

# Market Trials: Real-Time Energy Market (RTEM) in the Market Information Management (MIM) tool

August 7, 2024

Version 2.0

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# Introduction

This document outlines the test cases to be executed using the Market Information Management (MIM) web services 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 Real-Time Energy Market (RTEM) information in the MIM tool are working as intended.

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 an API account that has access to the MIM Sandbox application and is able to connect to the MRP endpoint: <https://webservices-sandboxmrp.ieso.ca/emim>.
- 2.** Dispatch data can be submitted using the following options: using the Market Participant's API tool and/or using the IESO's MWT Toolkit.
- 3.** Connectivity to MIM using an API tool has been confirmed. Refer to the test case from Connectivity Testing, which is posted on the MRP webpage: <https://www.ieso.ca/Market-Renewal/Market-Participant-Readiness/Market-Participant-Testing>.
- 4.** Market Participants can send web service requests to MIM using their own API tool of choice.
- 5.** Connectivity to MIM using MWT Toolkit has been confirmed. Refer to the test case from Connectivity Testing, which is posted on the MRP webpage: <https://www.ieso.ca/Market-Renewal/Market-Participant-Readiness/Market-Participant-Testing>
- 6.** For Query and Cancel requests there must be existing data available in the system for the selected resource.
- 7.** If the Real-Time Energy Market (RTEM) data is being submitted by the following resource types: Non-Quick Start (NQS) Other, Combustion Turbine (CT) Pseudo-Unit (PSU), Steam Turbine (ST) PSU, CT Non-PSU, ST Non-PSU, then the Daily Dispatch Data (DDD) for the corresponding participant, delivery date, and resource should be present in the system.
- 8.** For cancelling the RTEM data, OPRES Data for the corresponding participant, delivery date, resource, and hour should be in cancelled state.

**9.** For TC05, the submitted hour in the Real-Time Energy Market submission must be in the NERC window with the NERC\_MANDATORY state.

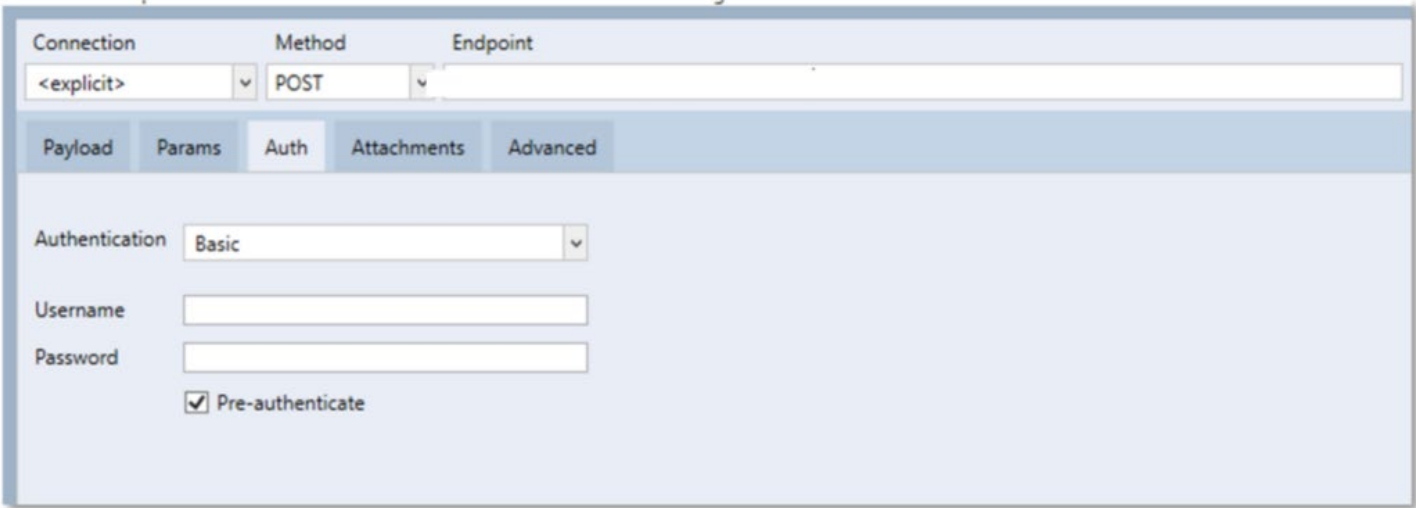
**Notes:**

**1.** The API tool used to demonstrate the test cases in this document is Tosca's API Scan. Users may choose to test with this tool or any other web service tool of their choice.

## Common Functional Steps

This section lists out the common functional steps when submitting Real-Time Energy Market information in MIM. This section will be referenced in the following test cases.

### CFS-01: Submitting a Bid

Step	User Instruction	Expected Result
1	<p>If using an API tool:</p> <p>Set the following configurations within the API Tool to connect:</p> <p>Method: POST</p> <p>Endpoint:</p> <p><a href="https://webservices-sandboxmrp.ieso.ca/emim">https://webservices-sandboxmrp.ieso.ca/emim</a></p> <p>Authentication: Basic</p> <p>Username: [API username]</p> <p>Password: [API password]</p>	<p>Within Tosca's API Scan tool, the configurations would look as per attached image</p> 

Step	User Instruction	Expected Result
------	------------------	-----------------

Enter the following details under "Params" section

Name: Content-Type  
Value: text/xml  
Type: Header

Payload	Params	Auth	Attachments	Advanced									
	<table border="1"> <thead> <tr> <th>Name</th> <th>Value</th> <th>Type</th> </tr> </thead> <tbody> <tr> <td>Content-Type</td> <td>text/xml</td> <td>Header</td> </tr> <tr> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Name	Value	Type	Content-Type	text/xml	Header						
Name	Value	Type											
Content-Type	text/xml	Header											

2 If submitting a "Normal" type bid using either an API tool or MWT toolkit:

Prepare a valid XML submission file with the required data fields populated to submit an RTEM Normal bid for a specific resource.

XML submission file has been prepared successfully.

```
<?xml version='1.0' encoding='UTF-8'>
<RealtimeEnergyBidSubmit xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="http://webservices.ieso.ca/emim-types/" xsi:schemaLocation="http://webservices.ieso.ca/emim-types/ emim.xsd">
  <ActAsMarketParticipant>
    <Participant>PNAME</Participant>
    <User>UNAME</User>
  </ActAsMarketParticipant>
  <Date>
    <DeliveryDate>2023-01-01</DeliveryDate>
  </Date>
  <BidOffer>GENERATOR</BidOffer>
  <ResourceName>RNAME</ResourceName>
  <!-- Mandatory and applicable only for VIRTUAL_TRADER_SUPPLY and VIRTUAL_TRADER_LOAD resources -->
  <ThermalState>HOT</ThermalState>
  <!-- Applicable only for HYDRO_NON_CASCADE resources -->
  <MinDailyEnergyLimit>12345.9</MinDailyEnergyLimit>
  <MaxDailyEnergyLimit>78900.9</MaxDailyEnergyLimit>
  <MaxDailyEnergyLimitReason>Reason code</MaxDailyEnergyLimitReason>
  <!-- Minimum of 1 and maximum of 5 DailyEnergyRampRate elements can be submitted -->
  <DailyEnergyRampRate>
    <DailyEnergyRampRateBreakpoint>120.00</DailyEnergyRampRateBreakpoint>
    <DailyEnergyRampRateUp>16.0</DailyEnergyRampRateUp>
    <DailyEnergyRampRateDown>14.0</DailyEnergyRampRateDown>
  </DailyEnergyRampRate>
  <DailyEnergyRampRate>
    <DailyEnergyRampRateBreakpoint>160.0</DailyEnergyRampRateBreakpoint>
    <DailyEnergyRampRateUp>13.0</DailyEnergyRampRateUp>
    <DailyEnergyRampRateDown>41.00</DailyEnergyRampRateDown>
  </DailyEnergyRampRate>
  <Hourly>
    <Hour>1</Hour>
    <!-- Mandatory and applicable only for ENERGY_IMPORT and ENERGY_EXPORT resources -->
    <TiePoint>TPNAME</TiePoint>
    <VirtualZoneName>VZNAME</VirtualZoneName>
    <!-- Mandatory and applicable only for ENERGY_IMPORT and ENERGY_EXPORT resources -->
    <NercTag>NTNAME</NercTag>
    <CapacityTransaction>true</CapacityTransaction>
    <OperatingReserveRampRate>79.9</OperatingReserveRampRate>
  </Hourly>
  <StartUpOffer>
    <StartUpOfferHot>100</StartUpOfferHot>
    <StartUpOfferWarm>200</StartUpOfferWarm>
    <StartUpOfferCold>300</StartUpOfferCold>
  </StartUpOffer>
  <SpeedNoLoadOffer>3456</SpeedNoLoadOffer>
  <MinHourlyOutput>0</MinHourlyOutput>
  <HourlyMustRun>0</HourlyMustRun>
  <!-- Applicable only for VARIABLE_GENERATION resources -->
  <ForecastQuantity>156.9</ForecastQuantity>
  <!-- Minimum of 2 and maximum of 20 PriceQuantity elements can be submitted -->
</RealtimeEnergyBidSubmit>
```

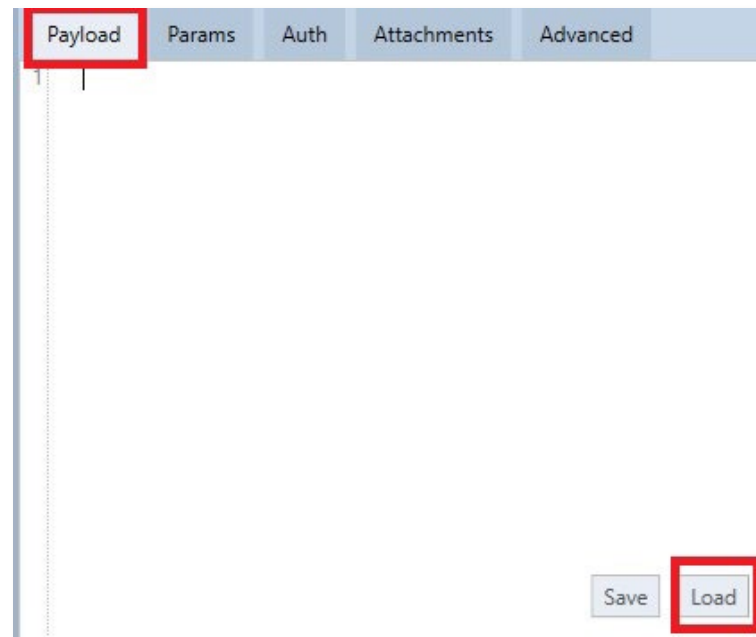
Step	User Instruction	Expected Result
3	<p>If submitting a “Standing” type bid using either an API tool or IESO’s MWT toolkit:</p> <p>Prepare a valid XML submission file with the required data fields populated to submit an RTEM Standing bid for a specific resource.</p>	<p>XML submission file has been prepared successfully.</p> <pre> &lt;?xml version="1.0" encoding="UTF-8" standalone="yes" ?&gt; &lt;RealtimeEnergyBidSubmit xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="http://webservices.ieso.ca/emim-types/" xsi:schemaLocation="http://webservices.ieso.ca/emim-types/ emim.xsd"&gt;   &lt;ActAsMarketParticipant&gt;     &lt;Participant&gt;PNAME&lt;/Participant&gt;     &lt;User&gt;UNAME&lt;/User&gt;   &lt;/ActAsMarketParticipant&gt;   &lt;Date&gt;     &lt;Standing&gt;       &lt;DayOfWeek&gt;WED&lt;/DayOfWeek&gt;       &lt;ExpiryDate&gt;2030-01-01&lt;/ExpiryDate&gt;     &lt;/Standing&gt;   &lt;/Date&gt;   &lt;BidOffer&gt;GENERATOR&lt;/BidOffer&gt;   &lt;ResourceName&gt;RNAME&lt;/ResourceName&gt;   &lt;!-- Mandatory and applicable only for VIRTUAL_TRADER_SUPPLY and VIRTUAL_TRADER_LOAD resources --&gt;   &lt;ThermalState&gt;HOT&lt;/ThermalState&gt;   &lt;!-- Applicable only for HYDRO_NON_CASCADE resources --&gt;   &lt;MinDailyEnergyLimit&gt;12345.9&lt;/MinDailyEnergyLimit&gt;   &lt;MaxDailyEnergyLimit&gt;78900.9&lt;/MaxDailyEnergyLimit&gt;   &lt;MaxDailyEnergyLimitReason&gt;Reason code&lt;/MaxDailyEnergyLimitReason&gt;   &lt;!-- Minimum of 1 and maximum of 5 DailyEnergyRampRate elements can be submitted --&gt;   &lt;DailyEnergyRampRate&gt;     &lt;DailyEnergyRampRateBreakpoint&gt;120.00&lt;/DailyEnergyRampRateBreakpoint&gt;     &lt;DailyEnergyRampRateUp&gt;16.0&lt;/DailyEnergyRampRateUp&gt;     &lt;DailyEnergyRampRateDown&gt;14.0&lt;/DailyEnergyRampRateDown&gt;   &lt;/DailyEnergyRampRate&gt;   &lt;DailyEnergyRampRate&gt;     &lt;DailyEnergyRampRateBreakpoint&gt;160.0&lt;/DailyEnergyRampRateBreakpoint&gt;     &lt;DailyEnergyRampRateUp&gt;13.0&lt;/DailyEnergyRampRateUp&gt;     &lt;DailyEnergyRampRateDown&gt;41.00&lt;/DailyEnergyRampRateDown&gt;   &lt;/DailyEnergyRampRate&gt;   &lt;Hourly&gt;     &lt;Hour&gt;1&lt;/Hour&gt;     &lt;!-- Mandatory and applicable only for ENERGY_IMPORT and ENERGY_EXPORT resources --&gt;     &lt;TiePoint&gt;TPNAME&lt;/TiePoint&gt;     &lt;VirtualZoneName&gt;VZNAME&lt;/VirtualZoneName&gt;     &lt;!-- Mandatory and applicable only for ENERGY_IMPORT and ENERGY_EXPORT resources --&gt;     &lt;MercTag&gt;MTNAME&lt;/MercTag&gt;     &lt;CapacityTransaction&gt;true&lt;/CapacityTransaction&gt;     &lt;OperatingReserveRampRate&gt;79.9&lt;/OperatingReserveRampRate&gt;   &lt;StartUpOffer&gt;     &lt;StartUpOfferHot&gt;100&lt;/StartUpOfferHot&gt;     &lt;StartUpOfferWarm&gt;200&lt;/StartUpOfferWarm&gt;     &lt;StartUpOfferCold&gt;300&lt;/StartUpOfferCold&gt;   &lt;/StartUpOffer&gt;   &lt;SpeedNoLoadOffer&gt;3456&lt;/SpeedNoLoadOffer&gt;   &lt;MinHourlyOutput&gt;0&lt;/MinHourlyOutput&gt;   &lt;HourlyMustRun&gt;0&lt;/HourlyMustRun&gt;   &lt;!-- Applicable only for VARIABLE_GENERATION resources --&gt;   &lt;ForecastQuantity&gt;156.9&lt;/ForecastQuantity&gt;   &lt;!-- Minimum of 2 and maximum of 20 PriceQuantity elements can be submitted --&gt;   &lt;PriceQuantity&gt;     &lt;PriceQuantity&gt;       &lt;Price&gt;10.00&lt;/Price&gt;       &lt;Quantity&gt;1000000&lt;/Quantity&gt;     &lt;/PriceQuantity&gt;   &lt;/PriceQuantity&gt; &lt;/RealtimeEnergyBidSubmit&gt; </pre>
4	<p>Submit the XML file that has been prepared for RTEM data to MIM using</p>	<p>If using an API tool, load the XML file into the payload section.</p>



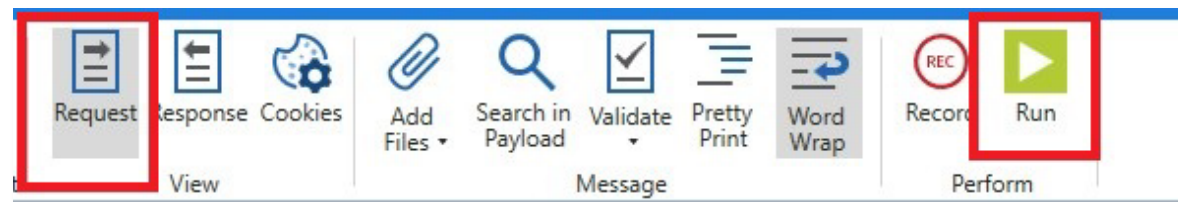
Step	User Instruction	Expected Result
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MWT Toolkit or upload the XML file through API tool.

Note: Market Participants may use MWT Toolkit or use their own API tool of choice to submit data to MIM. Refer to the list of preconditions.



Run the request by clicking Run within the API tool.



## Step User Instruction

## Expected Result

If using the MWT Toolkit, submission of dispatch data is successful, and response or output file has been generated successfully.

```
D:\Project\MIMRelease2Latest\scripts>run-client.bat
INFO: Started web service client...
INFO: Reading configuration info from: ../request-files/ws-client.properties
INFO: Endpoint:
INFO: Started processing request: rtem/RTEM_SUBMIT.xml
INFO: Writing response to: D:\Project\MIMRelease2Latest\scripts\..\response-files\rtem\RTEM_SUBMIT-out.xml
INFO: Finished processing request: rtem/RTEM_SUBMIT.xml
INFO: Finished client.
```

DATA_D (D:) > Project > MIMRelease2Latest > response-files > rtem				
	Name	Date modified	Type	Size
	RTEM_SUBMIT-out.xml	2024-07-04 10:36 PM	XML File	1 KB

- 5 Verify that the response file (output) contains a successful message.

Output file should contain text that indicates the Real-Time Energy Market submission was successfully processed.

For API tool:

Status Code	Response Time (ms)
200 200	401
<div>Payload Attachments</div> <div><pre>1 &lt;ns1:BidProcessingStatus xmlns:ns1="http://webservices.ieso.ca/emim-types/"&gt; 2   &lt;ns1:SubmissionTime: [REDACTED] /&gt; 3   &lt;ns1:TransactionId: [REDACTED] /&gt; 4   &lt;ns1:Message&gt; 5     &lt;ns1:Severity&gt;INFO&lt;/ns1:Severity&gt; 6     &lt;ns1:Code&gt; [REDACTED] &lt;/ns1:Code&gt; 7     &lt;ns1:Description&gt;Successfully processed the RTEM submission.&lt;/ns1:Description&gt; 8   &lt;/ns1:Message&gt; 9 &lt;/ns1:BidProcessingStatus&gt; 10</pre></div>	

Step	User Instruction	Expected Result
------	------------------	-----------------

For MWT tool:

```
▼<ns1:BidProcessingStatus xmlns:ns1="http://webservices.ieso.ca/emim-types/">
  <ns1:SubmissionTime>[REDACTED]/ns1:SubmissionTime>
  <ns1:TransactionId>[REDACTED]</ns1:TransactionId>
  ▼<ns1:Message>
    <ns1:Severity>INFO</ns1:Severity>
    <ns1:Code>PM_I_SUBMIT-SUCCESS</ns1:Code>
    <ns1:Description>Successfully processed the realtime energy submission.</ns1:Description>
  </ns1:Message>
</ns1:BidProcessingStatus>
```

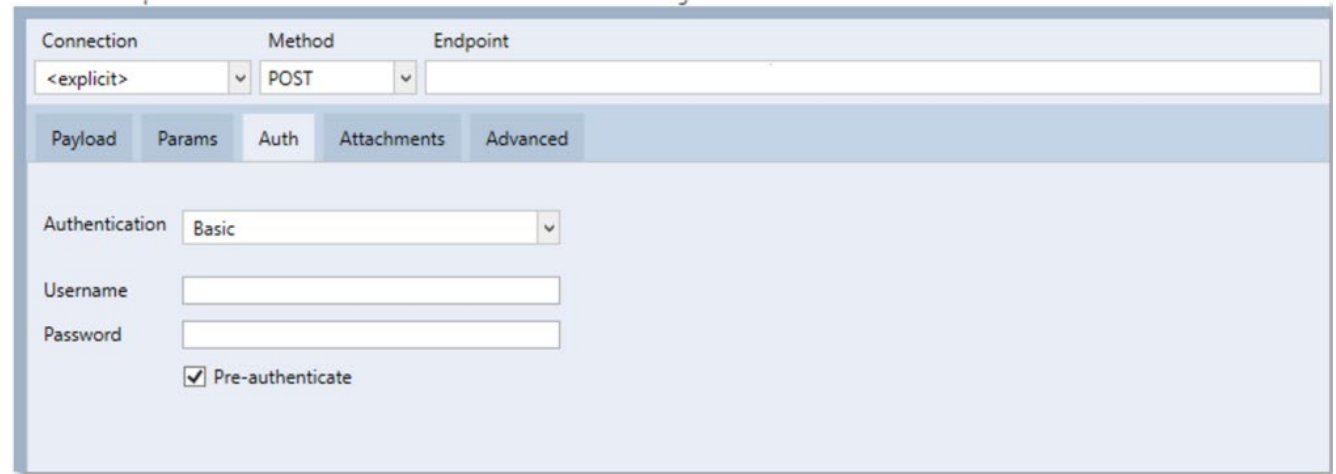
## CFS-02: Query Bid data

### Step User Instruction

### Expected Result

- 1 If using an API Tool:  
  
Set the following configurations within the API Tool to connect:  
Method: POST  
Endpoint: <https://webservices-sandboxmrp.ieso.ca/emim>  
Authentication: Basic  
Username: [API username]  
Password: [API password]  
  
Enter the following details under "Params" section  
  
Name: Content-Type  
Value: text/xml  
Type: Header

Within Tosca's API Scan tool, the configurations would look as per attached image



Connection: <explicit> Method: POST Endpoint:

Auth: Basic

Username: Password:

☒ Pre-authenticate

Payload	Params	Auth	Attachments	Advanced
Name	Value	Type		
Content-Type	text/xml	Header		

**Step User Instruction****Expected Result**

- 2 If submitting a "Normal" type bid using either an API tool or MWT toolkit:

Prepare an XML query file.

XML submission file should be prepared successfully

```
<?xml version="1.0" encoding="UTF-8"?>
<RealtimeEnergyBidQuery xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="http://webservices.ieso.ca/emim-types/"
xsi:schemaLocation="http://webservices.ieso.ca/emim-types/ emim.xsd">
  <ActAsMarketParticipant>
    <Participant>PNAME</Participant>
    <User>UNAME</User>
  </ActAsMarketParticipant>
  <Date>
    <DeliveryDate>2023-01-01</DeliveryDate>
  </Date>
  <BidOffer>GENERATOR</BidOffer>
  <ResourceName>RNAME</ResourceName>
  <!-- Minimum of 1 and maximum of 24 elements can be specified -->
  <Hour>1</Hour>
  <Hour>3</Hour>
</RealtimeEnergyBidQuery>
```

- 3 If submitting a "Standing" type bid using either an API tool or MWT toolkit:

Prepare an XML query file.

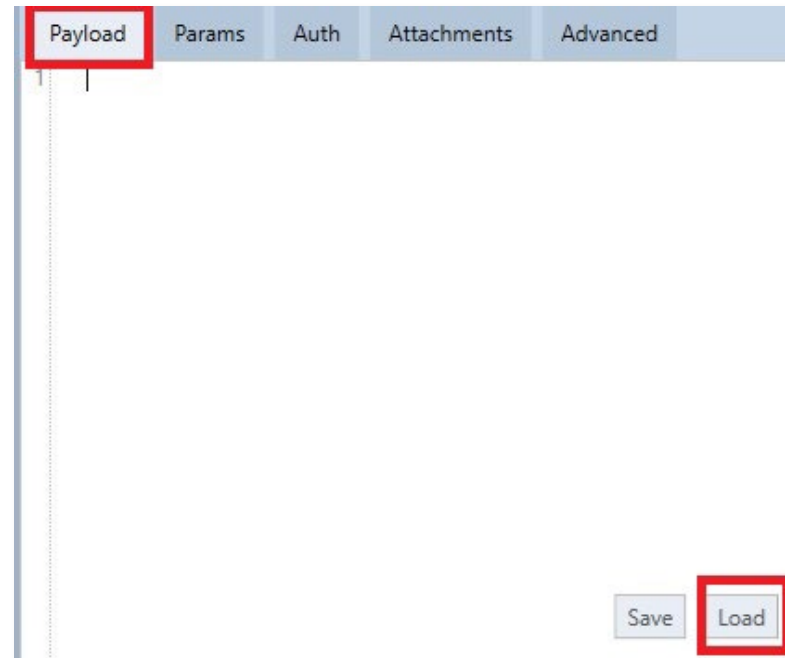
```
<?xml version="1.0" encoding="UTF-8"?>
<RealtimeEnergyBidQuery xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://webservices.ieso.ca/emim-types/ emim.xsd"
xmlns="http://webservices.ieso.ca/emim-types/">
  <ActAsMarketParticipant>
    <Participant>PNAME</Participant>
    <User>UNAME</User>
  </ActAsMarketParticipant>
  <Date>
    <Standing>
      <DayOfWeek>ALL</DayOfWeek>
      <ExpiryDate>2030-01-01</ExpiryDate>
    </Standing>
  </Date>
  <BidOffer>GENERATOR</BidOffer>
  <ResourceName>RNAME</ResourceName>
  <!-- Minimum of 1 and maximum of 24 elements can be specified -->
  <Hour>1</Hour>
  <Hour>3</Hour>
</RealtimeEnergyBidQuery>
```

**Step User Instruction****Expected Result**

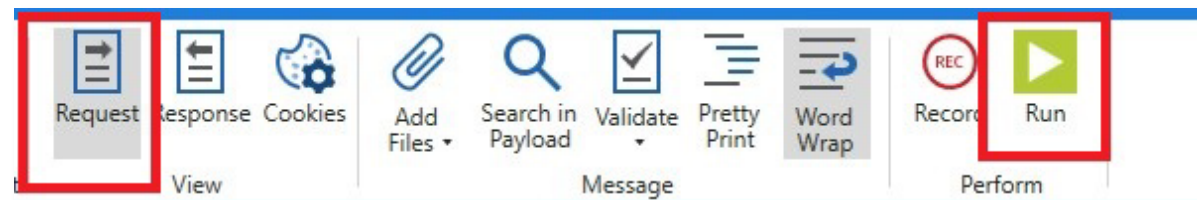
- 4 Submit the XML file that has been prepared for RTEM data to MIM using MWT Toolkit or upload the XML file through API tool.




Note: Market Participants may use MWT Toolkit or use their own API tool of choice to submit data to MIM. Refer to the list of preconditions.

If using an API tool, load the XML file into the payload section.



Run the request by clicking Run within the API tool.



Step	User Instruction	Expected Result								
		<p>If using the MWT Toolkit, submission of dispatch data is successful, and response or output file has been generated successfully.</p> <div><pre>D:\Project\MIMRelease2Latest\scripts&gt;run-client.bat INFO: Started web service client... INFO: Reading configuration info from: ../request-files/ws-client.properties INFO: Endpoint: INFO: Started processing request: rtem/RTEM_QUERY.xml INFO: Writing response to: D:\Project\MIMRelease2Latest\scripts\..\response-files\rtem\RTEM_QUERY-out.xml INFO: Finished processing request: rtem/RTEM_QUERY.xml INFO: Finished client.</pre></div> <div><p>DATA_D (D:) &gt; Project &gt; MIMRelease2Latest &gt; response-files &gt; rtem</p><table><tr><th>Name</th><th>Date modified</th><th>Type</th><th>Size</th></tr><tr><td> RTEM_QUERY-out.xml</td><td>2024-07-04 10:38 PM</td><td>XML File</td><td>1 KB</td></tr></table></div>	Name	Date modified	Type	Size	 RTEM_QUERY-out.xml	2024-07-04 10:38 PM	XML File	1 KB
Name	Date modified	Type	Size							
 RTEM_QUERY-out.xml	2024-07-04 10:38 PM	XML File	1 KB							
5	Open the response file and verify that it contains the queried data.	Output file contains the queried data for the resource.								

[illegible]



For MWT Tool:

```
<?xml version='1.0' encoding='UTF-8'>
<ns1:RealtimeEnergyBidSet xmlns:ns1="http://webservices.ieso.ca/emim-types/">
  <ns1:RealtimeEnergyBidSubmit>
    <ns1:ActAsMarketParticipant>
      <ns1:Participant> /ns1:Participant>
      <ns1:User> /ns1:User>
    </ns1:ActAsMarketParticipant>
    <ns1:Date>
      <ns1:DeliveryDate> /ns1:DeliveryDate>
    </ns1:Date>
    <ns1:BidOffer> /ns1:BidOffer>
    <ns1:ResourceName> /ns1:ResourceName>
    <ns1:MinDailyEnergyLimit> /ns1:MinDailyEnergyLimit>
    <ns1:MaxDailyEnergyLimit> /ns1:MaxDailyEnergyLimit>
    <ns1:MaxDailyEnergyLimitReason> /ns1:MaxDailyEnergyLimitReason>
    <ns1:Hourly>
      <ns1:Hour> /ns1:Hour>
      <ns1:CapacityTransaction> /ns1:CapacityTransaction>
      <ns1:OperatingReserveRampRate> /ns1:OperatingReserveRampRate>
      <ns1:StartUpOffer>
        <ns1:StartUpOfferHot> /ns1:StartUpOfferHot>
        <ns1:StartUpOfferWarm> /ns1:StartUpOfferWarm>
        <ns1:StartUpOfferCold> /ns1:StartUpOfferCold>
      </ns1:StartUpOffer>
      <ns1:SpeedNoLoadOffer> /ns1:SpeedNoLoadOffer>
      <ns1:MinHourlyOutput> /ns1:MinHourlyOutput>
      <ns1:HourlyMustRun> /ns1:HourlyMustRun>
      <ns1:PriceQuantity>
        <ns1:Price> /ns1:Price>
        <ns1:Quantity> /ns1:Quantity>
      </ns1:PriceQuantity>
      <ns1:PriceQuantity>
        <ns1:Price> /ns1:Price>
        <ns1:Quantity> /ns1:Quantity>
      </ns1:PriceQuantity>
      <ns1:HourlyEnergyRampRate>
        <ns1:HourlyEnergyRampRateBreakpoint> /ns1:HourlyEnergyRampRateBreakpoint>
        <ns1:HourlyEnergyRampRateUp> /ns1:HourlyEnergyRampRateUp>
        <ns1:HourlyEnergyRampRateDown> /ns1:HourlyEnergyRampRateDown>
      </ns1:HourlyEnergyRampRate>
    </ns1:Hourly>
  </ns1:RealtimeEnergyBidSubmit>
  <ns1:RealtimeEnergyBidSubmit>
    <ns1:ActAsMarketParticipant>
      <ns1:Participant> /ns1:Participant>
      <ns1:User> /ns1:User>
    </ns1:ActAsMarketParticipant>
    <ns1:Date>
      <ns1:DeliveryDate> /ns1:DeliveryDate>
    </ns1:Date>
    <ns1:BidOffer> /ns1:BidOffer>
    <ns1:ResourceName> /ns1:ResourceName>
    <ns1:MinDailyEnergyLimit> /ns1:MinDailyEnergyLimit>
    <ns1:MaxDailyEnergyLimit> /ns1:MaxDailyEnergyLimit>
    <ns1:MaxDailyEnergyLimitReason> /ns1:MaxDailyEnergyLimitReason>
    <ns1:Hourly>
```

## Step User Instruction

## Expected Result

```
<ns1:Hour> /ns1:Hour>
▼<ns1:PriceQuantity>
  <ns1:Price>: /ns1:Price>
  <ns1:Quantity> </ns1:Quantity>
</ns1:PriceQuantity>
▼<ns1:PriceQuantity>
  <ns1:Price>: </ns1:Price>
  <ns1:Quantity>: </ns1:Quantity>
</ns1:PriceQuantity>
▼<ns1:HourlyEnergyRampRate>
  <ns1:HourlyEnergyRampRateBreakpoint: 3</ns1:HourlyEnergyRampRateBreakpoint>
  <ns1:HourlyEnergyRampRateUp>: </ns1:HourlyEnergyRampRateUp>
  <ns1:HourlyEnergyRampRateDown> </ns1:HourlyEnergyRampRateDown>
</ns1:HourlyEnergyRampRate>
</ns1:Hourly>
▼<ns1:Hourly>
  <ns1:Hour </ns1:Hour>
  ▼<ns1:PriceQuantity>
    <ns1:Price> </ns1:Price>
    <ns1:Quantity: </ns1:Quantity>
  </ns1:PriceQuantity>
  ▼<ns1:PriceQuantity>
    <ns1:Price> i</ns1:Price>
    <ns1:Quantity> i</ns1:Quantity>
  </ns1:PriceQuantity>
  ▼<ns1:HourlyEnergyRampRate>
    <ns1:HourlyEnergyRampRateBreakpoint /ns1:HourlyEnergyRampRateBreakpoint>
    <ns1:HourlyEnergyRampRateUp> /ns1:HourlyEnergyRampRateUp>
    <ns1:HourlyEnergyRampRateDown /ns1:HourlyEnergyRampRateDown>
  </ns1:HourlyEnergyRampRate>
</ns1:Hourly>
</ns1:RealtimeEnergyBidSubmit>
</ns1:RealtimeEnergyBidSet>
```

## CFS-03: Cancel Bids

Step	User Instruction	Expected Result
------	------------------	-----------------

1	If using an API Tool:	Within Tosca's API Scan tool, the configurations would look as per attached image.
---	-----------------------	--

Set the following configurations within the API Tool to connect:

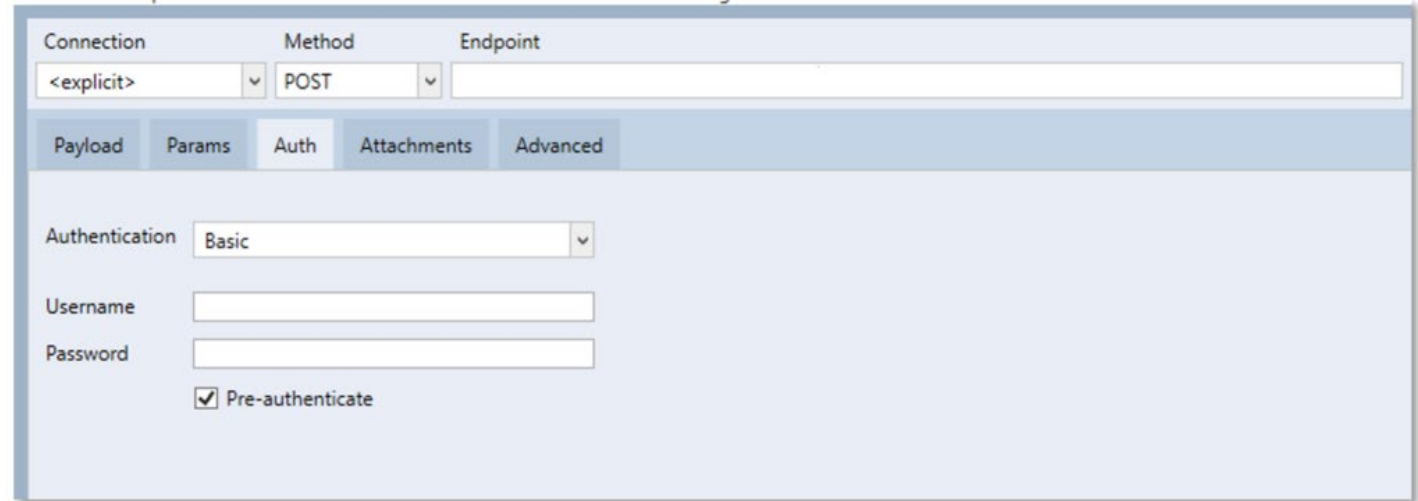
Method: POST

Endpoint: <https://webservices-sandboxmrp.ieso.ca/emim>

Authentication: Basic

Username: [API username]

Password: [API password]



Connection: <explicit> Method: POST Endpoint:

Payload Params Auth Attachments Advanced

Authentication: Basic

Username:

Password:

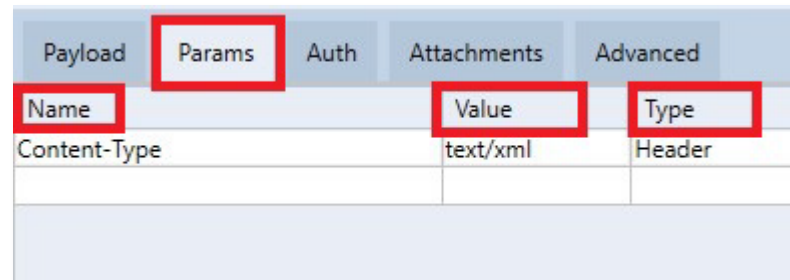
☒ Pre-authenticate

Enter the following details under "Params" section

Name: Content-Type

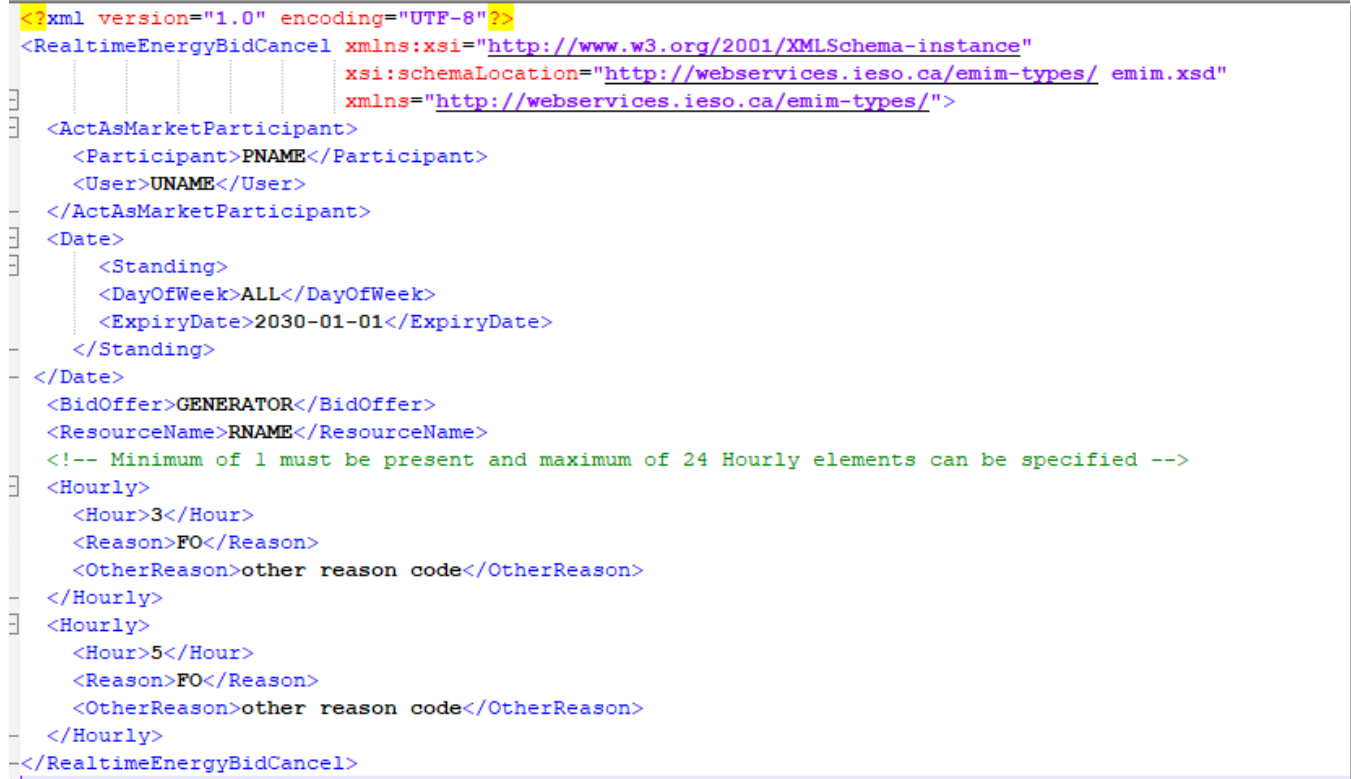
Value: text/xml

Type: Header



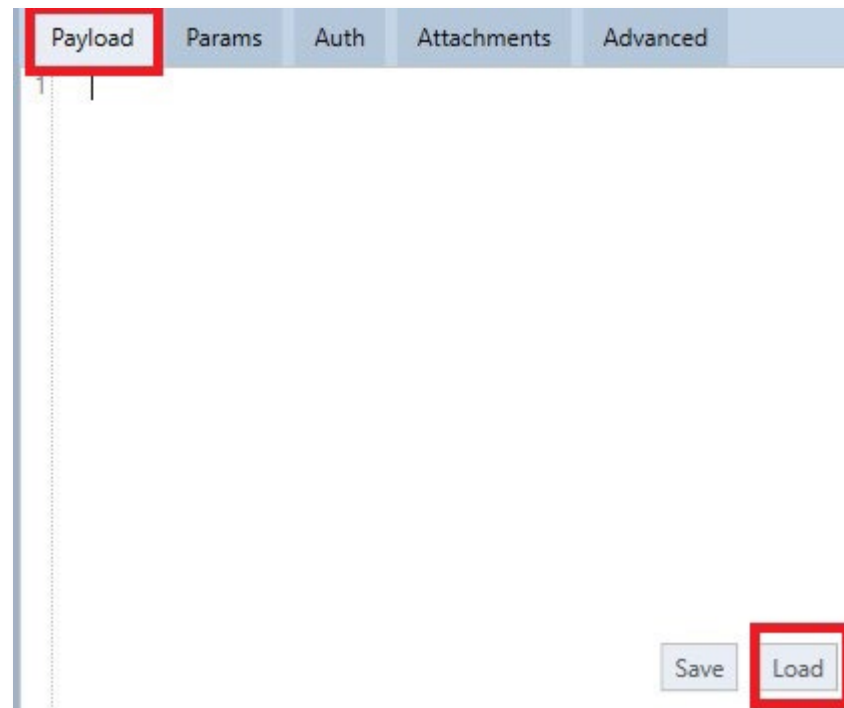
Name	Value	Type
Content-Type	text/xml	Header

Step	User Instruction	Expected Result
2	<p>If submitting a “Normal” type bid using either an API tool or MWT toolkit:</p> <p>Prepare an XML cancellation file.</p>	<p>XML submission file should be prepared successfully</p> <pre> ▼&lt;RealtimeEnergyBidCancel xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="http://webservices.ieso.ca/emim-types/" xsi:schemaLocation="http://webservices.ieso.ca/emim-types/ emim.xsd"&gt;   ▼&lt;ActAsMarketParticipant&gt;     &lt;Participant&gt;PNAME&lt;/Participant&gt;     &lt;User&gt;UNAME&lt;/User&gt;   &lt;/ActAsMarketParticipant&gt;   ▼&lt;Date&gt;     &lt;DeliveryDate&gt;2023-01-01&lt;/DeliveryDate&gt;   &lt;/Date&gt;   &lt;BidOffer&gt;GENERATOR&lt;/BidOffer&gt;   &lt;ResourceName&gt;RNAME&lt;/ResourceName&gt;   &lt;!-- Minimum of 1 must be present and maximum of 24 Hourly elements can be specified --&gt;   ▼&lt;Hourly&gt;     &lt;Hour&gt;3&lt;/Hour&gt;     &lt;Reason&gt;FO&lt;/Reason&gt;     &lt;OtherReason&gt;other reason code&lt;/OtherReason&gt;   &lt;/Hourly&gt;   ▼&lt;Hourly&gt;     &lt;Hour&gt;5&lt;/Hour&gt;     &lt;Reason&gt;FO&lt;/Reason&gt;     &lt;OtherReason&gt;other reason code&lt;/OtherReason&gt;   &lt;/Hourly&gt; &lt;/RealtimeEnergyBidCancel&gt; </pre>

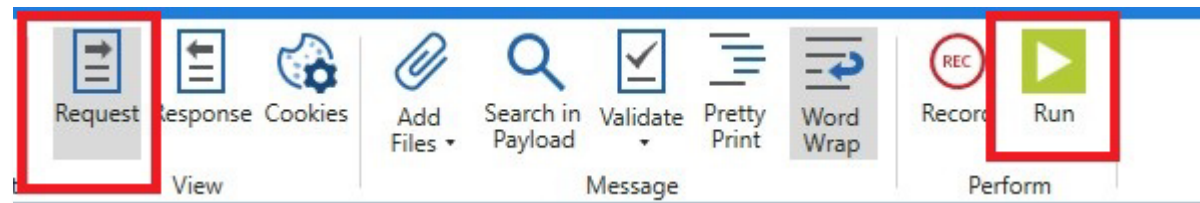
Step	User Instruction	Expected Result
3	<p>If submitting a "Standing" type bid using either an API tool or MWT toolkit:</p> <p>Prepare an XML cancellation file.</p>	 <pre> &lt;?xml version="1.0" encoding="UTF-8"?&gt; &lt;RealtimeEnergyBidCancel xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"   xsi:schemaLocation="http://webservices.ieso.ca/emim-types/ emim.xsd"   xmlns="http://webservices.ieso.ca/emim-types/"&gt;   &lt;ActAsMarketParticipant&gt;     &lt;Participant&gt;PNAME&lt;/Participant&gt;     &lt;User&gt;UNAME&lt;/User&gt;   &lt;/ActAsMarketParticipant&gt;   &lt;Date&gt;     &lt;Standing&gt;       &lt;DayOfWeek&gt;ALL&lt;/DayOfWeek&gt;       &lt;ExpiryDate&gt;2030-01-01&lt;/ExpiryDate&gt;     &lt;/Standing&gt;   &lt;/Date&gt;   &lt;BidOffer&gt;GENERATOR&lt;/BidOffer&gt;   &lt;ResourceName&gt;RNAME&lt;/ResourceName&gt;   &lt;!-- Minimum of 1 must be present and maximum of 24 Hourly elements can be specified --&gt;   &lt;Hourly&gt;     &lt;Hour&gt;3&lt;/Hour&gt;     &lt;Reason&gt;FO&lt;/Reason&gt;     &lt;OtherReason&gt;other reason code&lt;/OtherReason&gt;   &lt;/Hourly&gt;   &lt;Hourly&gt;     &lt;Hour&gt;5&lt;/Hour&gt;     &lt;Reason&gt;FO&lt;/Reason&gt;     &lt;OtherReason&gt;other reason code&lt;/OtherReason&gt;   &lt;/Hourly&gt; &lt;/RealtimeEnergyBidCancel&gt; </pre>
4	<p>Submit the XML file that has been prepared for RTEM data to MIM using MWT Toolkit or upload the XML file through API tool.</p>	<p>If using an API tool, load the XML file into the payload section.</p>

Step	User Instruction	Expected Result
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Note: Market Participants may use MWT Toolkit or use their own API tool of choice to submit data to MIM. Refer to the list of preconditions.



Run the request by clicking Run within the API tool.



Step	User Instruction	Expected Result
		If using the MWT Toolkit, submission of dispatch data is successful, and response or output file has been generated successfully.

```
D:\Project\MIMRelease2Latest\scripts>run-client.bat
INFO: Started web service client...
INFO: Reading configuration info from: ../request-files/ws-client.properties
INFO: Endpoint:
INFO: Started processing request: rtem/RTEM_CANCEL.xml
INFO: Writing response to: D:\Project\MIMRelease2Latest\scripts\..\response-files\rtem\RTEM_CANCEL-out.xml
INFO: Finished processing request: rtem/RTEM_CANCEL.xml
INFO: Finished client.
```

DATA_D (D:) > Project > MIMRelease2Latest > response-files > rtem				
Name	Date modified	Type	Size	
RTEM_CANCEL-out.xml	2024-07-04 10:42 PM	XML File	1 KB	

5	Verify that the response file (output) contains the queried data.	The output file contains the queried data for the selected resource. For API Tool:
---	---	---

Status Code

Response Time (ms)

200 200

411

Payload

Attachments

1

2

3

4

5

6

7

8

9

<ns1:BidProcessingStatus xmlns:ns1="http://webservices.ieso.ca/emim-types/">

<ns1:SubmissionTime></ns1:SubmissionTime>

<ns1:TransactionId></ns1:TransactionId>

<ns1:Message>

<ns1:Severity></ns1:Severity>

<ns1:Code>CANCEL-SUCCESS</ns1:Code>

<ns1:Description>Successfully processed the RTEM cancellation.</ns1:Description>

</ns1:Message>

</ns1:BidProcessingStatus>

Step	User Instruction	Expected Result
------	------------------	-----------------

For MWT Tool:

```
▼<ns1:BidProcessingStatus xmlns:ns1="http://webservices.ieso.ca/emim-types/">
  <ns1:SubmissionTime>2023-01-01T17:24:33.524-05:00</ns1:SubmissionTime>
  <ns1:TransactionId>          </ns1:TransactionId>
  ▼<ns1:Message>
    <ns1:Severity>INFO</ns1:Severity>
    <ns1:Code>PM_I_CANCEL-SUCCESS</ns1:Code>
    <ns1:Description>Successfully processed the realtime energy cancellation.</ns1:Description>
  </ns1:Message>
</ns1:BidProcessingStatus>
```



## Test Cases

TC01: Verify that Real-Time Energy Market (RTEM) Non-Standing (Normal) Bid data can be successfully submitted for a specific resource

Step	User Instruction	Expected Result
------	------------------	-----------------

1	Execute Steps 2, 4-5 from CFS-01 from the <a href="#">Common Functional Steps</a> section.	
---	--	--

TC02: Verify Real-Time Energy Market data can be submitted successfully for Standing Bid for a specific resource type

Step	User Instruction	Expected Result
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1	Execute Step 3-5 from CFS-01 from the <a href="#">Common Functional Steps</a> section.	
---	--	--

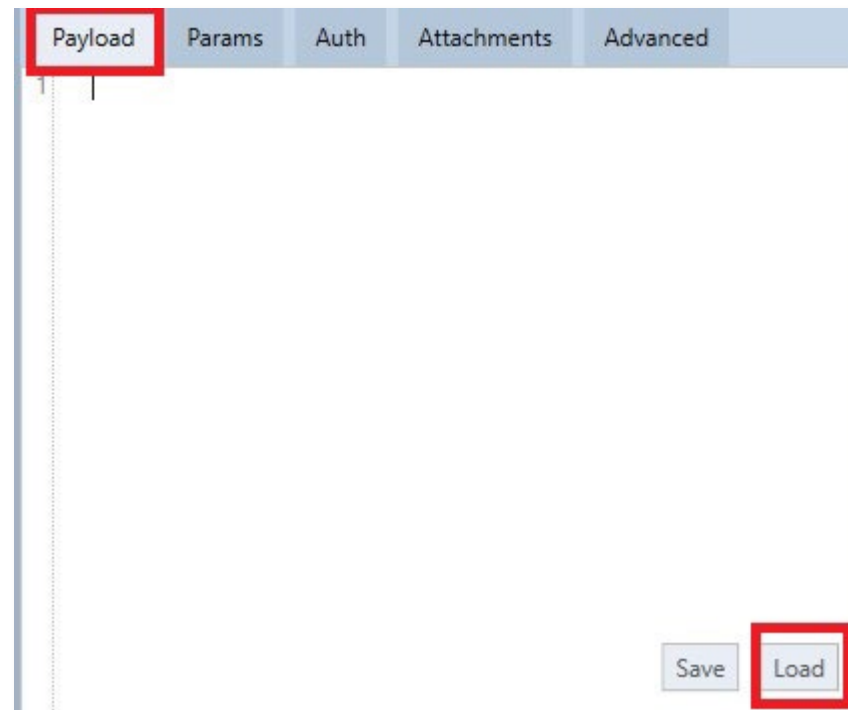
TC03: Verify for a Real-Time Energy Market data submission: if the RT window for the specified/submitted hour is in the DA \_RESTRICTED window state and there is a change in the hourly level values in comparison to the daily and hourly data (excluding the NercTag, ForecastQuantity, Reason and Other Reason values) then the submission is subject to operator approval

Step	User Instruction	Expected Result
1	Prepare a valid XML submission file with the required data fields populated to submit an RTEM bid for a specific resource.	<p>XML submission file has been prepared successfully.</p> <pre> &lt;RealTimeEnergyBidSubmit xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="http://webservices.ieso.ca/emim-types/" xsi:schemaLocation="http://webservices.ieso.ca/emim-types/ emim.xsd"&gt;   &lt;ActAsMarketParticipant&gt;     &lt;Participant&gt;PNAME&lt;/Participant&gt;     &lt;User&gt;UNAME&lt;/User&gt;   &lt;/ActAsMarketParticipant&gt;   &lt;Date&gt;     &lt;DeliveryDate&gt;2023-01-01&lt;/DeliveryDate&gt;   &lt;/Date&gt;   &lt;BidOffer&gt;GENERATOR&lt;/BidOffer&gt;   &lt;ResourceName&gt;RNAME&lt;/ResourceName&gt;   &lt;!-- Mandatory and applicable only for VIRTUAL_TRADER_SUPPLY and VIRTUAL_TRADER_LOAD resources --&gt;   &lt;ThermalState&gt;HOT&lt;/ThermalState&gt;   &lt;!-- Applicable only for HYDRO_NON_CASCADE resources --&gt;   &lt;MinDailyEnergyLimit&gt;12345.9&lt;/MinDailyEnergyLimit&gt;   &lt;MaxDailyEnergyLimit&gt;78900.8&lt;/MaxDailyEnergyLimit&gt;   &lt;MaxDailyEnergyLimitReason&gt;Reason code&lt;/MaxDailyEnergyLimitReason&gt;   &lt;!-- Minimum of 1 and maximum of 5 DailyEnergyRampRate elements can be submitted --&gt;   &lt;DailyEnergyRampRate&gt;     &lt;DailyEnergyRampRateBreakpoint&gt;120.00&lt;/DailyEnergyRampRateBreakpoint&gt;     &lt;DailyEnergyRampRateUp&gt;16.0&lt;/DailyEnergyRampRateUp&gt;     &lt;DailyEnergyRampRateDown&gt;14.0&lt;/DailyEnergyRampRateDown&gt;   &lt;/DailyEnergyRampRate&gt;   &lt;DailyEnergyRampRate&gt;     &lt;DailyEnergyRampRateBreakpoint&gt;160.0&lt;/DailyEnergyRampRateBreakpoint&gt;     &lt;DailyEnergyRampRateUp&gt;13.0&lt;/DailyEnergyRampRateUp&gt;     &lt;DailyEnergyRampRateDown&gt;41.00&lt;/DailyEnergyRampRateDown&gt;   &lt;/DailyEnergyRampRate&gt;   &lt;Hourly&gt;     &lt;Hour&gt;1&lt;/Hour&gt;     &lt;!-- Mandatory and applicable only for ENERGY_IMPORT and ENERGY_EXPORT resources --&gt;     &lt;TiePoint&gt;TPNAME&lt;/TiePoint&gt;     &lt;VirtualZoneName&gt;VZNAME&lt;/VirtualZoneName&gt;     &lt;!-- Mandatory and applicable only for ENERGY_IMPORT and ENERGY_EXPORT resources --&gt;     &lt;NercTag&gt;NTNAME&lt;/NercTag&gt;     &lt;CapacityTransaction&gt;true&lt;/CapacityTransaction&gt;     &lt;OperatingReserveRampRate&gt;79.9&lt;/OperatingReserveRampRate&gt;     &lt;StartUpOffer&gt;       &lt;StartUpOfferHot&gt;100&lt;/StartUpOfferHot&gt;       &lt;StartUpOfferWarm&gt;200&lt;/StartUpOfferWarm&gt;       &lt;StartUpOfferCold&gt;300&lt;/StartUpOfferCold&gt;     &lt;/StartUpOffer&gt;     &lt;SpeedNoLoadOffer&gt;3456&lt;/SpeedNoLoadOffer&gt;     &lt;MinHourlyOutput&gt;0&lt;/MinHourlyOutput&gt;     &lt;HourlyMustRun&gt;0&lt;/HourlyMustRun&gt;     &lt;!-- Applicable only for VARIABLE_GENERATION resources --&gt;     &lt;ForecastQuantity&gt;156.9&lt;/ForecastQuantity&gt;     &lt;!-- Minimum of 2 and maximum of 20 PriceQuantity elements can be submitted --&gt; </pre>
2	Submit the XML file that has been prepared for RTEM data to MIM using MWT Toolkit or	If using an API tool, load the XML file into the payload section.

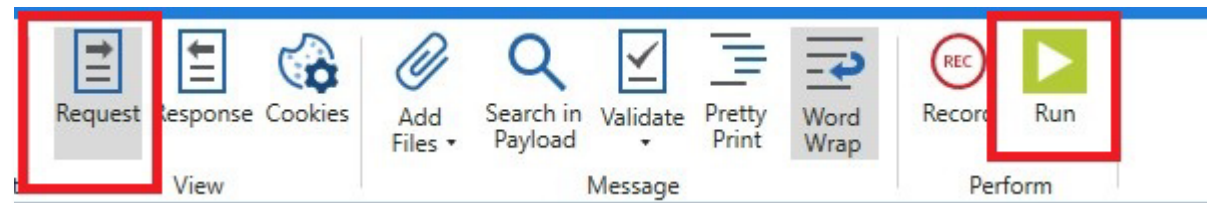
Step	User Instruction	Expected Result
------	------------------	-----------------

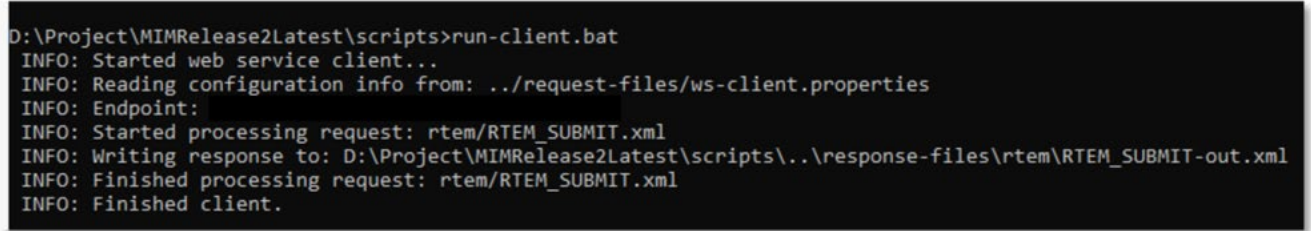
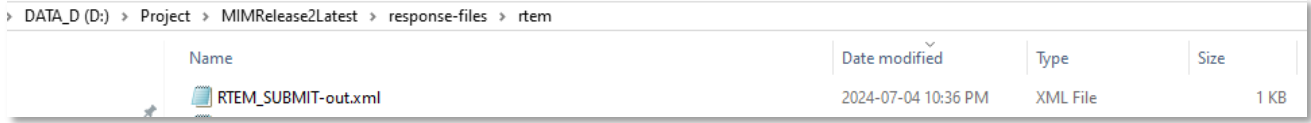
submit the XML file through API tool during the RT initial window.

Note: Market Participants may use MWT Toolkit or their own API tool of choice to submit data to MIM. Refer to the list of preconditions.

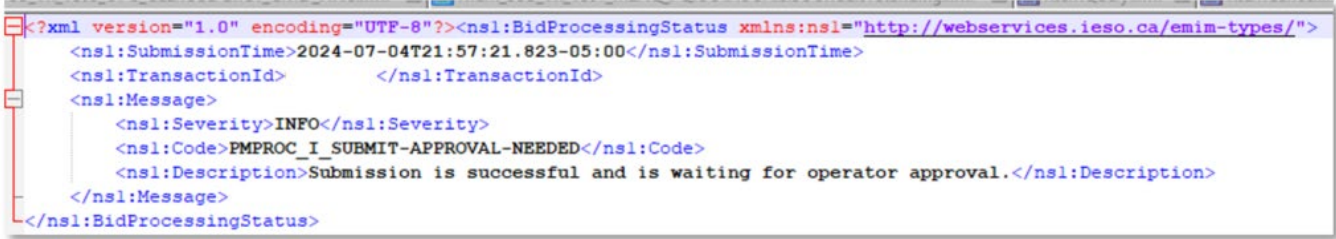


Run the request by clicking Run within the API tool.



Step	User Instruction	Expected Result
		Submission is successful, and response or output file has been generated successfully.
		 
3	Execute Step 5 from CFS-01 from the <a href="#">Common Functional Steps</a> section.	Output file should contain text that indicates the Real-Time Energy Market submission was successfully processed.
4	<p>Prepare another submission for RTEM using the same XML file from step 1 but with only making value changes to any of the below data fields:</p> <p><b>NercTag</b></p> <p><b>ForecastQuantity</b></p> <p><b>Reason</b></p>	Submission is successful, and response or output file has been generated successfully.

Step	User Instruction	Expected Result
	<p><b>Other Reason</b></p> <p>The file can be submitted using MWT Toolkit or submitted via your API tool of choice. The submitting hours should be in the DA Restricted Window.</p> <p>Note: If you choose to change the NercTag value, please make sure it is not changed during the NercTag window for the chosen delivery hour. Otherwise, you will get the "Submission is successful and is waiting for operator approval." message in the output file.</p>	
5	Execute Step 5 from CFS-01 from the <a href="#">Common Functional Steps</a> section.	Output file does not contain any Operator Approval message.
6	Prepare another submission for RTEM using the same XML file from step 1 but with	Submission is successful, and response or output file has been generated successfully.

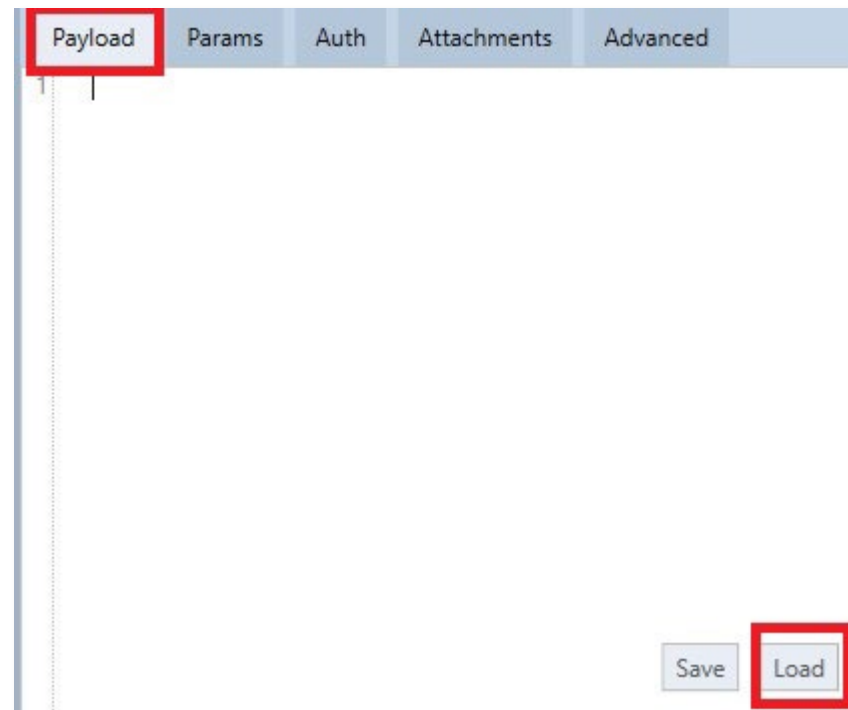
Step	User Instruction	Expected Result
	<p>changes to the data fields except for the following fields:</p> <p><b>NercTag</b></p> <p><b>ForecastQuantity</b></p> <p><b>Reason</b></p> <p><b>Other Reason</b></p> <p>The file can be submitted using MWT Toolkit or submitted via your API tool of choice. The submitting hours should be in the DA Restricted Window.</p>	
7	Verify that the response file (output) contains an operator approval message.	<p>Output file contains the following message, "Submission is successful and is waiting for operator approval."</p>  <pre> &lt;?xml version="1.0" encoding="UTF-8"?&gt;&lt;ns1:BidProcessingStatus xmlns:ns1="http://webservices.ieso.ca/emim-types/"&gt;   &lt;ns1:SubmissionTime&gt;2024-07-04T21:57:21.823-05:00&lt;/ns1:SubmissionTime&gt;   &lt;ns1:TransactionId&gt;                &lt;/ns1:TransactionId&gt;   &lt;ns1:Message&gt;     &lt;ns1:Severity&gt;INFO&lt;/ns1:Severity&gt;     &lt;ns1:Code&gt;EMPROC_I_SUBMIT-APPROVAL-NEEDED&lt;/ns1:Code&gt;     &lt;ns1:Description&gt;Submission is successful and is waiting for operator approval.&lt;/ns1:Description&gt;   &lt;/ns1:Message&gt; &lt;/ns1:BidProcessingStatus&gt; </pre>

TC04: Verify for a Real-Time Energy Market data submission: if the RT window for the specified/submitted hour is in RT\_MANDATORY window state and there is a change in the hourly level values in comparison to the daily and hourly data (excluding NercTag, ForecastQuantity, Reason and Other Reason values) then the submission is subject to operator approval

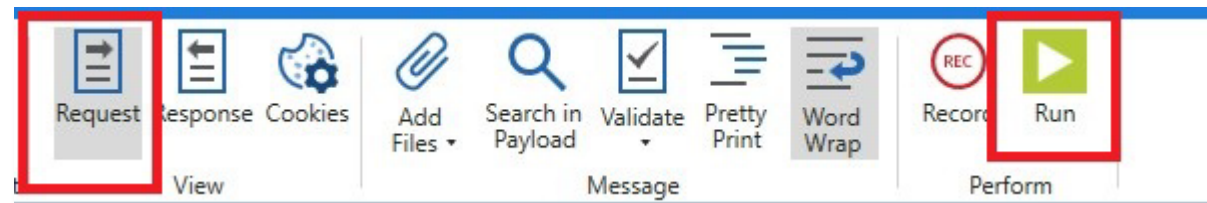
Step	User Instruction	Expected Result
1	Prepare a valid XML submission file with the required data fields populated to submit an RTEM bid for a specific resource.	<p>XML submission file has been prepared successfully.</p> <pre>&lt;?xml version='1.0' encoding='UTF-8'&gt; &lt;RealTimeEnergyBidSubmit xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="http://webservices.ieso.ca/emim-types/" xsi:schemaLocation="http://webservices.ieso.ca/emim-types/ emim.xsd"&gt;   &lt;ActAsMarketParticipant&gt;     &lt;ParticipantPNAME&gt;&lt;/ParticipantPNAME&gt;     &lt;UserUNAME&gt;&lt;/UserUNAME&gt;   &lt;/ActAsMarketParticipant&gt;   &lt;Date&gt;     &lt;DeliveryDate&gt;2023-01-01&lt;/DeliveryDate&gt;   &lt;/Date&gt;   &lt;BidOffer&gt;     &lt;GENERATOR/&gt;&lt;/BidOffer&gt;     &lt;ResourceNameRNAME&gt;&lt;/ResourceNameRNAME&gt;     &lt;!-- Mandatory and applicable only for VIRTUAL_TRADER_SUPPLY and VIRTUAL_TRADER_LOAD resources --&gt;     &lt;ThermalState&gt;HOT&lt;/ThermalState&gt;     &lt;!-- Applicable only for HYDRO_NON_CASCADE resources --&gt;     &lt;MinDailyEnergyLimit&gt;12345.9&lt;/MinDailyEnergyLimit&gt;     &lt;MaxDailyEnergyLimit&gt;78900.9&lt;/MaxDailyEnergyLimit&gt;     &lt;MaxDailyEnergyLimitReason&gt;&lt;/MaxDailyEnergyLimitReason&gt;     &lt;!-- Minimum of 1 and maximum of 5 DailyEnergyRampRate elements can be submitted --&gt;     &lt;DailyEnergyRampRate&gt;       &lt;DailyEnergyRampRateBreakpoint&gt;120.00&lt;/DailyEnergyRampRateBreakpoint&gt;       &lt;DailyEnergyRampRateUp&gt;16.0&lt;/DailyEnergyRampRateUp&gt;       &lt;DailyEnergyRampRateDown&gt;14.0&lt;/DailyEnergyRampRateDown&gt;     &lt;/DailyEnergyRampRate&gt;     &lt;DailyEnergyRampRate&gt;       &lt;DailyEnergyRampRateBreakpoint&gt;160.0&lt;/DailyEnergyRampRateBreakpoint&gt;       &lt;DailyEnergyRampRateUp&gt;13.0&lt;/DailyEnergyRampRateUp&gt;       &lt;DailyEnergyRampRateDown&gt;41.00&lt;/DailyEnergyRampRateDown&gt;     &lt;/DailyEnergyRampRate&gt;     &lt;Hourly&gt;       &lt;Hour&gt;1&lt;/Hour&gt;       &lt;!-- Mandatory and applicable only for ENERGY_IMPORT and ENERGY_EXPORT resources --&gt;       &lt;IsPoint&gt;TPNAME&lt;/IsPoint&gt;       &lt;VirtualZoneNameVZNAME&gt;&lt;/VirtualZoneNameVZNAME&gt;       &lt;!-- Mandatory and applicable only for ENERGY_IMPORT and ENERGY_EXPORT resources --&gt;       &lt;NercTagMTNAME&gt;&lt;/NercTagMTNAME&gt;       &lt;CapacityTransaction&gt;true&lt;/CapacityTransaction&gt;       &lt;OperatingReserveRampRate&gt;79.9&lt;/OperatingReserveRampRate&gt;       &lt;StartUpOffer&gt;         &lt;StartUpOfferHot&gt;100&lt;/StartUpOfferHot&gt;         &lt;StartUpOfferWarm&gt;200&lt;/StartUpOfferWarm&gt;         &lt;StartUpOfferCold&gt;300&lt;/StartUpOfferCold&gt;       &lt;/StartUpOffer&gt;       &lt;SpeedNoLoadOffer&gt;3456&lt;/SpeedNoLoadOffer&gt;       &lt;MinHourlyOutput&gt;0&lt;/MinHourlyOutput&gt;       &lt;HourlyMustRun&gt;0&lt;/HourlyMustRun&gt;       &lt;!-- Applicable only for VARIABLE_GENERATION resources --&gt;       &lt;ForecastQuantity&gt;156.9&lt;/ForecastQuantity&gt;       &lt;!-- Minimum of 2 and maximum of 20 PriceQuantity elements can be submitted --&gt;     &lt;/Hourly&gt;   &lt;/BidOffer&gt; &lt;/RealTimeEnergyBidSubmit&gt;</pre>
2	Submit the XML file that has been prepared for RTEM data to MIM using MWT Toolkit or submit the XML file through API tool during the RT initial window.	If using an API tool, load the XML file into the payload section.

Step	User Instruction	Expected Result
------	------------------	-----------------

Note: Market Participants may use MWT Toolkit or their own API tool of choice to submit data to MIM. Refer to the list of preconditions.



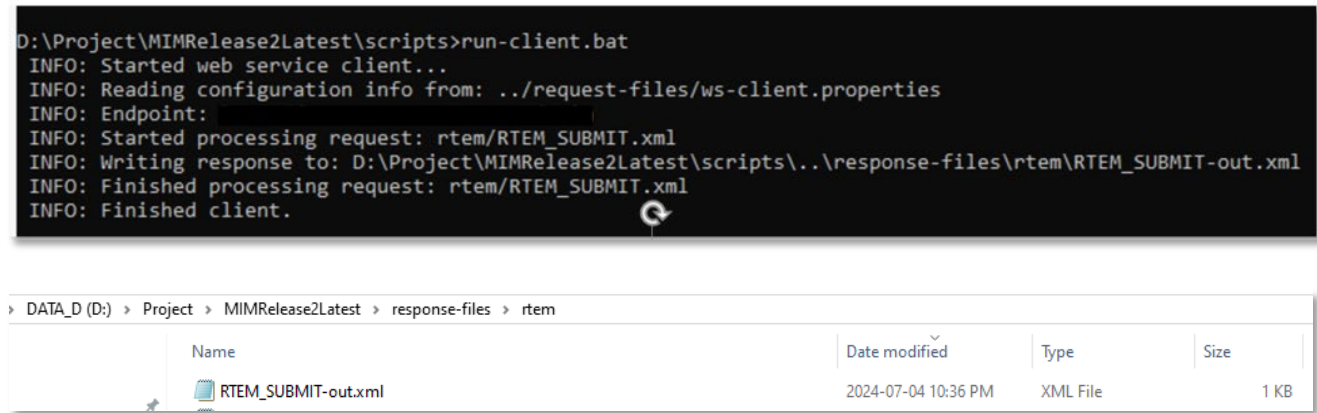
Run the request by clicking Run within the API tool.

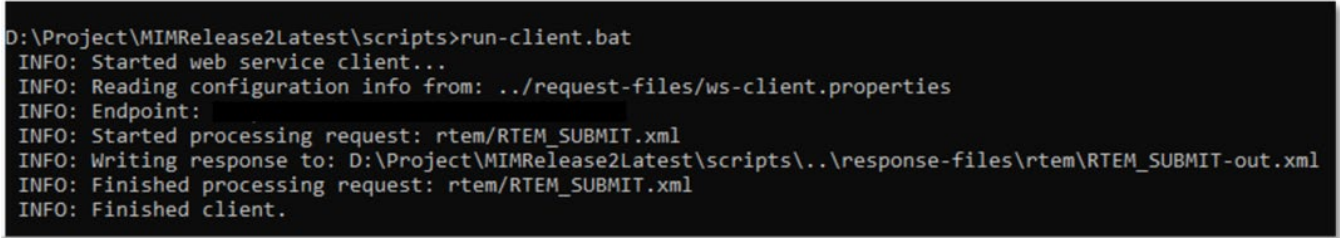


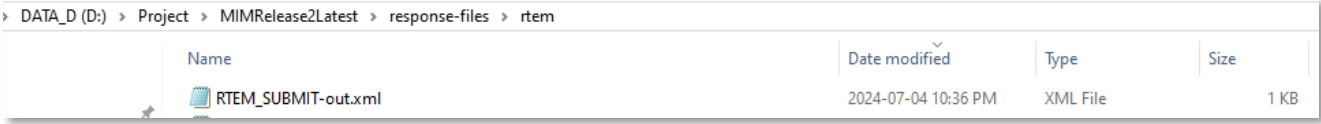


Step	User Instruction	Expected Result
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Submission is successful, and response or output file has been generated successfully.



3	Execute Step 5 from CFS-01 from the <a href="#">Common Functional Steps</a> section.	
4	Prepare another submission for RTEM using the same XML file from step 1 but with changes in any of the below data fields:  <b>NercTag</b>  <b>ForecastQuantity</b>  <b>Reason</b>	Submission is successful, and response or output file has been generated successfully.  

Step	User Instruction	Expected Result
	<p><b>Other Reason</b></p> <p>The file can be submitted using MWT Toolkit or uploaded via your API tool of choice. The submitting hours should be in the RT Mandatory Window.</p> <p>Note: If you choose to change the NercTag value, please make sure it is not changed during the NercTag window for the chosen delivery hour. Otherwise, you will get the "Submission is successful and is waiting for operator approval." message in the output file.</p>	
5	Execute Step 5 from CFS-01 from the <a href="#">Common Functional Steps</a> section.	
6	<p>Prepare another submission for RTEM using the same XML file from step 1 with changes to the other data fields except for the following:</p> <p><b>NercTag</b></p> <p><b>ForecastQuantity</b></p>	Submission is successful, and response or output file has been generated successfully.

Step	User Instruction	Expected Result								
	<div><div><b>Reason</b></div><div><b>Other Reason</b></div><p>The file can be submitted using MWT Toolkit or uploaded via your API tool of choice. The submitting hours should be in the RT Mandatory Window.</p></div>	<div><pre>D:\Project\MIMRelease2Latest\scripts&gt;run-client.bat INFO: Started web service client... INFO: Reading configuration info from: ../request-files/ws-client.properties INFO: Endpoint: INFO: Started processing request: rtem/RTEM_SUBMIT.xml INFO: Writing response to: D:\Project\MIMRelease2Latest\scripts\..\response-files\rtem\RTEM_SUBMIT-out.xml INFO: Finished processing request: rtem/RTEM_SUBMIT.xml INFO: Finished client.</pre></div> <div><p>DATA_D (D:) &gt; Project &gt; MIMRelease2Latest &gt; response-files &gt; rtem</p><table><thead><tr><th>Name</th><th>Date modified</th><th>Type</th><th>Size</th></tr></thead><tbody><tr><td>RTEM_SUBMIT-out.xml</td><td>2024-07-04 10:36 PM</td><td>XML File</td><td>1 KB</td></tr></tbody></table></div>	Name	Date modified	Type	Size	RTEM_SUBMIT-out.xml	2024-07-04 10:36 PM	XML File	1 KB
Name	Date modified	Type	Size							
RTEM_SUBMIT-out.xml	2024-07-04 10:36 PM	XML File	1 KB							
7	Verify that the response file (output) contains an operator approval message.	<p>Output file contains the following message, "Submission is successful and is waiting for operator approval"</p> <pre>&lt;?xml version="1.0" encoding="UTF-8"?&gt;&lt;ns1:BidProcessingStatus xmlns:ns1="http://webservices.ieso.ca/emim-types/"&gt;   &lt;ns1:SubmissionTime&gt;2024-07-04T21:57:21.823-05:00&lt;/ns1:SubmissionTime&gt;   &lt;ns1:TransactionId&gt;_&lt;/ns1:TransactionId&gt;   &lt;ns1:Message&gt;     &lt;ns1:Severity&gt;INFO&lt;/ns1:Severity&gt;     &lt;ns1:Code&gt;PMPROC_I_SUBMIT-APPROVAL-NEEDED&lt;/ns1:Code&gt;     &lt;ns1:Description&gt;Submission is successful and is waiting for operator approval.&lt;/ns1:Description&gt;   &lt;/ns1:Message&gt; &lt;/ns1:BidProcessingStatus&gt;</pre>								

TC05: Verify for Real-Time Energy Market data submission: if the NERC window for the specified/submitted hour is in NERC\_MANDATORY state and there is a change in NercTag value, then the NercTag change is subject to operator approval

Step	User Instruction	Expected Result
------	------------------	-----------------

1	Prepare a valid XML submission file with the NercTag field and other required data fields populated to submit an RTEM bid for a specific resource.	XML submission file has been prepared successfully.
---	--	---

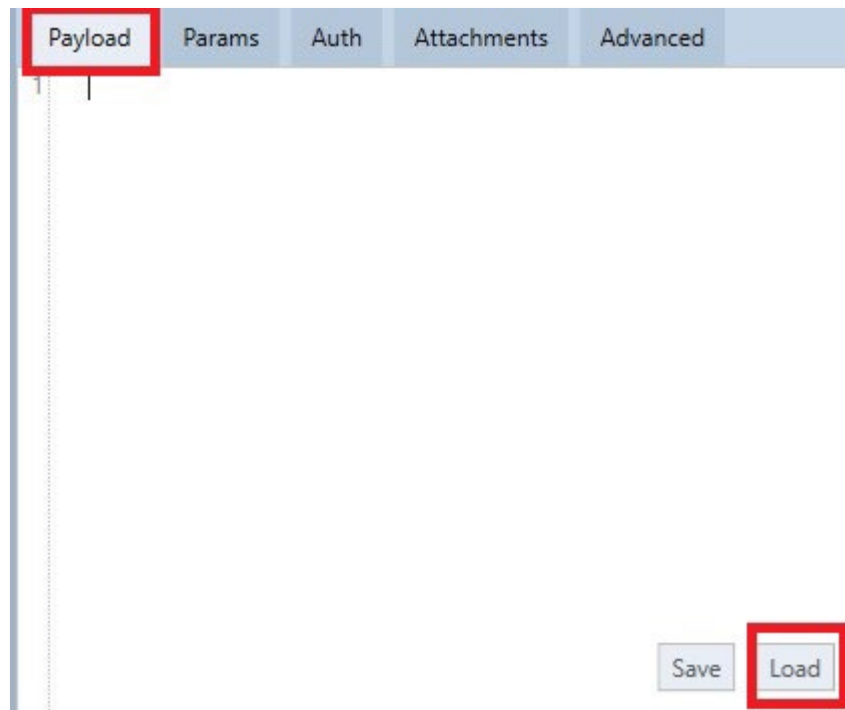
```
<?xml version='1.0' encoding='UTF-8'>
<RealtimeEnergyBidSubmit xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="http://webservices.ieso.ca/emim-types/" xsi:schemaLocation="http://webservices.ieso.ca/emim-types/ emim.xsd">
  <ActAsMarketParticipant>
    <Participant>PNAME</Participant>
    <User>UNAME</User>
  </ActAsMarketParticipant>
  <Date>
    <DeliveryDate>2023-01-01</DeliveryDate>
  </Date>
  <BidOffer>GENERATOR</BidOffer>
  <ResourceName>RNAME</ResourceName>
  <!-- Mandatory and applicable only for VIRTUAL_TRADER_SUPPLY and VIRTUAL_TRADER_LOAD resources -->
  <ThermalState>HOT</ThermalState>
  <!-- Applicable only for HYDRO_NON_CASCADE resources -->
  <MinDailyEnergyLimit>12345.9</MinDailyEnergyLimit>
  <MaxDailyEnergyLimit>78900.9</MaxDailyEnergyLimit>
  <MaxDailyEnergyLimitReason>Reason code</MaxDailyEnergyLimitReason>
  <!-- Minimum of 1 and maximum of 5 DailyEnergyRampRate elements can be submitted -->
  <DailyEnergyRampRate>
    <DailyEnergyRampRateBreakpoint>120.00</DailyEnergyRampRateBreakpoint>
    <DailyEnergyRampRateUp>16.0</DailyEnergyRampRateUp>
    <DailyEnergyRampRateDown>14.0</DailyEnergyRampRateDown>
  </DailyEnergyRampRate>
  <DailyEnergyRampRate>
    <DailyEnergyRampRateBreakpoint>160.0</DailyEnergyRampRateBreakpoint>
    <DailyEnergyRampRateUp>13.0</DailyEnergyRampRateUp>
    <DailyEnergyRampRateDown>41.00</DailyEnergyRampRateDown>
  </DailyEnergyRampRate>
  <Hourly>
    <Hour>1</Hour>
    <!-- Mandatory and applicable only for ENERGY_IMPORT and ENERGY_EXPORT resources -->
    <TiePoint>TPNAME</TiePoint>
    <VirtualZoneName>VZNAME</VirtualZoneName>
    <!-- Mandatory and applicable only for ENERGY_IMPORT and ENERGY_EXPORT resources -->
    <NercTag>NTNAME</NercTag>
    <CapacityTransaction>true</CapacityTransaction>
    <OperatingReserveRampRate>79.9</OperatingReserveRampRate>
  </Hourly>
  <StartupOffer>
    <StartupOfferHot>100</StartupOfferHot>
    <StartupOfferWarm>200</StartupOfferWarm>
    <StartupOfferCold>300</StartupOfferCold>
  </StartupOffer>
  <SpeedNoLoadOffer>3456</SpeedNoLoadOffer>
  <MinHourlyOutput>0</MinHourlyOutput>
  <HourlyMustRun>0</HourlyMustRun>
  <!-- Applicable only for VARIABLE_GENERATION resources -->
  <ForecastQuantity>156.9</ForecastQuantity>
  <!-- Minimum of 2 and maximum of 20 PriceQuantity elements can be submitted -->
</RealtimeEnergyBidSubmit>
```

2	Submit the XML file that has been prepared for RTEM data to MIM using	If using an API tool, load the XML file into the payload section.
---	---	---

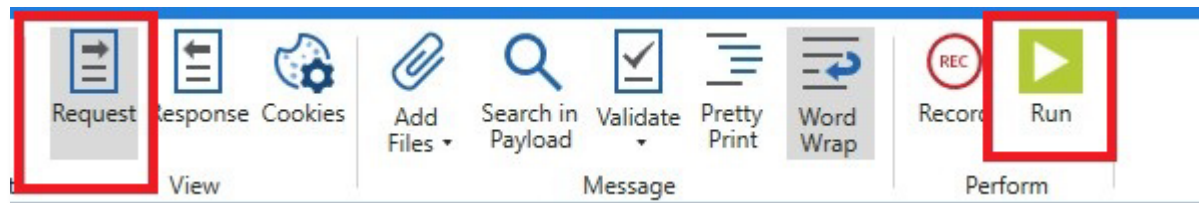
Step	User Instruction	Expected Result
------	------------------	-----------------

MWT Toolkit or submit the XML file through API tool during the RT initial window.

Note: Market Participants may use MWT Toolkit or their own API tool of choice to submit data to MIM. Refer to the list of preconditions.



Run the request by clicking Run within the API tool.



Step	User Instruction	Expected Result
------	------------------	-----------------

If using the MWT Toolkit, submission is successful, and response or output file has been generated successfully.

```
D:\Project\MIMRelease2Latest\scripts>run-client.bat
INFO: Started web service client...
INFO: Reading configuration info from: ../request-files/ws-client.properties
INFO: Endpoint:
INFO: Started processing request: rtem/RTEM_SUBMIT.xml
INFO: Writing response to: D:\Project\MIMRelease2Latest\scripts\..\response-files\rtem\RTEM_SUBMIT-out.xml
INFO: Finished processing request: rtem/RTEM_SUBMIT.xml
INFO: Finished client.
```

DATA_D (D:) > Project > MIMRelease2Latest > response-files > rtem				
	Name	Date modified	Type	Size
	RTEM_SUBMIT-out.xml	2024-07-04 10:36 PM	XML File	1 KB

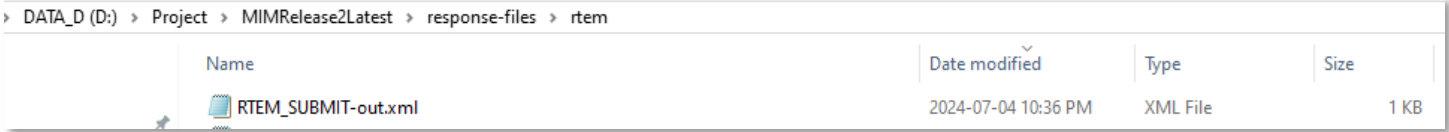
3	Execute Step 5 from CFS-01 from the <a href="#">Common Functional Steps</a> section.	
---	--	--

4	Prepare another submission for RTEM using the same XML file from step 1 but with a changes in value in the NercTag field.	XML submission file has been prepared successfully.
---	---	---

Step	User Instruction	Expected Result
------	------------------	-----------------

```
<?xml version="1.0" encoding="UTF-8"?>
<RealtimeEnergyBidSubmit xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://webservices.ieso.ca/emim-types/ emim.xsd"
  xmlns="http://webservices.ieso.ca/emim-types/">
  <ActAsMarketParticipant>
    <Participant>PNAME</Participant>
    <User>UNAME</User>
  </ActAsMarketParticipant>
  <Date>
    <DeliveryDate>2023-01-01</DeliveryDate>
  </Date>
  <BidOffer>GENERATOR</BidOffer>
  <ResourceName>RNAME</ResourceName>
  <ThermalState>HOT</ThermalState>

  <MinDailyEnergyLimit>12345.9</MinDailyEnergyLimit>
  <MaxDailyEnergyLimit>78900.9</MaxDailyEnergyLimit>
  <MaxDailyEnergyLimitReason>Reason code</MaxDailyEnergyLimitReason>
  <DailyEnergyRampRate>
    <DailyEnergyRampRateBreakpoint>120.00</DailyEnergyRampRateBreakpoint>
    <DailyEnergyRampRateUp>16.0</DailyEnergyRampRateUp>
    <DailyEnergyRampRateDown>14.0</DailyEnergyRampRateDown>
  </DailyEnergyRampRate>
  <Hourly>
    <Hour>1</Hour>
    <TiePoint>TPNAME</TiePoint>
    <VirtualZoneName>VZNAME</VirtualZoneName>
    <NercTag>ChangeNercTagValue</NercTag>
    <CapacityTransaction>true</CapacityTransaction>
    <OperatingReserveRampRate>79.9</OperatingReserveRampRate>
    <StartUpOffer>
      <StartUpOfferHot>100</StartUpOfferHot>
      <StartUpOfferWarm>200</StartUpOfferWarm>
      <StartUpOfferCold>300</StartUpOfferCold>
    </StartUpOffer>
    <SpeedNoLoadOffer>3456</SpeedNoLoadOffer>
    <MinHourlyOutput>0</MinHourlyOutput>
    <HourlyMustRun>0</HourlyMustRun>
    <ForecastQuantity>156.9</ForecastQuantity>
    <PriceQuantity>
      <Price>10.00</Price>
      <Quantity>0</Quantity>
    </PriceQuantity>
    <PriceQuantity>
      <Price>10.00</Price>
      <Quantity>31.00</Quantity>
    </PriceQuantity>
    <PriceQuantity>
      <Price>30.00</Price>
      <Quantity>200.00</Quantity>
    </PriceQuantity>
    <HourlyEnergyRampRate>
      <HourlyEnergyRampRateBreakpoint>10.0</HourlyEnergyRampRateBreakpoint>
      <HourlyEnergyRampRateUp>17.0</HourlyEnergyRampRateUp>
      <HourlyEnergyRampRateDown>19.9</HourlyEnergyRampRateDown>
    </HourlyEnergyRampRate>
    <OtherReason>other reason code</OtherReason>
  </Hourly>
</RealtimeEnergyBidSubmit>
```

Step	User Instruction	Expected Result
5	<p>Submit the XML file from step 4 using MWT Toolkit or submit the XML file through API tool when the NERC window for the specified/submitted hour is in NERC_MANDATORY state.</p> <p>Note: Market Participants may use MWT Toolkit or their own API tool of choice to submit data to MIM. Refer to the list of preconditions.</p>	<p>Submission is successful, and response or output file has been generated successfully.</p> <pre> D:\Project\MIMRelease2Latest\scripts&gt;run-client.bat INFO: Started web service client... INFO: Reading configuration info from: ../request-files/ws-client.properties INFO: Endpoint: INFO: Started processing request: rtem/RTEM_SUBMIT.xml INFO: Writing response to: D:\Project\MIMRelease2Latest\scripts\..\response-files\rtem\RTEM_SUBMIT-out.xml INFO: Finished processing request: rtem/RTEM_SUBMIT.xml INFO: Finished client. </pre> 
6	<p>Verify that the response file (output) contains an operator approval message.</p>	<p>Output file contains the following message, "Submission is successful and is waiting for operator approval"</p> <pre> &lt;?xml version="1.0" encoding="UTF-8"?&gt;&lt;ns1:BidProcessingStatus xmlns:ns1="http://webservices.ieso.ca/emim-types/"&gt;   &lt;ns1:SubmissionTime&gt;2024-07-04T21:57:21.823-05:00&lt;/ns1:SubmissionTime&gt;   &lt;ns1:TransactionId&gt;I&lt;/ns1:TransactionId&gt;   &lt;ns1:Message&gt;     &lt;ns1:Severity&gt;INFO&lt;/ns1:Severity&gt;     &lt;ns1:Code&gt;PMPROC_I_SUBMIT-APPROVAL-NEEDED&lt;/ns1:Code&gt;     &lt;ns1:Description&gt;Submission is successful and is waiting for operator approval.&lt;/ns1:Description&gt;   &lt;/ns1:Message&gt; &lt;/ns1:BidProcessingStatus&gt; </pre>



TC06: Verify that an error response is returned when a Real-Time Energy Market data submission is made with an invalid bid offer type

Step	User Instruction	Expected Result
1	Prepare an XML submission file to submit RTEM data for a valid registered resource but with invalid bid/offer type for a specified delivery date.	XML submission file has been prepared successfully.
2	Submit the XML file that has been prepared for RTEM data to MIM using MWT Toolkit or	Submission is successful, and response or output file has been generated successfully.


## Step User Instruction

## Expected Result

submit the XML file through API tool during the RT initial window.

Note: Market Participants may use MWT Toolkit or their own API tool of choice to submit data to MIM. Refer to the list of preconditions.

```
D:\Project\MIMRelease2Latest\scripts>run-client.bat
INFO: Started web service client...
INFO: Reading configuration info from: ../request-files/ws-client.properties
INFO: Endpoint:
INFO: Started processing request: rtem/RTEM_SUBMIT.xml
ERROR: unknown, see output file for details
INFO: Writing response to: D:\Project\MIMRelease2Latest\scripts\..\response-files\rtem\RTEM_SUBMIT-out.xml
INFO: Finished processing request: rtem/RTEM_SUBMIT.xml
INFO: Finished client.
```

DATA_D (D:) > Project > MIMRelease2Latest > response-files > rtem				
	Name	Date modified	Type	Size
	 RTEM_SUBMIT-out.xml	2024-07-06 10:51 AM	XML File	1 KB

- 3 Verify that the response file contains an error or failure message.

The output file should contain an message indicating that the bid/offer type is not valid for the selected resource "Bid Type:<Invalid Bid Offer> is not valid for the Resource of Resource Type:<Resource Type>"

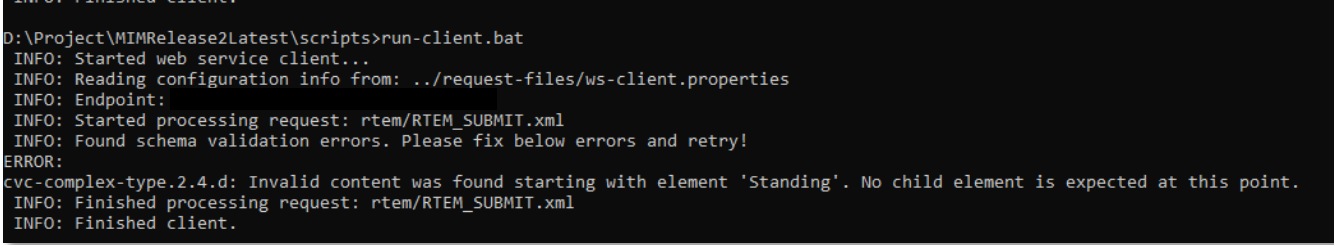
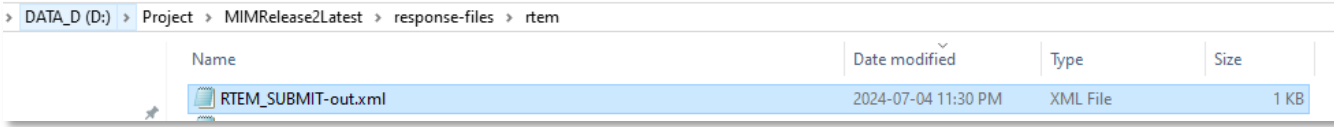
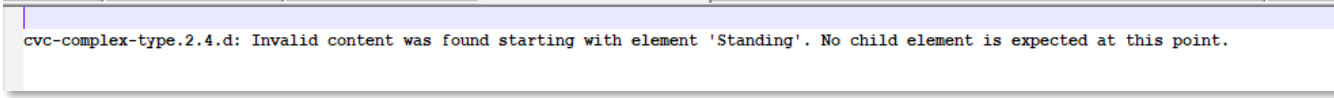
```
<?xml version="1.0" encoding="UTF-8"?><ns1:BidProcessingStatus xmlns:ns1="http://webservices.ieso.ca/emim-types/">
  <ns1:SubmissionTime>2024-07-06T09:51:50.388-05:00</ns1:SubmissionTime>
  <ns1:TransactionId>VtbB11w1</ns1:TransactionId>
  <ns1:Message>
    <ns1:Severity>|</ns1:Severity>
    <ns1:Code>PMVAL_E_BID-TYPE-INVALID</ns1:Code>
    <ns1:Description>Bid Type:LOAD is not valid for the Resource of Resource Type:HYDRO_CASCADE</ns1:Description>
  </ns1:Message>
</ns1:BidProcessingStatus>
```

## TC07: Verify that an error response is returned for the submission of Real-Time Energy Market Standing bid data with both "Standing" and DeliveryDate" data elements populated

Step	User Instruction	Expected Result
1	Prepare an XML file to submit an RTEM Standing bid for a specific resource. Set the following values for the data fields listed below:	XML submission file has been prepared successfully.

**DayOfWeek: ALL**  
**ExpiryDate: valid date**  
**greater than current date &**  
**Valid Delivery\_Date**

```
<?xml version="1.0" encoding="UTF-8"?>
<RealtimeEnergyBidSubmit xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://webservices.ieso.ca/emim-types/ emim.xsd"
  xmlns="http://webservices.ieso.ca/emim-types">
  <ActAsMarketParticipant>
    <Participant>PNAME</Participant>
    <User>UNAME</User>
  </ActAsMarketParticipant>
  <Date>
    <DeliveryDate>2024-07-02</DeliveryDate>
    <Standing>
      <DayOfWeek>WED</DayOfWeek>
      <ExpiryDate>2030-01-01</ExpiryDate>
    </Standing>
  </Date>
  <BidOffer>GENERATOR</BidOffer>
  <ResourceName>RNAME</ResourceName>
  <ThermalState>HOT</ThermalState>
  <MinDailyEnergyLimit>12345.9</MinDailyEnergyLimit>
  <MaxDailyEnergyLimit>78900.9</MaxDailyEnergyLimit>
  <MaxDailyEnergyLimitReason>Reason code</MaxDailyEnergyLimitReason>
  <DailyEnergyRampRate>
    <DailyEnergyRampRateBreakpoint>120.00</DailyEnergyRampRateBreakpoint>
    <DailyEnergyRampRateUp>16.0</DailyEnergyRampRateUp>
    <DailyEnergyRampRateDown>14.0</DailyEnergyRampRateDown>
  </DailyEnergyRampRate>
  <Hourly>
    <Hour>1</Hour>
    <TiePoint>TFNAME</TiePoint>
    <VirtualZoneName>VZNAME</VirtualZoneName>
    <NercTag>NTNAME</NercTag>
    <CapacityTransaction>true</CapacityTransaction>
    <OperatingReserveRampRate>79.9</OperatingReserveRampRate>
    <StartUpOffer>
      <StartUpOfferHot>100</StartUpOfferHot>
      <StartUpOfferWarm>200</StartUpOfferWarm>
      <StartUpOfferCold>300</StartUpOfferCold>
    </StartUpOffer>
    <SpeedNoLoadOffer>3456</SpeedNoLoadOffer>
    <MinHourlyOutput>0</MinHourlyOutput>
    <HourlyMustRun>0</HourlyMustRun>
    <PriceQuantity>
      <Price>10.00</Price>
      <Quantity>0</Quantity>
    </PriceQuantity>
    <HourlyEnergyRampRate>
      <HourlyEnergyRampRateBreakpoint>10.0</HourlyEnergyRampRateBreakpoint>
      <HourlyEnergyRampRateUp>17.0</HourlyEnergyRampRateUp>
      <HourlyEnergyRampRateDown>19.9</HourlyEnergyRampRateDown>
    </HourlyEnergyRampRate>
    <Reason>ERPO</Reason>
    <OtherReason>other reason code</OtherReason>
  </Hourly>
</RealtimeEnergyBidSubmit>
```

Step	User Instruction	Expected Result
2	<p>Submit the XML file that has been prepared for RTEM data to MIM using MWT Toolkit or submit the XML file through API tool during the RT initial window.</p> <p>Note: Market Participants may use MWT Toolkit or their own API tool of choice to submit data to MIM. Refer to the list of preconditions.</p>	<p>Submission is unsuccessful, and response or output file has been generated successfully.</p>  
3	<p>Verify that the response file contains an error or failure message.</p>	<p>The output file should contain an error message, "Invalid Content was found starting with element 'Standing'. No child element is expected at this point."</p> 

TC08: Verify that Real-Time Energy Market Non-Standing (Normal) bid data can be successfully queried for a particular resource

Step	User Instruction	Expected Result
------	------------------	-----------------

1	Execute Steps 2, 4-5 from CFS-02 from the <a href="#">Common Functional Steps</a> section.	
---	--	--

TC09: Verify that Real-Time Energy Market Standing bid data can be successfully queried for a particular resource

Step	User Instruction	Expected Result
------	------------------	-----------------

1	Execute Steps 3-5 from the <a href="#">Common Functional Steps</a> section.	
---	---	--

TC10: Verify that an error response is returned for querying Real-Time Energy Market data for duplicate hours

Step	User Instruction	Expected Result
------	------------------	-----------------

1	Prepare an XML file to query Real-Time Energy Market data for a particular resource. The request file must contain	XML submission file has been prepared successfully.
---	--	---

## Step User Instruction

## Expected Result

duplicate hours. Ex: Hour 2 data can be entered twice or more.

```
<?xml version="1.0" encoding="UTF-8"?>
<RealtimeEnergyBidQuery xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://webservices.ieso.ca/emim-types/ emim.xsd"
    xmlns="http://webservices.ieso.ca/emim-types/">
  <ActAsMarketParticipant>
    <Participant>PNAME</Participant>
    <User>UNAME</User>
  </ActAsMarketParticipant>
  <Date>
    <DeliveryDate>2024-07-05</DeliveryDate>
  </Date>
  <BidOffer>GENERATOR</BidOffer>
  <ResourceName>RNAME</ResourceName>
  <!-- Minimum of 1 and maximum of 24 elements can be specified -->
  <Hour>1</Hour>
  <Hour>1</Hour>
</RealtimeEnergyBidQuery>
```

- 2 Submit the XML file that has been prepared for RTEM data to MIM using MWT Toolkit or submit the XML file through API tool during the RT initial window.

Note: Market Participants may use MWT Toolkit or their own API tool of choice to submit data to MIM. Refer to the list of preconditions.

Submission is unsuccessful, and response or output file has been generated in response.

```
D:\Project\MIMRelease2Latest\scripts>run-client.bat
INFO: Started web service client...
INFO: Reading configuration info from: ../request-files/ws-client.properties
INFO: Endpoint:
INFO: Started processing request: rtem/RTEM_QUERY.xml
ERROR: Query failed: unknown
INFO: Writing response to: D:\Project\MIMRelease2Latest\scripts\..\response-files\rtem\RTEM_QUERY-out.xml
INFO: Finished processing request: rtem/RTEM_QUERY.xml
INFO: Finished client.
```

DATA_D (D:) > Project > MIMRelease2Latest > response-files > rtem				
	Name	Date modified	Type	Size
	RTEM_QUERY-out.xml	2024-07-05 12:42 AM	XML File	1 KB

Step	User Instruction	Expected Result
3	Verify that the response file contains an error or failure message.	The output file contains an error response: "Hours must be unique." <pre>&lt;?xml version="1.0" encoding="UTF-8"?&gt;&lt;ns1:QueryFault xmlns:ns1="http://webservices.ieso.ca/emin-types/"&gt;Hours must be unique.&lt;/ns1:QueryFault&gt;</pre>

TC11: Verify that Real-Time Energy Market Non-Standing (Normal) bid data can be successfully cancelled for an specific resource

Step	User Instruction	Expected Result
1	Execute Steps 2, and 4-5 from CFS-03 from the <a href="#">Common Functional Steps</a> section.	

TC12: Verify that Real-Time Energy Market Standing bid data can be successfully cancelled for an specific resource

Step	User Instruction	Expected Result
1	Execute Steps 3-5 from CFS-03 from the <a href="#">Common Functional Steps</a> section.	

## TC13: Verify that an error response is returned when a cancellation is requested for an Real-Time Energy Market submission that references an invalid resource name

Step	User Instruction	Expected Result
1	Prepare an XML file that will cancel a Real-Time Energy Market data submission for an invalid resource name.	<p>XML cancellation file has been prepared successfully.</p> <pre>&lt;?xml version="1.0" encoding="UTF-8"?&gt; &lt;RealtimeEnergyBidCancel xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"   xsi:schemaLocation="http://webservices.ieso.ca/emim-types/ emim.xsd"   xmlns="http://webservices.ieso.ca/emim-types"&gt;   &lt;ActAsMarketParticipant&gt;     &lt;Participant&gt;PNAME&lt;/Participant&gt;     &lt;User&gt;UNAME&lt;/User&gt;   &lt;/ActAsMarketParticipant&gt;   &lt;Date&gt;     &lt;DeliveryDate&gt;2024-07-05&lt;/DeliveryDate&gt;   &lt;/Date&gt;   &lt;BidOffer&gt;GENERATOR&lt;/BidOffer&gt;   &lt;ResourceName&gt;&lt;InvalidResourceName&gt;&lt;/ResourceName&gt;   &lt;!-- Minimum of 1 must be present and maximum of 24 Hourly elements can be specified --&gt;   &lt;Hourly&gt;     &lt;Hour&gt;3&lt;/Hour&gt;     &lt;Reason&gt;FO&lt;/Reason&gt;     &lt;OtherReason&gt;other reason code&lt;/OtherReason&gt;   &lt;/Hourly&gt;   &lt;Hourly&gt;     &lt;Hour&gt;5&lt;/Hour&gt;     &lt;Reason&gt;FO&lt;/Reason&gt;     &lt;OtherReason&gt;other reason code&lt;/OtherReason&gt;   &lt;/Hourly&gt; &lt;/RealtimeEnergyBidCancel&gt;</pre>
2	Submit the XML file using MWT Toolkit or submit the XML file through API tool. Note: Market Participants may use MWT Toolkit or their own	Submission is unsuccessful, and an output file has been generated in response.



## Step User Instruction

## Expected Result

API tool of choice to submit data to MIM. Refer to the list of preconditions.

```
D:\Project\MIMRelease2Latest\scripts>run-client.bat
INFO: Started web service client...
INFO: Reading configuration info from: ../request-files/ws-client.properties
INFO: Endpoint:
INFO: Started processing request: rtem/RTEM_CANCEL.xml
ERROR: unknown, see output file for details
INFO: Writing response to: D:\Project\MIMRelease2Latest\scripts\..\response-files\rtem\RTEM_CANCEL-out.xml
INFO: Finished processing request: rtem/RTEM_CANCEL.xml
INFO: Finished client.
```

DATA\_D (D:) > Project > MIMRelease2Latest > response-files > rtem

Name	Date modified	Type	Size
RTEM_CANCEL-out.xml	2024-07-04 11:54 PM	XML File	1 KB

3 Verify that the response file contains a failure message.

The output file should contain an error message indicating that the named resource is not valid in the request file "Resource: <Invalid Resource Name> is not valid for Date: <Delivery Date>"

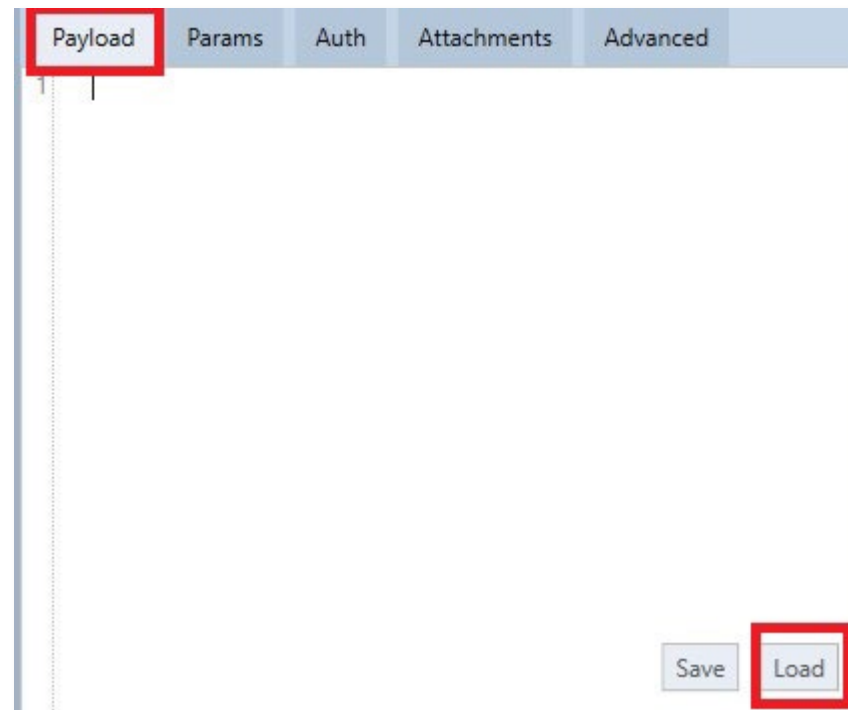
```
<?xml version="1.0" encoding="UTF-8"?><ns1:BidProcessingStatus xmlns:ns1="http://webservices.ieso.ca/emim-types/">
  <ns1:SubmissionTime>2024-07-04T22:54:22.407-05:00</ns1:SubmissionTime>
  <ns1:TransactionId>    </ns1:TransactionId>
  <ns1:Message>
    <ns1:Severity>ERROR</ns1:Severity>
    <ns1:Code>PMVAL_E_RESOURCE-DDATE-INVALID</ns1:Code>
    <ns1:Description>Resource: [REDACTED] is not valid for Date:2024-07-05</ns1:Description>
  </ns1:Message>
</ns1:BidProcessingStatus>
```

## TC14: Verify that Real-Time Energy Market start up offer data can be successfully submitted for a GOG-eligible resource

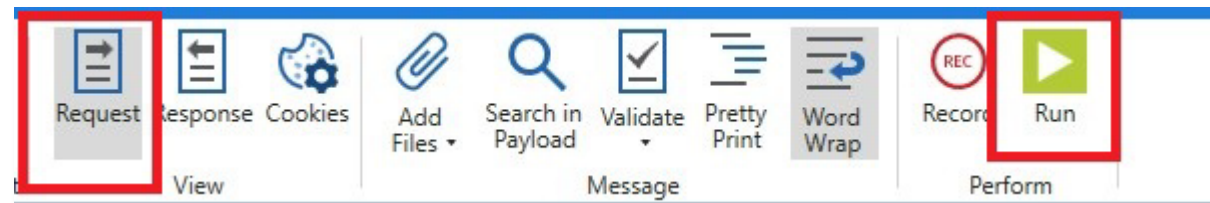
Step	User Instruction	Expected Result
1	Prepare a valid Real-Time Energy Market XML submission file to submit a start-up offer for a GOG-eligible resource	XML submission file has been prepared successfully. <pre>&lt;?xml version='1.0' encoding='UTF-8'&gt; &lt;RealTimeEnergyBidSubmit xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="http://webservices.ieso.ca/emim-types/" xsi:schemaLocation="http://webservices.ieso.ca/emim-types/ emim.xsd"&gt;   &lt;ActAsMarketParticipant&gt;     &lt;Participant&gt;PNAME&lt;/Participant&gt;     &lt;User&gt;UNAME&lt;/User&gt;   &lt;/ActAsMarketParticipant&gt;   &lt;Date&gt;     &lt;DeliveryDate&gt;2023-01-01&lt;/DeliveryDate&gt;   &lt;/Date&gt;   &lt;BidOffer&gt;GENERATOR&lt;/BidOffer&gt;   &lt;ResourceName&gt;RNAME&lt;/ResourceName&gt;   &lt;!-- Mandatory and applicable only for VIRTUAL_TRADER_SUPPLY and VIRTUAL_TRADER_LOAD resources --&gt;   &lt;ThermalState&gt;HOT&lt;/ThermalState&gt;   &lt;!-- Applicable only for HYDRO_NON_CASCADE resources --&gt;   &lt;MinDailyEnergyLimit&gt;12345.9&lt;/MinDailyEnergyLimit&gt;   &lt;MaxDailyEnergyLimit&gt;78900.9&lt;/MaxDailyEnergyLimit&gt;   &lt;MaxDailyEnergyLimitReason&gt;Reason code&lt;/MaxDailyEnergyLimitReason&gt;   &lt;!-- Minimum of 1 and maximum of 5 DailyEnergyRampRate elements can be submitted --&gt;   &lt;DailyEnergyRampRate&gt;     &lt;DailyEnergyRampRateBreakpoint&gt;120.00&lt;/DailyEnergyRampRateBreakpoint&gt;     &lt;DailyEnergyRampRateUp&gt;16.0&lt;/DailyEnergyRampRateUp&gt;     &lt;DailyEnergyRampRateDown&gt;14.0&lt;/DailyEnergyRampRateDown&gt;   &lt;/DailyEnergyRampRate&gt;   &lt;DailyEnergyRampRate&gt;     &lt;DailyEnergyRampRateBreakpoint&gt;160.0&lt;/DailyEnergyRampRateBreakpoint&gt;     &lt;DailyEnergyRampRateUp&gt;13.0&lt;/DailyEnergyRampRateUp&gt;     &lt;DailyEnergyRampRateDown&gt;41.00&lt;/DailyEnergyRampRateDown&gt;   &lt;/DailyEnergyRampRate&gt;   &lt;Hourly&gt;     &lt;Hour&gt;1&lt;/Hour&gt;     &lt;!-- Mandatory and applicable only for ENERGY_IMPORT and ENERGY_EXPORT resources --&gt;     &lt;TiePoint&gt;TPNAME&lt;/TiePoint&gt;     &lt;VirtualZoneName&gt;VZNAME&lt;/VirtualZoneName&gt;     &lt;!-- Mandatory and applicable only for ENERGY_IMPORT and ENERGY_EXPORT resources --&gt;     &lt;NercTag&gt;NTNAME&lt;/NercTag&gt;     &lt;CapacityTransaction&gt;true&lt;/CapacityTransaction&gt;     &lt;OperatingReserveRampRate&gt;79.9&lt;/OperatingReserveRampRate&gt;     &lt;StartUpOffer&gt;       &lt;StartUpOfferHot&gt;100&lt;/StartUpOfferHot&gt;       &lt;StartUpOfferWarm&gt;200&lt;/StartUpOfferWarm&gt;       &lt;StartUpOfferCold&gt;300&lt;/StartUpOfferCold&gt;     &lt;/StartUpOffer&gt;     &lt;SpeedNoLoadOffer&gt;3456&lt;/SpeedNoLoadOffer&gt;     &lt;MinHourlyOutput&gt;0&lt;/MinHourlyOutput&gt;     &lt;HourlyMustRun&gt;0&lt;/HourlyMustRun&gt;     &lt;!-- Applicable only for VARIABLE_GENERATION resources --&gt;     &lt;ForecastQuantity&gt;156.9&lt;/ForecastQuantity&gt;     &lt;!-- Minimum of 2 and maximum of 20 PriceQuantity elements can be submitted --&gt;   &lt;/Hourly&gt; &lt;/RealTimeEnergyBidSubmit&gt;</pre>
2	Submit the XML file that has been prepared for RTEM data to MIM using MWT Toolkit or submit the XML file through API	If using an API tool, load the XML file into the payload section.

**Step    User Instruction**

tool during the RT\_INITIAL window.  
Note: Market Participants may use MWT Toolkit or their own API tool of choice to submit data to MIM. Refer to the list of preconditions.

**Expected Result**

Run the request by clicking Run within the API tool.



Step	User Instruction	Expected Result								
		<p>If using the MWT Toolkit, submission is successful, and response or output file has been generated successfully.</p> <div><pre>D:\Project\MIMRelease2Latest\scripts&gt;run-client.bat INFO: Started web service client... INFO: Reading configuration info from: ../request-files/ws-client.properties INFO: Endpoint: INFO: Started processing request: rtem/RTEM_SUBMIT.xml INFO: Writing response to: D:\Project\MIMRelease2Latest\scripts\..\response-files\rtem\RTEM_SUBMIT- INFO: Finished processing request: rtem/RTEM_SUBMIT.xml INFO: Finished client.</pre></div> <div><p>DATA_D (D:) &gt; Project &gt; MIMRelease2Latest &gt; response-files &gt; rtem</p><table><tr><th>Name</th><th>Date modified</th><th>Type</th><th>Size</th></tr><tr><td>RTEM_SUBMIT-out.xml</td><td>2024-07-04 10:36 PM</td><td>XML File</td><td>1 KB</td></tr></table></div>	Name	Date modified	Type	Size	RTEM_SUBMIT-out.xml	2024-07-04 10:36 PM	XML File	1 KB
Name	Date modified	Type	Size							
RTEM_SUBMIT-out.xml	2024-07-04 10:36 PM	XML File	1 KB							
3	Verify that the response file contains a successful message.	<p>The output file contains a message that indicates that the Real-Time Energy Market data submission for the GOG-eligible resource was successfully processed.</p> <p>For API tool:</p>								

**Step**   **User Instruction****Expected Result**

Status Code	Response Time (ms)
200 200	401

Payload	Attachments
<pre>1 &lt;ns1:BidProcessingStatus xmlns:ns1="http://webservices.ieso.ca/emim-types/"&gt; 2   &lt;ns1:SubmissionTime&gt;[REDACTED]&lt;/ns1:SubmissionTime&gt; 3   &lt;ns1:TransactionId&gt;[REDACTED]&lt;/ns1:TransactionId&gt; 4   &lt;ns1:Message&gt; 5     &lt;ns1:Severity&gt;INFO&lt;/ns1:Severity&gt; 6     &lt;ns1:Code&gt;[REDACTED]&lt;/ns1:Code&gt; 7     &lt;ns1:Description&gt;Successfully processed the RTEM submission.&lt;/ns1:Description&gt; 8   &lt;/ns1:Message&gt; 9 &lt;/ns1:BidProcessingStatus&gt; 10</pre>	

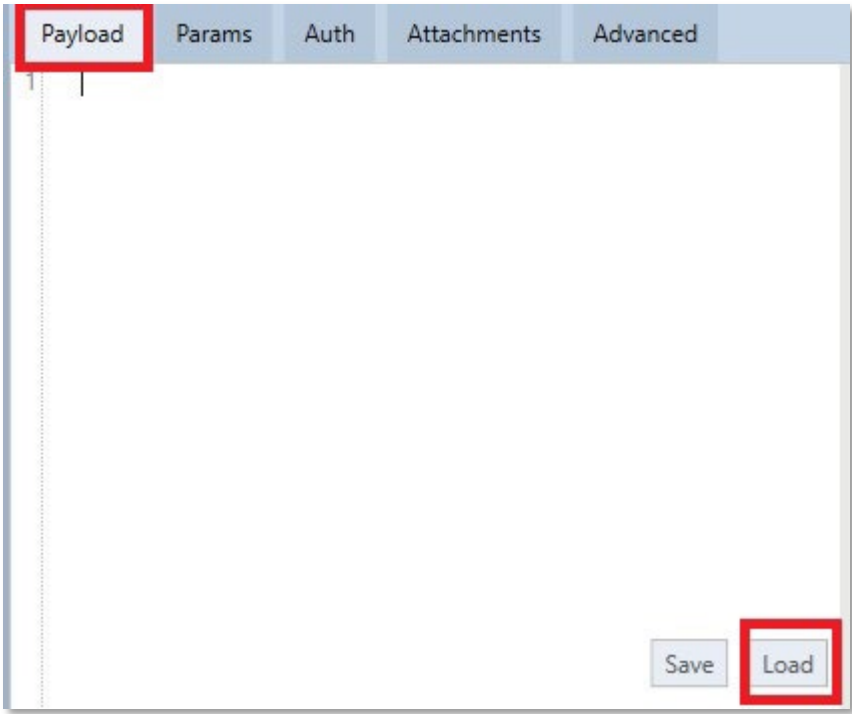
For MWT tool:

```
<ns1:BidProcessingStatus xmlns:ns1="http://webservices.ieso.ca/emim-types/">
  <ns1:SubmissionTime>[REDACTED]</ns1:SubmissionTime>
  <ns1:TransactionId>[REDACTED]</ns1:TransactionId>
  <ns1:Message>
    <ns1:Severity>INFO</ns1:Severity>
    <ns1:Code>PM_I_SUBMIT-SUCCESS</ns1:Code>
    <ns1:Description>Successfully processed the realtime energy submission.</ns1:Description>
  </ns1:Message>
</ns1:BidProcessingStatus>
```

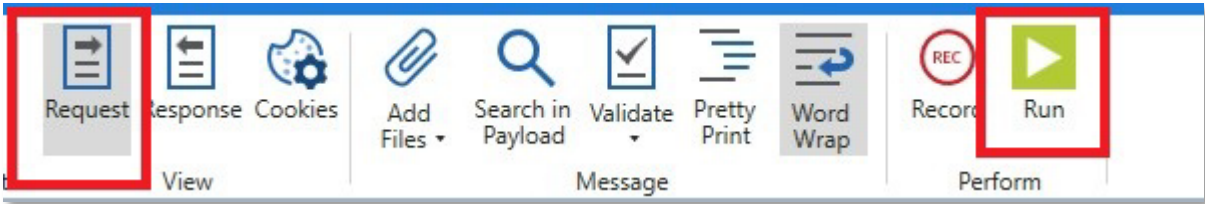
## TC15: Verify that an existing RTEM data submission for a GOG-eligible resource can be queried successfully

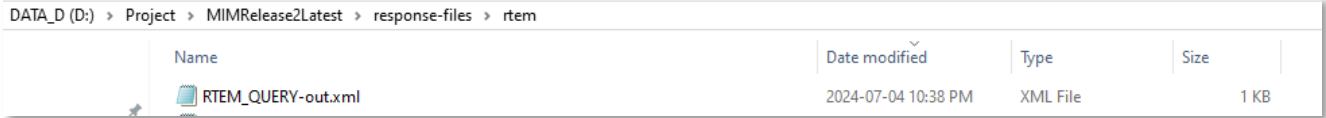
Step	User Instruction	Expected Result
1	Prepare an XML file to query an existing RTEM data submission for a GOG-eligible resource.	XML query file has been prepared successfully. <pre>&lt;?xml version='1.0' encoding='UTF-8'&gt; &lt;RealtimeEnergyBidQuery xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="http://webservices.ieso.ca/emim-types/" xsi:schemaLocation="http://webservices.ieso.ca/emim-types/ emim.xsd"&gt;   &lt;ActAsMarketParticipant&gt;     &lt;Participant&gt;PNAME&lt;/Participant&gt;     &lt;User&gt;UNAME&lt;/User&gt;   &lt;/ActAsMarketParticipant&gt;   &lt;Date&gt;     &lt;DeliveryDate&gt;2023-01-01&lt;/DeliveryDate&gt;   &lt;/Date&gt;   &lt;BidOffer&gt;GENERATOR&lt;/BidOffer&gt;   &lt;ResourceName&gt;RNAME&lt;/ResourceName&gt;   &lt;!-- Minimum of 1 and maximum of 24 elements can be specified --&gt;   &lt;Hour&gt;1&lt;/Hour&gt;   &lt;Hour&gt;3&lt;/Hour&gt; &lt;/RealtimeEnergyBidQuery&gt;</pre>
2	Submit the XML file using MWT Toolkit or submit the XML file through API tool.  Note: Market Participants may use MWT Toolkit or their own API tool of choice to submit data to MIM. Refer to the list of preconditions.	If using an API tool, load the XML file into the payload section.

Step	User Instruction	Expected Result
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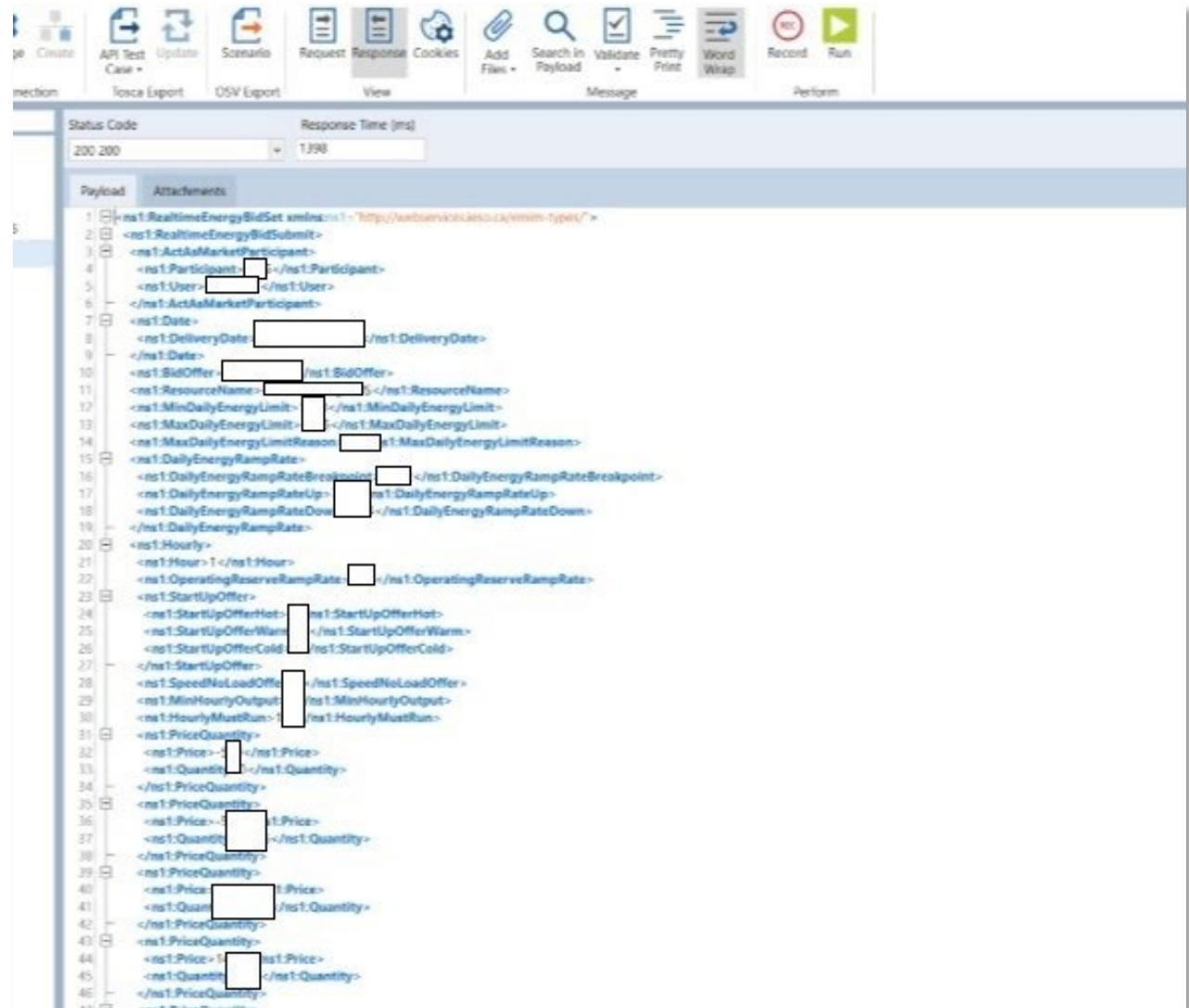
Run the request by clicking Run within the API tool.



Step	User Instruction	Expected Result
		<p>If using the MWT Toolkit, submission is successful, and an output file has been generated in response.</p> <pre>D:\Project\MIMRelease2Latest\scripts&gt;run-client.bat INFO: Started web service client... INFO: Reading configuration info from: ../request-files/ws-client.properties INFO: Endpoint: INFO: Started processing request: rtem/RTEM_QUERY.xml INFO: Writing response to: D:\Project\MIMRelease2Latest\scripts\..\response-files\rtem\RTEM_QUERY-out.xml INFO: Finished processing request: rtem/RTEM_QUERY.xml INFO: Finished client.</pre> 
3	Verify that the response file contains a successful message along with the queried data for the GOG-eligible resource.	The output file contains the queried data for the GOG-eligible resource.



For API Tool:



For MWT Tool:

```

▼<ns1:RealtimeEnergyBidSet xmlns:ns1="http://webservices.ieso.ca/emim-types/">
  ▼<ns1:RealtimeEnergyBidSubmit>
    ▼<ns1:ActAsMarketParticipant>
      <ns1:Participant>PNAME</ns1:Participant>
      <ns1:User>UNAME</ns1:User>
    </ns1:ActAsMarketParticipant>
    ▼<ns1:Date>
      <ns1:DeliveryDate>2023-01-01-07:00</ns1:DeliveryDate>
    </ns1:Date>
    <ns1:BidOffer>GENERATOR</ns1:BidOffer>
    <ns1:ResourceName>RNAME1</ns1:ResourceName>
    <ns1:MinDailyEnergyLimit>100.9</ns1:MinDailyEnergyLimit>
    <ns1:MaxDailyEnergyLimit>1000.9</ns1:MaxDailyEnergyLimit>
    <ns1:MaxDailyEnergyLimitReason>MPM-EORLI</ns1:MaxDailyEnergyLimitReason>
    ▼<ns1:Hourly>
      <ns1:Hour>1</ns1:Hour>
      <ns1:CapacityTransaction>true</ns1:CapacityTransaction>
      <ns1:OperatingReserveRampRate>79.9</ns1:OperatingReserveRampRate>
      ▼<ns1:StartUpOffer>
        <ns1:StartUpOfferHot>100</ns1:StartUpOfferHot>
        <ns1:StartUpOfferWarm>200</ns1:StartUpOfferWarm>
        <ns1:StartUpOfferCold>300</ns1:StartUpOfferCold>
      </ns1:StartUpOffer>
      <ns1:SpeedNoLoadOffer>3456</ns1:SpeedNoLoadOffer>
      <ns1:MinHourlyOutput>0</ns1:MinHourlyOutput>
      <ns1:HourlyMustRun>0</ns1:HourlyMustRun>
      ▼<ns1:PriceQuantity>
        <ns1:Price>12.4</ns1:Price>
        <ns1:Quantity>47.9</ns1:Quantity>
      </ns1:PriceQuantity>
      ▼<ns1:PriceQuantity>
        <ns1:Price>12.4</ns1:Price>
        <ns1:Quantity>58.6</ns1:Quantity>
      </ns1:PriceQuantity>
      ▼<ns1:HourlyEnergyRampRate>
        <ns1:HourlyEnergyRampRateBreakpoint>12.3</ns1:HourlyEnergyRampRateBreakpoint>
        <ns1:HourlyEnergyRampRateUp>14.5</ns1:HourlyEnergyRampRateUp>
        <ns1:HourlyEnergyRampRateDown>17.8</ns1:HourlyEnergyRampRateDown>
      </ns1:HourlyEnergyRampRate>
    </ns1:Hourly>
  </ns1:RealtimeEnergyBidSubmit>
  ▼<ns1:RealtimeEnergyBidSubmit>
    ▼<ns1:ActAsMarketParticipant>
      <ns1:Participant>PNAME</ns1:Participant>
      <ns1:User>UNAME</ns1:User>
    </ns1:ActAsMarketParticipant>
    ▼<ns1:Date>
      <ns1:DeliveryDate>2023-01-01-07:00</ns1:DeliveryDate>
    </ns1:Date>
    <ns1:BidOffer>GENERATOR</ns1:BidOffer>
    <ns1:ResourceName>RNAME2</ns1:ResourceName>
    <ns1:MinDailyEnergyLimit>100.9</ns1:MinDailyEnergyLimit>
    <ns1:MaxDailyEnergyLimit>1000.9</ns1:MaxDailyEnergyLimit>
    <ns1:MaxDailyEnergyLimitReason>WITHDRAW</ns1:MaxDailyEnergyLimitReason>
    ▼<ns1:Hourly>

```

Step	User Instruction	Expected Result
		<pre> &lt;ns1:Hour&gt;3&lt;/ns1:Hour&gt; ▼&lt;ns1:PriceQuantity&gt;   &lt;ns1:Price&gt;10.4&lt;/ns1:Price&gt;   &lt;ns1:Quantity&gt;47.9&lt;/ns1:Quantity&gt; &lt;/ns1:PriceQuantity&gt; ▼&lt;ns1:PriceQuantity&gt;   &lt;ns1:Price&gt;10.4&lt;/ns1:Price&gt;   &lt;ns1:Quantity&gt;58.6&lt;/ns1:Quantity&gt; &lt;/ns1:PriceQuantity&gt; ▼&lt;ns1:HourlyEnergyRampRate&gt;   &lt;ns1:HourlyEnergyRampRateBreakpoint&gt;12.3&lt;/ns1:HourlyEnergyRampRateBreakpoint&gt;   &lt;ns1:HourlyEnergyRampRateUp&gt;14.5&lt;/ns1:HourlyEnergyRampRateUp&gt;   &lt;ns1:HourlyEnergyRampRateDown&gt;17.8&lt;/ns1:HourlyEnergyRampRateDown&gt; &lt;/ns1:HourlyEnergyRampRate&gt; &lt;/ns1:Hourly&gt; ▼&lt;ns1:Hourly&gt;   &lt;ns1:Hour&gt;7&lt;/ns1:Hour&gt;   ▼&lt;ns1:PriceQuantity&gt;     &lt;ns1:Price&gt;12.6&lt;/ns1:Price&gt;     &lt;ns1:Quantity&gt;47.9&lt;/ns1:Quantity&gt;   &lt;/ns1:PriceQuantity&gt;   ▼&lt;ns1:PriceQuantity&gt;     &lt;ns1:Price&gt;12.6&lt;/ns1:Price&gt;     &lt;ns1:Quantity&gt;58.6&lt;/ns1:Quantity&gt;   &lt;/ns1:PriceQuantity&gt;   ▼&lt;ns1:HourlyEnergyRampRate&gt;     &lt;ns1:HourlyEnergyRampRateBreakpoint&gt;12.3&lt;/ns1:HourlyEnergyRampRateBreakpoint&gt;     &lt;ns1:HourlyEnergyRampRateUp&gt;14.5&lt;/ns1:HourlyEnergyRampRateUp&gt;     &lt;ns1:HourlyEnergyRampRateDown&gt;17.8&lt;/ns1:HourlyEnergyRampRateDown&gt;   &lt;/ns1:HourlyEnergyRampRate&gt; &lt;/ns1:Hourly&gt; &lt;/ns1:RealtimeEnergyBidSubmit&gt; &lt;/ns1:RealtimeEnergyBidSet&gt; </pre>

## TC16: Verify that submission for the dispatch hours specified in the Real-Time Unrestricted1 Window (1:30 PM to 8 PM) is processed successfully for Real-Time Energy Market data submitted for D+1 (Dispatch Day +1)

Step	User Instruction	Expected Result
1	Prepare an XML submission file to submit RTEM data in RT window for the hours specified in the RT Unrestricted1 Window (1:30 PM to 8 PM).	XML submission file has been prepared successfully. <pre>&lt;?xml version='1.0' encoding='UTF-8'&gt; &lt;RealtimeEnergyBidSubmit xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="http://webservices.ieso.ca/emim-types/" xsi:schemaLocation="http://webservices.ieso.ca/emim-types/ emim.xsd"&gt;   &lt;ActAsMarketParticipant&gt;     &lt;Participant&gt;PNAME&lt;/Participant&gt;     &lt;User&gt;UNAME&lt;/User&gt;   &lt;/ActAsMarketParticipant&gt;   &lt;Date&gt;     &lt;DeliveryDate&gt;2023-01-01&lt;/DeliveryDate&gt;   &lt;/Date&gt;   &lt;BidOffer&gt;GENERATOR&lt;/BidOffer&gt;   &lt;ResourceName&gt;RNAME&lt;/ResourceName&gt;   &lt;!-- Mandatory and applicable only for VIRTUAL_TRADER_SUPPLY and VIRTUAL_TRADER_LOAD resources --&gt;   &lt;ThermalState&gt;HOT&lt;/ThermalState&gt;   &lt;!-- Applicable only for HYDRO_NON_CASCADE resources --&gt;   &lt;MinDailyEnergyLimit&gt;12345.9&lt;/MinDailyEnergyLimit&gt;   &lt;MaxDailyEnergyLimit&gt;78900.9&lt;/MaxDailyEnergyLimit&gt;   &lt;MaxDailyEnergyLimitReason&gt;Reason code&lt;/MaxDailyEnergyLimitReason&gt;   &lt;!-- Minimum of 1 and maximum of 5 DailyEnergyRampRate elements can be submitted --&gt;   &lt;DailyEnergyRampRate&gt;     &lt;DailyEnergyRampRateBreakpoint&gt;120.00&lt;/DailyEnergyRampRateBreakpoint&gt;     &lt;DailyEnergyRampRateUp&gt;16.0&lt;/DailyEnergyRampRateUp&gt;     &lt;DailyEnergyRampRateDown&gt;14.0&lt;/DailyEnergyRampRateDown&gt;   &lt;/DailyEnergyRampRate&gt;   &lt;DailyEnergyRampRate&gt;     &lt;DailyEnergyRampRateBreakpoint&gt;160.0&lt;/DailyEnergyRampRateBreakpoint&gt;     &lt;DailyEnergyRampRateUp&gt;13.0&lt;/DailyEnergyRampRateUp&gt;     &lt;DailyEnergyRampRateDown&gt;41.00&lt;/DailyEnergyRampRateDown&gt;   &lt;/DailyEnergyRampRate&gt;   &lt;Hourly&gt;     &lt;Hour&gt;1&lt;/Hour&gt;     &lt;!-- Mandatory and applicable only for ENERGY_IMPORT and ENERGY_EXPORT resources --&gt;     &lt;TiePoint&gt;TPNAME&lt;/TiePoint&gt;     &lt;VirtualZoneName&gt;VZNAME&lt;/VirtualZoneName&gt;     &lt;!-- Mandatory and applicable only for ENERGY_IMPORT and ENERGY_EXPORT resources --&gt;     &lt;NercTag&gt;NTNAME&lt;/NercTag&gt;     &lt;CapacityTransaction&gt;true&lt;/CapacityTransaction&gt;     &lt;OperatingReserveRampRate&gt;79.9&lt;/OperatingReserveRampRate&gt;   &lt;/Hourly&gt;   &lt;StartUpOffer&gt;     &lt;StartUpOfferHot&gt;100&lt;/StartUpOfferHot&gt;     &lt;StartUpOfferWarm&gt;200&lt;/StartUpOfferWarm&gt;     &lt;StartUpOfferCold&gt;300&lt;/StartUpOfferCold&gt;   &lt;/StartUpOffer&gt;   &lt;SpeedNoLoadOffer&gt;3456&lt;/SpeedNoLoadOffer&gt;   &lt;MinHourlyOutput&gt;0&lt;/MinHourlyOutput&gt;   &lt;HourlyMustRun&gt;0&lt;/HourlyMustRun&gt;   &lt;!-- Applicable only for VARIABLE_GENERATION resources --&gt;   &lt;ForecastQuantity&gt;156.9&lt;/ForecastQuantity&gt;   &lt;!-- Minimum of 2 and maximum of 20 PriceQuantity elements can be submitted --&gt; &lt;/RealtimeEnergyBidSubmit&gt;</pre>

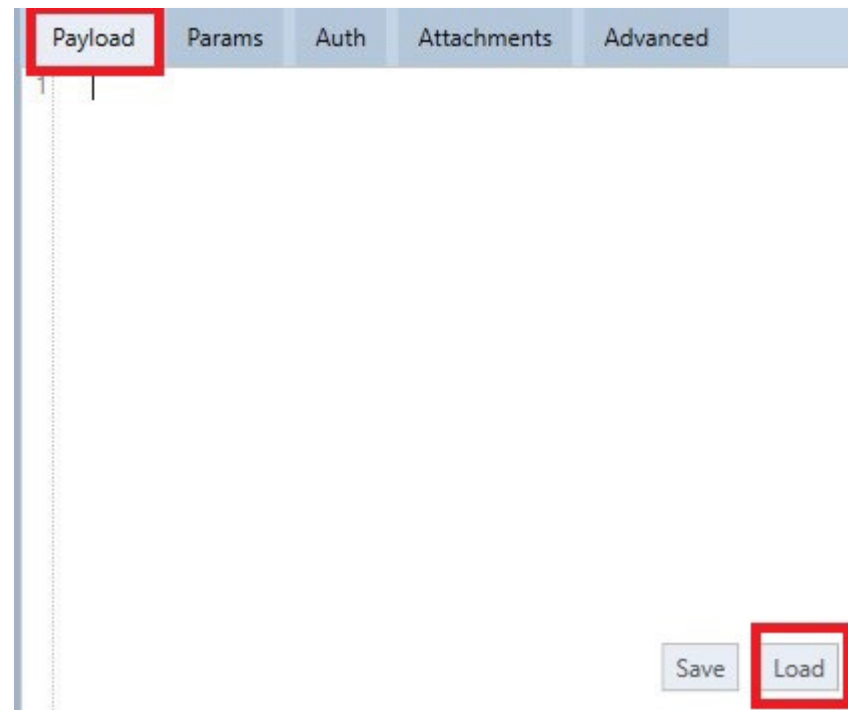
**Step    User Instruction****Expected Result**

```
▼<PriceQuantity>
  <Price>10.00</Price>
  <Quantity>0</Quantity>
</PriceQuantity>
▼<PriceQuantity>
  <Price>10.00</Price>
  <Quantity>31.00</Quantity>
</PriceQuantity>
▼<PriceQuantity>
  <Price>30.00</Price>
  <Quantity>200.00</Quantity>
</PriceQuantity>
<!-- Minimum of 1 and maximum of 5 HourlyEnergyRampRate elements can be submitted -->
▼<HourlyEnergyRampRate>
  <HourlyEnergyRampRateBreakpoint>10.0</HourlyEnergyRampRateBreakpoint>
  <HourlyEnergyRampRateUp>17.0</HourlyEnergyRampRateUp>
  <HourlyEnergyRampRateDown>19.9</HourlyEnergyRampRateDown>
</HourlyEnergyRampRate>
▼<HourlyEnergyRampRate>
  <HourlyEnergyRampRateBreakpoint>20.0</HourlyEnergyRampRateBreakpoint>
  <HourlyEnergyRampRateUp>2.0</HourlyEnergyRampRateUp>
  <HourlyEnergyRampRateDown>9.0</HourlyEnergyRampRateDown>
</HourlyEnergyRampRate>
  <Reason>ERPO</Reason>
  <OtherReason>other reason code</OtherReason>
</Hourly>
</RealtimeEnergyBidSubmit>
```

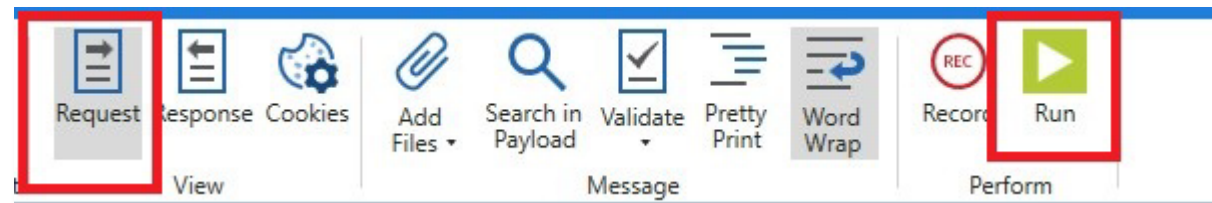
- |   |   |   |
|---|---|---|
| 2 | Submit the XML file that has been prepared for RTEM data to MIM using MWT Toolkit or submit the XML file through API tool when the RT window for dispatch hours are in RT Unrestricted1 window state. | If using an API tool, load the XML file into the payload section. |
|---|---|---|

**Step    User Instruction**

Note: Market Participants may use MWT Toolkit or their own API tool of choice to submit data to MIM. Refer to the list of preconditions.

**Expected Result**

Run the request by clicking Run within the API tool.



Step	User Instruction	Expected Result
------	------------------	-----------------

If using the MWT Toolkit, submission is successful, and an output file has been generated in response.

```
D:\Project\MIMRelease2Latest\scripts>run-client.bat
INFO: Started web service client...
INFO: Reading configuration info from: ../request-files/ws-client.properties
INFO: Endpoint:
INFO: Started processing request: rtem/RTEM_SUBMIT.xml
INFO: Writing response to: D:\Project\MIMRelease2Latest\scripts\..\response-files\rtem\RTEM_SUBMIT-out.xml
INFO: Finished processing request: rtem/RTEM_SUBMIT.xml
INFO: Finished client.
```

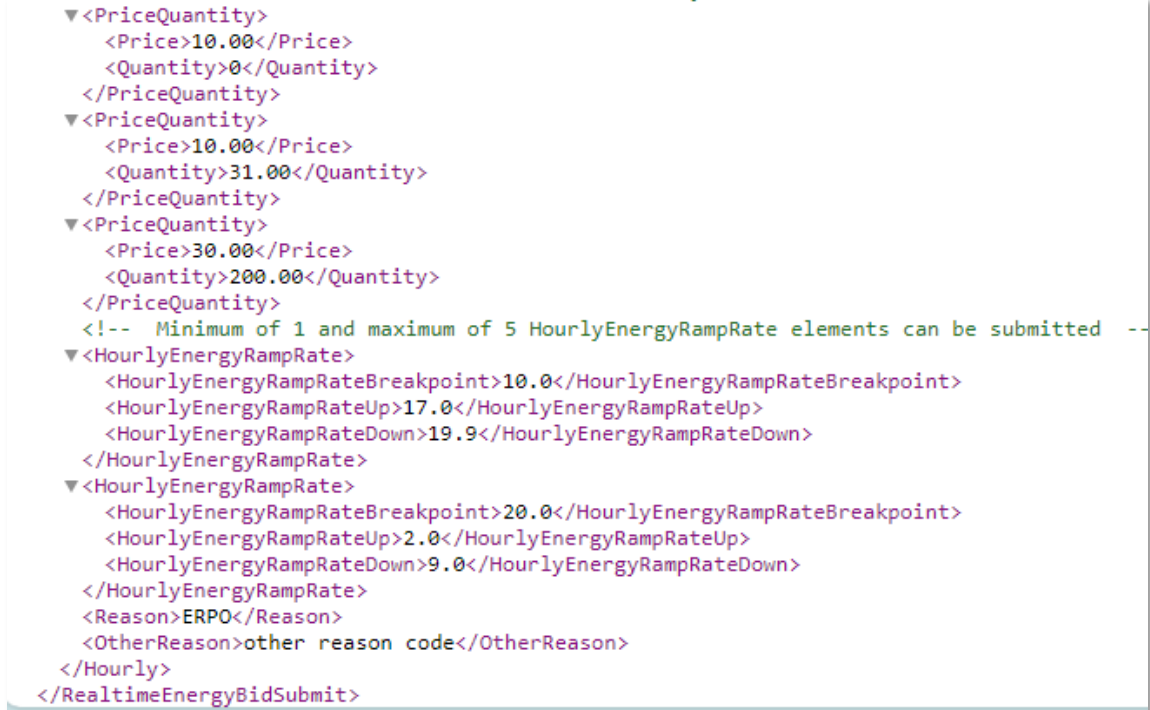
DATA_D (D:) > Project > MIMRelease2Latest > response-files > rtem				
	Name	Date modified	Type	Size
	RTEM_SUBMIT-out.xml	2024-07-04 10:36 PM	XML File	1 KB

3	Execute Step 5 from CFS-01 from the <a href="#">Common Functional Steps</a> section.
---	--

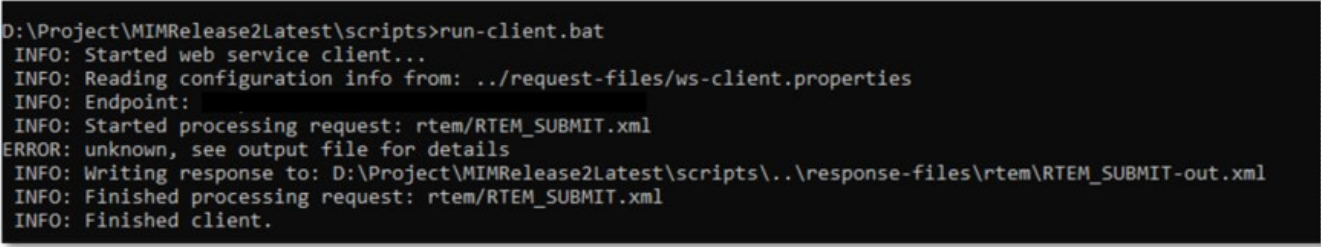
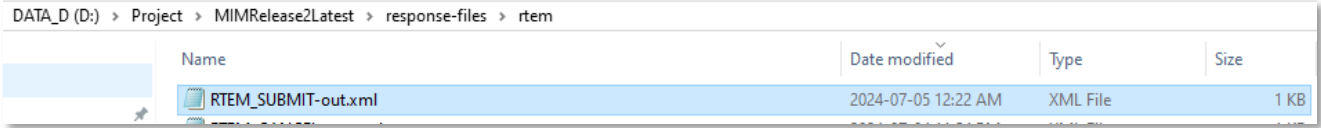
## TC17: Verify that an error response is returned for data submission for a dispatch hour in the RT CLOSE window

Step	User Instruction	Expected Result
1	Prepare an XML submission file for Real-Time Energy Market data for dispatch hours that are in the RT CLOSE window.	XML submission file has been prepared successfully. <pre>&lt;?xml version='1.0' encoding='UTF-8'&gt; &lt;RealtimeEnergyBidSubmit xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="http://webservices.ieso.ca/emim-types/" xsi:schemaLocation="http://webservices.ieso.ca/emim-types/ emim.xsd"&gt;   &lt;ActAsMarketParticipant&gt;     &lt;Participant&gt;       &lt;ParticipantName&gt;PNAME&lt;/ParticipantName&gt;       &lt;User&gt;         &lt;Username&gt;USER&lt;/Username&gt;       &lt;/User&gt;     &lt;/Participant&gt;   &lt;/ActAsMarketParticipant&gt;   &lt;Date&gt;     &lt;DeliveryDate&gt;2023-01-01&lt;/DeliveryDate&gt;   &lt;/Date&gt;   &lt;BidOffer&gt;     &lt;Generator&gt;       &lt;ResourceName&gt;RNAME&lt;/ResourceName&gt;       &lt;!-- Mandatory and applicable only for VIRTUAL_TRADER_SUPPLY and VIRTUAL_TRADER_LOAD resources --&gt;       &lt;ThermalState&gt;HOT&lt;/ThermalState&gt;       &lt;!-- Applicable only for HYDRO_NON_CASCADE resources --&gt;       &lt;MinDailyEnergyLimit&gt;12345.9&lt;/MinDailyEnergyLimit&gt;       &lt;MaxDailyEnergyLimit&gt;78900.9&lt;/MaxDailyEnergyLimit&gt;       &lt;MaxDailyEnergyLimitReason&gt;Reason code&lt;/MaxDailyEnergyLimitReason&gt;       &lt;!-- Minimum of 1 and maximum of 5 DailyEnergyRampRate elements can be submitted --&gt;       &lt;DailyEnergyRampRate&gt;         &lt;DailyEnergyRampRateBreakpoint&gt;120.00&lt;/DailyEnergyRampRateBreakpoint&gt;         &lt;DailyEnergyRampRateUp&gt;16.0&lt;/DailyEnergyRampRateUp&gt;         &lt;DailyEnergyRampRateDown&gt;14.0&lt;/DailyEnergyRampRateDown&gt;       &lt;/DailyEnergyRampRate&gt;       &lt;DailyEnergyRampRate&gt;         &lt;DailyEnergyRampRateBreakpoint&gt;160.0&lt;/DailyEnergyRampRateBreakpoint&gt;         &lt;DailyEnergyRampRateUp&gt;13.0&lt;/DailyEnergyRampRateUp&gt;         &lt;DailyEnergyRampRateDown&gt;41.00&lt;/DailyEnergyRampRateDown&gt;       &lt;/DailyEnergyRampRate&gt;     &lt;/Generator&gt;     &lt;Hourly&gt;       &lt;Hour&gt;1&lt;/Hour&gt;       &lt;!-- Mandatory and applicable only for ENERGY_IMPORT and ENERGY_EXPORT resources --&gt;       &lt;TiePoint&gt;TPNAME&lt;/TiePoint&gt;       &lt;VirtualZoneName&gt;VZNAME&lt;/VirtualZoneName&gt;       &lt;!-- Mandatory and applicable only for ENERGY_IMPORT and ENERGY_EXPORT resources --&gt;       &lt;NercTag&gt;NTNAME&lt;/NercTag&gt;       &lt;CapacityTransaction&gt;true&lt;/CapacityTransaction&gt;       &lt;OperatingReserveRampRate&gt;79.9&lt;/OperatingReserveRampRate&gt;     &lt;/Hourly&gt;   &lt;/BidOffer&gt;   &lt;StartUpOffer&gt;     &lt;StartUpOfferHot&gt;100&lt;/StartUpOfferHot&gt;     &lt;StartUpOfferWarm&gt;200&lt;/StartUpOfferWarm&gt;     &lt;StartUpOfferCold&gt;300&lt;/StartUpOfferCold&gt;   &lt;/StartUpOffer&gt;   &lt;SpeedNoLoadOffer&gt;3456&lt;/SpeedNoLoadOffer&gt;   &lt;MinHourlyOutput&gt;0&lt;/MinHourlyOutput&gt;   &lt;HourlyMustRun&gt;0&lt;/HourlyMustRun&gt;   &lt;!-- Applicable only for VARIABLE_GENERATION resources --&gt;   &lt;ForecastQuantity&gt;156.9&lt;/ForecastQuantity&gt;   &lt;!-- Minimum of 2 and maximum of 20 PriceQuantity elements can be submitted --&gt; </pre>

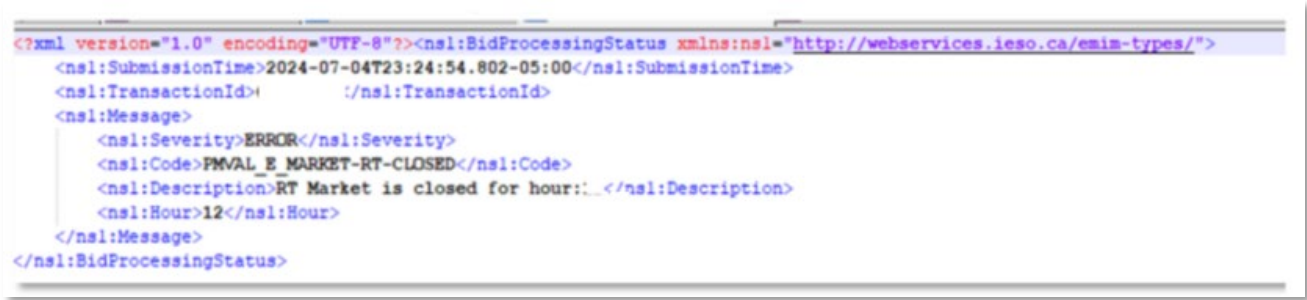


Step	User Instruction	Expected Result
		 <pre> ▼&lt;PriceQuantity&gt;   &lt;Price&gt;10.00&lt;/Price&gt;   &lt;Quantity&gt;0&lt;/Quantity&gt; &lt;/PriceQuantity&gt; ▼&lt;PriceQuantity&gt;   &lt;Price&gt;10.00&lt;/Price&gt;   &lt;Quantity&gt;31.00&lt;/Quantity&gt; &lt;/PriceQuantity&gt; ▼&lt;PriceQuantity&gt;   &lt;Price&gt;30.00&lt;/Price&gt;   &lt;Quantity&gt;200.00&lt;/Quantity&gt; &lt;/PriceQuantity&gt; &lt;!-- Minimum of 1 and maximum of 5 HourlyEnergyRampRate elements can be submitted --&gt; ▼&lt;HourlyEnergyRampRate&gt;   &lt;HourlyEnergyRampRateBreakpoint&gt;10.0&lt;/HourlyEnergyRampRateBreakpoint&gt;   &lt;HourlyEnergyRampRateUp&gt;17.0&lt;/HourlyEnergyRampRateUp&gt;   &lt;HourlyEnergyRampRateDown&gt;19.9&lt;/HourlyEnergyRampRateDown&gt; &lt;/HourlyEnergyRampRate&gt; ▼&lt;HourlyEnergyRampRate&gt;   &lt;HourlyEnergyRampRateBreakpoint&gt;20.0&lt;/HourlyEnergyRampRateBreakpoint&gt;   &lt;HourlyEnergyRampRateUp&gt;2.0&lt;/HourlyEnergyRampRateUp&gt;   &lt;HourlyEnergyRampRateDown&gt;9.0&lt;/HourlyEnergyRampRateDown&gt; &lt;/HourlyEnergyRampRate&gt; &lt;Reason&gt;ERPO&lt;/Reason&gt; &lt;OtherReason&gt;other reason code&lt;/OtherReason&gt; &lt;/Hourly&gt; &lt;/RealtimeEnergyBidSubmit&gt; </pre>
2	<p>Submit the XML file that has been prepared for RTEM data to MIM using MWT Toolkit or submit the XML file through API tool when the RT window for dispatch hours are in RT_CLOSE state.</p>	<p>Submission is unsuccessful, and an output file has been generated in response.</p>

Step	User Instruction	Expected Result
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	<p>Note: Market Participants may use MWT Toolkit or their own API tool of choice to submit data to MIM. Refer to the list of preconditions.</p>	 
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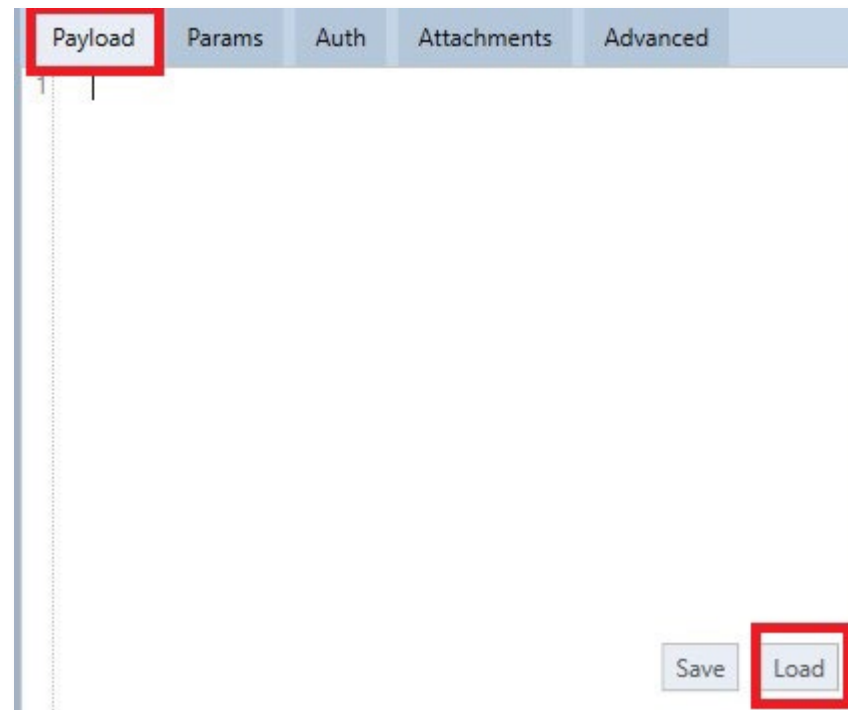
3	<p>Verify that the response file contains an error message.</p>	<p>The output file contains an error message, noting that the submission was not processed due to data being submitting for the RT_CLOSE window. RT Market is closed for hour: &lt;Delivery Hours submitted in RT_CLOSE window&gt;</p>
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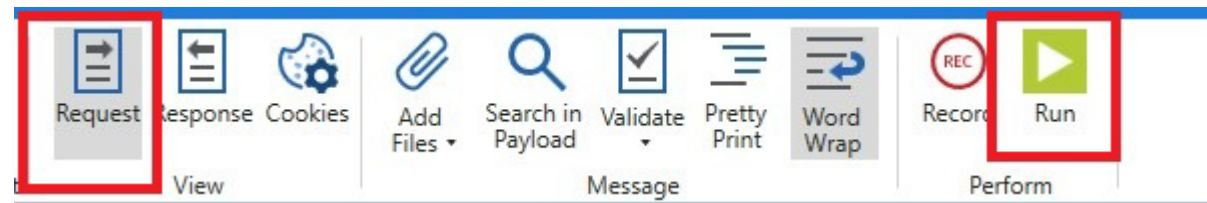
TC18: If the RT window for the submitting/specified hour is in DA\_RESTRICTED state, then the RTEM data cancellation is subject to operator approval

Step	User Instruction	Expected Result
1	Prepare an XML cancellation file for RTEM data where the submitting/specified hours in file are in the DA_RESTRICTED state.	XML cancellation file has been prepared successfully. <pre>&lt;?xml version='1.0' encoding='UTF-8'&gt; &lt;RealtimeEnergyBidCancel xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="http://webservices.ieso.ca/emim-types/" xsi:schemaLocation="http://webservices.ieso.ca/emim-types/ emim.xsd"&gt;   &lt;ActAsMarketParticipant&gt;     &lt;Participant&gt;PNAME&lt;/Participant&gt;     &lt;User&gt;UNAME&lt;/User&gt;   &lt;/ActAsMarketParticipant&gt;   &lt;Date&gt;     &lt;DeliveryDate&gt;2023-01-01&lt;/DeliveryDate&gt;   &lt;/Date&gt;   &lt;BidOffer&gt;GENERATOR&lt;/BidOffer&gt;   &lt;ResourceName&gt;RNAME&lt;/ResourceName&gt;   &lt;!-- Minimum of 1 must be present and maximum of 24 Hourly elements can be specified --&gt;   &lt;Hourly&gt;     &lt;Hour&gt;3&lt;/Hour&gt;     &lt;Reason&gt;FO&lt;/Reason&gt;     &lt;OtherReason&gt;other reason code&lt;/OtherReason&gt;   &lt;/Hourly&gt;   &lt;Hourly&gt;     &lt;Hour&gt;5&lt;/Hour&gt;     &lt;Reason&gt;FO&lt;/Reason&gt;     &lt;OtherReason&gt;other reason code&lt;/OtherReason&gt;   &lt;/Hourly&gt; &lt;/RealtimeEnergyBidCancel&gt;</pre>
2	Submit the XML file to MIM using MWT Toolkit or submit the XML file through API tool.  Note: Market Participants may use MWT Toolkit or their own API tool of choice to submit data to MIM. Refer to the list of preconditions.	If using an API tool, load the XML file into the payload section.

Step	User Instruction	Expected Result
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Run the request by clicking Run within the API tool.



Step	User Instruction	Expected Result
		If using the MWT Toolkit, submission is successful, and an output file has been generated in response.

```
D:\Project\MIMRelease2Latest\scripts>run-client.bat
INFO: Started web service client...
INFO: Reading configuration info from: ../request-files/ws-client.properties
INFO: Endpoint:
INFO: Started processing request: rtem/RTEM_CANCEL.xml
INFO: Writing response to: D:\Project\MIMRelease2Latest\scripts\..\response-files\rtem\RTEM_CANCEL-out.xml
INFO: Finished processing request: rtem/RTEM_CANCEL.xml
INFO: Finished client.
```

DATA_D (D:) > Project > MIMRelease2Latest > response-files > rtem				
	Name	Date modified	Type	Size
	 RTEM_CANCEL-out.xml	2024-07-04 10:42 PM	XML File	1 KB

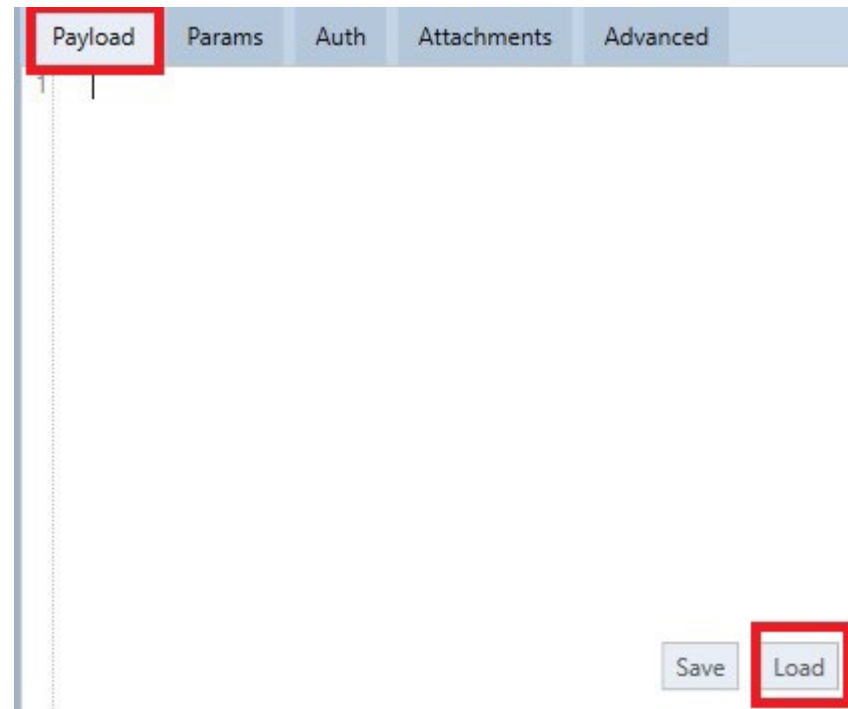
3	Verify the message in the response file.	The output file contains the message: "Cancellation is successful and is waiting for operator approval."
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```
<?xml version="1.0" encoding="UTF-8"?><ns1:BidProcessingStatus xmlns:ns1="http://webservices.ieso.ca/emim-types/">
  <ns1:SubmissionTime>2024-07-04T23:32:39.302-05:00</ns1:SubmissionTime>
  <ns1:TransactionId>{ }</ns1:TransactionId>
  <ns1:Message>
    <ns1:Severity>INFO</ns1:Severity>
    <ns1:Code>PMPROC_I_CANCEL-APPROVAL-NEEDED</ns1:Code>
    <ns1:Description>Cancellation is successful and is waiting for operator approval.</ns1:Description>
  </ns1:Message>
</ns1:BidProcessingStatus>
```

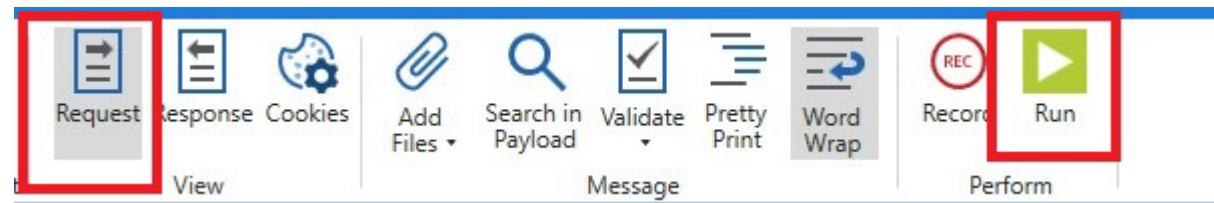
TC19: If the RT window for the submitting/specified hour is in RT\_Mandatory state, then the RTEM data cancellation is subject to operator approval

Step	User Instruction	Expected Result
1	Prepare an XML cancellation file for RTEM data where the submitting/specified hours in file are in the RT_Mandatory state	XML cancellation file has been prepared successfully. <pre>&lt;?xml version='1.0' encoding='UTF-8'&gt; &lt;RealtimeEnergyBidCancel xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="http://webservices.ieso.ca/emim-types/" xsi:schemaLocation="http://webservices.ieso.ca/emim-types/ emim.xsd"&gt;   &lt;ActAsMarketParticipant&gt;     &lt;Participant&gt;PNAME&lt;/Participant&gt;     &lt;User&gt;UNAME&lt;/User&gt;   &lt;/ActAsMarketParticipant&gt;   &lt;Date&gt;     &lt;DeliveryDate&gt;2023-01-01&lt;/DeliveryDate&gt;   &lt;/Date&gt;   &lt;BidOffer&gt;GENERATOR&lt;/BidOffer&gt;   &lt;ResourceName&gt;RNAME&lt;/ResourceName&gt;   &lt;!-- Minimum of 1 must be present and maximum of 24 Hourly elements can be specified --&gt;   &lt;Hourly&gt;     &lt;Hour&gt;3&lt;/Hour&gt;     &lt;Reason&gt;FO&lt;/Reason&gt;     &lt;OtherReason&gt;other reason code&lt;/OtherReason&gt;   &lt;/Hourly&gt;   &lt;Hourly&gt;     &lt;Hour&gt;5&lt;/Hour&gt;     &lt;Reason&gt;FO&lt;/Reason&gt;     &lt;OtherReason&gt;other reason code&lt;/OtherReason&gt;   &lt;/Hourly&gt; &lt;/RealtimeEnergyBidCancel&gt;</pre>
2	Submit the XML file to MIM using MWT Toolkit or submit the XML file through API tool.  Note: Market Participants may use MWT Toolkit or their own API tool of choice to submit data to MIM. Refer to the list of preconditions.	If using an API tool, load the XML file into the payload section.

Step	User Instruction	Expected Result
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Run the request by clicking Run within the API tool.



Step	User Instruction	Expected Result
		If using the MWT Toolkit, submission is successful, and an output file has been generated in response.

```
D:\Project\MIMRelease2Latest\scripts>run-client.bat
INFO: Started web service client...
INFO: Reading configuration info from: ../request-files/ws-client.properties
INFO: Endpoint:
INFO: Started processing request: rtem/RTEM_CANCEL.xml
INFO: Writing response to: D:\Project\MIMRelease2Latest\scripts\..\response-files\rtem\RTEM_CANCEL-out.xml
INFO: Finished processing request: rtem/RTEM_CANCEL.xml
INFO: Finished client.
```

DATA_D (D:) > Project > MIMRelease2Latest > response-files > rtem				
	Name	Date modified	Type	Size
	RTEM_CANCEL-out.xml	2024-07-04 10:42 PM	XML File	1 KB

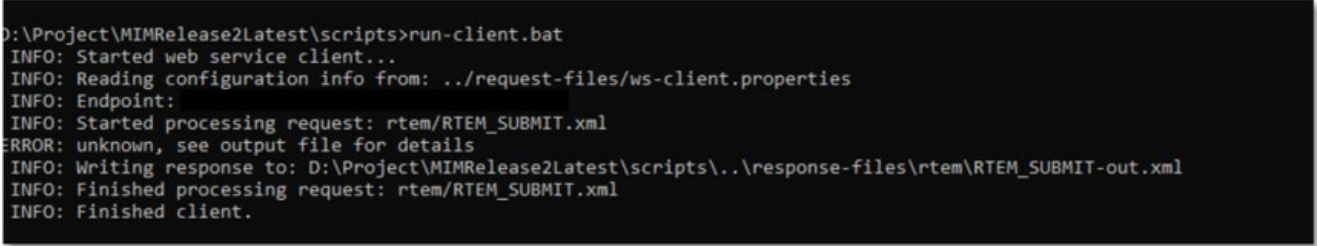
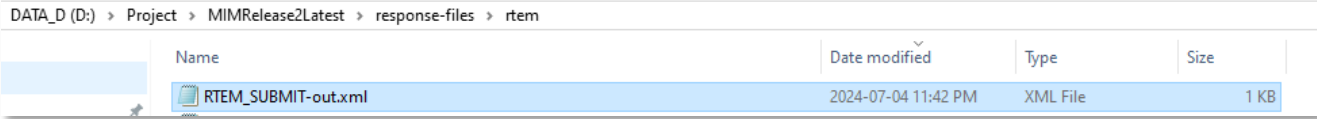
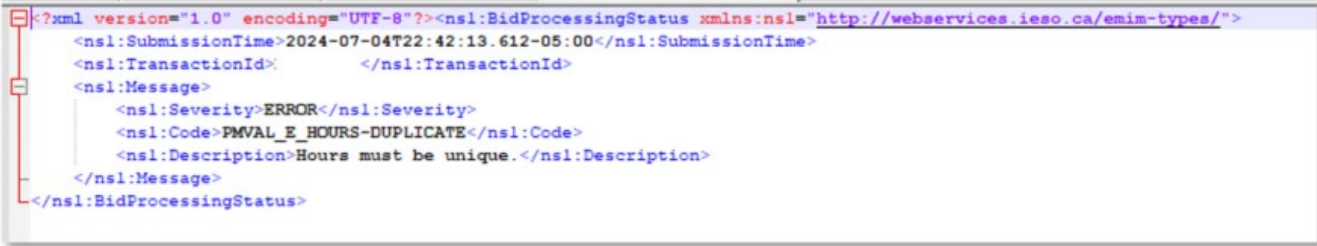
3	Verify the message in the response file.	The output file contains the message: "Cancellation is successful and is waiting for operator approval."
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```
<?xml version="1.0" encoding="UTF-8"?><ns1:BidProcessingStatus xmlns:ns1="http://webservices.ieso.ca/emim-types/">
  <ns1:SubmissionTime>2024-07-04T23:32:39.302-05:00</ns1:SubmissionTime>
  <ns1:TransactionId>{ }</ns1:TransactionId>
  <ns1:Message>
    <ns1:Severity>INFO</ns1:Severity>
    <ns1:Code>PMPROC_I_CANCEL-APPROVAL-NEEDED</ns1:Code>
    <ns1:Description>Cancellation is successful and is waiting for operator approval.</ns1:Description>
  </ns1:Message>
</ns1:BidProcessingStatus>
```

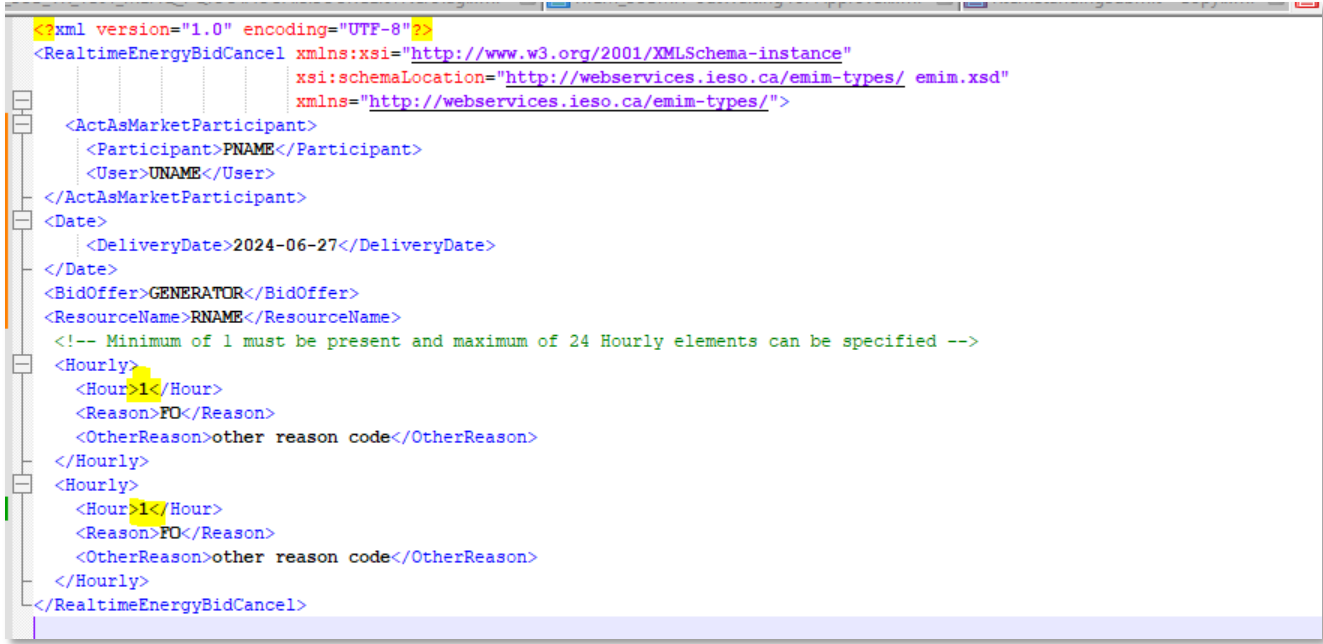


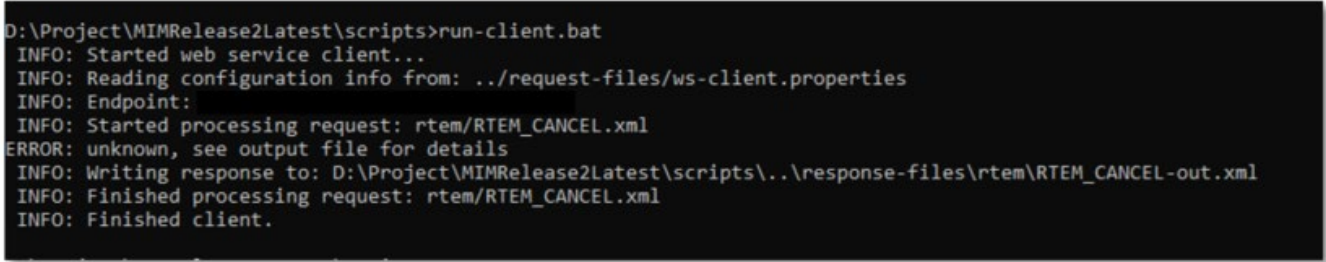
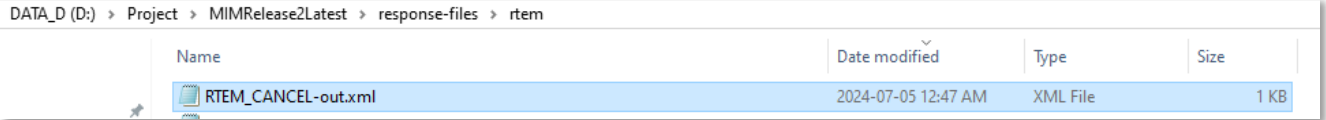
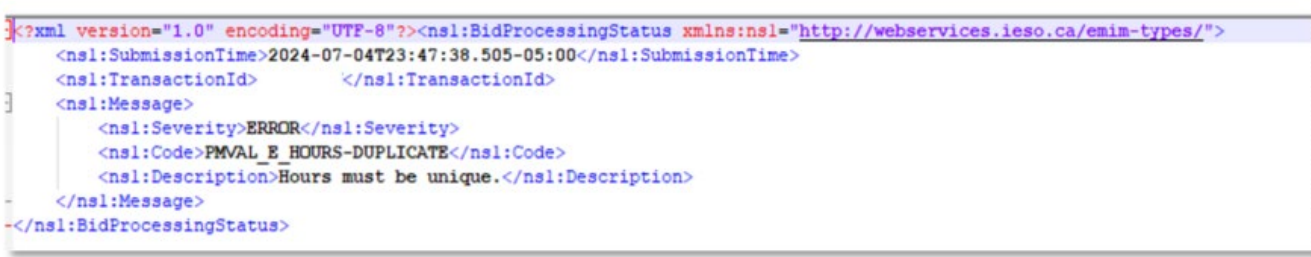
## TC20: Verify that an error is returned for the submission of Real-Time Energy Market data for duplicate hours (non-unique hours)

Step	User Instruction	Expected Result
1	Prepare an XML submission file for RTEM data with duplicate hours in the hour field	XML submission file has been prepared successfully. 
2	Submit the XML file that has been prepared for RTEM data	Submission is unsuccessful, and an output file has been generated in response.

Step	User Instruction	Expected Result
	<p>to MIM using MWT Toolkit or submit the XML file through API tool.</p> <p>Note: Market Participants may use MWT Toolkit or their own API tool of choice to submit data to MIM. Refer to the list of preconditions.</p>	 
3	<p>Verify that the response file contains an error or failure message.</p>	<p>The output file contains an error response: "Hours must be unique."</p> 

## TC21: Verify that an error is returned for the cancellation of Real-Time Energy Market data for duplicate hours (non-unique hours)

Step	User Instruction	Expected Result
1	<p>Prepare an XML cancellation file for RTEM data with any one submitting hour as duplicate hours in Hour field.</p>	<p>XML cancellation file has been prepared successfully.</p> 
2	<p>Submit the XML file to MIM using MWT Toolkit or submit the XML file through API tool.</p> <p>Note: Market Participants may use MWT Toolkit or their own API tool of choice to submit</p>	<p>Cancellation is unsuccessful, and an output file has been generated in response.</p>

Step	User Instruction	Expected Result
	data to MIM. Refer to the list of preconditions.	 
3	Verify that the response file contains an error or failure message.	<p>The output file contains an error response: "Hours must be unique."</p> 

## Additional Resources

- [MRP Market Trials Test Plan](#)
- Energy Market Interface/Market Information Management (MIM)
  - [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](#)

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