Market Trials: Schedule and Forecasts in the Energy Market Interface (EMI) User Interface (UI)

August 7, 2024

Version 2.0

ieso
Connecting Today.
Powering Tomorrow.

Introduction **2**

Common Functional Steps **3**

CFS-01: Logging into EMI 3

CFS-02: Submitting a Bid 5

CFS-03: Query a Schedule Normal and Standing bid data 8

CFS-04: Cancel a Schedule Normal or Standing bid 10

Test Cases **13**

TC01: Verify that Schedule Non-Standing (Normal) bid data can be successfully submitted for a resource and schedule type 13

TC02: Verify that Schedule Standing bid data can be successfully submitted for a resource and schedule type 14

TC03: Verify the submission of Schedule Data: if the RT window state for the specified hour is in the Daily Restricted Window (DA_Restricted) and there is a change in the data field values, then the submission is subject to operator approval 15

TC04: Verify the submission of Schedule Data: if the window state for the specified hour is in Hourly RT Mandatory window and there is a change in the data field values, then the submission is subject to operator approval 16

TC05: Verify that an error message is received for a SCHEDULE data submission where the RT Market window for the delivery date and hours are in the 'RT_CLOSE' state 18

TC06: Verify that Schedule Non-Standing bid data can be successfully queried for a resource 19

TC07: Verify that Schedule Standing bid data can be successfully queried for a resource 21

TC08: Verify Schedule Non-Standing bid data can be successfully cancelled for a resource. 22

TC09: Verify Schedule data can be successfully cancelled for a Standing Bid 24

TC10: If the RT window for the specified hour is in the DA_RESTRICTED state, then Schedule data cancellation is subject to operator approval 25

TC11: If the RT window for the specified hour is in the RT_MANDATORY state, then the Schedule data cancellation is subject to operator approval 27

TC12: Verify that an error response message is received for a Schedule data cancellation when the selected hours are in the RT_CLOSE state 28

Additional Resources **29**

Introduction

This document outlines the test cases to be executed in the Energy Market Interface as part of Market Trials Phase 1. In this phase of testing, the primary objective is for Market Participants to confirm that certain functionality to the submission of Schedules and Forecast dispatch data in the Energy Market Interface (EMI) User Interface (UI) are working as intended.

Please note that Market Participants who are self-scheduling generation resources, intermittent generation resources in the physical market should be submitting schedules and forecasts in the EMI UI.

It is highly recommended that Market Participants start with the Standing Bid submission test cases and then execute test cases in the following order: Daily Dispatch Data (DDD), Real-Time Energy Market (RTEM), Forebay, Operating Reserve (OR) and Schedules.

Market Participants should ensure that they submit any defects via qTest or in the Market Trials Issue Log Template. This will contribute significantly to the overall improvement of the IESO tools. For more information on how submit defects via qTest, Market Participants can refer to the Quick Take: Submission of Test Case Results and Defects in qTest on the Market Participant Testing web page.

Preconditions:

1. User has access to the IESO's Energy Market Interface (EMI) in the Sandbox environment (https://emi-sandboxmrp.ieso.ca/).

2. User has access to IESO Gateway in the Sandbox environment (https://gateway-sbx.ieso.ca/)

3. User has a valid user ID and password for EMI and IESO Gateway.

4. User executed the test cases for EMI Connectivity Testing to validate their access. (https://www.ieso.ca/-/media/Files/IESO/Document-Library/market-renewal/Market-Participant-Testing/Test-Cases-for-Connectivity-Testing.zip)

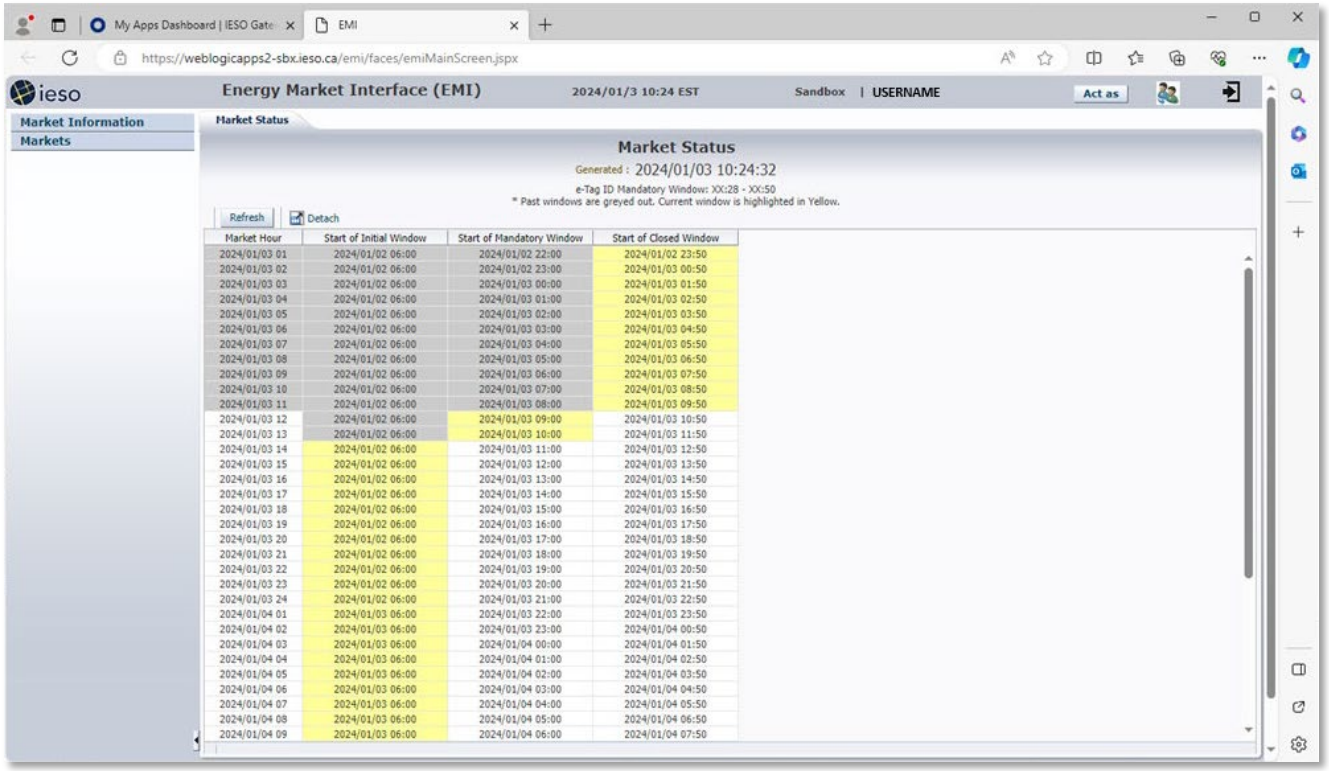
5. Schedule dispatch data for the corresponding participant, delivery date, resource, and hour are present in the system.

Common Functional Steps

This section lists out the common functional steps when submitting Forebay dispatch data in EMI. This section will be referenced in the following test cases.

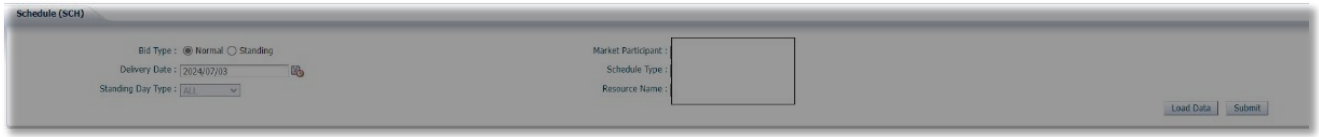
CFS-01: Logging into EMI

Step	User Instruction	Expected Result
1	Log in to EMI directly through its URL (https://emi-sandboxmrp.ieso.ca/) OR Users can click on the "Energy Market interface for MRP" tile under the IESO Sandbox Gateway dashboard (https://gateway-sbx.ieso.ca/).	User is able to successfully log into EMI.

Step	User Instruction	Expected Result
		

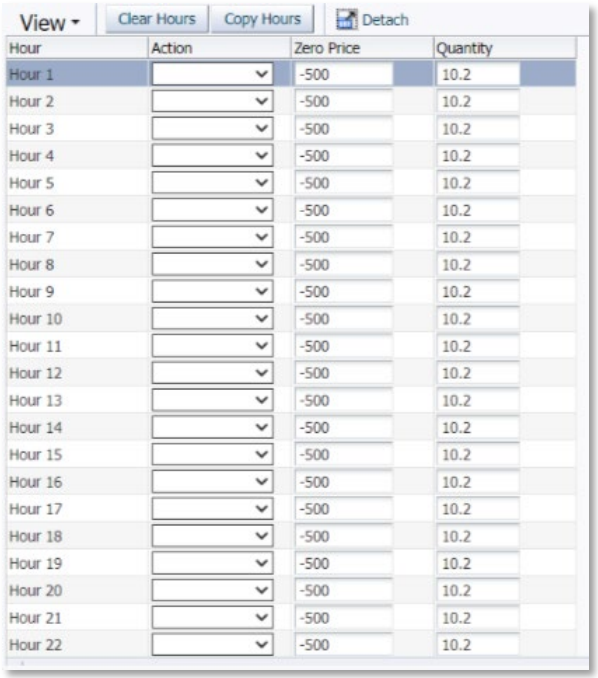
Market Hour	Start of Initial Window	Start of Mandatory Window	Start of Closed Window
2024/01/03 01	2024/01/02 06:00	2024/01/02 22:00	2024/01/02 23:50
2024/01/03 02	2024/01/02 06:00	2024/01/02 23:00	2024/01/03 00:50
2024/01/03 03	2024/01/02 06:00	2024/01/03 00:00	2024/01/03 01:50
2024/01/03 04	2024/01/02 06:00	2024/01/03 01:00	2024/01/03 02:50
2024/01/03 05	2024/01/02 06:00	2024/01/03 02:00	2024/01/03 03:50
2024/01/03 06	2024/01/02 06:00	2024/01/03 03:00	2024/01/03 04:50
2024/01/03 07	2024/01/02 06:00	2024/01/03 04:00	2024/01/03 05:50
2024/01/03 08	2024/01/02 06:00	2024/01/03 05:00	2024/01/03 06:50
2024/01/03 09	2024/01/02 06:00	2024/01/03 06:00	2024/01/03 07:50
2024/01/03 10	2024/01/02 06:00	2024/01/03 07:00	2024/01/03 08:50
2024/01/03 11	2024/01/02 06:00	2024/01/03 08:00	2024/01/03 09:50
2024/01/03 12	2024/01/02 06:00	2024/01/03 09:00	2024/01/03 10:50
2024/01/03 13	2024/01/02 06:00	2024/01/03 10:00	2024/01/03 11:50
2024/01/03 14	2024/01/02 06:00	2024/01/03 11:00	2024/01/03 12:50
2024/01/03 15	2024/01/02 06:00	2024/01/03 12:00	2024/01/03 13:50
2024/01/03 16	2024/01/02 06:00	2024/01/03 13:00	2024/01/03 14:50
2024/01/03 17	2024/01/02 06:00	2024/01/03 14:00	2024/01/03 15:50
2024/01/03 18	2024/01/02 06:00	2024/01/03 15:00	2024/01/03 16:50
2024/01/03 19	2024/01/02 06:00	2024/01/03 16:00	2024/01/03 17:50
2024/01/03 20	2024/01/02 06:00	2024/01/03 17:00	2024/01/03 18:50
2024/01/03 21	2024/01/02 06:00	2024/01/03 18:00	2024/01/03 19:50
2024/01/03 22	2024/01/02 06:00	2024/01/03 19:00	2024/01/03 20:50
2024/01/03 23	2024/01/02 06:00	2024/01/03 20:00	2024/01/03 21:50
2024/01/03 24	2024/01/02 06:00	2024/01/03 21:00	2024/01/03 22:50
2024/01/04 01	2024/01/03 06:00	2024/01/03 22:00	2024/01/03 23:50
2024/01/04 02	2024/01/03 06:00	2024/01/03 23:00	2024/01/04 00:50
2024/01/04 03	2024/01/03 06:00	2024/01/04 00:00	2024/01/04 01:50
2024/01/04 04	2024/01/03 06:00	2024/01/04 01:00	2024/01/04 02:50
2024/01/04 05	2024/01/03 06:00	2024/01/04 02:00	2024/01/04 03:50
2024/01/04 06	2024/01/03 06:00	2024/01/04 03:00	2024/01/04 04:50
2024/01/04 07	2024/01/03 06:00	2024/01/04 04:00	2024/01/04 05:50
2024/01/04 08	2024/01/03 06:00	2024/01/04 05:00	2024/01/04 06:50
2024/01/04 09	2024/01/03 06:00	2024/01/04 06:00	2024/01/04 07:50

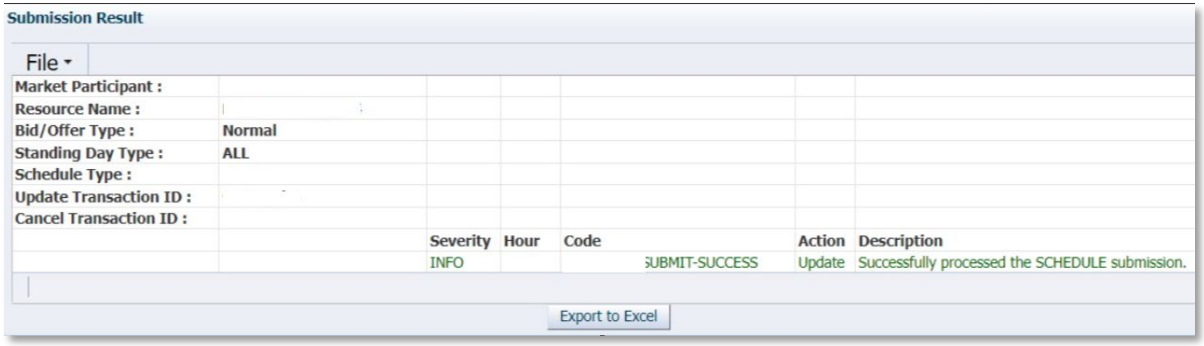
CFS-02: Submitting a Bid

Step	User Instruction	Expected Result
1	Select the Market **SCHEDULE (SCH)** from the initial window.	The SCHEDULE interface is displayed.
2	For a "Normal" bid type: Enter data in the following mandatory fields to submit a SCHEDULE: Select Bid Type: Normal. Select Delivery Date which is the day ahead initial window. Select Market Participant. Select Schedule Type. Select Resource Name.	Data fields are displayed for the selected resource. 

Step	User Instruction	Expected Result
3	For a "Standing" bid type: Enter data in the following mandatory fields to submit a SCHEDULE: Select Bid Type: Standing. Select Standing Day Type. Select Expiry Date. Select Market Participant. Select Schedule Type. Select Resource Name.	Data fields are displayed for the selected resource.
4	Enter data for the required fields and click on **Submit**.	The SCHEDULE submission is successful. User should be able to view the submission result message "Successfully processed the SCHEDULE submission."

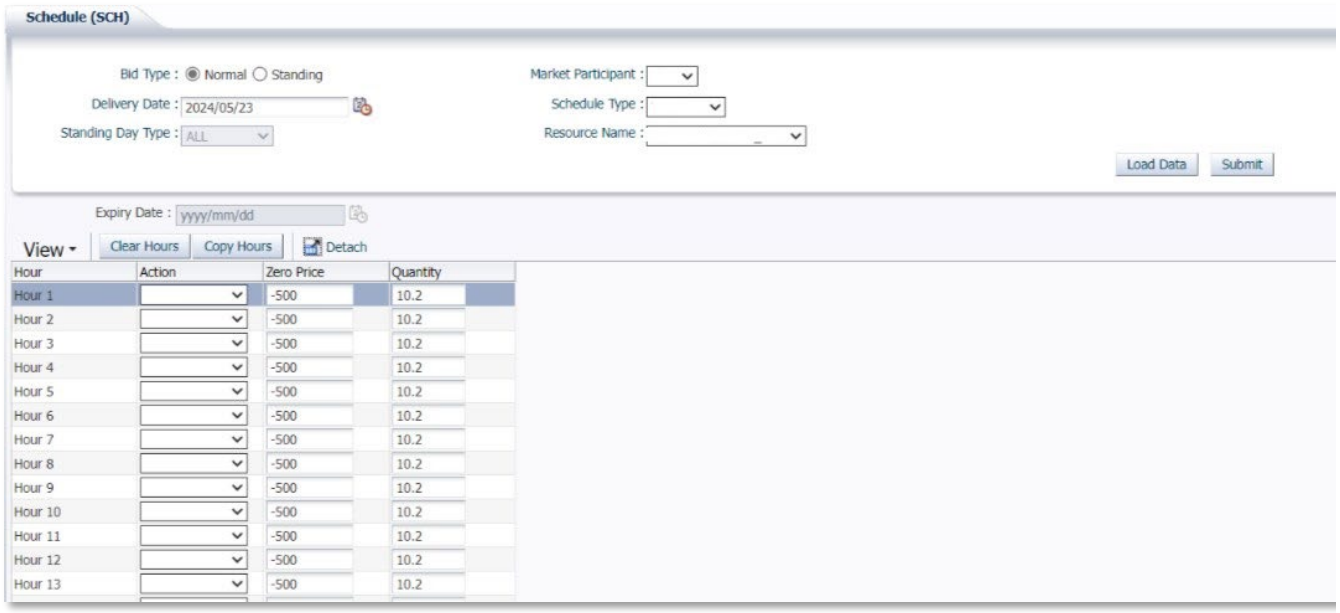
Step	User Instruction

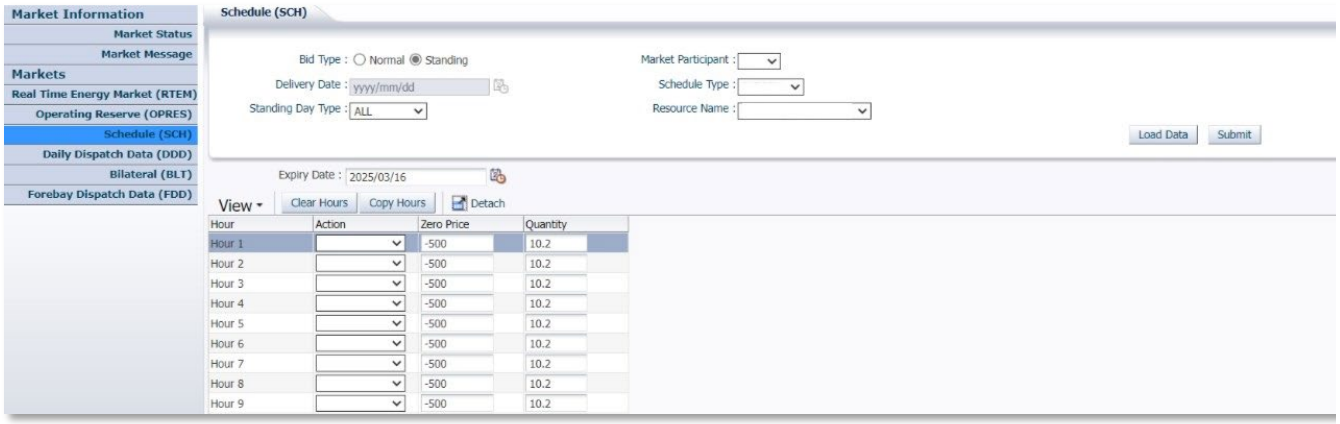




CFS-03: Query a Schedule Normal and Standing bid data

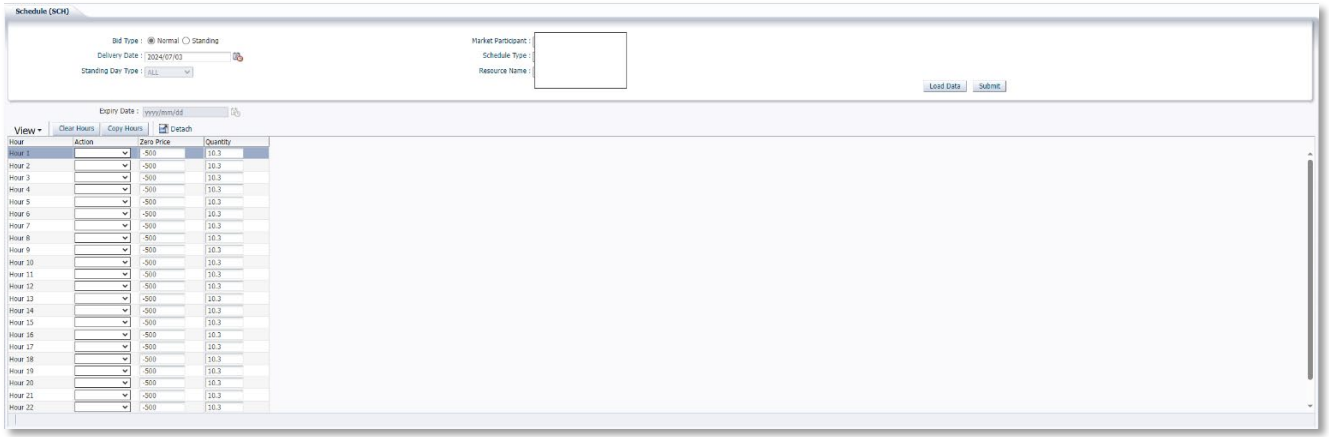
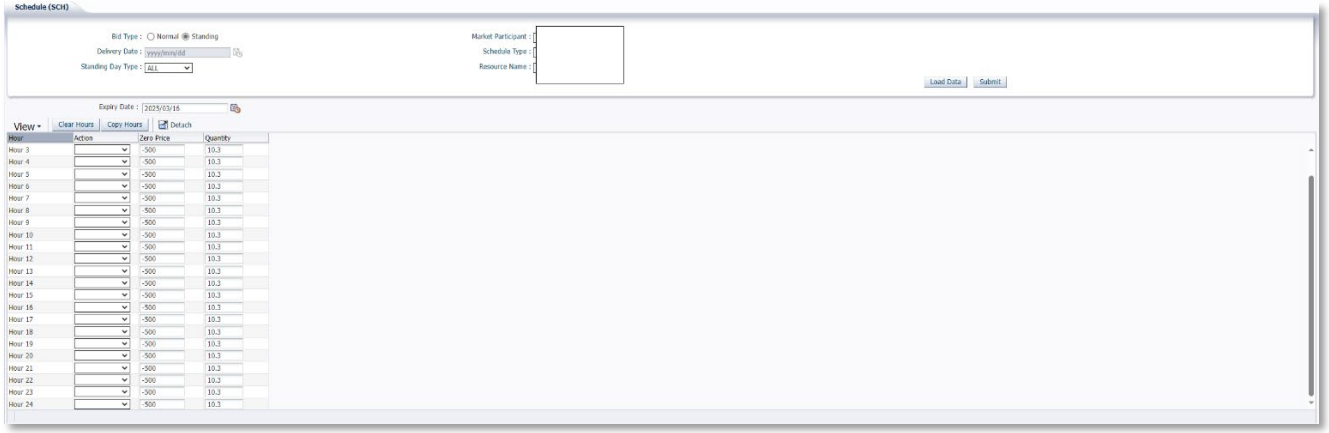
Step	User Instruction	Expected Result
1	Select the Market **Schedule (SCH)**.	The SCHEDULE interface is displayed.
2	For a "Normal" bid type: Enter data in the following mandatory fields to query a SCHEDULE submission: Select Bid Type: Normal. Select Delivery Date. Select Market Participant. Select Schedule Type.	The page displays the queried data values for the selected resource.

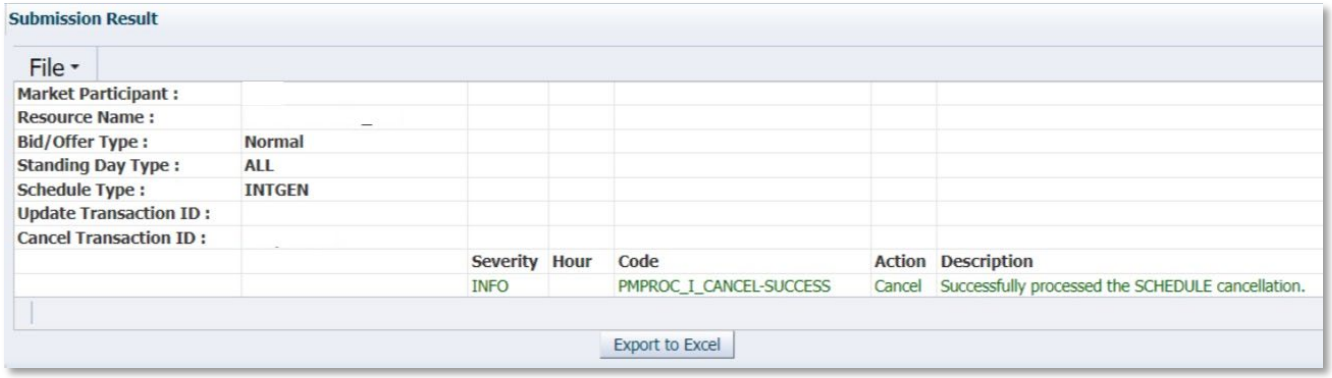
Step	User Instruction	Expected Result
	Select Resource Name. Click on **Load Data**.	
3	For a "Standing" bid type: Enter data in the following mandatory fields to query a SCHEDULE submission: Select Bid Type: Standing.	The page displays the queried data values for the selected resource.

Step	User Instruction	Expected Result
	Select Standing Day Type. Select Market Participant. Select Schedule Type. Select Resource Name. Click on **Load Data**.	

CFS-04: Cancel a Schedule Normal or Standing bid

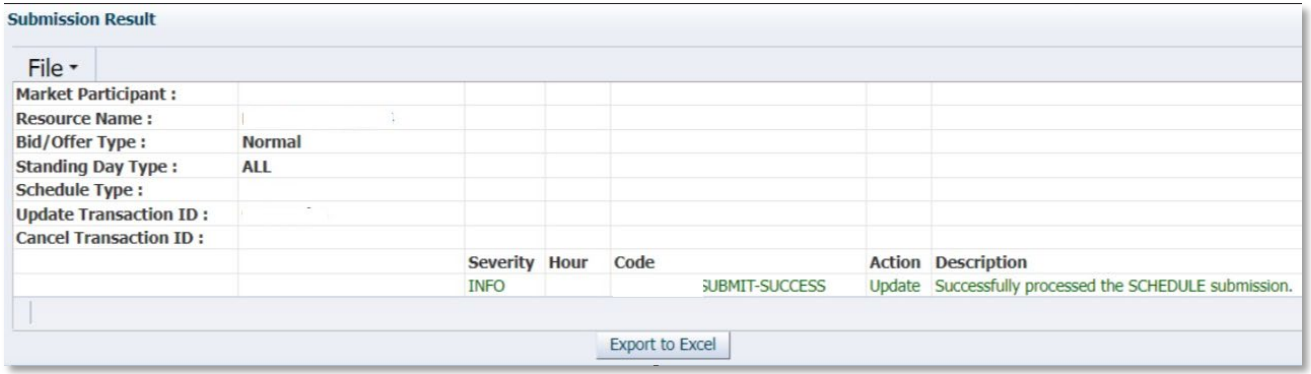
Step	User Instruction	Expected Result
1	Select the Market Schedule (SCH).	The SCHEDULE interface is displayed.

Step	User Instruction	Expected Result
2	For a "Normal" bid type: Enter data in the following mandatory fields to query a SCHEDULE submission: Select Bid Type: Normal. Select Delivery Date. Select Market Participant. Select Schedule Type. Select Resource Name. Click on **Load Data**.	The page displays the queried data values for the selected resource. 
3	For a "Standing" bid type: Enter data in the following mandatory fields to query a SCHEDULE submission: Select Bid Type: Standing. Select Standing Day Type.	The page displays the queried data values for the selected resource. 

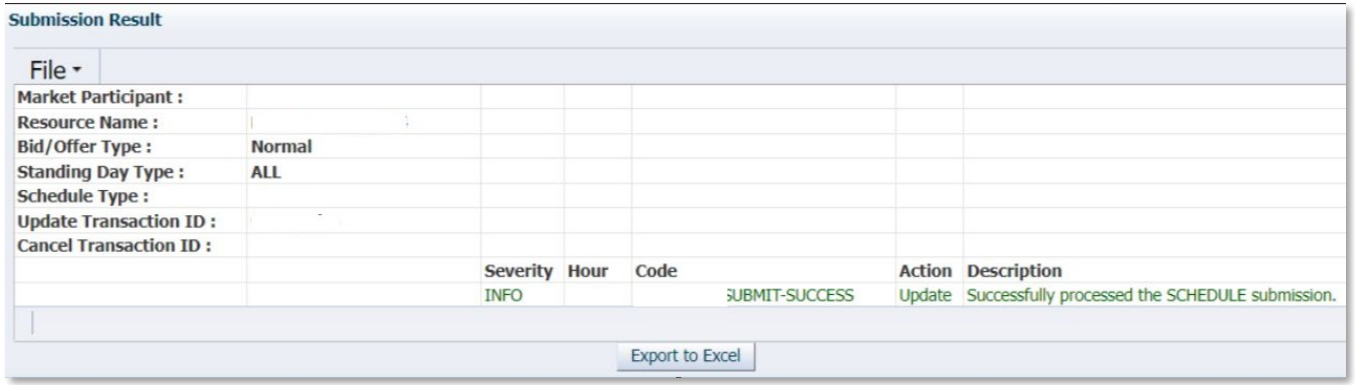
Step	User Instruction	Expected Result
	Select Market Participant. Select Schedule Type. Select Resource Name. Click on **Load Data**.	
4	Select the hours to be cancelled. Click on the Submit/Cancel drop down field. Choose Cancel and click on **Submit.**	Data submission for the selected hour(s) is cancelled successfully. 

Test Cases

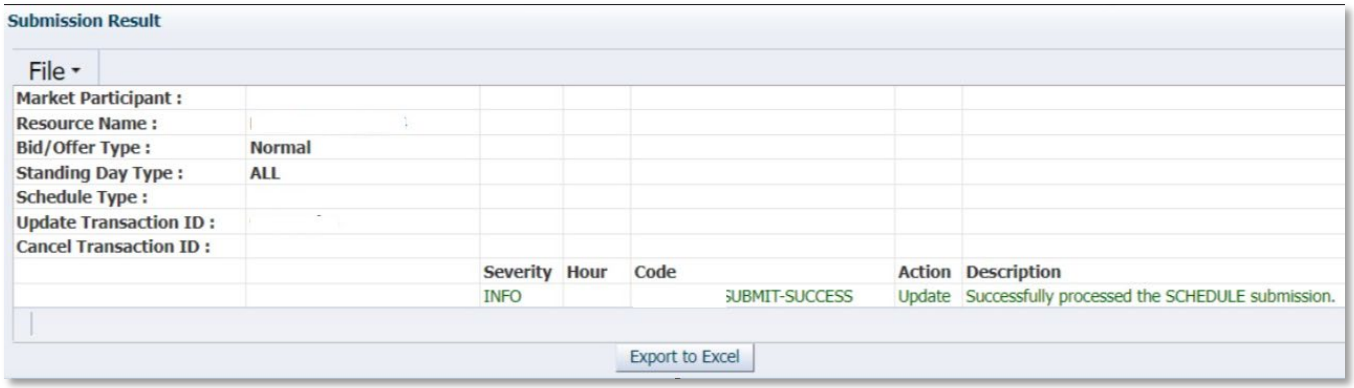
TC01: Verify that Schedule Non-Standing (Normal) bid data can be successfully submitted for a resource and schedule type

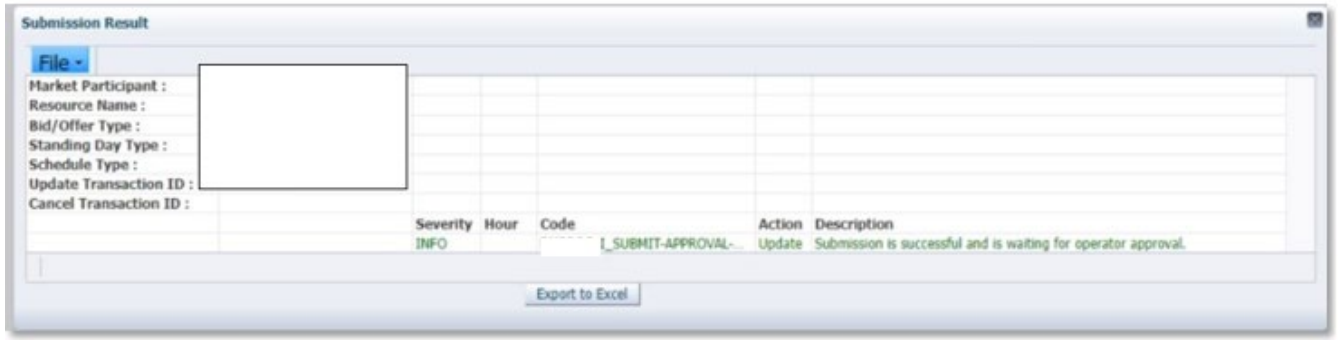
Step	User Instruction	Expected Result
1	Execute Step 1 from CFS-01 from the Common Functional Steps section.	
2	Execute Step 1-2 from CFS-02 from the Common Functional Steps section.	
3	Enter data for all the applicable fields and click on **SUBMIT.** From Hour 1 to Hour 24: - Action: Submit, Cancel - Zero Price - Quantity	The SCHEDULE submission is successful. User should be able to view the submission result message "Successfully processed the SCHEDULE submissions". 

TC02: Verify that Schedule Standing bid data can be successfully submitted for a resource and schedule type

Step	User Instruction	Expected Result
1	Execute Step 1 from CFS-01 from the Common Functional Steps section.	
2	Execute Steps 1, and 3 from CFS-02 from the Common Functional Steps section.	
3	Enter data for all the applicable fields and click on **Submit.** For Hour 1 to Hour 24: - Action: Submit, Cancel - Zero Price - Quantity	The SCHEDULE submission is successful. User should be able to view the submission result message "Successfully processed the SCHEDULE submissions". 

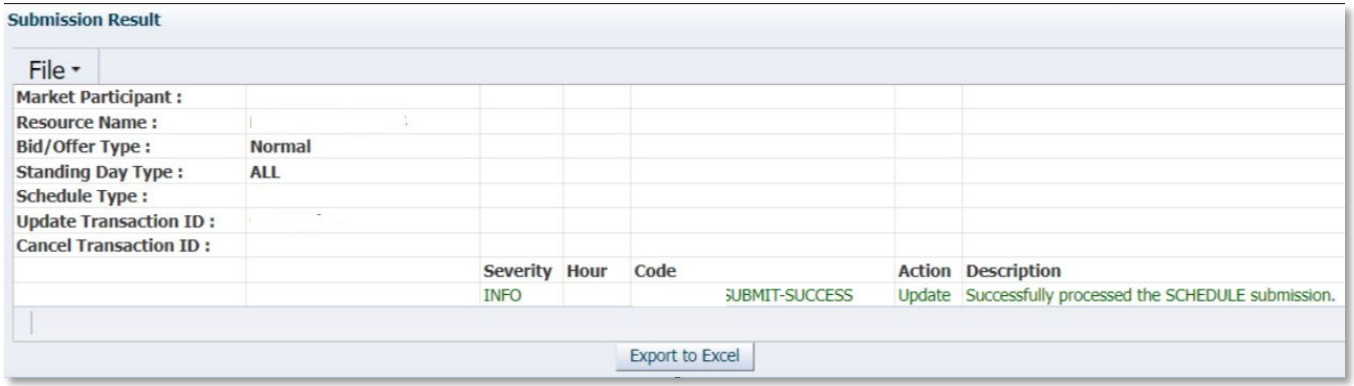
TC03: Verify the submission of Schedule Data: if the RT window state for the specified hour is in the Daily Restricted Window (DA_Restricted) and there is a change in the data field values, then the submission is subject to operator approval

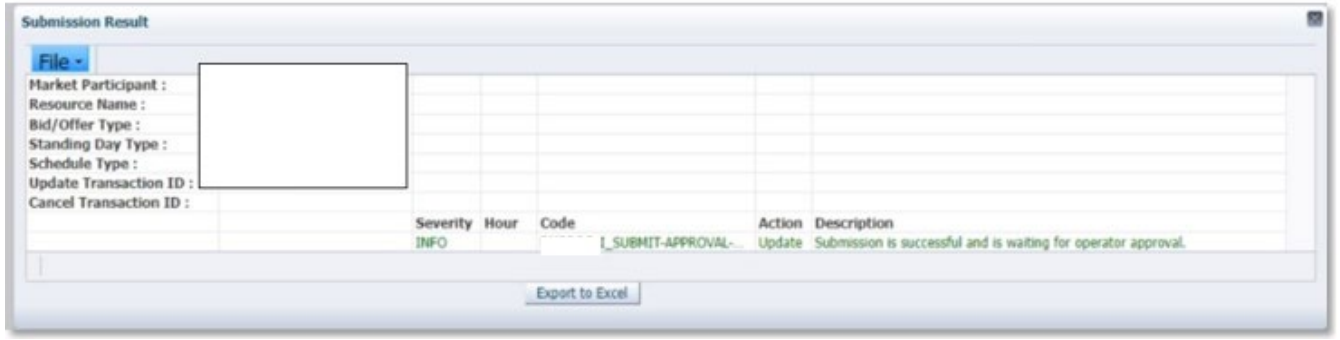
Step	User Instruction	Expected Result
1	Execute Step 1 from CFS-01 from the Common Functional Steps section.	
2	Execute Steps 1-2 from CFS-02 from the Common Functional Steps section.	
3	Enter data for the required fields. Enter hourly data for the RT initial window. Click on **Submit**.	The SCHEDULE submission is successful. User should be able to view the submission result message "Successfully processed the SCHEDULE submissions". 

Step	User Instruction	Expected Result
4	Wait until the delivery date/hour comes to Daily Restricted window (DA_Restricted). Select the same Schedule dispatch data as Step 2, but submit different values of 'Zero Price' or 'Quantity' for delivery hours in DA_Restricted window.	The page displays the following message, "Submission is successful and is waiting for operator approval." 

TC04: Verify the submission of Schedule Data: if the window state for the specified hour is in Hourly RT Mandatory window and there is a change in the data field values, then the submission is subject to operator approval

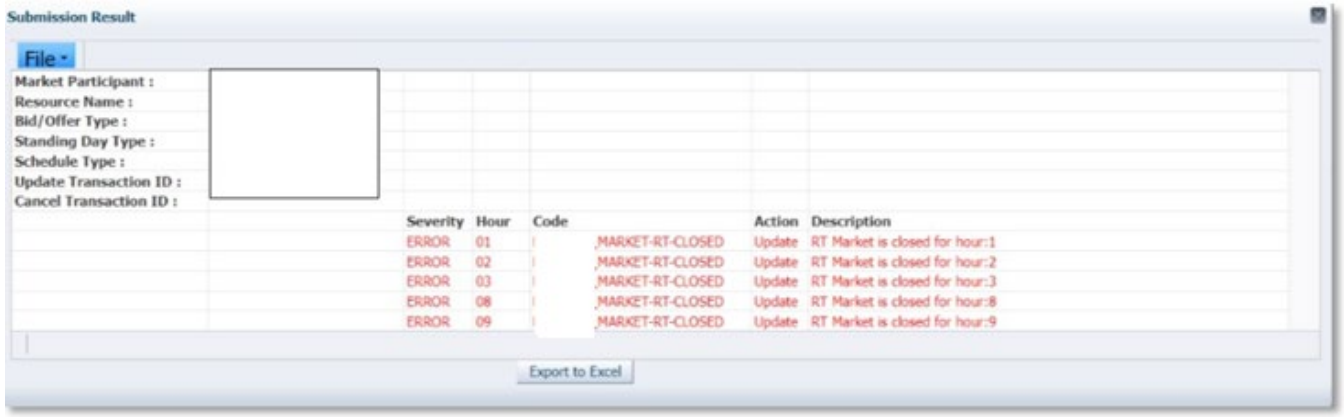
Step	User Instruction	Expected Result
1	Execute Step 1 from CFS-01 from the Common Functional Steps section.	
2	Execute Steps 1-2 from CFS-02 from the	

Step	User Instruction	Expected Result
	Common Functional Steps section.	
3	Enter data for the required fields. Enter hourly data for the RT initial window. Click on **SUBMIT.**	The SCHEDULE submission is successful. User should be able to view the submission result message.  "Successfully processed the SCHEDULE submissions".
4	Wait until the delivery date/hour comes to Real-Time Mandatory window (RT_M). Select the same Schedule dispatch data as Step 2, but submit different values of 'Zero Price' or 'Quantity' for delivery hours in RT_M window.	The page displays the following message, "Submission is successful and is waiting for operator approval."

Step	User Instruction	Expected Result
		

TC05: Verify that an error message is received for a SCHEDULE data submission where the RT Market window for the delivery date and hours are in the 'RT_CLOSE' state

Step	User Instruction	Expected Result
1	Execute Step 1 from CFS-01 from the Common Functional Steps section.	
2	Execute Steps 1-2 from CFS-02 from the Common Functional Steps section.	

Step	User Instruction	Expected Result
3	Enter data in the required fields. Enter hourly data for the hours in the RT_CLOSE window hours. Click on **Submit**.	Submission fails. An error message is displayed, "RT Market is closed for hour: XX" 

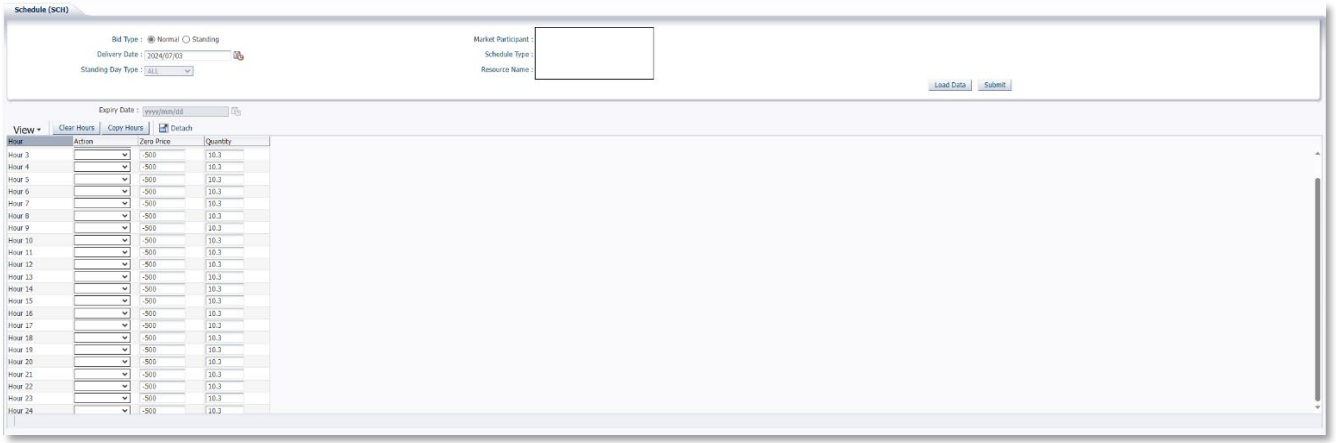
TC06: Verify that Schedule Non-Standing bid data can be successfully queried for a resource

Step	User Instruction	Expected Result
1	Execute Step 1 from CFS-01 from the Common Functional Steps section.	
2	Execute Step 1 from CFS-03 from the	

Step	User Instruction	Expected Result
	Common Functional Steps section.	
3	Enter data in the following mandatory fields to query a SCHEDULE submission: Select Bid Type: Normal. Select Delivery Date. Select Market Participant. Select Schedule Type. Select Resource Name. Click on **Load Data**.	The page displays the queried data values for the selected resource. From Hour 1 to Hour 24: - Zero Price - Quantity

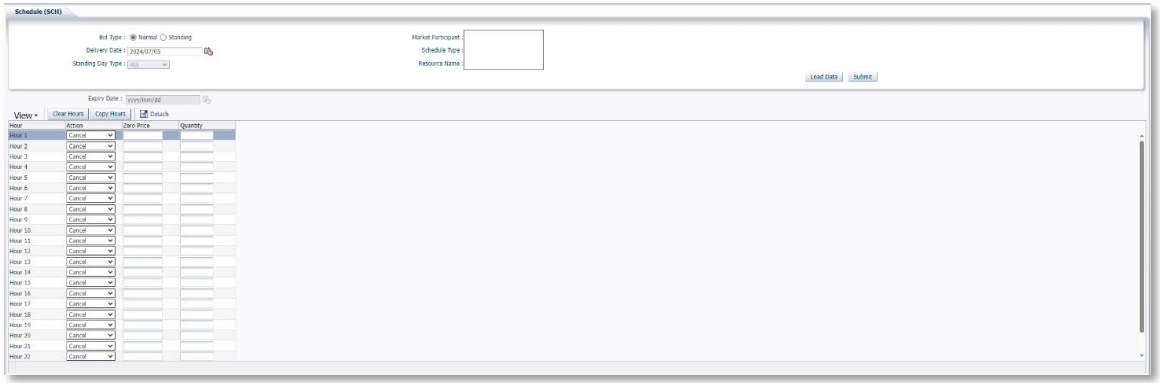
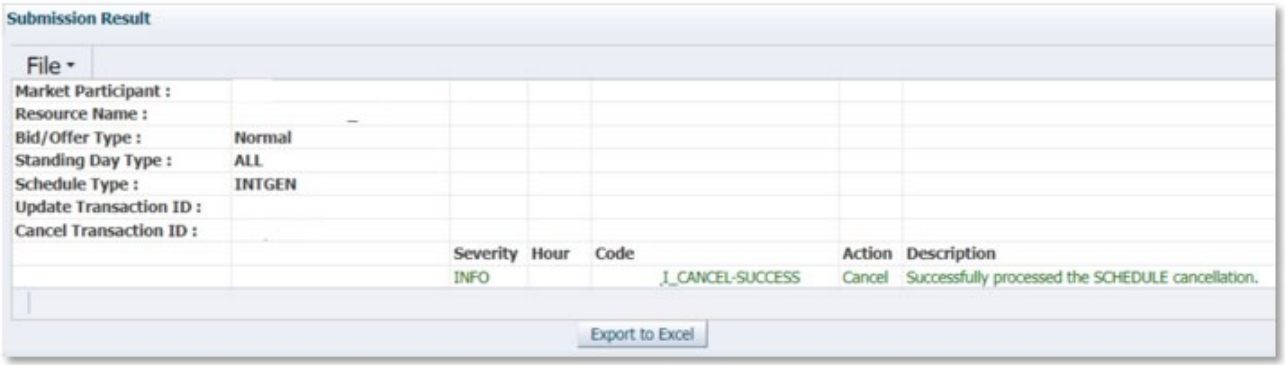
TC07: Verify that Schedule Standing bid data can be successfully queried for a resource

Step	User Instruction	Expected Result
1	Execute Step 1 from CFS-01 from the Common Functional Steps section.	
2	Execute Step 1 from CFS-03 from the Common Functional Steps section.	
3	Enter data in the following mandatory fields to query a SCHEDULE submission: Select Bid Type: Standing. Select Standing Day Type. Select Market Participant. Select Schedule Type. Select Resource Name. Click on **Load Data**.	The page displays the queried data values for the selected resource. - Expiry Date From Hour 1 to Hour 24: - Zero Price - Quantity

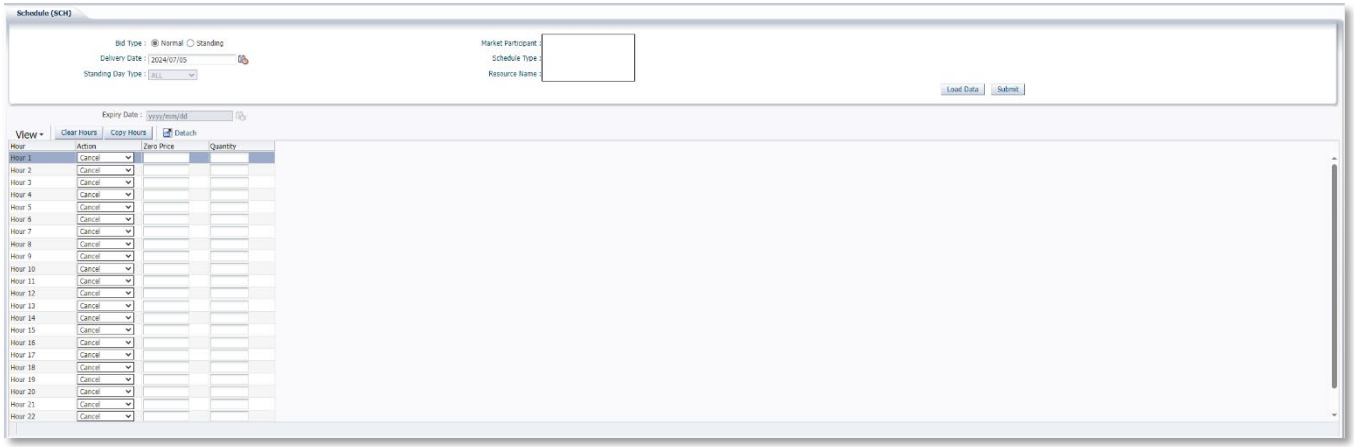


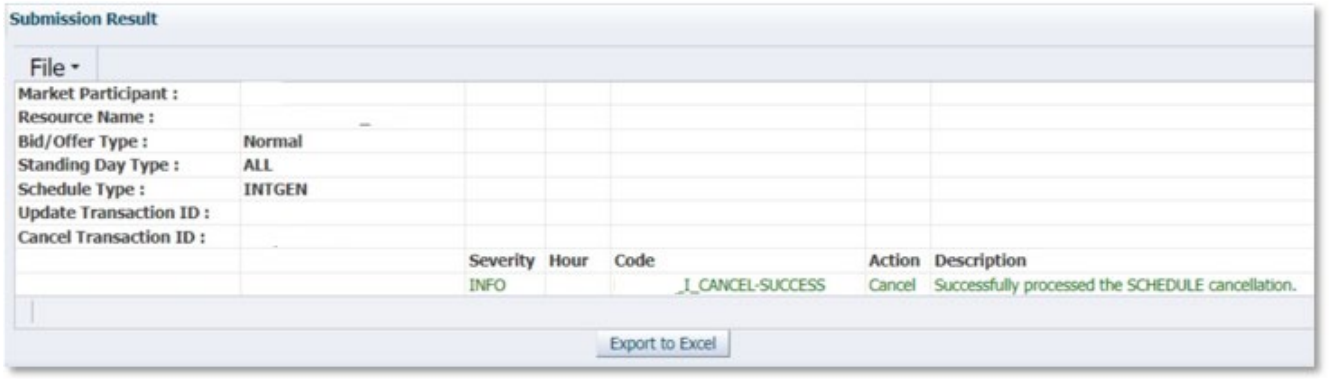
TC08: Verify Schedule Non-Standing bid data can be successfully cancelled for a resource.

Step	User Instruction	Expected Result
1	Execute Step 1 from CFS-01 from the Common Functional Steps section.	
2	Execute Steps 1-2 from CFS-04 from the Common Functional Steps section.	

Step	User Instruction	Expected Result
3	Select hour(s) in the RT initial window. Click on the Submit/Cancel drop down field. Choose Cancel and click on **Submit**.	Data submission for the selected hour(s) is cancelled successfully.  

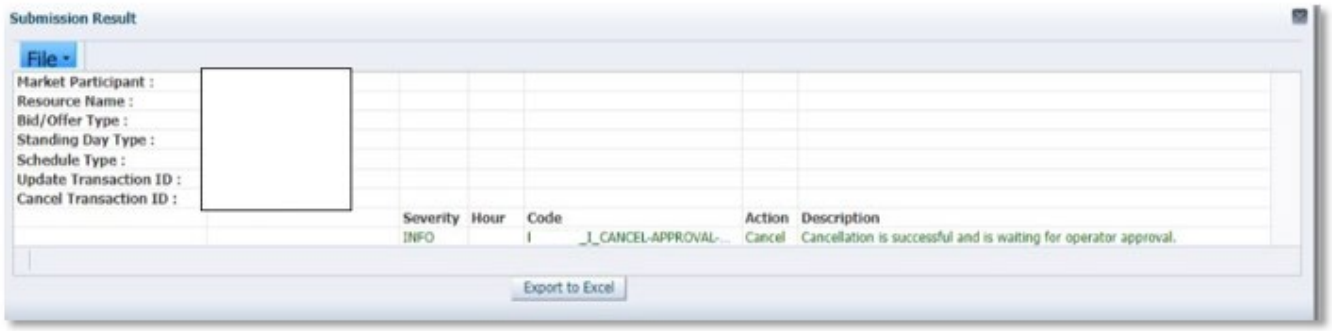
TC09: Verify Schedule data can be successfully cancelled for a Standing Bid

Step	User Instruction	Expected Result
1	Execute Step 1 from CFS-01 from the Common Functional Steps section.	
2	Execute Steps 1, and 3 from CFS-04 from the Common Functional Steps section.	
3	Select hour(s) in the RT initial window. Click on the Submit/Cancel drop-down field. Choose Cancel and click on **Submit**.	Data submission for the selected hour(s) is cancelled successfully. 

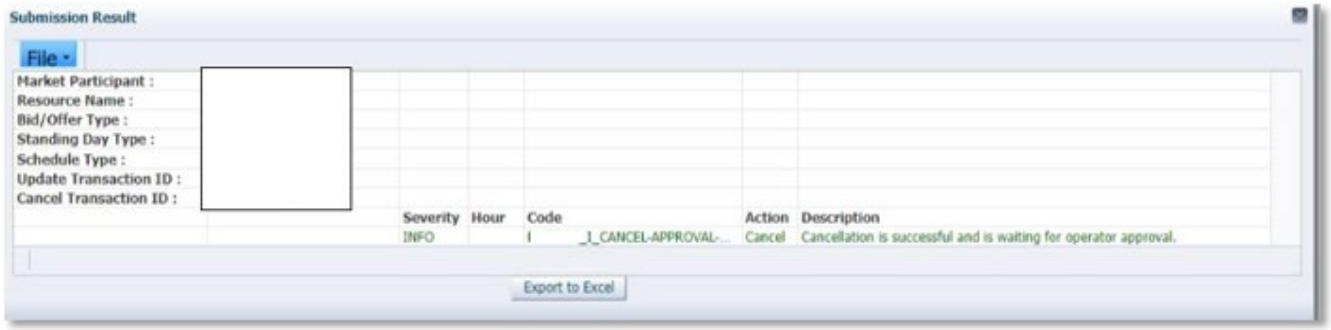
Step	User Instruction	Expected Result
		

TC10: If the RT window for the specified hour is in the DA_RESTRICTED state, then Schedule data cancellation is subject to operator approval

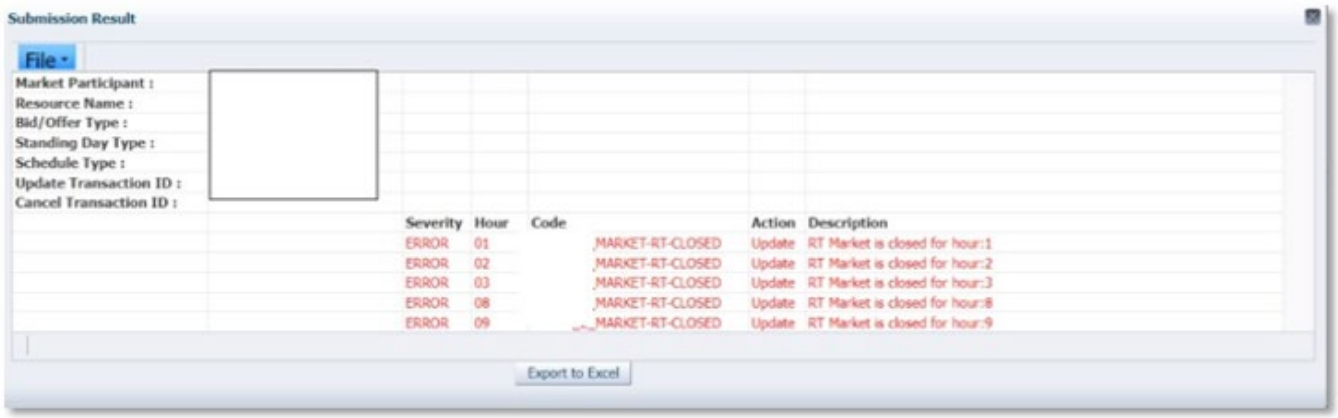
Step	User Instruction	Expected Result
1	Execute Step 1 from CFS-01 from the Common Functional Steps section.	
2	Execute Steps 1-2 from CFS-04 from the Common Functional Steps section.	

Step	User Instruction	Expected Result
3	Select hour(s) which are in the DA_Restricted window. Click on Submit/Cancel drop-down field. Choose Cancel and click on **Submit**.	The page displays a message, "Cancellation is successful and is waiting for operator approval." 

TC11: If the RT window for the specified hour is in the RT_MANDATORY state, then the Schedule data cancellation is subject to operator approval

Step	User Instruction	Expected Result
1	Execute Step 1 from CFS-01 from the Common Functional Steps section.	
2	Execute Steps 1-2 from CFS-03 from the Common Functional Steps section.	
3	Select hour(s) which are in the RT_MANDATORY window. Click on Submit/Cancel drop-down field. Choose Cancel and click on **Submit**.	The page displays a message, "Cancellation is successful and is waiting for operator approval." 

TC12: Verify that an error response message is received for a Schedule data cancellation when the selected hours are in the RT_CLOSE state

Step	User Instruction	Expected Result
1	Execute Step 1 from CFS-01 from the Common Functional Steps section.	
2	Execute Steps 1-2 from CFS-03 from the Common Functional Steps section.	
3	Select hour(s) which are in the RT_CLOSE window. Click on Submit/Cancel drop-down field. Choose Cancel and click on **Submit**.	Cancellation is unsuccessful with an error message of: "RT Market is closed for hour: XX" 

Additional Resources

- MRP Market Trials Test Plan
- Energy Market Interface/Market Information Management
    - Submitting and Revising Daily Dispatch Data
    - Submitting, Revising and Cancelling Energy Bids
    - Submitting, Revising and Cancelling Energy Offers
    - Submitting, Revising and Cancelling Import Offers and Export
    - Submitting and Revising Forebay Dispatch Data
    - Submitting, Revising and Cancelling Operating Reserve Offers
    - Submitting, Revising and Cancelling Schedules and Forecasts
- Test Cases for Connectivity Testing (.zip)
- Quick Take: Submission of Test Case Results and Defects in qTest

Independent
Electricity
System Operator
1600-120 Adelaide Street West
Toronto, Ontario M5H 1T1

Phone: 905.403.6900
Toll-free: 1.888.448.7777
E-mail: customer.relations@ieso.ca

ieso.ca

@IESO_Tweets
linkedin.com/company/IESO

ieso
Connecting Today.
Powering Tomorrow.