



PROCEDURE

Market Manual 2: Market Administration

**Part 2.11: Reliability
Outlook and Related
Information
Requirements**

Issue 15.0

This procedure provides the steps required for *market participants* to submit the information required for the Reliability Outlook, and specifies the information to be contained in the Reliability Outlook.

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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.

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Table of Changes

Reference (Paragraph and Section)	Description of Change
Throughout	Added reference to electricity storage participation where required.

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 “Market Administration Manual” is Volume 2 of the *market manuals*, where this document forms “Part 2.11: Reliability Outlook and Related Information Requirements.”

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

- End of Section -

1. Introduction

In accordance with the *market rules*, chapter 5, section 7, each *market participant* shall provide information for the purpose of enabling the *IESO* to perform the *reliability* assessments.

- A *generator* is to use Form 1230 for submitting information
- An *electricity storage participant* is to use Form 1230 for submitting information
- A *transmitter* is to use Form 1494 for submitting information

1.1 Purpose

The *IESO* is required to prepare and *publish*, quarterly, a *security* and *adequacy* assessment covering an 18-month period (Chapter 5, Section 7.3.1.2 of the *market rules*). This assessment and its publication are referred to as the “Reliability Outlook.”

Market participants are required to provide information for the *IESO* to perform *reliability* assessments (Chapter 5, Section 7.5.1 of the *market rules*), including the Reliability Outlook.

This procedure specifies the information *market participants* and *connection applicants* must provide in support of the Reliability Outlook and describes the process for submitting such information to the *IESO*.

1.2 Scope

The procedural work flow and procedural steps described in this document will serve as a roadmap for *market participants*, *connection applicants*, the *IESO* and other parties, and will reflect the requirements set out in the *market rules* (Chapter 5, Section 7) and applicable *IESO* policies and standards.

The process relating to preparing and *publishing reliability* assessments covering the long-term, i.e. beyond the next 18-months is set out in “Part 2.8: Reliability Assessments Information Requirements.”

The process relating to the production of the near-term *security* and *adequacy* assessments is set out in “Market Manual 7: System Operations.”

Detailed and specific procedures internal to the *IESO* relative to forecasts and assessments are not provided.

- End of Section -

2. Overview

The *IESO* is responsible for producing a quarterly Reliability Outlook that provides an assessment of generation and transmission *adequacy* for each week of the next 18 months (Chapter 5, Section 7 of the *market rules*).

The purposes of the Reliability Outlook, as stated in the (Chapter 5, section 7.4.2 of the *market rules*) are to provide *market participants* with information to facilitate *outage* planning and contingency planning, and to facilitate standards authorities in assessing the *reliability* of regional power systems.

In order to conduct its assessments and prepare the associated reports, the *IESO* requires *market participants* and *connection applicants* to provide the information set out in this procedure (Chapter 4, Sections 6.1.6, 7.1.2, Chapter 5, Section 7.5.1, and Chapter 10, Section 8.7.2 of the *market rules*).

Transmitter information shall be submitted quarterly and should include information for relevant *facilities* planned in the appropriate 18- month period defined in Section 3.3.1. Information will be due on the first day of each calendar quarter.

Generator and *electricity storage participant* information shall be submitted annually and should include information for relevant *facilities* planned in the data coverage period defined in Section 3.3.2. Information will be submitted between March 1 and April 1. Any material changes to information, as defined in Section 3.4, shall be communicated to the *IESO* when such changes are identified, as specified in Section 3.3.2, using the associated forms listed in Appendix A.

The *IESO* will conduct the assessment and *publish* the Reliability Outlook on the *IESO* website.

- End of Section -

3. Information Requirements

3.1 Market Participant Information

Some of the information related to the Reliability Outlook will be provided by *market participants* via the market entry process, as detailed in “Market Manual 1.5: Market Registration Procedures”. Other information will be submitted by *market participants* as part of the *outage* management process using the IESO’s *outage* management system, as detailed in “Market Manual 7.3: Outage Management.”

The remaining information must be submitted to the *IESO* using the forms associated with this procedure, listed in Appendix A (Chapter 5, Section 7.5.1, and Chapter 10, Section 8.7.2 of the *market rules*).

The forecasts and assessments process will access the *outage* information already submitted using the *outage* management system and the information provided via the market entry process. When submitting the information required by this procedure, as outlined in the associated forms listed in Appendix A, *market participants* must also ensure that, on the due date for each quarterly Reliability Outlook, the short-term *outage* information relating to their *facilities* within the *outage* management system is up to date (Chapter 5, Section 7.5.1 of the *market rules*). *Market participants* must also keep up-to-date, at all times, the registration information they submitted to the *IESO* as part of the market entry process (Chapter 5, Section 7.5.1 of the *market rules*).

The *IESO* will assign an appropriate confidentiality level to all information received from *market participants* (Chapter 3, Section 5.4.1 of the *market rules*), and will obtain prior written permission from the *market participant* before *publishing* confidential information that is specific to that *market participant* (Chapter 3, Section 5.3.1.3b of the *market rules*).

The forms listed in this procedure are to be used for submitting *generator* and *electricity storage participant* information annually (Form 1230) and *transmitter* information quarterly (Form 1484). The forms are not to be used for submitting any information required by the *IESO* to prepare the near-term forecasts and assessments described in “Market Manual 7: System Operations.” Separate submission requirements are available for these other forecast and assessment processes, as detailed in the relevant market procedure.

3.2 Plans for New, Modified or Retiring Facilities

In preparing its *reliability* assessments, the *IESO* must consider resource changes that could impact the *reliability* of the *IESO-controlled grid*. As such, information on all new, modified and retiring *facilities* that have estimated in-service or retirement dates falling within the specified data coverage period must be provided to the *IESO* by *market participants* and *connection applicants*.

Market participants and *connection applicants* must inform the *IESO* of any such plans they might have and submit the information required by this procedure using the forms listed in Appendix A, as relevant (Chapter 5, Section 7.5.1 and Chapter 10, Section 8.7.2 of the *market rules*).

3.3 Timing

Submission requirements for *transmitters*, *generators* and *electricity storage participants* differ as indicated below.

3.3.1 Transmitters

Information that relates to *transmitters*, as specified in this procedure, must be submitted to the *IESO* by the first day of each calendar quarter (January 1, April 1, July 1, and October 1), (Chapter 5, Section 7.5.1 of the *market rules*).

- Q1 – ‘current year’ Reliability Outlook. Information due on January 1, ‘current year’ using Form 1484. The 18-month period will be April, ‘current year’ through September, ‘current year’+1, where ‘current year’ is the year the information submittal process is completed (e.g. process completed January 1, 2016 means the 18-month period from April 2016 to September 2017);
- Q2 – ‘current year’ Reliability Outlook. Information due on April 1, ‘current year’. *Transmitters* are **not** required to submit Form 1484 in this quarter. Since the Q2 submission coincides with the long-term *reliability* assessment data submission, the *IESO* will use the long-term data submission (Form 1494) in lieu of the Q2 submission. The requirements for long-term data submission are defined in “Market Manual 2.8: Reliability Assessments Information Requirements,” Section 3.1. The data coverage period for this submission commences on July 1 of the current calendar year and extends for the next 10 years and 6 months (e.g. information submitted by April 1, 2016 covers a period from July 1, 2016 to December 31, 2026);
- Q3 – ‘current year’ Reliability Outlook. Information due on July 1, ‘current year’ using Form 1484. The 18-month period will be October, ‘current year’ through March, ‘current year’+2, where ‘current year’ is the year the information submittal process is completed (e.g. process completed July 1, 2016 means the 18-month period from October 2016 to March 2018);
- Q4 – ‘current year’ Reliability Outlook. Information due on October 1, ‘current year’ using Form 1484. The 18-month period will be January, ‘current year’+1 through June, ‘current year’+2, where ‘current year’ is the year the information submittal process is completed (e.g. process completed October 1, 2016 means the 18-month period from January 2017 to June 2018).

The study period and information submittal due date are also specified on the information submittal forms.

3.3.2 Generators and Electricity Storage Participants

Generators and *electricity storage participants* shall submit the information required by this procedure to the *IESO* by April 1 of each calendar year using Form 1230. This submission is also required by the “Market Manual 2.8: Reliability Assessments Information Requirements,” and Form 1230 will be used for both processes. The data coverage period for this submission commences on July 1 of the current calendar year and extends for the next 10 years and 6 months (e.g. information submitted by April 1, 2016 covers a period from July 1, 2016 to December 31, 2026).

The study period (data coverage period) and information submittal due date are also specified on the information submittal forms.

Any material changes to *generator* or *electricity storage participant's* information previously submitted on Form 1230, as defined in Section 3.4, shall be communicated to the *IESO* using Form 1230 once the *generator* or *electricity storage participant* becomes aware of the change (Chapter 5, Section 7.5.1 of the *market rules*). If outage plan changes have been reported to the *IESO* through the *outage* process, they do not need to be reported using Form 1230.

3.4 Material Changes to Generators or Electricity Storage Information

For the purpose of this procedure, changes to the *market participant* facility parameters listed in Table 1-1 below are considered material if they are greater than the indicated threshold. For example, a material change in *generator* or *electricity storage participant* maximum continuous rating is a change equal to the **greater of 2%** of rated output or 10 MW. These criteria are applied on a resource basis (a resource can be a single *generator* or *electricity storage participant* or an aggregate of *generators* or *electricity storage participants* as defined during *facility* registration).

Table 3–1: Definition of Material Changes

Resource Parameter	Unit	Materiality Threshold
Maximum Continuous Rating	MW	2% or 10 MW
Facility Station Service Load	MW	2% or 10 MW
Station Minimum Baseload Capacity	MW	2% or 10 MW
Station Maximum Peaking Capability	MW	2% or 10 MW
Station Maximum Capability	MW	2% or 10 MW
Energy Production Capability	MWh	2%
Array-to-Inverter Ratio	%	2%
Planned Outage - Start Date	YYYY, MMM	Start date delayed or advanced by 1 month
Planned Outage - Duration	number of days	Duration lengthened or shortened by 5 weekdays
Maintenance Outage	number of days	Duration lengthened or shortened by 5 weekdays
Equivalent Forced Outage Rate (EFOR)	%	10%
Weighted Planned and Maintenance Outage Factor (WPMOF)	%	10%
Weighted Equivalent Forced Outage Rate (WEFOR)	%	10%

The material changes are also specified on the information submittal Form 1230.

3.5 Information Contained in the Reliability Outlook

The information in the Reliability Outlook will include forecasts of Ontario electricity *demand*, *generation capacity*, electricity storage capacity and transmission capacity, *energy* capability of *generation facilities* and electricity storage, and the possibility of any *security*-related events on the *IESO-controlled grid* that could require contingency planning by *market participants* or by the IESO. The results of the Reliability Outlook will be made available to the public via the *IESO* website.

- End of Section -

4. Roles and Responsibilities

Responsibility for carrying out this procedure for providing Reliability Outlook related information is shared among:

- **Generators** and **electricity storage participants**, who are responsible for providing:
 - generation information and changes to information as per “Market Manual 1.5: Market Registration Procedures” and Chapter 4, Sections 6.1.6 and 7.1.2 of the *market rules*);
 - forecast information for existing, new or modified *facilities* using Form 1230 (see Appendix A) and, where appropriate, inputs into the *outage* management system as per Chapter 5, Section 7.5.1 of the *market rules*;
- **Transmitters**, who are responsible for providing:
 - transmission information and changes to information as per “Market Manual 1.5: Market Registration Procedures” and Chapter 4, Sections 6.1.6 and 7.1.2 of the *market rules*);
 - forecast information for existing, new or modified *facility* plans on a quarterly basis, using Form 1484 (see Appendix A) and, where appropriate, inputs into the *outage* management system as per Chapter 5, Section 7.5.1 and Chapter 10, Section 8.7.2 of the *market rules*;
- **Connection applicants**, who are responsible for providing:
 - information required via the Connection Assessment and Approval process as per “Market Manual 1.4: Connection Assessment and Approval” and Chapter 4, Sections 6.1.6 and 7.1.2 of the *market rules*); and
 - information for the new or modified connections to the *IESO-controlled grid* that fall within the 18-month study period on a quarterly basis, using forms listed in Appendix A, as appropriate (Chapter 4, Section 7.1.2 and Chapter 5, Section 7.5.1 of the *market rules*). For *generation facilities* or *electricity storage facilities*, IMO_FORM_1230 must be completed and submitted annually and updated as required. For transmission *facilities*, IMO_FORM_1484 must be completed and submitted quarterly.
- The **IESO**, who is responsible for (Chapter 5, Section 7 of the *market rules*):
 - receiving the information submitted by *market participants* and *connection applicants*;
 - conducting the quarterly forecasts and assessments; and
 - *publishing* the Reliability Outlook.

- End of Section -

5. Submission and Response Methods

5.1 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 the Reliability Outlook, this contact will be the *market participant's* designated primary contact unless alternative arrangements have been established between the *IESO* and the *market participant*. *Market participants* are responsible for updating their contact information.

5.2 Submission of Data

Standard forms to be used for data submission for this procedure are listed in Appendix A. These forms are also available for download on the *IESO* website. The method for submitting the information is via email to forecasts.assessments@ieso.ca.

All correspondence relating to this procedure shall include the following text in the subject to facilitate identification: Reliability **Outlook Related Information**.

- End of Section -

6. Procedural Work Flow

Figure 6–1 represents the flow of work and information related to providing Reliability Outlook related information shared among the *IESO* and *market participants*.

The steps illustrated in the procedural work flow diagram are described in detail in Section 7.

Table 6–1: Legend for Work Flow Diagram

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

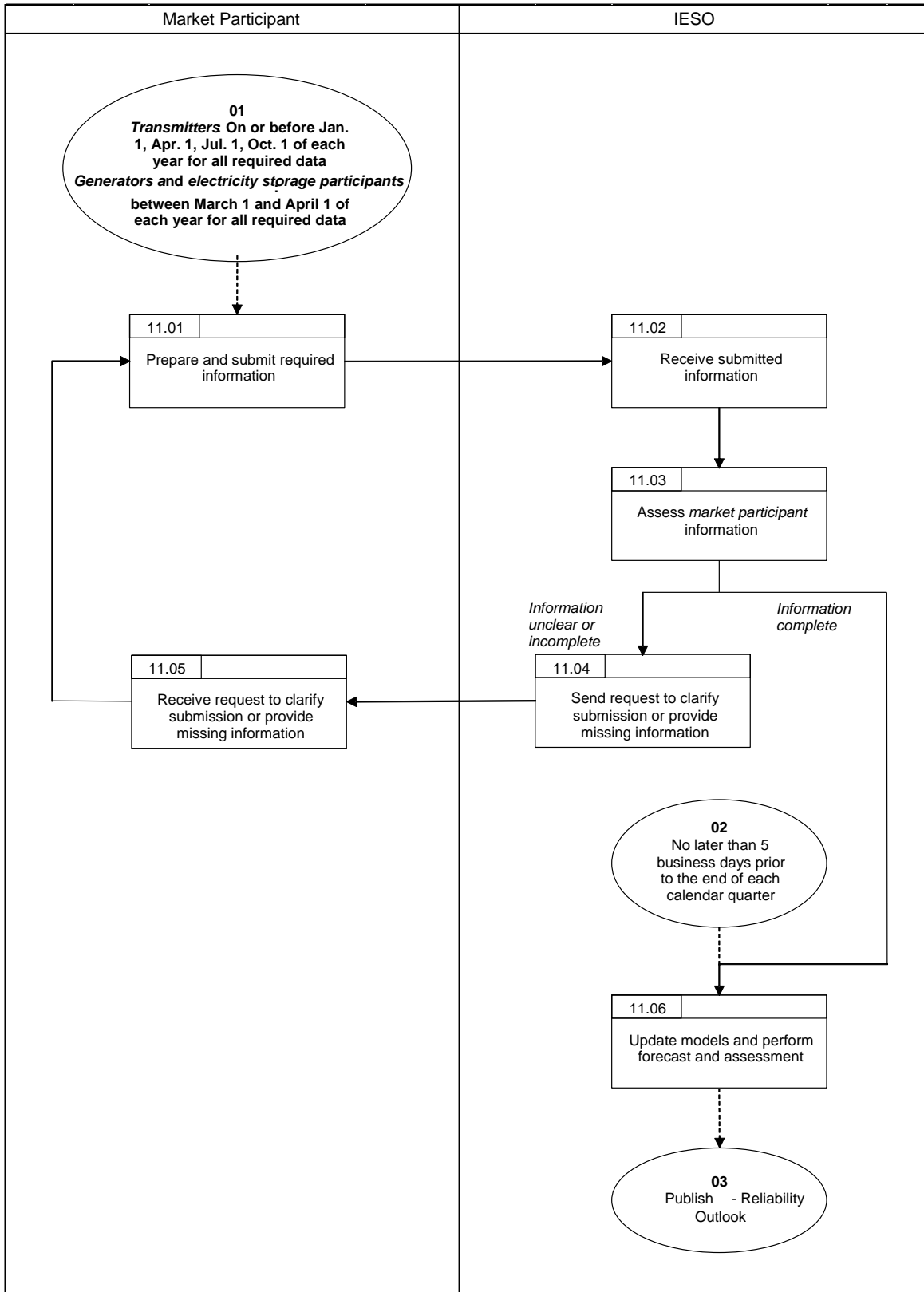


Figure 6–1: Work Flow for Submittal of the Reliability Outlook Related Information

- End of Section -

7. Procedural Steps

This section contains detail on the tasks (steps) that comprise the Reliability Outlook information requirements and Reliability Outlook procedure. The steps in the following table are illustrated in Section 6.

The table contains seven columns, as follows:

Ref

The numerical reference to the task.

Task Name

The task name as identified in Section 6.

Task Detail

Detail about the task.

When

Timeline for executing task.

Resulting Information

A list of the information flows that may or must result from the task.

Method

The format and method for each information flow.

Completion Events

A list of all the circumstances in which the task should be deemed finished.

Table 7–1: Procedural Steps for Submittal of the Reliability Outlook Related Information

Ref.	Task Name	Task Detail	When	Resulting Information	Method	Completion Events
11.01	Prepare and submit required information.	The <i>market participant</i> prepares the required information in accordance with the provided forms and sends the required information to the <i>IESO</i> .	<p><i>Generators and electricity storage participants:</i> For annual submission - between March 1 and April 1; For material changes - when the <i>generator</i> or <i>electricity storage participant</i> becomes aware of the change.</p> <p><i>Transmitters:</i> Each calendar quarter.</p>	<p>Required information, as appropriate:</p> <p>For <i>generators and electricity storage participants</i> - Generator Information Submittal Form for Reliability Assessments (IMO_FORM_1230).</p> <p>For <i>transmitters</i> - Plans for New, Modified and Retiring Transmission Facilities Information Submittal Form for Reliability Outlook (IMO_FORM_1484) and Plans for New, Modified or Retiring Transmission Facilities Information Submittal Form for Reliability Assessments (IMO_FORM_1494).</p>	Via email.	Required information is sent to the <i>IESO</i> .

Table 7–1: Procedural Steps for Submittal of the Reliability Outlook Related Information

Ref.	Task Name	Task Detail	When	Resulting Information	Method	Completion Events
11.02	Receive submitted information.	The <i>IESO</i> receives the required information from the <i>market participant</i> .	<p>From <i>generators or electricity storage participants</i>: By April 1 for their annual submission and as required once the <i>generator or electricity storage participant</i> becomes aware of material changes to their annual submission.</p> <p>From <i>transmitters</i>: On or before the first day of each quarter (Jan.1, Apr. 1, Jul. 1, Oct.1).</p>	<p>From <i>generators or electricity storage participants</i>: Completed Generator Information Submittal Form for Reliability Assessments (IMO_FORM_1230).</p> <p>From <i>transmitters</i>: Completed Plans for New, Modified or Retiring Transmission Facilities Information Submittal Form for Reliability Outlook (IMO_FORM_1484) and completed Plans for New, Modified or Retiring Transmission Facilities Information Submittal Form for Reliability Assessments (IMO_FORM_1494).</p>	Via email.	Required information received.
11.03	Assess <i>market participant</i> information.	The <i>IESO</i> assesses the information provided by the <i>market participants</i> for completeness.	Following Step 11.02.	None.	None.	Information completeness determined. Unclear or missing information identified.

Table 7–1: Procedural Steps for Submittal of the Reliability Outlook Related Information

Ref.	Task Name	Task Detail	When	Resulting Information	Method	Completion Events
11.04	Send request to clarify submission or provide missing information	The <i>IESO</i> sends a request to the <i>market participant</i> for the unclear or incomplete information.	Following Step 11.03, if information is unclear or incomplete.	Request for clarification or missing information.	By email.	Request to clarify submission or provide missing information sent to <i>market participant</i> .
11.05	Receive request to clarify submission or provide missing information.	The <i>market participant</i> receives the request to clarify submission or provide missing information and returns to Step 11.01.	Following Step 11.04, if information is unclear or incomplete.	None.	None.	Request to clarify submission or provide missing information received.
11.06	Update models, perform forecast and assessment, and <i>publish</i> the Reliability Outlook.	The <i>IESO</i> updates models, performs the quarterly forecast and assessment, and <i>publish</i> the associated Reliability Outlook.	Following Step 11.04 and prior to the publication date for the quarterly Reliability Outlook.	Reliability Outlook.	Electronic publication on the <i>IESO</i> website.	Reliability Outlook <i>published</i> .

- End of Section -

Appendix A: Forms

This appendix contains a list of forms and letters associated with this procedure, which are available on the *IESO* website (<http://www.ieso.ca>). The forms included are as follows:

Form Name	Form Number
Generator Information Submittal Form for Reliability Assessments	IMO_FORM_1230
Plans for New, Modified or Retiring Transmission Facilities Information Submittal Form for Reliability Outlook	IMO_FORM_1484
Plans for New, Modified or Retiring Transmission Facilities Information Submittal Form for Reliability Assessments	IMO_FORM_1494

- End of Section -

References

Document ID	Document Title
MDP_RUL_0002	Market Rules
MDP_PRO_0048	Market Manual 1.4: Connection Assessment and Approval
PRO-408	Market Manual 1.5: Market Registration Procedures
MDP_PRO_0024	Market Manual 2.8: Reliability Outlook Information Requirements
MDP_PRO_0025	Market Manual 2.9: Directives for Proposal (DFP)

- End of Document -