Energy Market Interface - Submitting, Revising and Cancelling Energy Bids

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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 **dispatchable loads** 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 Energy Bids 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)

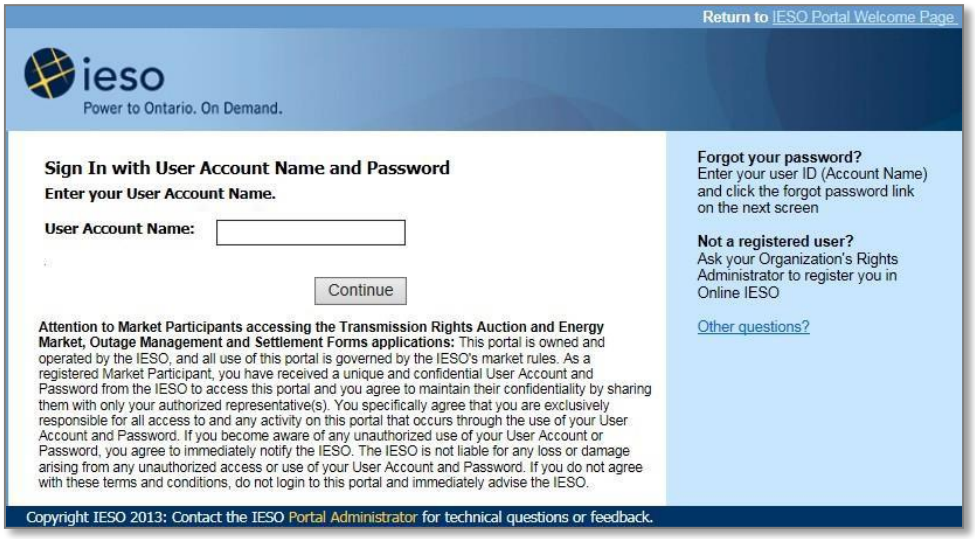
The Day-Ahead Commitment Process has specific timeline requirements for submitting and revising dispatch data. For complete details on DACP timelines, please refer to the DACP Market Manuals available on the Market Rules and Manuals Library web page.

2. ACCESSING EMI

The Energy Market Interface (EMI) is the market participant interface with Ontario's physical energy markets (therefore, it is also referred to as the 'Energy Market Interface (EMI) Workspace'). The EMI is used for:

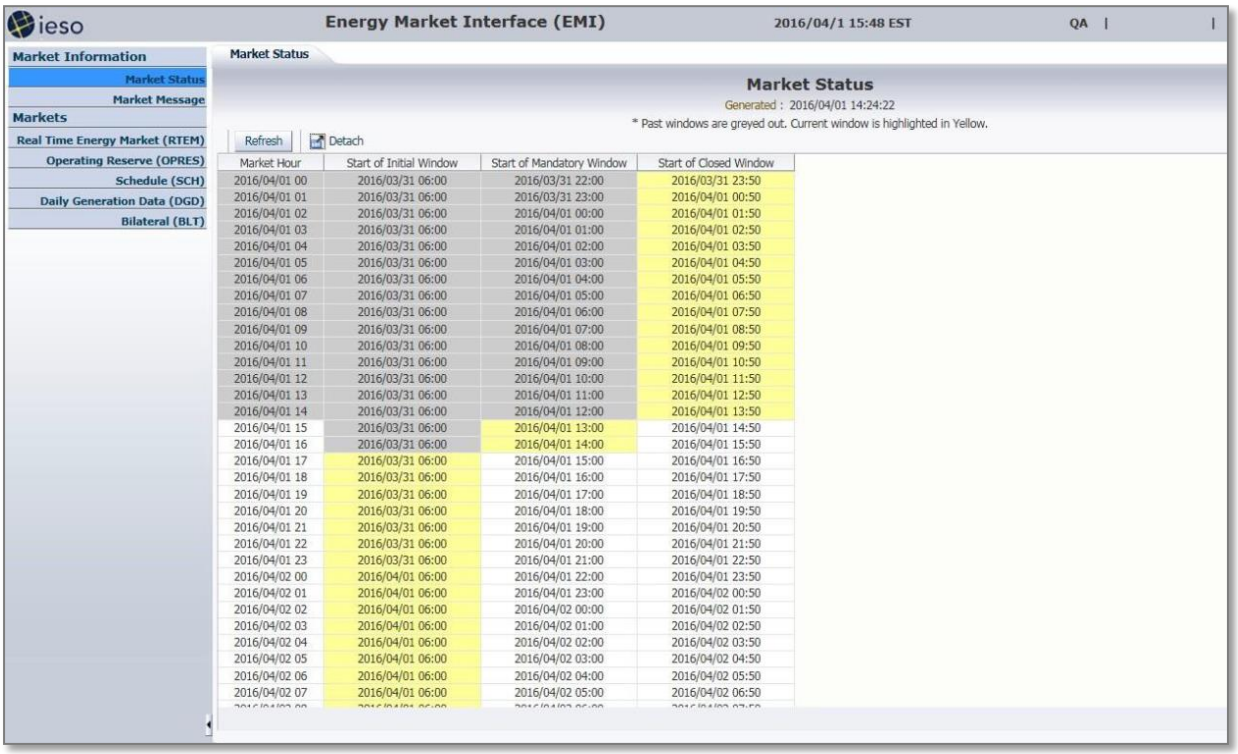
- Participating in the Real-time Energy and Operating Reserve Markets: Submitting, reviewing and revising dispatch data (i.e., offers, bids, schedules, forecasts)
- Participating in inter-jurisdictional energy trading: submitting, reviewing and revising import offers and export bids
- Submitting, reviewing 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**.



3. 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.



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

3. ENERGY BIDS

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

Loads in Ontario that are "dispatchable" participate in the market by submitting bids to withdraw energy from the IESO-controlled grid. Dispatchable loads use the EMI to submit bids.

It is possible for a facility to designate a portion of its load as dispatchable, and a portion as non-dispatchable. This designation is done through the bidding process. See *Introduction to Ontario's Physical Markets* on the IESO Training Materials web page for more information.

3.1 Energy Bid Terms and Timelines

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

- Initial or Daily Bids
- Standing Bids
- Revised Bids

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) Bid

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

Bids submitted within two hours of the dispatch hour require IESO approval. See Appendix B: Revising and Cancelling Energy Bids Rules for more information.

Keep in mind that under DACP, dispatchable loads must submit bids 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 Bid

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

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

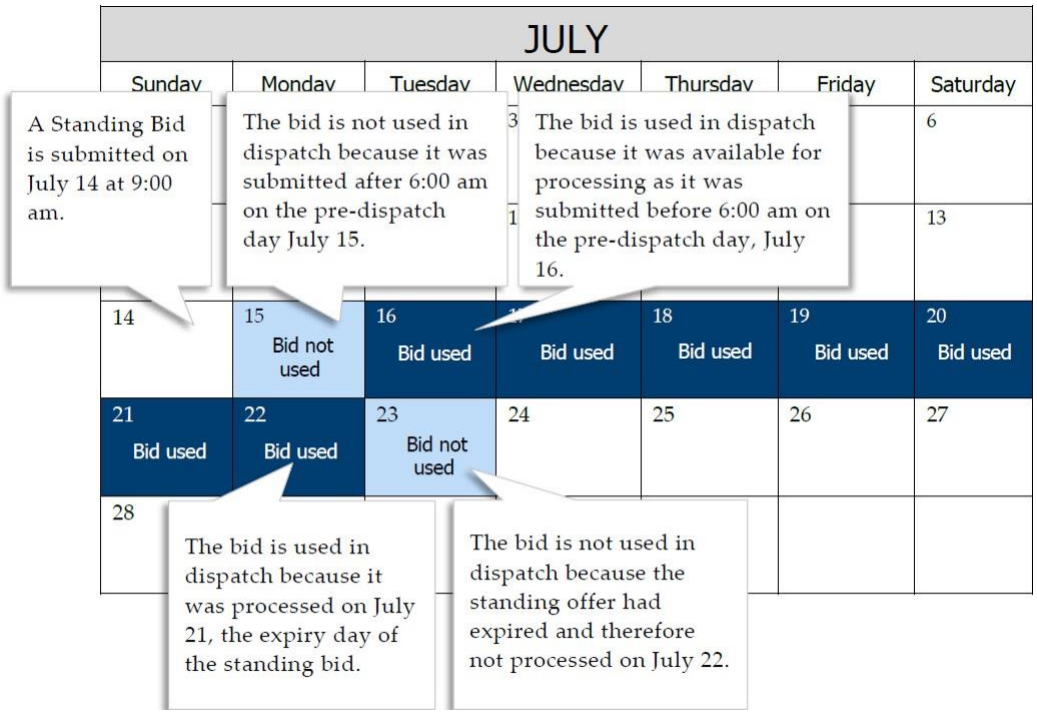
A Standing Bid only takes effect after it has been converted to a Daily Bid. For example:

- If you submit a Standing Bid for all days of the week after 6:00 am on Monday, the bid will convert to a Daily Bid at 6:00 am on Tuesday to be effective for the trade date of Wednesday.
  Remember: Standing Bids are converted to Daily Bids for the next day at 6:00 am.
- If you submit the same Standing Bid 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 Bids 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 bid.

Standing Bid Example

You wish to submit a standing bid to be used for **July 16, 17, 18, 19, 20, 21** and **22.** Therefore, you must submit your bid 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 bid for all days, with an expiry date of July 21. You would leave the **Delivery date** field at the default setting.



Physical Bilateral Contracts

Physical Bilateral Contracts may be submitted seven (7) calendar days before and six (6) business days after the trading date.

Revising or Cancelling Bids

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

Expiry Date

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

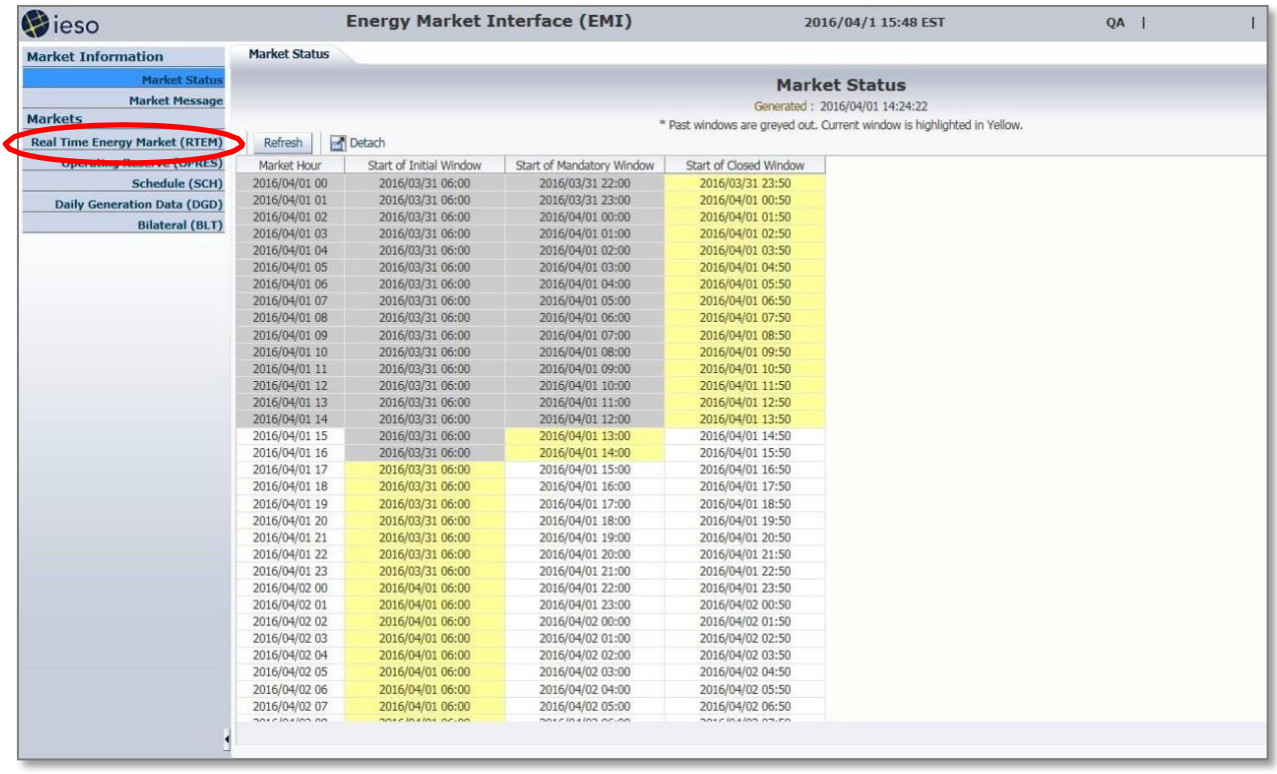
For example, if you enter an expiry date of July 28, your bid will be converted to a Daily Bid at 6:00 am on July 28 and will be considered in the pre-dispatch schedule and dispatch schedule for the trade day of July 29.

3.2 Preparing Initial (Daily) Bids or Standing Bids

The following instructions apply to preparing a Daily 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.

To submit a Daily 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.

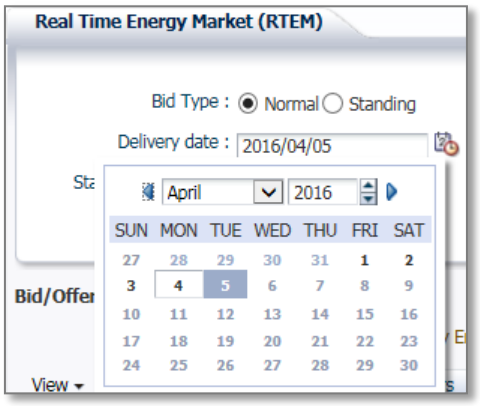


2. Select the **Bid Type** as either Normal or Standing.

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

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.

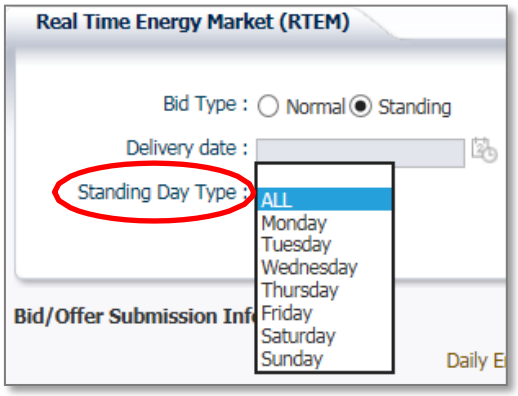
   The Delivery date defaults to the current trading date. If your bid is for the next trading date, click the Calendar icon and select the appropriate date from the calendar. The remaining highlighted dates in the calendar are only used when submitting bilateral contract data.



   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**.

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.

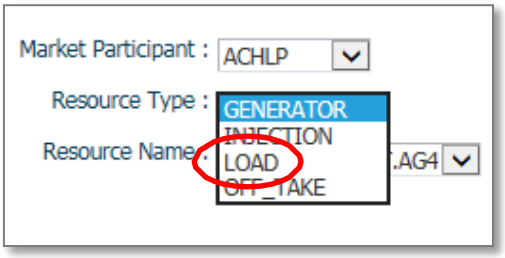
   Note: See Section 3.1, Energy Bid Terms and Timelines on Page 5 for more information about Standing Bid timelines.



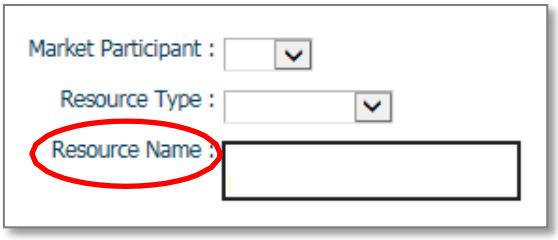
5. Click the drop down next to **Market Participant** to see a list of the market participants on whose behalf you are authorized to enter dispatch data (e.g., offers, bids, schedules, etc.).

   Choose the Market Participant for which you wish to enter an energy bid then click the drop-down next to **Resource Type** and select **LOAD**.

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



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

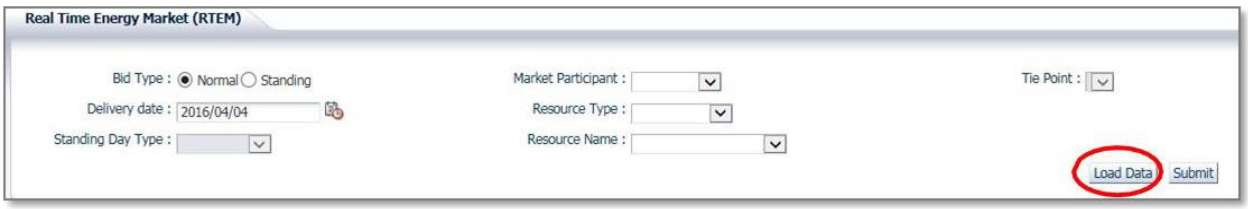


The **Resource Name** is the unique reference for a facility used when submitting bids and offers. It is also called the "Delivery Point" and is used as the point of settlement for the IESO's physical markets.

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

Optional Step:

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

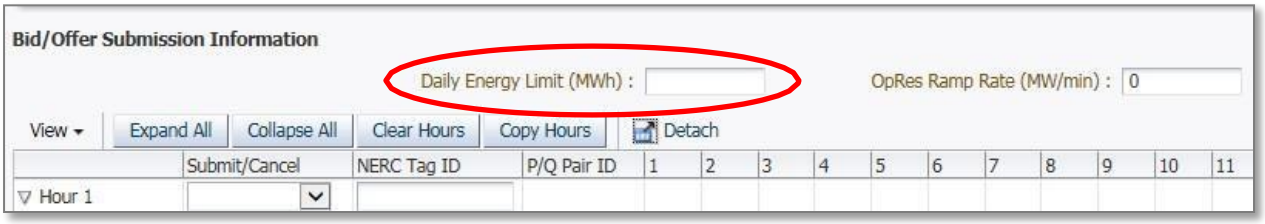


7. Proceed to Section 3.3, Submitting Price/Quantity Pairs, to complete the empty bid form.

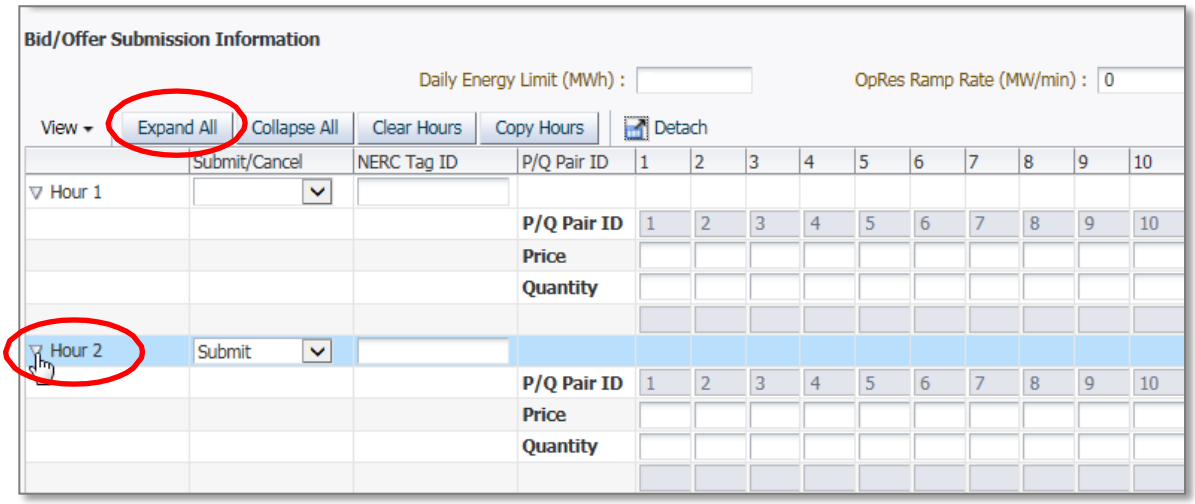
3.3 Submitting Price/Quantity Pairs

To enter your bid information, complete the following steps:

1. Do not enter a quantity in the Daily Energy Limit (MWh) field. Leave this field 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. 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.
3. 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.



4. Enter the price in dollars and cents, up to two decimal places for each hourly bid. E.g., $10 dollars may be entered as **10.00** or **10.0** or **10**.
5. Enter the quantity in megawatts (MW), up to one decimal place, for each hourly bid.

   See Appendix A: Rules for Price/Quantity Pairs for more information about price/quantity pairs.

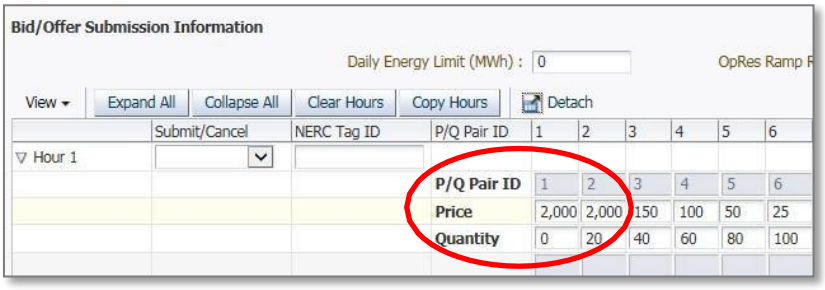
3.4 Designating a Portion of your Load as Non-Dispatchable

A facility registered as a dispatchable load is always settled on the 5-minute market clearing 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 $2000. 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 **2000** 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 **2000**.
4. Enter the second quantity as the portion of your load that is non-dispatchable.



Note: 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.

3.4.1 What Happens if Your 'Non-dispatchable' Portion is Constrained Off?

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.

Note: You must inform the IESO that you will not be complying with the 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.

3.4.2 Designating Your Entire Load as Non-Dispatchable

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

3.5 Ramp Rates

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			

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:

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.

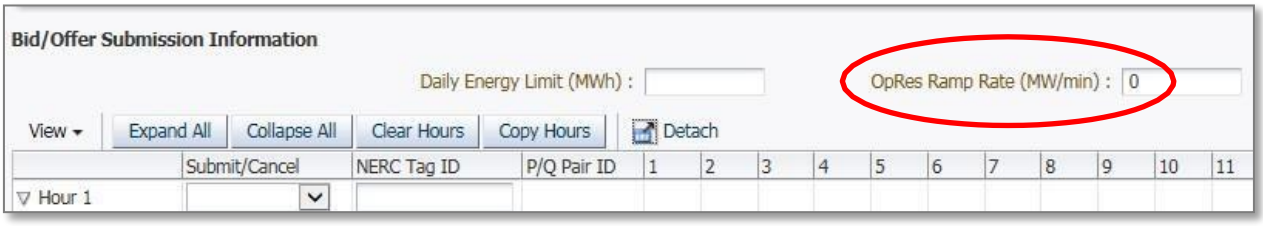
3.5.1 Entering Ramp Rates

To enter ramp rates for your bids, 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 bid.

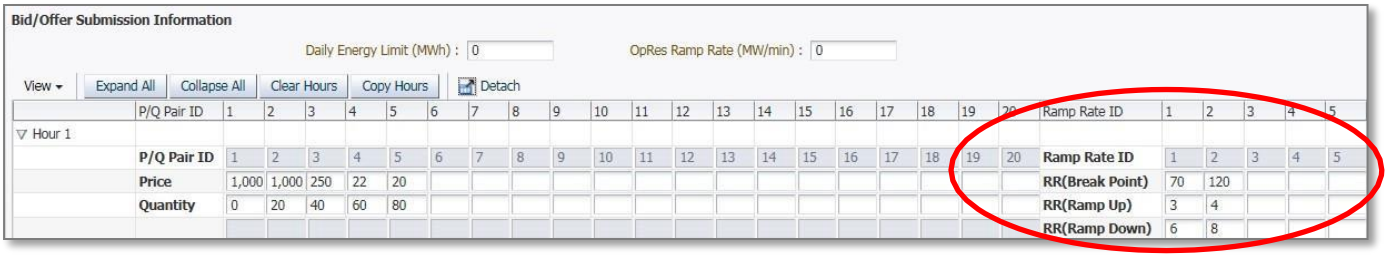
   Enter the number of MW per minute, rounded to one decimal place. E.g., if your ramp rate is 5 MW/min, enter 5 or 5.0.

   A single ramp rate applies for all hours in your OR offer.



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 speed 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.

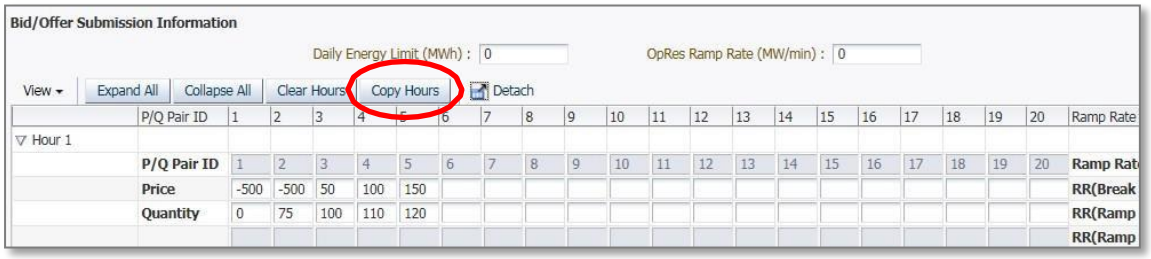


2. Do not enter values in the **Speed No Load** and **Start Up Cost** fields. Leave these fields blank.

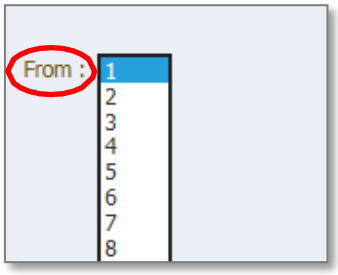
3.6 Entering the Same Bid for Multiple Hours

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.

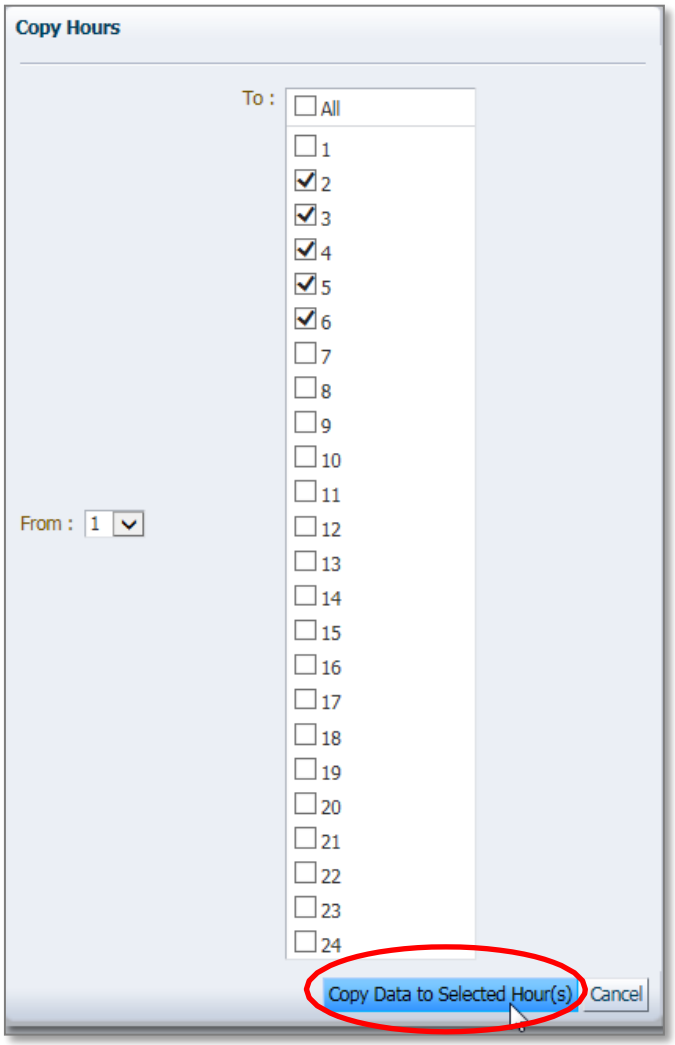
1. Click **Copy Hours** after completing your price/quantity pairs for a single hour.



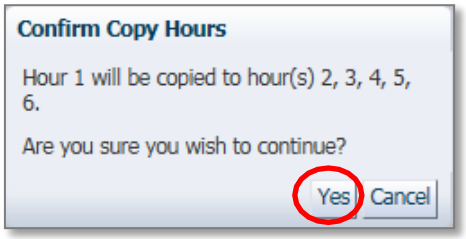
2. In the drop-down next to **From**, select the hour you wish to copy.



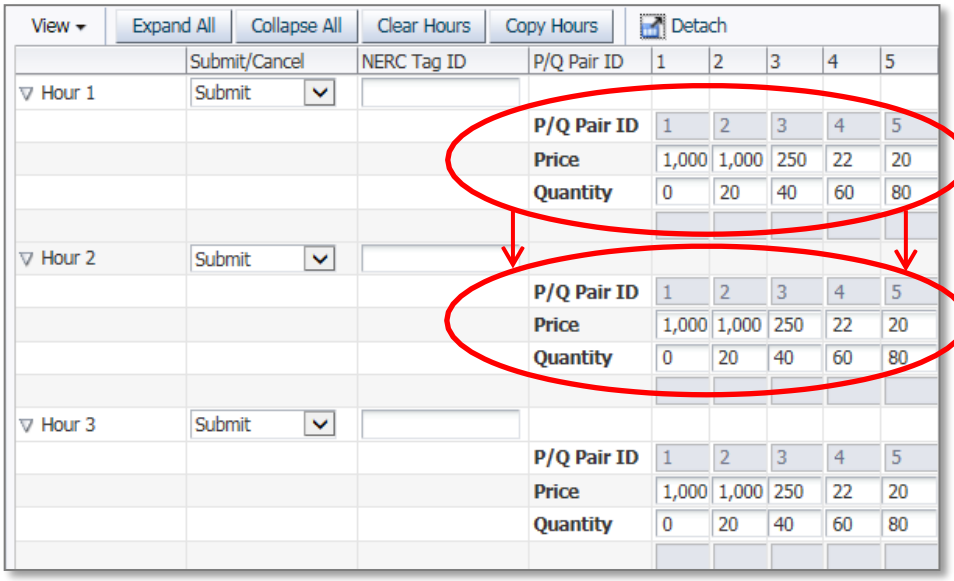
Select the hours you wish to copy the bids to, or select **All**, then click **Copy Data to Selected Hour(s)**.



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



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

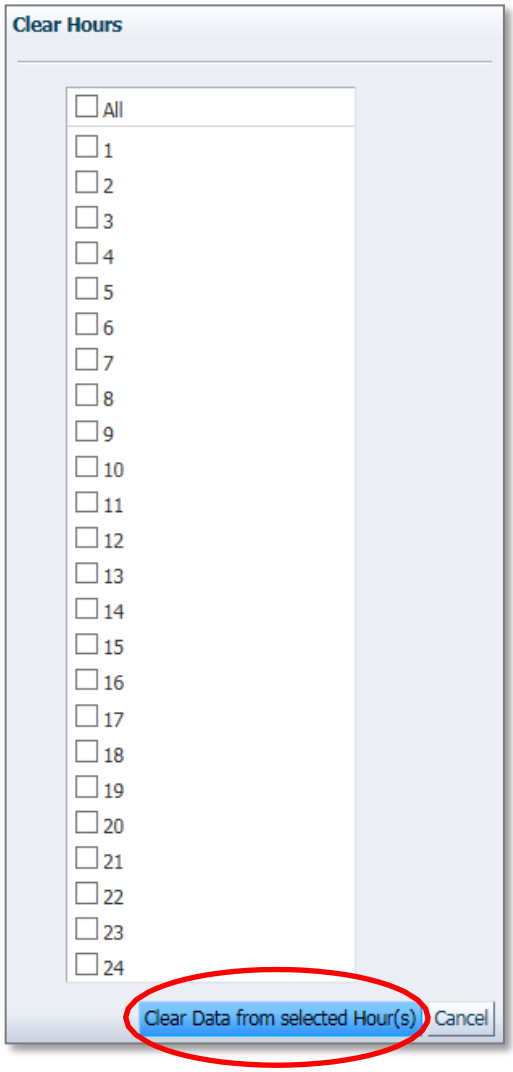


3.7 Clear Hours

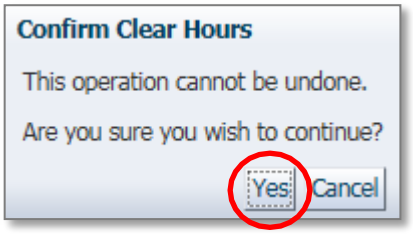
Rather than deleting each price/quantity pair and other energy bid data for any hour(s) or all hours, you can easily delete all bids using the **Clear Hours** button.

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

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



3. Click **Yes** to proceed.

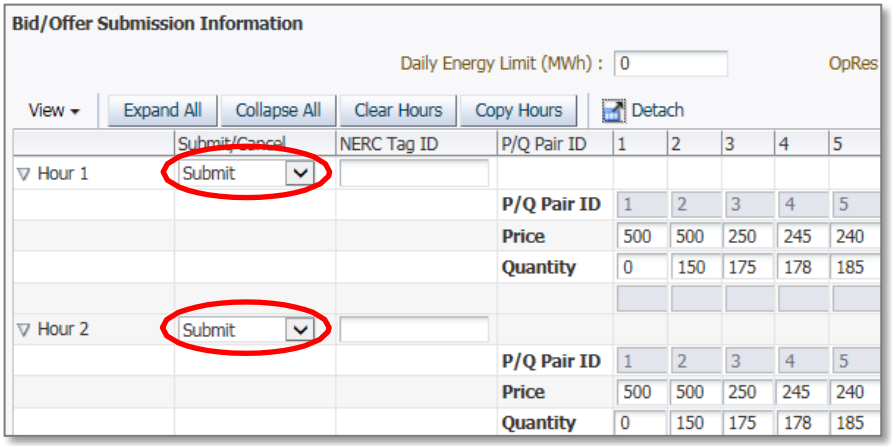


The price/quantity pairs, and other offer data, are cleared from the hours selected.

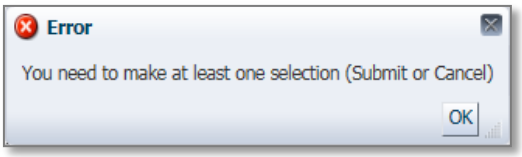
3.8 Submitting Your Bid

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:

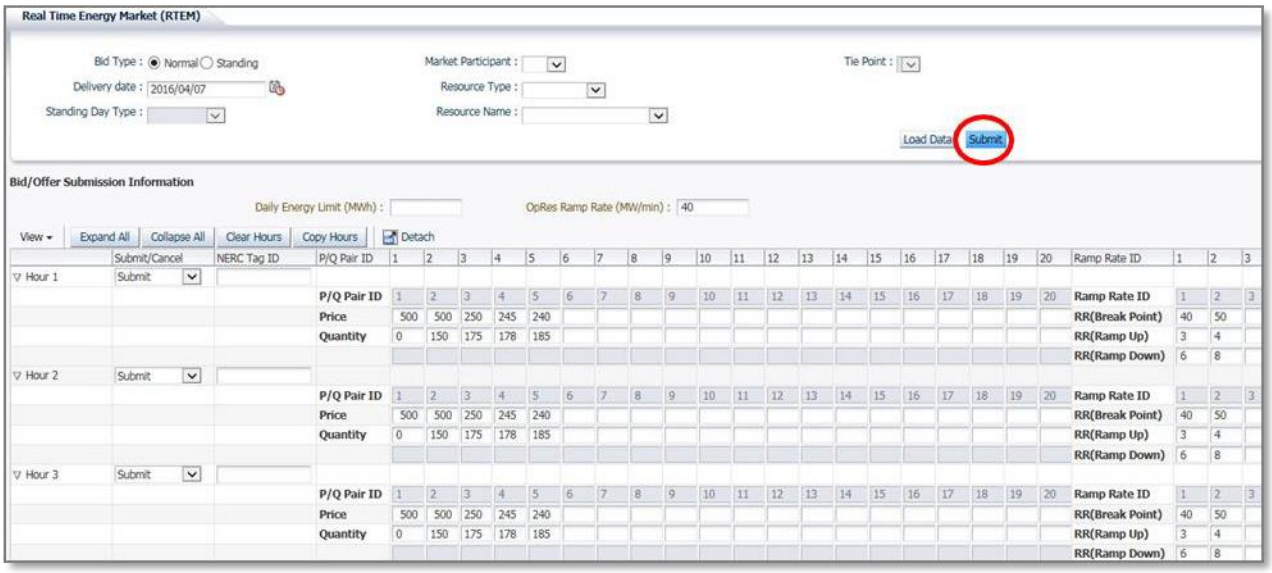
1. Verify that the bid information is correct and complete.
2. Select **Submit** from the drop-down next to the hour number for the hours that you are submitting as part of your bid.



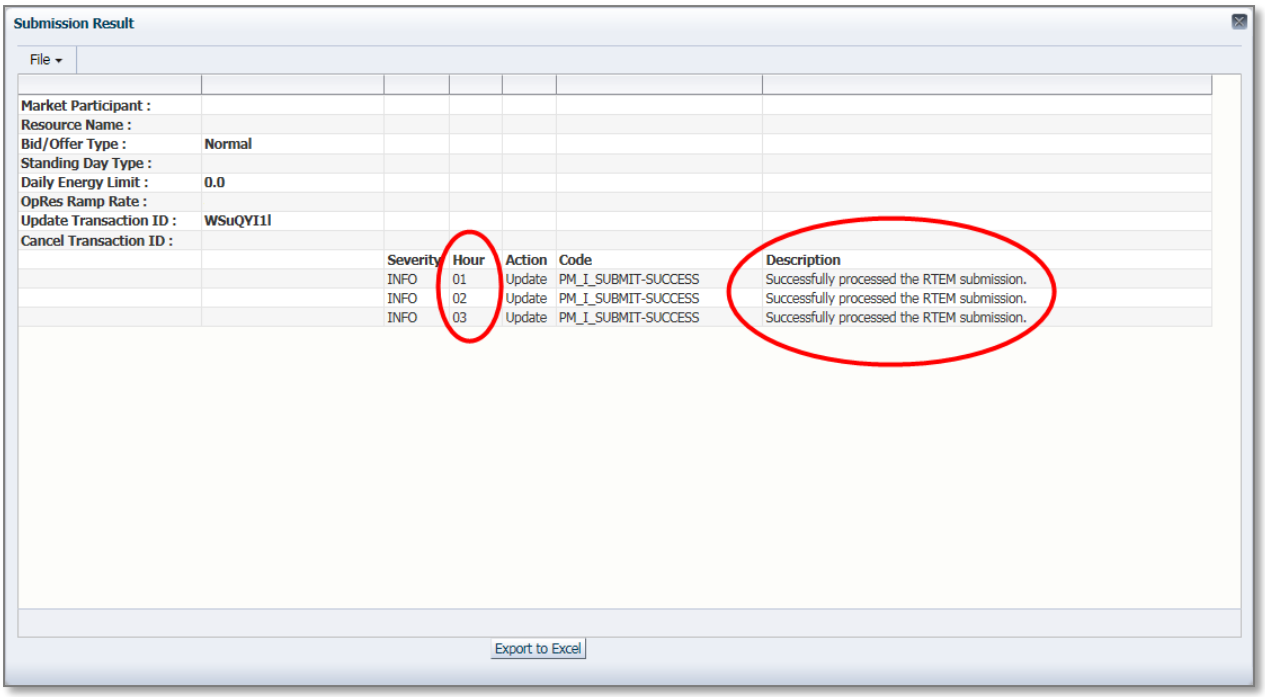
Otherwise, you may see the following error message when attempting to submit your bid to the IESO:



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



4. You will receive a submission result 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.



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 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.

4. REVISING AND CANCELLING ENERGY BIDS

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

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

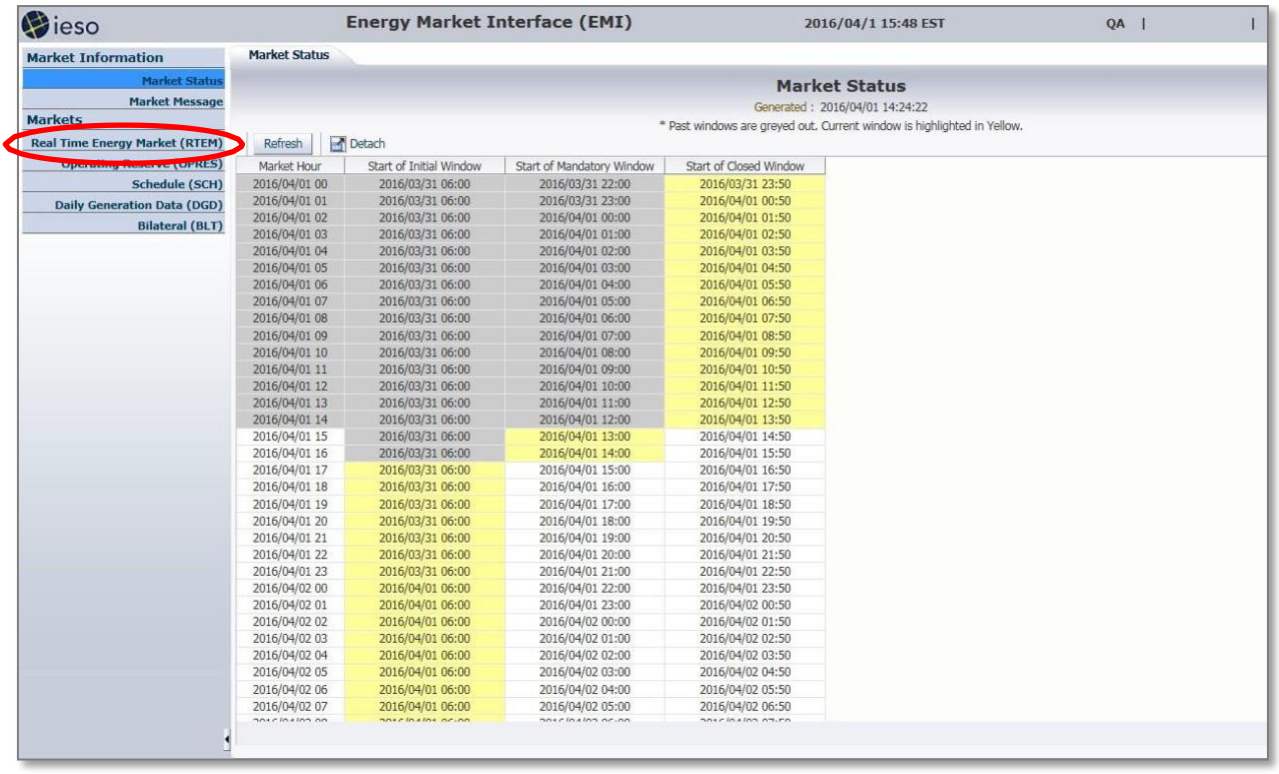
If you are revising or cancelling a bid within two (2) hours of the dispatch hour, you must also include a reason and IESO approval is required.

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

4.1 Retrieving Your Bid

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

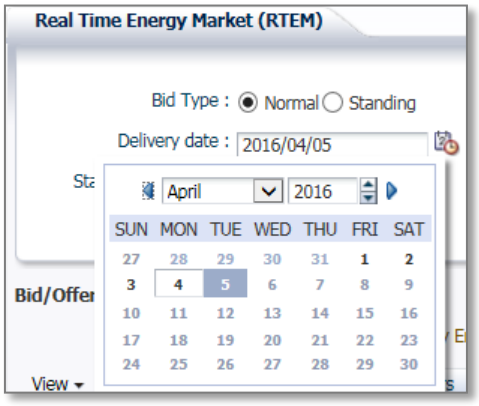
1. Select **Real Time Energy Market (RTEM)** under Markets from the menu on the left side of the EMI.



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

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

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

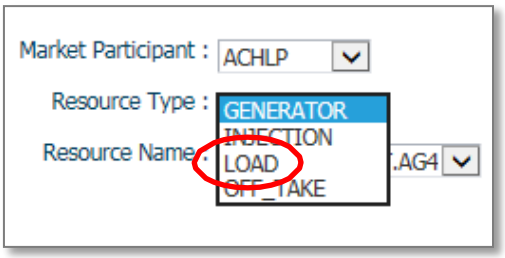


   If you select the **Delivery date** after having already selected the Resource Type, and Resource Name, you may have to select the correct Resource Type and Resource Name again. EMI changes the Resource Type and Resource Name lists based on the **Delivery date**.

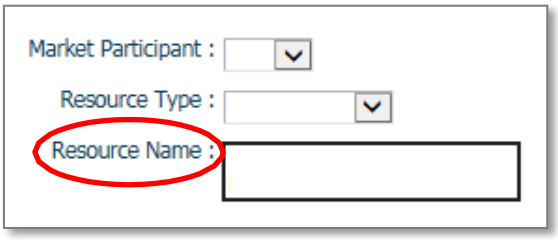
4. If you are retrieving a Standing Bid, select the **Standing Day Type**. If your Standing Bid is for all days of the week, select **ALL**. Otherwise, select the appropriate day of the week to which the Standing Bid applies.

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.).

   Choose the Market Participant for which you wish to retrieve an energy bid then click the drop-down next to **Resource Type** and select **LOAD**.



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



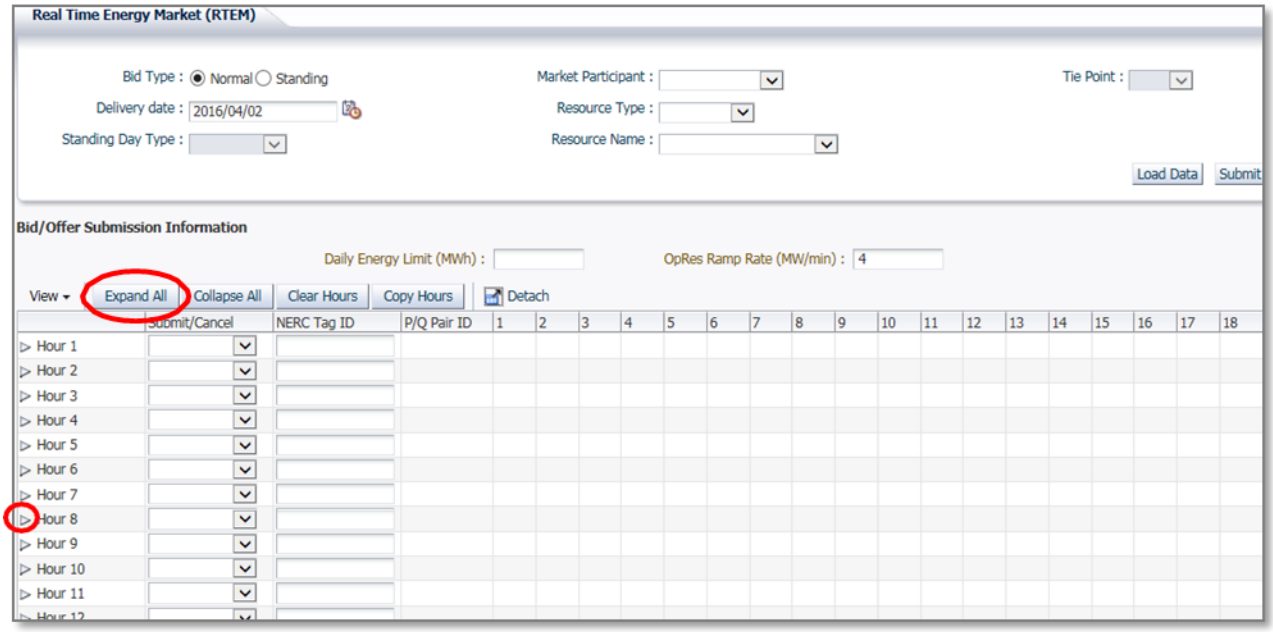
The **Resource Name** is the unique reference for a facility used when submitting bids and offers. It is also called the "Delivery Point" and is used as the point of settlement for the IESO's physical markets.

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

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

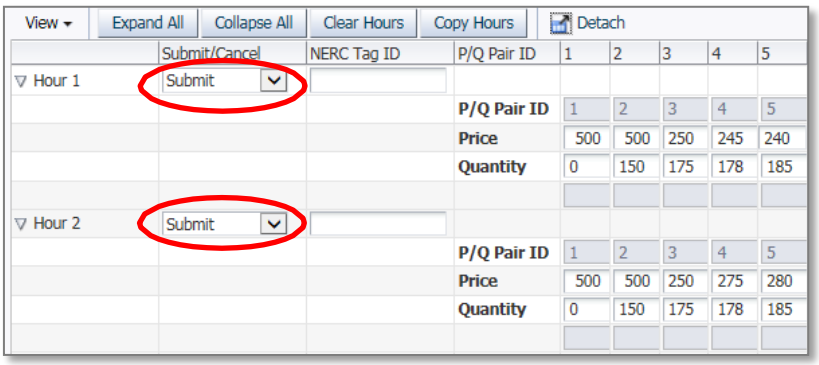
4.2 Revising Your Bid

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 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.

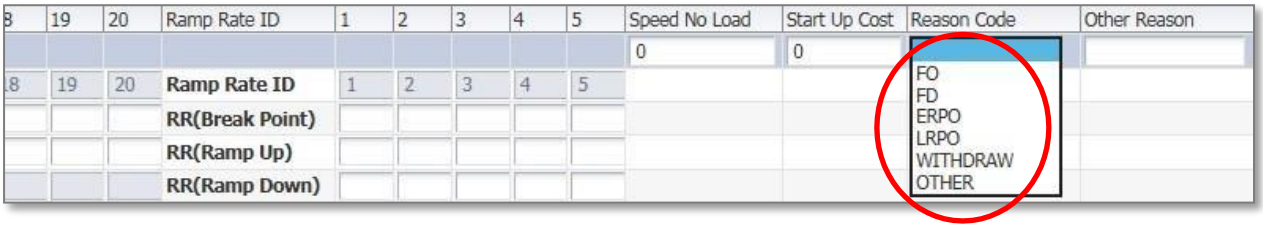
1. Ensure the **Delivery Date** represents the date of the bid you wish to revise.
2. Select **Submit** from the drop-down next to the hour number for the hours that you are revising.



Note: 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 rules outlined in Section 4.3, Cancelling Your Bid and Appendix B: Revising and Cancelling Energy Bids Rules.

3. Edit the price/quantity pairs and/or ramp rate sets, as required.

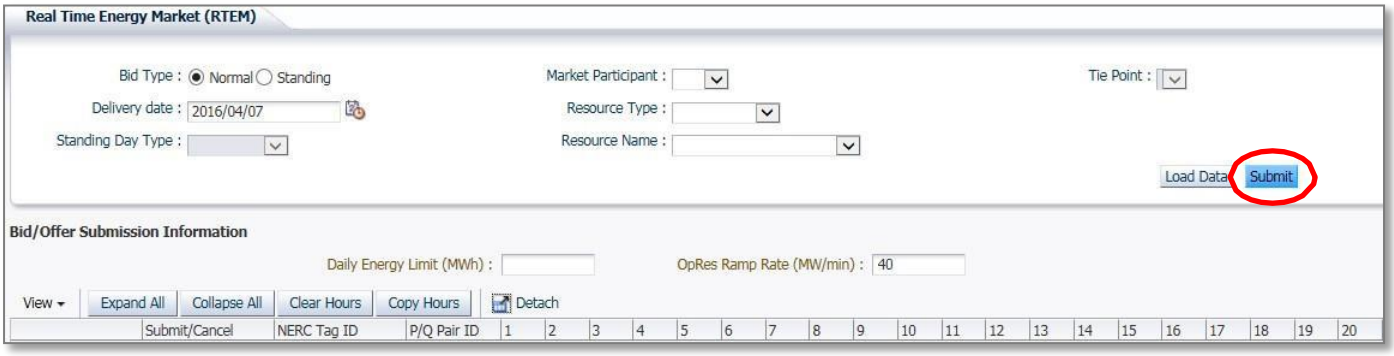
4. Select the appropriate **Reason Code** from the drop-down or describe your reason for revising your bid in the **Other Reason** field if you are revising a bid within two (2) hours of the dispatch hour. IESO approval will be required before the revision is accepted. See Appendix B: Revising and Cancelling Energy Bids Rules for more information.



The following table defines the various Reason Codes available.

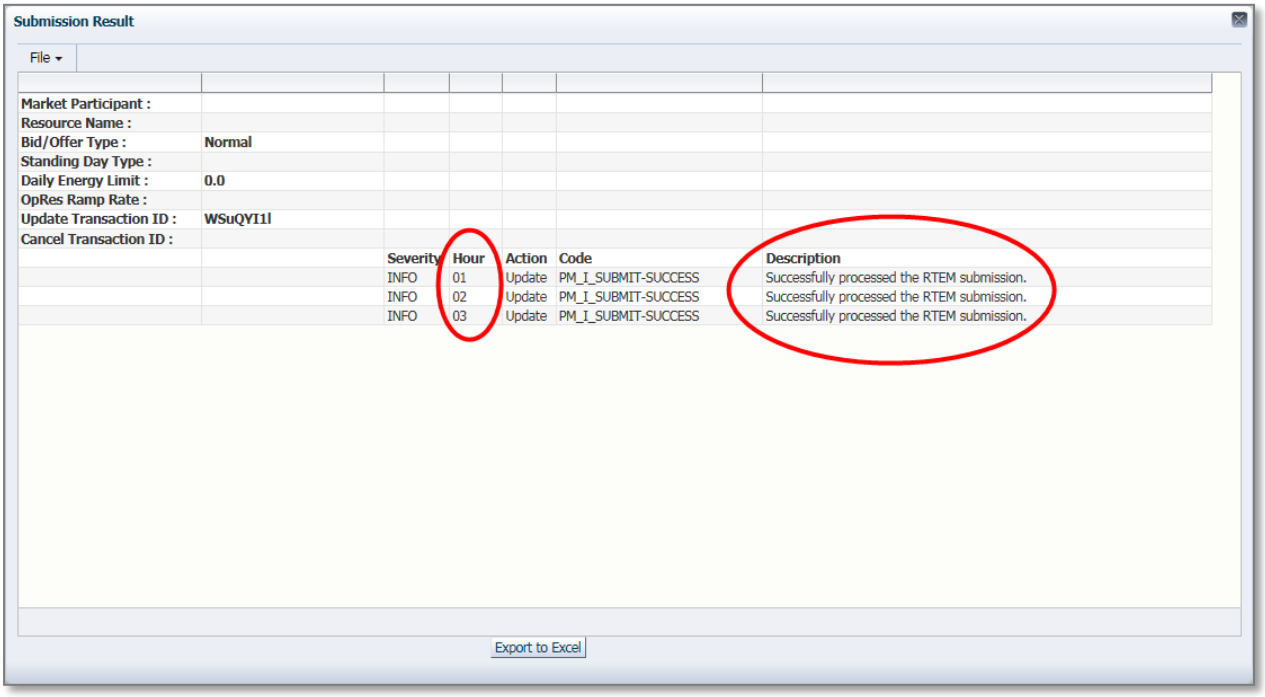
Reason Code	Description
FO	Forced Outage
FD	Forced Derating
ERPO	Early Return from Planned Outage
LRPO	Late Return from Planned Outage
WITHDRAW	Withdrawing your bid
OTHER	Complete the Other Reason field

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



8. You will receive a submission result 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.



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.

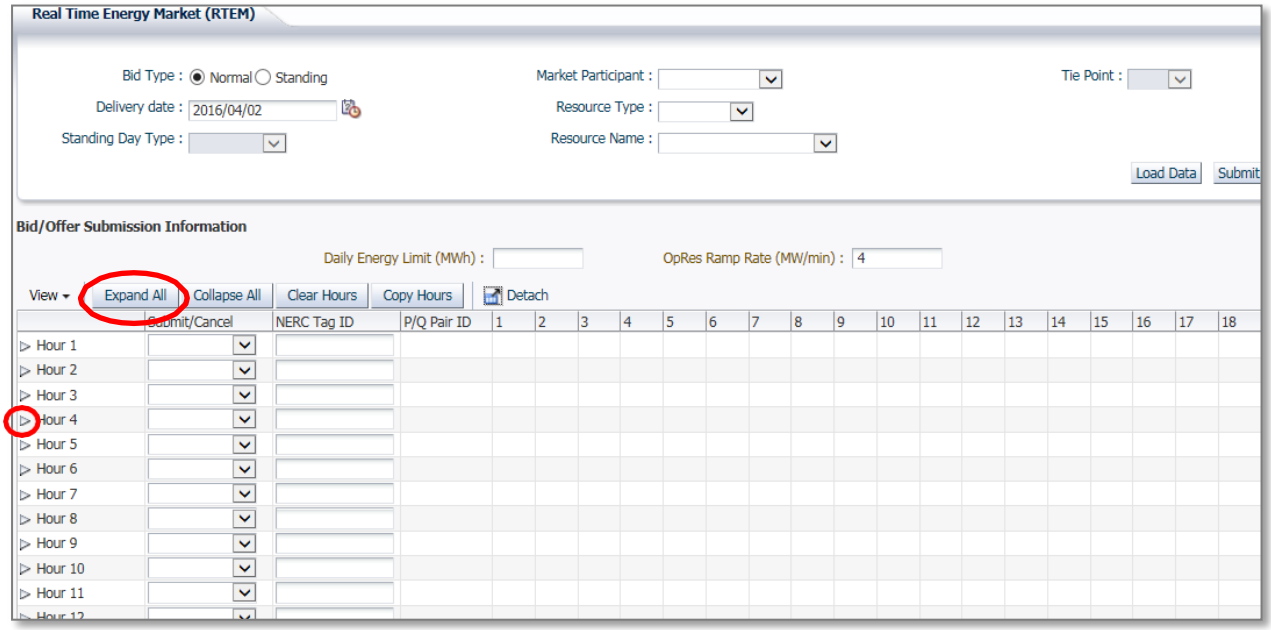
   A sample Excel export is included below:

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 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.

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

4.3 Cancelling Your Bid

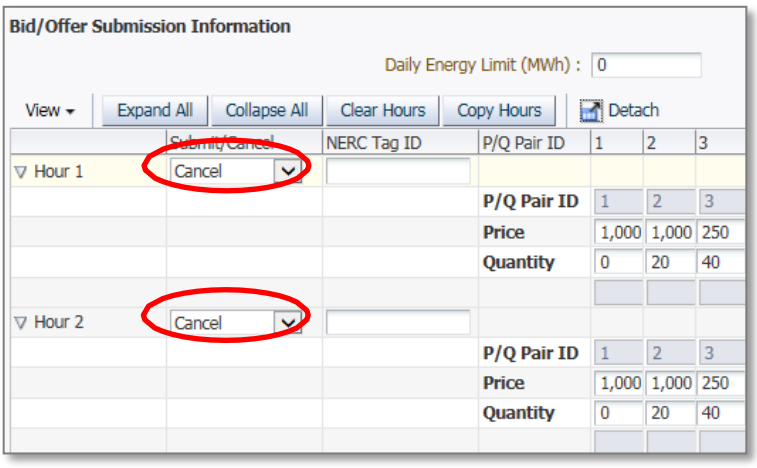
Once you have retrieved your bid, you can cancel the data as necessary. Below is an example of what you will see after clicking **Load Data** to retrieve your bid.



Click **Expand All** to see the price/quantity pairs and/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 bid 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 bid.



Note: 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 rules outlined in Section 4.2 Revising Your Bid and Appendix B: Revising and Cancelling Energy Bids Rules.

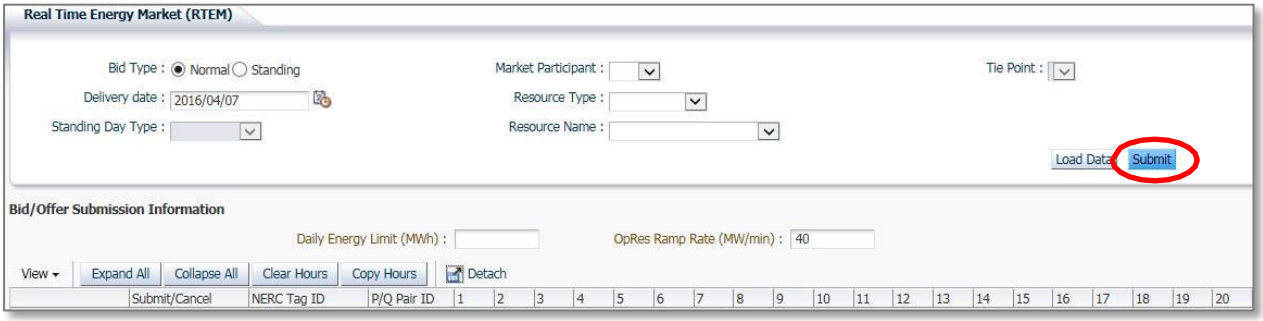
3. Select **WITHDRAW** from the Reason Code drop-down or describe your reason for cancelling your bid in the **Other Reason** field if you are cancelling a bid within two (2) hours of the dispatch hour.

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

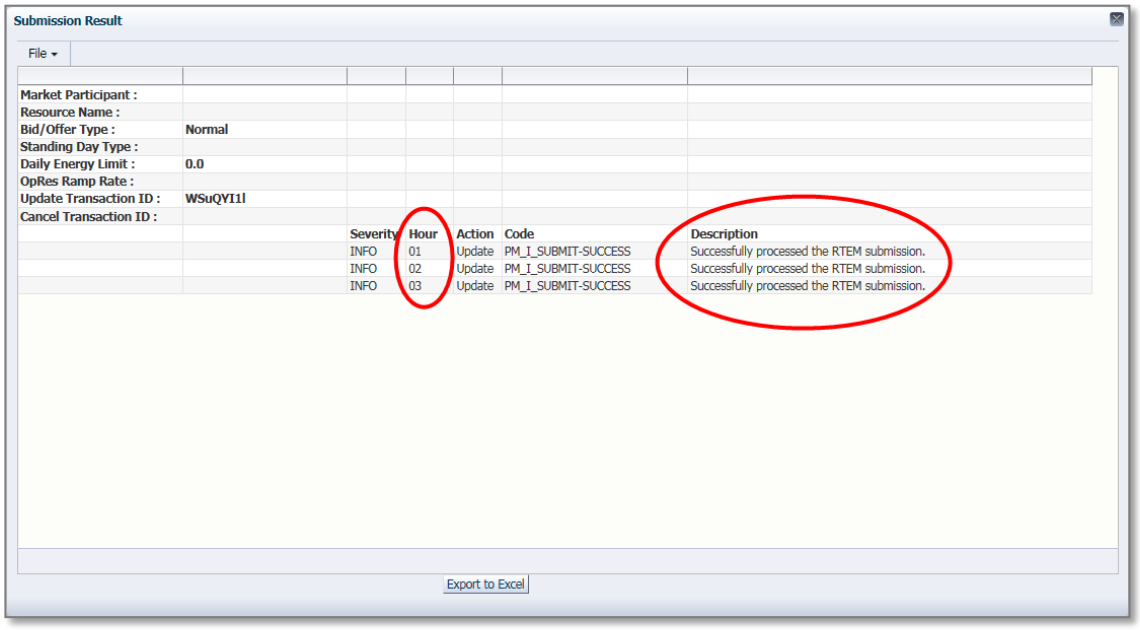
The following table defines the various Reason Codes available.

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 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 cancelled bid to the IESO.



7. You will receive a submission result 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.



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 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.

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

5. BILATERAL CONTRACTS

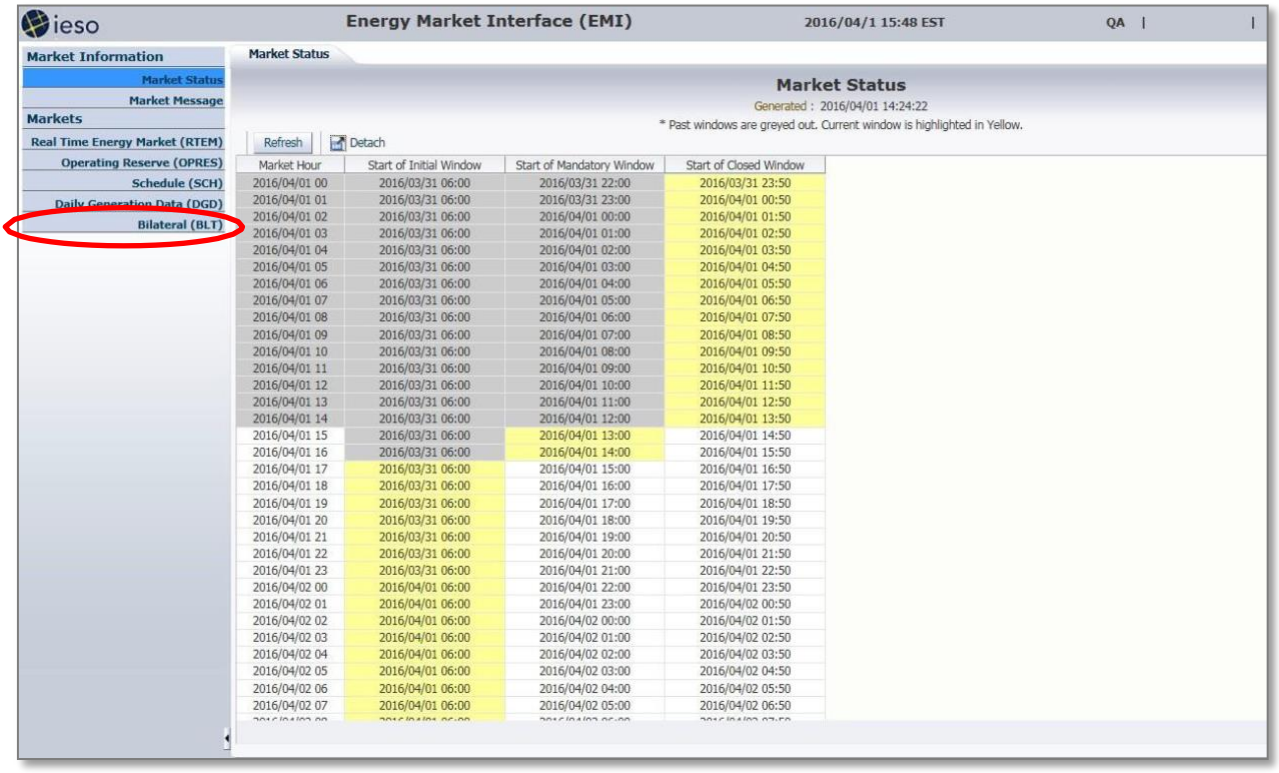
The Bilateral Contract Market allows Market Participants to trade among one another for the sale and purchase of power. Specific settlement charges can be assigned to either the buyer or seller depending on the individual contracts that have been drawn up.

5.1 Submitting Physical Bilateral Contract (PBC) Information

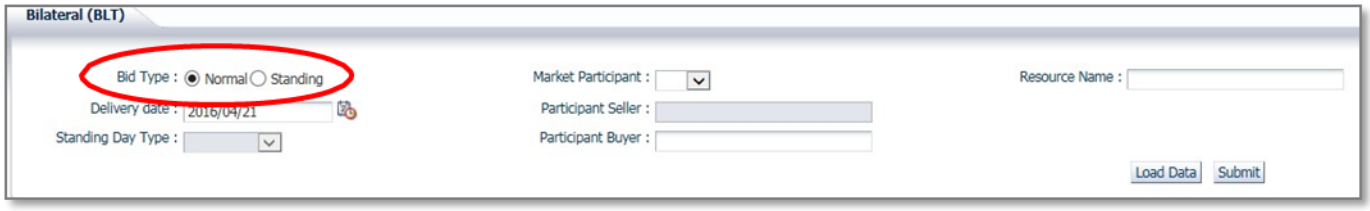
Physical bilateral contract (PBC) bids can be submitted as Initial (Daily) bids or Standing bids. See Section 3.1, Energy Bid Terms and Timelines for more information on types of bids and associated submission timelines.

To submit a PBC Bid, complete the following steps:

1. Select **Bilateral (BLT)** under Markets from the menu on the left side of the EMI.



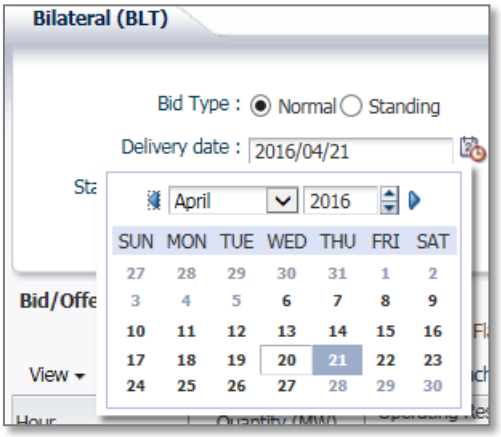
2. Select the **Bid Type** as either Normal or Standing. **Note:** In EMI, Normal refers to Initial (Daily) Bids.



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.

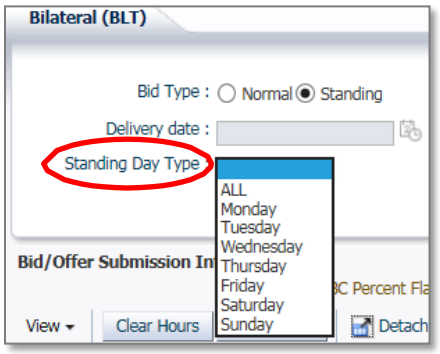
   The Delivery date defaults to the current trading date. Click the Calendar icon to select the appropriate date from the calendar.

   Physical bilateral contracts may be seven (7) calendar days before and six (6) business days after the trading 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.

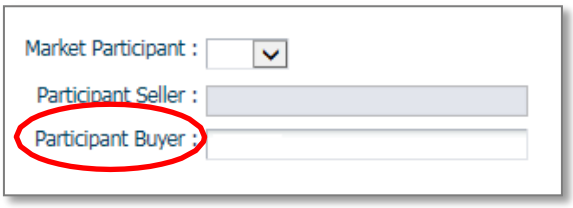
   Note: Standing physical bilateral contract bids are converted at 00:30 am for the day-ahead bilateral market and may not overlap for the same resource. For example, it is not possible to have a resource with a standing day type of 'ALL' that expires on a Friday and a standing day type of 'Saturday' for the following day.



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.).

   Choose the Market Participant you wish to enter a bilateral contract with.

   Enter the name of the **Participant Buyer** (participant short name) of the Market Participant you are entering a bilateral contract with. The **Participant Seller** should be automatically populated based on the Market Participant selected.

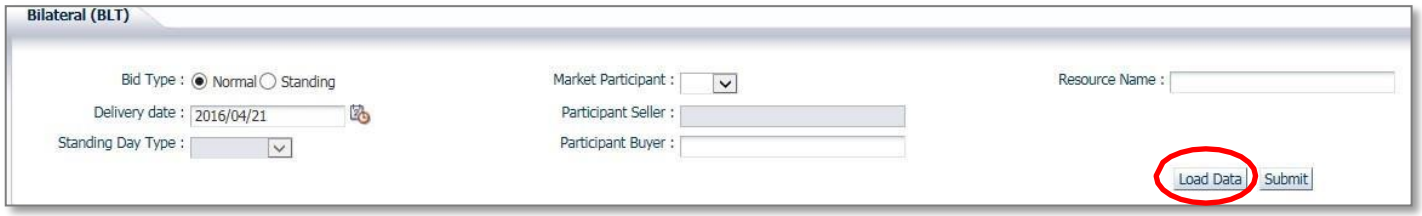


6. Enter the **Resource Name** agreed to in the contract to be used as the settlement point.

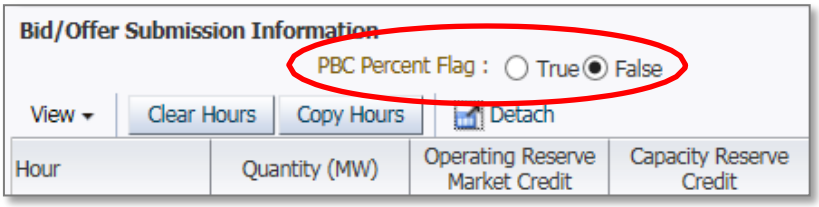
   Note: The **Resource Name** is the unique reference for a facility used when submitting bids and offers. It is also called the "Delivery Point" and is used as the point of settlement for the IESO's physical markets. A list of dispatchable and non-dispatchable delivery points is available on the IESO website.

   Optional Step:

   Click **Load Data** to populate the screen with data from an existing contract that can then be modified for a new contract or proceed directly to Step 8 to complete an empty bid form.



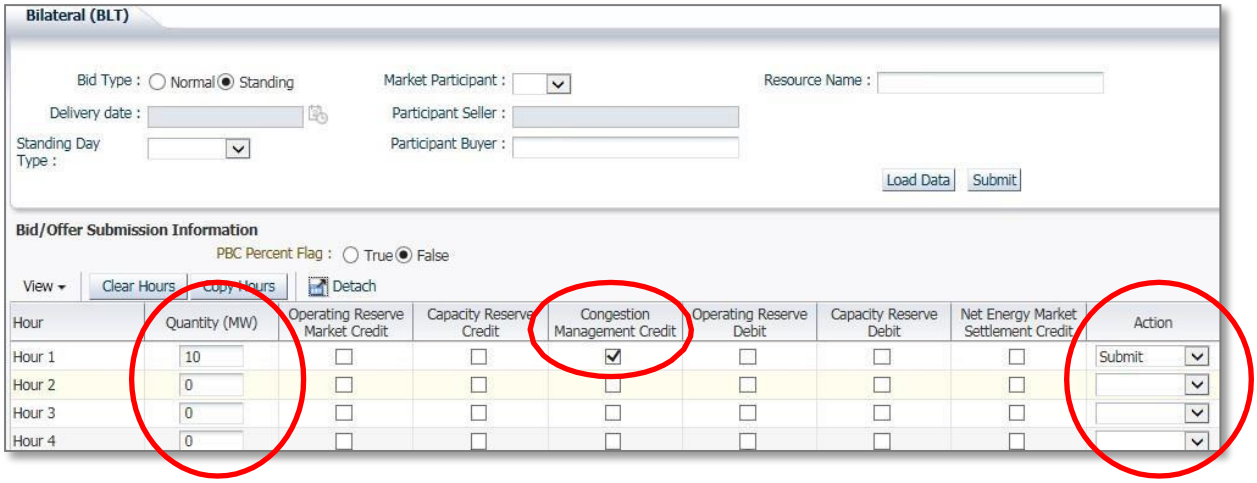
7. Ensure that the **PBC Percent Flag** is set to False. This is the default value.



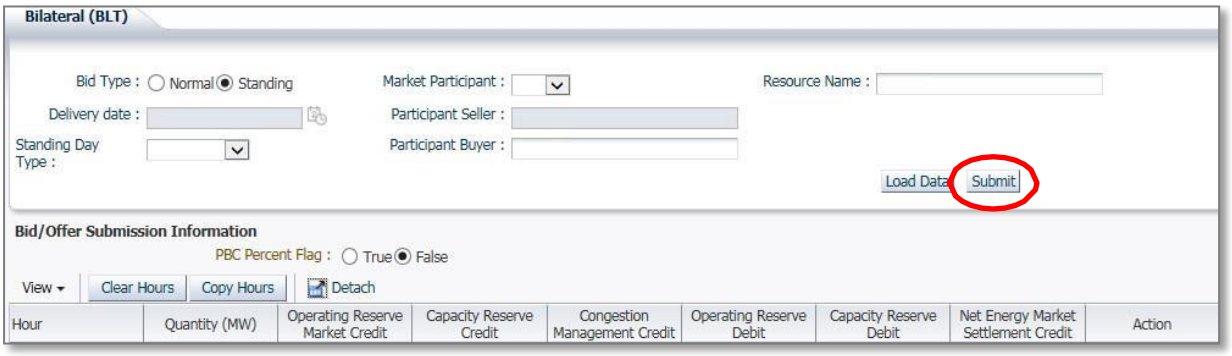
   The PBC Percent Flag is only used for settling 100% of the allocated

metering quantities at the location identified by the Delivery Point.

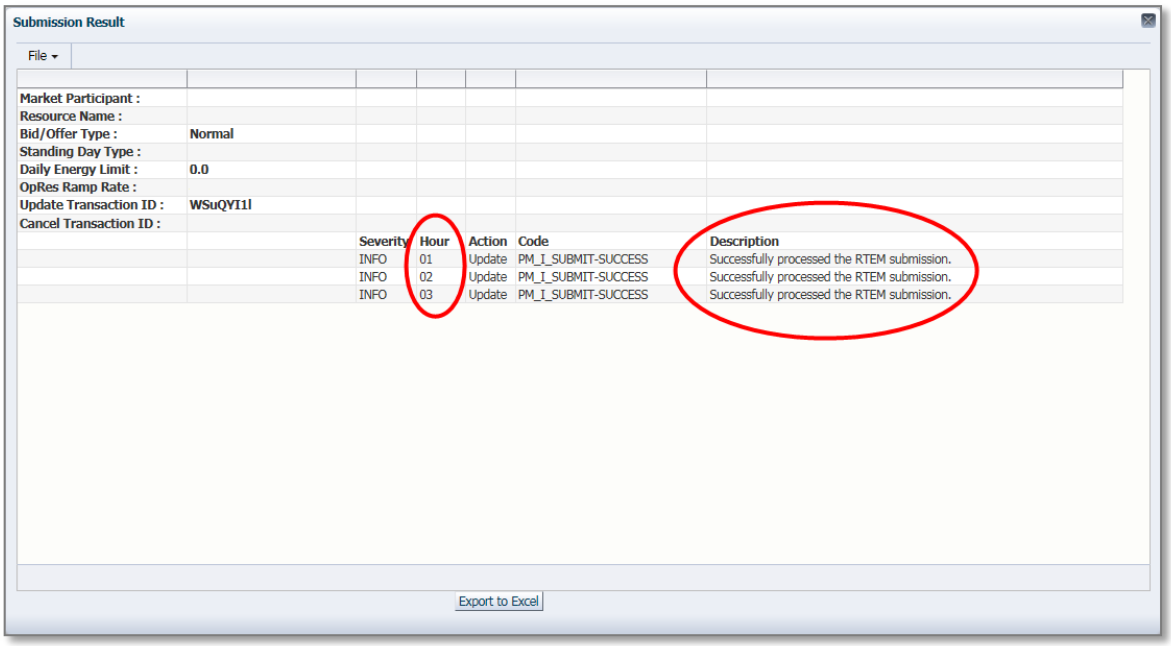
8. For each hour, enter the following information:
   a. A **quantity (MW)**, up to the maximum for the designated resource.
   b. Select the appropriate **credit/debit uplift allocation** check boxes.
   c. Select **Submit** from the Action drop-down.



9. Click **Submit** to send your PBC information to the IESO.



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



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:

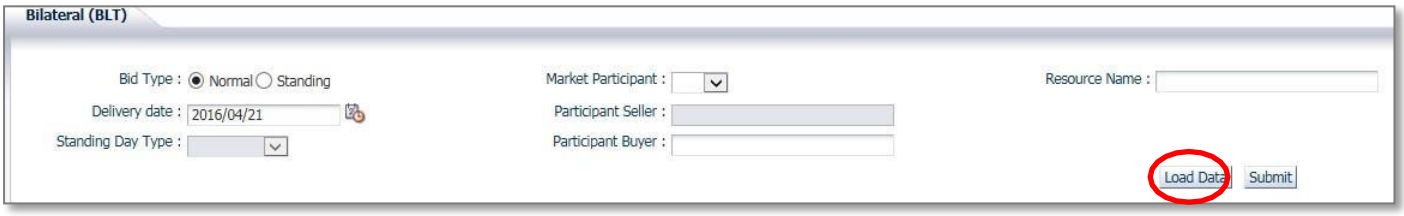
Market Participant :						
Resource Name :						
Bid/Offer Type :	Normal					
Standing Day Type :						
Daily Energy Limit :	0					
OpRes Ramp Rate :						
Update Transaction ID :	W6RQYI1a					
Cancel Transaction ID :						
		Severity	Hour	Action	Code	Description
		INFO	1	Update	PM_I_SUBMIT-SUCCESS	Successfully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

5.2 Revising and Cancelling Physical Bilateral Contracts (PBC)

5.2.1 Retrieving Your PBC

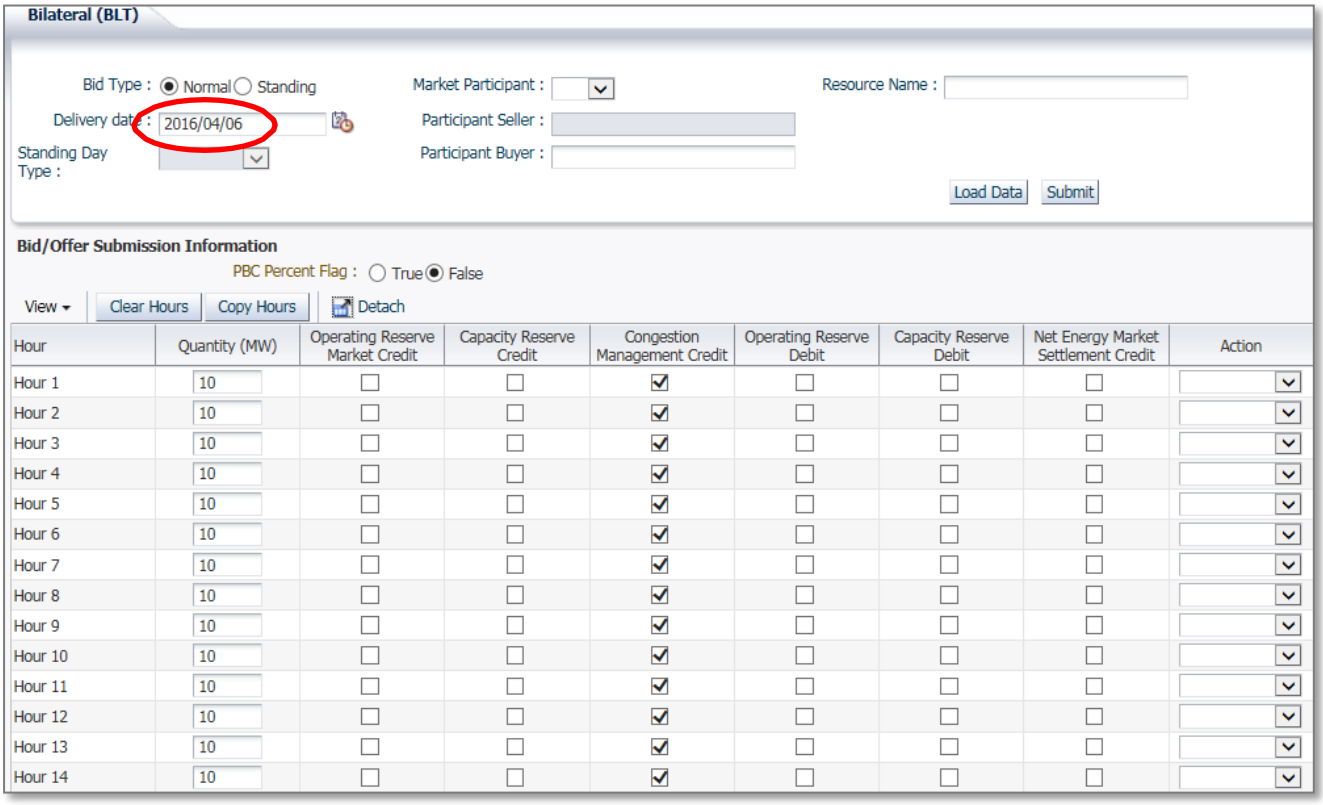
The easiest way to revise or cancel your PBC is to first retrieve the contract information. To retrieve your PBC, complete the following steps:

1. Follow the steps 1-7 outlined in the previous Section, 5.1, Submitting Physical Bilateral Contract (PBC) Information.
2. Click **Load Data** to populate the screen with the data from the PBC you are retrieving.

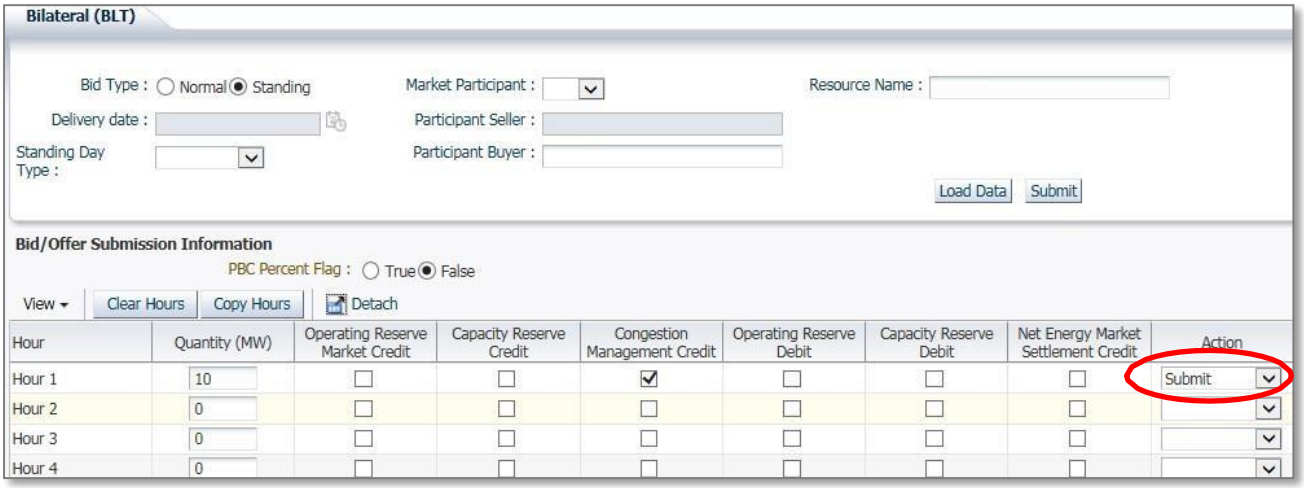


5.2.2 Revising Your PBC

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

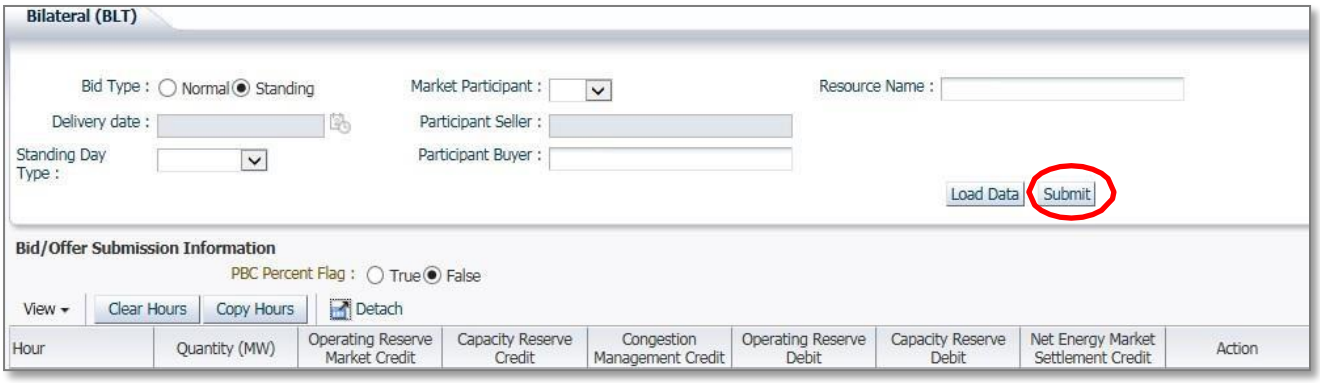


1. Ensure the **Delivery Date** represents the date of the PBC you wish to revise.
2. Select **Submit** from the drop-down next to the hour number for the hours that you are revising.

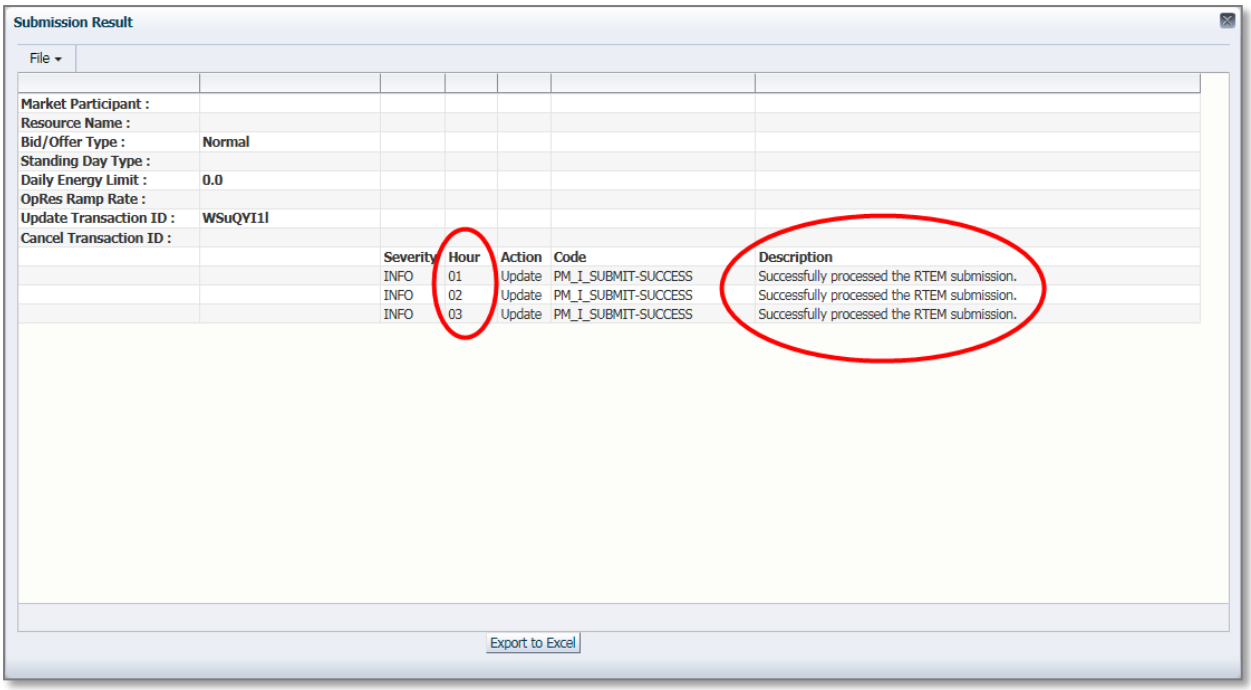


Note: If you wish to revise a portion of your PBC **and** cancel a portion of your PBC, you can do so in the same submission. Simply select **Cancel** for those hours that you are cancelling and follow the rules outlined in Section 5.2.3, Cancelling Your PBC.

3. Edit the quantity and/or credit/debit uplift allocation selections, as required for each hour.
4. Click **Submit** to send your revised PBC to the IESO.



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



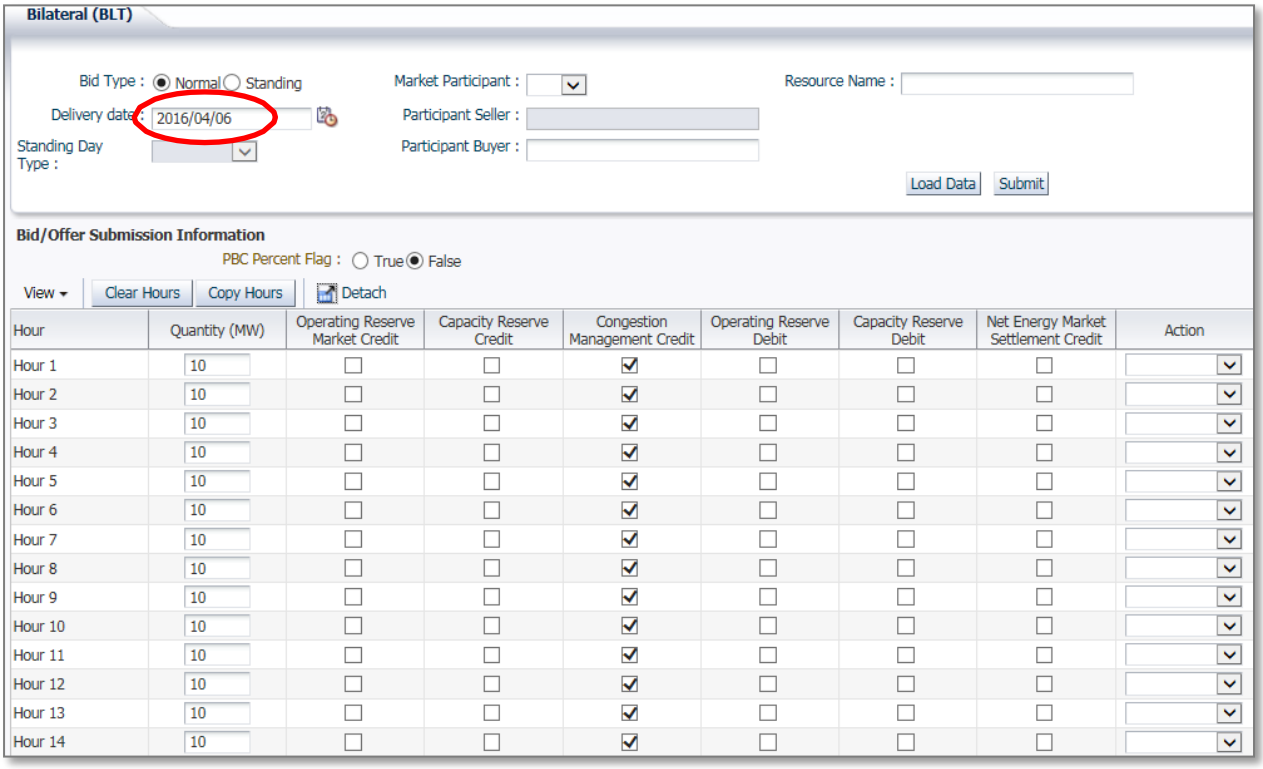
6. Click **Export to Excel** to produce a spreadsheet of the Submission Result screen. Or take a screen print for your records, and/or record the Transaction ID number. The Submission Result screen cannot be retrieved again.

A sample Excel export is included below:

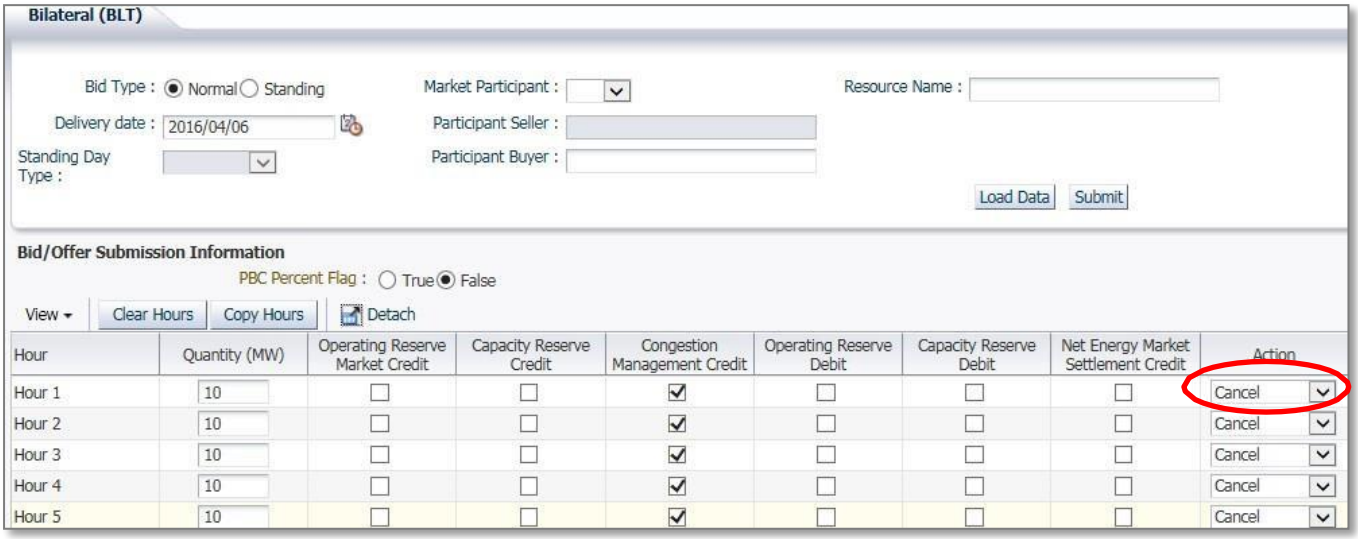
Market Participant :						
Resource Name :						
Bid/Offer Type :	Normal					
Standing Day Type :						
Daily Energy Limit :	0					
OpRes Ramp Rate :						
Update Transaction ID :	W6RQYI1a					
Cancel Transaction ID :						
		Severity	Hour	Action	Code	Description
		INFO	1	Update	PM_I_SUBMIT-SUCCESS	Successfully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

5.2.3 Cancelling Your PBC

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

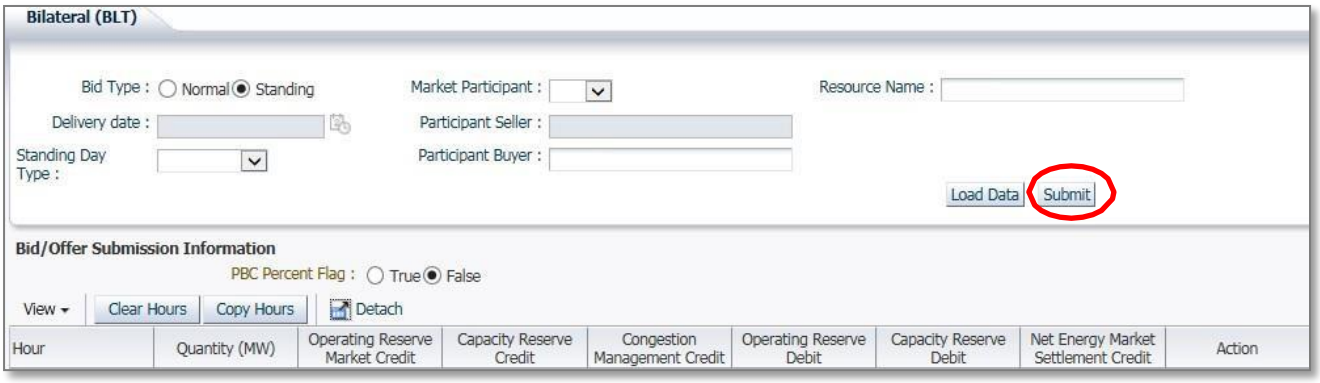


1. Ensure the **Delivery Date** represents the date of the PBC you wish to cancel.
2. Select **Cancel** from the drop-down next to the hour number for the hours that you are cancelling. Use **Copy Hours** after selecting Cancel for one hour to copy that selection for every hour if you plan to cancel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

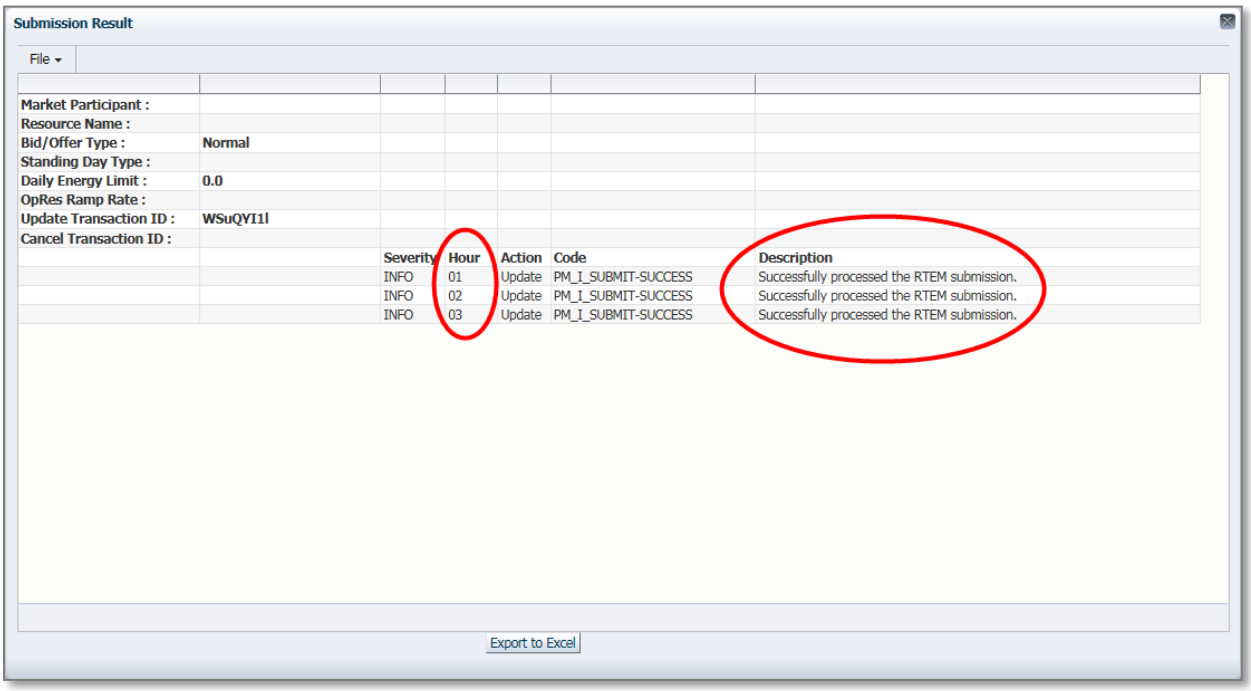


Note: If you wish to revise a portion of your PBC **and** cancel a portion of your PBC, you can do so in the same submission. Simply select **Submit** for those hours that you are revising and follow the rules outlined in Section 5.2.2, Revising Your PBC.

3. Edit the quantity and/or credit/debit uplift allocation selections, as required for each hour.
4. Click **Submit** to send your cancelled PBC to the IESO.



5. You will receive a submission result within a few moments of submitting your PBC, displaying the status of your PBC. **Review** the Submission Result screen to ensure that your PBC has been successfully cancelled.



6. 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.

APPENDIX A: RULES FOR PRICE/QUANTITY PAIRS

A.1 Price/Quantity Pairs

In the Real-time Energy Market, bids are submitted in price/quantity pairs. A price/quantity pair specifies the amount of energy requested for a given hour. The price listed is the highest price that you are willing to pay for the energy. You may submit sets of price/quantity pairs for any or all hours of the dispatch day.

Bids are submitted separately for each facility. You may submit only one energy bid for each registered facility for any dispatch hour, but each energy bid 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 Bids: Price

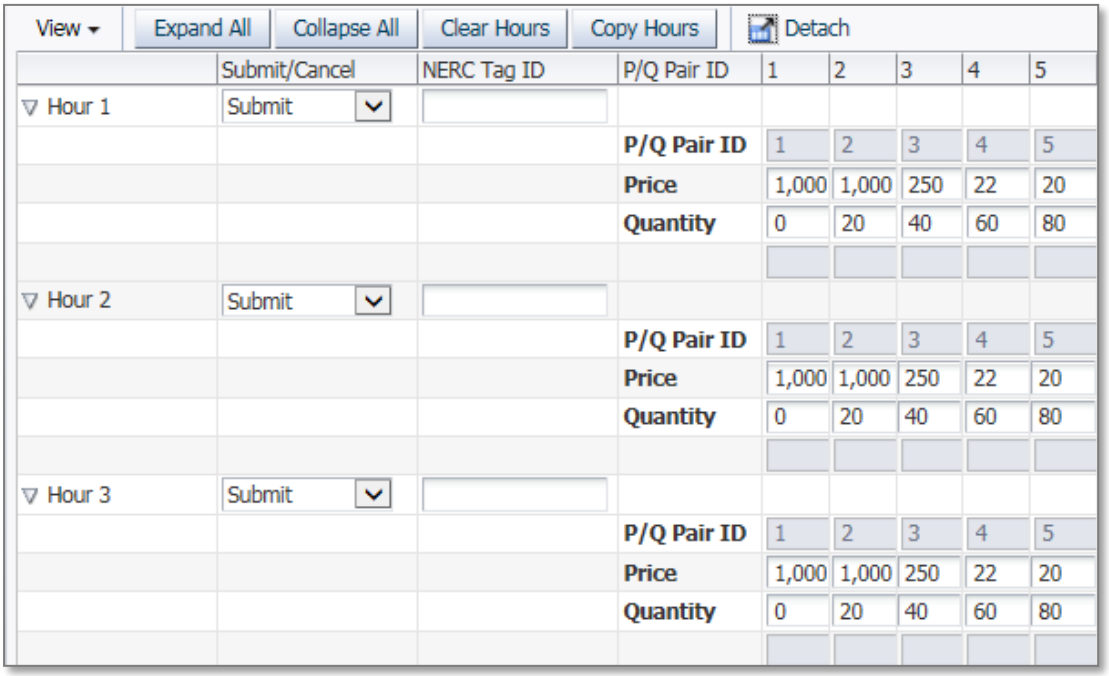
- The price must not increase as the quantity increases.
- The price in each price/quantity pair cannot be greater than Maximum Market Clearing Price (MMCP), nor lower than negative Maximum Market Clearing Price.

A.3 Rules for Bids: Quantity

- The largest quantity in an energy bid cannot be greater than:
  - The maximum withdrawal 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 withdrawal 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 withdrawal as specified in the connection agreement,
    - The maximum withdrawal permitted by the relevant transmitter.
- Each bid 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 new quantity associated with the same price as the first price/quantity pair.

A.4 Example of Bid 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
Hour 1	Submit							
			P/Q Pair ID	1	2	3	4	5
			Price	1,000	1,000	250	22	20
			Quantity	0	20	40	60	80
Hour 2	Submit							
			P/Q Pair ID	1	2	3	4	5
			Price	1,000	1,000	250	22	20
			Quantity	0	20	40	60	80
Hour 3	Submit							
			P/Q Pair ID	1	2	3	4	5
			Price	1,000	1,000	250	22	20
			Quantity	0	20	40	60	80

In this example, the first two price/quantity pairs for Hours 1-3 are (1000, 0) and (1000, 20). This means that the bid for 0 to 20 MW is $1000/MW.

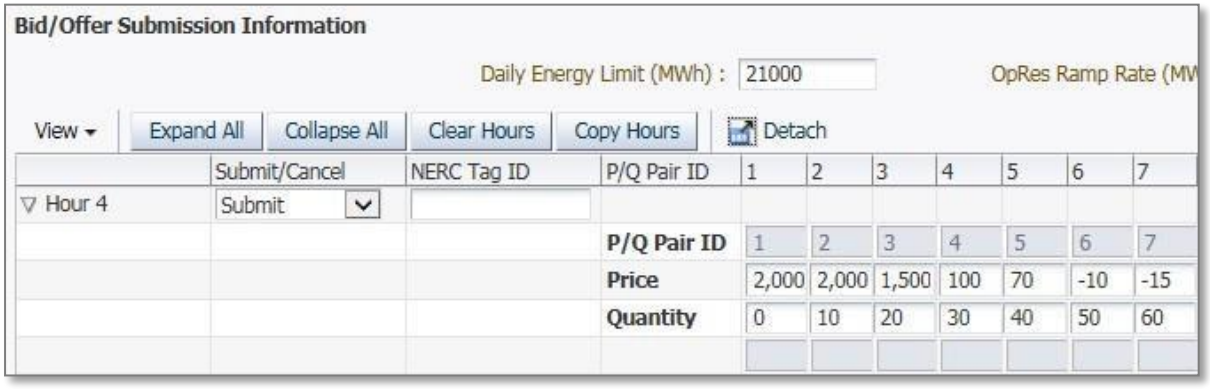
The remaining price/quantity pairs in the example are interpreted as follows:

- The bid from 20 to 40 MW is $250/MW
- The bid from 40 to 60 MW is $22/MW
- The bid from 60 to 80 MW is $20/MW

A.5 Negative Prices

You may submit a negative price in your bid. A negative price means you are willing to take additional energy if you are paid to do so.

For example, your bid may look like this:



This bid indicates that the energy you withdraw in hour 4 has a decreasing value to you.

You are willing to pay up to the applicable price for each bid block for the first 40 MW you withdraw. After 40 MW, you are only willing to consume additional energy if you are compensated at your bid prices:

- $10/MW from 41 to 50 MW
- $15/MW from 51 to 60 MW

If the market clearing price remains lower than $70 but does not fall below $-10, you will be dispatched to 40 MW (ignoring any constrained-on or constrained-off scenarios).

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

APPENDIX B: REVISING AND CANCELLING ENERGY BIDS RULES

B.1 Daily Bids

You may revise a Daily Bid 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 or withdrawing differs from the quantity expected to be delivered/withdrawn 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 or bid 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 or bids for the dispatch hour. Therefore, changes for the current dispatch hour cannot be made by revising an offer or bid.

You must submit Revised Offers or Bids 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 or bid 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 or loads to submit revisions.

B.2 Standing Bids

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

REFERENCES

Document Title	Document Location
Introduction to Ontario's Physical Markets	Introduction to Ontario's Physical Markets
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

- Energy Market Interface - Submitting, Revising and Cancelling Energy Offers
- 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