# **Energy Market Interface**

Submitting, Revising and Cancelling Energy Bids IESO Training
June 2024





#### 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 bids* using the energy market interface (EMI).

This guide is mainly aimed at market participants who are participating as *dispatchable loads*, virtual loads or *price responsive loads* in the *physical market*.

Participants in Ontario's *physical markets* use EMI to do the following actions:

- Submit, review and revise *energy* and *operating reserve bids* and *offers*
- Submit, review and revise *energy* and *operating reserve* import *offers* and export *bids*
- Submit, review and revise schedules and forecasts
- Submit, review and revise daily dispatch data
- Submit, review and revise forebay dispatch data
- Receive market messages related to submissions made

## 2. Accessing EMI

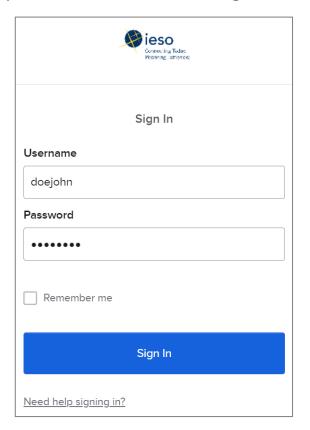
The energy market interface (EMI) is the *market participant* interface with Ontario's *physical markets*. The EMI is used for:

- Participating in the *day-ahead market*, *real-time market* and *operating reserve market*: submitting, reviewing and revising *dispatch data*
- Participating in inter-jurisdictional energy trading: submitting, reviewing and revising import offers and export bids

Note: To access EMI, a user needs to be assigned to a dispatch data viewer or dispatch data submitter contact role. In order for a dispatch data submitter to submit bids and offers in EMI, an applicant representative of the organization needs to create a user-resource relationship in Online IESO. Additionally, an active gateway account is required.

To access the EMI, complete the following steps:

- 1. Open the EMI URL (<a href="https://emi.ieso.ca">https://emi.ieso.ca</a>) or open the IESO Gateway URL (<a href="https://gateway.ieso.ca">https://gateway.ieso.ca</a>) and navigate to EMI.
- 2. Enter your IESO Gateway Username, Password and click **Sign In**.



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 physical markets.

Screenshot to be included after WebService update

## 3. Submitting Energy Bids

There are three types of *bids* in the *day-ahead market* or *real-time market*: initial *bids*, standing *bids*, and revised *bids*.

Dispatchable loads, virtual trading loads, and *price responsive loads* in Ontario participate in the *day-ahead market* or *real-time market* by submitting *bids* to withdraw *energy* from the IESO-controlled grid. This is done using the EMI.

It is possible for a *dispatchable load* facility to designate a portion of its load as dispatchable, and a portion as non-dispatchable. This designation is done through the bidding process.

*Bid* submissions must follow the *market rules* regarding *price-quantity pairs*, timing, ramp rates, revisions and cancellations, etc. set out in *Market Rules* (MR) Chapter 7 and *Market Manuals* (MM) 4.1.

See <u>Introduction to Ontario's Physical Markets</u> on the IESO Training Materials web page for more information.

### 3.1 Preparing Initial or Standing Energy Bids

The following instructions apply to preparing an initial *bid* or a standing *bid* using the EMI workspace. See Section 4, Revising and Cancelling Energy Bids, for information on revising or cancelling a previously submitted *bid*.

For submission timeline information for *energy bids*, see MM 4.1 s.7.

To submit an initial bid (called **Normal** in the EMI) or a standing bid, complete the following steps:

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

[screenshot to be included after webservice update]

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



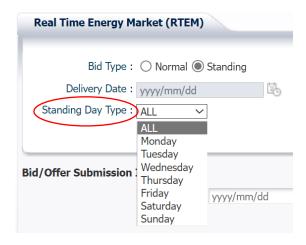
3. If you are submitting a **Normal** *bid*, select the **Delivery Date**. For standing *bids*, this field is not required and is therefore not selectable.

The **Delivery Date** defaults to the current *dispatch day*. If your *bid* is for the next *dispatch day*, click the calendar icon and select the appropriate date from the calendar.



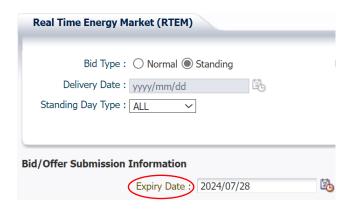
If you select the **Delivery Date** after having already selected the **Resource Type**, and **Resource Name**, you may have to select the correct **Resource Type** and **Resource Name** again. EMI changes the resource type and resource name lists based on the delivery date.

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



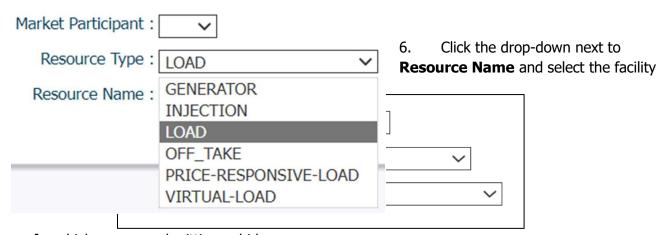
If you wish, you may include an **Expiry Date** with a standing *bid*. The **Expiry Date** is the last date the *bid* will be valid for.

For example, if you enter an **Expiry Date** of July 28, the last time your standing *bid* will be converted to a normal *bid* is at 6:00 am EPT on July 27 and will be considered effective for the trade day of July 28.



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*.

Choose the **Market Participant** for which you wish to enter an *energy bid* then click the drop-down next to **Resource Type** and select either **LOAD**, **VIRTUAL-LOAD**, or **PRICE-RESPONSIVE-LOAD**, as required.



for which you are submitting a bid.

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 Ontario's *physical markets*.

7. Proceed to Section 3.2, Submitting Bid Information, to complete the empty bid form, or see Section 4.1, Retrieving Your Bid, if you have previously submitted a *bid* and would like to populated the screen with *dispatch data* from that existing *bid*.

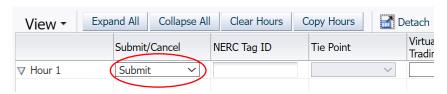
### 3.2 Submitting Energy Bid Information

To enter your *bid* information, complete the following steps:

1. If you are a *dispatchable load*, you may choose to submit daily energy ramp rate information. See Section 3.2.1, Submitting Daily, Hourly and Operating Reserve Ramp Rates, to understand the different components of the ramp rates. Otherwise, if you are a virtual trading load or a *price responsive load*, leave all daily parameter fields blank.

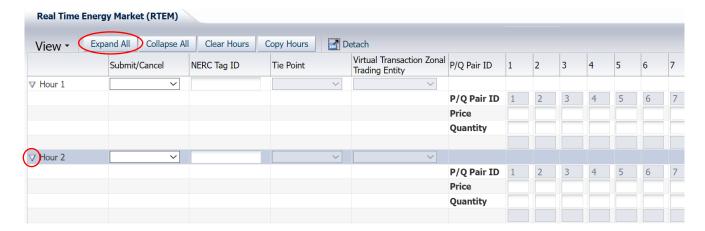


2. Select **Submit** from the drop-down next to the **Hour** number for the hour that you are submitting a *bid*.

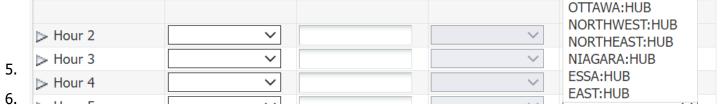


The market software tools use the "hour ending" convention. In other words, Hour 1 is the first hour of the day; it is the hour that starts at midnight and ends at 1:00 am. Hours 10-11 are the hours from 9:00 am to 11:00 am. Hours 1-24 are the hours from midnight one day through midnight the next day.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

3. Click the triangle next to the **Hour** number to expand the submission section, enabling you to enter up to 20 *price-quantity pairs* for each hour or click **Expand All** to reveal the submission section for every hour. Clicking **Collapse All** will hide the submission section for all hours.



4. Enter **Price** in dollars and cents, up to two decimal places, for each hourly *bid*. For example, \$10 dollars may be entered as 10.00 or 10.0 or 10.

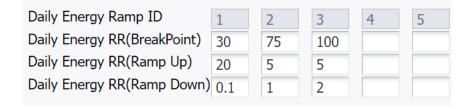


If you are submitting on behalf of a virtual trading load, select a **Virtual Transaction Zonal Trading Entity** from the drop-down. Refer to MM 4.1 Appendix E for *virtual zonal resource* and *virtual transaction zone* relationships.

#### 3.2.1 Submitting Daily, Hourly and Operating Reserve Ramp Rates

If you are a *dispatchable load*, you may choose to enter daily and hourly ramp rates for your *bids*. Daily and hourly ramp rates are not applicable to virtual loads or *price responsive loads*. To enter ramp rates for your *bids*, complete the following steps. Refer to MM 4.1 s.2.1.4 for more information.

1. Enter up to 5 daily ramp rate breakpoints and associated daily ramp up and daily ramp down values starting with the first column.

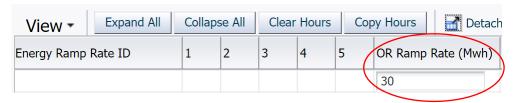


2. For an hour that you have entered a *price-quantity pair*, enter up to 5 hourly ramp rate breakpoints and associated ramp up and ramp down values starting with the first column.

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



For any hour that you have submitted a *price-quantity pair*, you must submit a corresponding **OR Ramp Rate**. Enter the ramp rate as MW per minute, rounded to one decimal place. Refer to MM 4.1 s.3.1.3 for more information.



#### **3.2.2 Dispatch Data Parameters that are not Applicable**

There are a number of *dispatch data* parameters that are not applicable to *dispatchable loads*, virtual loads or *price responsive loads*. The input fields for the following parameters should be left blank:

- Maximum Daily Energy Limit (MWh)
- Maximum Daily Energy Reason Code
- Minimum Daily Energy Limit (MWh)
- Thermal State
- NERC Tag ID
- Tie Point
- Speed No Load
- Start Up Offer (Hot)
- Start Up Offer (Warm)
- Start Up Offer (Cold)
- Min Hourly Output
- Hourly Must Run
- VG Forecast Quantity
- Capacity Transaction Flag

### 3.3 Designating a Portion of your Load as Non-Dispatchable

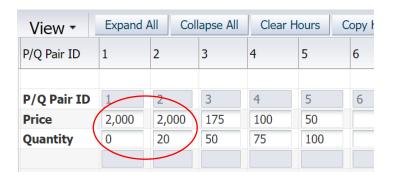
A facility registered as a *dispatchable load* is always settled on the *locational marginal price*. However, you may wish to designate a portion of your *dispatchable load* as non-dispatchable, i.e., not available to follow dispatch instructions.

For example, you may be a 100 MW facility that requires 20 MW to supply critical processes. You would be willing to buy 20 MW, no matter what the price. The maximum market clearing price (MMCP) is \$2,000. Under normal conditions, you will always be dispatched on for at least that 20 MW.

To designate a portion of your load as non-dispatchable, complete the following steps:

- 1. Enter 2,000 as the first price of a *bid*.
- 2. Enter 0 as the quantity that pairs with the first price.
- 3. Enter the second price as 2,000.

4. Enter the second quantity as the portion of your load that is non-dispatchable.



You must also ensure that your *operating reserve offer* is for 80 MW or less, i.e., you may not offer operating reserve for the portion that you don't want to be dispatched.

#### 3.3.1 What Happens if Your 'Non-dispatchable' Portion is Dispatched Down?

The dispatch algorithm considers any facility registered as 'dispatchable' to be fully dispatchable as long as it has a valid *bid*; the portion *bid* at \$2000 is not recognized as being unavailable for dispatch. Therefore, if there are constraints on the system, the IESO might send *dispatch instructions* for you to reduce your consumption to a quantity below the amount you *bid* at MMCP (in the example above, to below 20 MW).

If you receive instructions to reduce consumption below the amount you *bid* at MMCP, you may refuse to comply with this portion of the IESO's instructions, and you will not be considered non-compliant. In the above example, if the IESO instructs you to reduce consumption from 100 MW to 10 MW, you would only have to reduce consumption to 20 MW.

You must inform the IESO that you will not be complying with the *dispatch instructions*. You also must consume the full 20 MW that you *bid* at MMCP; you do not have the option of consuming less than 20 MW.

The option to consume 'as needed' is only available to facilities registered as 'non-dispatchable' and does not apply to *dispatchable loads* that wish to maintain a minimum consumption level using the method described above.

#### 3.3.2 Designating Your Entire Load as Non-Dispatchable

You can designate your entire load as non-dispatchable by bidding the entire amount at MMCP or by not submitting a *bid* at all for your load. The IESO recognizes 'no-bid' as a non-dispatchable designation.

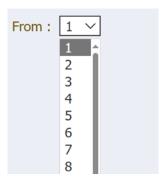
### 3.4 Entering the Same Bid for Multiple Hours

An efficient way to copy the information from a chosen hour to other selected hours is by using the **Copy Hours** button. Therefore, if you submit the same hourly *bid* information for multiple hours in a day, complete the steps below.

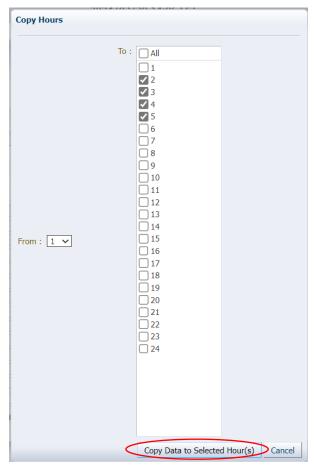
1. Click **Copy Hours** after completing your *price-quantity pairs* and other *dispatch data* for a single hour.



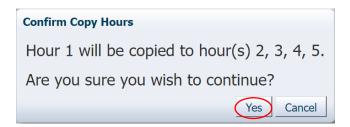
2. In the drop-down next to **From**, select the hour you wish to copy.



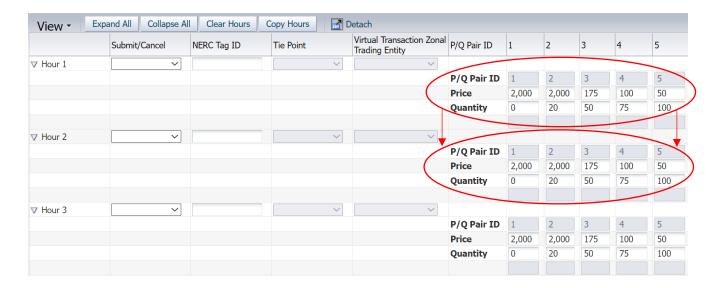
3. Select the hours you wish to copy the *bids* to or select **All**, then click **Copy Data to Selected Hour(s)**.



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



The price-quantity pairs and other dispatch data are copied to the hours selected.



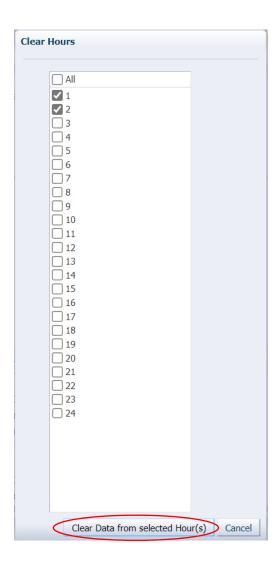
### 3.5 Clearing Data from Multiple Hours

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

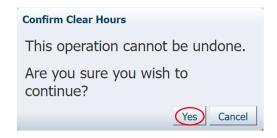
1. Click **Clear Hours** to remove all *bid* data for any hour(s) or all hours.



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



3. Click **Yes** to proceed.



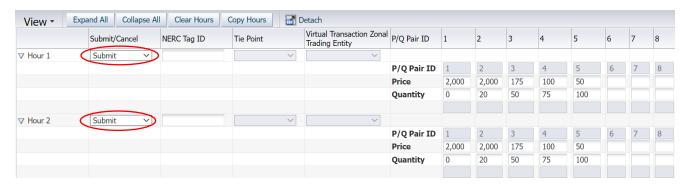
The price-quantity pairs and other dispatch data, are cleared from the hours selected.

### 3.6 Submitting Your Energy Bid

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

1. Verify that the *bid* information is correct and complete.

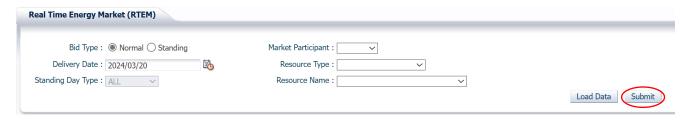
2. Select **Submit** from the drop-down next to the hour number for the hours that you are submitting as part of your *bid*.



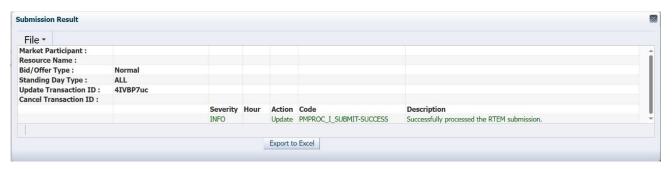
Otherwise, you may see the following error message when attempting to submit your *bid* to the IESO:



3. Click **Submit** to send your *bid* to the IESO.



4. You will receive a pop-up within a few moments of submitting your bid, displaying the status of your bid. Review the **Submission Result** screen to ensure that your bids for all hours have been successfully updated and applied. Please note that while not applicable to **Normal** bids, **Standing Day Type** will return **ALL** in the output file due to default settings.



5. 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 **Update 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 :     | ALL      |          |      |        |                         |   |
| Update Transaction ID : | 4IVBP7uc |          |      |        |                         |   |
| Cancel Transaction ID : |          |          |      |        |                         |   |
|                         |          | Severity | Hour | Action | Code                    | Description                                 |
|                         |          |          |      |        |                         |   |
|                         |          | INFO     |      | Update | PMPROC_I_SUBMIT-SUCCESS | Successfully processed the RTEM submission. |

## 4. Revising and Cancelling Energy Bids

Initial *bids* may be revised provided the changes follow the rules for revised bids. See *Market Rules* Chapter 7 and *Market Manual* 4.1 for more information regarding submitting revised *bids* or cancelling *bids*.

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

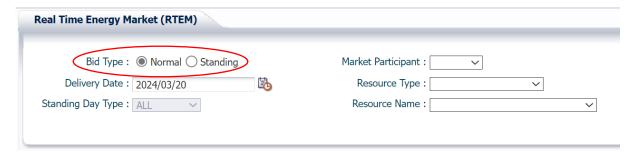
#### 4.1 Retrieving Your Energy Bid

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

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

[screenshot to be included after the removal of Bilaterals]

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

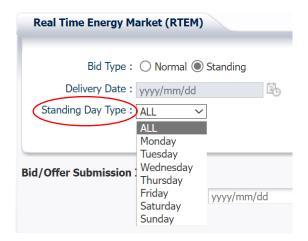


3. If you are retrieving a **Normal** *bid*, select the **Delivery Date** for the *bid* you with to retrieve. For standing *bids*, this field is not required and is therefore not selectable.

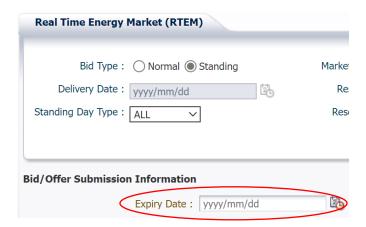


If you select the **Delivery Date** after having already selected the **Resource Type**, and **Resource Name**, you may have to select the correct **Resource Type** and **Resource Name** again. EMI changes the resource type and resource name lists based on the delivery date.

4. If you are retrieving a standing *bid*, select the **Standing Day Type**. If your standing *bid* is for all days of the week, select **ALL**. Otherwise, select the day of the week to which the standing *bid* applies.

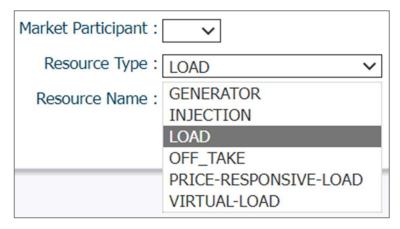


Note that if you have previously retrieved data for another resource on this screen, you will need to clear the **Expiry Date** field or input the matching **Expiry Date** for the resource you are retrieving data for.



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*.

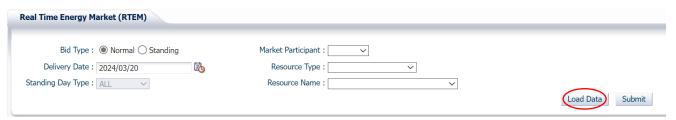
Choose the **Market Participant** for which you wish to retrieve an *energy bid* then click the drop-down next to **Resource Type** and select either **LOAD**, **VIRTUAL-LOAD**, or **PRICE-RESPONSIVE-LOAD**, as required.



6. Click the drop-down next to **Resource Name** and select the facility for which you are retrieving a *bid*.



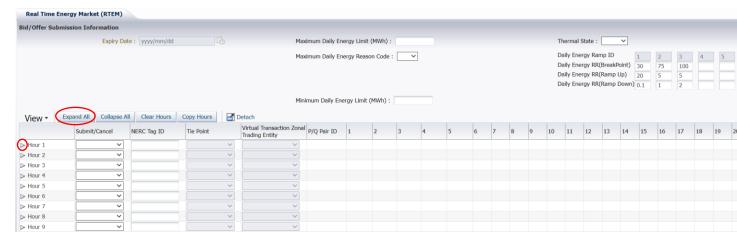
7. Click **Load Data** to populate the screen with the data from the *bid* you are retrieving.



### 4.2 Revising Your Energy Bid

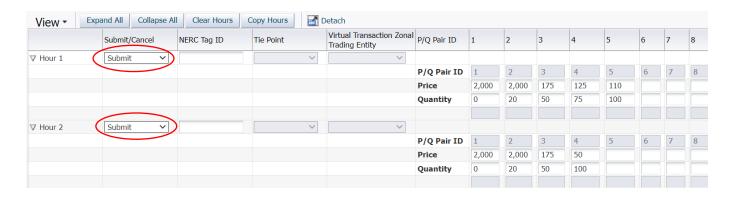
Once you have retrieved your *bid*, you can revise the data as necessary. Below is an example of what you will see after clicking **Load Data** to retrieve your *bid*.

Click **Expand All** to see the submission section for every hour. Alternatively, click the triangle next to the **Hour** number to expand any individual hours.



To revise your *bid*, follow these steps:

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



If you wish to revise a portion of your *bid* and cancel a portion of your *bid*, you can do so in the same submission. Simply select **Cancel** for those hours that you are cancelling and follow the steps outlined in Section 4.3, Cancelling Your Bid.

3. Edit the *price-quantity pairs* and other *dispatch data* as required.

4. Select the appropriate **Reason Code** from the drop-down.



The following table defines the various reason codes available.

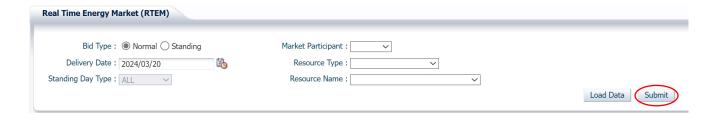
Table 1 | Reason Codes for Revising Bid<sup>1</sup>

| Reason Code | Description   |
|-------------|---|
| FO          | Forced Outage   |
| FD          | Forced Derating   |
| FO-ST       | Forced Outage on Steam Turbine of Pseudo-unit                 |
| ERPO        | Early Return from <i>Planned Outage</i>                       |
| LRPO        | Late Return from <i>Planned Outage</i>                        |
| MPM-EORLI   | Market Power Mitigation Energy Offer Reference Level Increase |
| WITHDRAW    | Withdrawal from a commitment for equipment issues and failure |
| OTHER       | Complete the <b>Other Reason</b> field                        |

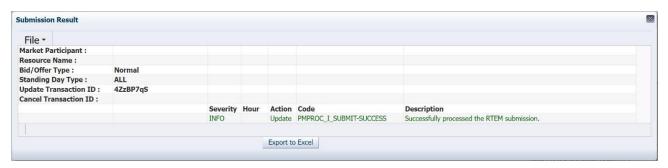
If you select **OTHER**, you must also complete the **Other Reason** field. This is a free text field which allows you to enter a reason in your own words using up to 128 characters.

- 5. Repeat this process for each hour requiring a reason.
- 6. Click **Submit** to send your revised bid to the IESO.

<sup>&</sup>lt;sup>1</sup> Refer to MM 4.1 Appendix B for the conditions under which a reason code is required, and additional information and requirements for each condition.

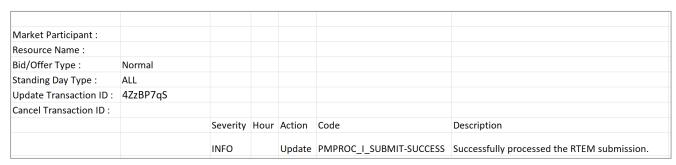


7. You will receive a pop-up within a few moments of submitting your revised *bid* displaying the status of your *bid*. Review the **Submission Result** screen to ensure that your *bids* for all hours have been successfully updated and applied. Please note that while not applicable to **Normal** *bids*, **Standing Day Type** will return **ALL** in the output file due to default settings.



8. 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 **Update Transaction ID** number. The **Submission Result** screen cannot be retrieved again.

A sample Excel export is included below:

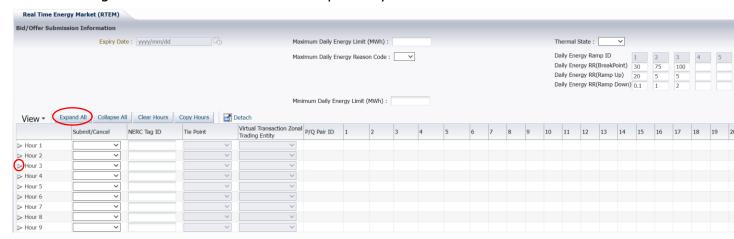


9. Review your day-ahead, pre-dispatch and 5-minute reports, as applicable, to see which of your *bids* have been scheduled.

### 4.3 Cancelling Your Energy Bid

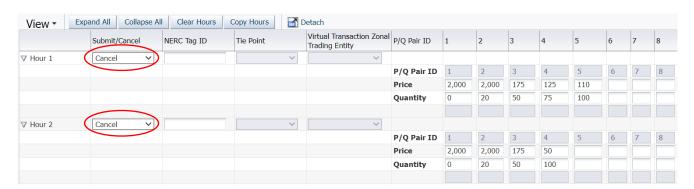
Once you have retrieved your *bid*, you can cancel the data as necessary. Below is an example of what you will see after clicking **Load Data** to retrieve your *bid*.

Click **Expand All** to see the *price-quantity pairs* and other *dispatch data* for every hour. Alternatively, click the triangle next to the **Hour** number to expand any individual hours.



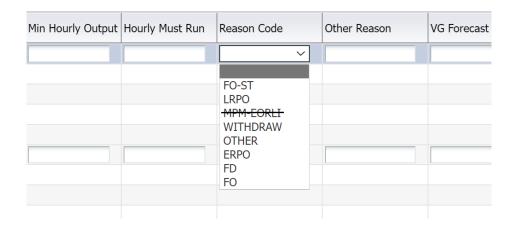
To cancel your *bid*, follow these steps:

- 1. Ensure the **Delivery Date** represents the date of the *bid* you wish to cancel.
- 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 bid.



If you wish to revise a portion of your *bid* and cancel a portion of your *bid*, you can do so in the same submission. Simply select **Submit** for those hours that you are revising and follow the steps outlined in Section 4.2, Revising Your Bid.

3. Select the appropriate **Reason Code** using the drop-down. The following reason code, MPM-EORLI, is not valid for cancellations, only for revisions.



The following table defines the various reason codes available.

Table 2 | Reason Codes for Cancelling Bids<sup>2</sup>

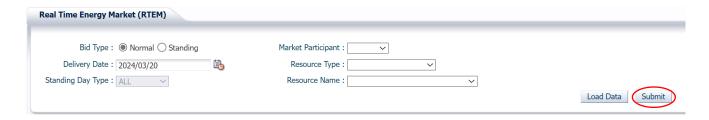
| Reason Code | Description   |
|-------------|---|
| FO          | Forced Outage   |
| FD          | Forced Derating   |
| FO-ST       | Forced Outage on Steam Turbine of Pseudo-unit                 |
| ERPO        | Early Return from <i>Planned Outage</i>                       |
| LRPO        | Late Return from <i>Planned Outage</i>                        |
| WITHDRAW    | Withdrawal from a commitment for equipment issues and failure |
| OTHER       | Complete the <b>Other Reason</b> field                        |

If you select **OTHER**, you must also complete the **Other Reason** field. This is a free text field which allows you to type in the reason in your own words using up to 128 characters.

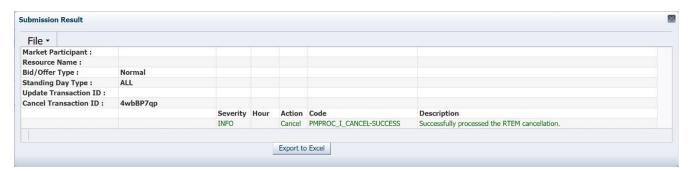
4. Repeat this process for each hour requiring a reason.

<sup>&</sup>lt;sup>2</sup> Refer to MM 4.1 Appendix B for the conditions under which a reason code is required, and additional information and requirements for each condition.

5. Click **Submit** to send your cancelled *bid* to the IESO.

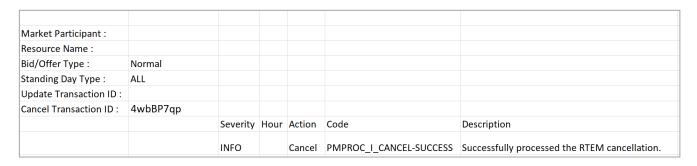


6. You will receive a pop-up within a few moments of submitting your cancelled *bid* displaying the status of your *bid*. Review the **Submission Result** screen to ensure that your *bids* for all applicable hours have been successfully cancelled. Please note that while not applicable to **Normal** *offers*, **Standing Day Type** will return **ALL** in the output file due to default settings.



7. 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 **Cancel Transaction ID** number. The **Submission Result** screen cannot be retrieved again.

A sample Excel export is included below:



8. Review your day-ahead, pre-dispatch and 5-minute reports, as applicable, to see which of your *bids* have been scheduled.

## References

| Document Title   | Document ID     |
|--|-----------------|
| Introduction to Ontario's Physical Markets   |                 |
| Market Rules Chapter 7 System Operations and Physical Markets                                  | MDP_RUL_0002_07 |
| Market Manual 4: Market Operations, Part 4.1: Submitting Dispatch Data in the Physical Markets | MDP_PRO_0027    |

## **Related Documents**

| Document Title   | Document ID |
|--|-------------|
| Energy Market Interface - Submitting, Revising and Cancelling<br>Energy Offers                 |             |
| Energy Market Interface - Submitting, Revising and Cancelling<br>Import Offers and Export Bids |             |
| Energy Market Interface - Submitting, Revising and Cancelling<br>Schedules and Forecasts       |             |
| Energy Market Interface - Submitting, Revising and Cancelling<br>Operating Reserve Offers      |             |
| Energy Market Interface – Submitting and Revising Daily Dispatch<br>Data                       |             |
| Energy Market Interface – Submitting and Revising Forebay<br>Dispatch Data                     |             |

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