



Market Rule Amendment Written Submission

This form is used to provide comment on a *market rule* amendment under consideration by the *IESO*. Please complete all four sections of this form and submit the completed form by email or fax to the following:

Email Address: Rule.Amendments@ieso.ca
 Fax No.: (416) 506-2847 **Attention: Market Rules Group**
Subject: Market Rule Written Submission

All information submitted in this process will be used by the *IESO* solely in support of its obligations under the *Electricity Act, 1998*, the *Ontario Energy Board Act, 1998*, the *Market Rules* and associated policies, standards and procedures and its licence. All submitted information will be assigned the *confidentiality classification* of “Public” upon receipt. You should be aware that the *IESO* intends to *publish* this written submission.

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

PART 1 – SUBMITTER’S INFORMATION

Please enter your organization and contact information in full.

Name: GE Energy / Ilya Kogan

(if applicable) *Market Participant / Metering Service Provider* No.¹: _____

Market Participant Class: _____

Telephone: 905 858 6143, cell 416 258 1612

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PART 2 – MARKET RULE AMENDMENT REFERENCE

Type of Rule Amendment Being Commented on (please indicate with x):

Amendment Submission Proposed Rule Amendment Recommended Rule Amendment

MR Number: MR-00359-R00

This *Market Rule* number is located on the “Current Market Rule Amendment” web page.

Date Relevant *Amendment Submission*, Proposed or Recommended Rule Amendment Posted for Comment: November 26, 2009

¹ This number is a maximum of 12 characters and does not include any spaces or underscore.

PART 3 – COMMENTS ON RULE AMENDMENT

Provide your comments.

1. Off-Nominal Frequency – GE requests clarification for the intent of the statement “Active power reductions in proportion to frequency drops are permissible”.

GE recommends only two trip points as opposed to four trip points. Additionally GE recommends an alarm only at conditions of under frequency.

2. Speed / Frequency Regulation – GE believes this requirement is intended for synchronous generators, and is not relevant for Wind Turbine Generators that include converter-based controls. GE requests clarification via a qualifying statement that excludes converter-based wind generators. GE recommends that 10% ramp in active power will not be required when the Gas Turbine Generator is at full power conditions.

3. Low Voltage Ride Through – GE requests clarification of the statement “design criteria contingencies” with regard to WTG LVRT, and inclusion of an official time vs. voltage chart to eliminate uncertainties. Some relevant information is given in the section “Appendix 4.2 in Pictures,” but a definitive chart is not given within the Market Rule document.

5. Reactive Power – The term “active power” assumed to be the drive train active power capability rating.

6. Automatic Voltage Regulator (AVR) – GE requests clarification of the time base for the accuracy measurement (e.g. 10 minute average), and definition of the meter location for validation of this requirement. GE also requests clarification of the intent of the 13% requirement; this seems to imply a required per unit VARs, the direct statement of which could help clarify the intent. Clarification of the VAR capability could be beneficial to separate the requirements of the turbine manufacturer from the plant designer.

7. Excitation Systems – GE believes this requirement is intended for synchronous generators, and is not relevant for Wind Turbine Generators that include converter-based controls. GE requests clarification via a qualifying statement that excludes converter-based wind generators.

8. Power System Stabilizer (PSS) - GE believes this requirement is intended for synchronous generators, and is not relevant for Wind Turbine Generators that include converter-based controls. GE requests clarification via a qualifying statement that excludes converter-based wind generators.

10. Protection and Limits - GE believes this requirement is intended for synchronous generators, and is not relevant for Wind Turbine Generators that include converter-based controls. The IEEE standard 50.13 is entitled “IEEE Standard for Cylindrical-Rotor 50 Hz and 60 Hz Synchronous Generators Rated 10 MVA and Above.” GE requests clarification via a qualifying statement that excludes converter-based wind generators.

11. Performance Characteristics - GE believes this requirement is intended for synchronous generators, and is not relevant for Wind Turbine Generators that include converter-based controls. GE requests clarification via a qualifying statement that excludes converter-based wind generators.

PART 4 – EXTERNAL CONSULTATION MEETING

If you believe that a special meeting of stakeholders would be necessary/desirable to discuss the issues raised by the rule amendment, please complete the following information:

External Stakeholdering meeting necessary/desirable (please indicate with x):

Reason(s) why you believe a meeting is necessary/desirable:

A meeting may be useful to further clarify the comments above.