



Market Manual 7: System Operations

Part 7.3: Outage Management

[Issue 26.1](#) ~~Issue 26.0~~

This document outlines the process *market participants* must follow in submitting *outage* requests for facilities.

PROCEDURE

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This *market manual* may contain a summary of a particular *market rule*. Where provided, the summary has been used because of the length of the *market rule* itself. The reader should be aware, however, that where a *market rule* is applicable, the obligation that needs to be met is as stated in the “Market Rules”. To the extent of any discrepancy or inconsistency between the provisions of a particular *market rule* and the summary, the provision of the *market rule* shall govern.

DRAFT

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Table of Contents

Table of Contents	i
List of Figures	iviii
List of Tables	iviii
Table of Changes	viv
Market Manuals	1
Market Procedures	1
1. Introduction	2
1.1 Purpose.....	2
1.2 Scope.....	2
1.3 Overview.....	3
1.3.1 Assessment of Facilities/Equipment.....	4
1.3.2 Outage Submission Methods.....	4
1.3.3 Timelines.....	5
1.3.4 System Status Reports (SSR) and Security and Adequacy Assessment (SAA) Reports.....	98
1.3.5 Planned Outage Requests.....	98
1.3.6 Planned Shutdowns.....	25
1.3.7 Demand Control Actions.....	2625
1.3.8 Forced Outages.....	26
1.3.9 Generator Deratings.....	2726
1.3.10 System Tests.....	28
1.3.11 Hold-Offs (Blocking Automatic Reclosure).....	3029
1.3.12 Returning Equipment to Service.....	3029
1.3.13 New and Replacement Facilities.....	3029
1.3.14 Testing of Ancillary Services.....	30
1.3.15 Generator Tests.....	3130
1.3.16 Outages to Monitoring and Control Equipment.....	3635
1.3.17 Segregated Mode of Operation (SMO).....	3635
1.3.18 Reliability Must-Run Contracts.....	3736
1.3.19 Dispatchable Load Outage Reporting Requirements.....	3837
1.4 IESO Market System Outage Notification.....	3938
1.5 Confidentiality.....	4039
1.6 Disputes.....	4039
1.7 Market Surveillance and Compliance.....	4039

1.8	Replacement Energy Compliance Monitoring.....	4039
1.9	Roles and Responsibilities.....	4140
1.10	Contact Information.....	4241
2.	Procedural Steps	4843
2.1	Outage Management Process	4944
Appendix A:	Forms	A-1
Appendix B:	Outage Reporting Requirements	B-1
	References.....	31
	Table of Contents.....	i
	List of Figures	iii
	List of Tables.....	iii
	Table of Changes	iv
	Market Manuals	1
	Market Procedures.....	1
1.	Introduction.....	2
1.1	Purpose.....	2
1.2	Scope.....	2
1.3	Overview.....	3
1.3.1	Assessment of Facilities/Equipment	4
1.3.2	Outage Submission Methods	4
1.3.3	Timelines.....	5
1.3.4	System Status Reports (SSR) and Security and Adequacy Assessment (SAA) Reports	8
1.3.5	Planned Outage Requests.....	8
1.3.6	Planned Shutdowns	22
1.3.7	Demand Control Actions	23
1.3.8	Forced Outages	23
1.3.9	Generator Deratings.....	24
1.3.10	Planned Generator Outages	25
1.3.11	System Tests	25
1.3.12	Hold-Offs (Blocking Automatic Reclosure).....	26
1.3.13	Returning Equipment to Service	26
1.3.14	New and Replacement Facilities.....	27
1.3.15	Testing of Ancillary Services	27
1.3.16	Generator Tests	28

1.3.17	Outages to Monitoring and Control Equipment.....	32
1.3.18	Segregated Mode of Operation.....	32
1.3.19	Reliability Must-Run Contracts.....	34
1.3.20	Dispatchable Load Outage Reporting Requirements.....	34
1.4	IESO Market System Outage Notification.....	35
1.5	Confidentiality.....	36
1.6	Disputes.....	36
1.7	Market Surveillance and Compliance.....	36
1.8	Replacement Energy Compliance Monitoring.....	37
1.9	Roles and Responsibilities.....	37
1.10	Contact Information.....	38
2.	Procedural Work Flow.....	40
2.1	Outage Management Process.....	40
3.	Procedural Steps.....	43
3.1	Outage Management Process.....	44
Appendix A:	Forms.....	A-1
Appendix B:	Outage Reporting Requirements.....	B-1
References	1

List of Figures

Figure 1-1: IOMS Structure.....	5
Figure 1-2: Outage Submission and Approval Timeline	7
Figure 1-3: Purchasing Replacement Energy - Precedence of Outages	2421
Figure 1-1: IOMS Structure.....	5
Figure 1-2: Outage Submission and Approval Timeline	7
Figure 1-3: Purchasing Replacement Energy – Precedence of Outages	21
Figure 2-1: Work Flow for Outage Planning and Scheduling Process.....	41
Figure 2-1: Work Flow for Outage Planning and Scheduling Process (continued).....	42

List of Tables

Table 1–1: Submission and Confirmation of Planned Outage Requests.....	109
Table 2–1: Procedural Steps for Outage Planning and Scheduling.....	4940
Table B–1: Outage Reporting Requirements.....	B–2
Table 2–1: Legend for Work Flow Diagrams	40
Table 3–1: Procedural Steps for Outage Planning and Scheduling.....	44

Table of Changes

Reference (Section and Paragraph)	Description of Change
Section 1.2	Revised as required.
Sections 1.3.2 and 1.3.3	Revised as required.
Figure 1-2	Replaced to show new timeline for outage submission and approval.
Section 1.3.5	Revised as required.
Table 1-1	New table added for submission and confirmation of planned outage requests.
Figure 1-3	Diagram revised to show new reporting timeline.
Sections 1.3.8 to 1.3.11	Revised as required.
Section 1.3.13	Revised as required.
Section 1.3.15	Revised as required.
Section 1.3.17	Revised as required.
Section 1.9	Revised as required.
Section 2.0	Removed outdated work flow diagram.
Table 2-1 (formerly Table 3-1)	Updated procedural steps for outage planning and scheduling as required.
Appendix B	Revised as required.
Table B-1	New table added for outage reporting requirements.

Market Manuals

The *market manuals* consolidate the market procedures and associated forms, standards, and policies that define certain elements relating to the operation of the *IESO-administered markets*. Market procedures provide more detailed descriptions of the requirements for various activities than is specified in the “Market Rules”. Where there is a discrepancy between the requirements in a document within a “Market Manual” and the “Market Rules”, the “Market Rules” shall prevail. Standards and policies appended to, or referenced in, these procedures provide a supporting framework.

Market Procedures

The “System Operations Manual” is Volume 7 of the *market manuals*, where this document forms “Part 7.3: Outage Management”.

A list of the other component parts of the “System Operations Manual” is provided in “Part 7.0: System Operations Overview”, in Section 2, “About This Manual”.

Structure of Market Procedures

Each market procedure is composed of the following sections:

1. “**Introduction**”, which contains general information about the procedure, including an overview, a description of the purpose and scope of the procedure, and information about roles and responsibilities of the parties involved in the procedure.
2. “**Procedural Work Flow**”, which contains a graphical representation of the steps and flow of information within the procedure.
3. “**Procedural Steps**”, which contains a table that describes each step and provides other details related to each step.

“**Appendices**”, which may include such items as forms, standards, policies, and agreements.

Conventions

The *market manual* standard conventions are as defined in the “Market Manual Overview” document.

In addition to italicizing market defined terms, in some instances these defined terms may also appear in bold for emphasis on other terms defined in Appendix B but are not defined terms in Chapter 11 of the “Market Rules”.

– End of Section –

1. Introduction

1.1 Purpose

This document is provided for *market participants* as a guide to *outage* management for *facilities* and equipment connected to the *IESO-controlled grid*, or which may affect the operation of the *IESO-controlled grid*. This includes *outages* to **transmission facilities** defined as constituting elements of the *IESO-controlled grid* under the “Market Rules” and various *operating agreements* between the *IESO* and *market participants*.

1.2 Scope

Outage management, with respect to participating in the *IESO-administered markets*, comprises the following aspects:

- submission ~~and confirmation~~ of *outage* requests by *market participants*, including *planned outages*, *forced outages*, deratings and testing;
- assessment of *outage* requests by the *IESO*, and their approval or rejection;
- *reliability* issues associated with *outages*, including rejection, revocation, ~~deferral~~ and recall by the *IESO*; and
- *outage* compensation in the event of revocation ~~or~~, recall ~~and deferral~~.

In support of these aspects, this procedure details the conditions, actions and timelines required for *outage* management by *market participants*. The procedure is based on obligations expressed in the “Market Rules”, as well as standards established by the North American Electric Reliability Council (*NERC*) and the Northeast Power Coordinating Council (*NPCC*).

The following classes of *market participants* are required to participate in the *Outage* Management procedure:

- *generators* participating in the *IESO-administered markets*, whether embedded or directly connected to the *IESO-controlled grid*;
- *transmitters* owning *facilities* that form part of the *IESO-controlled grid*;
- *distributors* with equipment that affects the operation of the *IESO-controlled grid* or the operation of embedded *facilities* participating in the *IESO-administered markets*. This includes embedded *distributors* that affect the operation of the *IESO-controlled grid* or the operation of embedded *facilities* participating in the *IESO-administered markets*;
- *wholesale customers* with equipment that affects the operation of the *IESO-controlled grid*, or which is subject to periodic shutdowns resulting in *demand* reductions greater than 20 MW from average weekday *demand*.

Market participants with equipment that affects the operation of the *IESO-controlled grid* may not remove equipment or *facilities* from service except in accordance with the rules for *Outage* Coordination (Ch. 5, S. 6 of the *market rules*). In addition, *wholesale customers* and *distributors* are required to notify the *IESO* in the event of periodic shutdowns that result in *demand* reduction greater than 20 MW from average weekday *demand* (Ch. 5, S. 3 of the *market rules*).

The only exception to these obligations is provided in cases of *forced outages*, where removal from service is necessary to prevent damage to the *market participant's* equipment or *facilities* or to protect the safety of employees, the public or the environment. If any equipment or *facilities* are removed from service, the *market participant* is required to notify the *IESO* immediately.

The “Market Rules” do not require *outages* to be reported on the following equipment:

- *facility* equipment that has been assessed by the *IESO* as not affecting the operation of the *IESO-controlled grid*;
- *generation facilities* with capacity less than 20 MW that are not participating in the *IESO-administered markets* or connected to the *IESO-controlled grid*;
- periodic shutdowns by *wholesale customers* resulting in *demand* variations of less than 20 MW from average weekday *demand*; and
- periodic shutdowns by *embedded generators* and customers who do not participate in the *IESO-administered markets* (unregistered *facilities*) resulting in supply variations of less than 20 MW from average weekday supply or *demand*.¹

See Appendix B, *Outage Reporting Requirements*, for a detailed specification of the *IESO's* criteria for determining whether equipment affects the operation of the *IESO-controlled grid*.

1.3 Overview

To ensure that equipment *outages* do not impact the *reliability* of the *IESO-controlled grid*, *market participants* are required to request permission and receive approval for *planned outages* from the *IESO*.

The *IESO* takes *planned outages* into account when preparing *Security* and *Adequacy Assessments* (SAA) and preparing *pre-dispatch schedules*. Publication of this information provides market signals to allow *market participants* to alter *bid/offer* strategies. For example, in the event of major *generation outage*, the SAA reports and *pre-dispatch schedules* may show a resource shortfall or reduced *energy/capacity*. This should in turn provide market signals for *market participants* to make their resources available.

Where market mechanisms are not able to mitigate the impact of *outages*, the *IESO* may reject, revoke or recall the *outage* submission. In the event of *forced outages*, the *IESO* will arrange alternative resources, or alter *dispatch* schedules, to ensure that the *reliability* of the *IESO-controlled grid* is maintained.

Where the *IESO* rejects, revokes or recalls an *outage*, the *IESO* will provide the affected *market participants* with the reason for the rejection, revocation or recall subject to applicable confidentiality restrictions. This notification will take place at the time of the rejection, revocation or recall or as soon as possible following this action.

Some aspects of the *Outage Management* process are covered in related procedures. These aspects are listed here for information purposes only.

¹ Conversely, periodic shutdowns of 20 MW or more by unregistered embedded *facilities* must be reported. This obligation devolves upon the *distributor* because the *facility* is not registered with the *IESO*.

1.3.1 Assessment of Facilities/Equipment

As part of the “Market Manual 1, Part 1.2: Facility Registration, Maintenance and De-Registration” procedure, the *IESO* assesses new *facilities* being registered for participation in the *IESO-administered markets*, and any changes to existing *facilities*, to determine whether such equipment affects the operation of the *IESO-controlled grid*. *Market participants* whose *facilities* or equipment that impact upon *IESO-controlled grid reliability* will be required to report *outages* to the *IESO*.

The *IESO* will make a determination as to what *outage* reporting will be required for the *facility*. A *market participant* may submit an *exemption application* according to the process outlined in the “Exemption Application and Assessment” procedure to apply for *facility* equipment to be entirely or partially exempted. A panel of *independent directors* will make the decision as to whether an *exemption* is granted. See Appendix B for the detailed criteria that the *IESO* uses to assess *outage*-reporting requirements.

Any *market participant* who has received notification of an *outage* reporting requirement should submit their *outage* requests through the Integrated *Outage* Management System (IOMS). This can be done by accessing IOMS either through a proprietary *outage* management program, or through the Online *Outage* Request Form (ONLORF) available on the *IESO* Web Portal. The *outage* process reflects the “Market Rules” with respect to *Outage* Coordination (Ch. 5, S. 6 of the *market rules*).

1.3.1.1 Confirmation of Outage Set-up

The *IESO* sets up its *outage* management tools for *facilities* and equipment that are subject to *outage* reporting. Upon determining that *facility* equipment is subject to *outage* reporting, the *IESO* adds the *market participant* and equipment information to IOMS. The *IESO* provides notification in writing to the *market participant* that it is ready to receive *outages*, and confirms the *market participant* and equipment identification to be used for *outage* reporting. The *IESO* will forward contact information including telephone and email address to the *market participant* at this time. For *market participants* that choose to submit *outage* requests through the *IESO* Web Portal, information on how to access and use ONLORF is provided in the “[ONLORF User Guide](#)”.

1.3.1.2 Exemptions to Outage Reporting

When assessing *outage*-reporting requirements of a *market participant*, the *IESO* will apply the criteria provided in Appendix B. Following this assessment, *market participants* are notified of the equipment on which they are required to report *outages*.

Requests for *exemptions* from *outage* reporting are assessed by the *IESO* on a case-by-case basis as specified in Chapter 1, Section 14 of the *market rules*.

1.3.2 Outage Submission Methods

Market participants have the ability to submit ~~and confirm~~ *outages* in IOMS. The *IESO* will use the same method to confirm receipt and communicate approval back to the *market participant*.

Market participants access IOMS through the IOMS Application Program Interface (API). This is done either through:

- Their own proprietary *outage* management program or
- The *IESO* Web Portal, using ONLORF.

1.3.2.1 Integrated Outage Management System (IOMS)

Whether *market participants* choose to use their own *outage* management program or the web-based ONLORF application, all *outage* requests are submitted to an online system, IOMS, provided by the IESO. A link to the IOMS database is arranged through an application program interface (API). Upon request, the IESO will provide specifications for the IOMS API to those *market participants* that choose to use their own *outage* program. Either submission method requires *market participants* to complete an electronic “*outage* request” and submit it to the IESO. The IESO reviews the *outage* request to assess the impact of the *planned outage* on the IESO-controlled grid. Figure 1-1 is a diagram of IOMS components.

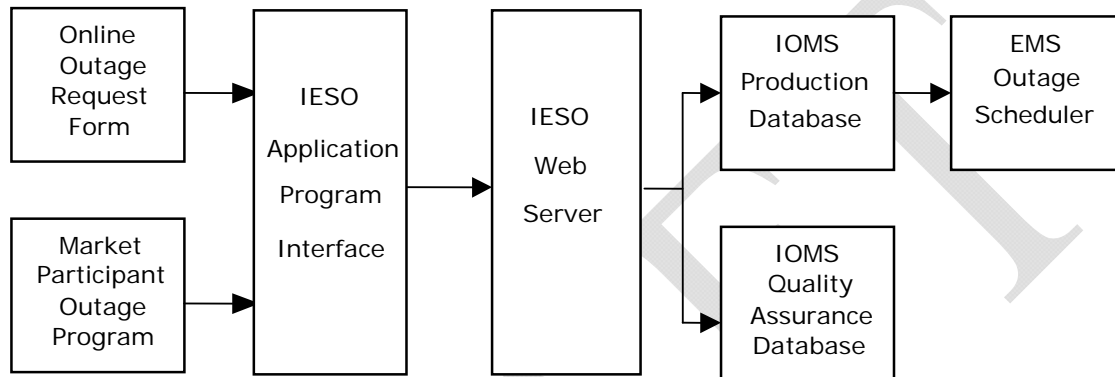


Figure 1-1: IOMS Structure

Outage data from the IESO Web server is stored in two databases: the IOMS production database and the IOMS quality assurance database. *Market participants* who wish to test their interface software without the risk of damaging live data can use the Quality Assurance database for training purposes. Databases are kept consistent and up to date, and are deemed to be the official record for *outages*.

1.3.3 Timelines

~~In general, requests for *planned outages* must be submitted by *market participants* to the IESO a minimum of 33 calendar days in advance of the desired start date of the *planned outage*.~~

~~In order to support the 18 Month Outlook assessments, addition, ~~transmitters and generators~~ are required to report long-term *outage* plans (*outages* equal or greater than 5 days in duration) at least three months in advance. Medium-term *outage* plans (*outages* equal to or more than 4 hours in duration) must be reported if they occur between 33 days and three months in advance. In addition, ~~transmitters and generators~~ are required to update information about these *outages* as often as is required to maintain the accuracy of the information.~~

~~Requests for *planned outages* to monitoring and control equipment must be submitted to the IESO no less than four days (Ch. 4, S. 7.7.5 of the market rules) prior to the *planned outage*.~~

~~Transmitters and generators are required to update information about these *outages* as often as is required to maintain the accuracy of the information. In order to receive three-day advance approval for *planned outages*, *market participants* must submit an *outage* request. ~~If requesting *two-day advance approval*, the *market participant* must confirm with the IESO their intention to proceed with the *outage*, no sooner than 33 calendar days and no later than 160:00 EST, ~~three-five business days~~ before the scheduled start date of a *submitted* planned outage.~~~~

The IESO may either grant 14-day advance approval or pre-approval (1-day advance approval) to market participants, subject to conditions specified in Section 1.3.5.4.1 (Ch 5, S. 6.2.2) and Section 1.3.5.4.2-5. Market participants are required to confirm the outage with the IESO between 33 and 21 calendar days prior to the start date of the planned outage (Ch 5, S 6.4.1).

Based on its assessment of the *outage's* impact on the *reliability* of the *IESO-controlled grid*, the *IESO* will provide *advance approval*. If the *outage* would impact the *reliability* of the *IESO-controlled grid*, the *IESO* will identify that the *outage* is at risk, or reject the *outage* by the approval deadline.

Prior to the scheduled start time of a *planned outage*, a *market participant* must advise the *IESO* of its intent to proceed with the *outage* at the scheduled time. This will allow the *IESO* to set up conditions for the *outage* in advance of the scheduled start time. The *market participant* will contact the *IESO* when it is ready to proceed with the *outage*. The *IESO* will grant final approval and notify the *market participant* at this time if it wishes to direct the operation of equipment to remove the *facility* from service.

The *market participant* must request permission to return equipment to service following the scheduled end of the *outage*. Planned ~~O~~outage extensions must be requested in advance, and will be assessed by the IESO as Short Notice Requests (SNRs), if they are requested after no later than 16:00 EST, five~~three~~ business days in advance or by 16:00 EST, two business days in advance if eligible for pre-approval. Otherwise, the market participant is expected to return the equipment to service as planned or declare the extension a forced extension to a planned outage.

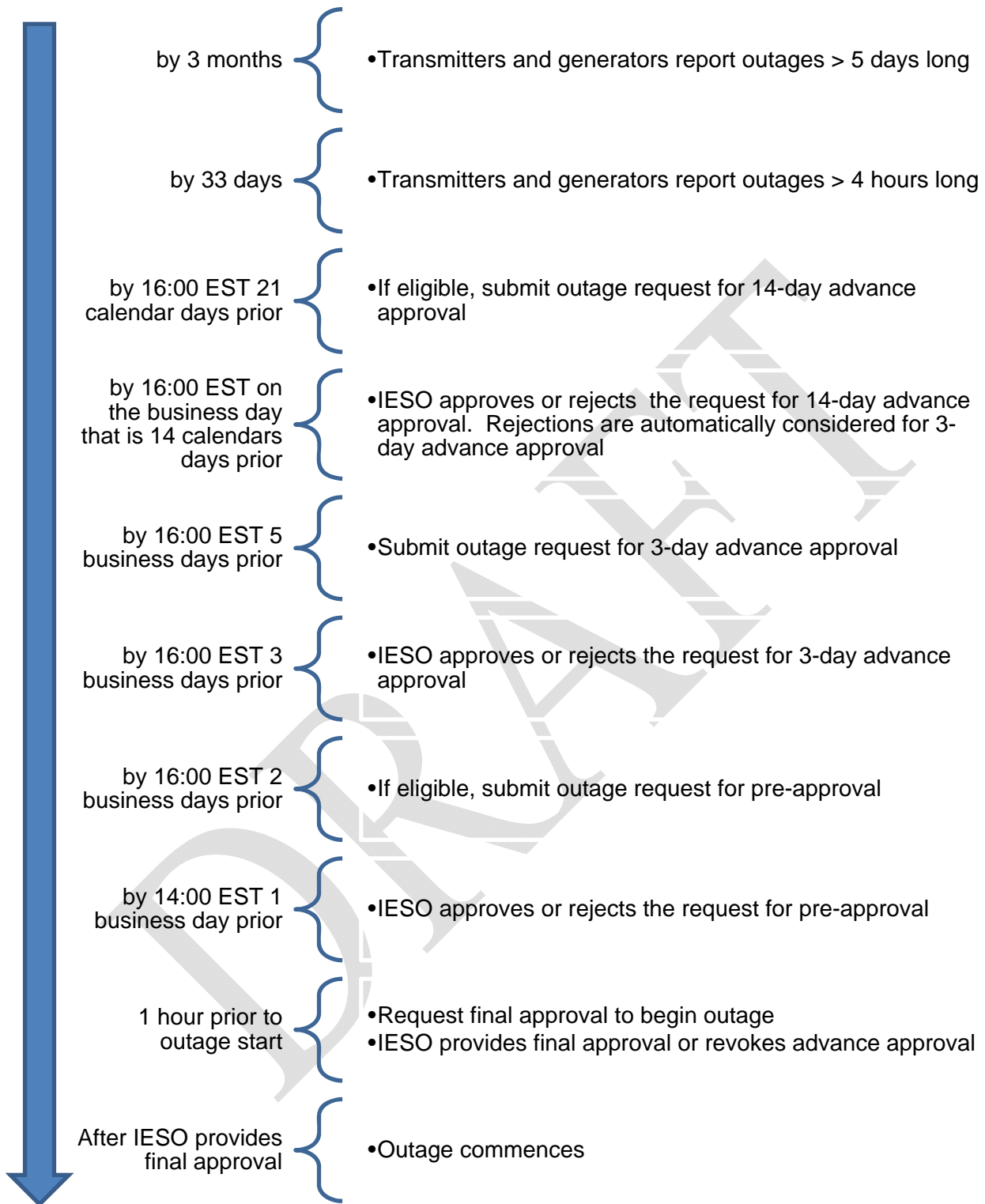


Figure 1-2: Outage Submission and Approval Timeline

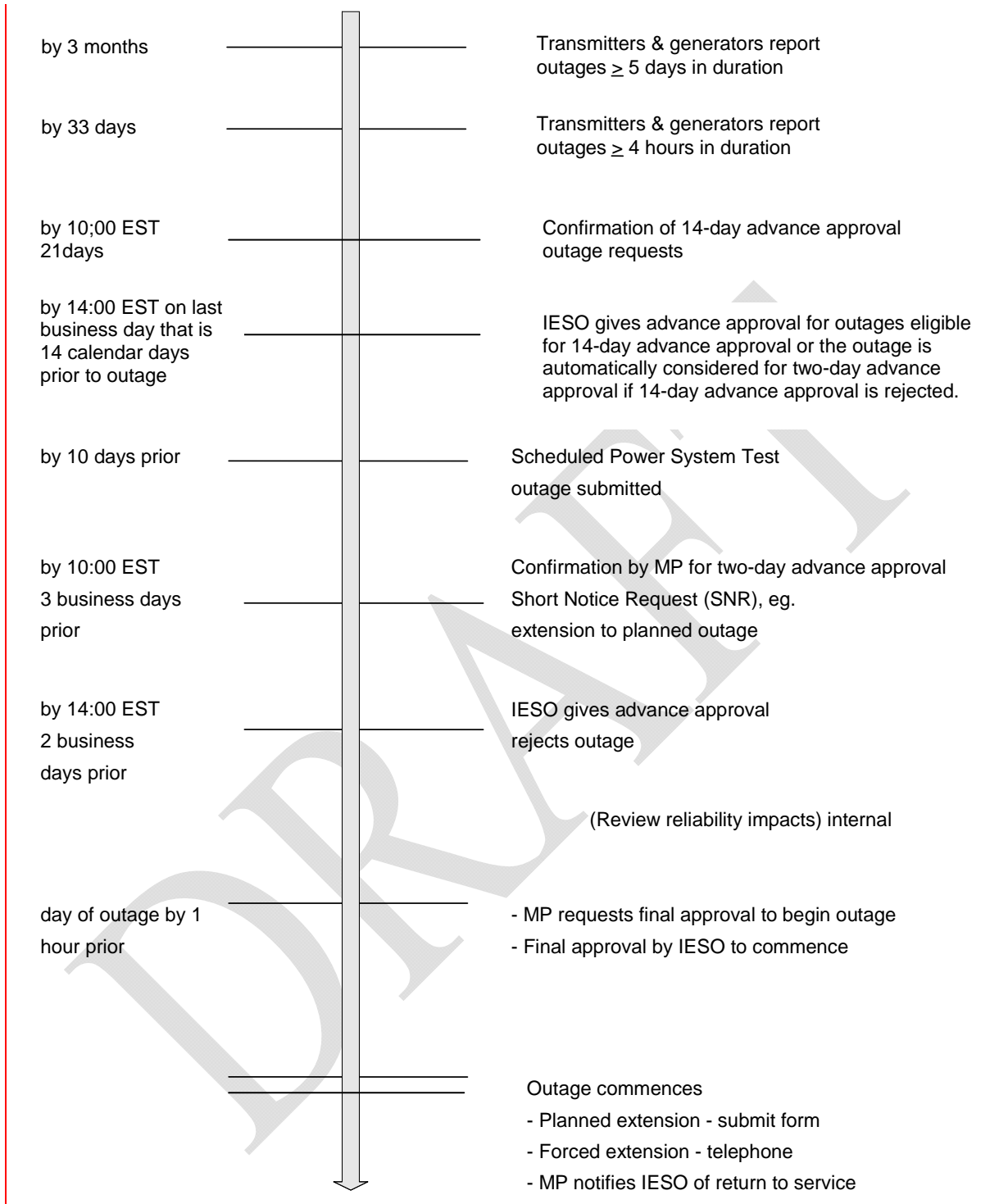


Figure 1-2: Outage Submission and Approval Timeline

1.3.4 System Status Reports (SSR) and Security and Adequacy Assessment (SAA) Reports

The *IESO* publishes a series of reports (Ch.5, S.7 and Ch. 7, S. 12.1 of the *market rules*) that assess the *security* and *adequacy* of the *IESO-controlled grid*, and makes these reports available on the *IESO* Web site, as detailed in the “Market Manual 7, Part 7.2: Near-Term Assessments and Reports” procedure. *Planned outage* requests are taken into account during the *Security and Adequacy Assessments* that are undertaken as part of the preparation of these reports.

In these reports, generation *outages* will be reflected as total generation unavailable and transmission *outages* will be reflected in system limits. Changes in *planned outages* prior to *advance approval* by the *IESO* may be considered material changes that require re-publication by the *IESO*. In addition, information contained in these reports provides the basis for the *IESO*’s evaluation of *outage* requests.

These reports will include a forecast of primary *demand*, interchange and *local area adequacy*. The *IESO* will reject *outages* by 14:00 two *business days* in advance of the start of the *outage* if sufficient resources (including an estimate of interchange) are not available to meet forecast primary *demand* (*dispatchable load* not included) plus generation reserve requirements. If necessary, the *IESO* will revoke approved *outages*, or recall *outages* that are currently in progress. The *IESO* will work with *market participants* to re-schedule these *outages*.

1.3.4.1 System Status Reports

System Status Reports are published at least three times daily (Ch. 7 S. 12.1 of the *market rules*). They provide detailed forecasts of load and available generation and transmission capacities, including information on *ancillary services*, must-run contracts and shortages.

1.3.4.2 Near-Term Security and Adequacy Assessment Report

Provides forecasts and assessments of the *security* and *adequacy* of the *IESO-controlled grid* with an hourly granularity for days 0-14 (published daily), and daily granularity for days 15-33 (published weekly).

1.3.5 Planned Outage Requests

Market participants may require *planned outages* for preventive maintenance, repairs, inspections, de-staffing and testing for *facilities/equipment* that must be reported to the *IESO*. Comprehensive *outage* plans should be developed well in advance, and should meet the *market participant*’s objectives for equipment maintenance and operation.

The *IESO* considers a piece of equipment to be in an *outage* state when it is removed from service, unavailable for connection to the system, temporarily derated, restricted in use, or reduced in performance. This includes de-staffing of a *generation unit* during a period when the *market participant* does not expect the unit to be scheduled to provide *energy* or *operating reserve*. Auxiliary equipment is also considered to be in an *outage* state when it is not available for use.

Where a *market participant* has load that is connected to a load rejection (L/R) scheme, the *market participant* must submit a request to the *IESO* to exclude this load from L/R through the *outage* process. These exclusions may occur when L/R load is unavailable due to *outages* or when additional load is transferred to a normal L/R feeder.

Generators may arrange for replacement *energy* in the form of imports to support their *planned outages*. (Ch. 5, S. 6 of the *market rules*). Under specific conditions, a *generator* who has submitted a *planned outage* has the option of arranging for replacement *energy* to support the *outage* in the event that the *IESO* would otherwise reject the *outage* or revoke *advance approval* for the *outage*.

Planned outage requests must:

- be submitted by the *market participant*;
- ~~be confirmed by the *market participant*;~~
- receive *Advance Approval* from the *IESO*; and
- receive *Final Approval* from the *IESO*.

1.3.5.1 Submission and Confirmation

In order to receive approval for planned outages, ~~general~~ *market participants* are required to submit, and in some cases confirm, *outage* requests in advance of the scheduled start date of the planned outage in accordance with the following table: ~~at least 33 days prior to the scheduled start date of the planned outage (Ch. 5 S. 6.3.1 of the market rules).~~

Table 1–1: Submission and Confirmation of Planned Outage Requests ~~Additional lead-time is required for long duration outages.²~~

<u>Approval being Requested</u>	<u>Submission Deadline</u>	<u>Confirmation Required?</u>	<u>Method of Confirmation</u>	
			<u>Participants using ONLORF</u>	<u>Participants using own Software</u>
<u>14-day advance approval**</u>	<u>16:00 EST, 21 calendar days in advance</u>	<u>Yes</u>	<ul style="list-style-type: none"> • <u>Electronically via the ‘MP Comments’ field</u> • <u>Verbally over the phone</u> 	<ul style="list-style-type: none"> • <u>Electronically via the ‘IOMS Comments’ field</u> • <u>Verbally over the phone</u>
<u>3-day advance approval</u>	<u>16:00 EST, 5 business days in advance</u>	<u>No</u>	<u>Not applicable</u>	<u>Not applicable</u>
<u>Pre-approval** (1-day advance approval)</u>	<u>16:00 EST, 2 business days in advance</u>	<u>Yes</u>	<u>Electronically using the “Request for Pre-approval” flag</u>	<u>Electronically using the “Outage Confirmed” flag</u>

~~**Market participants are also required to ensure these submissions meet eligibility criteria in order to receive approval. See sections 1.3.5.4.1 and 1.3.5.4.25 for details.~~

Outage submissions are ~~also~~ time stamped to determine precedence between *planned outages*. As a result, it is in the best interest of *market participants* to submit *outage* requests as soon as possible. *Market participants* can submit a revision to the *outage* submission at any time. However, this will result in a change to the *outage* time stamp in the event of change(s) to the nature of the *outage*, or a change in the start or end time(s) of the *outage*, which moves it outside of the original *outage* window. Every submission will automatically be assigned an *outage* identifier to be used for all written and verbal communication between the *market participant* and the *IESO*.

² See Section 1.3.3 “Timelines”.

~~Until the IESO outage management tools are changed to recognize 14 day and two day advance approvals, the market participant is required to specify the outage request as a 14 day advance outage request. For market participants using their own outage management program, this can be identified in the “IOMS Comments” field. For those using ONLORF, this can be identified in the “MP Comments” field.~~

Outage requests may also be submitted to the IESO for information purposes. Although information type outage requests are not subject to any submission deadlines, market participants are expected to provide reportable information as far in advance as possible. An example of this is curtailment information for Transitional Scheduling Generators (TSG's) or generators that are available but not operating. This information is requested by the IESO for the purpose of assessing *reliability*.

The IESO may also require information on the status of available fossil generators. This may include startup times and ramp rates. This information will be requested as required to assess reliability.

~~The IESO reviews the outage submission as soon as possible, and if it is unlikely to receive approval, contacts the market participant. The IESO may suggest re-scheduling to a time suitable to both the market participant and the IESO.~~ [MG1]

Typically, an *outage* request will include the following information:

- **Applicant:** The *market participant* that is submitting the information.
- **Single Point of Contact (SPOC):** The request will identify a single point of contact for the *market participant*, either an individual or a position, along with sufficient information to enable effective communication with that SPOC (such as phone, fax, or email). For *market participants* with direct input to IOMS, contact information for responsible parties will be on file with the IESO.
- **Outage Type:** The type of *outage* being requested; whether planned or forced and the nature of the *outage*, for example, a derating, a test, etc. Deratings are a type of *outage*.
- **Equipment/location:** Sufficient information will be provided to identify the specific piece of equipment, using the equipment identification and location confirmed by the IESO in the “Part 1.2: Facility Registration, Maintenance and De-Registration” procedure.
- **Date and Time:** The submission will include the requested start date, start time, end date and end time. The IESO systems model the status of equipment at a boundary time (on the hour). For example, if an *outage* is scheduled to start at 14:00, it will be considered out of service for hour ending 14:00 (starting at 13:00). In order to model *outages* accurately, the IESO systems will automatically add 2 minutes to *outage* start and end times.
- **Recall Time:** The submission will include recall time, which is the total amount of time that would be required to return the equipment upon a request by the IESO.
- **Periodic Cycle:** This information will describe the periodic nature of the *outage*; that is, whether the *outage* is continuous, continuous except for weekends, daily, etc.
- **Description:** General information about the *outage*, such as a brief description of the purpose and specific requirements or information pertinent to the *outage* (for example “Loading levels for a *generator* test”). Any regulatory requirements for an *outage* will be included in this information.
- **MW Impact:** The impact, if any, on real power resources which will result from the *outage*. This would be the direct impact associated with the specific piece of equipment rather than an indirect impact.

- **MVAR Impact:** The impact, if any, on reactive power resources that will result from the *outage*. This would be the direct impact associated with the specific piece of equipment rather than an indirect impact.
- ~~Costs of cancellation, deferral or recall (for generators, distributors and wholesale customers only): The sunk costs associated with equipment rentals, labour scheduling, etc. will be provided.~~
- **Comments:**
 - a. *Generators* shall use this section to notify the *IESO* of any intent to arrange for replacement *energy* in the form of imports. (Ch. 5, S. 6.3.6 of the *market rules*). When these arrangements are finalized, the *market participant* shall provide the following information:
 - The MW amount and duration
 - The intertie zone or zones through which the replacement *energy* is intended to be scheduled
 - The *registered market participant* associated with a *registered facility* that is a *boundary entity* that shall submit the *offers* and, pursuant to section 7.5.8A of Chapter 7, schedule the replacement *energy* if *dispatched* by the *IESO*.
 - Information regarding the *NERC E-tag* associated with the import, including a unique identifier, tag ID or tag format to be used.
 - b. *Market participants* are required to use this section to specify if the *outage* is being submitted as a *14-day advance approval* request.
 - c. *Market participants* are required to use this section when requesting a planned extension to an on-going *planned outage* by providing a cross-reference to the *outage* identification of the *outage* currently in progress. Note that this process is manual for *market participants* using their own *outage* management program and automated for those using ONLORF.

Please see the “[ONLORF User Guide](#)” available on the *IESO* web site for specific details on what is required for the Online Outage Request Form (ONLORF).

~~The *IESO* may also require information on the status of available fossil generators. This may include startup times and ramp rates. This information will be requested as required to assess reliability.~~

1.3.5.2 Replacement Energy to Support Planned Outages

A *generator* may notify the *IESO* that it will arrange replacement *energy offers* in the form of an import to support a *planned outage* request or when requesting an extension to an *outage* (Ch. 5, S. 6 .3.6 of the *market rules*). The *IESO* has no obligation to approve or accept any such arrangement.

~~A *generator* must confirm their intent to purchase replacement *energy* no later than 10:00 EST five business days prior to the planned start date of the *outage*. (Ch. 5, S. 6.4 of the *market rules*)~~

The *IESO* shall have the right to specify when *generators* will be afforded the option to arrange for replacement *energy* to support a *planned outage* (Ch. 5, S. 6 .3.9 of the *market rules*). The *IESO* shall make this determination based on the following:

- Reliability impacts on the *IESO-controlled grid* where the *planned outage* will be supported by replacement *energy*;
- Forecast capabilities of the interconnections for the duration of the *planned outage*; and
- Forecast *adequacy* of neighbouring jurisdictions for the duration of the *planned outage*.

The *IESO* may specify the *intertie(s)* where the replacement *energy* is to be scheduled in order to meet reliability requirements.

Where, based on the *IESO's* assessment of *security* and *adequacy*, the *IESO* permits the *generator* to arrange for replacement *energy*, the *IESO* shall determine the minimum MW amount to be arranged as replacement *energy* (Ch. 5, S. 6 .3.9 of the *market rules*) based on the following:

- The MW amount of replacement *energy* shall be no less than the forecast shortfall from the System Status Report (SSR) or Daily Security and Adequacy Assessment (SAA) as determined prior to *advance approval* being provided or based on more current information in the SSR or Daily SAA reports. This amount may be finalized by the *IESO* at the request of the *market participant* based on the latest information contained in SSR or Daily SAA reports at any time prior to 14:00 EST 2-3 *business days* prior to the commencement of the shortfall week(s);
- Where the shortfall occurs beyond the time period covered by the Daily Security and Adequacy Assessment report (14 days), the *generator* shall confirm its intent to purchase as per section 1.3.5.3-1 of this manual. The *IESO* will identify the weeks of shortfall and the maximum amount to be arranged for these weeks based on Weekly SAA or 18 Month Outlook reports prior to *advance approval* being provided. The *generator* should wait until the shortfall is detailed in the SSR or Daily SAA reports to identify the specific shortfall hours and amounts to finalize the amount of replacement *energy*. In any case, replacement *energy* must be finalized by the generator no later than 14:00 EST 2-3 *business days* prior to the commencement of the shortfall week(s); and
- Shall not exceed the amount of energy that was agreed to at the time of finalization or 500 MW.

The above information shall be submitted via the comments section of the outage form and includes:

- The intertie where offers will be submitted;
- A unique identifier associated with the NERC Tag or a unique NERC Tag ID;
- The MW amount to be offered and the duration of the offers (if finalized), and the registered market participant associated with a registered facility that is a boundary entity that shall submit the offers.

The duration that replacement *energy offers* to be submitted to the *IESO* as part of the pre-dispatch scheduling process shall be:

- No less than the period of the shortfall hours and for the week(s)³ of the shortfall; and
- No greater than the total duration of the *outage*.

For example, if a *generator's* 3-week 300 MW *outage* would be rejected by the *IESO* due to a forecast shortfall of 100 MW on the second Tuesday of the *outage*, the *generator* may arrange for 100 MW of replacement *energy* for all shortfall hours that existed on Tuesday, for each day of the second week of the *outage*.

Alternatively, under the same *outage* example as discussed above, if the *generator* or their delegate agreed, prior to the ~~confirmation-submission~~ deadline, to purchase replacement *energy* for the second week of the *outage* they may wait until 16:00 EST 2-3 *business days* prior to the commencement of the second week in order to finalize the amount and hours. By waiting to finalize the amount, the

³ For the purposes of *outage* replacement *energy*, week is defined as weekdays (Monday to Friday excluding holidays). Where shortfalls occur on a weekend or holiday, the *IESO* will identify this requirement to the *generator* and the *generator* will be required to arrange for replacement *energy* to cover these shortfalls.

generator accepts that the purchase amount may increase from the amount forecast when the *outage* was given *advance approval*.

When, for example, there is a shortfall of 300 MW created by a 100 MW unit *forced outage* and 2 units of 100 MW each on *planned outages*, both *facilities* with the *planned outages* would be offered the opportunity to purchase replacement *energy*. If the first unit (by time stamp) chose to purchase, it would have to purchase the entire amount required to clear the *forced outage* shortfall plus the unit on *outage* amount, i.e., a 200 MW replacement *energy* purchase. The second unit (by time stamp) would only be required to purchase 100 MW of replacement *energy* to cover the unit on *outage*. A total of 300 MW of replacement *energy* would be purchased by the two *market participants*.

Required Adequacy Level	
100 MW <i>Forced Outage</i>	200 MW Replacement <i>Energy</i> required to support <i>Planned Outage</i> (1)
100 MW <i>Planned Outage</i> (1)	
100 MW <i>Planned Outage</i> (2)	100 MW Replacement <i>Energy</i> required to support <i>Planned Outage</i> (2)

1.3.5.3 Confirmation

Outages submitted for *14-day advance approval* must be confirmed by phone (until further notice) by the *market participant* with the *IESO* between 33 and 21 calendar days before the start of the *planned outage*. If a *14-day advance approval* is not granted by the *IESO* and the *outage* was previously confirmed, the *outage* will automatically be confirmed for *two-day advance approval*, unless the *market participant* informs the *IESO* otherwise (Chp. 5 S. 6.4.4.A).

For *outages* submitted for *two-day advance approval*, the *market participant* must confirm the *outage* submission no earlier than 33 calendar days and no later than 10:00 EST, three *business days* prior to the proposed start date (Ch. 5 S. 6.4 of the *market rules*). Confirmations may be provided electronically through ONLORF, or through their own *outage* management program. At the time of confirmation, *generators* and *wholesale customers* must provide a final estimate of the costs of cancellation, deferral or recall. If necessary, the *IESO* may request additional information.

~~A generator must confirm their intent to purchase replacement energy no later than 10:00 EST three business days prior to the planned start date of the outage. (Ch. 5, S. 6.4 of the market rules)~~

Information relating to replacement *energy offers* shall be submitted no later than the confirmation deadline as defined above or, where the amount and duration of *offers* are not finalized, no later than 14:00 EST two *business days* prior to the commencement of the week(s) in which the shortfall occurs. This information shall be submitted via the comments section of the *outage* form and includes: the intertie where *offers* will be submitted, a unique identifier associated with the *NERC Tag* or a unique *NERC Tag ID*, the MW amount to be offered and the duration of the *offers* (if finalized), and the *registered market participant* associated with a *registered facility* that is a *boundary entity* that shall submit the *offers*.

To receive the time stamp precedence of the original *outage* submission, the *market participant* must confirm the *outage* submission by the deadline. *Outages* with late confirmation will receive a new time stamp based on the date and time of late confirmation. *Planned outage* submissions that are confirmed late will be treated as “short notice requests”, and will receive a reduced priority.

1.3.5.41.3.5.3 Advance Approval

Market participants with confirmed 14-day advance approval outages will be advised by the IESO whether or not the 14-day advance approval of the planned outage has been granted, no later than 14:00 EST on the last business day that is at least 14 calendar days before the scheduled start of the planned outage (Ch 5, S6.4.4.4A). If advance approval for the 14-day advance approval outage is not granted by the IESO it will still be assessed for ~~two~~three-day advance approval.

The IESO provides ~~two~~three-day advance approval (Ch. 5 S. 6.4.4 of the market rules) for confirmed outages or rejects them by 14:00 EST, ~~two~~three business days prior to the scheduled start date.

The IESO provides advance approval for outages submitted, confirmed and eligible for pre-approval by 14:00 EST, one business day prior to the scheduled start date.

The IESO will assess each submitted planned outage for approval and base its decision to approve or reject the planned outage primarily on whether the outage represents a risk to the reliability of the IESO-controlled grid. As well, the IESO will provide the market participant with an indication as to whether they will direct the operation of equipment to remove it from service. Market participants may be notified in advance by the IESO that their outages are at risk; however, this information may not be available to the IESO in all cases, due to changing system conditions.

The IESO will, based on its security and adequacy assessments, provide advance approval for ~~confirmed~~ outages supported by replacement energy where the market participant has confirmed their intent to purchase replacement energy and has, if required, provided the details of such replacement energy. The details of the replacement energy may be finalized at any time up to 14:00 EST ~~2-3~~ business days prior to the commencement of the shortfall week(s). The extent of the shortfall may not be known at the time of advance approval where the shortfall is identified more than 14 days in advance (beyond the Daily SAA timeframe). In this case, the generator should wait until the shortfall is seen in the Daily SAA report in order to finalize their arrangements for replacement energy. The generator will not be required to purchase replacement energy for shortfall weeks that were not identified at the time of advance approval.

A generator that had previously identified their intent to purchase replacement energy, may at any time prior to the outage commencement date, decide not to provide replacement energy offers and is under no obligation to do so. This will be done with the understanding that the outage may not be granted final approval based on the IESO's security and adequacy assessments.

An outage request is assessed for its potential impact on the IESO-controlled grid with respect to the following:

- reductions in operating security limits or changes in power transfer which encroach on a security limit;
- will or is reasonably likely to have an adverse impact on the reliable operation of the IESO-controlled grid;
- security limits available and adequate monitoring tools available;
- adequate system and area reserve;
- adequate pre/post contingency assessment, including interface flows, voltage levels, islanding concerns, limit violations, control actions;
- adequate ancillary services requirements;
- adequate Automatic Generation Control (AGC) requirements;
- System (global) and local area adequacy – capacity and energy;
- High-Risk or Emergency Operating State; and

- duplicated supply *facilities*.

~~1.3.5.5~~1.3.5.4 **Conditions for 14-day Advance Approval**

14-day advance approval outages are intended to provide a mechanism that will allow significant *outages* by nature of their size, cost or criticality to be given *advance approval* in order to enable *market participants* to reduce risks, better plan work and deploy work forces.

Market participants shall provide the *IESO* with *outage* plans following the timelines outlined in Section 1.3.3 (Ch 5, S 6.2). The *IESO* will assess each *14-day advance approval* request for *planned outages*, subject to the following conditions:

Generators

Market participants (generators) may submit one *planned outage* request per calendar year with respect to a specific *planned outage* for a *generation facility* for consideration by the *IESO* for *14-day advance approval* (Ch 5, S 6.2.2B). Resubmission of this request is permitted up to two additional times if:

- The *IESO* did not grant *14-day advance approval* for the *planned outage* on the first or second submission; and/or
- The *IESO* did grant *14-day advance approval* for the *planned outage* on the first and/or second submission but subsequently revoked the *advance approval(s)* or recalled the *planned outage*.

Secondary Deratings:

For those *generation facilities* with co-dependent *generation units* (e.g., combined cycle plant), then:

- Consideration shall be given by the *IESO* that the output of one *generation unit* (combustion turbine) may impact the output of a second *generation unit* (including the steam turbine), and that an *outage* of the first *generation unit* may cause a de-rating of the second *generation unit*.
- The linkage of the consequent de-rating of the second *generation (unit) facility* to the *outage* of the first *generation (unit) facility* shall not be treated as a separate application for *14-day advance approval*.

Aggregated Generation Facilities:

For aggregated *generation facilities* registered as a single resource (i.e. are physically or electrically integrated with a single physical connection to the *IESO-controlled grid*), consideration may be given by the *IESO* that the normal *outage* program may be for the individual *generation units* to have separate *outages* (Ch. 5, S6.2.2C). This could apply in cases, such as when: regular inspection *outages* are typically scheduled at different times to allow for the management of workload and spare parts, or, multiple *generation units* with a common connection point to the *IESO-controlled grid* may wish to take advantage of common or dependent scheduled *outages*.

Consideration for additional separate *generation unit outages* for *14-day advance approval* in excess of the limit of two planned *outages* per calendar year (Ch. 5, S 6.2.2C) is at the *IESO*'s discretion and is made on the basis of the technical characteristics and materiality of the *generation unit*, the planning requirements of the *generator*, and the administrative and assessment burdens on the *IESO* (Ch. 5, S 6.2.2D). As part of these considerations for these situations, written *outage* plans providing the supporting rationale must be submitted at least 90 days in advance of the start time of the *outage* request for the additional *14-day advance approval* (Ch.5, S 6.2.2). Regardless of the number of aggregated *generation facilities* a *market participant* may operate, submission of additional *generation unit outage* requests for consideration for *14-day advance approval* are limited to two per calendar year, until such time as their impact on *IESO* resources and tools are assessed or additional guidelines are published.

Transmitters, Distributors, Connected Wholesale Customers

Each applicable *market participant* including *transmitters*, *distributors* and *connected wholesale customers*, may submit to the *IESO* up to two *planned outages* per calendar month.

A submission that involves a multi stage project (i.e. several individual shorter-term *outages* that are sequentially linked, and /or dependent) which spans a period of 45 days or less (from the beginning of the first phase to the completion of the last phase) will be considered by the *IESO* as one planned *14-day advance approval outage* submission for the calendar month in which the majority of the work is performed.

To qualify as a multi stage project a written *outage* plan detailing the individual *outages*, their linkages and significance must be submitted to the *IESO* at least 90 days in advance of the start time of the first *outage* request for the *14-day advance approval* (Ch 5, S 6.2.2).

Granting *14-day advance approval* of multi stage projects does not necessarily guarantee automatic approval of each *outage*. The *IESO* will continue to assess each individual *outage's* impact on the *reliability* of the *IESO-controlled grid*, using the *14-day advance approval* criteria, while recognizing the timelines and need for continuity in the multi stage project.

Consideration for *14-day advance approval* for more than two multi stage projects annually remains at the discretion on the *IESO*, until such time as their impact on *IESO* resources and tools are assessed (Ch. 5 S 6.2.2H).

Exceptions

Market participants may submit to the *IESO*, planned *outage* requests in excess of the limits specified in Section 1.3.5.4+ and request the *IESO* to consider 14-day advance approval (Ch 5, S 6.2.2D, S 6.2.2 F, S 6.2.2H). These *market participant* requests are intended for unique or unusual requirements, and require justification by the *market participant*. The *IESO* is under no obligation to provide 14-day advance approval for these *outages* and will consider whether to proceed with the request based on tools and workload.

1.3.5.5 Conditions for Pre-approval

The *pre-approval* submission and assessment process is intended to provide market participants with scheduling flexibility and greater outage certainty for planned outages that are considered to have little to no impact on third party market participants and the reliability of the IESO-controlled grid. Requests for pre-approval are available to all market participants and are subject to eligibility criteria that vary by facility type. Details on the criteria for pre-approval and how they relate to the outage reporting requirements can be found in Appendix B.

A market participant may have one or more facilities 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.

In these cases, the IESO will inform the market participant which specific facilities are not eligible for pre-approval.

1.3.5.6 Short Notice Late Requests

Planned outages or planned extensions to outages that are submitted after the submission deadlines for three-day advance approval or, if eligible, for pre-approval will be treated as late requests and will not be assessed or approved by the IESO.

~~The *IESO* treats *outages* that are requested or confirmed after 10:00 EST, three *business days* in advance of the scheduled start date, as Short Notice Requests (SNRs). This includes requests for extensions to *outages* currently in progress. SNRs are to be followed up by a phone call to the *IESO* (Ch.5, S. 6.4.6 of the *market rules*).~~

~~Under these conditions, the *IESO* will endeavour to provide *advance approval* as quickly as possible; however, SNRs will not be approved until all planned requests (*outage* requests submitted at least three *business days* in advance) have been assessed. If the *IESO* deems that it does not have adequate time to properly assess the SNR, it will be rejected.~~

~~Where an *outage* request is submitted as a requirement to complete work to satisfy *reliability* compliance requirements, then the *IESO* will accept these requests on short notice and ensure that they are assessed.~~

~~SNRs are not eligible to receive compensation from the *IESO* in the event of revocation or recall.~~

1.3.5.7 Delays to Outage Start Time

Market participants must inform the IESO if they expect their outage to be delayed from starting as scheduled and whether the delay is expected to result in a planned extension. Planned extensions that cannot be submitted in accordance with Section 1.3.5.8 will be assessed by the IESO if the outage request was scheduled to start and end in the same day and can still be completed by the end of that

day (by 23:59 EST). Otherwise, the planned extension will be treated as a late submission and either rejected or revoked

If the IESO anticipates delaying the start time of an outage that was scheduled to start and end in the same day due to reliability concerns, but is informed by the market participant that the outage can still be completed by the end of the day (by 23:59 EST), the IESO will assess the extension prior to rejecting or revoking the outage request.

Less than 30-minute Delay: If the start time of an *outage* is delayed by less than 30 minutes, the *market participant* will notify the *IESO* of the delay by telephone. Where an *IESO-Controlled Grid element* is involved, the *IESO* will allow the appropriate operating security limits to be implemented and the network model will be updated as if the *outage* actually occurred.

Greater than 30-minute Delay: If the start time of an *outage* is delayed by more than 30 minutes, the *market participant* will notify the *IESO* of the delay by telephone, and update their *outage* request. This will ensure that for transmission *elements*, the network model will reflect the *outage* accurately. Operating security limits will not be implemented until the actual start time of the *outage*. This will also ensure that *generator outages* are accurately reflected in adequacy calculations.

Note: When a scheduled *intertie outage* starts or ends on the hour and impacts on the reliability of the *intertie* when the *intertie* is scheduled to maximum capability, the time of the *intertie outage* will be delayed by 5 minutes to allow schedule changes to be completed and the interface flows to reduce below the scheduling limit.

1.3.5.8 Final Approval

Market participants are required to contact the *IESO* prior to the scheduled start time of a *planned outage* in order to request the *IESO*'s final approval for the *planned outage*. When requesting final approval, due consideration should be given to any adjustments to generation patterns or system configuration required prior to removal of equipment from service and the time which may be required by the *IESO* to effect these adjustments (Ch.5, S. 6.4.3.3 of the *market rules*).

The *IESO* will, in general, provide final approval to a *planned outage* unless it foresees an adverse *reliability* impact, based on ongoing *security* and *adequacy* assessments. Requests for final release of equipment and the corresponding final approval from the *IESO* will normally be via telephone. The *IESO* will notify the *market participant* at this time if they wish to direct the operation of equipment to remove the *facility* from service.

As described in Section 1.3.5.6, if the market participant or the IESO anticipates delaying the start of an outage that starts and ends in the same day but is informed by the market participant that the outage can still be completed by the end of the day (by 23:59 EST), the IESO will assess whether final approval can still be provided prior to revoking advance approval of the outage request.

After removing equipment from service, a *market participant* is required to contact the *IESO* to confirm that the *outage* has commenced (Ch. 5, S. 6.4B.1 of the *market rules*).

1.3.5.9 Planned Extensions

If the actual return to service will exceed the planned end of the *outage*, *market participants* are required to resubmit a new *outage* request for the planned extension. The *market participant* must provide a cross-reference to the *planned outage* currently in progress. For *market participants* using their own *outage* management program, the *outage* identification of the on-going *planned outage* is manually entered in the "IOMS Comments" field of the extension request. For *market participants* using ONLORF, a cross-reference to the in-progress *planned outage* is automatically created in the "MP Comments" section of extension request.

The *IESO* will assess *outage* extension requests as new *outage* submissions, and will prioritize against other *outage* requests according to their time stamp. The *IESO* will reject an extension request if it is not in accordance with the submission requirements outlined in Section 1.3.5.1, would cause the ~~rescheduling-resubmission~~ of a ~~confirmed~~-*planned outage*, or the revocation or recall of a previously approved *planned outage*, or if it will have an adverse impact on the *reliability* of the *IESO*-controlled grid. Where the *IESO* rejects such extensions, the *market participant* shall use its reasonable best efforts to ensure the duration of the *planned outage* does not exceed the duration originally approved by the *IESO* or such longer period as the *IESO* may advise in rejecting the extension requested (Ch. 5, S. 6.4.7 and 6.4.8 of the *market rules*).

Generators may arrange for replacement *energy* to support extensions of *planned outages*. This replacement *energy* shall be treated separately from any previous arrangements prior to the *generator's* request for the *planned outage* extension. Therefore, the option to arrange for replacement *energy* in support of an extension to a *planned outage* shall be time stamped accordingly and will be assessed by the *IESO* in order of precedence with all other *outage* requests.

1.3.5.10 Forced Extensions

Market participants have the option of forced extensions, in cases where personnel safety or equipment damage may result. However, forced extensions for planned work will be reviewed for possible violations of the “Market Rules”.

Forced extensions must be electronically updated by the *market participant* and communicated via telephone to IESO Market Forecasts & Integration if identified by 15:00 EST, one business day prior to the planned end time of outage request or to IESO Shift Operations thereafter to IESO Shift Operations via telephone.

1.3.5.11 Re-scheduling

The *IESO* will work with the *market participant* to re-schedule and re-submit *planned outages* that do not receive *advance approval* due to *reliability* issues, in accordance with the submission requirements outlined in Section 1.3.5.1. The *IESO* will indicate a date and time when the *planned outage* is not likely to have an adverse *reliability* impact. The *IESO* will take into account the date and time preferences of the *market participant*. The priority of the *outage* will be indicated by the time stamp of the original *outage* submission using the following criteria:

- if it is within seven days of the planned start,
- if the *outage* is being re-scheduled to a date within nine days of the originally scheduled commencement date, and
- if it was not identified as at risk.

(Ch.5, S.6.4.17 of the *market rules*)

1.3.5.12 Revocation

The *IESO* has the right to revoke the *advance approval* of a *planned outage* in the event of *reliability* issues or to avoid recalling a *planned outage*. Revoked *generator, distributor* or *wholesale customer outages* may receive compensation (Ch.5, S.6.7 of the market rules) under certain conditions, if the costs of revocation were specified at the time of confirmation.

Generators have the option to arrange for replacement *energy* to preclude being revoked. The *IESO* shall assess the *outage* subject to the applicable criteria specified in Sections 1.3.5.2 and 1.3.5.14 of this manual. The *market participant* is not obligated to purchase replacement *energy* if it decides not to take this option.

In the event that an approved *14-day advance outage* may potentially be subject to revocation, the *IESO* may contact the *market participant* to identify opportunities for mitigation of potential costs.

In the event of revocation, the *market participant* has the option of ~~deferring-resubmitting~~ or canceling the *outage*. The *IESO* will endeavour to work with *market participants* to provide an appropriate time to begin the ~~deferred-resubmitted~~ *outage*.

If the *outage* is revoked by the *IESO* ~~prior to its commencement~~, the original time stamp precedence is maintained if the *market participant* ~~re-confirms-submits~~ the *planned outage* ~~and it is approved by the IESO within 5 business days of being revoked~~ (Ch. 5, S. 6.4.16-10 of the *market rules*).

1.3.5.13 — Deferrals/Cancellation

If an approved *outage* was revoked by the *IESO*, the *market participant* may choose to ~~resubmit~~ defer it to a later ~~time or day~~ in accordance with the submission requirements outlined in Section 1.3.5.1 (Ch. 5, S. 6.4.10 of the *market rules*). ~~If unable to choose a time, the market participant has the option of canceling the planned outage altogether, and then re-submitting the outage request at a later time.~~ [MG2]

~~Generator, distributor and wholesale customer outages may receive compensation under certain conditions, if the costs were specified at the time of confirmation. For more information, see Section 1.3.5.15 “Compensation for Revocation/Recalls” in this manual.~~ [MG3]

1.3.5.14 1.3.5.13 Recall

In the event of a *reliability* issue, the *IESO* has the right to recall a *planned outage* already in progress (Ch. 5, S. 6.4.11 of the *market rules*). *Market participants* will be expected to meet the recall times specified in the original submission for the *planned outage*. No *outage* will be recalled unless the *IESO* has revoked or rejected all other *planned outages* that have not yet started and which could eliminate the need to recall the *outage* already in progress.

Planned outages that were approved on the basis of arranging for replacement *energy* are not afforded preferential treatment. That is, they can be recalled by the *IESO* regardless of whether they had arranged for replacement *energy* or not. It should be noted, however, that where replacement *energy* is provided to cover the full capacity of a *generator* for the full duration of the *outage*, it is less likely to have *advance approval* revoked or be recalled for *adequacy* than if the full capacity was not purchased.

Where a *generator outage* is recalled, the *generator* or their delegate is under no obligation to continue to offer replacement *energy* once the *generator* becomes available.

Generators have the option to arrange for replacement *energy* to preclude being recalled. The *IESO* shall assess the *outage* subject to the applicable criteria specified in Sections 1.3.5.2 and 1.3.5.14 of this manual. The *market participant* is not obligated to purchase replacement *energy* if it decides not to take this option.

~~Generator, distributor and wholesale customer outages may receive compensation under certain conditions, if the costs were specified at the time of confirmation.~~

1.3.5.15 1.3.5.14 Determining Precedence of Conflicting Outages

The precedence for approval of *planned outages* that conflict is determined primarily on the respective dates that the *planned outages* were submitted (Ch. 5, S. 6.4.13 of the *market rules*). Earlier submissions will take precedence over later ones. It is therefore to the advantage of *market participants* to submit *outage* requests as early as possible. When *outages* conflict, the *IESO* will decide which of the *outages* will be approved based on the following rules of precedence:

1. All *planned outage* submissions are time stamped by the *IESO* on receipt. *Outage* requests will be approved based on the date of receipt of the initial request – earlier requests receiving priority – as long as the *market participant* has not subsequently changed details that affect the nature of the *outage* or changed the start date and/or time outside of the originally requested time window.
2. If a *market participant* has changed the scope, or time window, of a previously submitted *outage* request, the date of the most recent change will be the time stamp date by which the *IESO* determines the precedence for approval. The one exception is where a *market participant* has shortened the duration of a *planned outage* and remains within the original time window. In this case, the initial submission date will be used to determine precedence.
3. If the *IESO* revokes *advance approval* or denies final approval to an approved *planned outage*, and that *planned outage* is subsequently ~~rescheduled-resubmitted~~ by the *market participant* and approved by the *IESO*, the original date of precedence, prior to the revocation or denial will be the one used by the *IESO* to determine precedence as long as the outage was resubmitted within 5 business days of being revoked (Ch.5, S.6.4.16 of the market rules). Re-scheduling will be completed as described in Section 1.3.5.10 of this manual.
4. *Planned outages* that have been rejected will retain their original time stamp as long as the outage is resubmitted within 5 business days of being rejected, and it was the first time that the outage received a rejection (Ch.5, S.6.4.16 of the market rules). ~~If the outage had been previously rejected the time stamp will be reset when resubmitted, until the originally proposed commencement date. If the cause of rejection is removed before the submitted commencement date and the outage is subsequently approved, the original time stamp will apply for the planned outage.~~
If a market participant reschedules a rejected outage request as indicated in Ch. 5, S. 6.4.17 of the market rules, the original time stamp precedence shall be maintained.[MG4]
5. Where several *outages* may need to be revoked or rejected in order to ensure that *reliability* is satisfied, time stamp priority will be used.

In the event that more than one *outage* belonging to a single *market participant* must be rejected, re-scheduled, revoked, ~~deferred~~ or recalled, that *market participant*, in discussion with the *IESO*, shall have the option to ~~defer, resubmit~~ reschedule or cancel *outage* requests for their equipment as required. This action may result in affecting fewer *outages*, for example deferral-cancellation of an *outage* to one *generator* of larger capacity rather than several *generators* of lesser capacity. The same applies to a transmission circuit that imposes a greater restriction to a system interface than several other less impactive-impactful circuits. The *market participant* must accept that by taking such action, it may remove the requirement to reject, ~~re-schedule~~, revoke, or recall *outages* to equipment belonging to other *market participants*.

Where an *outage* conflict exists and one or more conflicting *outages* are rejected or revoked, the *IESO* will facilitate communications between the parties to allow negotiations to occur, while upholding confidentiality provisions in the *market rules*. This communication will be initiated by a *market participant* contacting the *IESO* and requesting information on conflicting *outages*. If requested, the *IESO* will contact the *market participants* with time-stamped precedence to determine if they wish to negotiate with the *market participant* who initiated the request. Any negotiations that may follow will not involve the *IESO* and may result in an approved *outage* being cancelled by a *market participant* in order to allow approval of previously rejected *outages*.

Generators that have arranged replacement *energy* to support their *planned outage* are assessed based on time stamp priority according to the following:

- *Generators* who have arranged for replacement *energy* to support a *planned outage* will receive priority over *outages* with timestamp precedence that have chosen not to arrange replacement *energy* (and would otherwise be rejected).
- Where more than one *generator* has indicated that they wish to arrange for replacement *energy* and, because of *security* or *adequacy* concerns, *advance approval* cannot be given to both the *generators*, the *generator* with time stamp precedence will be given priority.
- Where a *generator* is identified to be at risk after the replacement *energy* confirmation timeline (~~16:00~~ EST 5 *business days* prior to the planned start date of the *outage*) but before the *advance approval* timeline (16:00 EST ~~2-3~~ *business days* prior to the start date of the *outage*), and then confirms the intent to arrange replacement *energy* before the *advance approval* timeline, the *generator* shall maintain its time stamp position relative to *outages* that confirmed replacement *energy* before the confirmation timeline.
- Where a *generator* has to be revoked or recalled due to *energy* shortfalls identified after the *advance approval* or final approval was granted, the time stamp precedence will be given priority, regardless of whether the approval is based on arranging replacement *energy*.
- Where a *generator* indicates that they intend to arrange for replacement *energy* and they do not have time stamp precedence over other *generators* who may elect to arrange for replacement *energy* they will be notified that they may not be eligible. A final decision regarding eligibility cannot be made until the *outage* ~~confirmation-submission~~ deadline at ~~16:00~~ EST 3-5 *business days* in advance of the start of the *planned outage*. In this situation, it would be prudent for the *market participant* without timestamp precedence to wait until the ~~confirmation-submission~~ deadline before arranging replacement *energy*. See Figure 1–3 below.

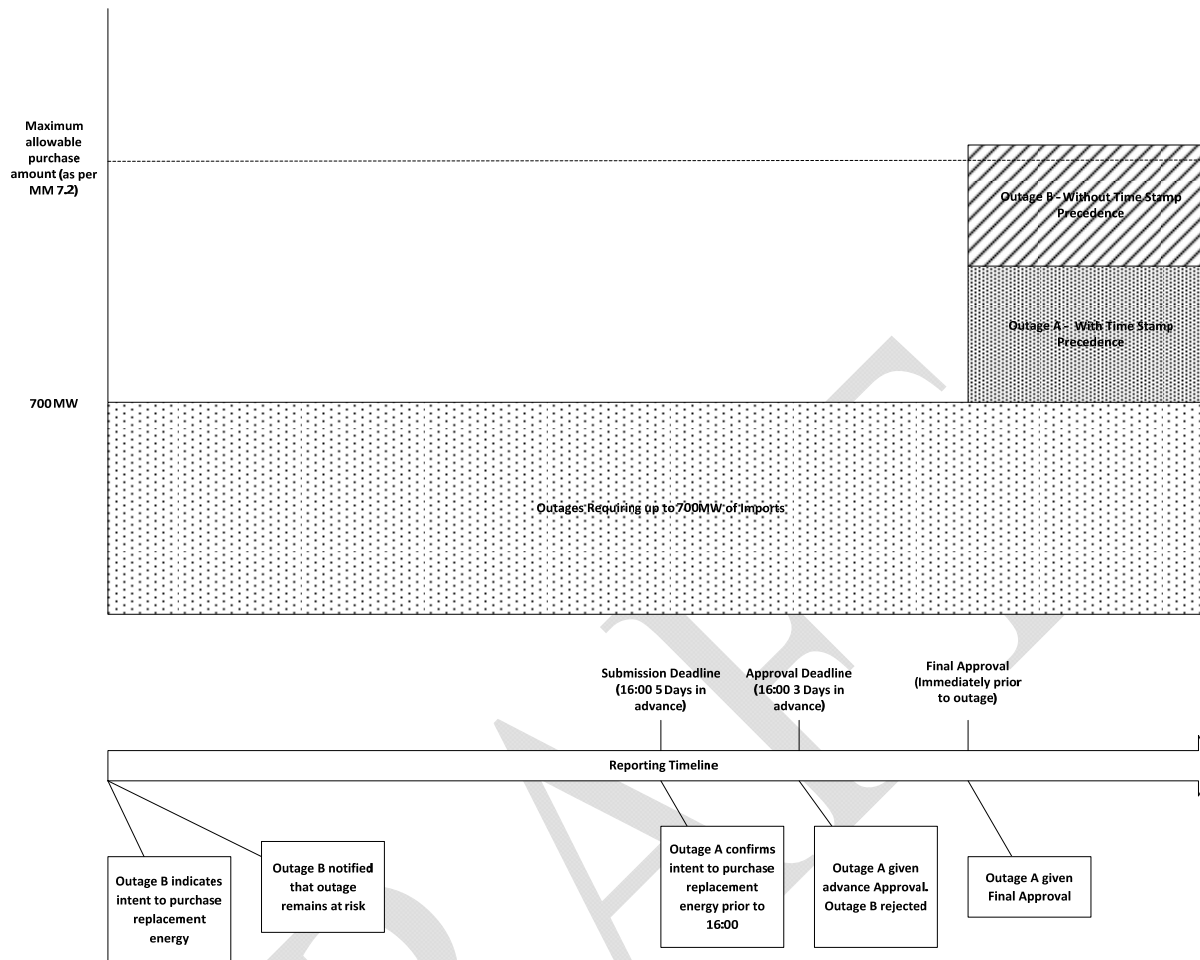


Figure 1-3: Purchasing Replacement Energy - Precedence of Outages

1.3.5.16 1.3.5.15 Outage Compensation

Generators, distributors and wholesale customers whose planned outages are revoked or recalled by the IESO are entitled to compensation for expenses associated with the revocation or recall, subject to the following conditions (Ch. 5, S. 6.7.2 of the market rules):

- the outage was approved in advance by the IESO;
- the outage was revoked or recalled because of a material error in the IESO's demand forecast, a failure of generation facilities within the IESO control area, a failure of facilities forming part of the IESO-controlled grid, or a failure of interconnection facilities; and
- ~~the out-of-pocket expenses were identified in the market participant's original planned outage submission; and~~
- 'out-of-pocket' expenses exceed \$1000.00.

Under the market rules, only out-of-pocket costs are eligible for compensation. These are sunk costs that are unrecoverable and will have to be repeated by the market participant in order to complete the outage. Items such as overtime costs and equipment rentals are eligible. ~~Where a market participant is eligible for compensation for deferral, the deferral costs will be capped at the cancellation cost reported at the time of confirmation.~~

Generators, whose planned *outages* have *advance approval* revoked or are recalled even though they had successfully arranged for replacement *energy*, are eligible for compensation. However, the *generator* will not be eligible for compensation for any lost opportunity costs associated with the import *energy* that was secured through the arranged replacement *energy*. ~~The *generator* is eligible for compensation for out-of-pocket costs associated with the arrangement, provided that these costs have been identified to the *IESO* in advance, in accordance with this section. Where the *generator* chooses to wait until 14:00 EST 2 *business days* prior to the commencement of the shortfall week(s) to finalize their arrangements for replacement *energy*, they may submit their compensation costs at that time.~~

Claims for compensation must be submitted using the “Request for Outage Compensation” (IMO-FORM-1350) that is available on the *IESO* Web site (See Appendix A, Forms), and substantiated by receipts or statements detailing each line item. These claims will be subject to audit and verification by the *IESO*. ~~Costs are not allowed to exceed the costs specified by the *market participant* at the time of the *outage* confirmation.~~

Transmitters are not entitled to compensation for any costs, losses or damages associated with the revocation or recall of a *planned outage* (Ch. 5, S. 6.7.1 of the *market rules*). ~~*Generators, distributors and wholesale consumers* will not be entitled to any compensation for *planned outages* that are revoked or recalled if the *planned outage* was approved on a short notice basis.~~

A *market participant*, whose 14-day *advance approval* of a *planned outage* of its *generation facility* is granted and then revoked by the *IESO*, is not entitled to compensation as detailed in this section 1.3.5.15, if (Ch 5, S 6.7.3A) if:

- the *planned outage* was revoked as a result of a *forced outage* of a *generation facility* owned by that registered *market participant*, which occurred before 14:16:00 EST on the ~~second-third~~ *business day* prior to the scheduled start of the *planned outage*, or
- the *planned outage* was revoked as a result of a delayed return to service from a *planned* or *forced outage* of a *generation facility* owned by that registered *market participant*, regardless of the time that the delay was identified to the *IESO*.

Each act of revocation or recall by the *IESO* shall be treated separately for compensation purposes.

1.3.6 Planned Shutdowns

Under the “Market Rules”, *wholesale customers* and *distributors* are required to notify the *IESO* in the event of *planned outages*, closures, tests, etc. that result in a 20 MW change to the average weekday *demand* or supply. If the **normal** demand fluctuations are more than 20 MW, then it is not necessary to report this fluctuation to the *IESO*. This requirement applies, for example, to large industrial customers that periodically shut down plants for maintenance, holidays, etc. In addition this requirement applies to *distributors* with embedded loads or generation that are not registered with the *IESO*, and do not otherwise report *outages*. This requirement is based on individual unregistered embedded *facilities*, rather than aggregate *demand* for the *distributor* as a whole. (*Outages* for registered embedded *facilities* must be reported by the *registered market participant*.)

Market participants are required to submit information about the planned shutdown in advance, through IOMS or the *IESO* Web form. However, approval from the *IESO* is not required; the *outage* is supplied for information purposes only.

1.3.7 Demand Control Actions

Under the “Market Rules”, *distributors* and *transmitters* are required to notify the *IESO* in the advance of *demand* control actions. *Demand* control actions include: *demand* management, voltage reductions and disconnections.

In the event of plans for *demand* control actions, the *market participant* is required to submit *outage* information to the *IESO*. Submissions must be entered by 10:00 EST each day, for the following day. Any *emergency* plans subsequent to this deadline must be submitted immediately. *Market participants* should use either ONLORF or their own *outage* management program to submit “information requests” to the *IESO* identifying these control actions.

The following information is required:

- the proposed date, time, and duration of the cuts by *connection point* on the *IESO-controlled grid*, by hour; and
- the proposed MW reduction of *demand* by *connection point* on the *IESO-controlled grid*, by hour.

The actual decrease in MW reduction of *demand* achieved through *demand* control actions must be communicated directly to the *IESO* Control Room, at the time that the reduction is implemented.

1.3.8 Forced Outages

Forced outages are *unplanned outages* due to equipment failure, or where the *market participant* anticipates that continued operation poses a real and substantial risk of damage to its equipment, to the safety of its employees, the public, or the environment. *Forced outages* include deratings and limitations.

Market participants are required, as far in advance as possible, to notify the *IESO* of any *forced outage*, using their *outage* submission tools and, where necessary, by telephoning the *IESO*. Forced outages submitted to the IESO ahead of the day that they are required to start may be coordinated between the IESO and the market participant to occur ahead of the originally proposed date and time in order to maintain the reliability of the IESO-controlled grid. Such coordination will constitute an IESO approval of the forced outage as long as the market participant agrees to the coordination.

Where the *forced outage* has already occurred, the *market participant* is required to promptly telephone the *IESO* to notify them of the occurrence of the *outage* and to provide a brief description of the nature and causes of the *forced outage* (Ch. 5, S. 6.3.4 of the *market rules*) and then electronically submit an *outage* request. The *IESO* will ensure that the *outage* submission is correct and where time permits will coordinate the *outage* with other *planned outages*.

Whenever, in the opinion of the *IESO* the *forced outage* raises or may raise reliability concerns the *IESO* may, at its discretion, require the *market participant* to provide a detailed description of the nature and causes of the *forced outage* within 48 hours, or within such longer period of time as agreed to by the *IESO*, following the start of the *forced outage* if required by the *IESO*. The description must include the steps the *market participant* intends to take to prevent any reoccurrence of the circumstances that led to the *forced outage* (Ch. 5, S. 6.3.5 of the *market rules*). While the *IESO* considers a certain number of *forced outages* as the inevitable consequence of equipment failure, excessive incidents of *forced outages* by a *market participant* may be considered evidence of inadequate maintenance planning or deliberate “gaming” of the *outages* process and, as such, may be reported for compliance monitoring.

Where a transmission element is forced out of service causing a *generator* to be disconnected, the *generator* is not considered to be on a *forced outage*. Only the *transmitter* is required to submit *forced outage* information.

1.3.9 Generator Deratings

Generator deratings whether planned or forced are required to be reported through the *outage* process when they represent a material reduction in rated output. Deratings can occur for many reasons including; equipment *outages*, equipment failure or water or ambient conditions. A material reduction in *generator* output is a derating equal to the greater of 2% of rated output or 10 MW. This criteria is applied on a resource basis (a resource can be a single *generator* or an aggregate of *generators* as defined during *facility* registration).

As soon as the *generator* becomes aware of a component failure, operational limit or other circumstance (Ch. 5, S. 3.6 and 6.3 of the *market rules*) that will cause the generating unit to be derated (equal to the greater of 2% of rated output or 10 MW), or cause the unit to trip if no control actions can be taken before the condition can be repaired as assessed by the *generator*, the *generator* should promptly inform the *IESO* via phone and as per *outage* management process. The *IESO* may use this information in *security* and *adequacy* assessments and, where alternative modes of operation are provided, the *IESO* may advise the *market participant* on the related *reliability* impact.

As soon as the *generator* becomes aware of a new potential change in unit/plant condition that can cause the loss of multiple units at its *facility* based on its internal assessment/forecast, the *generator* should promptly inform the *IESO* via phone. The *IESO* may use this information in *security* and *adequacy* assessments and where alternative modes of operation are provided, the *IESO* may advise the *market participant* on the related *reliability* impact.

All deratings that occur, including those resulting from *generator* start-up or shutdown, are required to be reported when they meet the materiality criteria above. [A generator wishing to ramp down for a planned outage can achieve this by either of the following two methods:](#)

1. [If a planned outage request is in place for the generator, the generator will be ramped down at the submitted ramp rate at the start of the hour in which the outage commences. If the outage starts at 14:30 the generator will be ramped down via dispatch instructions starting at 14:00.](#)
2. [Submit derate requests electronically to reflect the capability of the generator as it ramps down. These deratings should be submitted in advance and represent increments of no more than the greater of 2% of rated capacity or 10 MW.](#)

Normal loading delays during a *generator* start-up are not considered a derating if the *generator* is able to ramp towards full load without significant holds. Where a *generator* must hold at a specific load for >30 minutes during start-up, this should be considered a derating. [Deratings required to support a generator ramp down or start-up are not subject to the submission requirements outlined in Section 1.3.5.1, however still require IESO approval prior to starting.](#)

Fossil *generators* have known start-up delays (i.e., time required to prepare and synchronize units) that may range between 2-12 hours, depending on the type of fuel and the condition of the units (cold, warm or hot). These units are available to inject power into the *IESO-controlled grid* (i.e., they are not *outaged*) and therefore the pre-dispatch calculation may schedule them when they are offered into the market. However, the current optimization tool for pre-dispatch does not take into account the inherent start-up delays and may schedule the units without consideration to the time required to prepare and synchronize.

If such fossil units are scheduled by pre-dispatch within a timeframe that does not accommodate the start-up delay, *market participants* are obligated to cancel (remove) their offers for the hours in which the units are not able to synchronize to the *IESO-controlled grid*.

Within the restricted and mandatory windows, the CRO shall allow these offers to be removed, since it poses no risk to the *reliability* of the *IESO-controlled grid* and is an accurate reflection of the unit's capabilities. A *Generator* whose *outage* or derating results in a change of the greater of 2% of rated output or 10 MW, is not required to revise their offers if the derating/*outage* is expected to last less than 2 hours. Where their offer had been altered to reflect the capability of their resource, a quantity change or new offer will be allowed by the *IESO*. This change should reflect the capability of the resource in the predispatch schedule. Changes to offers in the mandatory and restricted window will not affect the current hour.

~~1.3.10~~ ~~Planned Generator Outages~~ [MGS]

~~A generator wishing to ramp down for a planned outage can achieve this by either of the following two methods:~~

- ~~3. If a planned outage request is in place for the generator, the generator will be ramped down at the submitted ramp rate at the start of the hour in which the outage commences. If the outage starts at 14:30 the generator will be ramped down via dispatch instructions starting at 14:00.~~
- ~~4. Submit derate requests electronically to reflect the capability of the generator as it ramps down. These deratings should be submitted in advance and represent increments of no more than the greater of 2% of rated capacity or 10 MW. [MGS]~~

~~1.3.11~~ ~~1.3.10~~ System Tests

Power system tests (Ch. 5, S. 6.6 of the *market rules*) typically involve abnormal configurations of the power system, extensive coordination during work, or unusual precautions to ensure the *reliability* of the *IESO-controlled grid*. Requests for tests must be submitted to the *IESO* as *outage* requests; the same rules regarding confirmation submission, approval and time stamp precedence apply. Tests covered by these requirements include, but is not limited to the following:

- the deliberate application of short circuits;
- *generation unit* and *transmission system* stability tests;
- planned actions which cause abnormal voltage, frequency or overloads;
- planned abnormal station or system setups with inherent risk; and
- tests of equipment for which there is some real or potential risk of widespread impact on the *IESO-controlled grid*.

~~Examples of requirements that will not be considered power system tests and should be arranged in the normal manner for outages include:~~

- ~~• routine generation unit rejections;~~
- ~~• routine protection and control maintenance and testing;~~
- ~~• routine commissioning tests; and~~
- ~~• work or testing on hydraulic waterways and storage.~~

The entity that has been assigned responsibility for the work or tests shall recommend whether or not it constitutes a system test. If there is any doubt, the *IESO* should be consulted for a decision. The *IESO* may also declare a particular *outage* request to be a system test, even if the *applicant* has not done so.

In order to gain approval for the test, the *market participant* arranging the test must electronically submit an *outage* request, which shall include, at a minimum, as much of the following detail as possible:

- equipment involved;
- the relevant details of contracts or agreements as they relate to the test activities;
- preferred and alternative dates and times for the conduct of the test activities;
- unusual system conditions or setup required;
- any required changes in setup, power flow, voltage, frequency, etc., that could impact on the *reliability* of the *IESO-controlled grid*;
- details of special readings, observations, etc., to be recorded by operating personnel; and
- identity of personnel who are directly involved in the test, their location and the means of communicating with them.

Where required, arrangements shall be made for a Test Coordinator to be appointed. The name and role of the Test Coordinator shall be specified in the *outage* submission. If the *outage* submission involves additional *outages* or safety code procedures, the requestor shall ensure that *outage* requests are submitted by the appropriate *market participant(s)*.

The *IESO* shall be responsible for coordinating power system tests and for providing approval to proceed with the *outage* request. This may require meeting(s) with the requestor and affected groups for clarification and to establish the details of the test.

A test will not be approved if the *IESO* determines that the test will have an ~~adverse affect~~adverse effect on the *reliability* of the *IESO-controlled grid* or on the operation of the *IESO-administered markets*. Approval and details of the *outage* request for a power system test shall be forwarded by the *IESO* to the requestor, and to other affected *market participants*, ten working days in advance of the scheduled date. Any change to the *outage* submission after the approval has been issued shall be negotiated with *IESO* and affected *market participants*.

Advance approvals for *outages* will be provided in the normal manner. System impact will be assessed as part of SAAs carried out by the *IESO*. Final approval will be granted on the condition that favourable system conditions will prevail at the arranged time.

Final approval to proceed with the test shall be provided by *IESO* just prior to the starting time. The *IESO* may revoke or recall the arrangements if conditions that could compromise the *reliability* of the *IESO-controlled grid* develop.

When appointed, the Test Coordinator shall be assigned the authority to defer, limit, or stop the System Test due to unfavorable system conditions or test results. The Test Coordinator shall monitor test conditions in the area involved, consider changes and act as a communicator and in other roles as agreed upon in the *outage* submission.

Examples of requirements that will not be considered power system tests and should be arranged in the normal manner for outages include:

- routine generation unit rejections;
- routine protection and control maintenance and testing;

- routine commissioning tests; and
- work or testing on hydraulic waterways and storage. [MG7]

These types of tests are eligible to be requested for pre-approval as long as they meet the criteria for pre-approval as describe in appendix B.

1.3.121.3.11 Hold-Offs (Blocking Automatic Reclosure)

Hold-offs are restrictions in the use of transmission lines to facilitate maintenance activities. Automatic reclosure is blocked and manual reclosure is restricted until contact is made with the hold-off party. Hold-offs are processed in the same manner as *outages*. Single and multiple element hold-offs can typically be processed as Short Notice Requests for pre-approval. However, multiple element hold-offs often imply exposure to a contingency that is beyond the normal reliability criteria. Consequently, they must be included as part of SAAs and the standard 33 days notice will apply.

1.3.131.3.12 Returning Equipment to Service

Market participants are required to:

- notify the *IESO* when a *planned* or *forced outage* has been completed;
- request *IESO* approval immediately prior to the return to service of any equipment or *facilities*;
- receive approval to return the equipment to service. The *IESO* will notify the *market participant* at this time if they wish to direct the operation of equipment to return it to service; and

Note: *Outages* impacting *inertie* import/export transfer capabilities ending on the hour will have the scheduling limits extended by one hour. This is to prevent exceeding scheduling limits of an *inertie* during the ramping of the *inertie* which is scheduled to begin 5 minutes prior to the expected return to service of the element/equipment on *outage*.

- notify the *IESO* when equipment that was the subject of a *planned* or *forced outage* has been fully restored to service.

1.3.141.3.13 New and Replacement Facilities

Market participants are required to report an *outage* prior to:

- Energization of any new *facility* ; or
- Energization of any new *facility* equipment impactive on the *reliability* of the *IESO-controlled grid* ; or
- Returning into service replacements of any existing *facility* equipment impactive on the *reliability* of the *IESO-controlled grid* (Ch. 5, S. 6.4 A of the *market rules*).

Outage submission that request the energization of new facilities are not eligible to be requested for pre-approval. In addition, ~~Market participants should~~ must ensure that all applicable facility registration requirements are complete, prior to the commencement of any such *outage*.

1.3.151.3.14 Testing of Ancillary Services

The *IESO* shall test facilities that will or do provide ancillary services to the *IESO-controlled grid*. Tests must be successfully completed prior to entering into a contracted ancillary services contract,

for a facility providing regulation/AGC and black start facilities and at least annually thereafter throughout the contract period. For contracted providers of the Reactive Support and Voltage Control Service the *IESO* may require tests in accordance with Chapter 5, Section 4.9 of the *market rules*.

Performance standards and testing procedures are prescribed in the following “IESO – Ancillary Service Provider (ASP) Agreements”.

“IESO – Ancillary Service Provider (ASP) Agreement for Procurement of Certified Black Start Facilities”

Schedule 2 of this Agreement stipulates the required blackstart performance standards, with Schedule 3 articulating the required testing procedures.

“IESO – Ancillary Service Provider (ASP) Agreement for Regulation/AGC Services”

Schedule 5 of this Agreement outlines the expected AGC ramp rates and AGC capabilities for contracted regulation/AGC facilities, and Schedule 2 stipulates the required testing procedures.

“IESO – Ancillary Service Provider (ASP) Agreement for Procurement of Reactive Support and Voltage Control Services”

The performance standards for contracted reactive support and voltage control are stipulated in Chapter 4, Appendix 4.2 of the *market rules*. Testing is described in Schedule 3 of the Agreement.

1.3.15.11.3.14.1 Scheduling Tests of Facilities Providing Ancillary Services

Tests of facilities providing *Ancillary Services* shall be arranged and scheduled at a time mutually agreeable to both the ASP and the *IESO* in accordance with the *outage* scheduling processes outlined in this *market manual*. Tests are to be initiated through the *outage* management work flow process depicted in Section 2.1, Figure 2-1, at Task 01.

1.3.16 1.3.15 Generator Tests

Generator testing is divided into two types:

Routine or Normal Performance Testing

- Testing would include short-term scheduled tests, in-service tests, testing of derated units at levels above the derated levels, testing of units currently on *outage*, etc.

Commissioning or Returning From Long-Term Outages

- Testing would be more extensive for units returning from long-term *outages*, laid-up states, for commissioning requiring re-verification of equipment, or for commissioning new *generation units*.

The *IESO* will attempt to provide *market participants* with flexibility for all **planned** testing provided that there are no reliability concerns and the scope of the test, including any potential changes, were identified by the market participant at the time of the original submission in accordance with Section 1.3.5.1. This approach ensures that the IESO has an opportunity to reliably assess the fluid nature of testing for the entire test period, and in exchange, provide flexibility for changes made to the test plan on shorter notice. Normally, dispatchable generators are expected to offer at an appropriate price to be scheduled for the full capability of the test unit, and use *outage* requests to derate the test unit to the required test output levels.

Outage reporting requirements for generator testing as detailed in Appendix B, *outage* submission and approval timelines as described in Section 1.3.3, and as per Section 1.3.11 on system tests all apply. These are consistent with all *outage* reporting requirements.

~~1.3.16~~ ~~11.3.15.1~~ **Routine or Normal Performance Testing**

During a *forced outage*, a forced extension to a *planned outage*, or during the originally approved time window of a *planned outage*, it may be necessary for the equipment to be re-connected to the *IESO-controlled grid* for the purpose of testing equipment performance⁴.

In order for the *outage* requests and tests to not have conflicting time spans in IOMS, the following procedure should be followed:

- the original *outage* request has its end time revised to coincide with the start of the first test.
- the first test request has a start time and an end time for the first test. The start time corresponds to the end time of the *outage* in the first *outage* request.
- another or second *outage* request must be created to accommodate all the *outage* time required in the original *outage* request and has a start time corresponding to the end time of the first test request. The end time corresponds to the end time of the original *outage* request, or
- subsequent pairs of *outage*/test requests with matching start/end times to cover all the remaining tests as required.

During periods of generator testing when returning from a *planned outage*, that *generation unit* is considered unavailable by the *IESO* for the purposes of *security* and *adequacy* assessment.

1.3.15.2 Testing During Forced Outages

Testing required during a forced outage or a forced extension to a planned outage are not subject to the submission requirements outlined in Section 1.3.5.1 in order to expedite the return to service of the equipment. However these requests must still receive IESO approval prior to starting.

1.3.15.3 Testing During Planned Outages

Testing required during a planned outage Dispatchable generators, whose generation units with planned outages returning to service and are conducting performance testing, must be requested shall provide the IESO with a loading profile before synchronization no later than 1016:00 EST, three five business days before the scheduled start date of synchronization (Ch 5, S 6.6.1(MG8)). If the testing starts and ends in the same day or has a recall time of ≤ 15 minutes it can be requested for pre-approval no later than 16:00 EST, 2 business days in advance of the test start date. Market participants whose generation units with planned outages returning to service and are conducting performance testing, shall provide the IESO with a loading profile before synchronization. Changes to the testing will be assessed up to an including real-time provided the potential for change was originally identified at the time of submission and received advance approval.

Self-scheduling, transitional and intermittent generators, whose generation units with planned outages returning to service and are conducting performance testing, shall submit their schedules to the IESO according to their test schedule or no later than 10:00 EST, three business days before the scheduled start date of before synchronization (Ch 5, S 6.6.1).

In the case of a *planned outage*, *outage* requests for the entire *outage* period will have their time stamp manually set by the *IESO* to that of the first *outage* request. Test requests will be assigned a time stamp upon receipt at the *IESO* and will be assessed accordingly. No *outage* assessment will be

⁴ Includes in-service tests, testing of derated units at levels above the derated levels, testing of units currently on outage, etc.

carried out for the second or subsequent *outage* requests provided the overall *outage*/test duration does not exceed the original requested *outage* period.

Where testing is extensive and is expected to continue for a minimum of 2 days, the *market participant* may request that the *IESO* treat the *generator* as a commissioning *generation facility* (Ch. 7, S. 2.2 A of the *market rules*). Requests to be treated as a commissioning *generation facility* should be made to the *IESO* through the *outage* process and to Facility Registration. Requests of this nature should be made with a minimum of 6 *business days* notice.

For tests of hydroelectric *generators* within an aggregate, the *market participant* will submit a test profile as part of the *outage* request. The aggregate will be offered to reflect the aggregate output during testing. The aggregate total generation will be maintained at the offer/*dispatch* level as the test *generator* loads or unloads.

Market participants having aggregate units with one of the units being tested would offer, ensuring that the associated price is appropriate to be scheduled, the maximum achievable output for the aggregate, excluding the testing unit and compensate for testing by adjusting units within the aggregate. Non-aggregated *generators* are required to offer the full capability of the facility and use *outage* requests to derate the facility to the appropriate test level (Ch 5, S 6.6.7).

~~1.3.16.21~~ 1.3.15.4 Tests with Immediate Recall

Often *generator* tests are conducted where the test can be suspended and the *generator* is then capable of re-loading. These tests are treated differently than *generator* deratings in that no *outage* for a derating is required, ~~however, instead~~ the *market participant* is required to submit an *outage* request ~~(for information)~~ in accordance with the submission requirements outlined in Section 1.3.5.1 indicating the planned test quantities as described in the example below.

For any hour in which a *market participant's generation facility* is expected to undergo a test, the *market participant* must submit an economical offer for the generation that equals the expected hourly average energy delivery of that generating unit. For example, if in one hour the generating unit expects to generate 250 MW for 20 minutes, 175 MW for 10 minutes and 135 MW for 30 minutes, the *generator* would submit an offer for the hour of $(250*20 + 175*10 + 135*30) / 60 = 180$ MW at an offer price that would ensure that the unit was scheduled to deliver 180 MW. The real-time constrained sequence will recognize the actual output of the unit and attempt to dispatch the unit to 180 MW. However, since the unit is testing, it would not move to the dispatch target, and the *IESO* operator may have to intervene to compensate for the behaviour of the testing unit.

Where the test is instantly recallable, these *generators* are allowed to participate in the *operating reserve* market. This is acceptable as long as the *market participant* offers the energy as outlined above (and below) and if the *market participant* ensures that the *operating reserve* quantity offered each hour meets the following criteria:

(maximum energy expected to be produced during the hour) + (*operating reserve* quantity offered during the hour) = (maximum amount that the unit can produce that hour).

Using the example above, suppose that the 500 MW *generator* during testing can produce no more than 450 MW. Then, the *market participant* would:

offer 180 MW of energy at a price low enough to ensure that this energy is scheduled (as above);

offer 450 MW (maximum output during the hour) minus 250 MW (maximum loading during the hour) = 200 MW of *operating reserve*, at a price of the *market participant's* choosing; and

offer 200 to 270 MW of energy at a higher price. This energy offer would be scheduled if *operating reserve* is activated or if there are a shortage of resources that required the energy (at which time, the

market participant would be expected to abandon the test in favour of generating and receiving payment at the elevated *market price*).

Generator, distributor and wholesale customer outages may receive compensation under certain conditions, ~~if the costs were specified at the time of confirmation~~ as per section 1.3.5.15-14 (Ch. 5, S. 6.7.2).

Generators who test *outages* are immediately recallable and participate in the *operating reserve market* are not expected to submit for compensation costs. Rather, it is expected that offers for *energy* and *operating reserve* will reflect any compensation for interrupting the test.

For tests of aggregate *generators* with immediate recall, the *market participant* will provide a test profile via an information request to the *IESO*. The *market participant* will offer the aggregate as per the *energy* they desire to run but would adjust loading of units within the aggregate to obtain the required test levels. The *market participant* would request approval to synchronize and desynchronize the test unit; but would change the test unit MW as desired while maintaining the aggregate MW as offered.

1.3.16.31.3.15.5 Outage Submissions for Commissioning Generation Facilities

A *commissioning generation facility* shall be treated as a *self-scheduling generation facility* for purposes of *outage* coordination and shall follow the normal *outage* scheduling process (Ch. 7, S. 2.2A of the *market rules*). The *commissioning generation facility* shall provide a detailed test plan including the following information, but not limited to:

- the expected time of synchronizing to or de-synchronizing from the *IESO-controlled grid*;
- *energy* and reactive output levels;
- the timing of and ramp rates associated with changes in *energy* and reactive output levels;
- run-back or trip tests for the *commissioning generation facility*; and

Excitation and Power System Stabilizer (PSS) Tests.

~~The IESO will attempt to provide scheduling flexibility for commissioning generation facilities in the same manner as those generators performing routine testing as per Section 1.3.16. Dispatchable Market participants generators, whose generation units with planned outages are returning to service from long-term outages, or are commissioning generation units, shall provide the IESO with a loading profile no later than 10:00 EST, three business days before synchronization (Ch 5, S 6.6.1).~~

~~Self-scheduling, transitional and intermittent generators whose generation units returning to service from long-term outages, or are commissioning generator units, shall submit their schedules to the IESO according to their test schedule or no later than 10:00 EST, three business days before synchronization (Ch 5, S 6.6.1).~~

The treatment of *self-scheduling generation facilities* in the *IESO's security and adequacy* assessments depends on the type of commissioning being performed as follows:

1. New *generators* or those returning from long term *outages* (mothballing) that are registered as *self-scheduling generation facilities* will be treated as unavailable for the purpose of calculating available capacity in the *IESO's adequacy* assessments.

An information request should be submitted by the *market participant* that defines first synchronization and the expected date of commercial operation.

The *market participant*, who is not a *variable generator*, should submit, and keep up to date, the expected commissioning schedule (either via an *outage* request or other format) for the duration of the commissioning period.

The *market participant*, who is a *variable generator*, must submit, and keep up to date the expected commissioning schedule via an outage request for the duration of the commissioning period.

The *commissioning generation facility*, that is not a *variable generator*, should now manage all commissioning activities, until commercial operation is declared, with the use of offers as a *self-scheduling generation facility*. These offers should reflect the most recent update to the commissioning schedule.

The *commissioning generation facility*, that is a *variable generator*, shall offer forecast as provided by the IESO.

2. *Generators* that are registered as *self-scheduling generation facilities* for the purpose of testing new or modified equipment associated with the *generator* will be treated as available for the purposes of calculating available capacity in the *IESO's adequacy* assessments.

An information request should be submitted by the *market participant* that defines the commissioning period.

While commissioning, the *market participant*, who is not a *variable generator*, will manage their loading by the use of offers as a *self-scheduling generation facility*. The *market participant*, who is a *variable generator*, will manage their loading via outage requests and offer their forecast, as provided by the IESO.

Outage requests are to be submitted for each stage of the commissioning period that reflects expected output.

For more details on the corresponding management of the above situations in the *IESO's security and adequacy* assessments, refer to the Table 3-1 of Market Manual 7: System Operations Part 7.2: Near-Term Assessments and Reports.

For *generators* beginning commissioning, the *IESO* requests at least 3 months advance notice of the expected synchronization date (Ch 7, S 2.2A.5). This date may be revised by the *market participant* as required.

While registered as a self-scheduling generation facility, the commissioning generation facility shall comply with all provisions of the market rules applicable to a self-scheduling generation facility. In the event that the *commissioning generation facility* intends to increase above the self-schedule offer for any reason, the offers should be updated outside the Mandatory Window. If the *commissioning generation facility* is unable to achieve the self-schedule offer for any reason, the offers should be updated as soon as possible. An *outage* request should also be submitted to reflect the reduced capability from the self scheduled quantity.

For the purpose of submitting *dispatch data*, the *commissioning generation facility* shall apply to register as a *self-scheduling generation facility* in order to submit the necessary *dispatch data* for testing. Requests to be registered as a *self-scheduling generation facility* should be made to the *IESO* within a minimum of 6 *business days* notice (Section 2.2 A of Chapter 7 of the "Market Rules"). Dispatch data for the testing period will be submitted in the form required for a *self-scheduling generation facility*. Any such registration for the purposes of commissioning tests shall expire on the completion of these tests. Upon expiry of this registration, the former *commissioning generation facility* shall register as a *generation facility* for the purposes of participating in the *real-time markets*.

Where the *generator* undergoing commissioning testing forms part of an aggregate the whole aggregate will be treated as *self-scheduling generation facility*. The *IESO* may not approve these requests where the loss of *operating reserve* from the aggregate causes a *reliability* concern (Section 2.3.2 of Chapter 7 of the "Market Rules").

1.3.171.3.16 Outages to Monitoring and Control Equipment

Market participants are required to respond to *forced outages* to monitoring and control equipment and restore such equipment to a fully operational state within the time frames specified by Chapter 4, Section 7.7 of the *market rules*.

Data concentrating *facilities* that aggregate monitoring and control information from more than one *facility* must respond to *forced outages* and restore these *facilities* to a fully operational state within the time frames specified for *facilities* to which the high performance information monitoring standard applies.

The *IESO* may direct *market participants* to respond and restore monitoring and control equipment to a fully operational state following an *forced outage* to such equipment within a shorter time period, based on the immediate or short-term impact of the equipment unavailability on the reliable operation of the *IESO-controlled grid*, provided that the *market participants* shall use commercial best efforts to achieve such direction. (Ch. 4, S. 7.7.4 of the *market rules*)

1.3.181.3.17 Segregated Mode of Operation (SMO)

Market participants will use the *outage* process for submitting *segregated mode of operation* requests. Requests will be approved or rejected based on security and adequacy assessments performed by the *IESO*. Where a previously approved segregation request is revoked or segregation is terminated, no *outage* compensation will apply. *Segregation requests may be submitted on the pre-dispatch day and no later than 2 hours in advance of the dispatch hour*

Unless otherwise agreed to by the *IESO*, market participants must submit an outage request to operate their generation facilities in SMO no later than the submission deadline for pre-approval (16:00 EST, 2 business days prior to the start date of the SMO request). The *IESO* must assess the SMO request by 10:00 EST, one business day in advance of the SMO start date to ensure inclusion in first run of DACP.

Where the *IESO* permits SMO to be requested after the submission deadline for pre-approval, the request must be made no later than 2 hours prior to the start date of the SMO request. *Generators* that wish to have their *generation facilities* scheduled in a *segregated mode of operation* in the Day-Ahead Commitment Process (DACP) must submit their request by 09:00 EST on the *pre-dispatch day* in order to be included in the first run of DACP. The *IESO* must assess the SMO request by 10:00 on the *pre-dispatch day*. The *IESO* will assess SMO requests received after 09:00 EST and before 10:00 EST on the *pre-dispatch day* on a best effort basis. *Not approved SMO requests received after 9:00 EST, and SMO requests received after 10:00 EST, will not be used in subsequent runs of the DACP. All approved SMO requests will be available for the initial pre-dispatch at 15:00 EST.*

-Knowing that SMO can be recalled at any time for *reliability*, *market participants* are required to have *offers* in the Ontario Market prior to 10:00 EST on the *pre-dispatch day* for any SMO generation.

~~Not approved SMO requests received after 9:00, and SMO requests received after 10:00, will not be used in subsequent runs of the DACP. All approved SMO requests will be available for the initial pre-dispatch at 15:00.~~

Requests for segregation **that are accepted after the submission deadline for pre-approvals** will be approved or rejected by the *IESO* as soon as practicable, but no later than such time that allows the *transmitter* a minimum of 90 minutes (or such lesser time as agreed to by the *transmitter*) to switch any applicable equipment or *facilities* required to permit implementation of the *segregated mode of operation*. In order to accomplish this, *market participants* must notify the *IESO* of their segregation requests via telephone and submit an *outage* request. Where a *Request for Segregation* will require *transmission system* elements to be reconfigured or removed from service, the *IESO* will notify the *transmitter* and enter an *outage* request in IOMS to reflect this reconfiguration. The *outage* will be entered for the duration required to support the *Request for Segregation*.

A *market participant* that intends for a registered facility to operate in a segregated mode of operation shall continue to provide dispatch data and an *outage* request⁵ for that registered facility for each dispatch hour during which a registered facility will or is intended to operate in segregated mode of operation.

When submitting requests for *segregated mode of operation*, *market participants* will use the *outage* process described below:

When submitting a request for operation in segregated mode, *generators* must:

- Submit an *outage* request for their units for the duration of the segregated mode. Submit a second *outage* request for the time required to ramp down the units to zero (to be submitted within the hour prior to the start of the first dispatch hour to which the segregated request pertains).
- **Maintain** the offers for their *generation facilities* for each *dispatch hour* in which these *facilities* will or are intended to operate in *segregated mode of operation*.
- Notify the *IESO* by phone that the *Request for Segregation* was submitted (S. 1.3.5, App 7.7 of the *market rules*).

When units are returning from *segregated mode of operation*:

- The *outage* for their units ends at the same time the units are to be reconnected to the *IESO-controlled grid*
- *Generators* must ensure that valid offers are in the *IESO* systems for these units, for the hour they will be returning from *segregated mode of operation*. When submitting their offers, *generators* must respect the short notice submission criteria as specified in the *market rules*.
- It may be necessary for some *market participants* to zero their revenue meter while in *segregated mode of operation* in order to be removed from the *IESO's* settlements process.
- The *IESO* must be notified by phone of the request for de-segregation (S. 1.3.3, and 1.3.4, App. 7.7 of the *market rules*).

1.3.19 1.3.18 Reliability Must-Run Contracts

The *IESO* has the authority to negotiate and enter into *reliability must-run contracts* with *registered market participants* or prospective *registered market participants* allowing the *IESO* to direct the operations of specific *registered facilities* that are critical to the *reliability* of the *electricity system* under certain circumstances (Ch. 7, S. 9.6 and 9.7 of the *market rules*). The processes that the *IESO*

⁵The submission of the *outage* request will fulfill the obligations with respect to the submission of *dispatch data* as set out in the *market rules*, chapter 7 Appendix 7.7.

may use to conclude *reliability must-run contracts* are outlined in Chapter 7, Section 9.6.7 of the *market rules*.

The *IESO* may enter into a *reliability must-run contract* based on the reasons outlined in Chapter 7, Sections 9.6.2 to 9.6.4 of the *market rules* including, without limitation, *reliability* purposes of the *IESO-controlled grid* (not including overall *adequacy* reasons). Nothing in Chapter 7, Section 9.6 of the *market rules* prevents the *IESO* from taking such other action as may be permitted by the *market rules* to address a concern for overall adequacy.

The finalized *reliability must run contract* template (“Reliability Must-Run Contract for Procurement of Physical Services” - IMO_TPL_0019) (the “RMR Contract”) was stakeholdered with *market participants* and is used by Contracts & Agreements department of the *IESO* to conclude terms between the *IESO* and a *registered market participant* concerning the activation of the *reliability must-run resource*.

Schedule A of the RMR Contract is used by Market Forecasts & Integration department (Outage Management) of the *IESO* and the *registered market participant* to detail the operational requirements and negotiated settlement terms of each *must-run resource* activation that occurs during the term of the contract.

In other words, for each event where the *IESO* requires the *reliability must-run resource* to operate under its direction, the *IESO* and the *market participant* shall detail and agree on specifics of such operation using Schedule A (Must-Run Activation) of the signed RMR Contract. Schedule A shall detail requirements such as: activation start and end date, *reliability* constraint, physical services required, *dispatch data* and miscellaneous operational necessities and the negotiated financial terms of the must-run activation.

1.3.201.3.19 Dispatchable Load Outage Reporting Requirements

Dispatchable loads (whether connected to the *IESO-controlled grid* or embedded) participate in the *IESO outage* management process. *Outage* requests are submitted in advance to the *IESO* through IOMS. This can be done by accessing the IOMS through either a proprietary *outage* management program or through ONLORF. *Dispatchable loads* are required to submit *outage* requests for changes in status to their equipment connected to the *IESO-controlled grid*, or any equipment that affects the operation of the *IESO-controlled grid*. Deviations in *dispatchable load* status from the dispatch instruction is normally updated through *dispatch data* submissions and schedules, which are detailed in “Market Manual 4: Part 4.2, Submission of Dispatch Data in the Real-Time Energy and Operating Reserve Markets” and “Market Manual 4: Part 4.3, Real-Time Scheduling of the Physical Markets”

The following *outage* reporting requirements apply to *dispatchable loads*:

1. *Outages*, restrictions, deratings or changes in configuration of power system auxiliaries and *transmission facilities* operated at 50 kV or higher that form part of, or are connected to, the *IESO-controlled grid*, and which affect the operation of a *dispatchable load*, must be planned, submitted to and approved by the *IESO* (Appendix B). These *outages* shall be coordinated and submitted by the owner of the *facility* required to be on *outage*. If a *dispatchable load* which is connected to the transmission element on *outage* has to change the status of its equipment in support of the *outage*, the *dispatchable load* is not required to submit an *outage* request for its *facility*. For example, a transmission line *outage* which requires a connected customer to open its switching equipment (breakers or disconnect switches) or secondary breakers for isolation purposes, will not require an *outage* request from the connected customer. The *transmitter* will apply for the *outage* and will coordinate the *outage* with the customer; the *transmitter* will

provide to the *IESO* information with regards to the load to be interrupted or transferred to other supply.

2. *Dispatchable loads* are required to submit requests for *outages* to their equipment connected to the *IESO-controlled grid*, or their equipment that affects the operation of the *IESO-controlled grid*, as defined by their *Outage Reporting Requirements* letter and based on criteria from Appendix B of this manual.
3. *Dispatchable loads* are required to submit information requests in the event of *planned outages* or tests that result in *demand* reductions greater than 20 MW from average weekday *demand* as defined in Appendix B. When the reduction is a result of a forced process change or shutdown, an *outage* request is required to be submitted only when the *forced outage* is expected to last longer than 8 hours. A call must still be placed to advise the *IESO* control room operator of *forced outages* regardless of the need to submit an *outage* request or not.

The *IESO* will implement this relaxed requirement to be in effect until *IESO* tools are enhanced to permit *market participants* to submit their own de-rating or restriction information into the *IESO* *dispatch* tools, and provided that *IESO* staff can manage the associated on-shift workload without having an adverse consequence on *reliability*.

For a *planned outage*, or following a *forced outage*, the dispatch data must be revised to be consistent with the *outage* plan or the expected consumption during the *forced outage*.

4. If a material consumption change occurs within an hour, planned or forced, the participant must notify the *IESO* of the change. If the change is planned, in most cases the change will be approved. In some cases a short time delay (typically less than 5 minutes) may be required, to assess operating limits or re-dispatch capability, and to prepare the *IESO-controlled grid*. In rare instances the request may be denied for *reliability* reasons (see Market Manual 4: Part 4.2, Submission of Dispatch Data in the Real-Time Energy and Operating Reserve Markets, section 1.3.3)
5. During an “*outage*”, loads are expected to consume according to their bid quantity. If the “*outage*” plan includes testing, or varied consumption, this should be indicated on the *outage* plan. If the plan changes, loads are expected to update bid and offer data and notify the *IESO* as described above.

1.4 IESO Market System Outage Notification

In the event that the *IESO* must schedule a market system *outage*, *market participants* will be notified in the following manner.

For longer planned *outages* to the market system:

- a) The *IESO* Help Centre will notify *market participants* (Ch. 7 S. 1.6.2.1 of the *market rules*) of a market system *outage* via a group email; and
- b) an SAA Note will be included in a Weekly SAA Report, a Daily SAA report or an SSR (as appropriate) and published on the *IESO* Web site; and
- c) one hour in advance of the *outage*, notice in a new SSR will be provided and a notice via the *Market Participant* Interface will be provided, reminding *market participants* of the system *outage* start.

For market system *outages* that are expected to occur in less than an hour or when the *IESO* Help Centre is not staffed, such as during weekends or at night, *market participants* will be notified via a SSR and/or via a message through the *Market Participant* Interface.

1.5 Confidentiality

Under the *market rules*, the *IESO* is required to *publish planned outage* information, while at the same time respecting the confidentiality of *market participants*. As a result, *outage* requests submitted by *market participants* may be classified as *Confidential*, and protected appropriately. In addition, SAA reports will aggregate *outage* information to protect the confidentiality of *market participants*. All planned *transmission system outages* will be published for information. This may include transmission elements that are not owned by a *transmitter*.

Outage information will only be exchanged with *security coordinators* and *control areas* who are signatories to the *NERC confidentiality agreement* or who are otherwise legally bound to withhold the information from any person competing with the *market participant* that provided the information.

1.6 Disputes

Either the *IESO* or an *Applicant* may initiate the Dispute Resolution process in accordance with Chapter 3, Section 2 of the *market rules* if either believes the circumstances warrant such action. Specifically, *market participants* may dispute any decision of the *IESO* related to *outage* management, such as rejection of an *outage* submission, revocation or recall of an approved *outage*, or denial of *outage* compensation. However, *market participants* must continue to follow the direction of the *IESO* until such time as the Dispute Resolution panel renders a decision.⁶

1.7 Market Surveillance and Compliance

The *IESO* has established a *Market Surveillance Panel* pursuant to the “*Electricity Act, 1998*” for the purpose of identifying inappropriate market conduct, market design flaws and to make sure that the *IESO-administered market* is fair and efficient. *IESO* staff will forward non-compliant events on the part of the *market participant* to the *IESO* Market Assessment and Compliance division, for example failing to report *outages* or submitting *outage* requests without sufficient notice. See “Market Manual 2: Market Administration, Part 2.6: Treatment of Compliance Issues” and “Part 2.7: Treatment of Market Surveillance Issues”.

1.8 Replacement Energy Compliance Monitoring

There are two main areas of compliance monitoring:

- Compliance with submission of *offers* to import replacement *energy*; and
- Compliance with *dispatch* instructions to inject *import replacement energy*.

1.8.1 Compliance with Submission of Offers

Generators will convey to the *IESO* their arrangement for replacement *energy* by way of the comments field in IOMS. This can be done by accessing the IOMS through either a proprietary *outage* management program or through ONLORF.

⁶ For more information in the Dispute Resolution process, see “Market Manual 2: Market Administration, Part 2.1: Dispute Resolution”.

All *dispatch data* submission and *dispatch* instruction rules in sections 3 and 7 of chapter 7 in the *Market Rules* shall apply for replacement *energy* in the form of *import energy* offers.

Once the *IESO* has approved or provided additional directions to the *generator* specifying the details of the replacement *energy import* offers, the *generator* whose *outage* was approved is obligated to ensure that these *offers* are submitted to the *IESO* for pre-dispatch scheduling.

1.8.2 Compliance with Dispatch Instructions

The *boundary entity* who shall provide replacement *energy* and that is subject to *dispatch instructions* received from the *IESO*, is subject to the failed intertie transaction rules in sections 7.5.8A and 7.5.8B in chapter 7 and sections 6.6.10A to 6.6.10C in Chapter 3 of the *Market Rules* and the related compliance guidelines.

1.9 Roles and Responsibilities

Responsibility for *outage* management is shared among the following groups:

- The *IESO*, which is responsible for:
 - assessing *outage* requests for potential impact on the *IESO-controlled grid*;
 - providing advance and final approval for *outage* requests;
 - rejecting, revoking, and recalling previously approved *outages* for *reliability* or *security* reasons;
 - coordinating *outages* and tests if required; and
 - granting permission for equipment to return to service.
- *Market participants* operating *facilities* that meet the *IESO's* *Outage Reporting Requirements*, who are responsible for:
 - applying for planned *outages*, tests or changes in operational status to their *facilities* or equipment within the required timeframe;
 - ~~confirming~~ submitting the approved *outages* with the *IESO* by the ~~confirmation~~ submission deadline;
 - requesting final approval to start the *outage*;
 - confirming the start of the *outage*;
 - confirming the completion of *outages* and restoration of equipment with the *IESO*;
 - requesting permission to return equipment to services; and
 - notifying the *IESO* of the commencement and completion of forced and planned *outages*.

Market participants also have the following additional obligations based on their class of participation in the *IESO-administered markets*:

- *Generators* are also required to submit *outage* requests for:
 - *forced outages*, unit limitations, deratings, and de-staffing. This includes any change in status that affects the maximum output of a *generation unit*, the minimum load of a *generation unit*, or the availability of a *generation unit* to provide *ancillary services* such as *AGC*, *operating reserve*, voltage support and must run contracts;
- *Distributors* are also required to submit *outage* requests for:

- Changes in status to distribution equipment connected to the *IESO-controlled grid*, or any equipment impactful on the *IESO-controlled grid*;
- Changes in the status of embedded *facilities* that are not registered with the *IESO*⁷, where the *outage* results in a change in *demand* of more than 20 MW, relative to the average weekday *demand* of the *facility*; and
- *Outages* to its equipment that would potentially constrain an *embedded generator* within their *distribution system*;
- *Wholesale Customers* are also required to submit *outages* for:
 - Changes in status to customer equipment connected to the *IESO-controlled grid*, or any equipment that affects the operation of the *IESO-controlled grid*;
 - Changes in the status of *facilities*, where the *outage* results in a changes in *demand* of 20 MW or more relative to the average weekday *demand* of the *facility*;
- *Transmitters* are also required to submit *outages* for:
 - Any change or anticipated change in the capability of its **transmission facilities** or the status of its equipment or *facilities* forming part of the *IESO-controlled grid*, and of any other change or anticipated change in its **transmission facilities** that could have a material effect on the *reliability* of the *IESO-controlled grid* or the operation of the *IESO-administered markets*.

1.10 Contact Information

As part of the participant authorization and registration process, *applicants* are able to identify a range of contacts within their organization that address specific areas of market operations. For *outage* management, these contacts will most likely be; the Authority Centre, *Dispatch Centre*, *Facility Location Operator* or the Restoration Plan Coordinator Market Contact Type as indicated in the IESO Registration Solution *market participant* contacts screens. If a *market participant* has not identified a specific contact, the *IESO* will seek to contact the Main Contact in the IESO Registration Solution that is established during the participant authorization process. The *IESO* will seek to contact these individuals for activities within this procedure, unless alternative arrangements have been established between the *IESO* and the *market participant*. For more information on the IESO Registration Solution and the participant authorization process see “Market Manual 1: Market Entry, Maintenance & Exit, Part 1.1: Participant Authorization, Maintenance and Exit”.

If the *market participant* wishes to contact the *IESO*, the *market participant* can contact *IESO* Customer Relations via email at customer.relations@ieso.ca or via telephone, mail or courier to the numbers and addresses provided on the *IESO* Web site (www.ieso.ca) – or click on “Have a Question?” to go to the “Contacting the *IESO*” page). If the *IESO* Customer Relations is closed, telephone messages or emails can be left in relevant voice or electronic *IESO* mail boxes, which will be answered as soon as possible by Customer Relations staff.

Standard forms that participants must complete for this procedure are listed in Appendix A. These forms are generally available for downloading on the *IESO* Web site. These signed forms, as well as the accompanying supporting documentation, must be transmitted to the *IESO* as indicated on the form.

⁷ If the embedded *facility* is registered with the *IESO*, this responsibility falls on the *market participant* for the *facility*.

– End of Section –

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2. Procedural Work Flow

2.1 Outage Management Process

The following diagram represents the flow of information related to the management of planned outages between the market participant, the IESO, and other parties.

The steps illustrated in Figure 2-1 are described in detail in Section 3, Table 3-1.

Table 2-1: Legend for Work Flow Diagrams

Legend	Description
Oval	An event that triggers task or that completes task. Trigger events and completion events are numbered sequentially within procedure (01 to 99)
Task Box	Shows reference number, party responsible for performing task (if “other party”), and task name or brief summary of task. Reference number (e.g., 1A.02) indicates procedure number within current “Market Manual” (1), sub-procedure identifier (if applicable) (A), and task number (02)
Solid horizontal line	Shows information flow between the IESO and external parties
Solid vertical line	Shows linkage between tasks
Broken line	Links trigger events and completion events to preceding or succeeding task

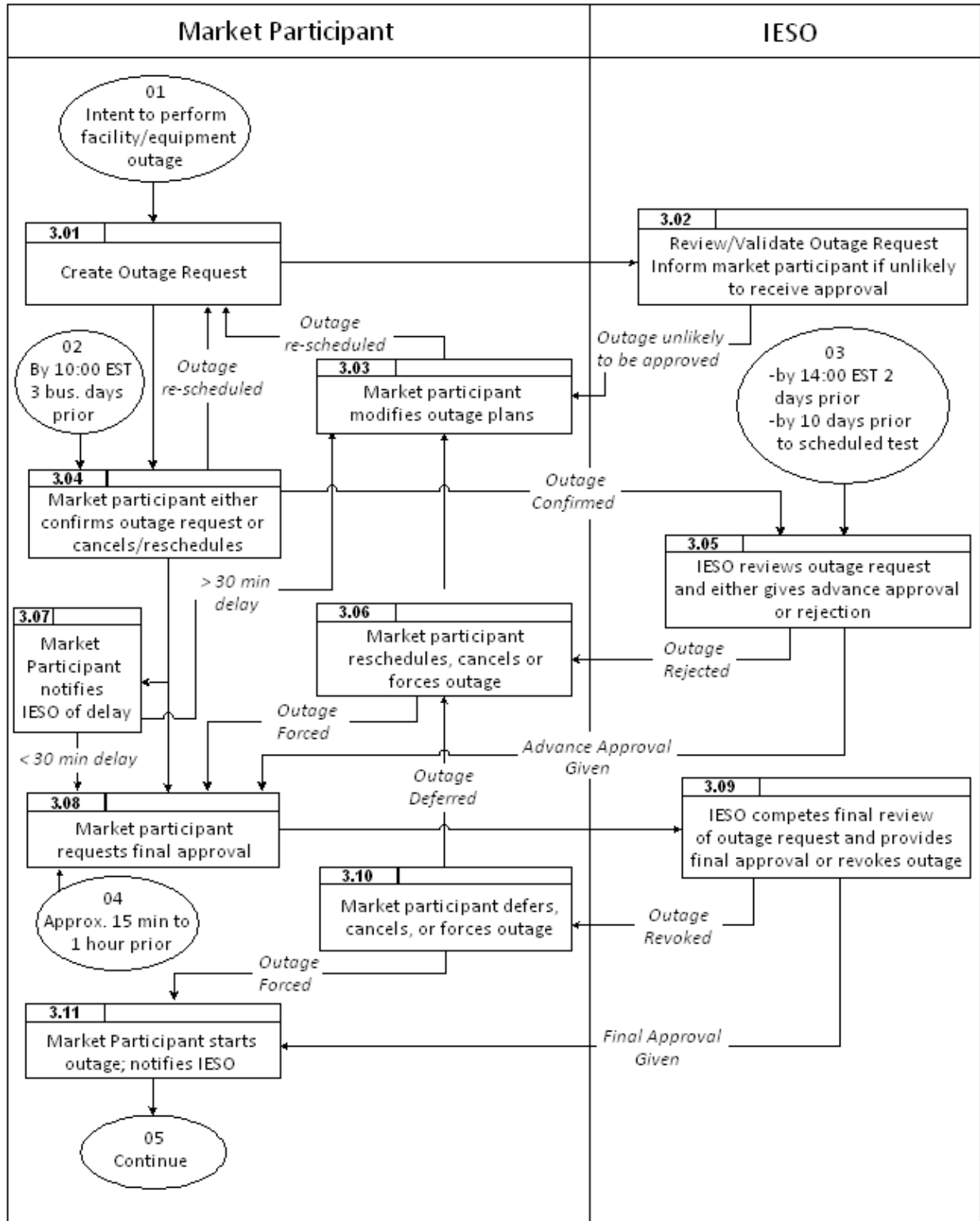
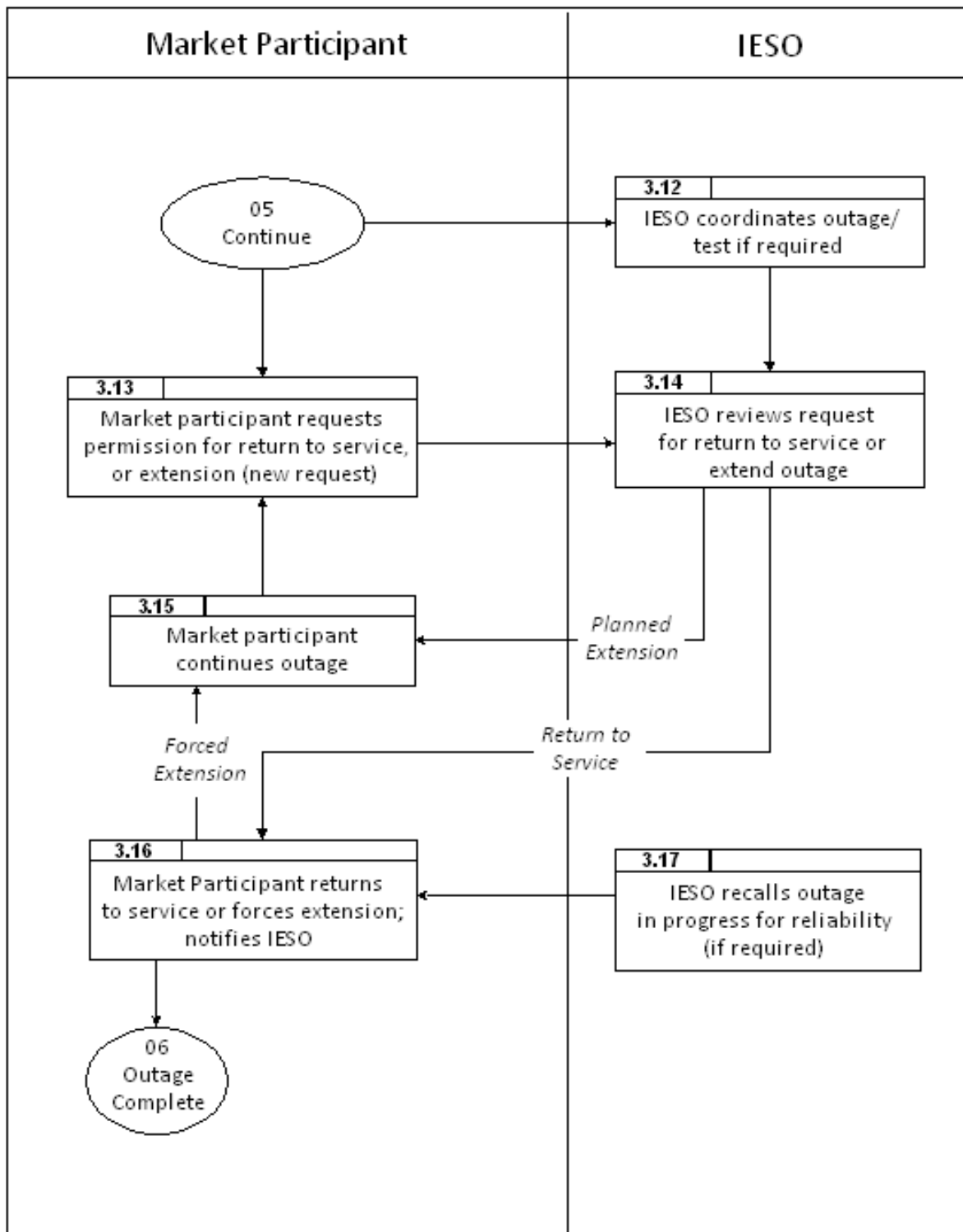


Figure 2-1: Work Flow for Outage Planning and Scheduling Process



[MG9]

Figure 2-1: Work Flow for Outage Planning and Scheduling Process (continued)

~~—End of Section—~~

3.2. Procedural Steps

This section contains a table of the detailed tasks (steps) that comprise the *outage* management procedure. The following list explains the categories of information found in the table.

- **Ref.:** The reference number for the task ~~from Section 2.~~
- **Task Name:** The task name ~~as referenced in Section 2.~~
- **Task Detail:** Information about the task, including areas of responsibility.
- **When:** Information about when the task will be required.
- **Resulting Information:** A list of the information that results from the task, including related *IESO* correspondence.
- **Method:** The format and method for completing the task.
- **Completion Events:** A list of all the circumstances in which the task should be deemed complete.

3.12.1 Outage Management Process

The steps shown in the following table are illustrated in Section 2, Figure 2-1.

Table 32-1: Procedural Steps for Outage Planning and Scheduling

Ref.	Task Name	Task Detail	When	Resulting Information	Method	Completion Events
32.01	Create <i>Outage</i> Submission	<i>Market participant</i> creates <i>outage</i> submission using ONLORF or their own <i>outage</i> management program.	A minimum of 33 5 <u>business</u> days in advance of the desired start date of the <i>outage</i> <u>unless eligible for pre-approval</u> . For <i>outages</i> of a duration between 4 hours and 5 days, the request should be made as soon as possible within the three month time period preceding the desired start date of the <i>outage</i> . For <i>outages</i> of more than 5-day duration, as soon as possible and a minimum of three months in advance of the desired start date of the <i>outage</i> .	<i>Market participant</i> enters information about the <i>outage</i> into the form or IOMS. The information includes: <ul style="list-style-type: none"> • <i>Market participant</i> name; • <i>Outage</i> type; • Single point of contact or responsible position; • Equipment/location; • Date and time; • Recall time; • Periodic cycle; • Description/purpose/remarks; • MW Impact; • MVAR Impact; and • <u>Costs of deferral/cancellation</u>. 	ONLORF or <i>Market Participant's Outage</i> Management Program	IOMS Application status set to "New Submission"

Ref.	Task Name	Task Detail	When	Resulting Information	Method	Completion Events
32.02	<i>IESO</i> reviews/validates <i>outage</i> submission.	The <i>IESO</i> performs an initial review of the <i>outage</i> request. Notifies <i>market participant</i> if request unlikely to receive approval. Notifies <i>market participant</i> if changing system conditions put the <i>outage</i> at risk.	Upon receipt of the <i>outage</i> submission; or Upon completion of <i>security</i> and <i>adequacy</i> assessment during 33-day assessment timeframe.	Notification to the <i>market participant</i> if the <i>outage</i> is unlikely to receive approval, or is at risk.	<i>IESO</i> communicates comments via telephone and enters Comments in IOMS	<i>Market participant</i> notified.
32.03	<i>Market participant</i> modifies <i>outage</i> plans.	If the <i>IESO</i> considers that an <i>outage</i> request is unlikely to receive approval, it will work with the <i>market participant</i> to attempt to reschedule <u>resubmit</u> the <i>outage</i> for a more appropriate time.	After the <i>IESO</i> has assessed a submitted <i>outage</i> request as unlikely to receive approval.	A revised <i>outage</i> submission or no action by <i>market participant</i> .	<i>IESO</i> discusses by telephone/e-mail. <i>Market participant</i> updates <i>outage</i> request	<i>Market participant</i> adds new start/finish dates and times to the <i>outage</i> request. This is a revision to the original <i>outage</i> request; retains original <i>outage</i> ID#.
3-04	<i>Market participant</i> either confirms <i>outage</i> or cancels/ re-schedules.	The <i>market participant</i> contacts the <i>IESO</i> to confirm that they intend to proceed with a submitted <i>outage</i> as indicated.	Any time between submission of the original request and 10:00 EST, three <i>business days</i> before the scheduled start date of the <i>outage</i>.	Confirmation of the intent of a <i>market participant</i> to proceed with the submitted <i>outage</i>; confirmation of costs for deferral, cancellation or recall of <i>outage</i>.	ONLORF or <i>Market Participant's Outage Management Program</i>	<i>IESO</i> receives confirmation of intent to proceed with <i>outage</i>.
32.050 4	<i>IESO</i> reviews <i>outage</i> submission and gives <i>advance approval</i> or rejects request.	The <i>IESO</i> gives <i>advance approval</i> to the <i>outage</i> , based on SAA of the <i>IESO</i> -controlled <i>grid</i> for the <i>outage</i> period. Or, the <i>IESO</i> rejects the <i>outage</i> request.	Two <i>business days</i> before the scheduled start date of the <i>outage</i> , by 14:00 EST.	<i>Market participant</i> receives notice of advanced approval or rejection.	IOMS Telephone	"Advanced Approval" status set in IOMS for the <i>outage</i> .

Ref.	Task Name	Task Detail	When	Resulting Information	Method	Completion Events
32.0605	Market participant re-schedules, cancels or forces outage.	If the IESO has rejected an outage request based on the desired start/finish time of the request, the IESO will work with the market participant to reschedule resubmit the outage for an appropriate time.	Upon rejection of a confirmed-submitted outage request.	A new start and/or end date for the outage.	Initially by telephone. Market participant updates outage request.	Outage submission modified in IOMS
32.0706	Market participant notifies IESO of delay.	< 30-minute delay: outage will not start on time but within 30 minutes.	Outage is not on schedule	IESO receives notice of delay in outage start time.	Telephone	IESO aware of delay in outage start time.
		>30-minute delay: outage will not start for at least 30 minutes.	Outage is not on schedule	IESO receives notice of delay in outage start time.	Telephone Market participant updates start time on outage request.	IESO aware of delay in outage start time.
32.0807	Market participant requests final approval to begin outage.	The market participant contacts the IESO for final approval before starting the outage.	Prior to the scheduled start date and time of the outage.	IESO receives notice of the impending outage.	Telephone	IESO aware of market participant's impending intent to initiate the outage.
32.0908	IESO completes final review of outage request and provides final approval or revokes advance approval.	Based on a final review of SAAs and the current state of the power system, IESO will provide final approval for the outage or revoke the advance approval.	Upon receipt of the market participant's call seeking final approval for the outage.	Market participant receives notice of final approval to start the outage, or the IESO's revocation of the outage. If the IESO revokes the outage, it provides a timeframe for deferral by the market participant.	Market participant informed by telephone Approved or revoked in IOMS	Outage status set to approved or revoked in IOMS. Market participant receives telephone notice of IESO decision.

Ref.	Task Name	Task Detail	When	Resulting Information	Method	Completion Events
32.100 9	Market participant defers resubmits, cancels or forces outage.	If the IESO revokes the outage, the market participant revises the outage submission to defer resubmit, cancel or force it.	If the IESO revokes the outage advance approval.	Revised outage submission in IOMS.	Telephone IOMS	Revised outage submission in IOMS. Revision carried out by market participant.
32.111 0	Market participant starts outage; notifies IESO.	The market participant contacts the IESO to notify them that the outage is starting, equipment being taken out of service, etc.	If the IESO gives final approval, or the market participant forces the outage.	Imminent start of the outage by the market participant.	Telephone	IESO Control Centre is aware that the outage has started.
32.121 1	IESO coordinates outage/test if required.	When the market participant is engaging in system tests or unit tests (refer to section 1.7), the IESO may be required to coordinate activities for reliability reasons.	During the outage/test.	IESO directions to the market participant during the outage.	Telephone IOMS	End of outage or testing activities requiring coordination.
32.131 2	Market participant requests permission to return to service or requests an extension.	The market participant must request permission to return the outage to service to allow the IESO to review the reliability impact. If not returning to service, the market participant must request an extension electronically.	Prior to the scheduled end of the end of the outage; if requesting an extension, the market participant must do so as soon as possible in accordance with the submission requirements in the market rules.	Market participant request.	Telephone IESO Web form IOMS	Request received by the IESO. Processing of new outage record in IOMS by IESO and market participant.

Ref.	Task Name	Task Detail	When	Resulting Information	Method	Completion Events
32.141 3	<i>IESO</i> reviews request to return to service or extend <i>outage</i> .	The <i>IESO</i> assesses the <i>reliability</i> impact of the <i>outage</i> end or extension. <i>IESO</i> enters actual end time of the <i>outage</i> and marks as “submitter complete”. Then <i>IESO</i> approves or rejects extension based on new <i>outage</i> submission.	Prior to scheduled end of <i>outage</i> .	Assessment by <i>IESO</i> and decision on <i>outage</i> .	Telephone IOMS	Update of <i>outage</i> record in IOMS by <i>IESO</i> .
32.151 4	<i>Market participant</i> continues <i>outage</i> .	The <i>market participant</i> continues the <i>outage</i> ; a new <i>outage</i> record must have been created and approved in IOMS.	Upon receiving an approval from the <i>IESO</i> , or in the event that the <i>market participant</i> forces the extension.	The <i>IESO</i> is aware of the continuing <i>outage</i> .	ONLORF or <i>Market Participant’s</i> <i>Outage</i> Management Program	When the <i>market participant</i> requests permission to return to service, or requests a further extension.
32.161 5	<i>Market participant</i> returns to service or forces extension; notifies <i>IESO</i>	The <i>market participant</i> returns to the equipment to service, or notifies the <i>IESO</i> that it is forcing the <i>outage</i> extension.	At the scheduled end of the <i>outage</i> , upon being notified by the <i>IESO</i> of permission to return to service, denied extension or recalled <i>outage</i> .	The <i>outage</i> ends or continues in a forced extension.	Telephone. IOMS	Completion of the <i>outage</i> or forced extension.
32.171 6	<i>IESO</i> recalls <i>outage</i> .	The <i>IESO</i> orders the equipment in service due to <i>reliability</i> issue.	When an SAA determines that an <i>outage</i> must be recalled to satisfy a <i>reliability</i> issue.	The <i>market participant</i> returns the equipment to service in the specified recall time, or forces the continued <i>outage</i> .	Telephone.	End of the <i>outage</i> .

– End of Section –

Appendix A: Forms

The following form is used in the *Outage* Management process. This form is available to *market participants* on the *IESO* web site.

Form Name	IESO Form Number
Request for Outage Compensation	IMO-FORM-1350 A link to “Request for Outage Compensation” Form is provided below: http://www.ieso.ca/imoweb/pubs/systemOps/so_f1350_RequestOutageComp.doc

– End of Section –

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Appendix B: Outage Reporting Requirements

Market participants must report *outages* for any change or anticipated change in the capability of *facilities* or the status of equipment or *facilities* forming part of the *IESO-controlled grid* or connected to the *IESO-controlled grid*. In addition they must report any change or anticipated change in *facilities* that could have a material effect on the *reliability* of the *IESO-controlled grid* or the operation of the *IESO-administered markets*.

These *outage*-reporting requirements are to be complied with by the *IESO* and *market participants* unless otherwise stated in the *market rules*. The requirements set out below identify the components of the *IESO-controlled grid* or components of *facilities* connected to the *IESO-controlled grid* that require *outage* reporting by *market participants* or the *IESO*⁸. These *outage* reporting requirements are applicable to *Transmitters, Distributors, Generators* and *Wholesale Customers*, and they will only apply where the *market participant* has the equipment described.

Outages must be planned with [the IESO](#) (and reported to the *IESO*) when any of the conditions [in the following table](#) are met:

⁸ The *IESO* prepares and issues an *Outage* Reporting letter to *market participants* listing specific *facilities* or equipment (e.g. **transmission facilities, generators** and **dispatchable loads**) for which they must report *outages*, consistent with the requirements of this Appendix. The letter may not be complete – *market participants* should still consult this Appendix to determine the complete set of equipment or *facilities* for which they must report *outages*.

Table B-1: Outage Reporting Requirements

<u>Outage⁹ Reporting Requirements</u>		<u>Eligible for Pre-Approval</u>	<u>Criteria for Pre-Approval¹⁰</u>
<u>Facility Group</u>	<u>Criteria for Facility Group</u>		
<u>Transmission facilities¹¹ operated at voltages \geq 100 kV</u>	<u>All</u>	<u>Yes</u>	<u>• All radial transmission lines¹²</u>
<u>Transmission facilities operated at voltages < 100 kV</u>	<u>Removal of step-down transformers with a low-side voltage < 100 kV</u>	<u>Yes</u>	
	<u>Involve the unloading of step-down transformers or their individual windings¹³</u>	<u>Yes</u>	
	<u>Require paralleling or separation of buses via operation of bus tie breaker</u>	<u>Yes</u>	
	<u>Result in a load transfer \geq 20 MW between step-down transformer stations</u>	<u>Yes</u>	<u>• Result in a load transfer \leq 50 MW between step-down transformer stations</u>
<u>Transmission or Distribution Reactive resources</u>	<u>Adversely affect a generator or dispatchable load</u>	<u>No</u>	
	<u>15 MVAR or greater in areas electrically south of Essa TS in Barrie</u>	<u>Yes</u>	<u>• Distribution connected that start and end on the same day or have a recall \leq 15 minutes</u>
	<u>10 MVAR or greater in areas electrically north of Essa TS in Barrie</u>		
	<u>Synchronous Condensers and Static VAR Compensators (SVCs)</u>	<u>No</u>	

⁹ Outages, restrictions, deratings or changes in configuration or operation.

¹⁰ 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.

¹¹ 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.

¹² Provided the terminal breakers are required only for switching (\leq 15 minutes) and the outage does not conflict with any other pre-approval criteria (i.e., a transmission line outage that also removes a generator from service for more than a day in duration)

¹³ 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.


<u>Outage⁹ Reporting Requirements</u>		<u>Eligible for Pre-Approval</u>	<u>Criteria for Pre-Approval¹⁰</u>
<u>Facility Group</u>	<u>Criteria for Facility Group</u>		
<u>Power system auxiliaries¹⁴</u>	<u>Control systems designed to dynamically respond to system conditions such as:</u> <ul style="list-style-type: none"> • <u>Power system stabilizers (PSSs)</u> • <u>Automatic voltage regulators (AVRs)</u> • _____ 	<u>Yes</u>	<ul style="list-style-type: none"> • <u>Involve a loss of redundancy and have a recall time of < 15 minutes</u>
	<u>Operating aids such as:</u> <ul style="list-style-type: none"> • <u>Under-frequency load shedding (ULFS) facilities</u> • <u>Circuit auto-reclosure schemes</u> • <u>Voltage reduction facilities</u> 	<u>Yes</u>	
	<u>Primary or backup protection systems designed to detect and isolate failed or faulted elements</u>	<u>Yes</u>	<ul style="list-style-type: none"> • <u>Primary protections that involve a loss of redundancy</u> • <u>Backup protections where the equipment being protected remains in-service</u>
	<u>Special Protection Systems (SPS) that detect identified system conditions and take corrective action such as:</u> <ul style="list-style-type: none"> • <u>Combined generator and load rejection schemes</u> • <u>Reactor tripping schemes</u> 	<u>Yes</u>	<ul style="list-style-type: none"> • <u>Involve a loss of redundancy and have a recall time of < 15 minutes</u>
	<u>Communication facilities such as:</u> <ul style="list-style-type: none"> • <u>SCADA</u> • <u>RTUs, ICP links or telemetry facilities for display of quantities</u> • <u>Market participant dispatch tools and facilities</u> • <u>Voice, data and protection tone communications</u> 	<u>Yes</u>	<ul style="list-style-type: none"> • <u>Involve a loss of redundancy and have a recall time of < 15 minutes</u>

¹⁴ The following power system auxiliaries are excluded from outage reporting:

- Switchyard auxiliaries that do not affect, or the loss of an additional element that 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.

<u>Outage⁹ Reporting Requirements</u>		<u>Eligible for Pre-Approval</u>	<u>Criteria for Pre-Approval¹⁰</u>
<u>Facility Group</u>	<u>Criteria for Facility Group</u>		
	Switchyard auxiliaries such as: <ul style="list-style-type: none"> • <u>AC and DC station services</u> • <u>Supervisory control facilities or control room bench-boards</u> • <u>Multi-breaker air supply systems including compressor plants and cable cooling systems</u> 	<u>Yes</u>	<ul style="list-style-type: none"> • <u>Involve a loss of redundancy and have a recall time of < 15 minutes</u>
<u>Non-registered facilities or embedded facilities¹⁵</u>	<u>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)</u>	<u>Yes</u>	
<u>Dispatchable load facilities</u>	<u>Result in changes of more than 20 MW in demand or supply in an hour from what is typical for that hour.</u>	<u>Yes</u>	
<u>Generation Facilities</u>	<u>All Generators</u>	<u>Yes</u>	<ul style="list-style-type: none"> • <u>Starts and ends on the same day or has a recall < 15 minutes</u>
	<u>Segregated Mode of Operation (SMO)</u>	<u>Yes</u>	
	<u>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:</u> <ul style="list-style-type: none"> • <u>Service air or instrument air</u> • <u>Boiler feed pumps</u> • <u>Station Service</u> 	<u>Yes</u>	<ul style="list-style-type: none"> • <u>Recall time < 15 minutes and the multiple unit/aggregate loss occurs > 30 minutes after the loss of the auxiliary element</u>
	<u>Affects the availability to provide ancillary services such as:</u> <ul style="list-style-type: none"> • <u>Automatic Generation Control (AGC)</u> • <u>Voltage support</u> • <u>Black start service</u> 	<u>Yes</u>	<ul style="list-style-type: none"> • <u>Starts and ends on the same day or has a recall < 15 minutes</u>
<u>Testing</u>	<u>All tests described in Section 1.3.11: System Tests</u>	<u>No</u>	

¹⁵ If the facility is not registered with the IESO, this responsibility falls on the market participant (i.e. transmission customers for the facility).

<u>Outage⁹ Reporting Requirements</u>		<u>Eligible for Pre-Approval</u>	<u>Criteria for Pre-Approval¹⁰</u>
<u>Facility Group</u>	<u>Criteria for Facility Group</u>		
	<u>Testing of generation units, including</u>  <ul style="list-style-type: none"> • <u>In-service or commissioning tests</u> • <u>Testing of derated units at levels above the derated levels</u> • <u>Testing of units currently on outage</u> • <u>Tests of facilities providing ancillary services</u> 	Yes	<ul style="list-style-type: none"> • <u>Starts and ends on the same day or has a recall ≤ 15 minutes</u>

- End of Section -

TRANSMISSION and DISTRIBUTION

Outages, restrictions, deratings, or changes in configuration of all transmission facilities¹⁶ operated at voltages of 50 kV or higher that form part of, or are connected to the IESO-controlled grid;

Outages, restrictions, deratings or changes in configuration of transmission facilities operated at voltages below 50 kV that involve or require the unloading of stepdown transformers or individual windings of stepdown transformers connected to the IESO-controlled grid¹⁷;

require paralleling or separation of low voltage buses via operation of the low voltage bus tie breaker;

¹⁶ ~~Transmission facilities~~ means the lines, structures, auxiliary equipment and ~~facilities~~ that are used for the purpose of transmitting or distributing electricity. These ~~facilities~~ are all lines structures, equipment, auxiliary equipment and ~~facilities~~ operated at greater than 50 kV and ~~facilities~~ operated at less than 50 kV at the stepdown transformer stations down to the load side of the feeder breaker. ~~Transmission facilities~~ may be owned by a ~~transmitter, wholesale customer, distributor or generator.~~

¹⁷ Where two or more ~~transmission facilities~~ are operated at voltages below 50 kV and interlocks or other logic exists that require those ~~transmission facilities~~ be operated together (say, both a switch and a breaker are arranged in series on the low side of the transformer, and the switch cannot be operated without first opening the breaker), it is only necessary to report changes in configuration, ~~outages, restrictions or deratings~~ of one of those ~~transmission facilities.~~

-
- result in a load transfer of 20 MW or more from one stepdown transformer station to another. Where the owner of an embedded *facility* transfers 20 MW or more of load, then the owner of the embedded *facility* is responsible for reporting the *outage*, restriction, derating or change in configuration to the *IESO*; or
- adversely affect the operation of a *generator* or *dispatchable load* participating in the *IESO-administered markets*;
- *Outages*, restrictions, deratings or changes in configuration of reactive resources of:
 - 15 MVAR or greater (nominal) for areas that are electrically south of Essa in Barrie; or
 - 10 MVAR or greater (nominal) for areas that are electrically north of Essa in Barrie
 inclusive of those reactive resources connected to the *IESO-controlled grid* at voltages below 50 kV;
- *Outages*, deratings, restrictions or changes in configuration of all **power system auxiliaries**¹⁸; except for *outages*, restrictions, deratings or changes in configuration of:
 - **switchyard auxiliaries**¹⁹, unless they affect, or the loss of an additional element will affect²⁰; the operation or *reliability* of the *IESO-controlled grid*, or the operation or capability of components of the *IESO-controlled grid*;
 - stepdown 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*; or
 - 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*;

¹⁸ **Power system auxiliaries** means dynamic control systems, operating aids, protection systems, Special Protection Systems and communication facilities essential for the integrated operation of the *IESO-controlled grid*.

- **Dynamic Control Systems:** *facilities* designed to act dynamically in *response* to system conditions so as to enhance system stability by varying one or more system parameters. Examples include power system stabilizers, excitation systems on frequency changer sets (synchronous converters) and synchronous condensers.
- **Operating Aids:** *facilities* and tools to aid and assist operations staff. Examples include: systems for voice communications, data transmission, and conveying protection system tones; under frequency load shedding *facilities*; circuit auto reclosure schemes; voltage reduction *facilities*; energy management systems including but not limited to dedicated Remote Terminal Units (RTUs), supervisory control boards, Supervisory Control and Data Acquisition (SCADA) systems; and telemetry *facilities* for display of quantities.
- **Protection Systems:** *facilities* designed to detect and isolate failed or faulted elements. Examples include protective relay schemes for transmission lines, transformers, and capacitors.
- **Special Protection Systems:** *facilities* designed to detect identified system conditions and take corrective action other than isolation of the faulted elements. Examples include combined *generator* and load rejection schemes, and reactor tripping schemes.
- **Communication Facilities:** *facilities* and tools designed to communicate or exchange information that is critical to the operation of the *IESO* market and *energy* management systems. Examples include: RTU's, SCADA, ICCP links, market tools at participant sites, *dispatch* facilities, etc.

¹⁹ **Switchyard auxiliaries** are common services necessary for operation of electrical switchyards. Examples include AC and DC station services, supervisory control facilities, control room benchboards, multi-breaker air supply systems including compressor plants and cable cooling systems.

²⁰ For example, consider a switchyard air system that has four air compressors but only requires two in service at any time. Normally, removal of one air compressor and loss of an additional air compressor does not affect the operation or reliability of the *IESO*-controlled grid. However, an outage to two air compressors will adversely impact the operation or reliability of the *IESO*-controlled grid as the loss of an additional element leaves one air compressor in service when a minimum of two are required.

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- ~~Planned *outages*, closures, tests, etc. to **transmission facilities** or embedded *facilities* that are not registered with the IESO²¹, where the *outage* results in a change of more than 20 MW in *demand* or supply in an hour from what is typical for that hour. (e.g. large industrial customers that periodically shut down plants for maintenance or holidays).~~

~~It is not necessary to report changes to the IESO if *demand* or supply changes of more than 20 MW result from:~~

- ~~fluctuations resulting from normal execution of processes (e.g. recharging a furnace); or~~
- ~~permanent changes of operational behavior (e.g. starting a third shift, or shifting load form on-peak to off-peak periods);~~

~~This requirement applies to *distributors* with embedded loads or generation that are not registered with the IESO and do not otherwise report *outages*. This requirement is based on individual unregistered embedded *facilities*, rather than aggregate *demand* for the *distributor* as a whole. (*Outages*, restrictions, deratings or changes in configuration of registered embedded *facilities* must be reported by the *registered market participant*.)~~

~~*Market participants* are required to submit information about the planned *outages*, restrictions, deratings or changes in configuration in advance through IOMS. However, approval from the IESO is not required— as the *outage*, restrictions, deratings or changes in configuration is submitted for information purposes only;~~

~~DISPATCHABLE LOAD~~

- ~~*Outages*, restrictions, deratings or changes in system configuration of **dispatchable loads** that result in a change of more than 20 MW in *demand* or supply in an hour from what is typical for that hour.~~

~~It is not necessary to report changes to the IESO if *demand* or supply changes of more than 20 MW result from:~~

- ~~fluctuations resulting from normal execution of processes (e.g. recharging a furnace); or~~
- ~~permanent changes of operational behavior (e.g. starting a third shift, or shifting load form on-peak to off-peak periods);~~

~~GENERATION~~

- ~~*Outages*, restrictions, deratings or changes in the operation of a *generator* or its **power system auxiliaries**;~~
- ~~*Outages*, restrictions, deratings or changes in configuration of all generating facility **plant auxiliaries**²² that affect more than a single generation unit or more than a single aggregate of generation units where the loss of an additional element results in multiple unit/aggregate shutdowns within 48 hours after the loss of the element²³. *Outages*, restrictions, deratings or changes in configuration where the loss of an additional element will result in multiple unit or multiple aggregate shutdown more than 48 hours after the event will be submitted for information purposes only;~~

²¹ If the embedded *facility* is not registered with the IESO, this responsibility falls on the *market participant* (e.g. transmission customers for the facility).

²² Plant auxiliaries are common systems necessary for the operation of one or more generating units (e.g. service air or instrument air), or systems for a single generating unit with redundancy (e.g. boiler feed pumps for a single generating unit, where 3 are installed but only 2 are required for normal operation).

²³ For example, a coal burning station might have 2 coal conveyors servicing a multi-unit station. The IESO would have to approve an outage to a single coal conveyor if, following the failure of the second conveyor, more than one unit would have to shut down within 48 hours.

- ~~Any change in status that affects the maximum output of a *generation unit*, the minimum load of a *generation unit*, or the availability of a *generation unit* to provide *ancillary services* such as AGC, voltage support and black start service;~~

TESTS

- ~~All System Tests²⁴; or~~
- ~~Testing of generation units, including:

 - ~~in-service or commissioning tests;~~
 - ~~testing of derated units at levels above the derated levels;~~
 - ~~testing of units currently on *outage*; and~~
 - ~~tests of facilities providing ancillary services.~~~~

References

Document ID	Document Title
MDP_RUL_0002	Market Rules for the Ontario Electricity Market
MDP_PRO_0014	Market Manual 1: Market Entry, Maintenance & Exit, Part 1.1: Participant Authorization, Maintenance and Exit
MDP_PRO_0016	Market Manual 1: Market Entry, Maintenance & Exit, Part 1.2: Facility Registration, Maintenance and De-Registration
MDP_PRO_0017	Market Manual 2: Market Administration, Part 2.1: Dispute Resolution
MDP_PRO_0022	Market Manual 2: Market Administration, Part 2.6: Treatment of Compliance Issues
MDP_PRO_0023	Market Manual 2: Market Administration, Part 2.7: Treatment of Market Surveillance Issues
MDP_PRO_0027	Market Manual 4, Part 4.2: Submission of Dispatch Data in the Real-Time Energy and Operating Reserve Markets
IMO_PRO_0019	Market Manual 2: Market Administration, Part 2.2: Exemption Application and Assessment
IMP_PRO_0033	Market Manual 7: System Operations, Part 7.2: Near-Term Assessments and Reports
IMP_PRO_0034	Market Manual 4: Market Operations, Part 4.3: Real-Time Scheduling of the Physical Markets
IESO_MAN_0041	Market manual 9: Day-Ahead Commitment Process
N/A	Electricity Act, 1998

²⁴ System tests are described in Section 1.3.11 “System Tests”.

IMO_AGR_0001	IESO – Ancillary Service Provider (ASP) Agreement for Procurement of Certified Black Start Facilities
IMO_AGR_0003	IESO – Ancillary Service Provider (ASP) Agreement for Regulation/AGC Services
IMO_GDE_0058	Outage Request Form – A Market Participant Guide
IMO_AGR_0002	IESO – Ancillary Service Provider (ASP) Agreement for Procurement of Reactive Support and Voltage Control Services
IMO_TPL_0019	Reliability Must Run Contract for Procurement of Physical Services

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