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**Summary of Stakeholder and Technical  
Panel Comments on Impact of Rule  
Amendment on Consumers re Prices,  
Reliability and Quality of Electricity  
Service**

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This form summarizes any stakeholder comments and comments received from any *Technical Panel* discussions with respect to the impact a *market rule amendment* on the interests of consumers with respect to prices and the *reliability* and quality of electricity service.

Terms and acronyms used in this Form that are italicized have the meanings ascribed thereto in Chapter 11 of the *Market Rules*.

**PART 1 – MARKET RULE INFORMATION**

Identification No.:	MR-00445-R00
Title:	Performance Requirements

**PART 2 – SUMMARY OF COMMENTS**

Please indicate the forum at which the comments were made and the applicable *market participant* class, if any, of the person making the comment.

**Technical Panel Comments**

At the June 23rd technical panel meeting, a member of the panel recommended that categories 11 and 12 in appendix 4.3 be reordered to improve clarity. The IESO has accepted this recommendation and reordered the categories so that Voltage Ride-Through is now category 11 and Generation Units is category 12.

**Stakeholder Comments**

In response to the broader call for stakeholder comment, one submission was received by the IESO. Ontario Power Generation (OPG) submitted an evaluation of the proposed amendment providing recommendations to the IESO. The IESO has reviewed and agrees with the feedback provided by OPG.

OPG recommendation #1:

OPG believes that the reactive power requirements need to be explicitly defined at particular voltage conditions.

The IESO agrees with this recommendation and has revised the proposed amended category #5– Reactive Power, to state:

Continuously (i.e., dynamically) inject or withdraw reactive power at the high-voltage terminal

## PART 2 – SUMMARY OF COMMENTS

of the main output transformer up to 33% of rated active power at all levels of active power output, and at the typical *transmission system voltage*, except where a lesser continually available capability is permitted with the *IESO's approval*. A conventional synchronous unit with a power factor range of 0.90 lagging and 0.95 leading at rated active power connected via a main output transformer impedance not greater than 13% based on *generation unit* rated apparent power is acceptable. Reactive power losses or charging between the high-voltage terminal of the main output transformer and the *connection point* shall be addressed in a manner permitted by *IESO* approval.

OPG recommendation #2:

OPG contends that the IESO does need to retain the rated field current definition, or at least a similar definition, somewhere in the Market Rules or Manuals.

The IESO agrees with this recommendation and will be adding the following information into [Market Manual 1.6 - Performance Validation](#) (formerly 2.20):

Rated field voltage is defined as the product of field current at rated terminal voltage, rated active power and the required maximum continuous reactive power, with the field resistance at nominal operating temperature.

The nominal operating temperatures are specified in the [Register Facility Help File](#) as 75 °C for hydro units and 100 °C for thermal units.

OPG's submission can be found on the Technical Panel [webpage](#).

The IESO stakeholdered this proposed amendment through the Updates to Performance Requirements: Market Rule Appendices 4.2 and 4.3 engagement forum. OPG and TC Energy submitted feedback in response to the March 31<sup>st</sup> engagement. In general, the feedback was supportive of the proposed amendments, with some specific feedback that was addressed by the IESO. TC Energy also noted that the implementation cost for this amendment would likely be low for most market participants because only a software update would be required for most inverter based resources.

Information presented at previous stakeholder engagement webinars can be found on the Updates to Performance Requirements [website](#), including presentations, written stakeholder feedback and *IESO* responses.

**Date Summaries Prepared:** August 13, 2020