

Energy Market Interface

Submitting, Revising and Cancelling Energy Offers

IESO Training

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AN IESO TRAINING PUBLICATION

This training manual has been prepared to assist in the IESO training of market participants and has been compiled from extracts from the market rules or documents posted on the web site of Ontario's Independent Electricity System Operator. Users of this training manual are reminded that they remain responsible for complying with all of their obligations under the market rules and associated policies, standards and procedures relating to the subject matter of this training manual, even if such obligations are not specifically referred to herein. While every effort has been made to ensure the provisions of this training manual are accurate and up to date, users must be aware that the specific provisions of the market rules or particular document shall govern.

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1. Introduction

The purpose of this guide is to provide detailed instructions on submitting, cancelling, and revising energy offers using the Energy Market Interface (EMI).

This guide is mainly aimed at market participants who are **generators** in the physical market. Participants in the Ontario physical markets use EMI to do the following actions:

- Submit, review and revise bids and offers
- Submit, review and revise import offers and export bids
- Submit, review and revise schedules and forecasts
- Receive market notices issued by the IESO
- Submit, review and revise physical bilateral contract data

1.1 Terms

Whenever possible, this document uses terms as defined in the market rules and market manuals. To avoid confusion, we are including a few definitions:

Dispatch Day

The *dispatch day* is the actual day you are injecting or withdrawing energy. It is also referred to as the *trade day* or *trading day*. The dispatch day is defined in the market rules as “a period from midnight EST to the following midnight EST”. In EMI, the dispatch day is called the *Delivery Date*.

Pre-dispatch Day

The pre-dispatch day is defined in the market rules as the day immediately prior to the dispatch day. For example, if the dispatch day is Tuesday, the pre-dispatch day is Monday.

Standing Bid/Offer

A bid/offer you expect to be the same from day to day, or week to week. For example, you may submit a bid/offer that is the same for every Wednesday. If you enter it as a standing bid/offer, you only have to submit it once. The system will then ensure that an Initial or Daily bid/offer is submitted for every Wednesday thereafter as per your submitted information.

Initial (or Daily) Bid/Offer

A bid/offer you submit for any or all hours of one day. In this document we refer to bids or offers submitted from 6:00 am on the pre-dispatch day up until ten minutes prior to the dispatch hour as “daily” bids or offers. If you change your daily bid/offer, you must follow revision rules, and your changed bid/offer is sometimes referred to as your

“revised” offer.

The EMI designation for daily bids/offers is *Normal* bids/offers.

Note: Restrictions apply to bids/offers submitted after two (2) hours prior to the dispatch hour. See Appendix B: Revising and Cancelling OFFER Rules for more information.

Tie Point ID and Tie Line ID

The EMI uses the term **Tie Point ID**, which is the same as your Tie Line ID.

Day-Ahead Commitment Process (DACP)

The Day-Ahead Commitment Process has specific timeline requirements for submitting and revising dispatch data. For complete details on DACP timelines, please refer to the DACP Market Manuals available on the [Market Rules and Manuals Library](#) web page.

– End of Section –

2. Accessing EMI

The Energy Market Interface (EMI) is the market participant interface with Ontario's physical energy markets. The EMI is used for:

- Participating in the Real-time Energy and Operating Reserve Markets: Submitting, reviewing and revising dispatch data (i.e., offers, bids, schedules, forecasts)
 - Participating in inter-jurisdictional energy trading: submitting, reviewing and revising import offers and export bids
 - Submitting, reviewing and revising physical bilateral contract data
- To access the EMI, complete the following steps:

1. Open the EMI URL (<https://emi.ieso.ca>).
2. Enter your **IESO User Account Name** (the same user account name used to access the IESO Portal) and click **Continue**.



The screenshot shows the IESO EMI login page. At the top, there is a blue header with the IESO logo and the tagline "Power to Ontario. On Demand." A link "Return to IESO Portal Welcome Page." is in the top right corner. The main content area is white with a blue border. It features a "Sign In with User Account Name and Password" section. Below this, it says "Enter your User Account Name." and "User Account Name:" followed by a text input field. A "Continue" button is below the input field. To the right of the input field, there are two links: "Forgot your password?" and "Not a registered user?". Below these links is a link "Other questions?". At the bottom of the main content area, there is a "Attention to Market Participants" section with a disclaimer. The footer of the page is a blue bar with the text "Copyright IESO 2013: Contact the IESO Portal Administrator for technical questions or feedback."

- Enter your **password** then click **enter**.



Result: The EMI main page displaying the current Market Status will appear (shown below). The **Market Status** display continually updates and displays the current status for each of the financial and physical markets.

ieso		Energy Market Interface (EMI)		2016/04/1 15:48 EST	QA
Market Information Market Status Market Message Markets Real Time Energy Market (RTEM) Operating Reserve (OPRES) Schedule (SCH) Daily Generation Data (DGD) Bilateral (BLT)		Market Status Generated : 2016/04/01 14:24:22 * Past windows are greyed out. Current window is highlighted in Yellow.			
		Refresh	Detach		
		Market Hour	Start of Initial Window	Start of Mandatory Window	Start of Closed Window
		2016/04/01 00	2016/03/31 06:00	2016/03/31 22:00	2016/03/31 23:50
		2016/04/01 01	2016/03/31 06:00	2016/03/31 23:00	2016/04/01 00:50
		2016/04/01 02	2016/03/31 06:00	2016/04/01 00:00	2016/04/01 01:50
		2016/04/01 03	2016/03/31 06:00	2016/04/01 01:00	2016/04/01 02:50
		2016/04/01 04	2016/03/31 06:00	2016/04/01 02:00	2016/04/01 03:50
		2016/04/01 05	2016/03/31 06:00	2016/04/01 03:00	2016/04/01 04:50
		2016/04/01 06	2016/03/31 06:00	2016/04/01 04:00	2016/04/01 05:50
		2016/04/01 07	2016/03/31 06:00	2016/04/01 05:00	2016/04/01 06:50
		2016/04/01 08	2016/03/31 06:00	2016/04/01 06:00	2016/04/01 07:50
		2016/04/01 09	2016/03/31 06:00	2016/04/01 07:00	2016/04/01 08:50
		2016/04/01 10	2016/03/31 06:00	2016/04/01 08:00	2016/04/01 09:50
		2016/04/01 11	2016/03/31 06:00	2016/04/01 09:00	2016/04/01 10:50
		2016/04/01 12	2016/03/31 06:00	2016/04/01 10:00	2016/04/01 11:50
		2016/04/01 13	2016/03/31 06:00	2016/04/01 11:00	2016/04/01 12:50
		2016/04/01 14	2016/03/31 06:00	2016/04/01 12:00	2016/04/01 13:50
		2016/04/01 15	2016/03/31 06:00	2016/04/01 13:00	2016/04/01 14:50
		2016/04/01 16	2016/03/31 06:00	2016/04/01 14:00	2016/04/01 15:50
		2016/04/01 17	2016/03/31 06:00	2016/04/01 15:00	2016/04/01 16:50
		2016/04/01 18	2016/03/31 06:00	2016/04/01 16:00	2016/04/01 17:50
		2016/04/01 19	2016/03/31 06:00	2016/04/01 17:00	2016/04/01 18:50
		2016/04/01 20	2016/03/31 06:00	2016/04/01 18:00	2016/04/01 19:50
		2016/04/01 21	2016/03/31 06:00	2016/04/01 19:00	2016/04/01 20:50
		2016/04/01 22	2016/03/31 06:00	2016/04/01 20:00	2016/04/01 21:50
		2016/04/01 23	2016/03/31 06:00	2016/04/01 21:00	2016/04/01 22:50
		2016/04/02 00	2016/04/01 06:00	2016/04/01 22:00	2016/04/01 23:50
		2016/04/02 01	2016/04/01 06:00	2016/04/01 23:00	2016/04/02 00:50
		2016/04/02 02	2016/04/01 06:00	2016/04/02 00:00	2016/04/02 01:50
		2016/04/02 03	2016/04/01 06:00	2016/04/02 01:00	2016/04/02 02:50
		2016/04/02 04	2016/04/01 06:00	2016/04/02 02:00	2016/04/02 03:50
		2016/04/02 05	2016/04/01 06:00	2016/04/02 03:00	2016/04/02 04:50
		2016/04/02 06	2016/04/01 06:00	2016/04/02 04:00	2016/04/02 05:50
		2016/04/02 07	2016/04/01 06:00	2016/04/02 05:00	2016/04/02 06:50
		2016/04/02 08	2016/04/01 06:00	2016/04/02 06:00	2016/04/02 07:50

– End of Section –

3. Energy Offers

There are three types of offers in the Real-time Energy Market: Initial (or Daily) Offers, Standing Offers, and Revised Offers.

Dispatchable generators must submit offers to the IESO using the EMI in order to supply energy to the IESO-controlled grid. Offers from generators in Ontario are submitted using the Real-time Energy Market (RTEM) screens.

Offer submissions must follow the market rules regarding price/quantity pairs, timing, ramp rates, revisions and cancellations.

See [Introduction to Ontario's Physical Markets](#) on the IESO [Training](#) web page for more information.

3.1 Energy Offer Terms and Timelines

This section describes the required timelines that you must follow for your energy offers. There are three types of offers you may submit and each have associated timeline rules:

- Initial or Daily Offers,
- Standing Offers, and
- Revised Offers.

In order to discuss the timeline rules, we must first define several terms:

Dispatch Day or Trade Day

The actual trading day, called **Delivery Date** in the EMI.

Pre-dispatch Day

The day immediately prior to the dispatch day.

Initial or Daily Offer

Also called **Normal** in the EMI, this is an offer submitted from 6:00 am on the pre-dispatch day up until ten minutes prior to the dispatch hour.

Offers submitted within two hours of the dispatch hour require IESO approval.

See Appendix B: Revising and Cancelling OFFER Rules for more information.

Keep in mind that under DACP, dispatchable generators must submit offers by 10:00 am on the pre-dispatch day if they want to participate on the dispatch day. Please refer to the DACP Market Manuals available on the [Market Rules and Manuals Library](#) web page for complete details.

Standing Offer

A standing offer is an offer you expect to be the same from day to day, or week to week. Submitting a Standing Offer ensures that there is always an offer in the market, and it also decreases the amount of time spent on submissions.

Standing Offers are converted to Daily Offers once a day at 6:00 am on the pre-dispatch day. For example, at 6:00 am on Monday, Standing Offers become Daily Offers for Tuesday.

A Standing Offer only takes effect after it has been converted to a Daily Offer. For example:

- If you submit a Standing Offer for all days of the week after 6:00 am on Monday, the offer will convert to a Daily Offer at 6:00 am on Tuesday to be effective for the trade date of Wednesday. **Remember:** Standing Offers are converted to Daily Offers for the NEXT day at 6:00 am.
- If you submit the same Standing Offer before 6:00 am on Monday, it will be available for the 6:00 am conversion on that day, and could be used for the Tuesday's dispatch.

Standing Offers for a single day of the week may be submitted as early as one (1) week prior to the first dispatch day covered by the offer.

Standing Offer Example

You wish to submit a standing offer to be used for **July 16, 17, 18, 19, 20, 21 and 22**. Therefore, you must submit your standing offer before 6:00 am on July 14, with an expiry date of July 21. In this case, at 9:00 am on July 14, you submit a standing offer for all days, with an expiry date of July 21. You would leave the **Delivery date** field at the default setting.

JULY						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			3			6
			1			13
14	15 Offer not used	16 Offer used	17 Offer used	18 Offer used	19 Offer used	20 Offer used
21 Offer used	22 Offer used	23 Offer not used	24	25	26	27
28						

A Standing Offer is submitted on July 14 at 9:00 am.

The offer is not used in dispatch because it was submitted after 6:00 am on the pre-dispatch day July 15.

The offer is used in dispatch because it was available for processing as it was submitted before 6:00 am on the pre-dispatch day, July 16.

The offer is used in dispatch because it was processed on July 21, the expiry day of the standing offer.

The offer is not used in dispatch because the standing offer had expired and therefore not processed on July 22.

Revised or Cancelling Offers

Both Standing Offers and Daily Offers may be revised according to the rules for revising offers. See Section Appendix B: Revising and Cancelling OFFER Rules for more information.

Expiry Date

If you wish, you may include an expiry date with a Standing Offer. The expiry date is the last date the offer will be converted to a Daily Offer.

For example, if you enter an expiry date of July 28, the last time your offer will be converted to a Daily Offer is at 6:00 am on July 28, and will be considered effective for the trade day of July 29.

Daily Energy Limit

The Daily Energy Limit is the maximum amount of energy (in MWh) that can be scheduled from a generation resource during a given day.

The pre-dispatch schedule factors in the Daily Energy Limit, but the dispatch schedule does not. For example, Generator A has a 200 MWh Daily Energy Limit and submits an offer for 100 MW per hour for hours 9-16. The pre-dispatch schedule will look at the Daily Energy Limit, and will schedule the facility for the first hours in which their offer is successful. At that point, the daily limit will have been reached, and pre-dispatch will no longer schedule the facility.

In the real-time dispatch schedule, the algorithm does not factor in the Daily Energy Limit. If the offer is successful, the facility will be scheduled for 100 MW for all hours 9-16. Therefore, even if you complete this field when submitting your offer, it remains your responsibility to ensure that your facility is not scheduled for more energy than you are able to produce. You can do this by adjusting your offers.

Note: If your resource is energy-limited, you have an opportunity to change your offers to help solve energy shortfalls through the Day-ahead Commitment Process (DACP). See the DACP Market Manuals available on the [Market Rules and Manuals Library](#) web page for details.

3.2 Preparing Initial (Daily) Offers or Standing Offers

The following instructions apply to preparing a Daily Offer or a Standing Offer using the EMI. See Section 4, Revising and Cancelling Energy Offers, for information on revising or cancelling a previously submitted offer.

To submit a Daily Offer (called Normal in the EMI) or a Standing Offer, complete the following steps:

1. Select **Real Time Energy Market (RTEM)** under Markets from the menu on the left side of the EMI.

The screenshot shows the Energy Market Interface (EMI) with the Real Time Energy Market (RTEM) selected in the left-hand menu. The main area displays a table of market status data. The table has four columns: Market Hour, Start of Initial Window, Start of Mandatory Window, and Start of Closed Window. The data is organized by date and time, with rows for each hour from 00:00 to 06:00 on 2016/04/01 and 2016/04/02. The current window is highlighted in yellow.

Market Hour	Start of Initial Window	Start of Mandatory Window	Start of Closed Window
2016/04/01 00	2016/03/31 06:00	2016/03/31 22:00	2016/03/31 23:50
2016/04/01 01	2016/03/31 06:00	2016/03/31 23:00	2016/04/01 00:50
2016/04/01 02	2016/03/31 06:00	2016/04/01 00:00	2016/04/01 01:50
2016/04/01 03	2016/03/31 06:00	2016/04/01 01:00	2016/04/01 02:50
2016/04/01 04	2016/03/31 06:00	2016/04/01 02:00	2016/04/01 03:50
2016/04/01 05	2016/03/31 06:00	2016/04/01 03:00	2016/04/01 04:50
2016/04/01 06	2016/03/31 06:00	2016/04/01 04:00	2016/04/01 05:50
2016/04/01 07	2016/03/31 06:00	2016/04/01 05:00	2016/04/01 06:50
2016/04/01 08	2016/03/31 06:00	2016/04/01 06:00	2016/04/01 07:50
2016/04/01 09	2016/03/31 06:00	2016/04/01 07:00	2016/04/01 08:50
2016/04/01 10	2016/03/31 06:00	2016/04/01 08:00	2016/04/01 09:50
2016/04/01 11	2016/03/31 06:00	2016/04/01 09:00	2016/04/01 10:50
2016/04/01 12	2016/03/31 06:00	2016/04/01 10:00	2016/04/01 11:50
2016/04/01 13	2016/03/31 06:00	2016/04/01 11:00	2016/04/01 12:50
2016/04/01 14	2016/03/31 06:00	2016/04/01 12:00	2016/04/01 13:50
2016/04/01 15	2016/03/31 06:00	2016/04/01 13:00	2016/04/01 14:50
2016/04/01 16	2016/03/31 06:00	2016/04/01 14:00	2016/04/01 15:50
2016/04/01 17	2016/03/31 06:00	2016/04/01 15:00	2016/04/01 16:50
2016/04/01 18	2016/03/31 06:00	2016/04/01 16:00	2016/04/01 17:50
2016/04/01 19	2016/03/31 06:00	2016/04/01 17:00	2016/04/01 18:50
2016/04/01 20	2016/03/31 06:00	2016/04/01 18:00	2016/04/01 19:50
2016/04/01 21	2016/03/31 06:00	2016/04/01 19:00	2016/04/01 20:50
2016/04/01 22	2016/03/31 06:00	2016/04/01 20:00	2016/04/01 21:50
2016/04/01 23	2016/03/31 06:00	2016/04/01 21:00	2016/04/01 22:50
2016/04/02 00	2016/04/01 06:00	2016/04/01 22:00	2016/04/01 23:50
2016/04/02 01	2016/04/01 06:00	2016/04/01 23:00	2016/04/02 00:50
2016/04/02 02	2016/04/01 06:00	2016/04/02 00:00	2016/04/02 01:50
2016/04/02 03	2016/04/01 06:00	2016/04/02 01:00	2016/04/02 02:50
2016/04/02 04	2016/04/01 06:00	2016/04/02 02:00	2016/04/02 03:50
2016/04/02 05	2016/04/01 06:00	2016/04/02 03:00	2016/04/02 04:50
2016/04/02 06	2016/04/01 06:00	2016/04/02 04:00	2016/04/02 05:50
2016/04/02 07	2016/04/01 06:00	2016/04/02 05:00	2016/04/02 06:50

2. Select the **Bid Type** as either Normal or Standing.

Note: In EMI, Normal refers to Initial or Daily bids and offers.

The screenshot shows the Real Time Energy Market (RTEM) form. The Bid Type is set to Normal (selected with a radio button). The Delivery date is 2016/04/04. The Standing Day Type is set to Normal. The Market Participant, Resource Type, and Resource Name fields are empty.

Bid Type : ☒ Normal ☐ Standing

Delivery date : 2016/04/04

Standing Day Type :

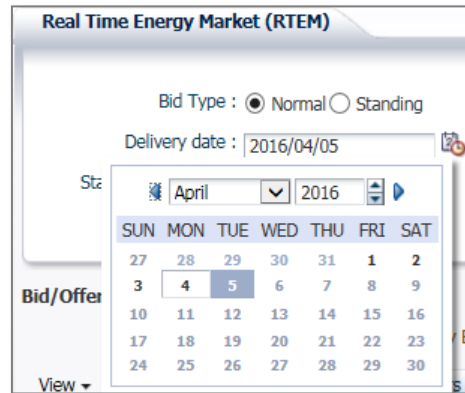
Market Participant :

Resource Type :

Resource Name :

- If you are submitting a Normal offer, select the **Delivery date**. For Standing Offers, this field is not required and is therefore not selectable.

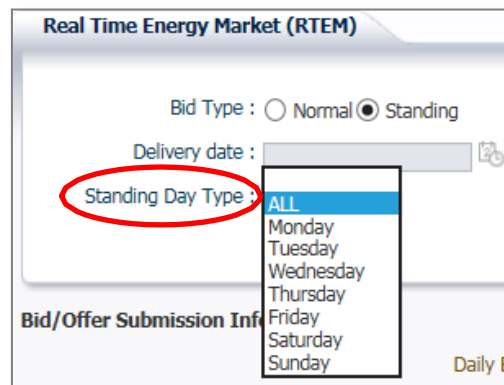
The **Delivery date** defaults to the current trading date. If your offer is for the next trading date, click the Calendar icon and select the appropriate date from the calendar. The remaining highlighted dates in the calendar are only used when submitting bilateral contract data.



If you select the **Delivery date** after having already selected the Resource Type, and Resource Name, you may have to select the correct Resource Type and Resource Name again. EMI changes the Resource Type and Resource Name lists based on the **Delivery date**.

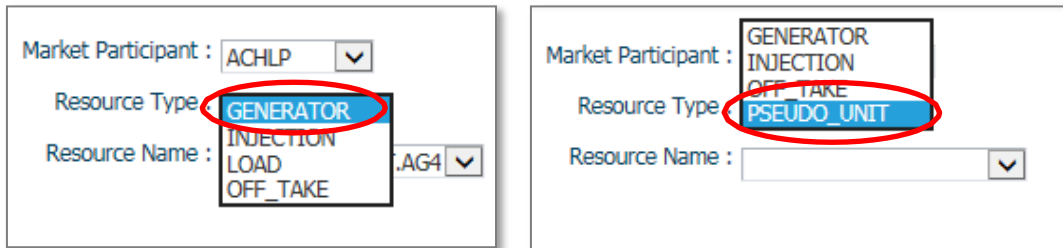
- If you are submitting a Standing Offer, select the **Standing Day Type**. If your Standing Offer is for all days of the week, select **ALL**. Otherwise, select the day of the week to which the Standing Offer applies.

Note: See Section 3.1, Energy Offer Terms and Timelines, on Page 5 for more information about Standing Offer timelines.



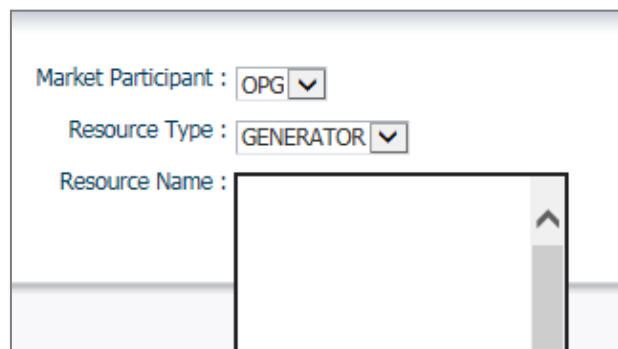
- Click the drop down next to **Market Participant** to see a list of the market participants on whose behalf you are authorized to enter dispatch data (e.g., offers, bids, schedules, etc.).

Choose the Market Participant for which you wish to enter an energy offer then click the drop-down next to **Resource Type** and select **GENERATOR** or **Pseudo Unit**. Off-Take and Injection are used for exports and imports.



The first screenshot shows the 'Market Participant' dropdown set to 'ACHLP'. The 'Resource Type' dropdown is open, showing options: GENERATOR, INJECTION, LOAD, and OFF_TAKE. 'GENERATOR' is highlighted with a red circle. The 'Resource Name' dropdown is set to 'AG4'. The second screenshot shows the 'Market Participant' dropdown set to 'ACHLP'. The 'Resource Type' dropdown is open, showing options: GENERATOR, INJECTION, OFF_TAKE, and PSEUDO_UNIT. 'PSEUDO_UNIT' is highlighted with a red circle. The 'Resource Name' dropdown is empty.

- Click the drop-down next to **Resource Name** and select the facility for which you are submitting an offer.



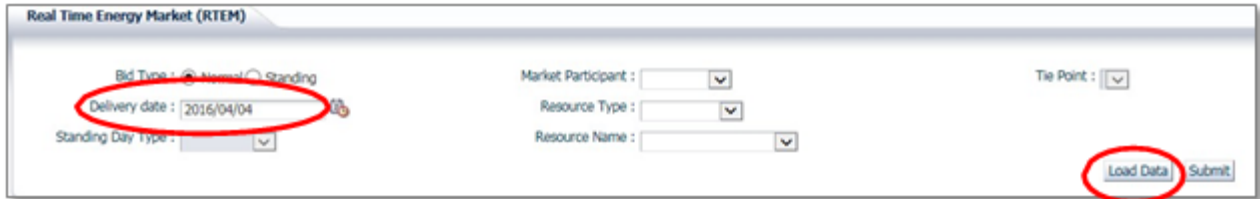
The screenshot shows the 'Market Participant' dropdown set to 'OPG'. The 'Resource Type' dropdown is set to 'GENERATOR'. The 'Resource Name' dropdown is open, showing a list of facilities. The list is empty, and the dropdown is highlighted with a red circle.

The **Resource Name** is the unique reference for a facility used when submitting bids and offers. It is also called the “Delivery Point” and is used as the point of settlement for the IESO’s physical markets.

You do not need to select a **Tie Point**. This field is not selectable for generators because it is only used for imports and exports.

Optional Step:

Select a date that you have previously submitted an offer for and then click Load Data to populate the screen with data from that existing offer. The offer data can then be modified to create a new offer by then selecting the date you wish to submit an offer for.

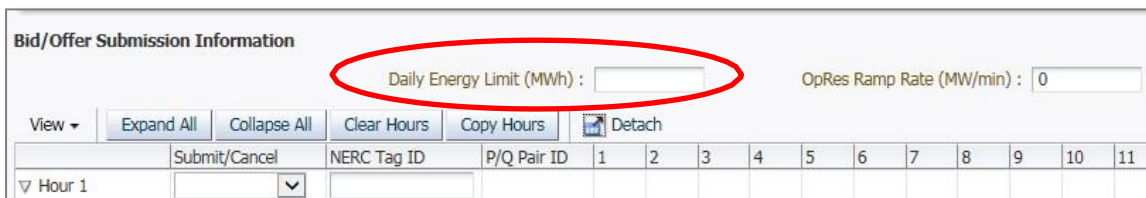


7. Proceed to Section 3.3, Submitting Price/Quantity Pairs, to continue building your offer.

3.3 Submitting Price/Quantity Pairs

1. Enter your **Daily Energy Limit in MWh**, up to one (1) decimal place.

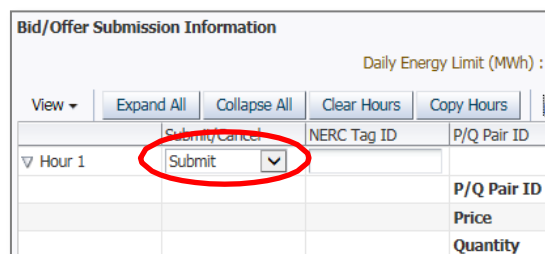
For example, if your facility is capable of providing a maximum of 200 MWh in a 24 hour period, you would enter **200** or **200.0** in this field.



The only way to remove a Daily Energy Limit, once entered, is to delete the existing value, leaving the field blank. Entering a value of zero (0) does not remove the limit. Instead, it indicates that the facility has no energy at all that can be scheduled.

See Section 3.1, Energy Offer Terms and Timelines, for more information on the Daily Energy Limit (Page 8).

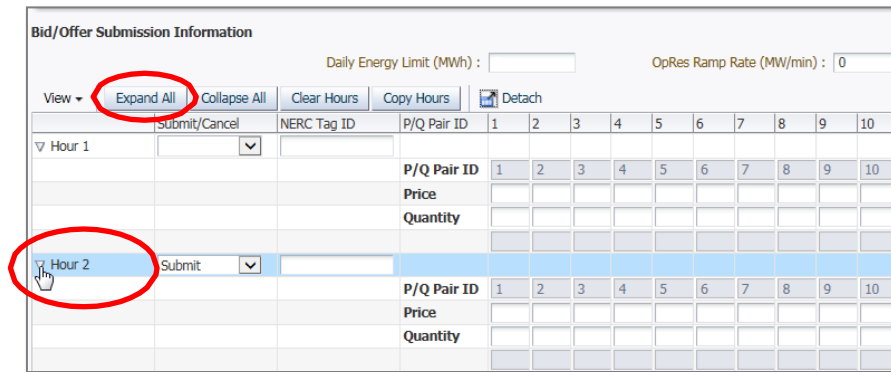
2. Select **Submit** from the drop-down next to the Hour number for the hour that you are submitting an offer.



The market software tools use the “hour ending” convention. I.e., Hour 1 is the first hour of the day; it is the hour that starts at midnight and ends at 1:00 am. Hours 10-11 are the hours from 9:00 am to 11:00 am. Hours 1-24 are the hours from midnight one day through midnight the next day. Eastern Standard Time is used year-round.

- Click the triangle next to the Hour number to expand the Price and Quantity section, enabling you to enter up to 20 price/quantity pairs for each hour.

Or, click **Expand All** to reveal the price/quantity pair section for every hour. Clicking **Collapse All** will hide the price/quantity pair section for all hours.



The screenshot shows the 'Bid/Offer Submission Information' window. At the top, there are fields for 'Daily Energy Limit (MWh)' and 'OpRes Ramp Rate (MW/min)'. Below these are buttons for 'View', 'Expand All', 'Collapse All', 'Clear Hours', 'Copy Hours', and 'Detach'. The main table has columns for 'Hour', 'Submit/Cancel', 'NERC Tag ID', 'P/Q Pair ID', 'Price', and 'Quantity'. The 'Hour 2' row is highlighted, and the 'Expand All' button is circled. The table shows two rows for 'Hour 1' and 'Hour 2', each with a 'Submit' button and a 'P/Q Pair ID' column.

- Enter the price in dollars and cents, up to two decimal places for each hourly offer. E.g., \$10 dollars may be entered as **10.00** or **10.0** or **10**.
 - Enter the quantity in megawatts (MW), up to one decimal place, for each hourly offer.
- See Appendix A: Rules for Price/Quantity Pairs for more information about price/quantity pairs.

3.4 Ramp Rates

Ramp rates are submitted in megawatt breakpoints, each with a ramp up speed value and a ramp down speed value. See the figure below for an example of ramp rate breakpoints and ramp up/down values from the EMI:

Ramp Rate ID	1	2	3	4	5
Ramp Rate ID	1	2	3	4	5
RR(Break Point)	70	120			
RR(Ramp Up)	3	4			
RR(Ramp Down)	6	8			

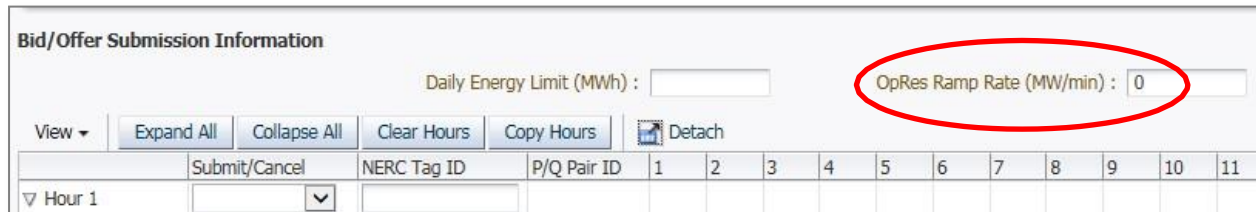
In the ramp rate example above, column 1 shows a ramp rate breakpoint of 70 MW, a ramp up value of 3 MW per minute and a ramp down value of 6 MW per minute. The rate for the facility to ramp up from 70 MW to 120 MW is 4 megawatts per minute and the rate to ramp down to 70 MW is 8 megawatts per minute.

The columns, or laminations, in the ramp rate sets do not have to be identical to the laminations in the price/quantity pairs.

3.4.1 Entering Ramp Rates

To enter ramp rates for your offers, complete the following steps:

1. Enter an **operating reserve ramp rate** associated with your offer if you plan on submitting an Operating Reserve offer along with your energy offer.



Bid/Offer Submission Information

Daily Energy Limit (MWh) :

OpRes Ramp Rate (MW/min) :

View ▾ Expand All Collapse All Clear Hours Copy Hours Detach

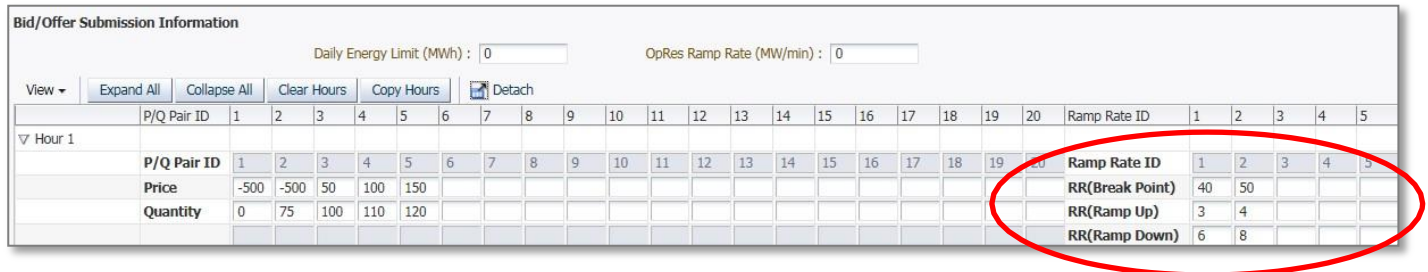
Submit/Cancel	NERC Tag ID	P/Q Pair ID	1	2	3	4	5	6	7	8	9	10	11
Hour 1													

Enter the number of MW per minute, rounded to one decimal place. E.g., if your ramp rate is 5 MW/min, enter 5 or 5.0.

A single operating reserve ramp rate applies to all hours in your OR offer.

2. For an hour that you have entered a price/quantity pair, enter up to 5 **ramp rate breakpoints** and associated **ramp up** and **ramp down** values starting with the first column.

All ramp rate values are in MW to one decimal place. Ramp up and down MW are per minute values.



Bid/Offer Submission Information

Daily Energy Limit (MWh) :

OpRes Ramp Rate (MW/min) :

View ▾ Expand All Collapse All Clear Hours Copy Hours Detach

P/Q Pair ID	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Ramp Rate ID	1	2	3	4	5
Hour 1																										
P/Q Pair ID	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Ramp Rate ID	1	2	3	4	5
Price	-500	-500	50	100	150																	RR(Break Point)	40	50		
Quantity	0	75	100	110	120																	RR(Ramp Up)	3	4		
																						RR(Ramp Down)	6	8		

3.5 Preparing a Three Part Offer

Three part offers can be entered for production cost guarantee eligible generation facilities for consideration during the Day-Ahead Commitment Process (DACP). For DACP details, refer to the DACP Market Manuals available on the [Market Rules and Manuals Library](#) web page.

Entering a three part offer simply means entering two additional costs along with your incremental costs (price/quantity pairs). These additional costs are:

- **Speed No-Load Costs** – The cost to maintain a generation unit synchronized with zero net energy injected into the system for an hour.
- **Start-Up Cost** – The cost incurred to bring an off-line generation unit through all of the unit-specific start-up procedures, including synchronization and ramp up to minimum loading point.

A three part offer allows the Day-Ahead Calculation Engine to factor in total costs when determining day-ahead schedules.

To enter a three part offer, complete the following steps:

1. Enter your **speed no-load costs** for each hour that you are submitting an offer.

Ramp Rate ID	1	2	3	4	5	Speed No Load	Start Up Cost	Reason Code	Other Reason
						0	0	▼	
Ramp Rate ID	1	2	3	4	5				
RR(Break Point)	850	890							
RR(Ramp Up)	2	5							
RR(Ramp Down)	0.1	5							

2. Enter the **Start Up Cost** for each hour that you are submitting an offer.

Ramp Rate ID	1	2	3	4	5	Speed No Load	Start Up Cost	Reason Code	Other Reason
						0	0	▼	
Ramp Rate ID	1	2	3	4	5				
RR(Break Point)	850	890							
RR(Ramp Up)	2	5							
RR(Ramp Down)	0.1	5							

Using **Copy Hours** will also copy the three part offer data to any hour(s) or all hours, if applicable. To copy three part offer data to multiple hours, see Section **Error! Reference source not found., Error! Reference source not found..**

3.6 Entering the Same Offer for Multiple Hours

Copy Hours is an efficient way to copy the information from a chosen hour to other selected hours. Therefore if you submit the same hourly offer information for multiple hours in a day, complete the steps below.

1. Click **Copy Hours** after completing your price/quantity pairs for a single hour.



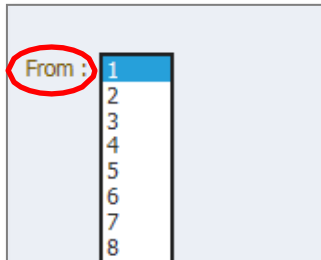
Bid/Offer Submission Information

Daily Energy Limit (MWh) : 0 OpRes Ramp Rate (MW/min) : 0

View ▾ Expand All Collapse All Clear Hours **Copy Hours** Detach

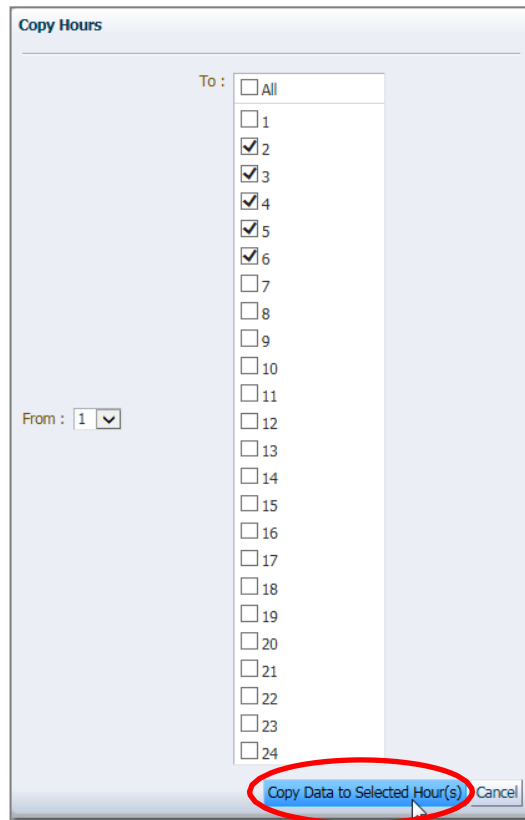
	P/Q Pair ID	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Ramp Rate
▽ Hour 1																						
P/Q Pair ID	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Ramp Rate	
Price	-500	-500	50	100	150																RR(Break	
Quantity	0	75	100	110	120																RR(Ramp	
																					RR(Ramp	

2. In the drop-down next to **From**, select the hour you wish to copy.



From : 1
2
3
4
5
6
7
8

3. Select the hours you wish to copy the offers to, or select **All**, then click **Copy Data to Selected Hour(s)**.



Copy Hours

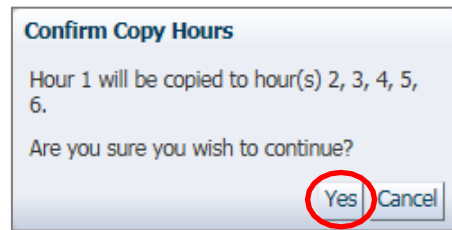
To : ☐ All

☐ 1
☒ 2
☒ 3
☒ 4
☒ 5
☒ 6
☐ 7
☐ 8
☐ 9
☐ 10
☐ 11
☐ 12
☐ 13
☐ 14
☐ 15
☐ 16
☐ 17
☐ 18
☐ 19
☐ 20
☐ 21
☐ 22
☐ 23
☐ 24

From : 1 ▾

Copy Data to Selected Hour(s) Cancel

- Confirm your selection then click **Yes** to proceed.



The price/quantity pairs are copied to the hours selected.

Bid/Offer Submission Information

Daily Energy Limit (MWh) : OpRes Ramp R

View ▾ Expand All Collapse All Clear Hours Copy Hours Detach

	Submit/Cancel	NERC Tag ID	P/Q Pair ID	1	2	3	4	5	6
▽ Hour 1	Submit ▾								
			P/Q Pair ID	1	2	3	4	5	6
			Price	20.5	20.5	21.6	22	23	24.5
			Quantity	0	20	40	60	80	100
▽ Hour 2	Submit ▾								
			P/Q Pair ID	1	2	3	4	5	6
			Price	20.5	20.5	21.6	22	23	24.5
			Quantity	0	20	40	60	80	100
▽ Hour 3	Submit ▾								
			P/Q Pair ID	1	2	3	4	5	6
			Price	20.5	20.5	21.6	22	23	24.5
			Quantity	0	20	40	60	80	100

3.7 Clear Hours

Rather than deleting each price/quantity pair and other energy offer data for any hour(s) or all hours, you can easily delete all offers using the **Clear Hours** button.

- Click **Clear Hours** to remove all offer data for any hour(s) or all hours.

Bid/Offer Submission Information

Daily Energy Limit (MWh) :

OpRes Ramp Rate (MW/min) :


View ▾

Expand All

Collapse All

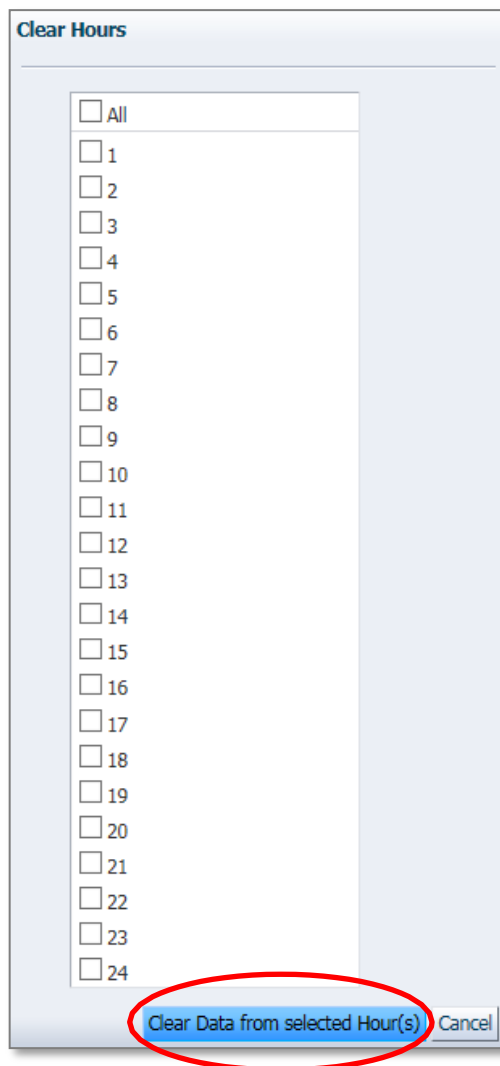
Clear Hours

Copy Hours

 Detach

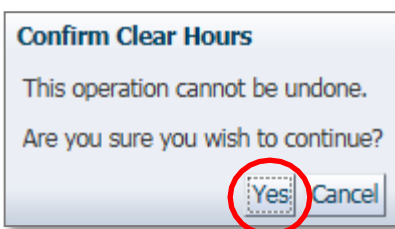
	P/Q Pair ID	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Ramp Rate ID	1	2	3	4	5
▽ Hour 1																											
	P/Q Pair ID	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Ramp Rate ID	1	2	3	4	5
	Price	-500	-500	50	100	150																RR(Break Point)	40	50			
	Quantity	0	75	100	110	120																RR(Ramp Up)	3	4			
																						RR(Ramp Down)	6	8			

2. Select the hours you wish to clear offers for, or select **All**, then click **Clear Data from selected Hour(s)**.



The 'Clear Hours' dialog box contains a list of checkboxes for hours 1 through 24, plus an 'All' option at the top. At the bottom, there are two buttons: 'Clear Data from selected Hour(s)' and 'Cancel'. The 'Clear Data from selected Hour(s)' button is circled in red.

3. Click **Yes** to proceed.



The 'Confirm Clear Hours' dialog box displays the message: 'This operation cannot be undone. Are you sure you wish to continue?'. At the bottom, there are two buttons: 'Yes' and 'Cancel'. The 'Yes' button is circled in red.

The price/quantity pairs, and other offer data, are cleared from the hours selected.

3.8 Submitting Your Offer

Once you have finished entering your offer data you are ready to submit your offer to the IESO. Complete the following steps to submit your offer:

1. Verify that the offer information is correct and complete.
2. Select **Submit** from the drop-down next to the hour number for the hours that you are submitting as part of your offer.

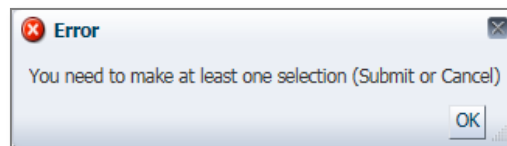
Bid/Offer Submission Information

Daily Energy Limit (MWh) : 0 OpRes

View ▾ Expand All Collapse All Clear Hours Copy Hours Detach

	Submit/Cancel	NERC Tag ID	P/Q Pair ID	1	2	3	4	5
▽ Hour 1	Submit							
			P/Q Pair ID	1	2	3	4	5
			Price	-500	-500	50	100	150
			Quantity	0	75	100	110	120
▽ Hour 2	Submit							
			P/Q Pair ID	1	2	3	4	5
			Price	-500	-500	50	100	150
			Quantity	0	75	100	110	120

Otherwise, you may see the following error message when attempting to submit your offer to the IESO:



Click **Submit** to send your offer to the IESO.

Real Time Energy Market (RTEM)

Bid Type : ☒ Normal ☐ Standing Market Participant : Tie Point :

Delivery date : 2016/04/19 Resource Type :

Standing Day Type : Resource Name :

Load Data **Submit**

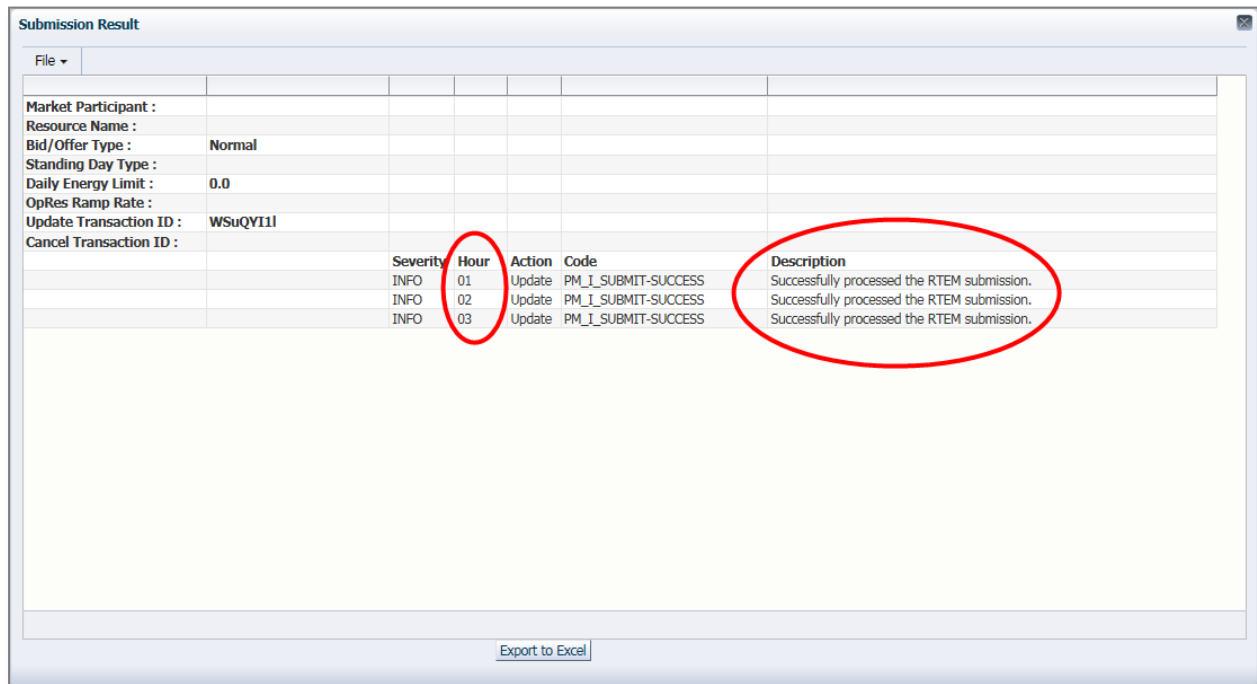
Bid/Offer Submission Information

Daily Energy Limit (MWh) : 0 OpRes Ramp Rate (MW/min) : 0

View ▾ Expand All Collapse All Clear Hours Copy Hours Detach

	Submit/Cancel	NERC Tag ID	P/Q Pair ID	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Ramp Rate ID
▽ Hour 1	Submit																							
			P/Q Pair ID	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Ramp Rate ID
			Price	-500	-500	50	100	150																RR(Break Poi
			Quantity	0	75	100	110	120																RR(Ramp Up
																								RR(Ramp Do
▽ Hour 2	Submit																							
			P/Q Pair ID	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Ramp Rate ID
			Price	-500	-500	50	100	150																RR(Break Poi
			Quantity	0	75	100	110	120																RR(Ramp Up
																								RR(Ramp Do
▽ Hour 3	Submit																							
			P/Q Pair ID	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Ramp Rate ID
			Price	-500	-500	50	100	150																RR(Break Poi
			Quantity	0	75	100	110	120																RR(Ramp Up
																								RR(Ramp Do

- You will receive a submission result within a few moments of submitting your offer, displaying the status of your offer. **Review** the Submission Result screen to ensure that your offers for all hours have been successfully updated and applied.



Severity	Hour	Action	Code	Description
INFO	01	Update	PM_I_SUBMIT-SUCCESS	Successfully processed the RTE submission.
INFO	02	Update	PM_I_SUBMIT-SUCCESS	Successfully processed the RTE submission.
INFO	03	Update	PM_I_SUBMIT-SUCCESS	Successfully processed the RTE submission.

Export to Excel

- Click **Export to Excel** to produce a spreadsheet of the Submission Result screen. Or, take a screen print for your records, and/or record the Transaction ID number. The Submission Result screen cannot be retrieved again.

A sample Excel export is included below:

Market Participant :						
Resource Name :						
Bid/Offer Type :	Normal					
Standing Day Type :						
Daily Energy Limit :	0					
OpRes Ramp Rate :						
Update Transaction ID :	W6RQY11a					
Cancel Transaction ID :						
		Severity	Hour	Action	Code	Description
		INFO	1	Update	PM_I_SUBMIT-SUCCESS	Successfully processed the RTE submission.
		INFO	2	Update	PM_I_SUBMIT-SUCCESS	Successfully processed the RTE submission.
		INFO	3	Update	PM_I_SUBMIT-SUCCESS	Successfully processed the RTE submission.

3.9 Entering Daily Generator Data (DGD)

On a daily basis, non quick-start generation facilities can submit revised baseline Daily Generator Data (DGD) through the EMI. The DGD remains the same as the most recently submitted values unless otherwise updated.

This data is then used by the DACP Day-Ahead Calculation Engine when it determines schedules for the next day.

See Appendix C: Daily Generator Data (DGD) for initial values and data definitions. To enter Daily Generator Data, complete the following steps:

1. Select **Daily Generator Data (DGD)** under Markets from the menu on the left side of the EMI.

Market Hour	Start of Initial Window	Start of Mandatory Window	Start of Closed Window
2016/04/01 00	2016/03/31 06:00	2016/03/31 22:00	2016/03/31 23:50
2016/04/01 01	2016/03/31 06:00	2016/03/31 23:00	2016/04/01 00:50
2016/04/01 02	2016/03/31 06:00	2016/04/01 00:00	2016/04/01 01:50
2016/04/01 03	2016/03/31 06:00	2016/04/01 01:00	2016/04/01 02:50
2016/04/01 04	2016/03/31 06:00	2016/04/01 02:00	2016/04/01 03:50
2016/04/01 05	2016/03/31 06:00	2016/04/01 03:00	2016/04/01 04:50
2016/04/01 06	2016/03/31 06:00	2016/04/01 04:00	2016/04/01 05:50
2016/04/01 07	2016/03/31 06:00	2016/04/01 05:00	2016/04/01 06:50
2016/04/01 08	2016/03/31 06:00	2016/04/01 06:00	2016/04/01 07:50
2016/04/01 09	2016/03/31 06:00	2016/04/01 07:00	2016/04/01 08:50
2016/04/01 10	2016/03/31 06:00	2016/04/01 08:00	2016/04/01 09:50
2016/04/01 11	2016/03/31 06:00	2016/04/01 09:00	2016/04/01 10:50
2016/04/01 12	2016/03/31 06:00	2016/04/01 10:00	2016/04/01 11:50
2016/04/01 13	2016/03/31 06:00	2016/04/01 11:00	2016/04/01 12:50
2016/04/01 14	2016/03/31 06:00	2016/04/01 12:00	2016/04/01 13:50
2016/04/01 15	2016/03/31 06:00	2016/04/01 13:00	2016/04/01 14:50
2016/04/01 16	2016/03/31 06:00	2016/04/01 14:00	2016/04/01 15:50
2016/04/01 17	2016/03/31 06:00	2016/04/01 15:00	2016/04/01 16:50
2016/04/01 18	2016/03/31 06:00	2016/04/01 16:00	2016/04/01 17:50
2016/04/01 19	2016/03/31 06:00	2016/04/01 17:00	2016/04/01 18:50
2016/04/01 20	2016/03/31 06:00	2016/04/01 18:00	2016/04/01 19:50
2016/04/01 21	2016/03/31 06:00	2016/04/01 19:00	2016/04/01 20:50
2016/04/01 22	2016/03/31 06:00	2016/04/01 20:00	2016/04/01 21:50
2016/04/01 23	2016/03/31 06:00	2016/04/01 21:00	2016/04/01 22:50
2016/04/02 00	2016/04/01 06:00	2016/04/01 22:00	2016/04/01 23:50
2016/04/02 01	2016/04/01 06:00	2016/04/01 23:00	2016/04/02 00:50
2016/04/02 02	2016/04/01 06:00	2016/04/02 00:00	2016/04/02 01:50
2016/04/02 03	2016/04/01 06:00	2016/04/02 01:00	2016/04/02 02:50
2016/04/02 04	2016/04/01 06:00	2016/04/02 02:00	2016/04/02 03:50
2016/04/02 05	2016/04/01 06:00	2016/04/02 03:00	2016/04/02 04:50
2016/04/02 06	2016/04/01 06:00	2016/04/02 04:00	2016/04/02 05:50
2016/04/02 07	2016/04/01 06:00	2016/04/02 05:00	2016/04/02 06:50

2. Select the **Market Participant** and **Resource Name**.

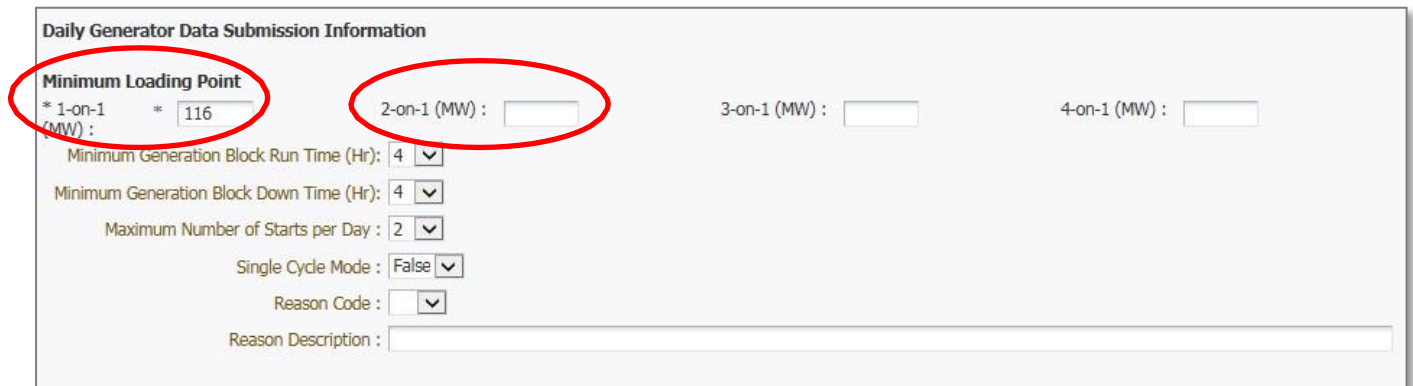
Daily Generation Data (DGD)

Market Participant : ▼

Resource Name : ▼

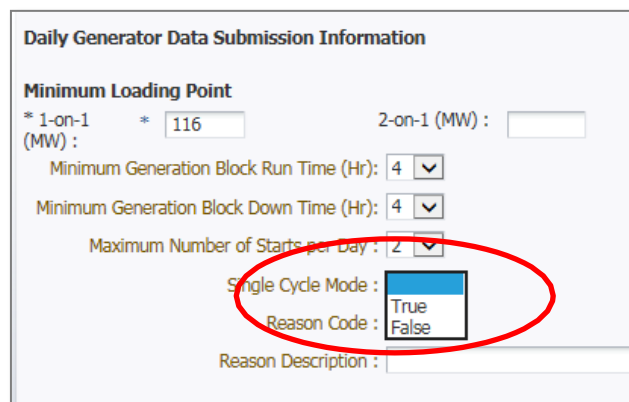
3. Click **Load Data** to populate the DGD fields with the most recently submitted values, or skip to the next step.
4. Enter the **Minimum Loading Points** of your resource.

For combined cycle facilities, the minimum loading point will vary depending upon the configuration of the units (one combustion turbine and one steam turbine, two combustion turbines and one steam turbine, etc.)

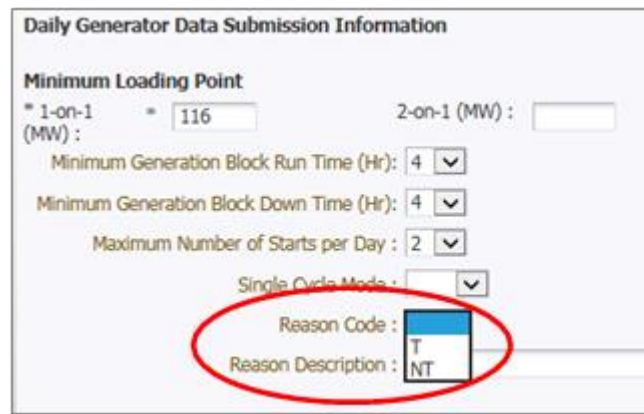


5. Enter the **Minimum Generation Block Run Time**.
6. If your **Minimum Generation Block Down Time** will differ during the period of your offer from what has been formally registered with the IESO, enter a new value.
7. If your **Maximum Number of Starts** will differ during the period of your offer from what has been formally registered with the IESO, enter a new value.
8. If your resource will be operating as a combustion turbine only (i.e., not in combined cycle mode with a steam turbine), select **True** from the **Single Cycle Mode** drop-down.

False is the default setting - select **False** if you had selected True the day before and the resource will be operating in a combined cycle for the period of your offer.



9. If your resource will exceed or has exceeded the registered limit tolerances, select a **Reason Code** from the drop-down. Select **T** for a Technical reason; select **NT** for a non-technical reason.



Daily Generator Data Submission Information

Minimum Loading Point

* 1-on-1 (MW) : 2-on-1 (MW) :

Minimum Generation Block Run Time (Hr):

Minimum Generation Block Down Time (Hr):

Maximum Number of Starts per Day :

Single Cycle Mode :

Reason Code : T
NT

Reason Description :

10. Enter a **Reason Description** if you have selected a Reason Code.

11. Click **Submit** to send your updated DGD to the IESO.



Daily Generation Data (DGD)

Market Participant :

Resource Name :

Daily Generator Data Submission Information

Minimum Loading Point

* 1-on-1 (MW) : 2-on-1 (MW) : 3-on-1 (MW) : 4-on-1 (MW) :

Minimum Generation Block Run Time (Hr):

Minimum Generation Block Down Time (Hr):

Maximum Number of Starts per Day :

Single Cycle Mode :

Reason Code :

Reason Description :

– End of Section –

4. Revising and Cancelling Energy Offers

Initial (Daily) Offers may be revised provided the changes follow the rules for revised offers. See Appendix B: Revising and Cancelling OFFER Rules for more information regarding the rules for submitting revised offers or cancelling offers.

In general, If you are revising or cancelling an offer within four (4) hours of the dispatch hour, you must enter all quantities, as well as the Resource Name and hours of the offer.

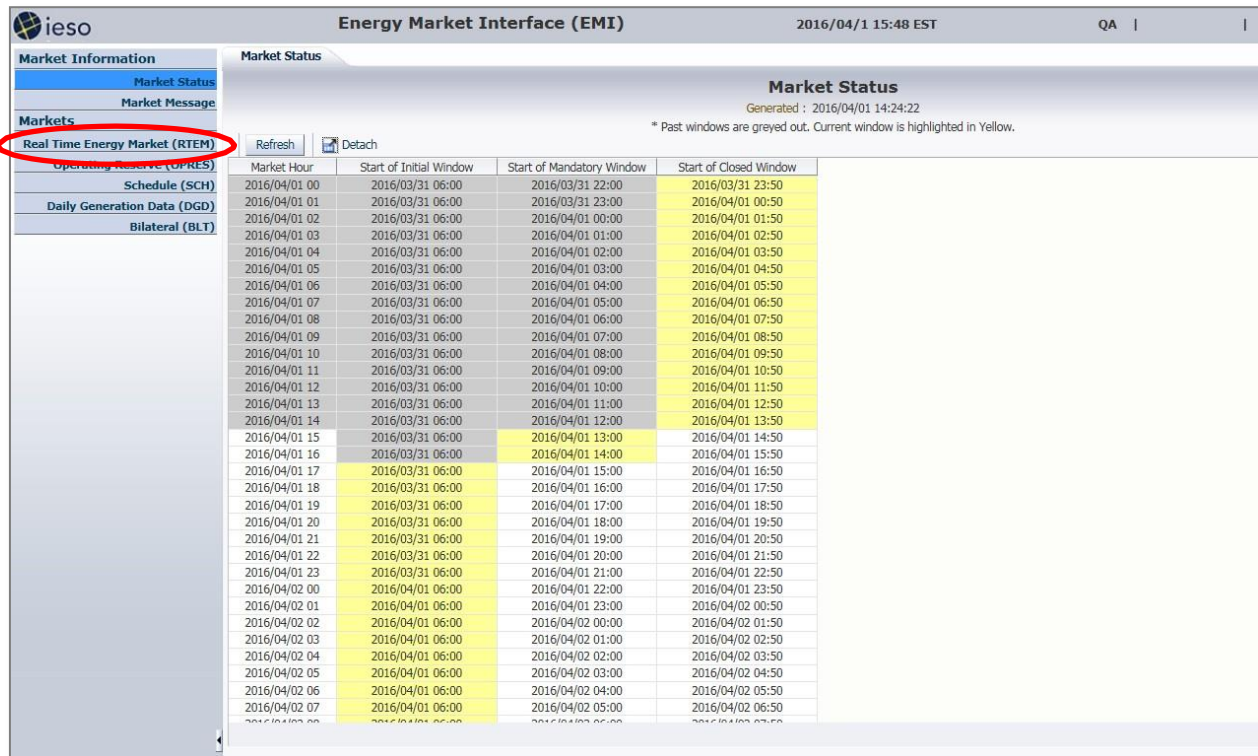
If you are revising or cancelling an offer within two (2) hours of the dispatch hour, you must also include a reason and IESO approval is required.

Keep in mind that if you have an operating reserve (OR) offer associated with your energy offer, you must cancel the OR offer *before* the system will allow you to cancel your energy offer.

4.1 Retrieving Your Offer

The easiest way to revise or cancel your offer is to first retrieve the offer. To retrieve your offer, complete the following steps:

1. Select **Real Time Energy Market (RTEM)** under Markets from the menu on the left side of the EMI.

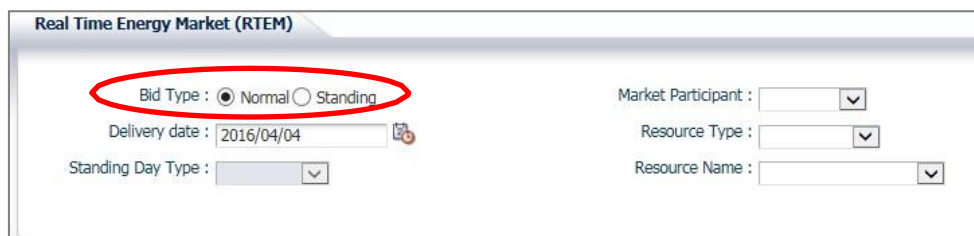


The screenshot shows the Energy Market Interface (EMI) with the 'Real Time Energy Market (RTEM)' option selected in the left-hand menu. The main area displays a table of market status data, including columns for Market Hour, Start of Initial Window, Start of Mandatory Window, and Start of Closed Window. The table is filtered for the date 2016/04/01.

Market Hour	Start of Initial Window	Start of Mandatory Window	Start of Closed Window
2016/04/01 00	2016/03/31 06:00	2016/03/31 22:00	2016/03/31 23:50
2016/04/01 01	2016/03/31 06:00	2016/03/31 23:00	2016/04/01 00:50
2016/04/01 02	2016/03/31 06:00	2016/04/01 00:00	2016/04/01 01:50
2016/04/01 03	2016/03/31 06:00	2016/04/01 01:00	2016/04/01 02:50
2016/04/01 04	2016/03/31 06:00	2016/04/01 02:00	2016/04/01 03:50
2016/04/01 05	2016/03/31 06:00	2016/04/01 03:00	2016/04/01 04:50
2016/04/01 06	2016/03/31 06:00	2016/04/01 04:00	2016/04/01 05:50
2016/04/01 07	2016/03/31 06:00	2016/04/01 05:00	2016/04/01 06:50
2016/04/01 08	2016/03/31 06:00	2016/04/01 06:00	2016/04/01 07:50
2016/04/01 09	2016/03/31 06:00	2016/04/01 07:00	2016/04/01 08:50
2016/04/01 10	2016/03/31 06:00	2016/04/01 08:00	2016/04/01 09:50
2016/04/01 11	2016/03/31 06:00	2016/04/01 09:00	2016/04/01 10:50
2016/04/01 12	2016/03/31 06:00	2016/04/01 10:00	2016/04/01 11:50
2016/04/01 13	2016/03/31 06:00	2016/04/01 11:00	2016/04/01 12:50
2016/04/01 14	2016/03/31 06:00	2016/04/01 12:00	2016/04/01 13:50
2016/04/01 15	2016/03/31 06:00	2016/04/01 13:00	2016/04/01 14:50
2016/04/01 16	2016/03/31 06:00	2016/04/01 14:00	2016/04/01 15:50
2016/04/01 17	2016/03/31 06:00	2016/04/01 15:00	2016/04/01 16:50
2016/04/01 18	2016/03/31 06:00	2016/04/01 16:00	2016/04/01 17:50
2016/04/01 19	2016/03/31 06:00	2016/04/01 17:00	2016/04/01 18:50
2016/04/01 20	2016/03/31 06:00	2016/04/01 18:00	2016/04/01 19:50
2016/04/01 21	2016/03/31 06:00	2016/04/01 19:00	2016/04/01 20:50
2016/04/01 22	2016/03/31 06:00	2016/04/01 20:00	2016/04/01 21:50
2016/04/01 23	2016/03/31 06:00	2016/04/01 21:00	2016/04/01 22:50
2016/04/02 00	2016/04/01 06:00	2016/04/01 22:00	2016/04/01 23:50
2016/04/02 01	2016/04/01 06:00	2016/04/01 23:00	2016/04/02 00:50
2016/04/02 02	2016/04/01 06:00	2016/04/02 00:00	2016/04/02 01:50
2016/04/02 03	2016/04/01 06:00	2016/04/02 01:00	2016/04/02 02:50
2016/04/02 04	2016/04/01 06:00	2016/04/02 02:00	2016/04/02 03:50
2016/04/02 05	2016/04/01 06:00	2016/04/02 03:00	2016/04/02 04:50
2016/04/02 06	2016/04/01 06:00	2016/04/02 04:00	2016/04/02 05:50
2016/04/02 07	2016/04/01 06:00	2016/04/02 05:00	2016/04/02 06:50

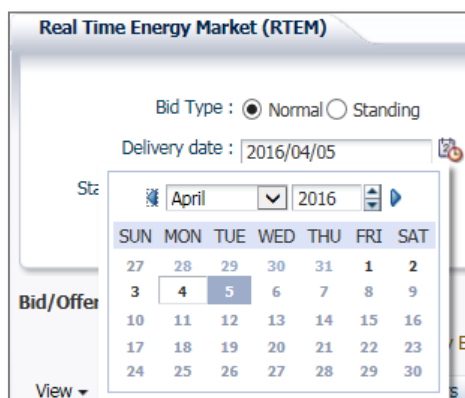
2. Select the **Bid Type** of the offer you wish to retrieve.

Note: In EMI, Normal refers to Initial (Daily) Offers.



The screenshot shows the 'Real Time Energy Market (RTEM)' window. The 'Bid Type' section has two radio buttons: 'Normal' (selected) and 'Standing'. The 'Delivery date' is set to '2016/04/04'. There are also dropdown menus for 'Market Participant', 'Resource Type', and 'Resource Name'.

3. If you are submitting a Normal offer, select the **Delivery date** of the offer you wish to retrieve. For Standing Offers, this field is not required and is therefore not selectable.



The screenshot shows the 'Real Time Energy Market (RTEM)' window with the 'Bid Type' set to 'Normal'. The 'Delivery date' is set to '2016/04/05'. A calendar is displayed, showing the month of April 2016. The date '5' is selected. The calendar has columns for days of the week (SUN, MON, TUE, WED, THU, FRI, SAT) and rows for dates (27, 28, 29, 30, 31, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30).

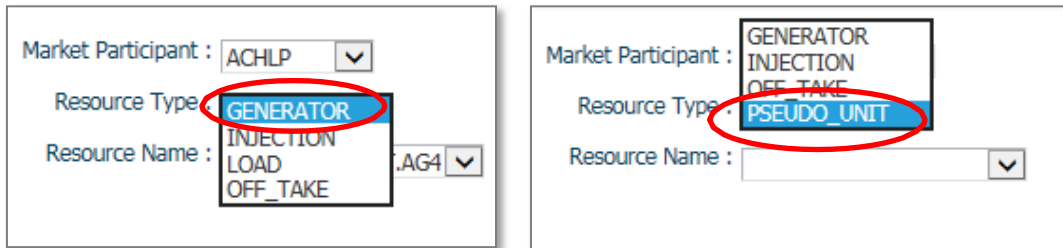
If you select the **Delivery date** after having already selected the Resource Type, and Resource Name, you may have to select the correct Resource Type and Resource Name again. EMI changes the Resource Type and Resource Name lists based on the **Delivery date**.

4. If you are retrieving a Standing Offer, select the **Standing Day Type**. If your Standing Offer is for all days of the week, select **ALL**. Otherwise, select the appropriate day of the week to which the Standing Offer applies.
5. Click the drop down next to **Market Participant** to see a list of the market participants on whose behalf you are authorized to enter dispatch data (e.g., offers, bids, schedules, etc.).

Select the Market Participant for which you wish to retrieve an energy offer.

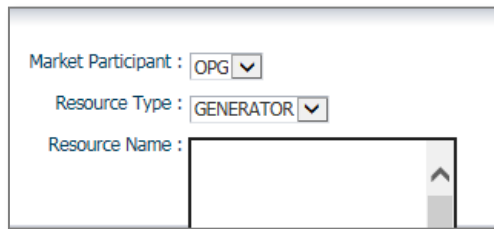
- Click the drop-down next to **Resource Type** and select **GENERATOR** or **Pseudo Unit**, as required.

Note: Off-Take and Injection are used for exports and imports.



Two screenshots of the Resource Type dropdown menu. The left screenshot shows the dropdown open with 'GENERATOR' selected. The right screenshot shows the dropdown open with 'PSEUDO_UNIT' selected.

- Click the drop-down next to **Resource Name** and select the facility for which you are retrieving an offer.



A screenshot of the Resource Name dropdown menu. The dropdown is open, showing a list of facilities. The 'Resource Type' is set to 'GENERATOR'.

The **Resource Name** is the unique reference for a facility used when submitting bids and offers. It is also called the “Delivery Point” and is used as the point of settlement for the IESO’s physical markets.

You do not need to select a **Tie Point**. This field is not selectable because it is only used for imports and exports.



A screenshot of the Real Time Energy Market (RTEM) form. The 'Load Data' button is circled in red.

- Click **Load Data** to populate the screen with the data from the offer you are retrieving.

4.2 Revising Your Offer

Once you have retrieved your offer, you can revise the data as necessary. Below is an example of what you will see after clicking **Load Data** to retrieve your offer.

Real Time Energy Market (RTEM)

Bid Type : ☒ Normal ☐ Standing
 Delivery date : 2016/04/02
 Standing Day Type :
 Market Participant :
 Resource Type :
 Resource Name :
 Tie Point :
 Load Data Submit

Bid/Offer Submission Information

Daily Energy Limit (MWh) : OpRes Ramp Rate (MW/min) : 4

View ▾ Expand All Collapse All Clear Hours Copy Hours Detach

	Submit/Cancel	NERC Tag ID	P/Q Pair ID	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
> Hour 1																					
> Hour 2																					
> Hour 3																					
> Hour 4																					
> Hour 5																					
> Hour 6																					
> Hour 7																					
> Hour 8																					
> Hour 9																					
> Hour 10																					
> Hour 11																					
> Hour 12																					

Click **Expand All** to see the price/quantity pairs and/or ramp rate sets for every hour. Alternatively, click the triangle next to the Hour number to expand any individual hours.

1. Ensure the **Delivery Date** represents the date of the offer you wish to revise.
2. Select **Submit** from the drop-down next to the hour number for the hours that you are revising.

Bid/Offer Submission Information

Daily Energy Limit (MWh) : 0 OpRes

View ▾ Expand All Collapse All Clear Hours Copy Hours Detach

	Submit/Cancel	NERC Tag ID	P/Q Pair ID	1	2	3	4	5
▽ Hour 1	Submit							
			P/Q Pair ID	1	2	3	4	5
			Price	-500	-500	50	100	150
			Quantity	0	75	100	110	120
▽ Hour 2	Submit							
			P/Q Pair ID	1	2	3	4	5
			Price	-500	-500	50	100	150
			Quantity	0	75	100	110	120

Note: If you wish to revise a portion of your offer **and** cancel a portion of your offer, you can do so in the same submission. Simply select **Cancel** for those hours that you are cancelling and follow the rules outlined in Section 4.3, Cancelling Your Offer and Appendix B: Revising and Cancelling OFFER Rules.

4. Revising and Cancelling Energy Offers

- Edit the price/quantity pairs and/or ramp rate sets, as required.
- Select the appropriate **Reason Code** from the drop-down or describe your reason for revising your offer in the **Other Reason** field if you are revising an offer within two (2) hours of the dispatch hour. IESO approval will be required before the revision is accepted. See Appendix B: Revising and Cancelling OFFER Rules for more information.

8	19	20	Ramp Rate ID	1	2	3	4	5	Speed No Load	Start Up Cost	Reason Code	Other Reason
8	19	20	Ramp Rate ID	1	2	3	4	5	0	0	FO FD ERPO LRPO WITHDRAW OTHER	
			RR(Break Point)									
			RR(Ramp Up)									
			RR(Ramp Down)									

The following table defines the various Reason Codes available.

Reason Code	Description
FO	Forced Outage
FD	Forced Derating
ERPO	Early Return from Planned Outage
LRPO	Late Return from Planned Outage
WITHDRAW	Withdrawing your bid
OTHER	Complete the Other Reason field

- If you select **OTHER**, you must also complete the **Other Reason** field. This is a free format field which allows you to enter a reason in your own words, using up to 128 characters.
- Repeat this process for each hour requiring a reason.
- Click **Submit** to send your revised offer to the IESO.

Bid Type : ☒ Normal ☐ Standing

Market Participant :

Tie Point :

Delivery date : 2016/04/19

Resource Type :

Standing Day Type :

Resource Name :

Load Data

Submit

Bid/Offer Submission Information

Daily Energy Limit (MWh) : 0

OpRes Ramp Rate (MW/min) : 0

View

Expand All

Collapse All

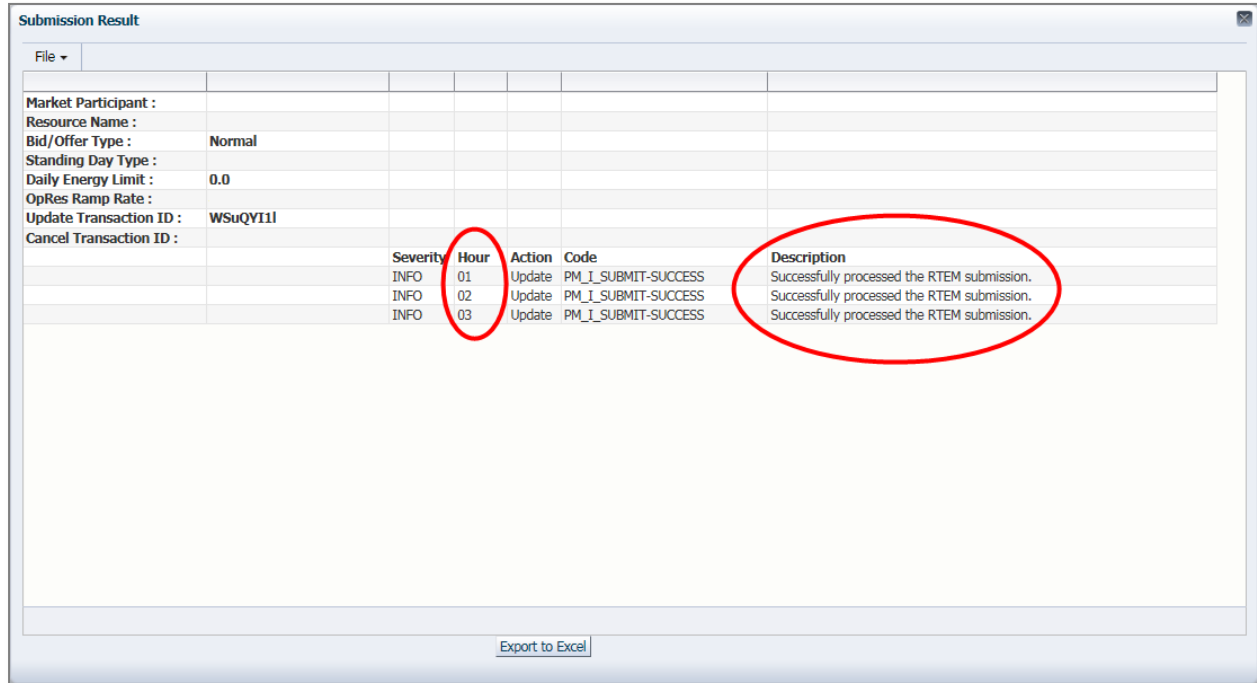
Clear Hours

Copy Hours

Detach

Submit/Cancel	NERC Tag ID	P/Q Pair ID	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Hour 1	Submit																					

8. You will receive a submission result within a few moments of submitting your revised offer, displaying the status of your offer. **Review** the Submission Result screen to ensure that your offers for all hours have been successfully updated and applied.



Submission Result

File ▾

Market Participant :	
Resource Name :	
Bid/Offer Type :	Normal
Standing Day Type :	
Daily Energy Limit :	0.0
OpRes Ramp Rate :	
Update Transaction ID :	WSuQYI1I
Cancel Transaction ID :	

Severity	Hour	Action	Code	Description
INFO	01	Update	PM_I_SUBMIT-SUCCESS	Successfully processed the RTE submission.
INFO	02	Update	PM_I_SUBMIT-SUCCESS	Successfully processed the RTE submission.
INFO	03	Update	PM_I_SUBMIT-SUCCESS	Successfully processed the RTE submission.

[Export to Excel](#)

9. Click **Export to Excel** to produce a spreadsheet of the Submission Result screen. Or, take a screen print for your records, and/or record the Transaction ID number. The Submission Result screen cannot be retrieved again.

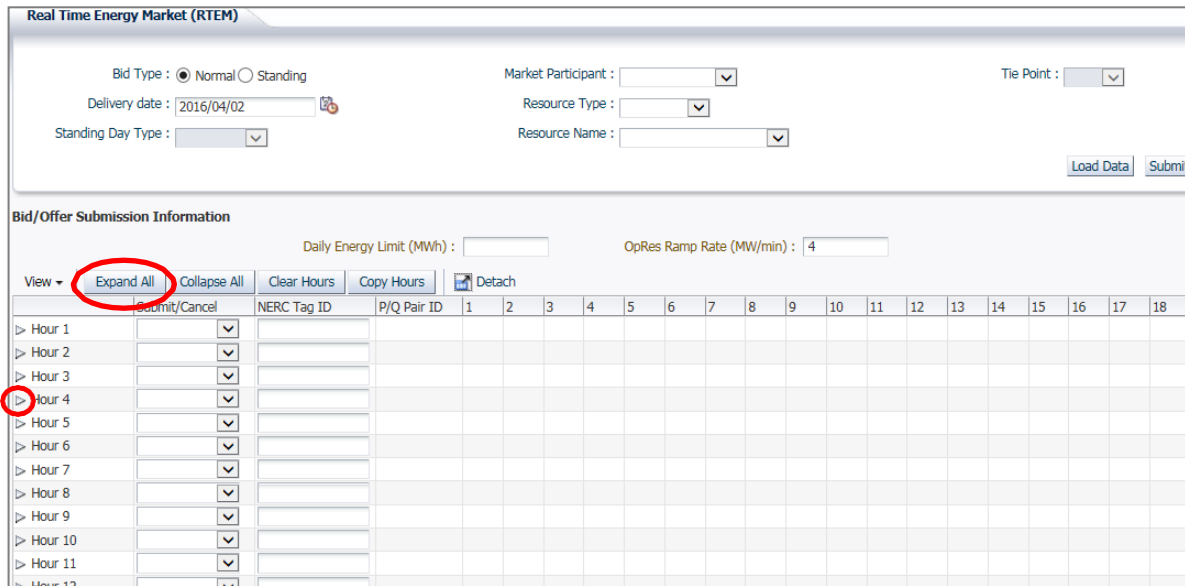
A sample Excel export is included below:

Market Participant :						
Resource Name :						
Bid/Offer Type :	Normal					
Standing Day Type :						
Daily Energy Limit :	0					
OpRes Ramp Rate :						
Update Transaction ID :	W6RQYI1a					
Cancel Transaction ID :						
		Severity	Hour	Action	Code	Description
		INFO	1	Update	PM_I_SUBMIT-SUCCESS	Successfully processed the RTE submission.
		INFO	2	Update	PM_I_SUBMIT-SUCCESS	Successfully processed the RTE submission.
		INFO	3	Update	PM_I_SUBMIT-SUCCESS	Successfully processed the RTE submission.

10. Review your **Pre-dispatch** and **Dispatch reports** to see which of your offers have been scheduled.

4.3 Cancelling Your Offer

Once you have retrieved your offer, you can cancel the data as necessary. Below is an example of what you will see after clicking **Load Data** to retrieve your offer.



Real Time Energy Market (RTEM)

Bid Type : ☒ Normal ☐ Standing

Market Participant :

Tie Point :

Delivery date : 2016/04/02

Resource Type :

Standing Day Type :

Resource Name :

[Load Data](#) [Submit](#)

Bid/offer Submission Information

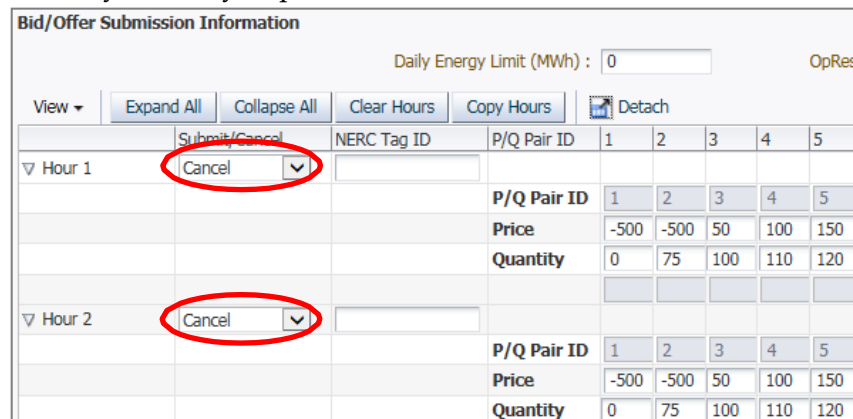
Daily Energy Limit (MWh) : OpRes Ramp Rate (MW/min) : 4

View ▾ **Expand All** Collapse All Clear Hours Copy Hours Detach

	Submit/Cancel	NERC Tag ID	P/Q Pair ID	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Hour 1	▾																				
Hour 2	▾																				
Hour 3	▾																				
Hour 4	▾																				
Hour 5	▾																				
Hour 6	▾																				
Hour 7	▾																				
Hour 8	▾																				
Hour 9	▾																				
Hour 10	▾																				
Hour 11	▾																				
Hour 12	▾																				

Click **Expand All** to see the price/quantity pairs and/or ramp rate sets for every hour. Alternatively, click the triangle next to the Hour number to expand any individual hours.

1. Ensure the **Delivery Date** represents the date of the offer you wish to cancel.
2. Select **Cancel** from the drop-down next to the hour number for the hours that you are cancelling. Use **Copy Hours** after selecting Cancel for one hour to copy that selection for every hour if you plan to cancel the entire offer.



Bid/offer Submission Information

Daily Energy Limit (MWh) : 0 OpRes

View ▾ **Expand All** Collapse All Clear Hours Copy Hours Detach

	Submit/Cancel	NERC Tag ID	P/Q Pair ID	1	2	3	4	5
Hour 1	Cancel ▾							
			P/Q Pair ID	1	2	3	4	5
			Price	-500	-500	50	100	150
			Quantity	0	75	100	110	120
Hour 2	Cancel ▾							
			P/Q Pair ID	1	2	3	4	5
			Price	-500	-500	50	100	150
			Quantity	0	75	100	110	120

Note: If you wish to revise a portion of your offer **and** cancel a portion of your offer, you can do so in the same submission. Simply select **Submit** for those hours that you are revising and follow the rules outlined in Section 4.2 Revising Your Offer and Appendix B: Revising and Cancelling OFFER Rules.

4. Revising and Cancelling Energy Offers

3. Select **WITHDRAW** from the Reason Code drop-down or describe your reason for cancelling your offer in the **Other Reason** field if you are cancelling an offer within two (2) hours of the dispatch hour.

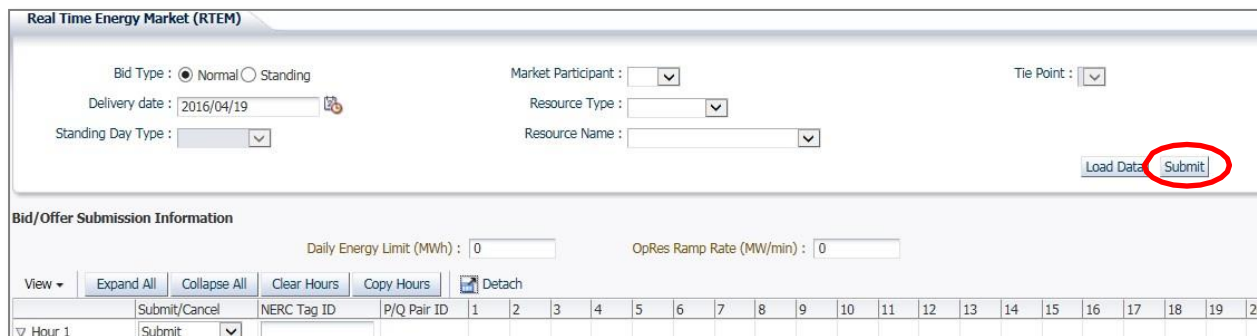
IESO approval will be required before the cancellation is accepted. See Appendix B: Revising and Cancelling OFFER Rules for more information.



The following table defines the various Reason Codes available.

Reason Code	Description
WITHDRAW	Withdrawing your bid
OTHER	Complete the Other Reason field

4. If you select **OTHER**, you must also complete the **Other Reason** field. This is a free format field which allows you to type in the reason in your own words, using up to 128 characters.
5. Repeat this process for each hour requiring a reason.
6. Click **Submit** to send your cancelled offer to the IESO.



7. You will receive a submission result within a few moments of submitting your cancelled offer, displaying the status of your offer. **Review** the Submission Result screen to ensure that your offers for all applicable hours have been successfully cancelled.

Submission Result

File

Market Participant :						
Resource Name :						
Bid/Offer Type :	Normal					
Standing Day Type :						
Daily Energy Limit :	0.0					
OpRes Ramp Rate :						
Update Transaction ID :	WSuQYI1I					
Cancel Transaction ID :						
		Severity	Hour	Action	Code	Description
		INFO	01	Update	PM_I_SUBMIT-SUCCESS	Successfully processed the RTEM submission.
		INFO	02	Update	PM_I_SUBMIT-SUCCESS	Successfully processed the RTEM submission.
		INFO	03	Update	PM_I_SUBMIT-SUCCESS	Successfully processed the RTEM submission.

Export to Excel

- Click **Export to Excel** to produce a spreadsheet of the Submission Result screen. Or, take a screen print for your records, and/or record the Transaction ID number. The Submission Result screen cannot be retrieved again.

A sample Excel export is included below:

Market Participant :						
Resource Name :						
Bid/Offer Type :	Normal					
Standing Day Type :						
Daily Energy Limit :	0					
OpRes Ramp Rate :						
Update Transaction ID :	W6RQYI1a					
Cancel Transaction ID :						
		Severity	Hour	Action	Code	Description
		INFO	1	Update	PM_I_SUBMIT-SUCCESS	Successfully processed the RTEM submission.
		INFO	2	Update	PM_I_SUBMIT-SUCCESS	Successfully processed the RTEM submission.
		INFO	3	Update	PM_I_SUBMIT-SUCCESS	Successfully processed the RTEM submission.

- Review your **Pre-dispatch** and **Dispatch** reports to see which of your offers have been scheduled.

– End of Section –

Appendix A: Rules for Price/Quantity Pairs

A.1 Price/Quantity Pairs

In the Real-time Energy Market, offers are submitted in price/quantity pairs. A price/quantity pair specifies the amount of energy offered for a given hour. The price listed is the lowest price that you will accept for the energy offered. You may submit sets of price/quantity pairs for any or all hours of the dispatch day.

Offers are submitted separately for each facility. You may submit only one energy offer for each registered facility for any dispatch hour, but each energy offer may contain up to 20 price/quantity pairs.

See Market Manual 4: Market Operations, Part 4.2: Submission of Dispatch Data in the Real- Time Energy and Operating Reserve Markets for more information.

A.2 Rules for Offers: Price


- The price must not decrease as the quantity increases.
- The price in each price/quantity pair cannot be greater than Maximum Market Clearing Price (MMCP), nor lower than negative Maximum Market Clearing Price.

A.3 Rules for Offers: Quantity

- The largest quantity in an energy offer cannot be greater than:
 - The maximum output of energy in an hour for the facility, according to facility registration information.
 - The maximum quantity of energy that can be taken in the dispatch hour, as estimated by the registered market participant for the facility.
 - The maximum allowed injection in the dispatch hour through the relevant connection point. This quantity is limited by the following:
 - The capacity of any radial line connecting the registered facility to the connection point,
 - The maximum injection as specified in the connection agreement,
 - The maximum injection permitted by the relevant transmitter.
- Each offer must contain at least two price/quantity pairs.
- The first price/quantity pair always shows a quantity of zero, with an associated price. The second price/quantity pair always shows a quantity greater than zero (0) as well as the same price as included with the first price/quantity pair.

A.4 Example of Offer Price/Quantity Pairs

Consider the following example:

View ▾	Expand All	Collapse All	Clear Hours	Copy Hours	 Detach				
	Submit/Cancel	NERC Tag ID	P/Q Pair ID	1	2	3	4	5	6
▽ Hour 1	<div><div></div></div>	<div></div>							
			P/Q Pair ID	1	2	3	4	5	6
			Price	20.5	20.5	21.6	22	23	24.5
			Quantity	0	20	40	60	80	100
▽ Hour 2	<div><div></div></div>	<div></div>							
			P/Q Pair ID	1	2	3	4	5	6
			Price	20.5	20.5	21.6	22	23	24.5
			Quantity	0	20	40	60	80	100
▽ Hour 3	<div><div></div></div>	<div></div>							
			P/Q Pair ID	1	2	3	4	5	6
			Price	20.5	20.5	21.6	22	23	24.5
			Quantity	0	20	40	60	80	100

In this example, the first two price/quantity pairs for Hours 1-3 are (20.5, 0) and (20.5, 20). This means that from 0 to 20 MW, energy is offered at \$20.50/MW.

The remaining price/quantity pairs in the example are interpreted as follows:

- The offer from 20 to 40 MW is \$21.60/MW
- The offer from 40 to 60 MW is \$22.00/MW
- The offer from 60 to 80 MW is \$23.00/MW
- The offer from 80 to 100 MW is \$24.50/MW

A.5 Negative Prices

You may submit a negative price in your offer. A negative price means you are willing to pay up to that price for each MW of energy you inject, rather than reduce your output. It may be more economical in the longer term for you to maintain a particular output for a short period, even at a loss.

For example, your offer may look like this:

Bid/Offer Submission Information

Daily Energy Limit (MWh) :

OpRes


View ▾

Expand All

Collapse All

Clear Hours

Copy Hours

 Detach

	Submit/Cancel	NERC Tag ID	P/Q Pair ID	1	2	3	4	5
▽ Hour 4	<input type="button" value="v"/>	<input type="text"/>						
			P/Q Pair ID	1	2	3	4	5
			Price	-20	-20	-5	20	40
			Quantity	0	20	40	60	120

This bid indicates that for hour 4, you are willing to pay \$20/MW to inject up to 20 MW, and \$5/MW for each additional MW, up to 40 MW.

The remaining price/quantity pairs are positive. This indicates that at this point it is more cost effective for you to shut down than to pay to inject additional energy.

Negative prices may not be less than negative Maximum Market Clearing Price (negative MMCP).

– End of Section –

Appendix B: Revising and Cancelling Offer Rules

B.1 Daily Offers

You may revise a Daily Offer at any time, keeping in mind the restrictions in place for the Day-Ahead Commitment Process (DACP) and during the 2-hour mandatory window.

Refer to Market Manual 9: Day-Ahead Commitment Process, Part 9.2, Submitting Operational and Market Data for DACP, for information on restrictions that apply to the submission of dispatch data during the DACP (10:00 EST to 14:00 EST).

After 14:00 EST, market participants may continue to submit dispatch data and revisions for any dispatch hour or hours in the dispatch day subject to the restrictions set out in Market Manual 9: Day-Ahead Commitment Process, Part 9.2, until two hours prior to the dispatch hour for which the dispatch data or revision is being submitted.

During the 2-hour mandatory window, if the amount you will be injecting differs from the quantity expected to be delivered by more than the greater of 2% or 10 MW, you are required to inform the IESO (call the Control Room) as soon as practical.

Refer to Market Manual 4.2 Submission of Dispatch Data in the Real-Time Energy and Operating Reserve Markets for details on the mandatory window.

After 10 minutes Before the Start of the Dispatch Hour

If the ability to materially meet your offer changes, you must notify the IESO (call the Control Room) as soon as practical. After this time, the system cannot accept changes from market participants to offers for the dispatch hour. Therefore, changes for the current dispatch hour cannot be made by revising an offer.

You must submit Revised Offers for future hours if the ability to produce is expected to continue to fall short of your current offer.

Reliability of the IESO-controlled Grid

If the IESO determines that a revision to your offer data will not allow it to maintain the reliability of the IESO-controlled grid, the IESO may refuse to accept a revision or it may direct dispatchable generators to submit revisions.

B.2 Standing Offers

You may revise a Standing Offer at any time; the new Standing Offer supersedes the previous submission. Be aware of when a revised Standing Offer will take effect. See the definition of a standing offer in Section 3.1 for an example of when an Standing Offer converts to a Daily Offer.

– End of Section –

Appendix C: Daily Generator Data (DGD)

Daily Generator Data is used by the Day-Ahead Calculation Engine when it determines schedules for the next day. The Day-Ahead Calculation Engine is initialized with DGD defaults listed in the table below. When you revise Daily Generator Data, the revised values will remain in effect until a subsequent revision is made.

Data Description	Unit of Measure	Default Value
Minimum Loading Point	MW	0
Minimum Generation Block Run-Time	Hours	0
Minimum Generation Block Down-Time	Hours	0
Maximum Number of Starts per Day	Hours	24
Single Cycle Flag	Yes/No	No

Minimum Loading Point (MLP)

The minimum output of energy specified by the market participant that can be produced by a generation facility under stable conditions without ignition support.

Minimum Generation Block Run-Time (MGBRT)

The number of hours, specified by the market participant, that a generation facility must be operating at Minimum Loading Point (MLP) in accordance with the technical requirements of the facility.

Minimum Generation Block Down-Time (MGBDT)

The minimum number of hours (specified by the market participant) required between the time a generation facility is last at its Minimum Loading Point (MLP) before de-synchronization, and the time the generation facility reaches its MLP again after synchronization.

Maximum Number of Starts Per Day

The number of times a generation unit can be started within a dispatch day.

Single Cycle Flag

Indicates that the combustion turbine resource will be operating in single cycle mode as opposed to combined cycle mode.

DGD can be submitted daily, but will default to the last set of values if no update is provided.

– End of Section –

References

Document Title	Document ID
Introduction to Ontario's Physical Markets	Link
Market Manual 4: Market Operations, Part 4.2: Submission of Dispatch Data in the Real-Time Energy and Operating Reserve Markets	MDP_PRO_0027
Market Manual 9: Day-Ahead Commitment Process, Part 9.2, Submitting Operational and Market Data for DACP	IESO_MAN_0077

Related Documents

Document Title	Document ID
Energy Market Interface - Submitting, Revising and Cancelling Energy Bids	
Energy Market Interface - Submitting, Revising and Cancelling Schedules and Forecasts	
Energy Market Interface - Submitting, Revising and Importing Offers and Export Bids	
Energy Market Interface - Submitting, Revising and Cancelling Operating Reserve Offers	

– End of Document –