

Energy Market Interface

Submitting, Revising and Cancelling Operating Reserve Offers

IESO Training

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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 operating reserve offers using the Energy Market Interface (EMI). An Operating Reserve bid/offer may only be submitted only if a corresponding energy bid/offer has also been submitted.

See the EMI guides for submitting, revising and cancelling energy bids and offers on the [IESO Participant Tool Training](#) page for more information.

This guide is mainly aimed at market participants who submit operating reserve offers in the physical market, including **dispatchable generators** and **dispatchable loads, importers, and exporters**.

Participants in the Ontario physical markets use the EMI Workspace 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 Operating Reserve Offer Rules for more information.

Tie Point ID and Tie Line ID

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

Day-Ahead Commitment Process (DACP)

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

– End of Section –

2. Accessing EMI

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



The screenshot shows the IESO EMI login page. At the top right, there is a link: "Return to IESO Portal Welcome Page". The IESO logo and tagline "Power to Ontario. On Demand." are on the left. The main heading is "Sign In with User Account Name and Password". Below it, the instruction "Enter your User Account Name." is followed by a text input field labeled "User Account Name:" and a "Continue" button. To the right, there are two sections: "Forgot your password?" with instructions to enter the user ID and click the forgot password link, and "Not a registered user?" with instructions to ask the Organization's Rights Administrator to register. A link for "Other questions?" is also present. At the bottom, there is a disclaimer: "Attention to Market Participants accessing the Transmission Rights Auction and Energy Market, Outage Management and Settlement Forms applications: This portal is owned and operated by the IESO, and all use of this portal is governed by the IESO's market rules. As a registered Market Participant, you have received a unique and confidential User Account and Password from the IESO to access this portal and you agree to maintain their confidentiality by sharing them with only your authorized representative(s). You specifically agree that you are exclusively responsible for all access to and any activity on this portal that occurs through the use of your User Account and Password. If you become aware of any unauthorized use of your User Account or Password, you agree to immediately notify the IESO. The IESO is not liable for any loss or damage arising from any unauthorized access or use of your User Account and Password. If you do not agree with these terms and conditions, do not login to this portal and immediately advise the IESO." At the very bottom, it says "Copyright IESO 2013: Contact the IESO Portal Administrator for technical questions or feedback."

– End of Section –

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

3. Operating Reserve Offers

There may be occasions when the balance between generation and load is affected by an unanticipated event, such as equipment failure or an emergency. The IESO administers three separate real-time operating reserve (OR) markets to provide a market-based way for the IESO to respond quickly and meet the supply of electricity for a short period until demand can again be supplied through normal dispatch.

Dispatchable generators and dispatchable loads may offer operating reserve for any or all hours of the day. If you have more than one registered facility, operating reserve offers are submitted separately for each facility.

For generators OR offers may be submitted only if a corresponding energy offer has also been submitted.

For loads OR offers may be submitted only if a corresponding energy bid has also been submitted. Most dispatchable loads may offer OR in all three OR markets: 10-minute spinning, 10-minute non-spinning, and 30-minute.

For imports and exports, 10-minute non-spinning, and 30-minute OR offers may be submitted if a corresponding import offer or export bid has also been submitted. In addition, the interconnection agreement with the neighbouring jurisdiction must permit the importer/exporter to offer operating reserve into the Ontario market.

3.1 Operating Reserve Offer Terms and Timelines

This section describes the required timelines that you must follow for your operating reserve offers.

The types of offers in the Real-time Operating Reserve Market are the same as the offers in the Real-time Energy Market:

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

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

Dispatch Day or Trade Day

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

Pre-dispatch Day

The day immediately prior to the dispatch (trade) day.

Initial (or Daily) Offer

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

Offers submitted within two hours of the dispatch hour require IESO approval. See Appendix B: Revising and Cancelling Operating Reserve Offer Rules for more information.

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

Standing Offer

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

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

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

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

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

Standing Offer Example

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

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

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

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

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

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

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

Revising or Cancelling Offers

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

Expiry Date

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

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

Daily Energy Limit

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

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

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

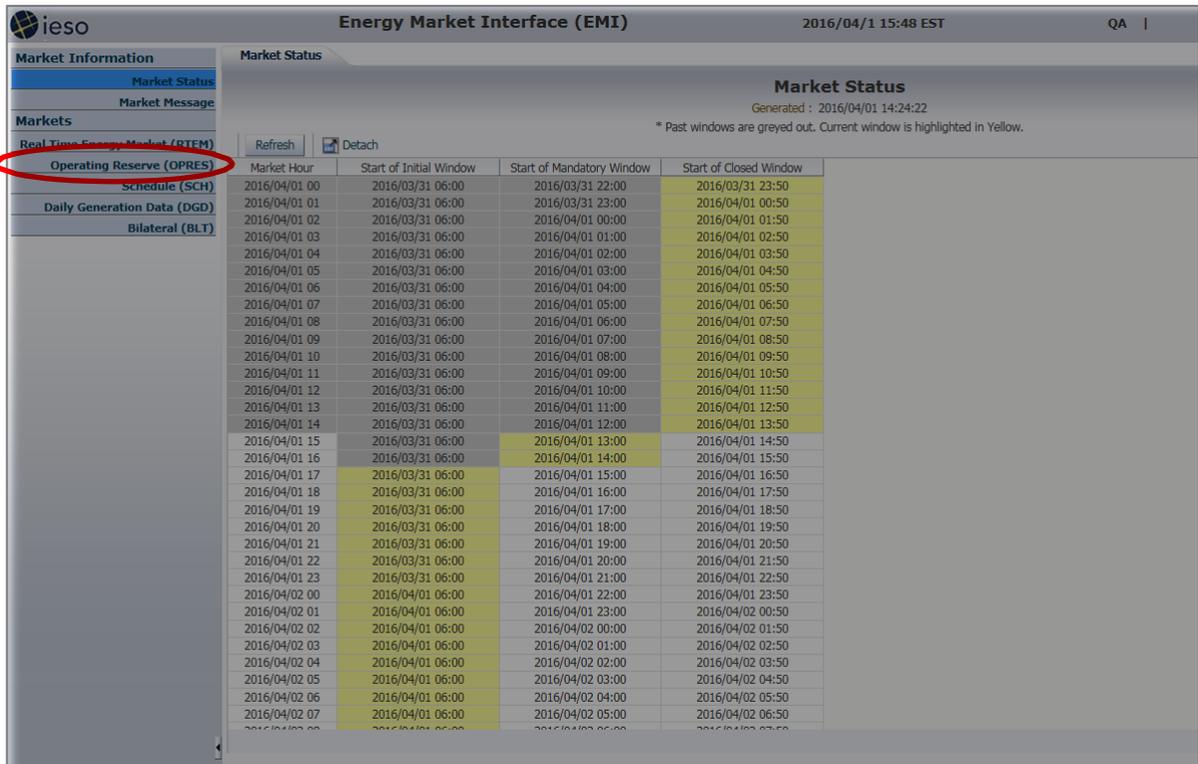
Note: If your resource is energy-limited, you have an opportunity to change your offers to help solve energy shortfalls through the Day-ahead Commitment Process (DACP). See the DACP Market Manuals available on the [Market Rules and Manuals Library](#) web page for details.

3.2 Preparing Operating Reserve Offers

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

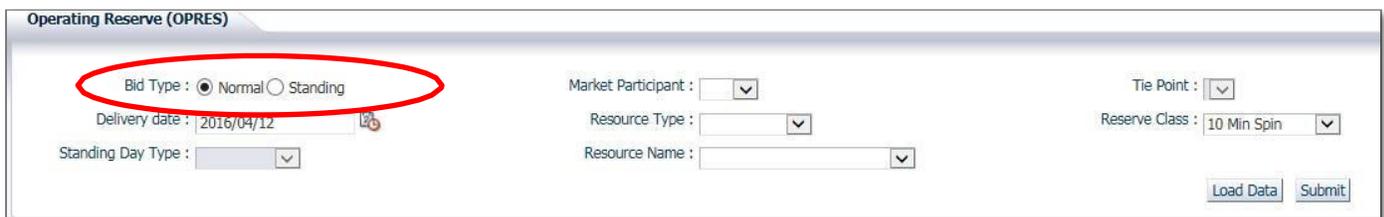
To submit an Operating Reserve Offer, complete the following steps:

1. Select **Operating Reserve (OPRES)** under Markets from the menu on the left side of the EMI.



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

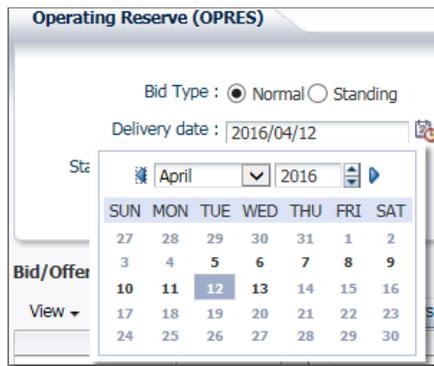
Note: In EMI, Normal refers to Initial (Daily) bids/offers.



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

The Delivery date defaults to the current trading date. If your offer is for the next trading date, click the Calendar icon and select the appropriate date from the calendar.

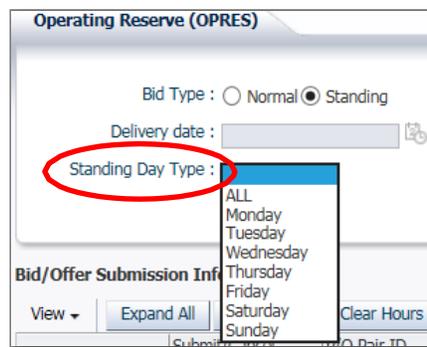
The remaining highlighted dates in the calendar are only used when submitting bilateral contract data.



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

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

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



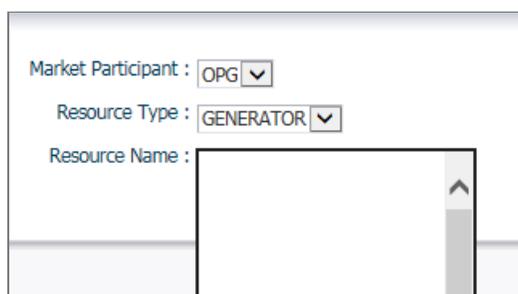
- Click the drop down next to **Market Participant** to see a list of the market participants on whose behalf you are authorized to enter dispatch data (e.g., offers, bids, schedules, etc.).

Choose the Market Participant for which you wish to enter an OR offer then click the drop-down **Resource Type** and select the **Resource Type**. See the table below for more information about which Resource Type you should select.



Market Participant	Resource Type Option
Generator	Select GENERATOR
Load	Select LOAD
Importer	Select INJECTION
Exporter	Select OFF_TAKE
Natural gas generator registered as a pseudo unit and offering energy on a daily basis	Select PSEUDO UNIT

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



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.

- If you are an importer or exporter, select your **Tie Point**.
- Select a **Reserve Class**.



If...	Then...
You are offering 10-minute spinning OR	Select 10 Min Spin
You are offering 30-minute spinning OR	Select 30 Min Reserve
You are offering 10-minute non-spinning OR	Select 10 Min Non-Spin

Generators and most dispatchable loads may offer all three classes of OR; importers and exporters may only offer 10-minute non-spinning and 30-minute OR.

Optional Step:

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

The screenshot shows the 'Operating Reserve (OPRES)' form. It includes fields for 'Bid Type' (Normal/Standing), 'Market Participant', 'Resource Type', 'Resource Name', 'Tie Point', 'Reserve Class', and 'Standing Day Type'. The 'Delivery date' is set to 2016/04/12. A 'Load Data' button is visible in the bottom right corner, circled in red.

9. Proceed to Section 3.3, Submitting Price/Quantity Pairs, to complete the empty offer form.

3.3 Submitting Price/Quantity Pairs

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

The screenshot shows the 'Bid/Offer Submission Information' table. It has columns for 'Hour', 'Submit/Cancel', 'NERC Tag ID', and 'P/Q Pair ID'. The 'Hour 1' row is expanded, and the 'Submit' button in the 'Submit/Cancel' column is circled in red.

Hour	Submit/Cancel	NERC Tag ID	P/Q Pair ID
Hour 1	Submit		

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.

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

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

The screenshot shows the 'Bid/Offer Submission Information' interface. At the top, there are input fields for 'Daily Energy Limit (MWh)' and 'OpRes Ramp Rate (MW/min)'. Below these are buttons for 'View', 'Expand All', 'Collapse All', 'Clear Hours', 'Copy Hours', and 'Detach'. The main table has columns for 'Hour' (1-10), 'Submit/Cancel', 'NERC Tag ID', 'P/Q Pair ID', 'Price', and 'Quantity'. The 'Hour 2' row is highlighted in blue, and a red circle is drawn around the 'Hour 2' label and the 'Submit' dropdown menu.

3. Enter the price in dollars and cents, up to two decimal places for each offer. E.g., \$10 dollars may be entered as **10.00** or **10.0** or **10**.

4. Enter the quantity in megawatts (MW), up to one decimal place, for each offer.

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

5. If required, enter your **Reserve Load Point** for the applicable hour(s).

The Reserve Loading Point specifies the minimum generation level in megawatts at which the generator can provide its maximum operating reserve of the class of OR it is offering. This information allows the IESO to simultaneously schedule energy and operating reserve for the generator.

Market Participant	Reserve Load Point Options
Generator	<ul style="list-style-type: none"> This field must be greater than 0 when offering 10-minute spinning OR. This field must be set to 0.0 when offering 10-minute non-spinning OR. This field can be left empty or set to 0.0 when offering 30-minute spinning OR.
Load, Importer, Exporter	This field can be left empty or set to 0.0

The screenshot shows the 'Bid/Offer Submission Information' interface. The 'Hour 1' row is expanded, showing a 'Submit' dropdown and a 'Reserve Load Point' field with the value '155'. A red circle is drawn around the 'Reserve Load Point' field. Below the 'Hour 1' row, there are rows for 'P/Q Pair ID', 'Price', and 'Quantity' with values for P/Q Pair ID 1-5.

3.3.1 Entering the Same OR Offer for Multiple Hours

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

Note: Using Copy Hours will also copy the Reserve Load Point associated with the hour to be copied.

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

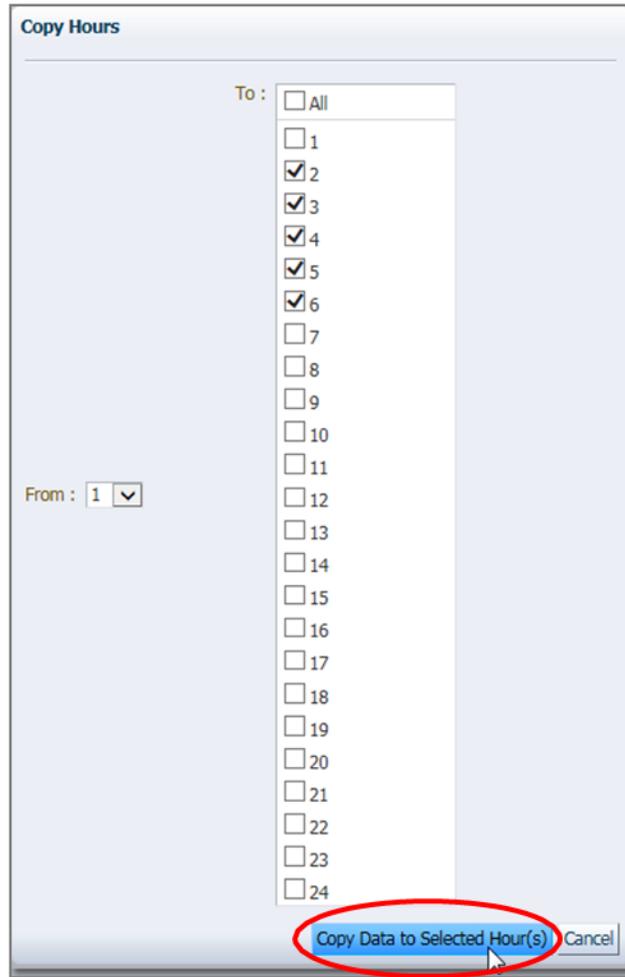
The screenshot shows the 'Bid/Offer Submission Information' window. At the top, there are input fields for 'Daily Energy Limit (MWh) : 0' and 'OpRes Ramp Rate (MW/min) : 0'. Below these are buttons for 'View', 'Expand All', 'Collapse All', 'Clear Hours', 'Copy Hours' (circled in red), and 'Detach'. The main area is a table with columns for hours 1 through 20 and a 'Ramp Rate' column. The first row is labeled 'Hour 1'. Below this, there are rows for 'P/Q Pair ID', 'Price', and 'Quantity' with values for hours 1 through 5.

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

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

The image shows a close-up of a drop-down menu. The label 'From:' is circled in red. The menu is open, showing a list of numbers from 1 to 8. The number 1 is highlighted in blue, indicating it is the selected option.

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



Copy Hours

To: All

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

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18

19

20

21

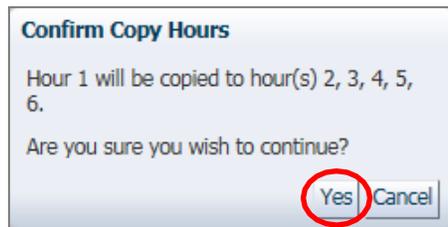
22

23

24

From: 1 ▼

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



Confirm Copy Hours

Hour 1 will be copied to hour(s) 2, 3, 4, 5, 6.

Are you sure you wish to continue?

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

Bid/Offer Submission Information

Daily Energy Limit (MWh) : OpRes Ramp P

View ▾

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

3.4 Clear Hours

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

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

Bid/Offer Submission Information

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

View ▾

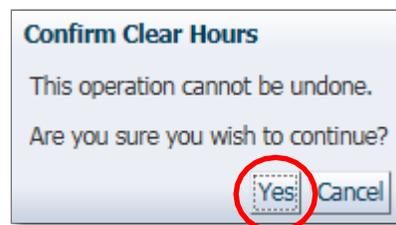
	P/Q Pair ID	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Ramp Rate ID	1	2	3	4	5
▽ Hour 1																											
	P/Q Pair ID	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Ramp Rate ID	1	2	3	4	5
	Price	-500	-500	50	100	150																RR(Break Point)	40	50			
	Quantity	0	75	100	110	120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

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



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

3. Click **Yes** to proceed.



The image shows a confirmation dialog box titled "Confirm Clear Hours". It contains the text: "This operation cannot be undone. Are you sure you wish to continue?". At the bottom, there are two buttons: "Yes" and "Cancel". The "Yes" button is circled in red.

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

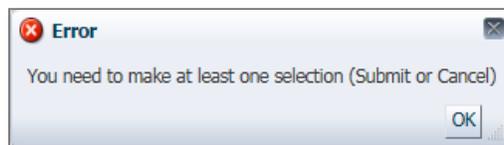
3.5 Submitting Your Operating Reserve Offer

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

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

Bid/Offer Submission Information								
View	Submit/Cancel	P/Q Pair ID	1	2	3	4	5	Reserve Load Point
Hour 1	Submit							155
		P/Q Pair ID	1	2	3	4	5	
		Price	60	60	70	100		
		Quantity	0	5	20	22		
Hour 2	Submit							155
		P/Q Pair ID	1	2	3	4	5	
		Price	60	60	70	100		
		Quantity	0	5	20	22		

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



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

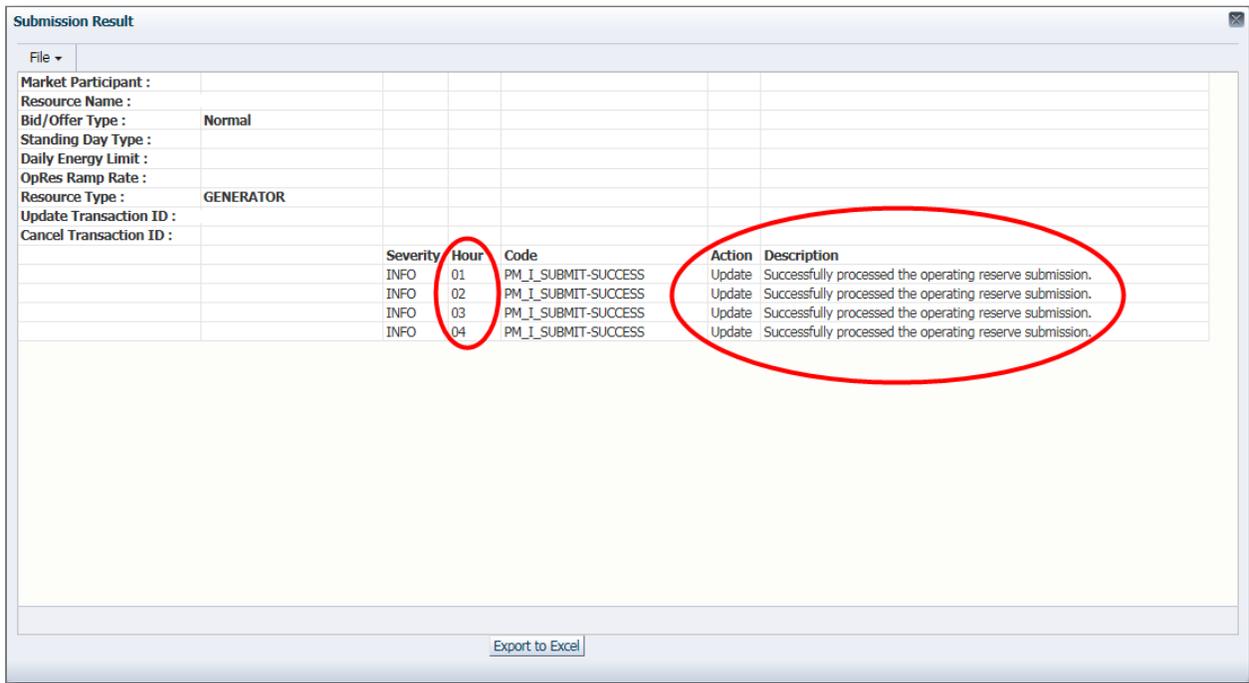
Operating Reserve (OPRES)

Bid Type : Normal Standing
 Market Participant :
 Delivery date : 2016/04/12
 Resource Type :
 Standing Day Type :
 Resource Name :
 Tie Point :
 Reserve Class : 10 Min Spin

Load Data **Submit**

Bid/Offer Submission Information										
View	Submit/Cancel	P/Q Pair ID	1	2	3	4	5	Reserve Load Point	Reason Code	Other Reason
Hour 1	Submit							155		
		P/Q Pair ID	1	2	3	4	5			
		Price	60	60	70	100				
		Quantity	0	5	20	22				
Hour 2	Submit							155		
		P/Q Pair ID	1	2	3	4	5			
		Price	60	60	70	100				
		Quantity	0	5	20	22				
Hour 3	Submit							155		
		P/Q Pair ID	1	2	3	4	5			
		Price	60	60	70	100				
		Quantity	0	5	20	22				

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



- 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:

Severity	Hour	Code	Action	Description
INFO	1	PM_I_SUBMIT-SUCCESS	Update	Successfully processed the operating reserve submission.
INFO	2	PM_I_SUBMIT-SUCCESS	Update	Successfully processed the operating reserve submission.
INFO	3	PM_I_SUBMIT-SUCCESS	Update	Successfully processed the operating reserve submission.
INFO	4	PM_I_SUBMIT-SUCCESS	Update	Successfully processed the operating reserve submission.

– End of Section –

4. Revising and Canceling Operating Reserve Offers

Operating Reserve Offers may be revised provided the changes follow the rules for revised offers. See Appendix B: Revising and Canceling Operating Reserve Offer Rules for more information regarding the rules for submitting revised offers or cancelling offers.

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

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

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

4.1 Retrieving Your Operating Reserve Offer

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

1. Select **Operating Reserve (OPRES)** under Markets from the menu on the left side of the EMI.

The screenshot shows the Energy Market Interface (EMI) with the following details:

- Page Title:** Energy Market Interface (EMI)
- Date/Time:** 2016/04/1 15:48 EST
- Market Status:** Generated : 2016/04/01 14:24:22
- Note:** * Past windows are greyed out. Current window is highlighted in Yellow.
- Left Menu:** Market Information, Market Status, Market Message, Markets, Real Time Energy Market (RTEM), **Operating Reserve (OPRES)** (highlighted), Schedule (SCH), Daily Generation Data (DGD), Bilateral (BLT).
- Table Columns:** Market Hour, Start of Initial Window, Start of Mandatory Window, Start of Closed Window.
- Table Content:** A list of market hours from 2016/04/01 00 to 2016/04/02 07, with corresponding window start times. The current window (2016/04/01 15:00 to 2016/04/01 16:00) is highlighted in yellow.

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

Note: In EMI, Normal refers to Initial (Daily) bids/offers.

The screenshot shows the 'Operating Reserve (OPRES)' form. The 'Bid Type' field has two radio buttons: 'Normal' (which is selected and circled in red) and 'Standing'. Other fields include 'Market Participant', 'Resource Type', 'Resource Name', 'Tie Point', 'Reserve Class', 'Delivery date' (set to 2016/04/12), and 'Standing Day Type'. There are 'Load Data' and 'Submit' buttons at the bottom right.

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

The screenshot shows the 'Operating Reserve (OPRES)' form with a calendar pop-up for the 'Delivery date' field. The calendar is for April 2016, and the date '12' is selected. The 'Bid Type' is set to 'Normal'. The calendar grid shows days from Sunday to Saturday.

SUN	MON	TUE	WED	THU	FRI	SAT
27	28	29	30	31	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

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

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

The screenshot shows the 'Operating Reserve (OPRES)' form with the 'Bid Type' set to 'Standing' (circled in red). The 'Standing Day Type' dropdown menu is open, showing options: 'ALL', 'Monday', 'Tuesday', 'Wednesday', 'Thursday', 'Friday', 'Saturday', and 'Sunday'. The 'Delivery date' field is empty. There are 'View', 'Expand All', and 'Clear Hours' buttons at the bottom.

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 OR offer and select the **Resource Type** of the resource for which you are revising an OR offer.

6. Click the drop-down next to **Resource Name** and select the facility for which you are retrieving an offer.
7. If you are an importer or exporter, select your **Tie Point**.
8. Select the **Reserve Class** of the resource for which you are revising an OR offer.

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

4.2 Revising Your Operating Reserve Offer

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

Hour	Reserve Load Point	Reason Code	Other Reason
> Hour 1	0		
> Hour 2	0		
> Hour 3	0		
> Hour 4	0		
> Hour 5	0		
> Hour 6	0		
> Hour 7	0		
> Hour 8	0		
> Hour 9	0		
> Hour 10	0		
> Hour 11	0		
> Hour 12	0		
> Hour 13	0		
> Hour 14	0		
> Hour 15	0		
> Hour 16	0		
> Hour 17	0		
> Hour 18	0		
> Hour 19	0		
> Hour 20	0		
> Hour 21	0		

Click **Expand All** to see the price/quantity pairs and Reserve Load Point for every hour. Alternatively, click the triangle next to the Hour number to expand any individual hours.

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

The screenshot shows the 'Bid/Offer Submission Information' interface. At the top, there are buttons for 'Expand All', 'Collapse All', 'Clear Hours', 'Copy Hours', and 'Detach'. Below this is a table with columns for 'Submit/Cancel', 'P/Q Pair ID', and five hour columns (1-5), plus a 'Reserve Load Point' column. For 'Hour 1', the 'Submit/Cancel' dropdown is set to 'Submit' and is circled in red. Below the hour header, there are rows for 'P/Q Pair ID', 'Price', and 'Quantity'. For 'Hour 2', the 'Submit/Cancel' dropdown is also set to 'Submit' and circled in red. The 'Price' row shows 22.99 for hours 1 and 2, and the 'Quantity' row shows 0 for hour 1 and 140 for hour 2.

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

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

This screenshot is similar to the previous one but includes a 'Reason Code' column and an 'Other Reason' column. The 'Reason Code' dropdown menu is open and circled in red, showing a list of options: FO, FD, ERPO, LRPO, WITHDRAW, and OTHER. The 'Submit/Cancel' dropdowns for Hour 1 and Hour 2 are still set to 'Submit'.

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

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

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

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

Severity	Hour	Code	Action	Description
INFO	01	PM_I_SUBMIT-SUCCESS	Update	Successfully processed the operating reserve submission.
INFO	02	PM_I_SUBMIT-SUCCESS	Update	Successfully processed the operating reserve submission.
INFO	03	PM_I_SUBMIT-SUCCESS	Update	Successfully processed the operating reserve submission.
INFO	04	PM_I_SUBMIT-SUCCESS	Update	Successfully processed the operating reserve submission.

- 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 :						
OpRes Ramp Rate :						
Resource Type :	GENERATOR					
Update Transaction ID :						
Cancel Transaction ID :						
		Severity	Hour	Code	Action	Description
		INFO	1	PM_I_SUBMIT-SUCCESS	Update	Successfully processed the operating reserve submission.
		INFO	2	PM_I_SUBMIT-SUCCESS	Update	Successfully processed the operating reserve submission.
		INFO	3	PM_I_SUBMIT-SUCCESS	Update	Successfully processed the operating reserve submission.
		INFO	4	PM_I_SUBMIT-SUCCESS	Update	Successfully processed the operating reserve submission.

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

4.3 Cancelling Your Operating Reserve Offer

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

Operating Reserve (OPRES)

Bid Type : Normal Standing
 Delivery date : 2016/04/12
 Standing Day Type :

Market Participant :
 Resource Type :
 Resource Name :

Tie Point :
 Reserve Class : 10 Min Spin

Bid/Offer Submission Information

View -

Submit/Cancel	P/Q Pair ID	1	2	3	4	5	Reserve Load Point	Reason Code	Other Reason
> Hour 1							0		
> Hour 2							0		
> Hour 3							0		
> Hour 4							0		
> Hour 5							0		
> Hour 6							0		
> Hour 7							0		
> Hour 8							0		
> Hour 9							0		
> Hour 10							0		
> Hour 11							0		
> Hour 12							0		
> Hour 13							0		
> Hour 14							0		
> Hour 15							0		
> Hour 16							0		
> Hour 17							0		
> Hour 18							0		
> Hour 19							0		
> Hour 20							0		
> Hour 21							0		

4. Revising and Canceling Operating Reserve Offers

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

The screenshot shows the 'Bid/Offer Submission Information' interface. At the top, there are buttons for 'View', 'Expand All', 'Collapse All', 'Clear Hours', 'Copy Hours', and 'Detach'. Below this is a table with columns for 'Submit/Cancel', 'P/Q Pair ID', and five hour columns (1-5). For 'Hour 1' and 'Hour 2', the 'Submit/Cancel' dropdown is set to 'Cancel', and these dropdowns are circled in red. The table also displays 'Price' and 'Quantity' for each hour.

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

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

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

The screenshot shows the 'Bid/Offer Submission Information' interface with a dropdown menu open for the 'Reason Code' field. The dropdown menu lists several options: 'FO', 'FD', 'ERPO', 'LRPO', 'WITHDRAW', and 'OTHER'. The 'WITHDRAW' and 'OTHER' options are circled in red. The interface also shows 'Submit/Cancel' buttons set to 'Submit' for Hour 1 and Hour 2, and a 'Reserve Load Point' field set to 0.

The following table defines the various Reason Codes available.

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

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

Operating Reserve (OPRES)

Bid Type : Normal Standing

Market Participant :

Tie Point :

Delivery date : 2016/04/12

Resource Type :

Reserve Class : 10 Min Spin

Standing Day Type :

Resource Name :

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

Bid/Offer Submission Information

View

Submit/Cancel	P/Q Pair ID	1	2	3	4	5	Reserve Load Point	Reason Code	Other Reason

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

Submission Result

File ▾

Market Participant :

Resource Name :

Bid/Offer Type : **Normal**

Standing Day Type :

Daily Energy Limit :

OpRes Ramp Rate :

Resource Type : **GENERATOR**

Update Transaction ID :

Cancel Transaction ID :

Severity	Hour	Code	Action	Description
INFO	01	PM_I_SUBMIT-SUCCESS	Update	Successfully processed the operating reserve submission.
INFO	02	PM_I_SUBMIT-SUCCESS	Update	Successfully processed the operating reserve submission.
INFO	03	PM_I_SUBMIT-SUCCESS	Update	Successfully processed the operating reserve submission.
INFO	04	PM_I_SUBMIT-SUCCESS	Update	Successfully processed the operating reserve submission.

[Export to Excel](#)

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:

4. Revising and Canceling Operating Reserve Offers

Market Participant :						
Resource Name :						
Bid/Offer Type :	Normal					
Standing Day Type :						
Daily Energy Limit :						
OpRes Ramp Rate :						
Resource Type :	GENERATOR					
Update Transaction ID :						
Cancel Transaction ID :						
		Severity	Hour	Code	Action	Description
		INFO	1	PM_I_SUBMIT-SUCCESS	Update	Successfully processed the operating reserve submission.
		INFO	2	PM_I_SUBMIT-SUCCESS	Update	Successfully processed the operating reserve submission.
		INFO	3	PM_I_SUBMIT-SUCCESS	Update	Successfully processed the operating reserve submission.
		INFO	4	PM_I_SUBMIT-SUCCESS	Update	Successfully processed the operating reserve submission.

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

– End of Section –

Appendix A: Rules for Price/Quantity Pairs

A.1 Price/Quantity Pairs

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

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

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

A.2 Rules for Operating Reserve Offers: Price

- The price must not decrease as the quantity increases.
- The price in each price/quantity pair must be greater than \$0.00 and cannot be greater than the Maximum Operating Reserve Clearing Price (MORP).

A.3 Rules for Operating Reserve Offers: Quantity

- The quantity may be up to one decimal place. E.g., 20.5 MW.
- Each offer must contain at least two price/quantity pairs.
- The first price/quantity pair always shows a quantity of zero, with an associated price. The second price/quantity pair always shows a 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:

Bid/Offer Submission Information								
View ▾	Expand All	Collapse All	Clear Hours	Copy Hours	Detach			
	Submit/Cancel	P/Q Pair ID	1	2	3	4	5	Reserve Load Point
▽ Hour 1	Submit ▾							155
		P/Q Pair ID	1	2	3	4	5	
		Price	60	60	70	100		
		Quantity	0	5	20	22		
▽ Hour 2	Submit ▾							155
		P/Q Pair ID	1	2	3	4	5	
		Price	60	60	70	100		
		Quantity	0	5	20	22		
▽ Hour 3	Submit ▾							155
		P/Q Pair ID	1	2	3	4	5	
		Price	60	60	70	100		
		Quantity	0	5	20	22		

In this example, the first two price/quantity pairs for Hours 1-3 are (60, 0) and (60, 5). This means that from 0 to 5 MW, operating reserve is offered at \$60/MW.

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

- The operating reserve offer from 5 to 20 MW is \$70/MW
- The operating reserve offer from 20 to 22 MW is \$100/MW

– End of Section –

Appendix B: Revising and Cancelling Operating Reserve Offer Rules

B.1 Daily Offers

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

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

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

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

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

After 10 minutes Before the Start of the Dispatch Hour

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

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

Reliability of the IESO-controlled Grid

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

Operating Reserve Revision Rules

You can only submit an offer of operating reserve if you are submitting a corresponding energy bid or offer. Therefore, you must follow the DACP revision rules that apply to your energy bid or offer.

B.2 Standing Offers

You may revise a Standing Offer at any time; the new Standing Offer supersedes the previous submission. Be aware of when a revised Standing Offer will take effect. See the definition of a

standing offer in Section 3.1 for an example of when a Standing Offer converts to a Daily Offer.

– End of Section –

References

Document Title	Document ID
Introduction to Ontario's Physical Markets	N/A
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 Bids
- 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

– End of Document –