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## Market Rule Amendment Proposal

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### PART 1 – MARKET RULE INFORMATION

Identification No.:	MR-00415		
Subject:	Generation Facility Requirements		
Title:	Generation Facility Requirements – Voltage Ride Through and Reactive Power		
Nature of Proposal:	<input checked="" type="checkbox"/> Alteration	<input type="checkbox"/> Deletion	<input type="checkbox"/> Addition
Chapter:	4	Appendix:	4.2
Sections:	N/A		
Sub-sections proposed for amending:	N/A		

### PART 2 – PROPOSAL HISTORY

Version	Reason for Issuing	Version Date
1.0	Draft for Technical Panel Review	January 13, 2015
2.0	Publish for Stakeholder Review and Comment	January 20, 2015
3.0	Submitted for Technical Panel Vote	April 21, 2015
4.0	Recommended by Technical Panel; Submitted for IESO Board Approval	April 28, 2015
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 the title of Category 3 in Appendix 4.2 from “Low Voltage Ride Through” to “Voltage Ride Through” to reflect that generation facilities have both low voltage and high voltage ride through requirements. In addition, it is proposed to delete the word “continually” from Category 5 of Appendix 4.2 which will remove unwarranted barriers to market entry for some generating facilities.

**Background**

Refer to MR-00415-Q00

**Discussion**Appendix 4.2 – Generation Facility Requirements

Appendix 4.2 outlines the performance requirement that apply to generation facilities subject to a connection assessment finalized after March 6, 2010. Two changes are proposed to the performance requirements:

- Category 3 “Low Voltage Ride Through” – Change the category title from “Low Voltage Ride Through” to “Voltage Ride Through” to accurately reflect that ride through routine switching events relates to all voltage switching events, not just switching events that result in low voltages. “Low” was inadvertently included during the revision of the Appendix 4.2 as part of [MR-00359-R00: Changes to Facilitate Connection](#), and removing it will correct an error within the market rules.
- Category 5 “Reactive Power” – The IESO is proposing to delete the word “continually” from “except where a lesser continually available capability is permitted by the IESO.” The original performance standard was developed before the IESO had gained operational experience with non-conventional generation. The IESO now has ample experience with non-conventional generation which has capability characteristics which are irregular compared to those of conventional generation. The proposed change will allow the IESO discretion in accepting generator capabilities related to reactive power, and remove unnecessary barriers to entry in order to allow for maximum participation while maintaining reliability.

## PART 4 – PROPOSED AMENDMENT

## Appendix 4.2

<b>Category</b>	<b>Generation facility directly connected to the IESO-controlled grid, generation facility greater than 50 MW, or generation unit greater than 10 MW shall have the capability to:</b>
3. <del>Low</del> -Voltage Ride Through	Ride through routine switching events and design criteria contingencies assuming standard fault detection, auxiliary relaying, communication, and rated breaker interrupting times unless disconnected by configuration.
<b>Category</b>	<b>Generation facility directly connected to the IESO-controlled grid shall have the capability to:</b>
5. Reactive Power	Inject or withdraw reactive power continuously (i.e. dynamically) at a <i>connection point</i> up to 33% of its rated active power at all levels of active power output except where a lesser <del>continually</del> available capability is permitted by the IESO. 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 generator rated apparent power is acceptable.

## PART 5 – IESO BOARD DECISION RATIONALE

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