definition for 'reliability must-run contract' to reference a resource.
6. Remove the registered facility definition;
- Delete the definition for 'registered facility' as a result of the introduction of the newly defined term 'resource'.
7. General definition clean-up
- Add the definition for 'dispatchable' to clarify that it means being subject to dispatch.

## Part 4 - Proposed Amendment

### 1. Definitions

*actual exposure* means, ~~in respect of a given market participant,~~ the estimated net amount payable by or owing to a market participant amount calculated at any given time, calculated by the IESO for ~~that~~ market participant pursuant to sections 5.5, 5C.3, or 5D.2 of Chapter 2;

*bid* means a statement of the quantities of a commodity that a buyer will purchase at different *market price* levels for that commodity in the day-ahead market, the real-time market or the *procurement market*;

*boundary entity* means ~~the set of boundary entity resources associated with an intertie zone an entity designated and maintained by the IESO for the purpose of energy trading, and which represents the capacity of one or more resources, including but not limited to generation facilities or load facilities, located at a point or points external to the IESO control area which a market participant is entitled to inject into or withdraw from the IESO controlled grid and which shall be deemed to be located in an intertie zone in accordance with section 2.2.7.2 of Chapter 7;~~

boundary entity resource means a construct existing within the *IESO's* systems that facilitates *intertie* flow between the *IESO-controlled grid* and an *intertie zone*;

*daily cascading hydroelectric dependency* means there is a minimum hydraulic *time lag* of less than 24 hours from a hydroelectric *generation facility* to one or more adjacent upstream and/or downstream hydroelectric *generation facilities* operated by the same *registered market participant*;

day-ahead market or DAM means a daily, *IESO-administered market* that creates financially binding obligations for a *dispatch day* on the day prior to the *dispatch day*;

day-ahead schedule means the hourly schedule for the 24-hour period of a next *dispatch day* as determined by the *dispatch algorithm* during the *day-ahead market*;

*default protection amount* means, ~~in respect of a given market participant~~, a component of the maximum net exposure that represents the dollar estimate of the additional debt that a *market participant* could accumulate in the *real-time market* or *day-ahead market* between the time that a *market participant* commits an *event of default* and the time a *market participant* could be removed from the *real-time market* or *day-ahead market*, ~~amount~~ determined from time to time by the *IESO* for ~~that~~ *market participant* in accordance with section 5.3.8 or 5C.1.7 of Chapter 2;

*dispatch* means the process by which the *IESO* directs the real-time operation of a resource registered facilities to cause a specified amount of electric energy or *ancillary service* to be provided to or taken off the *electricity system*;

dispatchable means being subject to *dispatch*.

*dispatch data* means the *offers, bids, self-schedules* ~~and estimates~~ or forecasts of *intermittent generation* required to be submitted to the *IESO* in accordance with Chapter 7 ~~and/or Chapter 7A~~ and used by the *IESO* to determine day-ahead market schedules, physical operations and *physical market prices*;

*dispatch instructions* means in respect of a ~~resource~~ registered facility other than a *boundary entity resource*, a physical operating instruction issued by the *IESO* either in the *real-time dispatch process* or in those *dispatch intervals* when *administrative prices* were applied pursuant to section 8.4A of Chapter 7 or the *IESO-administered markets* are suspended pursuant to section 13 of Chapter 7, and, in respect of a ~~registered facility that is a boundary entity resource~~, the *interchange schedule* pertaining to ~~it~~ that registered facility;

*dispatchable load* means a *load resource facility* which is subject to *dispatch* by the *IESO* and whose level is selected or set based on the price of *energy* in the *real-time market*, and excludes *hourly demand response resources*;

duct firing 10-minute operating reserve capability means the ability of a *pseudo-unit* to be scheduled to provide 10-minute synchronized or 10-minute non-synchronized *operating reserve* in the *duct firing region*;

*elapsed time to dispatch* is the minimum amount of time, in minutes, between the time at which a startup sequence is initiated for a *generation resource unit* and the time at which it becomes *dispatchable* by reaching its *minimum loading point*;

energy trader means a market participant authorized by the IESO to participate in the energy market to provide physical services by importing, exporting, or wheeling energy or operating reserve.

~~financial market participant~~ means a person that participates only in the ~~TR market~~;

forbidden region means a predefined operating range within which a hydroelectric generation facility resource cannot maintain steady operation without causing equipment damage. A hydroelectric generation facility resource may have more than one forbidden region;

generation facility means a facility for generating electricity or providing ancillary services, other than ancillary services provided by a transmitter or distributor through the operation of a transmission or distribution system, and may be composed of one or more generation units includesincluding any structures, equipment or other things used for that purpose;

generation resource means a resource modelled to represent one or more generation units.

generation unit means the principal equipment at a generation facility used to that actually generates electricity, together with all internally related equipment essential to its functioning as a single entity unit distinguishable from other generation units;

hourly must run means the maximum MWh quantity below which a dispatchable hydroelectric generation resource is incapable of responding to dispatch instructions due to specific must run conditions which could reasonably be expected to endanger the safety of any person, damage equipment, or violate any applicable law.

load means one or more pieces of equipment that consume energy from the integrated power system;

load resource means a resource modelled to represent one or more loads;

margin call means a notice given by the IESO to a market participant pursuant to sections 5.4.2, 5C.2.2, or 5D.3.2 of Chapter 2 indicating that when the actual exposure of that market participant equals or exceeds its trading limit;

maximum daily trading limit means the maximum quantity a virtual trader may bid or offer in a given trading day, and is the absolute value in MWh submitted by a virtual trader in accordance with section 5C.1 of Chapter 2, used by the IESO to calculate a virtual trader's minimum trading limit, default protection amount, and the bid/offer quantity limit for dispatch data submissions in accordance with section 2.6.7.5 of Chapter 7A.

maximum net exposure means, ~~in respect of a given market participant, a component of the prudential support obligation~~ that reflects the IESO's estimate of the net amount a market participant will owe to the IESO, ~~the amount~~ calculated from time to time by the IESO for that market participant in accordance with sections 5.3 or 5C.1 of Chapter 2;

minimum generation block run-time means the number of hours, ~~specified by the market participant,~~ that a generation facility resource must be operating at minimum loading point; in accordance with the technical requirements of the associated facility;

minimum loading point means the minimum output of energy ~~specified by the market participant~~ that can be produced by a generation facility resource under stable conditions without ignition support, in accordance with the technical requirements of the associated facility;



*minimum run-time* means the number of hours required for the *generation facility resource* to ramp from a cold start to *minimum loading point* plus *minimum generation block run-time*, ~~specified by the market participant~~, in accordance with the technical requirements of the *associated facility*;

*minimum trading limit* means, ~~in respect of a given market participant~~, the dollar amount determined from time to time by the *IESO* ~~for that market participant~~ in accordance with section 5.3.4 or 5C.1.5 of Chapter 2, that represents the lowest possible trading limit that may be calculated by the IESO for a market participant as permitted by the market rules;

*non-dispatchable load* means a load *resource*, within the *IESO control area*, that is not subject to *dispatch* by the *IESO* and whose level is not selected or set based on the price of *energy* in the *real-time market*;

*offer* means a statement of the quantities of a commodity that a seller will provide at different market prices for that commodity in the *real-time market*, the day-ahead market or the procurement market;

*period of steady operation* means a predefined number of intervals (0, 1, or 2) for which a non *quick-start generation resource facility* must maintain steady operation before changing direction of its *energy* output (either increasing or decreasing). Such a *resource facility* is considered to be in steady operation if the magnitude of change between *dispatch instructions* for the last two intervals is less than 0.1 multiplied by its ramp rate capability between the two intervals;

*physical transaction* means (i) a transaction in the IESO-administered markets that creates a financial obligation in the day-ahead market and a balancing obligation in the real-time market with a capability to fulfill the balancing obligation by delivery or consumption of physical services in the real-time market; or (ii) a transaction in the IESO-administered markets based on delivery or consumption of physical services in the real-time market;

*pre-dispatch schedule* means an hourly schedule for the remaining hours of a *dispatch day* and may include all hours of the next dispatch day as determined by the *dispatch algorithm*;

*price responsive load* means a *load resource* for which the *registered market participant* is authorized to submit bids for energy into the day-ahead market but for which the load resource is a non-dispatchable load in the real-time market;

*prudential support* means the ~~obligations owed to the IESO by a third party and other forms of collateral security or support posted with the IESO to secure for~~ the financial obligations of a *market participant*, in the forms set forth in sections 5.7 or 5C.5 of Chapter 2;

*prudential support obligation* means, ~~in respect of a market participant~~, an amount of prudential support owed to the IESO equal to ~~a that~~ *market participant's maximum net exposure* less any allowable reductions calculated in accordance with section 5.8 or section 5C.6 of Chapter 2;

*pseudo-unit* means a resource associated with a combined cycle *generation facility* that is modeled based on a gas-to-steam relationship between generation units, and which is comprised of one combustion turbine generation unit and a share of one steam turbine generation unit at the same combined cycle *generation facility*;



~~registered facility means, in respect of a facility, a facility which is capable of supplying or withdrawing physical services, and which is registered with the IESO and means, in respect of a boundary entity, a boundary entity which is comprised of resources capable of supplying or withdrawing physical services, and is registered with the IESO;~~

~~registered market participant means a market participant that is registered with the IESO to submit dispatch data with respect to a resource registered facility;~~

~~reliability must-run contract means a contract between the IESO and a registered market participant or prospective registered market participant for a registered facility resource that is or will be a generation facility resource, an electricity storage facility, a dispatchable load facility resource or a boundary entity resource, which allows the IESO to call on that registered market participant's or prospective registered market participant's registered facility resource in order to maintain reliability of the IESO-controlled grid;~~

~~resource means an IESO-modelled representation of one or more generation units or loads, existing within the IESO's systems, which is used for the secure operations of the IESO control area, or to participate in the IESO-administrated markets; or a boundary entity resource.~~

~~self-assessed trading limit means, in respect of a given market participant, the dollar amount submitted to the IESO determined by the market participant in accordance with section 5.3.2 of Chapter 2, for the purposes of calculating its trading limit;~~

~~shared daily energy limit means a registration parameter that indicates whether multiple dispatchable hydroelectric generation resources registered by the same market participant draw water from the same forebay;~~

~~start indication value means the minimum quantity of energy in MW that a resource must be scheduled to determine whether the generation units associated with the resource have used one or more of the submitted maximum number of starts per day;~~

~~time lag means an amount of time less than 24 hours that it takes for the water discharged from an upstream hydroelectric generation facility to reach a downstream hydroelectric generation facility with the same registered market participant, and that is on the same cascade river system;~~

~~trading limit means, in respect of a given market participant, the dollar amount representing the maximum amount of actual exposure that a market participant may accumulate before being issued a margin call from the IESO, determined from time to time by the IESO for that market participant in accordance with sections 5.3.5, or 5.3.6, 5C.1.5, or 5D.2.2 of Chapter 2;~~

~~virtual transaction means a transaction in the IESO-administered markets that creates a financial obligation to settle against the difference between the day-ahead market energy price and the real-time market energy price;~~

~~virtual trader means a market participant authorized to conduct virtual transactions.~~

~~wholesale consumer means a person associated with a load resource who purchases electricity energy or ancillary services in the IESO-administered markets or directly from another person, or who provides ancillary services in the IESO-administered markets or directly to the IESO;~~

~~wholesale seller means an energy trader or a person who sells electricity or ancillary services through the IESO-administered markets or directly to another person;~~