

## Draft rewrite of Market Manual 7.3 Appendix B: Outage Reporting Requirements

### Existing Market Manual 7.3 Appendix B

Black Font = Material taken from the existing Market Manual 7.3 Appendix B in verbatim or paraphrased form

Red Font = New material that was proposed by IESO on October 9, 2013

JNG= OPG comment

MG= IESO Comment

Outage <sup>1</sup> Reporting Requirements		Eligible for Pre-Approval	Criteria for Pre-Approval <sup>2</sup>
Facility Group	Criteria for Facility Group		
Transmission facilities <sup>3</sup> operated at voltages $\geq 100$ kV	All	No	
Transmission facilities operated at voltages $< 100$ kV	Removal of step-down transformers with a low-side voltage $< 100$ kV	Yes	
	Involve the unloading of step-down transformers or their individual windings <sup>4</sup>	Yes	
	Require paralleling or separation of buses via operation of bus tie breaker	Yes	
	Result in a load transfer $\geq 20$ MW between step-down transformer stations	No	
<u>Transmission or Distribution</u>	Adversely affect a generator or dispatchable load	No	
	15 MVAR or greater in areas electrically south of Essa TS in Barrie	No	
10 MVAR or greater in areas electrically north of Essa TS in Barrie			
Reactive resources			
Power system auxiliaries <sup>5</sup>	Control systems designed to dynamically respond to system conditions such as: <ul style="list-style-type: none"> <li>Power system stabilizers (PSSs)</li> <li>Automatic voltage regulators (AVRs)</li> <li>Synchronous Condensers and Static VAR Compensators (SVCs)</li> </ul>	No	
	Operating aids such as: <ul style="list-style-type: none"> <li>Under-frequency load shedding (ULFS) facilities</li> <li>Circuit auto-reclosure schemes</li> <li>Voltage reduction facilities</li> </ul>	Yes	
	Protection systems designed to detect and isolate failed or faulted elements	Yes	Involve a loss of redundancy
	Special Protection Systems (SPS) that detect identified system conditions and take corrective action such as: <ul style="list-style-type: none"> <li>Combined generator and load rejection schemes</li> </ul>	Yes	Involve a loss of redundancy and have a recall time of $\leq 15$ minutes

**Comment [JNG1]:** Although this language is contained in the current market manual OPG request a definition of this term in the context of the pre-approval criteria.

**Comment [MG2]:** Changes to the existing reporting requirements are not within the scope of the interim process redesign, however the IESO will look for a reference and provide context at the next SE-109 meeting on Nov 13.

**Comment [MG3]:** The IESO agrees with OPGs recommendation to clarify that reactive resources correspond to transmission and distribution as per the existing Appendix B.

**Comment [JNG4]:** Consideration should be given to facilities where outages are loss of redundancy with a recall time  $\leq 15$  min.

**Comment [MG5]:** The IESO agrees that PSS and AVR outages that involve a loss of redundancy and have a recall  $\leq 15$  minutes are eligible for pre-approval, however condensers and SVCs are not and will be moved into the Transmission or Distribution Reactive Resources Facility Grouping to provide clarity.

**Comment [JNG6]:** Non-redundant protection outages with a recall of  $\leq 15$  min where equipment remains in service such a transformer gas trip should also be included.

**Comment [MG7]:** Backup protections, other than breaker-fail (B/F) protections on 500 and 230 kV breakers are not considered reportable. The IESO will consider whether B/F protections could be eligible for pre-approval and discuss at the next SE-109 meeting on Nov 13.

Outage <sup>1</sup> Reporting Requirements		Eligible for Pre-Approval	Criteria for Pre-Approval <sup>2</sup>
Facility Group	Criteria for Facility Group		
	<ul style="list-style-type: none"> <li>Reactor tripping schemes</li> </ul>		
	Communication facilities such as: <ul style="list-style-type: none"> <li>SCADA</li> <li>RTUs, ICCP links or telemetry facilities for display of quantities</li> <li>Market participant dispatch tools and facilities</li> <li>Voice, data and protection tone communications</li> </ul>	Yes	Involve a loss of redundancy and have a recall time of $\leq 15$ minutes
	Switchyard auxiliaries such as: <ul style="list-style-type: none"> <li>AC and DC station services</li> <li>Supervisory control facilities or control room bench-boards</li> <li>Multi-breaker air supply systems including compressor plants and cable cooling systems</li> </ul>	Yes	Involve a loss of redundancy and have a recall time of $\leq 15$ minutes
Non-registered facilities or embedded facilities <sup>6</sup>	Result in a change of more than 20 MW in demand or supply in an hour from what is typical for that hour (i.e. large industrial customers that periodically shut down plants for maintenance or holidays)	Yes	
Dispatchable load facilities	Result in changes of more than 20 MW in demand or supply in an hour from what is typical for that hour.	Yes	
Generation Facilities	All Generators	Yes	<ul style="list-style-type: none"> <li>Recall time <math>\leq 15</math> minutes</li> <li>For generators unable to store their fuel, deratings above the hourly production forecast that is 2 business days in advance</li> </ul>
	<b>Segregated Mode of Operation (SMO)</b>	Yes	
	Plant auxiliaries that affect more than a single generator or aggregate of generators where the loss of an additional element results in multiple unit/aggregate shutdowns within 48 hours such as: <ul style="list-style-type: none"> <li>Service air or instrument air</li> <li>Boiler feed pumps</li> <li>Station Service</li> </ul>	Yes	<ul style="list-style-type: none"> <li>Recall time <math>\leq 15</math> minutes and the multiple unit/aggregate loss occurs &gt; 30 minutes after the loss of the auxiliary element</li> </ul>
	Affects the availability to provide ancillary services such as: <ul style="list-style-type: none"> <li>Automatic Generation Control (AGC)</li> <li>Voltage support</li> <li>Black start service</li> </ul>	Yes	<ul style="list-style-type: none"> <li>Recall time <math>\leq 15</math> minutes</li> </ul>
Testing	All tests described in Section 1.3.11: System Tests	No	

**Comment [JNG8]:** As a result of flow or regulatory restrictions similar conditions can exist on hydroelectric facilities. For example, a river system could be in low flow conditions limiting the number or units that can be generated. A participant should be able to take additional capacity out of service as a pre-approved outage.

**Comment [MG9]:** This criteria was initially developed to accommodate the unique operation of wind and solar resources. Through further discussions with stakeholders, it was determined that this criteria fails to address the fact that any derating submitted above the forecast would effectively reduce that forecast as fewer wind turbines would be available for energy production. The IESO will consider an alternative criteria and discuss at the next SE109 meeting on Nov 13.

**Comment [JNG10]:** Under the ancillary contracts there is no obligation/guarantee that contracted facilities will be available to provide the service when needed. OPG concurs with the requirement to report the unavailability of service but feels that there should be no qualifying criteria i.e. no limitation on recall.

**Comment [MG11]:** The IESO will further investigate this comment and discuss at the at the next SE-109 meeting on Nov 13.

Outage <sup>1</sup> Reporting Requirements		Eligible for Pre-Approval	Criteria for Pre-Approval <sup>2</sup>
Facility Group	Criteria for Facility Group		
	Testing of generation units, including: <ul style="list-style-type: none"> <li>In-service or commissioning tests</li> <li>Testing of derated units at levels above the derated levels</li> <li>Testing of units currently on outage</li> <li>Tests of facilities providing ancillary services</li> </ul>	Yes	<ul style="list-style-type: none"> <li>Recall time <math>\leq</math> 15 minutes</li> </ul>

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**Comment [JNG12]:** OPG has raised the concern several times that imposing a restriction on commissioning activities will extend overall commissioning periods. OPG maintains that the IESO needs discretion to permit the submission of commissioning tests with shorter notice to address the fluid nature of commissioning.

**Comment [MG13]:** The IESO will propose a mechanism for providing scheduling flexibility for testing and commissioning within the applicable sections of the Market Manual and discuss at the next SE-109 meeting on Nov 13. Based on the proposed mechanism, the IESO will consider whether the pre-approval criteria needs to be updated.

**Comment [JNG14]:** To facilitate certain types of testing common practice is to use outage requests to control dispatch when testing. These tests generally meet the  $\leq$  15 min recall criteria but are submitted with a 30 min recall to ensure that test slips are transferred into the DSO. OPG does highlight in text that the actual recall is 15 min or less. The IESO's manual validation process needs to capture this accepted practice.

We will transfer everthing

**Comment [MG15]:** The IESO intends to request that participants submit the expected recall in the applicable field on the outage request form and consider an alternate means for communicating management of DSO dispatches.

1. Outages, restrictions, deratings or changes in configuration or operation
2. There may be outages that meet the criteria for pre-approval but fail to meet the following principles for eligibility:
  - Low reliability impact on the IESO-controlled grid;
  - Requires minimal IESO assessment effort;
  - Does not impact a third party market participant

The IESO will provide each market participant with a list of which facilities fail to meet these principles

3. Facilities that form part of or are connected to the IESO-controlled grid and used for the purpose of transmitting or distributing electricity. These facilities may be owned by a transmitter, wholesale customer, distributor or generator.
4. Where multiple facilities involve logic that require those facilities be operated together (i.e. both a switch and a breaker are arranged in series and the switch cannot be operated without first opening the breaker), it is only necessary to report on one of those facilities.
5. The following power system auxiliaries are excluded from outage reporting:
  - Switchyard auxiliaries that do not affect, or the loss of an additional element does not affect the operation of the IESO-controlled grid, or the operation or capability of components of the IESO-controlled grid.
  - Step-down transformer station low voltage bus protections and low voltage reactive resource protections (capacitors), unless they cause unavailability of the component and/or a reconfiguration of the IESO-controlled grid.
  - Feeder protections and feeder breaker auto-reclosures, unless they create a load transfer during system tests, or restrict access to the IESO-administered markets of embedded facilities.
6. If the facility is not registered with the IESO, this responsibility falls on the market participant (i.e. transmission customers for the facility).

**Comment [JNG16]:** Will the IESO provide context on what is considered “low reliability impact” or “minimal IESO assessment”. Validating outages against high level principles such as these that have open ended interpretation does not provide participants with clear direction especially since a submission already meets prescribed criteria.

**Comment [MG17]:** The IESO expects participants will use the criteria to evaluate which outage requests are eligible minus any exceptions identified by the IESO (next comment). The IESO will consider providing high level context for these principles at the next SE109 meeting on Nov 13.

**Comment [JNG18]:** This statement implies that the IESO will be providing this information prior to implementation of the interim process. Is this the case or will participants be informed on a case by case basis at the time of validation?

**Comment [MG19]:** The IESO will provide participants with exceptions prior to the implementation of the interim process.