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# **Energy Portfolio Management**

Implementation Guide for SEM

Release 5.7.0.0

EMDDB-0090-2003-16

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# Chapter 1: Overview

This implementation guide covers the initial configuration and testing required for Market Operations connectivity to the SEMO via Type 3. After completion of the activities in this guide, authorized Market Operations users will be able to:

- Create and manage SEMO digital certificates in the form of external credentials,
- Request MPI reports, and have the data from those reports available from Market Operations screens,
- Enter, accept, and submit offers to the SEMO, and
- Download invoices, statements, PIRs, RARs, and CCRs from the SEMO settlement system

# Chapter 2: Assumptions

It is assumed that the activities described in the sections below have been carried out prior to reading this document.

## 2.1 Prior Reading

The reader will have reviewed the following documentation:

- Product Installation Guide "Retail Operations/ Market Operations Server Installation", included with the Market Operations server setup.
- Microsoft KB Article ID 179380, "How to Remove, Import, and Export Digital Certificates" (<http://support.microsoft.com/kb/179380>).
- Any client-specific Installation Guides created by ABB after completing the initial Product Installation.

## 2.2 SEM Digital Certificates for Type 3

To communicate with the SEMO from Market Operations, users must have obtained a digital certificate under Agreed Procedure 3, "Communication Channel Qualification". A different digital certificate in .pfx or .p12 format is required for each relevant Market Participant.

## 2.3 Application Server

The Market Operations application server has been successfully configured per the document "Market Operations Server Installation." In particular, the MM and MEX war files must have been successfully deployed, and the MEX user must have been configured in the Tomcat Administrator.

## 2.4 Database Server

The Market Operations database server has been successfully configured, and a Market Operations schema has been created or imported.

## 2.5 Client Browser

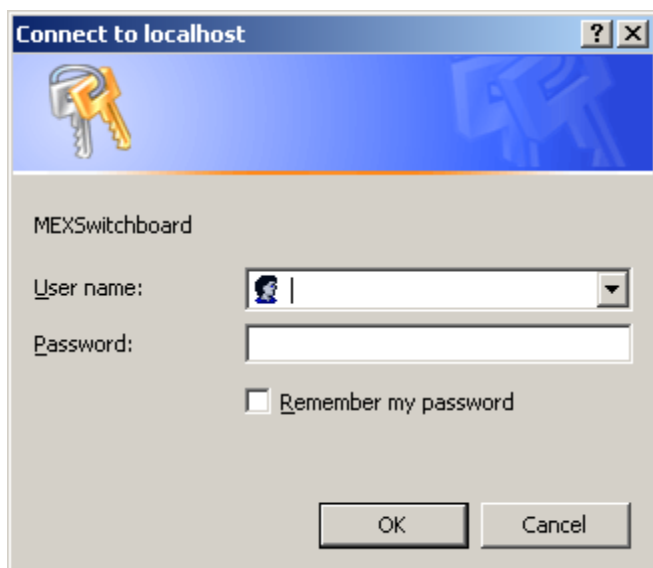
The following configurations have been performed from a client browser:

- The Market Operations login URL is accessible
- Data source(s) have been configured
- Application login is successful (home screen available)

## Chapter 3: MEX Connectivity Verification for SEM

The MEX middleware application contains a test web page for verifying connectivity to external systems. The URL for the test page is of the form `http://<Market Operations web server>/mex<MEX version>/test.html`. The test page may usually be invoked from a browser running on the application server using localhost; an example URL of this form is <http://localhost/mex5.1.0.7/test.html>.

Because access to the MEX website is secured through Tomcat, hitting the MEX test page URL should result in a prompt for user authentication, as shown below:





Enter the MEX user name and password as configured during the application server setup to be taken to the test page. A screenshot of the test page is shown below.

**MEX Switchboard Test Page - Microsoft Internet Explorer**

File Edit View Favorites Tools Help

Address <http://localhost/mex4.0.2.8/test.html> Go Links »

## MarketEXchange Switchboard Test Page

---

### Required Parameters

Market Name:

Action Category:

---

### Authentication

Include User Name / Password: ☐

Number of Certificates: ☒ none ☐ one ☐ two

---

### Request Body

Include Request: ☐

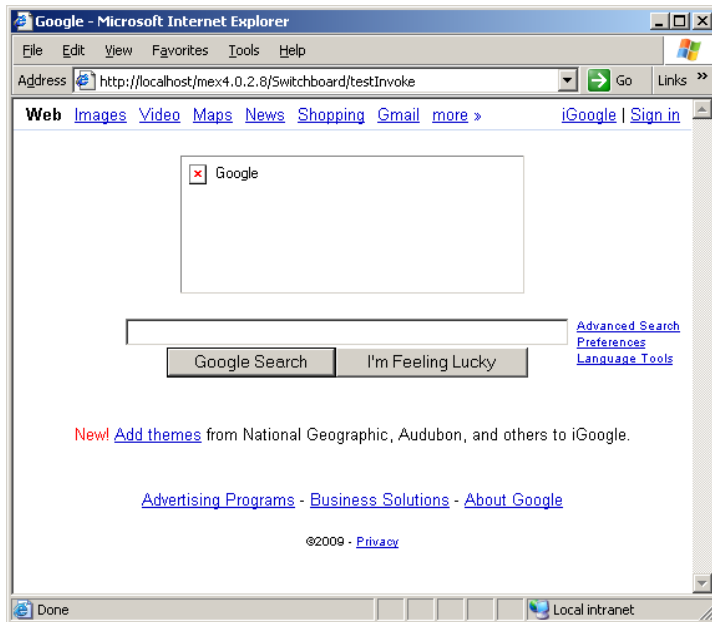
---

### Optional Parameters

---

Done Local intranet

Depending on firewall settings, connectivity to sites outside the firewall may be tested at this point. Using the default settings on the test page, click the **Submit Query** button to fetch the Google home page, as shown below.



**Note:** The URL in the address bar is not <http://www.google.com>, but instead is the result of the MEX fetch of the Google home page.

The next test is an attempt to retrieve a public MPI report from the SEM Type 3 environment. Enter the following parameters on the MEX test page:

- Market Name: **sem**
- Action Category: **mpi.reports**
- Include User Name/ Password: **checked**
- Number of Certificates: **one**
- Include Request: **checked**
- Optional Parameters: **Should be blank**

The test page configuration so far is shown in the following screenshot.

**Required Parameters**

Market Name:

Action Category:

**Authentication**

Include User Name / Password: ☒

User Name:

Password:

Number of Certificates: ☐ none ☒ one ☐ two

Certificate File:

Certificate Password:

**Request Body**

Include Request: ☒

Attach Contents From File: ☐

Request Content-Type:

Request Contents:

**Optional Parameters**

Next, fill in the remainder of the Authentication section. The User Name should be the user of the certificate; this will be the same value shown for the User in the Type 2 SEMO interface. The Password field may be left blank, as the remainder of the authentication is done by the digital certificate and its password.

Use the **Choose File** button to select the .p12 certificate file, and then enter the Certificate Password.

Finally, add the Request Contents. This is the XML-formatted request for an MPI report.

```
<?xml version="1.0" encoding="utf-8"?>
<file_exchange xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:noNamespaceSchemaLocation="mi_file_exchange_sem.xsd">

    <market_report application_type="MARKET_REPORT"
        participant_name="PT_ID" user_name="MAIN_USER"
        mode="NORMAL">
        <report_request request_type="REPORT" action="DOWNLOAD"
            report_type="MARKET" report_sub_type="MISCELLANEOUS"
            periodicity="DAILY" trade_date="2007-11-01"
            report_name="PUB_D_ExchangeRate" file_type="XML"
            version_no="1.0" multiple_messages="false"></report_request>
        </market_report>
    </file_exchange>
```

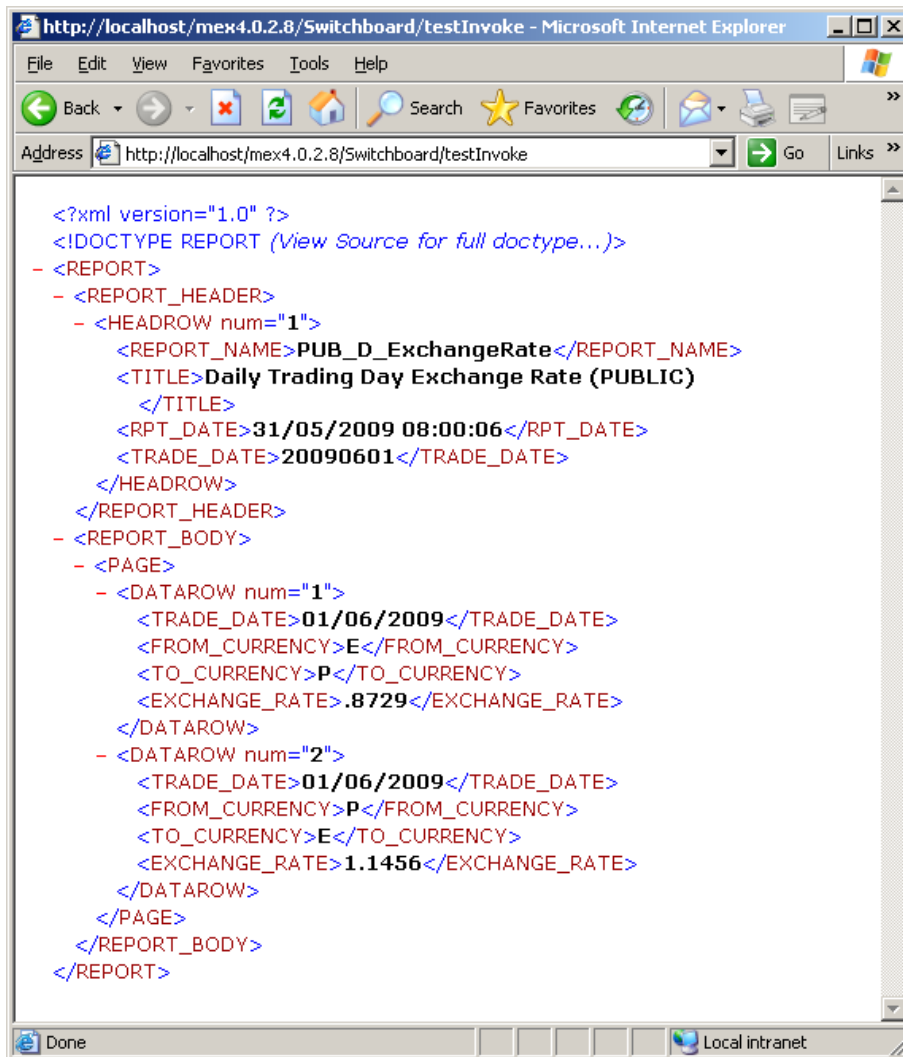
Update the XML request with parameters specific to your SEMO participant access.

Update the **participant\_name** and **user\_name** elements for your organization and certificate credentials.

Update the **trade\_date** element with yesterday's date (or a date for which you know the Type 3 system has data) in YYYY-MM-DD format.

This XML should **not** be copied from this document without extensive checking, as it is likely that the characters will not conform to UTF-8. Quote characters are most likely to become malformed. An XML validation tool such as HTML Tidy or XML Spy can help identify and resolve XML validation errors.

After updating the participant, user, and date elements of the XML request, click the **Submit** button. An example of a successful response is shown below.



At this point, connectivity between the Market Operations application server and the SEMO Type 3 system has been established.

# Chapter 4: Market-Specific System Configuration

The initial steps to configuring the Market Operations application for SEM functionality involve database configuration. Some of these steps can be done using administrative functions in the application user interface, but other steps requiring executing SQL scripts – using Oracle SQL-PLUS or equivalent.

The application server setup program creates a folder of Oracle script files during installation. This folder will be referenced as *<OracleScripts>* in the steps below.

## 4.1 Database Scripts

Execute the script *<OracleScripts>\MarketManager\SEM\SetupMarket.sql*.

This script will also load UI configuration files. If error messages are generated during the loading of UI configuration, you may need to load the files manually afterwards. See next section for details.

## 4.2 UI Configuration Files

Importing user interface configuration for the reports and screens that are specific to SEM functionality is done as part of the database scripts described in the previous section. If, however, an error is encountered during this step, it may be necessary to load this configuration manually. This section details this manual procedure.

### 4.2.1 How to Load Configuration Files

You will first need to open the System Object Configuration view.

1. Login to the application as an administrative user or "super-user"
2. Click the "Admin" link in the home page tree
3. Select the tab named System Object Configuration

To import a file, right-click in the tree and select **Configuration Import/Export > Configuration Import**. In the resulting dialog, leave the Exchange Type set to the default (Import All; Overwrite) and choose the file you want to import by clicking the button labeled "..." next to the Import File Name field. Finally, click the button at the bottom labeled "Run" to initiate the import. A message will be shown indicating the final disposition of the import operation once it has completed.

If a prior configuration import operation is left "open", it will be necessary to first close it. Similarly, if you load a file and the application indicates that it remains "open" (due to configuration conflicts identified during the import/merge step); you will need to close it before loading any subsequent files.

To close an import operation, perform the following steps:

1. Open the System Object Configuration view (see above for details)
2. Right-click in the tree, and select **Configuration Import/Export > Configuration Import Results**
3. In the resulting view, select the file imported from the Import drop-down at the top-left. It should be the top-most entry and should be indicated as open.
4. Right-click in the upper-right grid, labeled Configuration Objects, and choose **Manage Import > Close Import**.

## 4.2.2 Loading SEM Configuration Files

The following SEM configuration file must be loaded:

```
<OracleScripts>\MarketManager\SEM\SEMConfigs\SEMSystemConfig.xml
```

Another step automatically performed by the database script described above is the execution of the following SQL script. If it fails to run during the execution of the SetupMarket script then it may need to be run manually:

```
<OracleScripts>\MarketManager\SEM\SEMConfigs\SEMConfigTweaks.sql
```

## 4.3 Shadow Settlement Configuration Files

The next step involves importing charge component configuration for SEM shadow settlement.

### 4.3.1 How to Load Configuration Files

You will first need to open the ROML Publish and Subscribe view.

1. Login to the application as a "super-user"
2. Click the "Admin" link in the home page tree
3. Select the tab named ROML Publish and Subscribe

From this view, you can import a file by clicking the button in the left-hand panel that says **Import from File**. You will be prompted to select a file to import and can browse your computer's file system from this prompt. After selecting the file, click the button that says **OK**.

### 4.3.2 Loading SEM Configuration Files

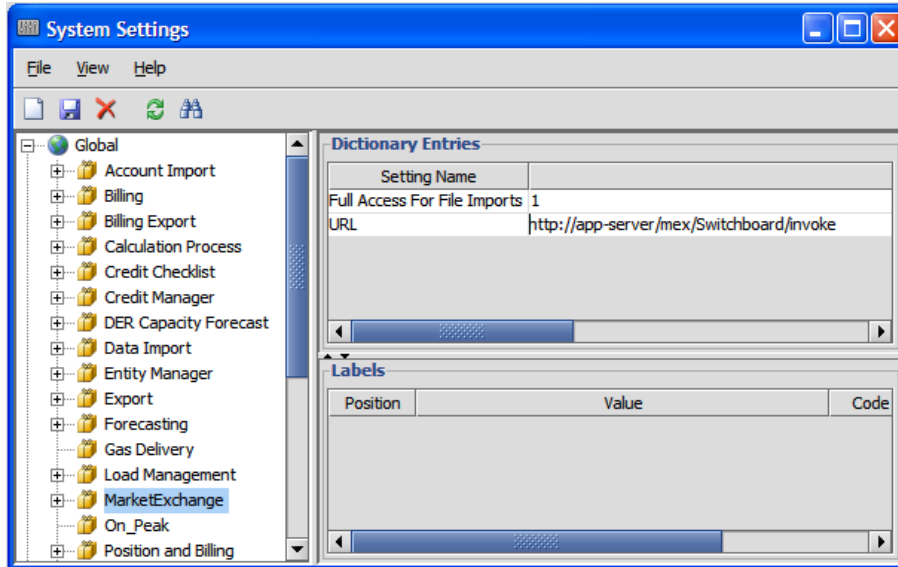
The following SEM configuration file must be loaded using the steps described above:

```
<OracleScripts>\Market Operations\SEM\SEM_Products.ROML
```

# Chapter 5: System Settings

The System Settings dialog is available either from the Admin > System Settings link on the Market Operations home page or from the Tools > Configuration > System Settings menu in Market Operations.

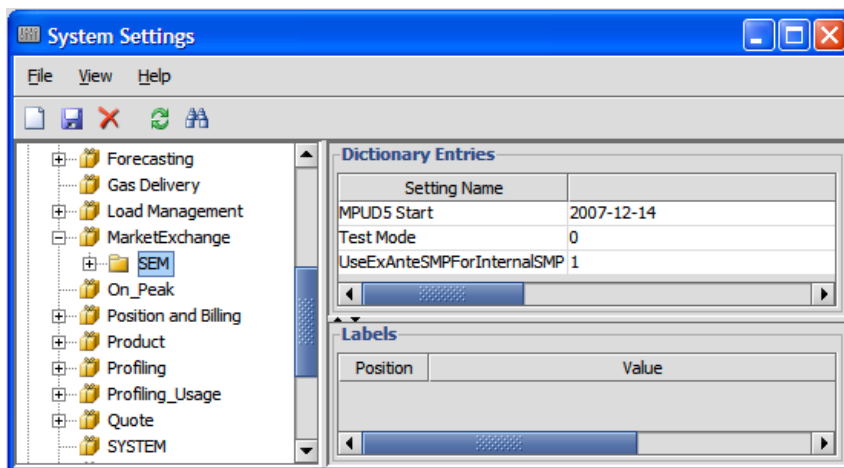
In the System Settings dialog, select Global > MarketExchange from the tree to view the settings shown below.



Update the value of the URL setting to point to the MEX website. Replace "app-server" with the DNS name of the Market Operations application server. Replace "mex" with the name of the MEX website, which will probably be of the form mex<version> (for example, "mex5.1.0.7").

Next, expand the MarketExchange node and select the SEM node under it in the tree.

Update the value of the Test Mode setting to 0 (zero) to allow Market Operations to communicate with the SEMO. If the Test Mode is set to 1 (one), Market Operations will always return a canned response to requests made to SEMO.



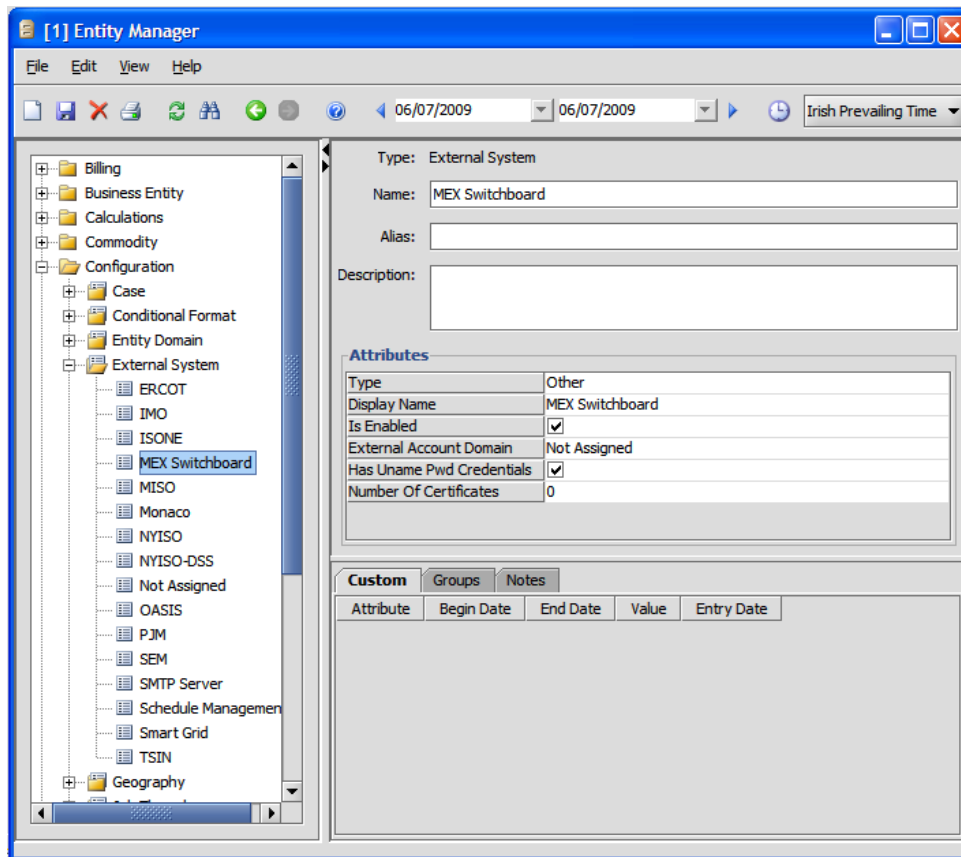


# Chapter 6: Initial Entity Manager Configuration

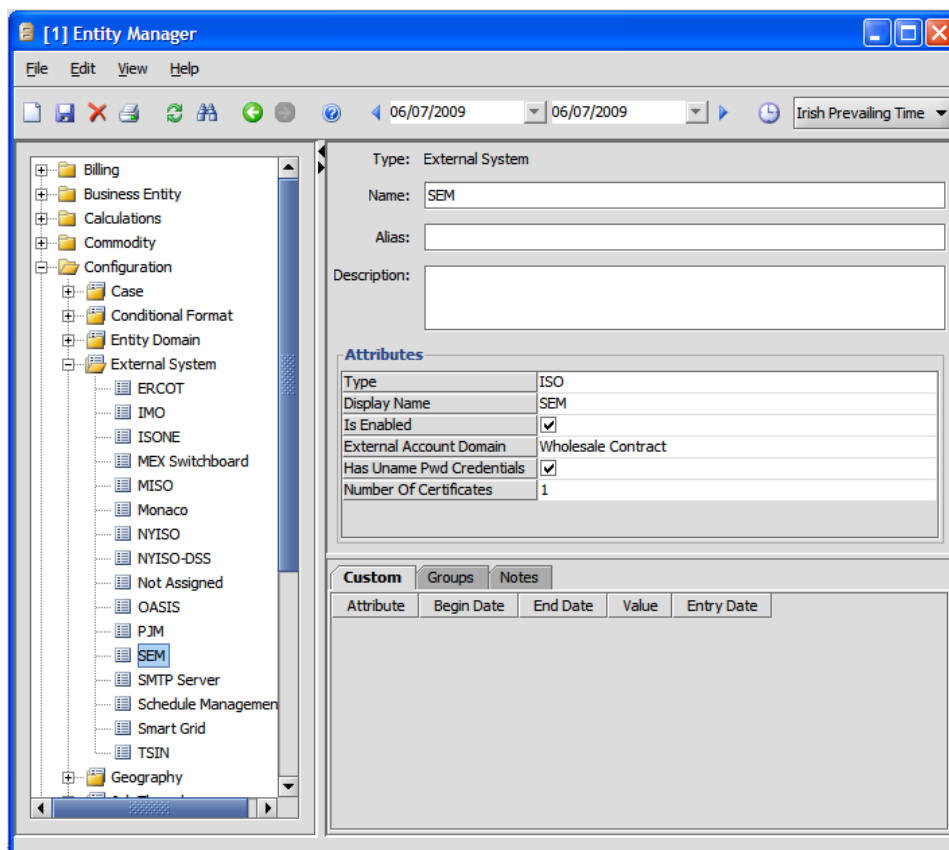
## 6.1 External System

Market Operations uses entities named External Systems to manage connectivity and security to various systems. To communicate with the SEMO via Type 3, the MEX Switchboard and SEM external systems must be configured.

Open the Entity Manager from the Tools > Entity Manager Menu option, then select Configuration > External System > MEX Switchboard from the tree. Verify that the Attributes are set as shown below.



Next, select the SEM External System and verify the Attributes are set as shown below.



## 6.2 Contract Entities for External Credentials

Market Operations uses contract entities to manage the link between external credentials, users, and market participants. A contract entity for external credential use must be configured for each market participant (each participant identifier) you will have digital certificates for.

In the Entity Manager, select Contract > Wholesale Contract. Enter a name, then select the External Identifiers sub-tab and enter the participant identifier for the SEM external system. No other attributes need to be changed. In the example below, the name of the contract matches the participant ID, which has been entered as PT\_400099.

The screenshot shows the Entity Manager application window. The left pane displays a tree view of the entity hierarchy, with 'Contract' > 'Wholesale Contract' > 'PT\_400099' selected. The right pane shows the configuration details for this entity.

**Type:** Wholesale Contract

**Name:** PT\_400099

**Alias:** ?

**Description:** ?

**Attributes**

Market Type	
Loss Option	
File Name	

**External Identifiers** | Groups | Notes

External System	Identifier Type	External Identifier
SEM	Default	PT_400099
MEX Switchboard	Default	

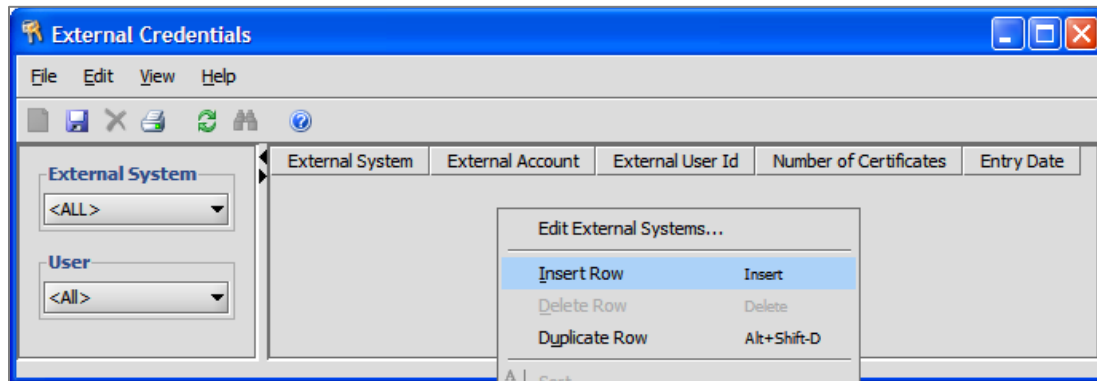
# Chapter 7: External Credential Configuration

External credentials are entered in Market Operations from the Tools > External Credentials dialog. Users with the Administrator role are allowed to update external credentials for any user. Users with any other role are allowed to update their own external credentials.

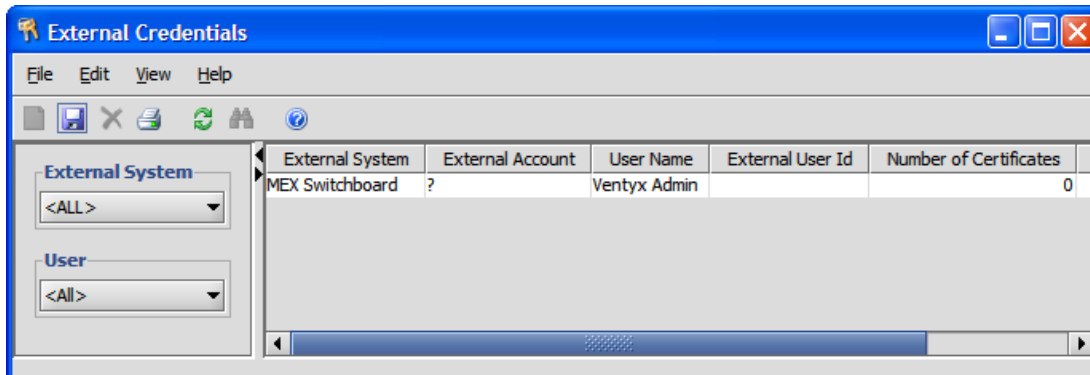
Typically the MEX Switchboard external system has a single external user ID and applies to all Market Operations users. Credentials for the SEM external system apply either to all users for each market participant, or per user per participant.

## 7.1 MEX Switchboard

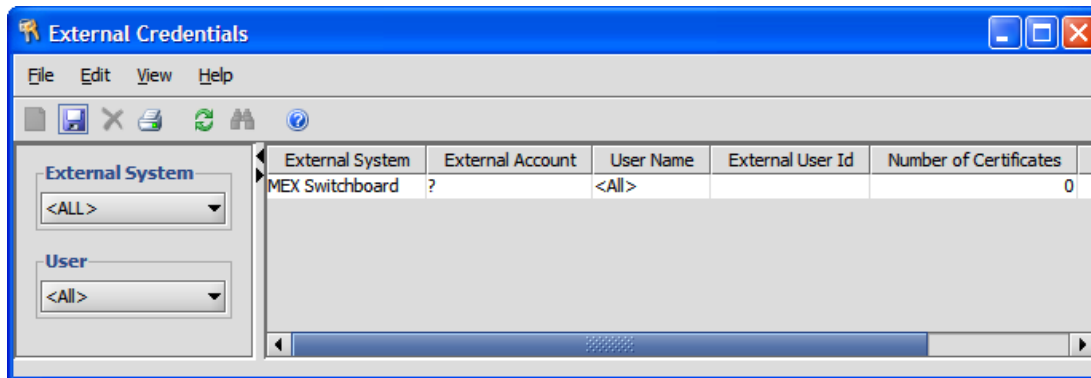
From the External Credentials dialog, add a row to the grid by right-clicking in the grid and selecting **Insert Row**, as highlighted below.



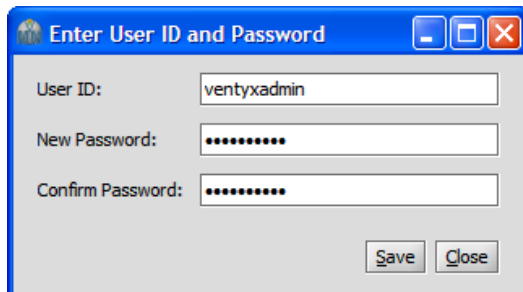
Double-click on the External System cell and select MEX Switchboard. If the MEX Switchboard option is not shown, verify its external system configuration in the Entity Manager. After selecting MEX Switchboard, save the report to fill in the other attributes.



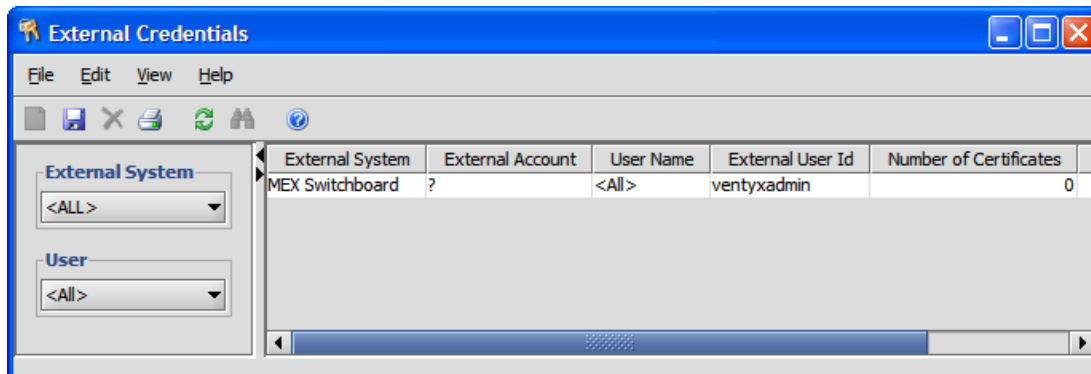
Update the MEX Switchboard external credential to apply to all users by editing the User Name cell to be "<All>".



Next, right-click in the External User ID cell and select "User ID and Password...". Enter the MEX username and password, then select Save to return to the External Credentials dialog.

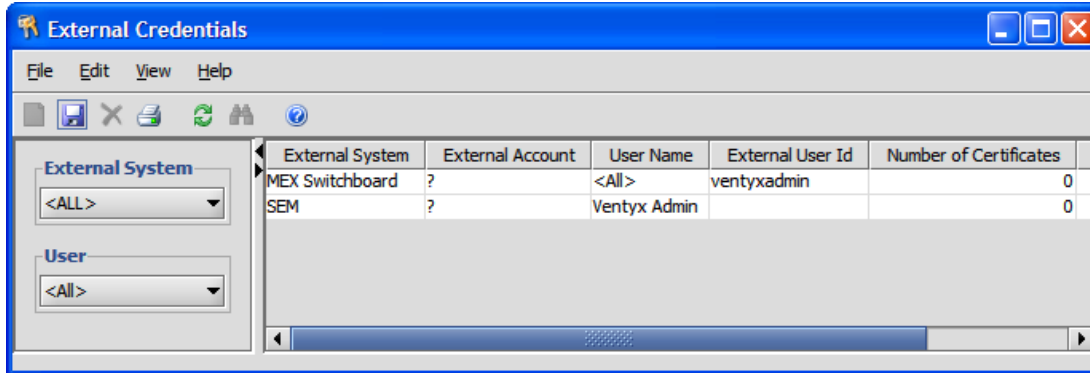


The final configuration of the MEX Switchboard external credential is shown below.

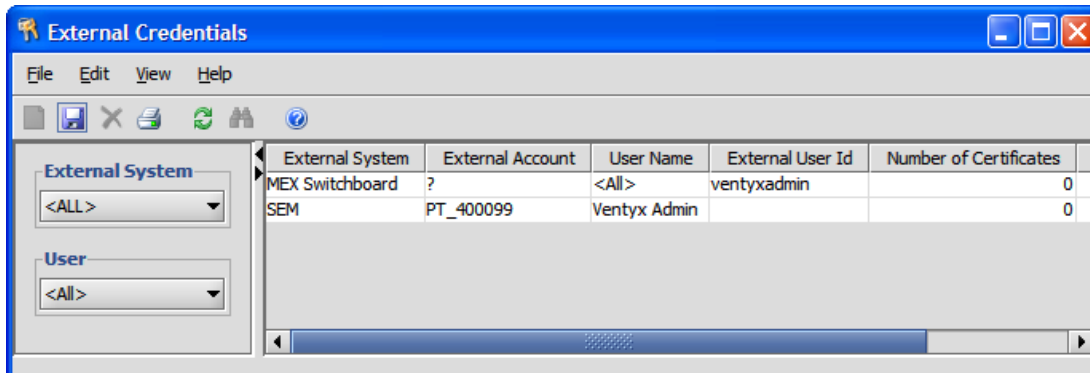


## 7.2 SEM

You should add an external credential to Market Operations for each digital certificate you have been issued by the SEMO. Start by adding a new row to the External Credentials dialog, selecting the SEM external system, and saving the new row.

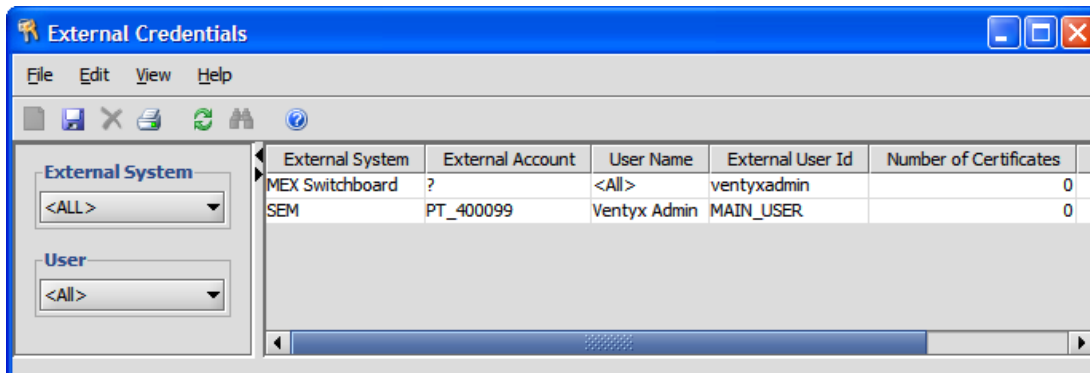


Select the external account for this digital certificate. This example shows the same PT\_400099 identifier from the contract created earlier.



By default, this external credential applies only to the user who added the credential (in this case, "ventyxadmin"). If this credential applies to all users, update the User Name with "<ALL>".

Next, right-click in the External User ID cell and select "User ID and Password...". Enter the applicable username for this credential (it should be unique to the user and digital certificate). No password is required (the password applies to the certificate, not to the username). Select Save to return to the External Credentials dialog. In this example, the user is MAIN\_USER.



Add the digital certificate to the credential by right-clicking in the Number of Certificates cell, and selecting "Certificates...". In the Certs dialog, right-click on the grid and select "Upload Certificate...". Enter the full path, or browse to, the digital certificate (in .p12 format) issued by the SEMO, the certificate expiration date, and the certificate password.

**Upload Certificate**

File Name: C:\Documents and Settings\jydens\Desktop\In Progress\MAIN\_USER\_PT\_400099\MAIN\_USER\_PT\_400099.p12 ...

Expiration Date: 16/04/2010

New Password: .....

Confirm Password: .....

Save Close

Save and close the Upload Certificate and Certs dialogs. The External Credentials window now shows that the PT\_400099 external credential for the user "ventyxadmin" has one certificate uploaded.

**External Credentials**

File Edit View Help

External System: <ALL>

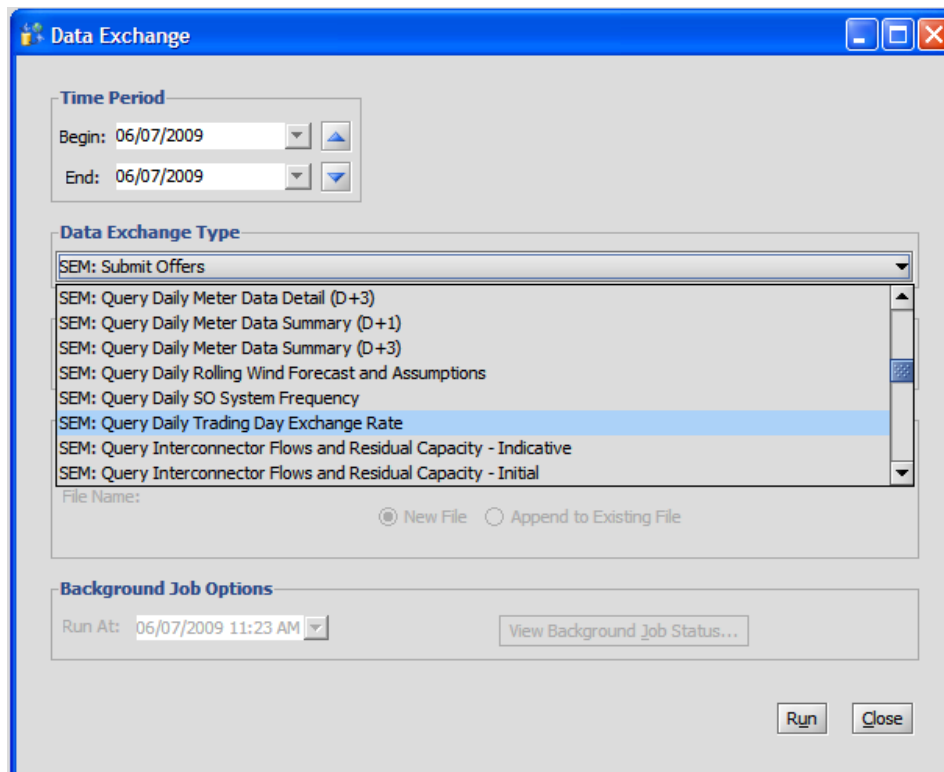
User: <All>

External System	External Account	User Name	External User Id	Number of Certificates
MEX Switchboard	?	<All>	ventyxadmin	0
SEM	PT_400099	Ventyx Admin	MAIN_USER	1

# Chapter 8: UI Connectivity Verification for SEM

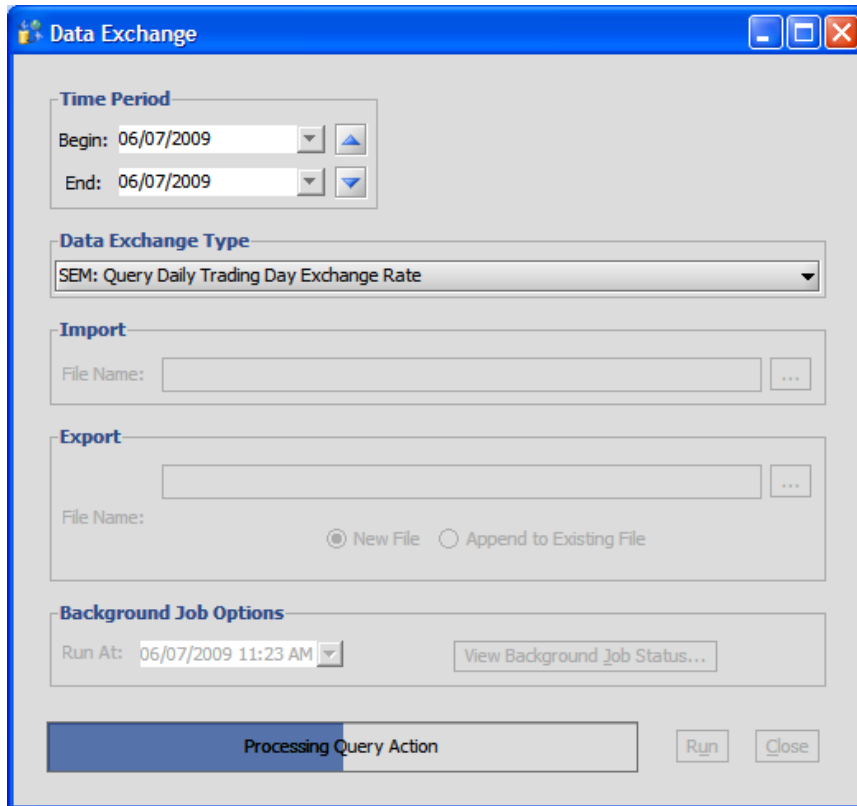
Market Operations is now configured to communicate with the SEMO via Type 3. That communication is initiated through the Data Exchange dialog, available from the Tools menu.

Open the Data Exchange dialog, and select "SEM: Query Daily Trading Day Exchange Rate" from the Data Exchange Type menu.

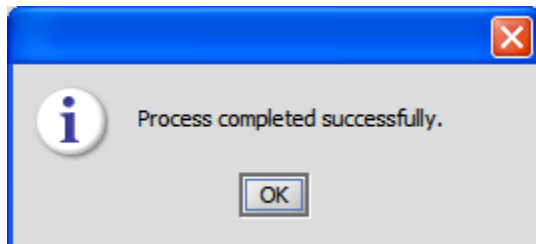




Set the begin and end dates under Time Period to the same date, one to two days in the past. Click the **Run** button to initiate the data exchange. During the market communication, a progress activity bar is shown on the dialog.

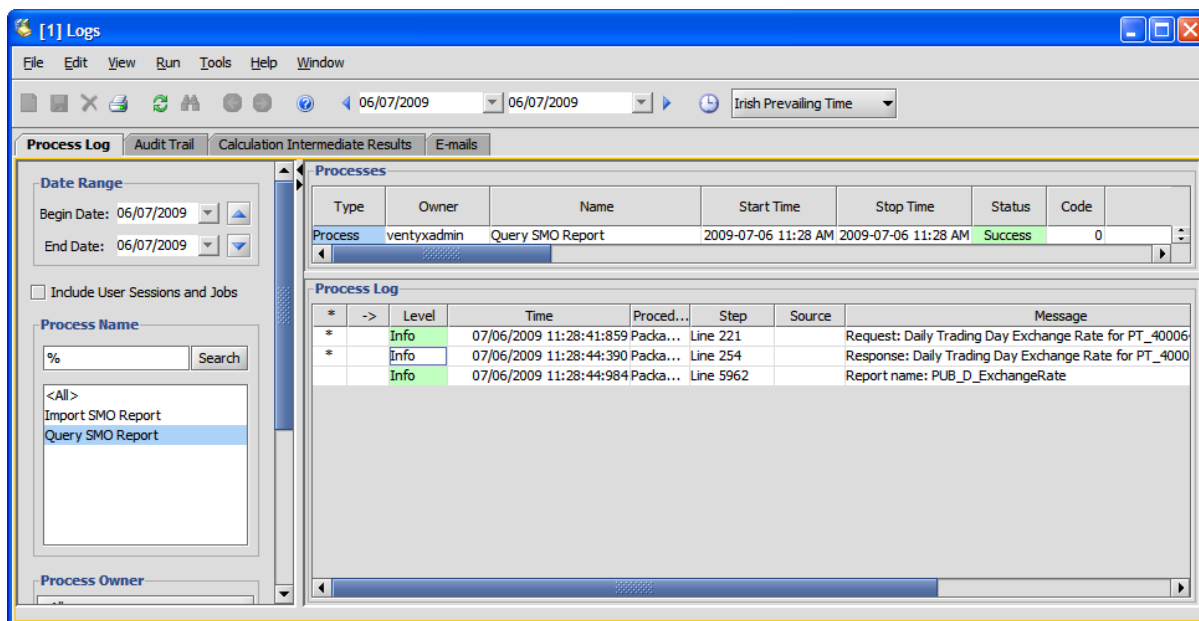


The data exchange should quickly (within 30 seconds) return the "Process completed successfully" dialog.

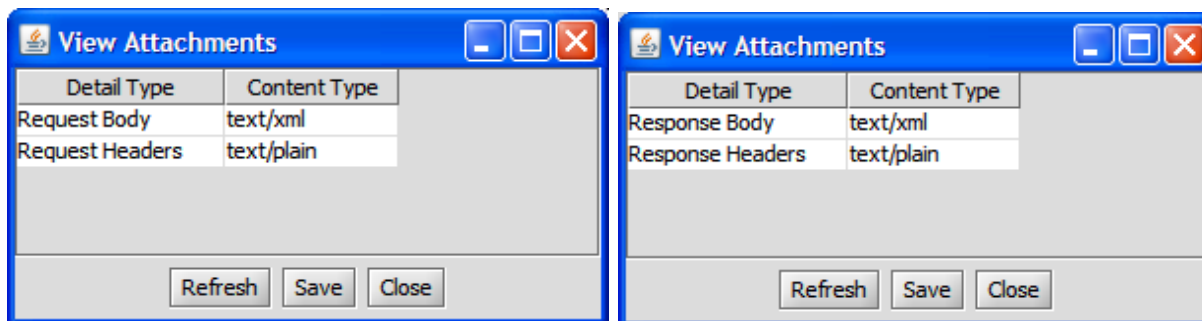


The results of this data exchange may be viewed on the Market Prices tab (SEM:Trading Day Exchange Rate: <Euro/Pound> to <Pound/Euro>; Price Type = A, Interval=Day).

The actual details of the request and response between Market Operations and the SEMO are shown in the Process Log. Select Tools > Logs, select the Process Log tab, then make sure the process Query SMO Report is included in the Process Name filter. The log date filters represent when the data exchange was executed, rather than the dates the exchange was executed for.



The log shows the *who*, *what*, and *when* of each data exchange execution. To see the request parameters sent to the SEMO and the response received from the SEMO, right-click on the relevant row of the detail grid displayed in the bottom pane and select View Attachments.



Double-click on the Body or Headers row to see their contents.

# Chapter 9: PSE and Service Point Configuration

Most of the SEMO functionality in Market Operations depends on market participants and resources being configured correctly.

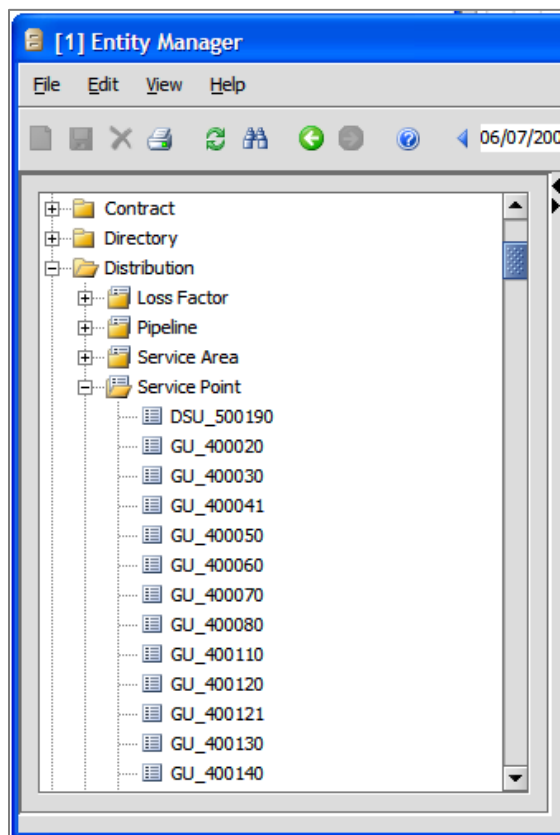
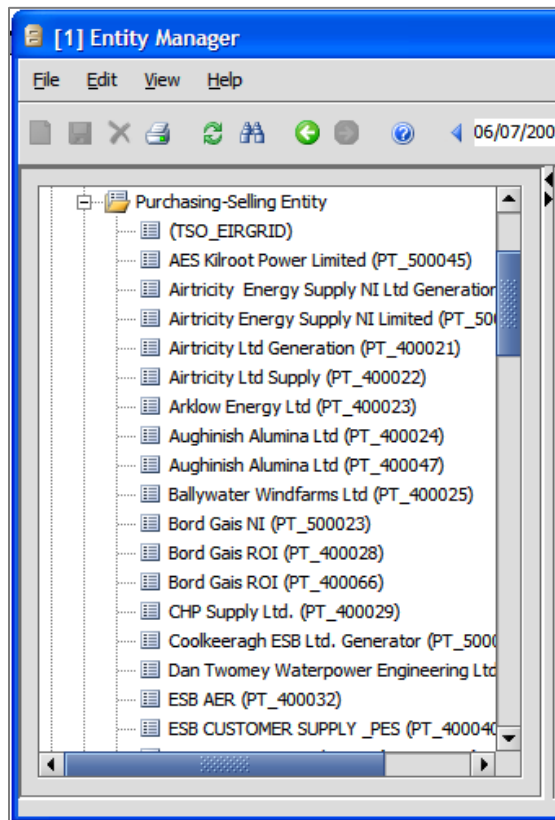
Both of these entity types are automatically set up when the SEMO report 53, List of Active Market Participants and Units, is downloaded.

To retrieve this report, run the data exchange named "SEM: Query List of Active Market Participants and Units" after setting the Time Period dates to one to two days in the past.

The results of this report are shown in the Active MP/Units report on the Other SEM Reports tab, and in the Entity Manager under Business Entity > Purchasing Selling Entity (for market participants) and Distribution > Service Point (for resources).

Participant Name	Resource Name	Resource Type	Effective Date	Expiration Date
AES Kilroot Power Limited (PT_500045)	GU_500820	PPMG	26/06/2009	31/12/9999
AES Kilroot Power Limited (PT_500045)	GU_500821	PPMG	26/06/2009	31/12/9999
AES Kilroot Power Limited (PT_500045)	GU_510820	APTG	26/06/2009	31/12/9999
Airtricity Energy Supply NI Ltd Generation (PT_500021)	GU_500010	APTG	26/06/2009	31/12/9999
Airtricity Energy Supply NI Ltd Generation (PT_500021)	GU_500020	APTG	26/06/2009	31/12/9999
Airtricity Energy Supply NI Ltd Generation (PT_500021)	GU_500740	APTG	26/06/2009	31/12/9999
Airtricity Energy Supply NI Ltd Generation (PT_500021)	GU_510010	APTG	26/06/2009	31/12/9999
Airtricity Energy Supply NI Ltd Generation (PT_500021)	GU_510020	APTG	26/06/2009	31/12/9999
Airtricity Energy Supply NI Ltd Generation (PT_500021)	GU_510740	APTG	26/06/2009	31/12/9999
Airtricity Energy Supply NI Limited (PT_500022)	SU_500020	SU	26/06/2009	31/12/9999
Airtricity Ltd Generation (PT_400021)	GU_400020	APTG	26/06/2009	31/12/9999
Airtricity Ltd Generation (PT_400021)	GU_400030	APTG	26/06/2009	31/12/9999
Airtricity Ltd Generation (PT_400021)	GU_400041	APTG	26/06/2009	31/12/9999
Airtricity Ltd Generation (PT_400021)	GU_400050	APTG	26/06/2009	31/12/9999
Airtricity Ltd Generation (PT_400021)	GU_400060	APTG	26/06/2009	31/12/9999
Airtricity Ltd Generation (PT_400021)	GU_400070	APTG	26/06/2009	31/12/9999
Airtricity Ltd Generation (PT_400021)	GU_400080	VPTG	26/06/2009	31/12/9999
Airtricity Ltd Generation (PT_400021)	GU_400580	APTG	26/06/2009	31/12/9999
Airtricity Ltd Generation (PT_400021)	GU_400591	APTG	26/06/2009	31/12/9999
Airtricity Ltd Generation (PT_400021)	GU_400600	APTG	26/06/2009	31/12/9999
Airtricity Ltd Generation (PT_400021)	GU_410020	APTG	26/06/2009	31/12/9999
Airtricity Ltd Generation (PT_400021)	GU_410030	APTG	26/06/2009	31/12/9999

**Note:** Most SEM functions and further configuration **will not function** if the Active MP/Units report has not been downloaded.



# Chapter 10: Generation Offer Setup

Market Operations holds offer data, as well as schedule data, in entities called Interchange Transactions (or simply Transactions for convenience). Each generating unit offered into the SEM has its own transaction, which links the generating unit to its offer data and cleared market schedule quantities.

## 10.1 Transaction Creation

From the Schedule Tree tab, right-click in the tree view and select **Edit Transaction** to bring up the Transaction Manager dialog. Set the following attribute values:

- Status: **Active**
- Type: **Generation**
- Identifier: Generation: **<GU\_NNNNNN> - <Gate Window Identifier>**
- Interval: **30 Minute**
- Begin Date: ***Date of unit entry into SEM***
- End Date: ***Date of unit exit from SEM, or 31-December-9999***
- Commodity: **Energy**
- Contract: ***Contract for participant this unit belongs to***
- Schedule Coordinator: **SEM**
- POD: ***GU identifier for unit***
- Is Bid Offer: ***Checked***
- Agreement Type: ***Gate Window for Offer (EA, EA2, WD1)***
- Trait Category: **Generation**

Transaction Manager

File Edit View Help

Type: Interchange Transaction

Name: GU\_400001 EA Offer

Alias: ?

Description: ?

Attributes

Status	Active
Type	Generation
Identifier	Generation:GU_400001 - EA
Interval	30 Minute
Begin Date	1/1/1900
End Date	12/31/9999
Resource	
Commodity	Energy
Contract	PT_400001
Purchaser	Not Assigned
Seller	Not Assigned
Schedule Coordinator	SEM
POR	Not Assigned
POD	GU_400001
Source	Not Assigned
Sink	Not Assigned
ZOR	Not Assigned
ZOD	Not Assigned
Market Price	Not Assigned
Schedule Group	Not Assigned
Is Firm	<input type="checkbox"/>
Is Import Schedule	<input type="checkbox"/>
Is Export Schedule	<input type="checkbox"/>
Is Bid Offer	<input checked="" type="checkbox"/>
Is Import Export	<input type="checkbox"/>
Is Dispatchable	<input type="checkbox"/>
Transmission Transaction	Not Assigned
Loss Transaction	Not Assigned
Service Type	Not Assigned
Path	
Etag Code	
Agreement Type	EA
Approval Type	
Trait Category	Generation
Loss Option	

Addresses External Identifiers Groups Notes

Schedule Management Custom Contacts

Balance Transactions Limits ETAG Details

Attribute	Begin Date	End Date	Value	Entry Date

**Save** this transaction, and close the dialog.

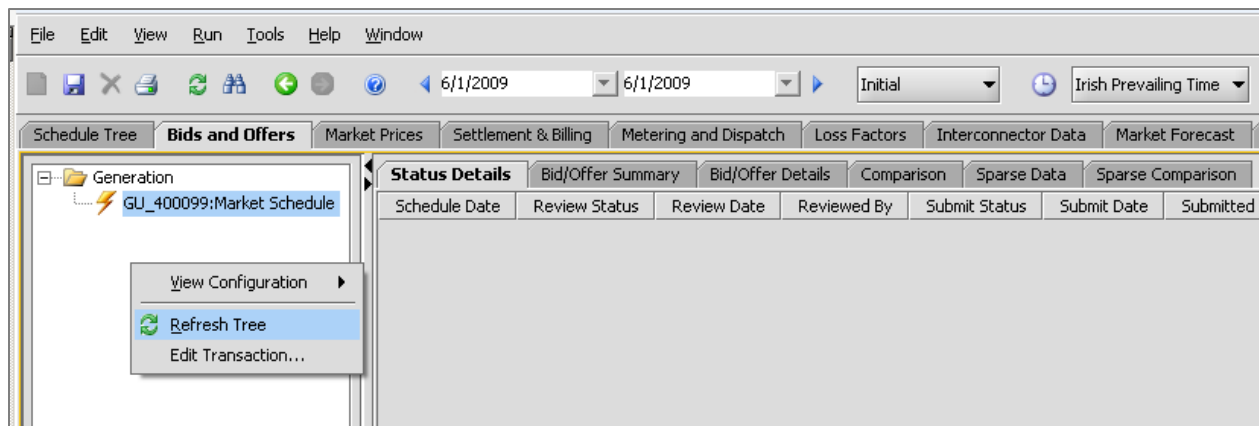
If other offer transactions need to be created, an existing offer transaction may be copied, and the relevant attributes updated. If an existing offer transaction is copied, make sure the following are updated:

- Identifier
- Contract
- POD
- Agreement Type

## 10.2 Offer Trait Entry

Offer data may now be entered for each generator offer to be submitted to the SEMO.

From the Bids and Offers tab, select the transaction for the generator as created in the previous section. You may have to right-click in the tree and select **Refresh Tree** to see the transaction.



The Bid/Offer Details sub-tab contains the daily offer data and offer curve. Initially, a single price-quantity pair is displayed. To add additional price-quantity pairs, right-click the row in the grid under Offer Curve for the trading date of interest, and select **Curve Editor**.

**Note:** The Set Number is ordered as text, but price-quantity pairs must be entered in consecutive set number order. In the screenshot below, three price-quantity pairs are shown.

Set #	P	Q
1	25.00	50
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
2	30.00	75
20		
3	40.00	95
4		
5		
6		
7		
8		
9		

Refresh Save Close

Schedule Tree	Bids and Offers	Market Prices	Settlement & Billing	Metering and Dispatch	Loss Factors																
<div>Interval</div> <div>&lt;Offer&gt;</div> <div> <div>Generation</div> <div>GU_400099:Market Schedule</div> </div>																					
<div>Bid/Offer Details</div> <div>Comparison</div> <div>Sparse Data</div> <div>Sparse Comparison</div>																					
<div>Status Details</div> <div>Bid/Offer Summary</div>																					
<table border="1"> <thead> <tr> <th>Date</th> <th>Start</th> <th>P 1</th> <th>Q 1</th> <th>P 2</th> <th>Q 2</th> <th>P 3</th> <th>Q 3</th> </tr> </thead> <tbody> <tr> <td>2009-06-01</td> <td></td> <td>25.00</td> <td>50</td> <td>30.00</td> <td>75</td> <td>40.00</td> <td>95</td> </tr> </tbody> </table>						Date	Start	P 1	Q 1	P 2	Q 2	P 3	Q 3	2009-06-01		25.00	50	30.00	75	40.00	95
Date	Start	P 1	Q 1	P 2	Q 2	P 3	Q 3														
2009-06-01		25.00	50	30.00	75	40.00	95														

Certain offer data, namely forecast minimum, maximum, and minimum output MW, must be submitted for all trading intervals in the day.

To enter this data, change the Interval filter from <Offer> to 30 Minute, and refresh the report.



Offers are submitted to the SEMO on a trading day basis, so 30-minute offer data must be entered across two calendar days. The example shown below is for the trading day 31-May-2009, beginning on interval-ending 06:30.

Date	Forecast			Nomination Profile	SEM	
	Min MW	Max MW	Min Output MW		Decremental Price	Energy Limited?
2009-05-31 00:30						<input type="checkbox"/>
2009-05-31 01:00						<input type="checkbox"/>
2009-05-31 01:30						<input type="checkbox"/>
2009-05-31 02:00						<input type="checkbox"/>
2009-05-31 02:30						<input type="checkbox"/>
2009-05-31 03:00						<input type="checkbox"/>
2009-05-31 03:30						<input type="checkbox"/>
2009-05-31 04:00						<input type="checkbox"/>
2009-05-31 04:30						<input type="checkbox"/>
2009-05-31 05:00						<input type="checkbox"/>
2009-05-31 05:30						<input type="checkbox"/>
2009-05-31 06:00						<input type="checkbox"/>
2009-05-31 06:30	123	197.56	0			<input type="checkbox"/>
2009-05-31 07:00	123	197.56	0			<input type="checkbox"/>
2009-05-31 07:30	123	197.56	0			<input type="checkbox"/>
2009-05-31 08:00	123	197.56	0			<input type="checkbox"/>
2009-05-31 08:30	123	197.56	0			<input type="checkbox"/>
2009-05-31 09:00	123	197.56	0			<input type="checkbox"/>
2009-05-31 09:30	123	197.56	0			<input type="checkbox"/>
2009-05-31 10:00	123	197.56	0			<input type="checkbox"/>
2009-05-31 10:30	123	197.56	0			<input type="checkbox"/>
2009-05-31 11:00	123	197.56	0			<input type="checkbox"/>
2009-05-31 11:30	123	197.56	0			<input type="checkbox"/>

# Chapter 11: SEM Offer Management UI

## 11.1 Generators

The screenshot shows the Ventyx Retail Operations - Application interface. The top toolbar includes filters for Date (11/1/2011), Generator (Indicative Actual), and Gate Window (Irish Prevailing Time). The main content area is divided into two sections: Commercial Offer Data and Forecast Data.

**Commercial Offer Data**

Trait Group	GU_111111			GU_111112			GU_111113		
	EA	EA2	WD1	EA	EA2	WD1	EA	EA2	WD1
Hot Start	3010	3004	3007	3011	3005	3008	3012	3006	3009
Warm Start	3010	3004	3007	3011	3005	3008	3012	3006	3009
Cold Start	3010	3004	3007	3011	3005	3008	3012	3006	3009
No Load Cost	2980	2992	2986	2978	2990	2984	2976	2988	2982
P 1	81	63	72	84	66	75		69	78
Q 1	81	63	72	84	66	75		69	78
P 2	82	64	73		67	76		70	79
Q 2	82	64	73		67	76		70	79
P 3		65	74		68	77		71	80
Q 3		65	74		68	77		71	80
P 4		66	75		69	78		72	
Q 4		66	75		69	78		72	
P 5		67	76		70			73	
Q 5		67	76		70			73	
P 6		68			71			74	
Q 6		68			71			74	

**Forecast Data**

Date	Forecast				Nominations Profile		SEM	
	Min MW	Max MW	Min Output MW	Fuel Use	Primary	Secondary	Decremental Price	Energy Limited?
2011-11-01 06:30	1,015	1,015	1,015	PRIMARY	1,015	1,015	1,015	<input type="checkbox"/>
2011-11-01 07:00	1,015	1,015	1,015	PRIMARY	1,015	1,015	1,015	<input type="checkbox"/>
2011-11-01 07:30	1,015	1,015	1,015	PRIMARY	1,015	1,015	1,015	<input type="checkbox"/>
2011-11-01 08:00	1,015	1,015	1,015	PRIMARY	1,015	1,015	1,015	<input type="checkbox"/>
2011-11-01 08:30	1,015	1,015	1,015	PRIMARY	1,015	1,015	1,015	<input type="checkbox"/>
2011-11-01 09:00	1,015	1,015	1,015	PRIMARY	1,015	1,015	1,015	<input type="checkbox"/>
2011-11-01 09:30	1,015	1,015	1,015	PRIMARY	1,015	1,015	1,015	<input type="checkbox"/>
2011-11-01 10:00	1,015	1,015	1,015	PRIMARY	1,015	1,015	1,015	<input type="checkbox"/>
2011-11-01 10:30	1,015	1,015	1,015	PRIMARY	1,015	1,015	1,015	<input type="checkbox"/>
2011-11-01 11:00	1,015	1,015	1,015	PRIMARY	1,015	1,015	1,015	<input type="checkbox"/>
2011-11-01 11:30	1,015	1,015	1,015	PRIMARY	1,015	1,015	1,015	<input type="checkbox"/>
2011-11-01 12:00	1,015	1,015	1,015	PRIMARY	1,015	1,015	1,015	<input type="checkbox"/>
2011-11-01 12:30	1,015	1,015	1,015	PRIMARY	1,015	1,015	1,015	<input type="checkbox"/>
2011-11-01 13:00	1,015	1,015	1,015	PRIMARY	1,015	1,015	1,015	<input type="checkbox"/>
2011-11-01 13:30	1,015	1,015	1,015	PRIMARY	1,015	1,015	1,015	<input type="checkbox"/>
2011-11-01 14:00	1,015	1,015	1,015	PRIMARY	1,015	1,015	1,015	<input type="checkbox"/>

### Filters

There are three filters for this report: Begin and End Date (taken from the application toolbar), Generator, and Gate Window.

The Generator filter is a multi-select list showing the SEM external identifier of each service point assigned as the POD for a transaction with the following additional attributes:

- Schedule Coordinator: SEM
- Is Bid/Offer: Checked
- Transaction Type: Generation
- Contract: has a non-null SEM external system identifier
- Agreement Type: non-null, and not equal to "?"
- Commodity: commodity alias is "Energy"
- Interval: 30 Minute

The Gate Window filter is a multi-select list showing the SEM external identifier of the type Gate Window for Statement Type entities.

### 11.1.1 Commercial Offer Data

The top grid of the Generators Offer Management report displays the Commercial Offer Data for each generator and gate window selected in the filter pane, covering the toolbar date range. Accept selected right-click option sets the Offer status to Accepted for that day.

Offers may be "Accepted" or marked as reviewed one day, generator, and gate window at a time (this corresponds to each column displayed in the report). To mark the offer as reviewed, select any cell in the day/generator/gate column and choose "Accept Selected" from the right-click context menu.

### System Settings

The Trait Groups displayed in the grid are saved as System Labels under Global > Market Exchange > SEM > Offer Management > Generator COD.

Position	Value	Code
1	SEM Startup Costs	1
2	SEM No Load Cost	1
3	Offer Curve	10
4	SEM Under Test	1
5	SEM External Identifier	1
6	SEM SEM Transaction ID	1

- **Position** column holds the order in which the Transaction Groups should appear.
- **Value** column holds the name of the Trait Group.
- **Code** field holds the value for number of times a Trait Group appears. Default for P/Q pairs is 10. For the rest it should be 1.

### Columns

This report has the following columns:

- **Generator:** The Generator SEM External Identifier selected in the Generator filter is displayed at the top.
- **Gate Window:** The Gate Windows selected in the filter are displayed following the Generators.
- **Date:** The dates between the selected date ranges in the toolbar are displayed following the Gate Windows.

### Rows

This report has the following rows:

- **Daily Data:** For the Trait Groups in System Settings, their respective Trait Attribute Values are displayed for each transaction. If there is no data for any of the Trait Attributes for that day, an editable cell is displayed.

## 11.1.2 Forecast Data

This grid displays the Forecast Data, for the Transaction selected in the top grid. The lower grid of the Generators Offer Management report displays the 30-minute technical offer data which may be submitted as part of the commercial offer.

### Columns

This report has the following columns:

- **Generator - Gate Window - Date:** The combination of Generator SEM External Identifier, Gate Window and Date is displayed at the top.
- **Trait Group:** The following Trait Groups are displayed. This is a fixed set and not configurable.

Number	Trait Group
1	SEM Forecast
2	SEM Nomination Profile
3	SEM Decremental Price
4	SEM Energy Limited?

- **Trait Attributes:** The Trait Attributes for the above Trait Groups.

### Rows

This report has the following rows:

- **Interval Data:** For the selected Transaction and Date in the top grid, display the data for each 30 Minute trading date interval. If there is no data for an interval, an editable grid is displayed.

## 11.2 Interconnectors

The screenshot shows the Ventyx Retail Operations - Application interface. The main window displays the 'Interconnectors' report for PT\_1111111 : I\_NIMOYLE. The report is organized into two main sections: 'Commercial Offer Data' and 'SEM Transaction ID'.

**Commercial Offer Data Table:**

Date	EA								EA2							
	Max Capacity		Offer Curve						Max Capacity		Offer Curve					
	Import	Export	P 1	Q 1	P 2	Q 2	P 3	Q 3	Import	Export	P 1	Q 1	P 2	Q 2		
2011-11-01 06:30	1,112	1,112	1,112.00	1,112					1,108	1,108	1,108.00	1,108				
2011-11-01 07:00	1,112	1,112	4,555.00	1,112	1.00				1,108	1,108	1,108.00	1,108				
2011-11-01 07:30	111	1,112	1,112.00	45			1.00	1	1,108	1,108	1,108.00	1,108				
2011-11-01 08:00	1,112	4	1,112.00	1,112				4	1,108	1,108	1,108.00	1,108				
2011-11-01 08:30	1,112	1,112	1,112.00	1,112					1,108	1,108	1,108.00	1,108				
2011-11-01 09:00	1,112	1,112	1,112.00	1,112			1.00	1	1,108	1,108	1,108.00	1,108				
2011-11-01 09:30	1,112	1,112	1,112.00	22	1.00		1.00		1,108	1,108	1,108.00	1,108				
2011-11-01 10:00	1,112	1,112	1,112.00	1,112				1	1,108	1,108	1,108.00	1,108				
2011-11-01 10:30	1,112	1,112	1,112.00	1,112					1,108	1,108	1,108.00	1,108				
2011-11-01 11:00	1,112	1,112	1,112.00	1,112					1,108	1,108	1,108.00	1,108				
2011-11-01 11:30	1,112	1,112	1,112.00	1,112					1,108	1,108	1,108.00	1,108				
2011-11-01 12:00	1,112	1,112	1,112.00	1,112					1,108	1,108	1,108.00	1,108				
2011-11-01 12:30	1,112	1,112	1,112.00	1,112					1,108	1,108	1,108.00	1,108				
2011-11-01 13:00	1,112	1,112	1,112.00	1,112					1,108	1,108	1,108.00	1,108				

**SEM Transaction ID Table:**

Date	EA		EA2		WD1		Ex
	External Identifier	SEM Transaction ID	External Identifier	SEM Transaction ID	External Identifier	SEM Transaction ID	
2011-11-01	SEM:Nomination:I_NIMOYLE_EA_1	34234	123123	1108	SEM:Nomination:I_NIMOYLE_WD1_1	1110	SEM:Nominat

### Filters

There are three filters for this report: Begin and End Date, Interconnector Unit, and Gate Window. Begin and End Dates are selected from the application toolbar.

## 11.2.1 Commercial Offer Data

Top grid displays the Commercial Offer Data, for the date range selected. Accept selected right-click option sets the Offer status to Accepted for each 30 Minute interval in trading date range selected in the toolbar.

### System Settings

The Trait Groups displayed in the grid are saved as System Labels under: Global > Market Exchange > SEM > Offer Management > Interconnector COD.

Position	Value	Code
1	SEM Max Capacity	1
2	Offer Curve	3

- **Position** column holds the order in which the Transaction Groups should appear.
- **Value** column holds the name of the Trait Group.
- **Code** field holds the value for number of times a Trait Group appears. Default for P/Q pairs is 3. For the rest it should be 1.

### Columns

This report has the following columns:

- **Virtual Interconnector:** The Virtual Interconnectors selected in the filter.
- **Gate Window:** The Gate Windows selected in the top grid are displayed following the Generators.
- **Trait Group:** The following Trait Groups are displayed.
- **Trait Attributes:** For the Trait Groups in System Settings, their respective Trait Attribute Values are displayed for each transaction. If there is no data for any of the Trait Attributes for that day, an editable cell is displayed.

### Rows

This report has the following rows:

- **Interval Data:** For the selected date range in the filter, display the trait value for each 30 Minute trading date interval. If there is no data, an editable grid is displayed.

## 11.2.2 Bottom Grid

Bottom grid displays the daily values, for the date range selected.

### System Settings

The Trait Groups displayed in the grid are saved as System Labels under: Global > Market Exchange > SEM > Offer Management > Interconnector COD Daily.

Position	Value	Code
1	SEM External Identifier	1
2	SEM Transaction ID	1

- **Position** column holds the order in which the Transaction Groups should appear.
- **Value** column holds the name of the Trait Group.
- **Code** field holds the value for number of times a Trait Group appears. Default for P/Q pairs is 3. For the rest it should be 1.

### Columns

This report has the following columns:

- **Virtual Interconnector:** The Virtual Interconnectors selected in the filter.
- **Gate Window:** The Gate Windows selected in the top grid are displayed following the Generators.
- **Trait Attributes:** For the Trait Groups in System Settings, their respective Trait Attribute Values are displayed for each transaction. If there is no data for any of the Trait Attributes for that day, an editable cell is displayed.

### Rows

This report has the following rows:

- **Daily Data:** For the selected date range in the filter, display the trait value for each date. If there is no data, an editable grid is displayed.

## 11.3 Offer Submission and Status

### Filters

There are four filters for this report: Submission Trading Date Range, Begin and End Dates, Submit for Gate, and Resource Type. Select the Begin and End Dates from the Submission Trading Date Range, not the application toolbar.

### 11.3.1 Offer Status

Current Status:						
Submit	Offer Identifier	2012-04-13	2012-04-14	2012-04-15	2012-04-16	2012-04-17
<input type="checkbox"/>	PT_400024 : GU_400020	Approved	Approved			Changed
<input type="checkbox"/>	PT_400024 : GU_400021					

The report grid shall display one row for each offered resource of the type selected in the Resource Type filter, and applicable to the gate window selected in the Submit for Gate filter. The rows are ordered by the Offer Identifier.

### Columns

This report has the following columns:

- **Submit:** This column is checkbox-formatted and is used to select the offers to be submitted.
- **Offer Identifier:** Identifier of the Resource, which is of type either **Interconnector** or **Generator**.
- **Current Status for each date within the date range selected:** There will be one column for each day within the Submission Date Range. It shows the Market Status, if the offer has been submitted. It shows the Submit status, if the offer is already approved. It shows the Review status, if the offer is waiting on approval.



## 11.3.2 COD Offer Submission

Generators		Interconnectors		Offer Submission and Status																										
<b>Submission Trading Date Range</b> Begin Date: 4/11/2012 End Date: 4/17/2012				<b>Current Status:</b>																										
<b>Submit for Gate</b> EA		<table border="1"> <thead> <tr> <th>Submit</th> <th>Offer Identifier</th> <th>2012-04-13</th> <th>2012-04-14</th> <th>2012-04-15</th> <th>2012-04-16</th> <th>2012-04-17</th> </tr> </thead> <tbody> <tr> <td><input checked="" type="checkbox"/></td> <td>PT_400024 : GU_400020</td> <td>Approved</td> <td>Approved</td> <td></td> <td></td> <td></td> </tr> <tr> <td><input type="checkbox"/></td> <td>PT_400024 : GU_400021</td> <td></td> <td></td> <td></td> <td></td> <td>Changed</td> </tr> </tbody> </table>								Submit	Offer Identifier	2012-04-13	2012-04-14	2012-04-15	2012-04-16	2012-04-17	<input checked="" type="checkbox"/>	PT_400024 : GU_400020	Approved	Approved				<input type="checkbox"/>	PT_400024 : GU_400021					Changed
Submit	Offer Identifier	2012-04-13	2012-04-14	2012-04-15	2012-04-16	2012-04-17																								
<input checked="" type="checkbox"/>	PT_400024 : GU_400020	Approved	Approved																											
<input type="checkbox"/>	PT_400024 : GU_400021					Changed																								
<b>Resource Type</b> <input checked="" type="radio"/> Generators <input type="radio"/> Interconnectors																														
Submit Offers																														
Submit Selected Offers																														

The checked selections in the report grid in the Submit column can be submitted by clicking the **Submit Offers** button. This initiates a market interaction and also generates a submit request. The submit request can be viewed from the attachment in the process log. This works exactly the same way as the data exchange actions for SEM Offer submissions described in [Chapter 12: Generation Offer Submission Outside Offer Management](#).

### 11.3.3 Unit Under Test Submission

Beginning with the release of SEM R2.2.0 in May 2013, market participants must submit and query for Unit Under Test separately from the rest of the COD data.

To set a unit as Under Test, set the Under Test attribute equal to 1 in the generator's EA commercial offer data, as shown in the screenshot below.

The screenshot shows the SEM Offer Management UI. The top navigation bar includes tabs for Interconnector Data, Market Forecast, Credit Cover, CFD, Technical and Commercial Offer Reports, and Market Details and Results. The 'Offer Management' tab is active, with sub-tabs for Generators, Interconnectors, Excluded Bids, Offer Submission and Status, and MSP Cancellation. The 'Generators' sub-tab is selected, showing a list of generators on the left and a 'Gate Window' below it. The 'Commercial Offer Data' table is displayed on the right, showing data for generator GU\_400480. The table has columns for Trait Group, 2013-02-21, and 2013-02-22. The 'Under Test' row shows values of 1 for both dates. Other rows include Hot Start, Warm Start, Cold Start, No Load Cost, P 1, Q 1, P 2, Q 2, P 3, Q 3, P 4, Q 4, Under Test Status, Under Test Txn ID, External Identifier, and SEM Transaction ID.

Trait Group	GU_400480	
	EA	
	2013-02-21	2013-02-22
Hot Start		
Warm Start		
Cold Start		
No Load Cost		
P 1		
Q 1		
P 2		
Q 2		
P 3		
Q 3		
P 4		
Q 4		
Under Test	1	1
Under Test Status	APPROVED	RECEIVED
Under Test Txn ID	Vkj40Kvq	Vkj40Kvw
External Identifier	Huntstown	Huntstown
SEM Transaction ID	Vkj40Kvq	Vkj40Kvw

After accepting the offer, use the Bid/Offer Actions dialog available from the right-click context menu on the Bids and Offers tab to select the "SEM: Submit Generator Unit Under Test" action. Select the date range and participant/generator items to submit for, then click **Run** to submit the offer to SEMO.

**Bid/Offer Submit Dialog**

**Time Period**  
 Begin: 2/21/2013  
 End: 2/21/2013

**Bid/Offer Actions**  
 SEM: Submit Generator Unit Under Test

**Background Job Options**  
 Run At: 3/6/2013 04:53 PM  
 View Background Job Status...

**Transactions**  
 PT\_400035 : GU\_400480

Refresh

Run Close

Assuming successful submission of the Unit Under Test offer, the Under Test Status attribute will be updated to RECEIVED. Use the "SEM: Generator Unit Under Test" data exchange to query for changes to the Under Test Status, which will change to either APPROVED or DENIED within two business days of the initial submission (per the T&SC).

**Data Exchange**

**Time Period**  
 Begin: 2/21/2013  
 End: 2/22/2013

**Data Exchange Type**  
 SEM: Query Generator Unit Under Test  
 SEM: Query Interconnector Offers - EA2  
 SEM: Query Interconnector Offers - WD1  
 SEM: Query MP\_D\_AvailCreditCover\_EP1  
 SEM: Query MP\_D\_AvailCreditCover\_EP2  
 SEM: Query Generator Unit Under Test  
 SEM: Import Offer Data Unit Under Test (Query Response)  
 SEM: Import Submission Response Unit Under Test  
 SEM: Import PUB\_A\_TransLossAdjustmentFactors

☒ New File ☐ Append to Existing File

**Background Job Options**  
 Run At: 3/6/2013 04:54 PM  
 View Background Job Status...

**Transactions**  
 PT\_400035 : GU\_400480

Refresh

Run Close

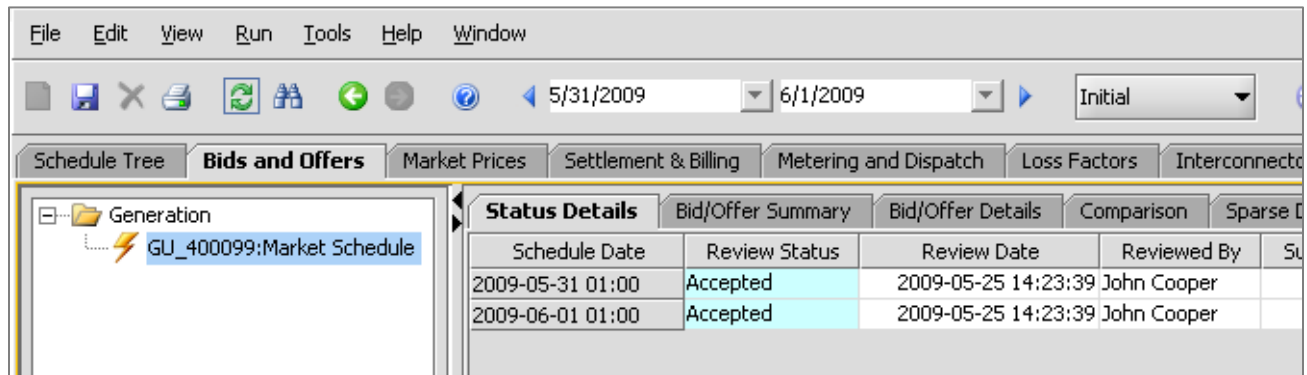
# Chapter 12: Generation Offer Submission Outside Offer Management

While the Offer Management tab offers functionality specifically related to SEM generators and interconnectors, Market Operations Ireland continues to support offer submission, query, and comparison via the standard Bids and Offers functionality.

Offers must be reviewed and approved before submission to the SEMO.

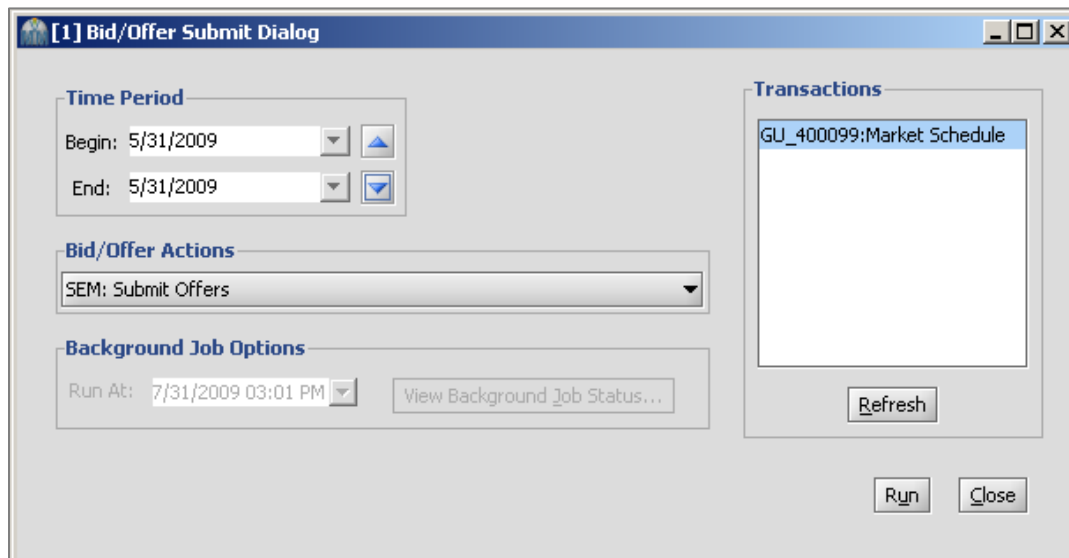
To accept an offer, select the Status Details sub-tab, right-click in the grid, and select **Accept All**. The Review Status, Review Date, and Reviewed By columns are populated with audit information.

Do this for each offer transaction you wish to submit.



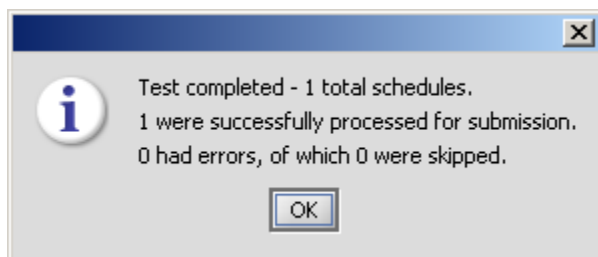
To submit one or more accepted offers to the SEMO, right-click on any of the Bids and Offers sub-tab grids and select **Bid/Offer Actions**. In the Bid/Offer submit dialog, select the trading days to submit, and select "SEM: Submit Offers" from the Bid/Offer Actions drop-down list. The offer transaction selected in the bids and offers tree will automatically be highlighted in the Entity List. Multiple offers may be submitted to the SEMO by control-clicking the appropriate transaction name in the Entity List.

After setting the submission parameters, click the **Run** button to submit the offers to the SEMO.



**Note:** If you have configured a Gate Window specific transaction you can select the appropriate action from the Bid/Offer Actions. It is recommended to run any Gate Window requests using the appropriate Bid/Offer Action.

After the submission process completes, a dialog box displays showing the number of offer schedules processed and submitted. The example below shows an offer submission when the test flag is set, where no market connection actually occurs.



The offer status details are also updated based on the results of the submission. The screenshot below shows the error in submit status from the above submission attempt.

Schedule Date	Review Status	Review Date	Reviewed By	Submit Status	Submit Date	Submitted By	Market Status	Market Status Date
2009-05-31 01:00	Accepted	2009-05-25 14:23:39	John Cooper	Error	2009-05-25 15:02:15	John Cooper		2009-05-25 15:02:09
2009-06-01 01:00	Accepted	2009-05-25 14:23:39	John Cooper	Error				

The market status has not been updated, because communication with the market "failed."

Successful submissions result in a Market Status of Accepted, implying that the offer passed technical and initial business rule validation from the SEMO. A market status of Accepted does not imply that the generator will run based on the offer parameters, only that the offer submission format was valid.

Like the MPI reports, more details of the offer submission process are given in the exchange log. Double-clicking on the appropriate offer row of the exchange log grid shows the parameters used to submit the offer, including the offer XML itself, and the response from the market. The submission parameters are shown in the screenshot below.

```

1 market=sem
2
3 action=mpi.bidsoffers
4
5 isUsingUserNamePw=1
6
7 userName=MAIN_USER
8
9 numberOfCertificates=1
10
11 certificateAuthentication=(certificate)
12
13 includeRequest=1
14
15 requestContentType=text/xml
16
17 requestContents=<bids_offers xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
18 xsi:namespaceSchemaLocation="mint_sem.xsd"><market_submit application_type="DAM" trading_date="2009-05-31"
19 participant_name="PT_400099" user_name="MAIN_USER" mode="NORMAL"><sem_gen_offer resource_name="GU_400099" standing_flag="false"
20 version_no="1.0">
21 <forecast start_hrs="15" end_hrs="15" start_int="1" end_int="1" maximum_mw="197.56" minimum_mw="123" minimum_output_mw="0"/>
22 <forecast start_hrs="21" end_hrs="21" start_int="2" end_int="2" maximum_mw="197.56" minimum_mw="123" minimum_output_mw="0"/>
23 <forecast start_hrs="5" end_hrs="5" start_int="1" end_int="1" maximum_mw="197.56" minimum_mw="123" minimum_output_mw="0"/>
24 <forecast start_hrs="1" end_hrs="1" start_int="1" end_int="1" maximum_mw="197.56" minimum_mw="123" minimum_output_mw="0"/>
25 <forecast start_hrs="22" end_hrs="22" start_int="1" end_int="1" maximum_mw="197.56" minimum_mw="123" minimum_output_mw="0"/>
26 <forecast start_hrs="13" end_hrs="13" start_int="2" end_int="2" maximum_mw="197.56" minimum_mw="123" minimum_output_mw="0"/>
27 <forecast start_hrs="12" end_hrs="12" start_int="1" end_int="1" maximum_mw="197.56" minimum_mw="123" minimum_output_mw="0"/>
28 <forecast start_hrs="4" end_hrs="4" start_int="2" end_int="2" maximum_mw="197.56" minimum_mw="123" minimum_output_mw="0"/>
29 <forecast start_hrs="18" end_hrs="18" start_int="2" end_int="2" maximum_mw="197.56" minimum_mw="123" minimum_output_mw="0"/>
30 <forecast start_hrs="20" end_hrs="20" start_int="1" end_int="1" maximum_mw="197.56" minimum_mw="123" minimum_output_mw="0"/>
31 <forecast start_hrs="19" end_hrs="19" start_int="2" end_int="2" maximum_mw="197.56" minimum_mw="123" minimum_output_mw="0"/>
32 <forecast start_hrs="11" end_hrs="11" start_int="2" end_int="2" maximum_mw="197.56" minimum_mw="123" minimum_output_mw="0"/>
33 <forecast start_hrs="7" end_hrs="7" start_int="1" end_int="1" maximum_mw="197.56" minimum_mw="123" minimum_output_mw="0"/>
34 <forecast start_hrs="10" end_hrs="10" start_int="1" end_int="1" maximum_mw="197.56" minimum_mw="123" minimum_output_mw="0"/>
35 <forecast start_hrs="9" end_hrs="9" start_int="1" end_int="1" maximum_mw="197.56" minimum_mw="123" minimum_output_mw="0"/>
36 <forecast start_hrs="23" end_hrs="23" start_int="1" end_int="1" maximum_mw="197.56" minimum_mw="123" minimum_output_mw="0"/>
37 <forecast start_hrs="12" end_hrs="12" start_int="2" end_int="2" maximum_mw="197.56" minimum_mw="123" minimum_output_mw="0"/>
38 <forecast start_hrs="16" end_hrs="16" start_int="2" end_int="2" maximum_mw="197.56" minimum_mw="123" minimum_output_mw="0"/>
39 <forecast start_hrs="11" end_hrs="11" start_int="1" end_int="1" maximum_mw="197.56" minimum_mw="123" minimum_output_mw="0"/>
40 <forecast start_hrs="14" end_hrs="14" start_int="2" end_int="2" maximum_mw="197.56" minimum_mw="123" minimum_output_mw="0"/>
41 <forecast start_hrs="2" end_hrs="2" start_int="2" end_int="2" maximum_mw="197.56" minimum_mw="123" minimum_output_mw="0"/>
42 <forecast start_hrs="7" end_hrs="7" start_int="2" end_int="2" maximum_mw="197.56" minimum_mw="123" minimum_output_mw="0"/>
43 <forecast start_hrs="6" end_hrs="6" start_int="2" end_int="2" maximum_mw="197.56" minimum_mw="123" minimum_output_mw="0"/>
44 <forecast start_hrs="20" end_hrs="20" start_int="2" end_int="2" maximum_mw="197.56" minimum_mw="123" minimum_output_mw="0"/>
45 <forecast start_hrs="9" end_hrs="9" start_int="2" end_int="2" maximum_mw="197.56" minimum_mw="123" minimum_output_mw="0"/>
46 <forecast start_hrs="8" end_hrs="8" start_int="1" end_int="1" maximum_mw="197.56" minimum_mw="123" minimum_output_mw="0"/>
47 <forecast start_hrs="22" end_hrs="22" start_int="2" end_int="2" maximum_mw="197.56" minimum_mw="123" minimum_output_mw="0"/>
48 <forecast start_hrs="8" end_hrs="8" start_int="2" end_int="2" maximum_mw="197.56" minimum_mw="123" minimum_output_mw="0"/>
49 <forecast start_hrs="21" end_hrs="21" start_int="1" end_int="1" maximum_mw="197.56" minimum_mw="123" minimum_output_mw="0"/>
50 <forecast start_hrs="10" end_hrs="10" start_int="2" end_int="2" maximum_mw="197.56" minimum_mw="123" minimum_output_mw="0"/>
51 <forecast start_hrs="6" end_hrs="6" start_int="1" end_int="1" maximum_mw="197.56" minimum_mw="123" minimum_output_mw="0"/>
52 <forecast start_hrs="24" end_hrs="24" start_int="1" end_int="1" maximum_mw="197.56" minimum_mw="123" minimum_output_mw="0"/>
53 <forecast start_hrs="1" end_hrs="1" start_int="2" end_int="2" maximum_mw="197.56" minimum_mw="123" minimum_output_mw="0"/>
54 <forecast start_hrs="15" end_hrs="15" start_int="2" end_int="2" maximum_mw="197.56" minimum_mw="123" minimum_output_mw="0"/>
55 <forecast start_hrs="17" end_hrs="17" start_int="1" end_int="1" maximum_mw="197.56" minimum_mw="123" minimum_output_mw="0"/>
56 <forecast start_hrs="18" end_hrs="18" start_int="1" end_int="1" maximum_mw="197.56" minimum_mw="123" minimum_output_mw="0"/>
57 <forecast start_hrs="19" end_hrs="19" start_int="1" end_int="1" maximum_mw="197.56" minimum_mw="123" minimum_output_mw="0"/>
58 <forecast start_hrs="4" end_hrs="4" start_int="1" end_int="1" maximum_mw="197.56" minimum_mw="123" minimum_output_mw="0"/>
59 <forecast start_hrs="13" end_hrs="13" start_int="1" end_int="1" maximum_mw="197.56" minimum_mw="123" minimum_output_mw="0"/>
60 <forecast start_hrs="24" end_hrs="24" start_int="2" end_int="2" maximum_mw="197.56" minimum_mw="123" minimum_output_mw="0"/>
61 <forecast start_hrs="16" end_hrs="16" start_int="1" end_int="1" maximum_mw="197.56" minimum_mw="123" minimum_output_mw="0"/>
62 <forecast start_hrs="14" end_hrs="14" start_int="1" end_int="1" maximum_mw="197.56" minimum_mw="123" minimum_output_mw="0"/>
63 <forecast start_hrs="3" end_hrs="3" start_int="2" end_int="2" maximum_mw="197.56" minimum_mw="123" minimum_output_mw="0"/>
64 <forecast start_hrs="23" end_hrs="23" start_int="2" end_int="2" maximum_mw="197.56" minimum_mw="123" minimum_output_mw="0"/>
65 <forecast start_hrs="2" end_hrs="2" start_int="1" end_int="1" maximum_mw="197.56" minimum_mw="123" minimum_output_mw="0"/>
66 <forecast start_hrs="5" end_hrs="5" start_int="2" end_int="2" maximum_mw="197.56" minimum_mw="123" minimum_output_mw="0"/>
67 <forecast start_hrs="17" end_hrs="17" start_int="2" end_int="2" maximum_mw="197.56" minimum_mw="123" minimum_output_mw="0"/>
68 </sem_gen_offer>
69 </market_submit></bids_offers>

```

# Chapter 13: Task Execution (TEX) Processes

Task Execution, or TEX, is a means of providing automatic interaction between Market Operations and the SEMO. Typically TEX is integrated with a scheduling application to download market information based on expected market publication timings.

All TEX configuration is contained in the `tex.properties` file, and each TEX task is run using the `tex.bat` file. Both these files are located in the `mexRoot/bin` folder of the deployed MEX war file.

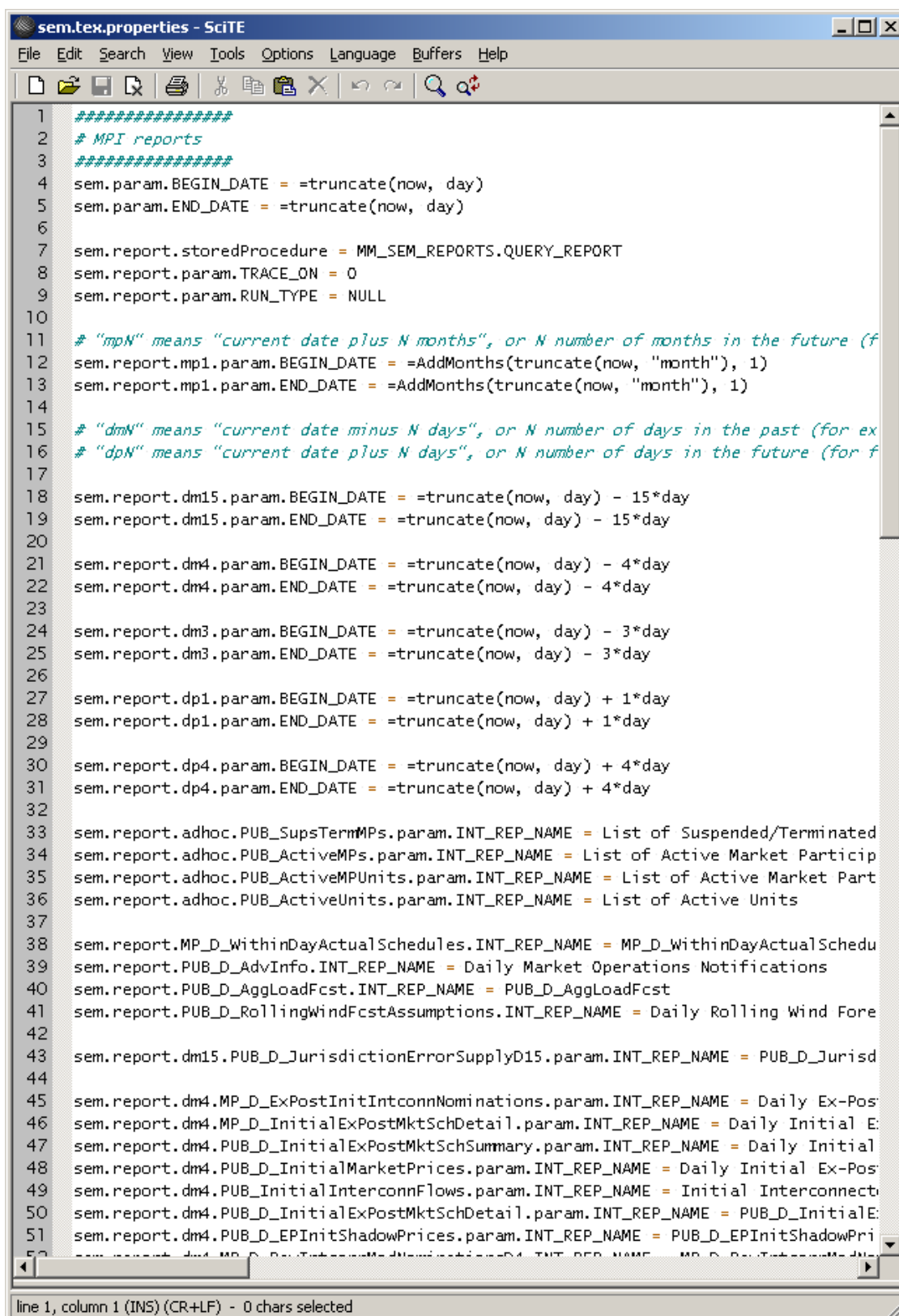
At a minimum, the `tex.properties` file must be edited with database access parameters. These parameters are listed in the Stored Procedure Configuration section:

- `authUser`
- `schemaName`
- `schemaPW`
- `jdbcURL`

Each of these parameters, along with the other sections of the `tex.properties` file, are documented in the `tex.properties` file itself.

Part of `tex.properties` file contains task names for each MPI report and each class of settlement report. Associated with these tasks are properties needed to request the reports from the SEMO; usually begin and end dates relative to the current system date are all that is needed. Refer to the documentation in the **`tex.properties`** file for details on property hierarchy processing.

The first part of the TEX properties file for SEM MPI reports is shown below. Each MPI report is associated with its own task, and tasks are grouped according to the publication date relative to the operating date. For instance, reports with a dm15 property are assumed to be published today for a date 15 days in the past. Similarly, reports with a dp4 property are assumed to be published today for a date four days in the future.



```

1 #####
2 # MPI reports
3 #####
4 sem.param.BEGIN_DATE = =truncate(now, day)
5 sem.param.END_DATE = =truncate(now, day)
6
7 sem.report.storedProcedure = MM_SEM_REPORTS.QUERY_REPORT
8 sem.report.param.TRACE_ON = 0
9 sem.report.param.RUN_TYPE = NULL
10
11 # "mpN" means "current date plus N months", or N number of months in the future (f
12 sem.report.mp1.param.BEGIN_DATE = =AddMonths(truncate(now, "month"), 1)
13 sem.report.mp1.param.END_DATE = =AddMonths(truncate(now, "month"), 1)
14
15 # "dmN" means "current date minus N days", or N number of days in the past (for ex
16 # "dpN" means "current date plus N days", or N number of days in the future (for f
17
18 sem.report.dm15.param.BEGIN_DATE = =truncate(now, day) - 15*day
19 sem.report.dm15.param.END_DATE = =truncate(now, day) - 15*day
20
21 sem.report.dm4.param.BEGIN_DATE = =truncate(now, day) - 4*day
22 sem.report.dm4.param.END_DATE = =truncate(now, day) - 4*day
23
24 sem.report.dm3.param.BEGIN_DATE = =truncate(now, day) - 3*day
25 sem.report.dm3.param.END_DATE = =truncate(now, day) - 3*day
26
27 sem.report.dp1.param.BEGIN_DATE = =truncate(now, day) + 1*day
28 sem.report.dp1.param.END_DATE = =truncate(now, day) + 1*day
29
30 sem.report.dp4.param.BEGIN_DATE = =truncate(now, day) + 4*day
31 sem.report.dp4.param.END_DATE = =truncate(now, day) + 4*day
32
33 sem.report.adhoc.PUB_SupsTermMPs.param.INT_REP_NAME = List of Suspended/Terminated
34 sem.report.adhoc.PUB_ActiveMPs.param.INT_REP_NAME = List of Active Market Particip
35 sem.report.adhoc.PUB_ActiveMPUnits.param.INT_REP_NAME = List of Active Market Part
36 sem.report.adhoc.PUB_ActiveUnits.param.INT_REP_NAME = List of Active Units
37
38 sem.report.MP_D_WithinDayActualSchedules.INT_REP_NAME = MP_D_WithinDayActualSchedu
39 sem.report.PUB_D_AdvInfo.INT_REP_NAME = Daily Market Operations Notifications
40 sem.report.PUB_D_AggLoadFcst.INT_REP_NAME = PUB_D_AggLoadFcst
41 sem.report.PUB_D_RollingWindFcstAssumptions.INT_REP_NAME = Daily Rolling Wind Fore
42
43 sem.report.dm15.PUB_D_JurisdictionErrorSupplyD15.param.INT_REP_NAME = PUB_D_Jurisd
44
45 sem.report.dm4.MP_D_ExPostInitIntconnNominations.param.INT_REP_NAME = Daily Ex-Pos
46 sem.report.dm4.MP_D_InitialExPostMktSchDetail.param.INT_REP_NAME = Daily Initial E
47 sem.report.dm4.PUB_D_InitialExPostMktSchSummary.param.INT_REP_NAME = Daily Initial
48 sem.report.dm4.PUB_D_InitialMarketPrices.param.INT_REP_NAME = Daily Initial Ex-Pos
49 sem.report.dm4.PUB_InitialInterconnFlows.param.INT_REP_NAME = Initial Interconnect
50 sem.report.dm4.PUB_D_InitialExPostMktSchDetail.param.INT_REP_NAME = PUB_D_InitialE
51 sem.report.dm4.PUB_D_EPInitShadowPrices.param.INT_REP_NAME = PUB_D_EPInitShadowPri
52 sem.report.dm4.MP_D_InitialExPostMktSchSummary.param.INT_REP_NAME = MP_D_InitialExPostMktSchSummary

```

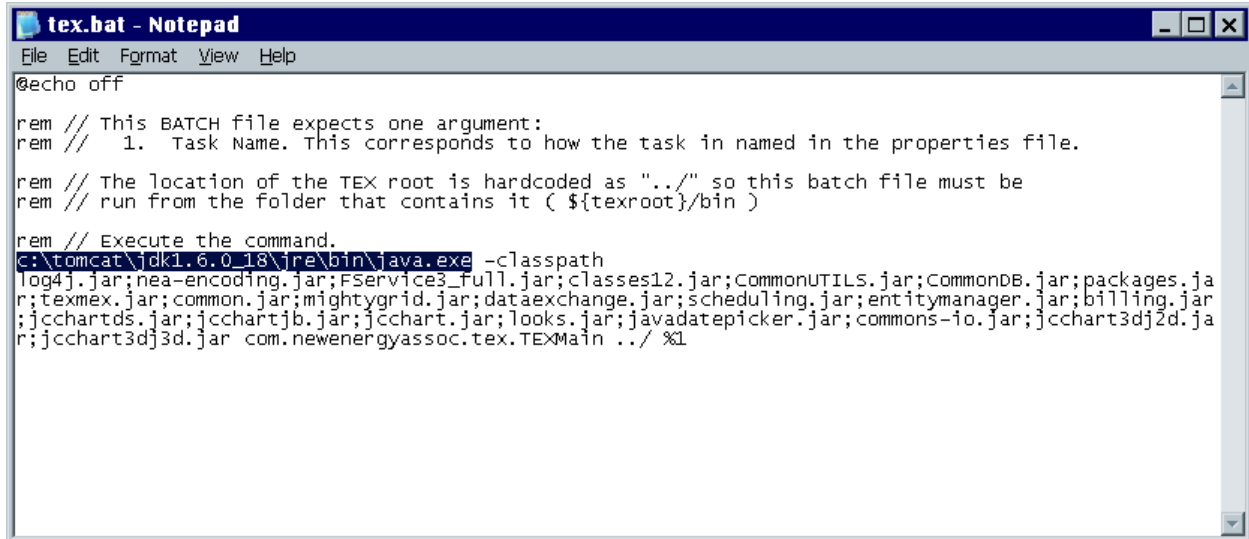
line 1, column 1 (INS) (CR+LF) - 0 chars selected



To programmatically request a report, run `tex.bat` with a single task name as an argument (the `tex.bat` file is also self-documented). The following command line queries the Ex-Post Initial Market Prices report published four days in the past:

```
C:\tomcat\...\mexRoot\bin\> tex.bat sem.report.dm4.PUB_D_InitialMarketPrices
```

If multiple versions of Java are installed on the Market Operations application server, `tex.bat` may fail if a JRE older than Java 6 is used. To ensure the correct version of the JRE is used for TEX, you may have to edit the **`tex.bat`** file to include the full path to the Java executable. In the example below, the path has been edited to include the full path to the JRE included with the Tomcat server installation.



```

tex.bat - Notepad
File Edit Format View Help
@echo off

rem // This BATCH file expects one argument:
rem // 1. Task Name. This corresponds to how the task is named in the properties file.

rem // The location of the TEX root is hardcoded as "../" so this batch file must be
rem // run from the folder that contains it ( ${texroot}/bin )

rem // Execute the command.
C:\tomcat\jdk1.6.0_18\jre\bin\java.exe -classpath
log4j.jar;nea-encoding.jar;FService3_Full.jar;classes12.jar;CommonUTILS.jar;CommonDB.jar;packages.jar;
texmex.jar;common.jar;mightygrid.jar;dataexchange.jar;scheduling.jar;entitymanager.jar;billing.jar;
jcchartds.jar;jcchartjb.jar;jcchart.jar;looks.jar;javadatapicker.jar;commons-io.jar;jcchart3dj2d.jar;
jcchart3dj3d.jar com.newenergyassoc.tex.TEXMain ../ %1
  
```

# Chapter 14: Settlement Entity Configuration

Market Operations models settlement entities based on invoice and statement configurations.

Each SEM invoice received by a market participant requires a settlement PSE, a settlement contract, and appropriate products and components added to the contract.

Generally, this means that each market participant will have either three or four settlement PSEs and contracts associated with the participant.

## 14.1 Settlement PSEs

In the Entity Manager under Business Entity > Purchasing Selling Entity, create settlement PSEs with the following attributes:

- Name: **SEM:<Participant ID>:<Market Abbreviation>**  
(where <Market Abbreviation> is EN, CA, MO or FMO)
- Alias: **Same as Name**
- Description: **Same as Name**
- External Identifier: **Same as Name**
- Is Billing Entity: **Checked**
- Time Zone: **EDT**
- Statement Interval: **Day**
- Invoice Interval: **Month (for CA and FMO) or Week (for EN and MO)**
- Week Begin: **Sunday**
- Invoice Line Item Option: **By Product-Component**

In the External Identifiers sub-tab, set the external identifier for the SEM external system and the Default identifier type to SEM:<Participant ID>:<Market Abbreviation> (the same as the PSE name).

In the Custom sub-tab, set the Currency attribute value to either EUR or GBP and the Jurisdiction attribute value to either ROI or NI.

**[1] Entity Manager**

File Edit View Help

06/07/2009 06/07/2009 Irish Prevailing Time

**Left Panel (Tree View):**

- Billing
  - Business Entity
    - Customer
    - Energy Distribution Comp
    - Energy Service Provider
    - Meter Reading Service Pro
    - Pool
    - Purchasing-Selling Entity
      - (TSO\_EIRGRID)
        - AES Kilroot Power Lim
        - Airtricity Energy Supp
        - Airtricity Energy Supp
        - Airtricity Ltd Generati
        - Airtricity Ltd Supply (F
        - Arklow Energy Ltd (PT
        - Aughinish Alumina Ltd
        - Aughinish Alumina Ltd
        - Ballywater Windfarms
        - Bord Gais NI (PT\_500
        - Bord Gais ROI (PT\_40
        - Bord Gais ROI (PT\_40
        - CHP Supply Ltd. (PT\_
        - Coolkeeragh ESB Ltd.
        - Dan Twomey Waterpo
        - ESB AER (PT\_400032
        - ESB CUSTOMER SUPP
        - ESB Customer Supply
        - ESB Independent Ene
        - ESB Independent Ene

**Main Panel (Form):**

Type: Purchasing-Selling Entity

Name: SEM:PT\_400099:EN

Alias: SEM:PT\_400099:EN

Description: SEM:PT\_400099:EN

**Attributes**

Nerc Code	
Status	Active
Duns Number	
Bank	
Ach Number	
Type	IPP
External Identifier	SEM:PT_400099:EN
Is Retail Aggregator	<input type="checkbox"/>
Is Backup Generation	<input type="checkbox"/>
Exclude Load Schedule	<input type="checkbox"/>
Is Billing Entity	<input checked="" type="checkbox"/>
Time Zone	EDT
Statement Interval	Day
Invoice Interval	Week
Week Begin	Sunday
Invoice Line Item Option	By Product-Component

**Custom** | Contacts | Addresses | External Identifiers | Groups | Notes

Attribute	Begin Date	End Date	Value	Entry Date
Currency	01/11/2007		EUR	
Jurisdiction	01/11/2007		ROI	

## 14.2 Settlement Contracts

After the settlement PSEs have been created, settlement contracts should be created.

In the Entity Manager under Contract > Wholesale Contract, create new settlement contracts with the following attributes:

- Name: **SEM:<Participant ID>:<Market Abbreviation>**
- Alias: **Same as Name**
- Description: **Same as Name**
- Begin Date: **Date participant entered the SEM**
- End Date: **Date participant left the SEM, or 31-Dec-9999**
- Billing Entity: **Select the corresponding settlement PSE created in the previous section from the drop-down list**
- Schedule Coordinator: **SEM**

In the External Identifiers sub-tab, set the external identifier for the SEM external system and the Default identifier type to the participant ID.

The screenshot shows the Entity Manager application window. The left sidebar contains a tree view with categories like Billing, Business Entity, Calculations, Commodity, Configuration, Contract, Directory, Distribution, Electric Scheduling, Forecasting/Settlement, Grouping, Products and Rates, Resources, System, and Weather. The 'Contract' category is expanded, and 'Wholesale Contract' is selected.

The main area displays the configuration for a 'Wholesale Contract'. The 'Name' field is set to 'SEM:PT\_400099:EN', and the 'Alias' and 'Description' fields are also set to 'SEM:PT\_400099:EN'. The 'Attributes' section includes fields for Status (Active), Begin Date (01/11/2007), End Date (31/12/9999), Is Evergreen (unchecked), Type (Supply), Billing Entity (SEM:PT\_400099:EN), Purchaser, Seller, Source, Sink, POR, POD, Schedule Coordina... (SEM), Agreement Type (Enabling), Approval Type, Market Type, Loss Option, and File Name.

At the bottom, there are tabs for 'Addresses', 'External Identifiers', 'Groups', and 'Notes'. The 'External Identifiers' tab is active, showing a table with columns 'External System', 'Identifier Type', and 'External Identifier'.

External System	Identifier Type	External Identifier
SEM	Default	SEM:PT_400099:EN
MEX Switchboard	Default	

## 14.3 Adding Products and Components to Contracts

Before SEM shadow settlement may be run, the SEM products and components must be associated with the various SEM contracts. Products in Market Operations correspond to segments on SEM settlement statements, and components in Market Operations correspond to charge IDs on SEM settlement statements.

For each settlement contract added in the previous section, select contract's Products and Components sub-tab. Add the following products to the grid, depending on the market of the contract.

- EN: SEM ENGEXG, SEM ENGIPCC, SEM MISC
- CA: SEM CAPEXG, SEM CAIPCC, SEM MISC
- MO: SEM MOEXG, SEM MISC
- FMO: SEM FMOEXG, SEM MISC

Select <All> for the Component, and set the Begin Date to the same date as the Begin Date of the contract. The End Date attribute may be left blank.

**[1] Entity Manager**

File Edit View Help

06/07/2009 06/07/2009 Irish Prevailing Time

Type: Wholesale Contract

Name: SEM:PT\_400099:EN

Alias: SEM:PT\_400099:EN

Description: SEM:PT\_400099:EN

**Attributes**

Status	Active
Begin Date	01/11/2007
End Date	31/12/9999

Contacts Addresses External Identifiers Groups Notes

**Products and Components** Limits TP Contract Numbers Custom

Product	Component	Begin Date	End Date	Entry Date
SEM ENGEXG	<All>	01/11/2007		
SEM ENGIPCC	<All>	01/11/2007		
SEM MISC	<All>	01/11/2007		

Saving the contract "expands" the <All> component by adding a row for each component assigned to the product, as shown below.

**[1] Entity Manager**

File Edit View Help

06/07/2009 06/07/2009

Type: Wholesale Contract

Name: SEM:PT\_400099:EN

Alias: SEM:PT\_400099:EN

Description: SEM:PT\_400099:EN

**Attributes**

Status	Active
Begin Date	01/11/2007
End Date	31/12/9999
Is Evergreen	<input type="checkbox"/>
Type	Supply
Billing Entity	SEM:PT_400099:EN
Purchaser	Not Assigned
Seller	Not Assigned
Source	Not Assigned

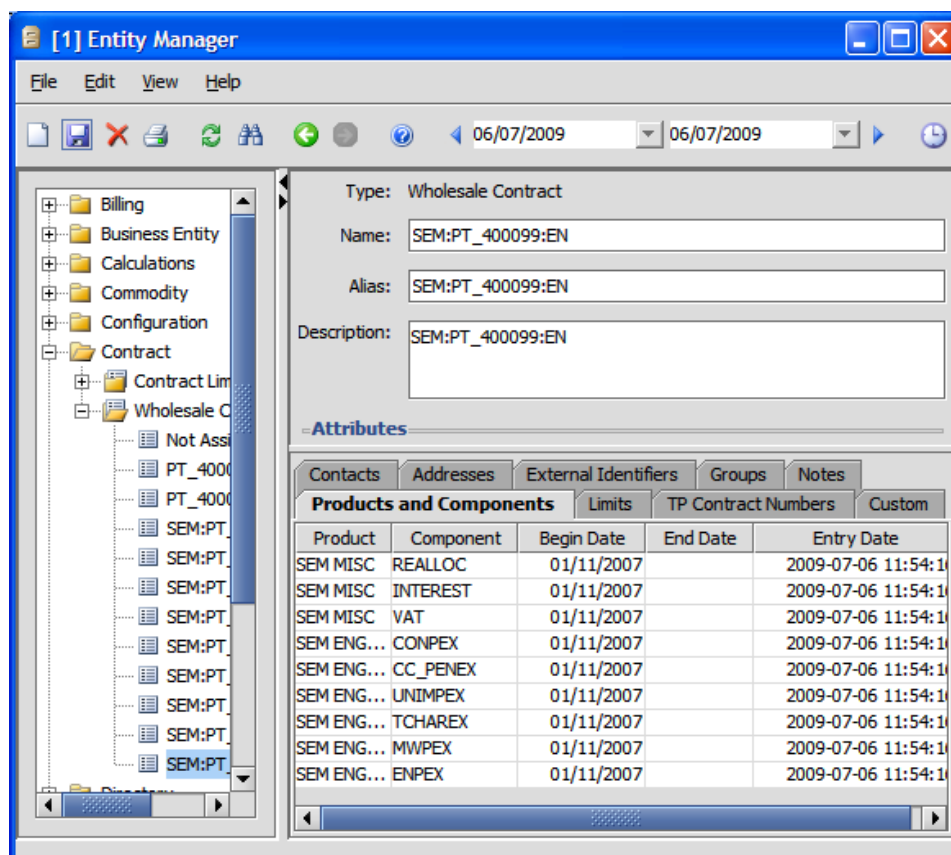
**Products and Components**

Product	Component	Begin Date	End Date	Entry Date
SEM MISC	REALLOC	01/11/2007		2009-07-06 11:54:1
SEM ENG...	CC_PENEX	01/11/2007		2009-07-06 11:54:1
SEM MISC	VAT	01/11/2007		2009-07-06 11:54:1
SEM ENG...	CONPEX	01/11/2007		2009-07-06 11:54:1
SEM ENG...	ENCEX	01/11/2007		2009-07-06 11:54:1
SEM ENG...	ENPEX	01/11/2007		2009-07-06 11:54:1
SEM ENG...	UNIMPEX	01/11/2007		2009-07-06 11:54:1
SEM ENG...	ENCJEX	01/11/2007		2009-07-06 11:54:1
SEM ENG...	IMPCJEX	01/11/2007		2009-07-06 11:54:1
SEM ENG...	IMPCEX	01/11/2007		2009-07-06 11:54:1
SEM ENG...	TCHAREX	01/11/2007		2009-07-06 11:54:1
SEM ENG...	ENPIUEX	01/11/2007		2009-07-06 11:54:1
SEM ENG...	MWPEX	01/11/2007		2009-07-06 11:54:1
SEM ENG...	CONPIUEX	01/11/2007		2009-07-06 11:54:1
SEM ENG...	MWPIUEX	01/11/2007		2009-07-06 11:54:1
SEM MISC	INTEREST	01/11/2007		2009-07-06 11:54:1

Typically the resulting list contains more components than this participant will actually see on the invoice. Extraneous components should be deleted by selecting the row, clicking the **Delete** key, and saving contract.



After saving the contract, only the components assigned will be used in shadow settlement calculations for this Participant in this Market.



**Note:** Both the VAT (*blended*) and one of VAT *Weekly* (for EN and MO contracts) or VAT *Monthly* (for CA and FMO contracts) should be assigned. The shadow settlement logic will correctly apply the correct component to applicable statement dates based on the SEM R1.8.0 cut-over date.



# Chapter 15: Required Data for Shadow Calculations

In addition to member-private MPI reports and PIRs, Market Operations requires certain other configuration setup and MPI report downloads for shadow settlement to function correctly.

## 15.1 MPI Reports

### 15.1.1 System Frequency

Report 59, Daily SO System Frequency, must be downloaded for correct calculation of uninstructed imbalance payments.

This report can be downloaded by selecting any tab other than Settlement and Billing, then selecting Run > Data Exchange from the menu, and selecting option "SEM: Query Daily SO System Frequency" as shown below:

The screenshot shows a Windows-style dialog box titled "Data Exchange". It contains several sections for configuring a data download:

- Time Period:** Two date pickers. "Begin:" is set to 06/07/2009 and "End:" is also set to 06/07/2009. Each has a small up/down arrow button.
- Data Exchange Type:** A dropdown menu currently showing "SEM: Query Daily SO System Frequency".
- Import:** A section with a "File Name:" text box and a browse button (three dots).
- Export:** A section with a "File Name:" text box, a browse button (three dots), and two radio buttons: "New File" (which is selected) and "Append to Existing File".
- Background Job Options:** A section with a "Run At:" time picker set to 06/07/2009 11:59 AM and a button labeled "View Background Job Status...".

At the bottom right of the dialog are two buttons: "Run" and "Close".

## 15.1.2 Trading Day Exchange Rate

Participants who receive settlement reports denominated in GBP must download Report 17, Daily Trading Day Exchange Rate, for correct conversion of currency amounts.

This report can be downloaded by selecting any tab other than Settlement and Billing, then selecting Run > Data Exchange from the menu, and selecting option "SEM: Query Daily Trading Day Exchange Rate" as shown below:

The screenshot shows a Windows-style dialog box titled "Data Exchange". It contains several sections for configuring a data exchange job:

- Time Period:** Includes "Begin" and "End" date fields, both set to "06/07/2009".
- Data Exchange Type:** A dropdown menu currently showing "SEM: Query Daily Trading Day Exchange Rate".
- Import:** A section with a "File Name:" label and an empty text box, followed by a browse button (three dots).
- Export:** A section with a "File Name:" label and an empty text box, followed by a browse button (three dots). Below this are two radio buttons: "New File" (which is selected) and "Append to Existing File".
- Background Job Options:** Includes a "Run At:" field set to "06/07/2009 11:59 AM" and a "View Background Job Status..." button.

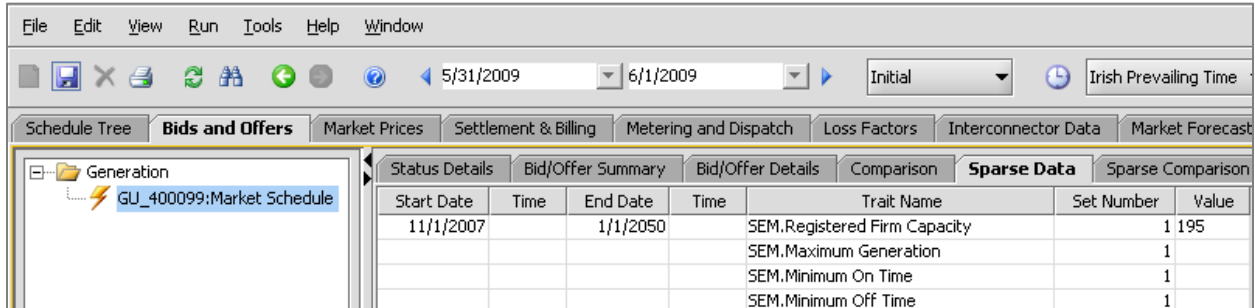
At the bottom right of the dialog are two buttons: "Run" and "Close".

## 15.2 Offer Data

### 15.2.1 Registered Firm Capacity

On the Sparse Data sub-tab of the Bids and Offers tab, enter the Registered Firm Capacity of each generator submitted into the SEMO. This attribute value is required to correctly calculate uninstructed imbalance payments.

You must enter values for both the Start Date and End Date fields, although the associated Time fields may be left blank. The Set Number attribute should always be set to 1.



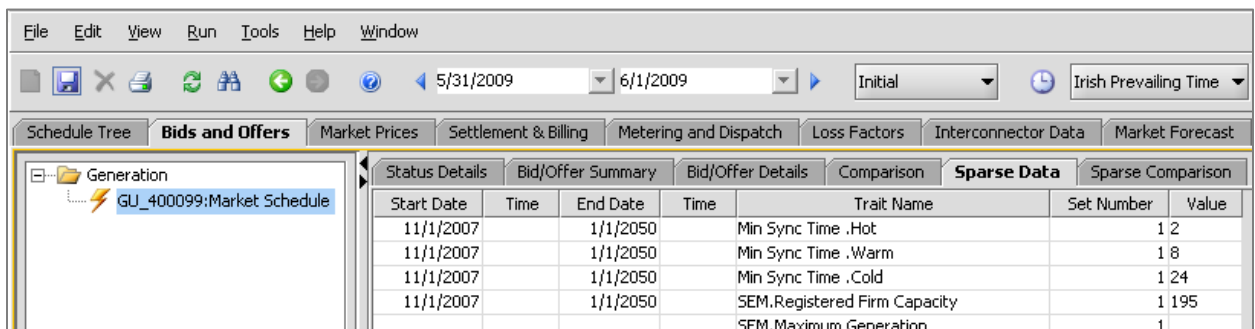
Start Date	Time	End Date	Time	Trait Name	Set Number	Value
11/1/2007		1/1/2050		SEM.Registered Firm Capacity	1	195
				SEM.Maximum Generation	1	
				SEM.Minimum On Time	1	
				SEM.Minimum Off Time	1	

### 15.2.2 Minimum Sync Times

On the Sparse Data sub-tab of the Bids and Offers tab, enter the cooling boundary times in hours for the Hot, Warm, and Cold boundaries. These times should be entered into the "Min Sync Time .Hot", "Min Sync Time .Warm", and "Min Sync Time .Cold" attributes respectively.

These attribute values are required to correctly calculate market and dispatch startup costs associated with constraint and make-whole payments.

You must enter values for both the Start Date and End Date fields, although the associated Time fields may be left blank. The Set Number attribute should always be set to 1.



Start Date	Time	End Date	Time	Trait Name	Set Number	Value
11/1/2007		1/1/2050		Min Sync Time .Hot	1	2
11/1/2007		1/1/2050		Min Sync Time .Warm	1	8
11/1/2007		1/1/2050		Min Sync Time .Cold	1	24
11/1/2007		1/1/2050		SEM.Registered Firm Capacity	1	195
				SEM.Maximum Generation	1	

## 15.3 Other Configuration

### 15.3.1 VAT Rates

VAT rates must be entered to allow correct calculation of VAT at the statement level for invoice validation.

In the Entity Manager, select Business Entity > Schedule Coordinator > SEM, and select the Custom sub-tab. Add a row for each of the following attributes:

#### **Blended VAT Rates**

- NI Tax Rate
- NI-Gen Tax Rate
- ROI Tax Rate
- ROI-Gen Tax Rate

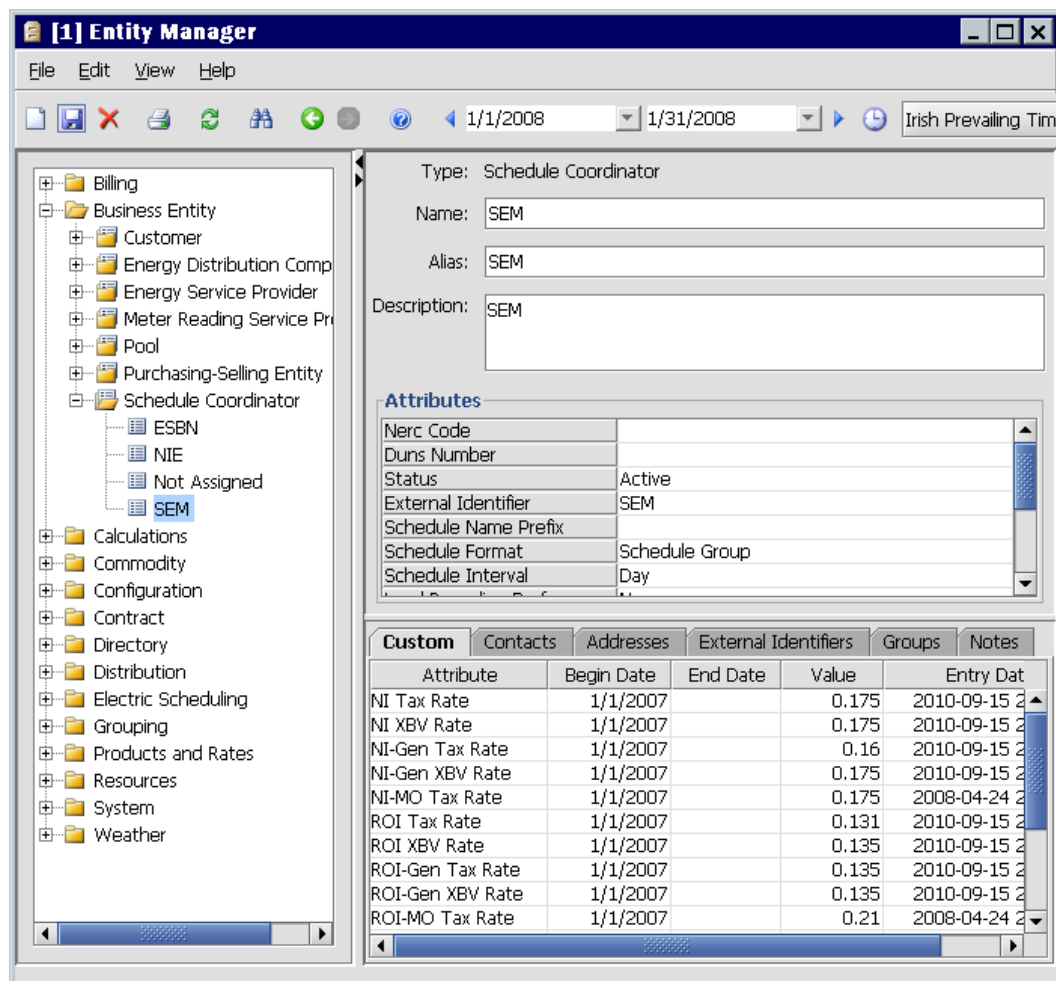
#### **Market Operator Charge VAT Rates**

- NI-MO Tax Rate
- ROI-MO Tax Rate

#### **Non-Blended VAT Rates** (*SEM R1.8.0, Cross-Border VAT*)

- NI XBV Rate
- NI-Gen XBV Rate
- ROI XBV Rate
- ROI-Gen XBV Rate

For each attribute, enter a begin date, an end date (this may be left blank), and the VAT rate as a value between 0 and 1.0 (that is, 17.5% should be entered as 0.175). Indicative values for the VAT rates are shown in the screenshot below.



### 15.3.2 VAT Jurisdiction for Revised VAT Arrangements

As part of SEM R2.2.0, released in April 2013, revised VAT arrangements were introduced, removing the restriction requiring market participants to have a VAT number in the jurisdiction of the unit. To accommodate this, a new "VAT Jurisdiction" attribute is now required for market PSEs. While the Jurisdiction attribute of a unit is set to either NI or ROI, the VAT Jurisdiction attribute has four possible settings

- ROI
- UK
- EU
- NEU

The combination of the VAT Jurisdiction and the Jurisdiction attributes allow the VAT shadow calculation logic to determine the correct cross-border proportion and jurisdictional VAT rate to apply to intra- and inter-jurisdictional charges.

After each migration, any market participant PSE without an existing value for the VAT Jurisdiction attribute will have a value set. The value will depend on the format of the PSE's external system identifier. If the external system identifier starts with "PT\_4" the VAT Jurisdiction will be set to ROI. If the external system

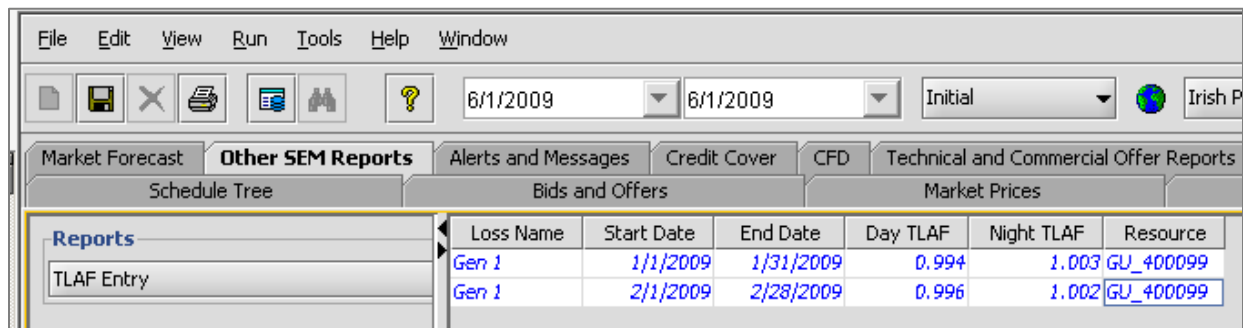
identifier starts with "PT\_5" the VAT Jurisdiction will be set to UK. If the VAT Jurisdiction attribute is set, it will not be overwritten.

The VAT Jurisdiction can also be manually set on the PSE corresponding to the "market participant". This PSE will typically be created automatically when the PUB\_ActiveMPs report. From the Entity Manager, select the PSE from the tree under Business Entity > Purchasing-Selling Entity. In the Custom sub-tab, add a row and select VAT Jurisdiction as the Attribute, and type in the correct VAT jurisdiction (one of ROI, UK, EU, or NEU) for the Value.

### 15.3.3 Transmission Loss Adjustment Factors

All settlement charges related to generators rely on Transmission Loss Adjustment Factors, or TLAFs, as part of the charge calculations. Before the release of SEM R2.2.0 in May 2013, the SEMO did not provide a format for the published TLAF file requiring manual entry of the data into Market Operations. While SEMO now publishes TLAFs in a format suitable for programmatic query and import (see the reports listing in Appendix A: Market Reports Cross-Reference by Report), manual entry is still an option. Note that TLAF values only apply to SEMO resources, and not to non-SEMO resources such as de minimus windfarms.

Select the TLAF Entry report from the Reports drop-down on the Other SEM Reports tab. Generally, a row in the TLAF Entry grid will correspond to a monthly day/night TLAF pair for a resource. The Loss Name may be any convenient reference text; generally it is convenient to use a "real" resource name.



Loss Name	Start Date	End Date	Day TLAF	Night TLAF	Resource
Gen 1	1/1/2009	1/31/2009	0.994	1.003	GU_400099
Gen 1	2/1/2009	2/28/2009	0.996	1.002	GU_400099

When the report is saved, the day and night TLAFs are expanded into 30-minute values over the start and end date for each row. By default, Day TLAFs are entered between intervals ending 0730 and 2200. If needed, these intervals may be changed by editing the Loss Factors entries in System Settings, under Global > MarketExchange > SEM > Loss Factors.

The 30-minute TLAF values are displayed on the Loss Factors tab.

File Edit View Run Tools Help Window

2/1/2009

2/1/2009

Market Forecast

Other SEM Reports

Alerts and Messages

Credit Cover

CFI

Schedule Tree

Bids and Offers

Participant(s)

PT\_400099

Resource(s)

GU\_400099

Schedule Date	PT_400099	GU_400099
2009-02-01 00:30	1.002	
2009-02-01 01:00	1.002	
2009-02-01 01:30	1.002	
2009-02-01 02:00	1.002	
2009-02-01 02:30	1.002	
2009-02-01 03:00	1.002	
2009-02-01 03:30	1.002	
2009-02-01 04:00	1.002	
2009-02-01 04:30	1.002	
2009-02-01 05:00	1.002	
2009-02-01 05:30	1.002	
2009-02-01 06:00	1.002	
2009-02-01 06:30	1.002	
2009-02-01 07:00	1.002	
2009-02-01 07:30	0.996	
2009-02-01 08:00	0.996	
2009-02-01 08:30	0.996	
2009-02-01 09:00	0.996	
2009-02-01 09:30	0.996	
2009-02-01 10:00	0.996	
2009-02-01 10:30	0.996	
2009-02-01 11:00	0.996	
2009-02-01 11:30	0.996	
2009-02-01 12:00	0.996	
2009-02-01 12:30	0.996	
2009-02-01 13:00	0.996	
2009-02-01 13:30	0.996	
2009-02-01 14:00	0.996	
2009-02-01 14:30	0.996	
2009-02-01 15:00	0.996	
2009-02-01 15:30	0.996	
2009-02-01 16:00	0.996	
2009-02-01 16:30	0.996	
2009-02-01 17:00	0.996	
2009-02-01 17:30	0.996	
2009-02-01 18:00	0.996	
2009-02-01 18:30	0.996	
2009-02-01 19:00	0.996	
2009-02-01 19:30	0.996	
2009-02-01 20:00	0.996	
2009-02-01 20:30	0.996	
2009-02-01 21:00	0.996	
2009-02-01 21:30	0.996	
2009-02-01 22:00	0.996	
2009-02-01 22:30	1.002	
2009-02-01 23:00	1.002	
2009-02-01 23:30	1.002	
2009-02-01 24:00	1.002	

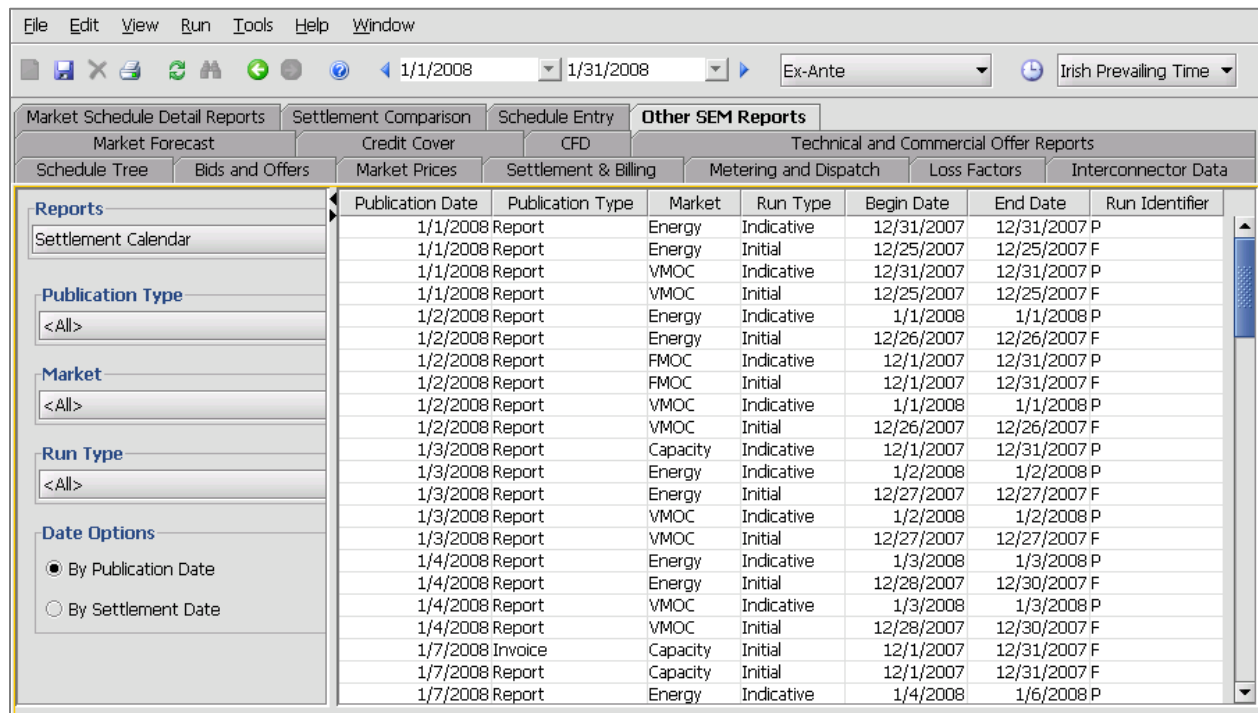
## 15.3.4 SEM Settlement Calendar

Market Operations depends on the SEM settlement calendar for credit cover calculations and statement type mapping. The SEMO does not publish a defined format for the settlement calendar and therefore this information must be entered manually. The SEM settlement calendar also includes the schedule of settlement revisions including publication timings for ad-hoc resettlements. The revisions schedule is used primarily for credit cover calculations, but it is also used by some shadow settlement functions.

On the *Other SEM Reports* tab, display the *Settlement Calendar* report. Generally, a row in the published Excel-format calendar corresponds to a column in the Settlement Calendar report.

The settlement calendar not only indicates publication dates for statements and invoices but it also maps the *F(n)* **style revision identifiers** on settlement statements to invoice periods. These must be tracked separately for the various markets, as they are not always resettled together (that is, for a given invoice period the energy market may have both ad-hoc and timed resettlements but the capacity market may have only timed resettlements).

For each ad-hoc resettlement, at least one row must be included in the calendar. From the *Settlement Calendar* report add the publication date and type (Report for statements and other reports like PIRs, Invoice for invoice publications), market (Energy, Capacity, VMOC, or FMOC), run type (Indicative, Initial, Ad-hoc, M+4, or M+13), operating date range (must correspond to a whole invoice period for Invoice publication types), and revision identifier.



Publication Date	Publication Type	Market	Run Type	Begin Date	End Date	Run Identifier
1/1/2008	Report	Energy	Indicative	12/31/2007	12/31/2007	P
1/1/2008	Report	Energy	Initial	12/25/2007	12/25/2007	F
1/1/2008	Report	VMOC	Indicative	12/31/2007	12/31/2007	P
1/1/2008	Report	VMOC	Initial	12/25/2007	12/25/2007	F
1/2/2008	Report	Energy	Indicative	1/1/2008	1/1/2008	P
1/2/2008	Report	Energy	Initial	12/26/2007	12/26/2007	F
1/2/2008	Report	FMOC	Indicative	12/1/2007	12/31/2007	P
1/2/2008	Report	FMOC	Initial	12/1/2007	12/31/2007	F
1/2/2008	Report	VMOC	Indicative	1/1/2008	1/1/2008	P
1/2/2008	Report	VMOC	Initial	12/26/2007	12/26/2007	F
1/3/2008	Report	Capacity	Indicative	12/1/2007	12/31/2007	P
1/3/2008	Report	Energy	Indicative	1/2/2008	1/2/2008	P
1/3/2008	Report	Energy	Initial	12/27/2007	12/27/2007	F
1/3/2008	Report	VMOC	Indicative	1/2/2008	1/2/2008	P
1/3/2008	Report	VMOC	Initial	12/27/2007	12/27/2007	F
1/4/2008	Report	Energy	Indicative	1/3/2008	1/3/2008	P
1/4/2008	Report	Energy	Initial	12/28/2007	12/30/2007	F
1/4/2008	Report	VMOC	Indicative	1/3/2008	1/3/2008	P
1/4/2008	Report	VMOC	Initial	12/28/2007	12/30/2007	F
1/7/2008	Invoice	Capacity	Initial	12/1/2007	12/31/2007	F
1/7/2008	Report	Capacity	Initial	12/1/2007	12/31/2007	F
1/7/2008	Report	Energy	Indicative	1/4/2008	1/6/2008	P



# Chapter 16: SEM Credit Cover

Although the SEMO publishes the relationship between participants and resources, it does not publish the relationship between credit parties and participants.

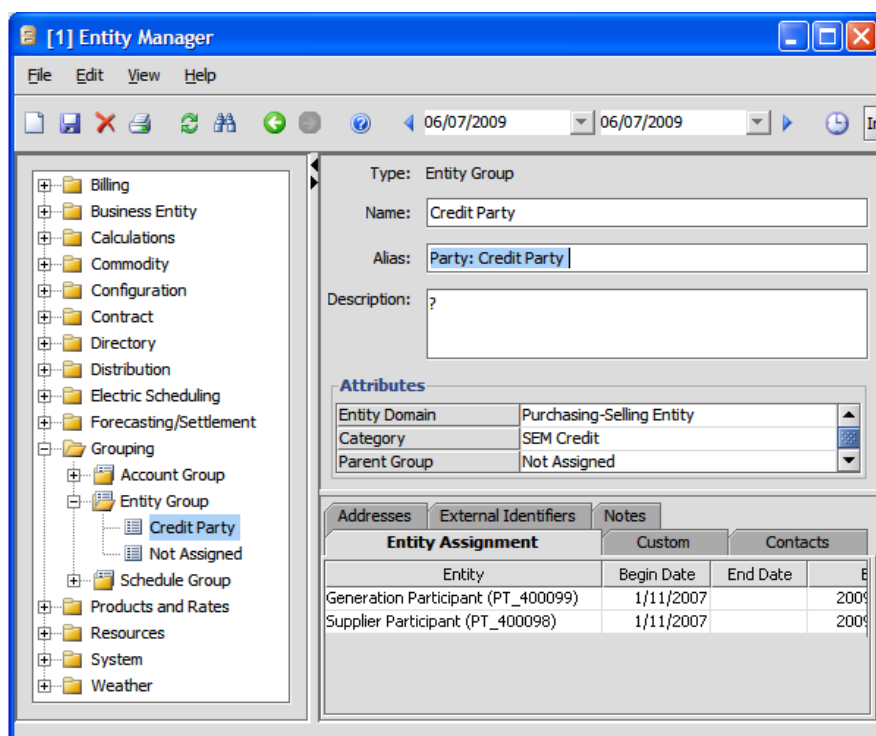
Credit parties must be set up to correctly process the credit cover reports retrieved from the SEMO's settlement system. Credit parties and their associated participants are maintained in Entity Groups, which must be set up manually in the Entity Manager for each credit party.

## 16.1 Entity Group Configuration

In the Entity Manager under Grouping > Entity Group, create a new Entity Group for each SEM credit party with the following attributes:

- Entity Domain: **Purchasing-Selling Entity**
- Group Category: **SEM Credit**
- SEM Default External Identifier: ***The PT identifier for the lowest-numbered participant in the credit party***

Save the new Entity Group after entering the above attributes. Then, in the Entity Assignment sub-tab, insert rows for the Participants that are included in this Party, and select the Participant PSE name and a Begin Date. In the example below, the credit party includes the market participants named Generation Participant and Supplier Participant. The SEM default external identifier would be set to PT\_400098, the lowest-numbered participant assigned to the credit party.



# Chapter 17: Importing SEM Reports from Files

Market Operations provides several data exchanges for importing SEM reports from files. These data exchanges are particularly useful for testing, as well as for uploading reports without requiring connectivity to SEMO.

## 17.1 Importing Settlement Reports

The data exchanges for importing settlement reports are available from the Settlement & Billing tab. Although the file names for these reports do not have to conform exactly to the naming conventions given in the MPUD, there are restrictions on the names depending on the report type.

### 17.1.1 SEM: Import Invoice Report

This data exchange processes XML-formatted invoice files. The file name is required to begin with INV.

### 17.1.2 SEM: Import Participant Info Report

This data exchange processes CSV-formatted PIR files. The file naming convention as given in the MPUD is "Market"\_PIR\_"Participant"\_Type\_"Settlement Date".csv. This data exchange requires the "Type" to be either P or F. The "Market", "Participant", and "Settlement Date" must be present but are not specifically processed.

### 17.1.3 SEM: Reallocation Agreements Report

This data exchange processes CSV-formatted RAR files. The file naming convention as given in the MPUD is "Market"\_RAR\_"Participant"\_Type\_"Settlement Date".csv. This data exchange requires the "Market", "Participant", and "Settlement Date" to be present, but the field values are not specifically processed.

### 17.1.4 SEM: Import Statement Report

This data exchange processes CSV-formatted statement files. The file naming convention as given in the MPUD is "Segment"\_Type\_"Participant"\_Settlement Date""Revision".csv. This data exchange requires the "Type" to be either P or F, and the "Revision" (if present) must be a number enclosed in parentheses. The "Segment", "Participant", and "Settlement Date" must be present but are not specifically processed.

### 17.1.5 SEM: Import MFR/MGR/MIR Settlement Report

This data exchange processes CSV-formatted general-public settlement report files. These reports are named the Market Financial Report Publication (MFR), the Metered Generation Report Publication (MGR), and the Market Information Report Publication (MIR). The file naming convention given in the MPUD is "Market"\_Report Type\_"Type"\_Settlement Date".csv. This data exchange requires the "Report Type" to be one of MFR, MGR, or MIR and the "Type" to be either P or F. The "Market" and "Settlement Date" must be present but are not specifically processed.

### 17.1.6 SEM: Import Credit Report

This data exchange processes CSV-formatted CCR files. The file naming convention as given in the MPUD is CCR\_"Participant"\_"Assessment Date"\_(n).csv. This data exchange requires the "Participant" and "Assessment Date" to be present, but the field values are not specifically processed. If the CCR is revised, the revision number must follow the assessment date and be contained in parentheses.

## 17.2 Importing MPI Reports

Any report which may be queried from SEMO's Market Participant Interface (MPI) via Type 3 may be imported using the data exchange named "SEM: Import MPI Report". This data exchange is available from the Data Exchange menu option for any tab other than Settlement & Billing and Credit Cover. There are no filename restrictions for files imported with this data exchange.

## 17.3 Importing NIE T&D Participant Aggregation Reports

NIE T&D publishes CSV-formatted files containing aggregated generation and demand information for market participants in Northern Ireland. These files may be imported into Net Demand transactions in Market Operations using the data exchange named "SEM: Import NI Participant Aggregation Report". The only restriction on naming these files is that they must have a .csv extension (the import is not dependent on the case of the extension).

## 17.4 SEM Settlement Download Groups Report

SEM Market Operator publishes resettlement reports, which do not have an option to identify the settlement versions either in the filename or in the file-header (for certain reports other than PIRs like MIR, MFR, and MGR.) This resulted in time-consuming workaround processes to load the resettlement data into *Market Operations Ireland*. Therefore, *Settlement Download Groups* functionality was included in the product to load the Resettlement PIRs automatically. This facilitates automatic mapping of reports like PIRs to resettlement statement type. Besides, *Settlement Download Groups* functionality provides an easy way to target specific files for downloads. Each group definition specifies a market-type, report-type, statement-type, participant-type and statement-type. All fields with the exception of PIR statement-type allow "<ALL>" option. This functionality was originally implemented for PIR reports and subsequently extended to other reports, namely, MIR, MFR, and MGR.

Currently NIE Energy gets billed for Error Supplier Unit – SU\_500051 – based on the billing determinants published in one of the GP Settlement reports. During shadow settlement, Market Operations must be able to verify the billing calculations based on these values published by the Market. Hence there is a business requirement to store these GP Settlement Reports in a separate revision statement-type. *Ad hoc* Revision Settlement statements for general, public, settlement-reports, namely, PIR, MIR, MFR and MGR will be stored under the **PIR/MIR/MFR/MGR Statement Type**.

### 17.4.1 Report View

**Download Settlement Reports** view is available as the last tab under **Settlement & Billing** tab in the *Scheduling* module.

#### Filters

This report has only one button filter – **Download Selected Groups**. Clicking this button initiates a data-exchange action associated with downloads.

## Columns

This report has the following columns:

- **Group Name:** Each Settlement Download Group is given a unique name during setup. Group Names are case-sensitive. For example, "EN MIR1" is different from "En Mir1".
- **Market Type<sup>1</sup>:** This column specifies the type of Market, which could be Energy, Capacity, Variable Market Operator Charge, Fixed Market Operator Charge or <ALL>. List of values for this column is specified in the list of System Dictionary entries under System Settings > Global > MarketExchange > SEM > Settlement > Invoice Markets.
- **Report Type:** This column specifies the type of GP Settlement Report, which could be PIR, MIR, MFR, MGR or <ALL>. List of values for this column is specified in the list of System Dictionary entries under System Settings > Global > MarketExchange > SEM > Settlement > Reports Map. With the exception of Statement and Invoice, all choices for Report Type are taken from the Code for the labels under these System Dictionary entries. In order to avoid inadvertent downloads, Invoices will be downloaded only for groups with a Report Type explicitly stated as **"Invoice"**. If the setting is <ALL>, it does not include Invoices. Invoices cannot be identified with a Market through filename alone. Besides, Statement Type of an Invoice can be determined only by processing the Invoice.
- **Statement Type:** This column specifies the Statement Type, which could be any of the valid Statement Types such as P (Indicative), F (Initial), etc. besides the <ALL> option. This list has Statement Types that satisfy a common regular express that always returns Statement Types as P, F, and F(n), where n is a positive integer.
- **Participant:** This column specifies the list of valid Market Participants for wholesale contract entities, besides the <ALL> option. In reality, this represents participant identifiers for the SEM accounts within *Market Operations Ireland*. This is not dependent on the **External Credentials**. However, it is dependent on the wholesale contracts with SEM External Identifiers defined.
- **PIR/MIR/MFR/MGR Statement Type:** This column specifies the list of valid Resettlement Statement Types. It is an editable combo dropdown filter that facilitates addition of new entries. New Statement Types should be of the form "F(n)", where n is a positive integer. If this condition is not satisfied, "Statement type must match F(n) format!" error is raised, after which the prior, original value before the change gets automatically reinstated after the error dialog is closed. Reports downloaded will be stored to the Resettlement Statement Type specified in this column. This list has Statement Types that satisfy a common regular expression that almost always returns Statement Types as F(n), where n is a positive integer.
- **Include in D/L:** This column has a checkbox against each row, which when selected, will facilitate the downloads when the **"Download Selected Groups"** button is pressed.

Group Name	Market Type	Report Type	Statement Type	Participant	PIR/MIR/MFR/MGR Statement Type	Include In D/L
00. <ALL>	<ALL>	<ALL>	<ALL>	<ALL>	N/A	<input type="checkbox"/>
01. <ALL>	<ALL>	<ALL>	<ALL>	<ALL>	F(2)	<input type="checkbox"/>
02. EN MIR 1	Energy Market	MIR	P	<ALL>	N/A	<input type="checkbox"/>
03. EN MIR 2	Energy Market	MIR	F	<ALL>	N/A	<input type="checkbox"/>
04. EN MIR 3	Energy Market	MIR	F(1)	<ALL>	N/A	<input type="checkbox"/>
05. EN MIR 4	Energy Market	MIR	<ALL>	<ALL>	N/A	<input type="checkbox"/>
06. EN MIR 5	Energy Market	MIR	P	<ALL>	F(2)	<input type="checkbox"/>
07. EN MIR 6	Energy Market	MIR	F	<ALL>	F(2)	<input type="checkbox"/>
08. EN MIR 7	Energy Market	MIR	F(1)	<ALL>	F(2)	<input checked="" type="checkbox"/>
09. EN MIR 8	Energy Market	MIR	<ALL>	<ALL>	F(2)	<input type="checkbox"/>
10. EN MGR	Energy Market	MGR	<ALL>	<ALL>	F(2)	<input type="checkbox"/>
11. CA MIR	Capacity Market	MIR	<ALL>	<ALL>	F(2)	<input type="checkbox"/>
12. CA MGR	Capacity Market	MGR	<ALL>	<ALL>	F(2)	<input type="checkbox"/>
13. MO MIR	Variable Market Operator Charge	MIR	<ALL>	<ALL>	F(2)	<input type="checkbox"/>
14. EN PIR	Energy Market	PIR	<ALL>	<ALL>	F(2)	<input type="checkbox"/>

<sup>1</sup> This field does not affect the download of Invoices or CCRs.

## 17.4.2 Process

"**Download Selected Groups**" button has a workflow similar to the Data Exchange item "SEM: Download Settlement Reports (force redownload)". However, it differs from the following aspects:

Date-range for downloading settlement reports is taken from the toolbar's begin and end dates.

Settlement report listing will be queried only for those credentials that match a Participant setting for at least one download group.

A filename in the directory listing will only be retrieved if it matches the criteria of at least one download group.

Filenames are only compared against the criteria of those Settlement Download Groups where "**Include in D/L**" is checked.

In general, the process is one of comparing the list of available reports to the criteria of the Settlement Download Groups, instead of using the group criteria to build a list of reports to be retrieved.

**Note:** If the **Include In D/L** checkbox is checked or unchecked, this change should be saved before the **Download Selected Groups** button is clicked. If the row is unsaved and remains blue in color, clicking the button will not result in expected behavior.

## 17.4.3 Configuration

**Download Settlement Groups** report can be configured by adding new groups. By right-clicking on the grid and selecting the **Insert Row** popup menu option, a new row is inserted. Unique name needs to be given for the Group, besides specifying the other required fields. On clicking the **Save** button; the group definition details are saved. Editing and deleting existing group definitions follow the routine procedures of modifying an editable grid in the Market Operations software.

## 17.4.4 Special Cases

Due to the special case with Invoices as mentioned earlier under **Report Type** in the **Columns** section, conditional formatting is used to italicize the rows involving "Invoice" Report Type.

As Credit Cover Reports (CCR) do not have a Statement Type associated with them, this field is ignored when determining if a CCR satisfies the criteria for the download group. If one version of a CCR matches the criteria for a group, then all versions of that CCR that satisfy the criteria will be downloaded. **Settlement Download Groups** does not have a method for filtering the different CCR versions.

Reallocation Report Agreements (RAR) are published for Indicative (P) and Initial (F) statements only. Therefore, RARs will not match any group where the Statement Type field is set to an explicit Resettlement Statement Identifier.

## 17.4.5 Managing Revisions With the Settlement Calendar

The Download Settlement Reports report may be used in conjunction with the Settlement Calendar to ensure that all revised reports and invoices are downloaded. As an example, the Energy settlement calendar for 31<sup>st</sup> July 2014 and 1<sup>st</sup> August-2014 will be used to demonstrate a possible workflow.

On the operational day of Thursday 31<sup>st</sup> July, ad-hoc statements were published for all seven days in the week ending 21<sup>st</sup> September 2013. We can term this as Revision 2 or F(2), as this ad-hoc run was done after the M+4 run but prior to the M+13 run. Further, on the operational day of Friday 1<sup>st</sup> August, the following invoices were published:

- Initial or F for the week ending 26<sup>th</sup> July 2014
- M+4 or Revision 1 or F(1) for the week ending 5<sup>th</sup> April 2014
- M+13 or Revision 2 or F(2) for the week ending 6<sup>th</sup> July 2013

- Ad-hoc or Revision 2 or F(2) for the week ending 21<sup>st</sup> September 2013

Adding this data to the settlement calendar report gives the following view:

Publication Date	Publication Type	Market	Run Type	Begin Date	End Date	Run Identifier
31/07/2014	Report	Energy	Adhoc	14/09/2013	21/09/2013	F(2)
01/08/2014	Invoice	Energy	Adhoc	14/09/2013	21/09/2013	F(2)
01/08/2014	Invoice	Energy	Initial	20/07/2014	26/07/2014	F
01/08/2014	Invoice	Energy	M+13	30/06/2013	06/07/2013	F(2)
01/08/2014	Invoice	Energy	M+4	30/03/2014	05/04/2014	F(1)

If we assume the Initial invoice is automatically downloaded by a scheduled process, we need to configure five settlement download groups to capture the resettlement statements, PIRs, and invoices as shown in the view below:

Group Name	Market Type	Report Type	Statement Type	Participant	PIR/MIR/MFR/MGR Statement Type	Include In D/L
F(1) Energy PIRs	Energy Market	PIR	<ALL>	<ALL>	F(1)	<input type="checkbox"/>
F(1) Energy Statements	Energy Market	Statement	F(1)	<ALL>	N/A	<input type="checkbox"/>
F(2) Energy PIRs	Energy Market	PIR	<ALL>	<ALL>	F(2)	<input type="checkbox"/>
F(2) Energy Statements	Energy Market	Statement	F(2)	<ALL>	N/A	<input type="checkbox"/>
Resettlement Invoices	<ALL>	Invoice	<ALL>	<ALL>	N/A	<input type="checkbox"/>

Four separate "actions" are required to download all the reports, since each of the resettlement invoices covers a different billing period:

- Set the toolbar date range to 14/09/2013 – 21/09/2013, and check Include in D/L for the groups **F(2) Energy PIRs** and **F(2) Energy Statements** before clicking the Download Selected Groups button.
- Set the toolbar date range to 30/06/2013 – 06/07/2013, and check Include in D/L for the groups **F(2) Energy PIRs** and **F(2) Energy Statements** before clicking the Download Selected Groups button.
- Set the toolbar date range to 30/03/2014 – 05/04/2014, and check Include in D/L for the groups **F(1) Energy PIRs** and **F(1) Energy Statements** before clicking the Download Selected Groups button.
- Set the toolbar date range to 01/08/2014 – 01/08/2014, and check Include in D/L for the group **Resettlement Invoices** before clicking the Download Selected Groups button.

The only restriction on ordering is that statements must be downloaded prior to downloading invoices, as the revision type of the invoice is determined by the Job IDs on the backing statements.

# Chapter 18: SEM Reports

## 18.1 NDLFESU Validation Report

The "NDLFESU Validation" Report is used to calculate the Error Supplier Unit Net Demand for participant PT\_50036, using a new formula. The results of this report are shown in the "NDLFESU Validation" report on the "Settlement Comparison" tab.

Market Forecast		Credit Cover	CFD	Technical and Commercial Offer Reports		Market Schedule Detail Reports		Settlement Comparison		Schedule Entry	
Schedule Tree			Bids and Offers		Market Prices		Settlement & Billing			Metering and Di	
<div>Reports</div> <div>NDLFESU Validation</div> <div>Interval</div> <div>30 Minute</div> <div>Highlight Differences</div> <div>When Greater Than</div> <div>-0.00000004</div> <div>Treat Value As</div> <div><input type="radio"/> Value</div> <div><input checked="" type="radio"/> Percentage</div>			Date	Time	NDLFESU (PIR)	NDLFESU (Calc)	Difference	NI Determinants			
								MG	NIJ	JMGLF	JMDLF
			2011-05-10	00:30	-157.47297691	-157.47297702	0.00000011	278.162	76.058	276.647	-190.808
			2011-05-10	01:00	-132.87550706	-132.87550712	0.00000006	274.737	52.591	273.278	-188.981
			2011-05-10	01:30	-119.29270877	-119.29270874	-0.00000003	269.012	43.734	267.489	-188.095
			2011-05-10	02:00	-109.70166180	-109.70166179	-0.00000001	258.026	38.986	256.419	-182.198
			2011-05-10	02:30	-108.94491528	-108.94491524	-0.00000004	249.207	43.867	247.474	-179.124
			2011-05-10	03:00	-98.63591781	-98.63591783	0.00000002	246.554	35.865	244.83	-179.065
			2011-05-10	03:30	-96.35883609	-96.35883601	-0.00000008	246.766	32.351	245.047	-178.241
			2011-05-10	04:00	-92.12252568	-92.12252562	-0.00000006	244.792	28.979	243.083	-177.254
			2011-05-10	04:30	-91.74016153	-91.74016146	-0.00000007	247.415	28.707	245.689	-179.907
			2011-05-10	05:00	-93.95129211	-93.95129205	-0.00000006	248.86	29.381	247.127	-179.813
			2011-05-10	05:30	-107.99044646	-107.99044641	-0.00000005	280.656	3.016	279.068	-171.321
			2011-05-10	06:00	-104.79842723	-104.79842720	-0.00000003	301.659	-16.02	300.27	-176.551
			2011-05-10	06:30	-114.12749174	-114.12749182	0.00000008	322.461	-8.892	321.006	-194.467
			2011-05-10	07:00	-124.40735524	-124.40735524	0.00000000	367.295	-22.809	365.663	-214.489
			2011-05-10	07:30	-168.92896939	-168.92896939	0.00000000	401.197	14.692	399.304	-239.414
			2011-05-10	08:00	-187.20414957	-187.20414947	-0.00000010	408.808	56.163	406.845	-269.557
			2011-05-10	08:30	-192.10977456	-192.10977471	0.00000015	481.684	25.08	478.158	-304.868
			2011-05-10	09:00	-186.66742919	-186.66742905	-0.00000014	536.475	-8.474	531.741	-331.001
			2011-05-10	09:30	-194.21374137	-194.21374123	-0.00000014	548.941	1.668	544.133	-345.525
			2011-05-10	10:00	-191.33393601	-191.33393591	-0.00000010	592.735	-35.855	587.771	-354.825
			2011-05-10	10:30	-192.19419289	-192.19419304	0.00000015	618.487	-59.741	613.464	-356.111

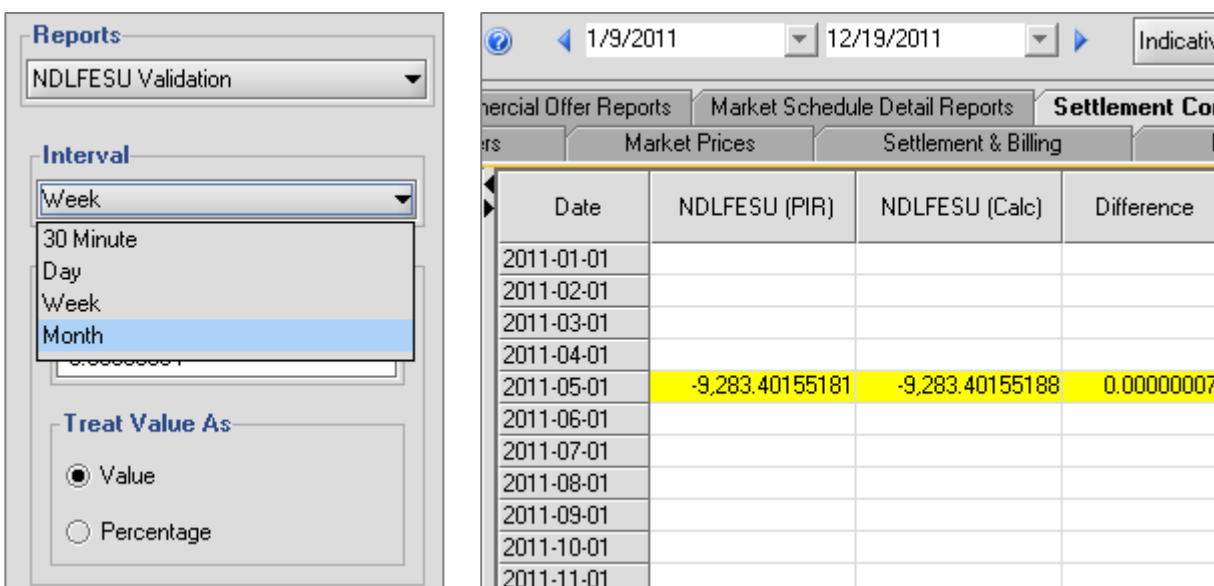
### Report Data Columns:

- **NDLFESU (PIR):** NDLFESU value from Market Participant Information Report (PIR).
- **NDLFESU (Calc):** NDLFESU value calculated by Market Operations using the new formula.
- **Difference:** Difference between the NDLFESU (PIR) and NDLFESU (Calc) values.
- **MG:** Metered Generation excluding Netting Generator Units.
- **MD:** Metered Demand.
- **NIJ:** Net Inter-Jurisdiction Import.
- **MGLF:** Loss-Adjusted Metered Generation.
- **JMGLF:** Total Jurisdictional Loss-Adjusted Metered Generation.
- **MDLF:** Loss-Adjusted Metered Demand.
- **JMDLF:** Total Jurisdictional Loss-Adjusted Metered Demand.

## Interval Rollup Behavior:

The **"Interval"** filter can be used to aggregate data over half-hour, day, week and month-long intervals, depending on the date-range picked from the toolbar. The **"Time"** column is displayed only if the **"30 Minute"** interval is chosen. However, if **"Week"** or **"Month"** is selected, data will be displayed for all weeks or months within the selected date-range, respectively. Data displayed against a specific week or month is aggregated for that entire week or month, even if a portion of that week or month lies outside the selected date-range. For example, if the date range lies between 01/11/2011 and 02/12/2011, and **"Month"** is selected, two rows of data will be displayed - one for 01/01/2011 and one for 02/01/2011, with the data aggregated for the months of January and February, respectively.

If the combo-filter is set to **"Week"** for a particular interval, the report will display the date of the first Sunday for all the weeks within that date-range in the toolbar, inclusive of the begin and end dates. For **"Month"**, the report will display one row for the first day of every month within the selected date-range.



The screenshot shows the 'Reports' toolbar on the left and a data table on the right. The toolbar has a dropdown for 'Reports' set to 'NDFESU Validation', an 'Interval' dropdown set to 'Month', and 'Treat Value As' radio buttons with 'Value' selected. The data table has columns: Date, NDLFESU (PIR), NDLFESU (Calc), and Difference. The row for 2011-05-01 is highlighted in yellow.

Date	NDLFESU (PIR)	NDLFESU (Calc)	Difference
2011-01-01			
2011-02-01			
2011-03-01			
2011-04-01			
2011-05-01	-9,283.40155181	-9,283.40155188	0.00000007
2011-06-01			
2011-07-01			
2011-08-01			
2011-09-01			
2011-10-01			
2011-11-01			

## Tolerance Filter and Highlighting:

The **"Highlight Differences"** filter-group is used to highlight the rows where the difference between the NDLFESU (PIR) and NDLFESU (Calc) columns (treated as "Value" or "Percentage" difference) are greater than the threshold value specified by the **"When Greater Than"** filter. This feature is enabled only when a numeric value is entered in the **"When Greater Than"** textbox, and only for those dates that contain data. In a row, if either NDLFESU (PIR) or NDLFESU (Calc) column has NULL values while rests of the columns have valid data, it is also highlighted. **"Treat Value As"** radio buttons enable the threshold criterion value to be treated as a percentage or an absolute numeric value.



## Appendix A: Market Reports Cross-Reference by Report

MPI Ref	MPI Report Title	MPI Report Name	Market Operations Main Report Tab	Market Operations Secondary Report and Filter Settings
4.3.1	Daily Ex-Ante Market Schedule Detail (MP)	MP_D_ExAnteMktSchDetail_	Schedule Tree	<Resource ID>:Market Schedule; Ex-Ante statement type
4.3.2	Daily Indicative Ex-Post Market Schedule Detail	MP_D_ExPostMktSchDetail	Schedule Tree	<Resource ID>:Market Schedule; Indicative Ex-Post statement type
4.3.3	Daily Ex-Post Indicative Actual Load Summary	PUB_D_ActualLoadSummary	Metering and Dispatch	Actual Load Summary
4.3.4	Daily Indicative Actual Schedules (MP)	MP_D_IndicativeActualSchedules	Schedule Tree	<Resource ID>:Market Schedule; Indicative Actual statement type
4.3.5	Daily Within Day Actual Schedules	MP_D_WithinDayActualSchedules	Other SEM Reports	Within-day Actual Schedule
4.3.6	Daily Meter Data Detail D+1 (Price Effecting)	MP_D_MeterDataDetailD1	Metering and Dispatch	Meter Detail; Version=Daily (D+1)
4.3.7	Daily Meter Data Detail D+3 (Price Effecting)	MP_D_MeterDataDetailD3	Metering and Dispatch	Meter Detail; Version=Daily (D+3)
4.3.8	Daily Initial Ex-Post Market Schedule Details	MP_D_InitialExPostMktSchDetail	Schedule Tree	<Resource ID>:Market Schedule; Initial Ex-Post statement type
4.3.9	Daily Ex-Post Initial Shadow Prices	PUB_D_EPInitShadowPrices	Market Prices	SEM:Shadow Price <currency>; Price Type = A, Interval=30 Minute
4.3.10	Daily Ex-Ante Indicative Shadow Prices	PUB_D_EAShadowPrices_	Market Prices	SEM:Shadow Price <currency>; Price Type = F, Interval=30 Minute
4.3.10	Daily Ex-Ante Indicative Shadow Prices	PUB_D_EAShadowPrices_	Schedule Tree	Market Results   SEM Shadow Price EUR/GBP
4.3.11	Daily Ex-Post Indicative Shadow Prices	PUB_D_EPIndShadowPrices	Market Prices	SEM:Shadow Price <currency>; Price Type = P, Interval=30 Minute
4.3.16	Daily Interconnector Capacity Active Holdings (MP)	MP_D_IntconnCapActHoldResults	Bids and Offers	Offer Details; Nomination transaction; Interval=<Offer>
4.3.18	Daily Ex-Ante Interconnector Nominations	MP_D_ExAnteIntconnNominations_	Schedule Tree	Nomination transaction for I_NIMOYLE; Statement Type=Ex-Ante
4.3.19	Daily Ex-Post Indicative Interconnector Nominations	MP_D_ExPostIndIntconnNominations	Schedule Tree	Nomination transaction for I_NIMOYLE; Statement Type=Indicative
4.3.20	Daily Ex-Post Initial Interconnector Nominations	MP_D_ExPostInitIntconnNominations	Schedule Tree	Nomination transaction for I_NIMOYLE; Statement Type=Initial
4.3.21	Daily Interconnector Modified Nominations	MP_D_IntconnModNominations	Schedule Tree	Nomination transaction for I_NIMOYLE; Statement Type=Modified

<b>MPI Ref</b>	<b>MPI Report Title</b>	<b>MPI Report Name</b>	<b>Market Operations Main Report Tab</b>	<b>Market Operations Secondary Report and Filter Settings</b>
4.3.22	Daily Revised Interconnector Modified Nominations (D+1)	MP_D_RevIntconnModNominations	Schedule Tree	Nomination transaction for I_NIMOYLE; Statement Type=Revised Modified
4.3.23	Daily Revised Interconnector Modified Nominations (D+4)	MP_D_RevIntconnModNominationsD4	Schedule Tree	Nomination transaction for I_NIMOYLE; Statement Type=Revised Modified
4.3.24	Daily Aggregated Interconnector Unit Nominations	MP_D_AgglIntconnUsrNominations_	Interconnector Data	Interconnector Details; check Show Agg. Nominations
4.3.25	Daily Market Operations Notifications	PUB_D_AdvInfo	Alerts and Messages	Market Messages
4.3.26	Daily Dispatch Instructions (D+1)	PUB_D_DispatchInstructions	Metering and Dispatch	Dispatch Instructions, lower grid
4.3.27	Daily Dispatch Instructions (D+3)	PUB_D_DispatchInstructionsD3	Metering and Dispatch	Dispatch Instructions, upper grid
4.3.28	Daily Interconnector Net Actual	PUB_D_IntconnNetActual	Interconnector Data	Interconnector Net Actuals
4.3.29	Daily Ex-Ante Market Schedule Summary	PUB_D_ExAnteMktSchSummary_	Schedule Tree	SEM-Market Schedule Summary
4.3.30	Daily Ex-Ante Market Schedule Detail (Public)	PUB_D_ExAnteMktSchDetail_	Market Schedule Detail Reports	Schedule Type = Ex-Ante
4.3.31	Daily Indicative Ex-Post Market Schedule Summary	PUB_D_ExPostMktSchSummary	Schedule Tree	SEM-Market Schedule Summary
4.3.32	Daily Meter Data Summary D+1 (Price Effecting)	PUB_D_MeterDataSummaryD1	Metering and Dispatch	Meter Summary; Version=Daily (D+1)
4.3.33	Daily Meter Data Summary D+3 (Price Effecting)	PUB_D_MeterDataSummaryD3	Metering and Dispatch	Meter Summary; Version=Daily (D+3)
4.3.34	Daily Indicative Ex-Post Market Schedule Quantity	PUB_D_ExPostMktSchDetail	Market Schedule Detail Reports	Schedule Type = Indicative Ex-Post
4.3.35	Daily Indicative Ex-Post Market Prices	PUB_D_IndicativeMarketPrices	Market Prices	SEM:System Marginal Price <currency>; Price Type = P, Interval=30 Minute
4.3.36	Daily Initial Ex-Post Market Prices	PUB_D_InitialMarketPrices	Market Prices	SEM:System Marginal Price <currency>; Price Type = A, Interval=30 Minute
4.3.37	Daily Market Prices Averages (SMP)	PUB_D_MarketPricesAverages	Market Prices	SEM:Average System Marginal Price <currency>; Price Type = A, Interval=Day
4.3.38	Daily Trading Day Exchange Rate	PUB_D_ExchangeRate	Market Prices	SEM:Trading Day Exchange Rate: <Euro/Pound> to <Pound/Euro>; Price Type = A, Interval=Day
4.3.40	Daily Initial Ex-Post Market Schedule Summary	PUB_D_InitialExPostMktSchSummary	Schedule Tree	SEM-Market Schedule Summary
4.3.41	Daily Initial Ex-Post Market Schedule Quantity	PUB_D_InitialExPostMktSchDetail	Market Schedule Detail Reports	Schedule Type = Initial Ex-Post
4.3.42	Daily Jurisdiction Error Supply MW (D+15)	PUB_D_JurisdictionErrorSupplyD15	Metering and Dispatch	Error Volume by Jurisdiction; Version(s)=Daily (D+15)
4.3.43	Daily Ex-Ante Indicative Operations Schedule	PUB_D_ExAnteIndicativeOpsScheduleDetails	Other SEM Reports	Ex-Ante Indicative Operations Schedule
4.3.44	Daily Technical Offer Data – Standard Units	PUB_D_TODStandardUnits_	Technical and Commercial Offer Reports	Technical Offer Characteristics Report

MPI Ref	MPI Report Title	MPI Report Name	Market Operations Main Report Tab	Market Operations Secondary Report and Filter Settings
4.3.45	Daily Technical Offer Data – Demand Side Units	PUB_D_TODDemandSideUnits_	Technical and Commercial Offer Reports	Technical Offer Characteristics Report
4.3.46	Daily Technical Offer Data – Forecast Data	PUB_D_TODForecastData_	Technical and Commercial Offer Reports	Technical Offer Forecast Data Report
4.3.47	Daily Commercial Offer Data – Standard Generator Unit	PUB_D_CODStandardGenUnits_	Technical and Commercial Offer Reports	Commercial Offer Gen/DSU Data
4.3.48	Daily Commercial Offer Data – Standard Demand Side Unit	PUB_D_CODStandardDemUnits_	Technical and Commercial Offer Reports	Commercial Offer Gen/DSU Data
4.3.49	Daily Commercial Offer Data – Interconnector Units	PUB_D_CODInterconnectorUnits_	Technical and Commercial Offer Reports	Commercial Offer IC Data
4.3.50	Daily Commercial Data Generator Unit Nomination Profiles	PUB_D_CommercialOfferDataGenNomProfiles_	Technical and Commercial Offer Reports	Commercial Offer Nomination Profile
4.3.51	Daily Commercial Data Demand Side Unit Nomination Profiles	PUB_D_CommercialOfferDataDemNomProfiles_	Technical and Commercial Offer Reports	Commercial Offer Nomination Profile
4.3.52	Daily Demand Control Data Transaction	PUB_D_DemandControlData	Schedule Tree	Demand Control   SEM Demand Control Data
4.3.53	Daily Generator Unit Technical Characteristics Data Transaction	PUB_D_GenUnitTechChars	Other SEM Reports	Generator Unit Technical Characteristics Report
4.3.54	Daily Energy Limited Generator Unit Technical Characteristics Data Transaction	PUB_D_EnergyLimitedGenUnitTechChars	Other SEM Reports	Energy-limited Generator Unit Technical Characteristics Report
4.3.55	Daily Price-affecting Metered Data	PUB_D_PriceAffectingMeterData	Metering and Dispatch	Price-affecting Metered Data
4.3.56	Annual Load Forecast	PUB_A_LoadFcst	Market Forecast	Load Forecast & Assumptions; Version=Annual
4.3.57	Annual Aggregated Load Forecast	PUB_A_AggLoadFcst	Market Forecast	Load Forecast & Assumptions; Jurisdiction=AGG; Version=Annual
4.3.60	Daily Load Forecast Summary	PUB_D_LoadFcstSummary	Market Forecast	Load Forecast Summary
4.3.61	Daily Interconnector ATC	PUB_D_IntconnATCData	Interconnector Data	Interconnector Details; Show ATC=Checked
4.3.62	Daily Revised Interconnector ATC Data	PUB_D_RevIntconnATCData	Interconnector Data	Interconnector Details; Show Revised ATC=Checked
4.3.63	Indicative Interconnector Flows and Residual Capacity	PUB_IndicativeInterconnFlows	Interconnector Data	Interconnector Details; Show Indicative Flow=Checked
4.3.64	Initial Interconnector Flows and Residual Capacity	PUB_InitialInterconnFlows	Interconnector Data	Interconnector Details; Show Initial Flow=Checked
4.3.65	Annual Transmission Loss Adjustment Factors	PUB_A_TransLossAdjustmentFactors_MM	Loss Factors	
4.3.67	Monthly Load Forecast & Assumptions	PUB_M_LoadFcstAssumptions	Market Forecast	Load Forecast & Assumptions;

MPI Ref	MPI Report Title	MPI Report Name	Market Operations Main Report Tab	Market Operations Secondary Report and Filter Settings
				Version=Monthly
4.3.68	Monthly Aggregated Load Forecast	PUB_M_AggLoadFcst	Market Forecast	Load Forecast & Assumptions; Jurisdiction=AGG; Version=Monthly
4.3.69	Daily Four Day Rolling Load Forecast and Assumptions	PUB_D_LoadFcstAssumptions	Market Forecast	Load Forecast & Assumptions; Version=Daily (D+n)
4.3.70	Daily Aggregated Four Day Rolling Load Forecast	PUB_D_AggLoadFcst	Market Forecast	Load Forecast & Assumptions; Jurisdiction=AGG; Version=Daily (D+n)
4.3.72	Two Day Rolling Wind Forecast and Assumptions	PUB_D_RollingWindFcstAssumptions	Market Forecast	Wind Generation Forecast
4.3.73	Two Day Rolling Wind Forecast and Assumptions Per Jurisdiction	PUB_D_RollingWindFcstAssumptionsJurisdiction	Market Forecast	Wind Generation Forecast (by Juris)
4.3.74	Two Day Aggregated Rolling Wind Power Forecast	PUB_D_AggRollingWindFcst	Not Available in UI	
4.3.75	Daily Interconnector Capacity Active Holdings	PUB_D_IntconnCapActHoldResults	Interconnector Data	Capacity Holdings; Version=Daily Active
4.3.78	Daily Revised Interconnector Modified Nominations	PUB_D_RevIntconnModNominations	Interconnector Data	Interconnector Revised Modified Nominations
4.3.79	Monthly Loss of Load Probability	PUB_M_LossLoadProbabilityFcst	Market Forecast	Loss of Load Probability Forecast, Version=Monthly LOLP Forecast
4.3.80	Daily Ex-Post Loss of Load Probability	PUB_D_EPLossOfLoadProbability	Market Forecast	Loss of Load Probability Forecast, Version=Daily Forecast Ex-Post LOLP
4.3.81	Daily SO System Frequency	PUB_D_SystemFrequency	Other SEM Reports	SO System Frequency
4.3.82	Daily SO Interconnector Trades	PUB_D_InterconnectorTrades	Interconnector Data	Interconnector SO Trades
4.3.83	Daily Ex-Ante Market Results	PUB_D_ExAnteMktResults_	Schedule Tree	Market Results   SEM SMP - EUR/GBP
4.3.83	Daily Ex-Ante Market Results	PUB_D_ExAnteMktResults_	Market Details and Results	Market Results; Run Type EA/EA2/WD1
4.3.84	Daily Ex-Post Indicative Market Results	PUB_D_ExPostIndMktResults	Market Details and Results	Market Results; Run Type EP1
4.3.85	Daily Ex-Post Initial Market Results	PUB_D_ExPostInitMktResults	Market Details and Results	Market Results; Run Type EP2
4.3.87	Daily Unit Data	PUB_D_TOD_UnitData	Not Available in UI	
4.3.88	Daily Ex-Post Initial Actual Load Summary	PUB_D_ExPostInitActLoadSummary	Metering and Dispatch	Actual Load Summary; Version(s)=Ex-Post 2
4.3.89	Daily KPI – Schedules Publication	PUB_D_KPI_Schedules	Not Available in UI	
4.3.90	Daily KPI – Gate Publication	PUB_D_KPI_GateInfo	Not Available in UI	
4.3.91	Daily Residual Error Volume (REVLf) D+15 report	PUB_D_ResidualErrorVolumeD15	Metering and Dispatch	Error Volume by Jurisdiction; Version(s)=Daily (D+15)
4.3.92	Excluded Bids	MP_D_ExcludedBids_	Offer Management	Excluded Bids
4.3.93	Available Credit Cover	MP_D_AvailCreditCover_	Credit Cover	Summary sub-tab; Available Credit Cover Report
4.3.94	MSP Cancellation	PUB_MSP_Cancel	Offer Management	MSP Cancellation

<b>MPI Ref</b>	<b>MPI Report Title</b>	<b>MPI Report Name</b>	<b>Market Operations Main Report Tab</b>	<b>Market Operations Secondary Report and Filter Settings</b>
4.3.95	List of Active Market Participants	PUB_ActiveMPs	Other SEM Reports	Active MP/Units
4.3.96	List of Active Units	PUB_ActiveUnits	Other SEM Reports	Active MP/Units
4.3.97	List of Active Market Participants and Units	PUB_ActiveMPUnits	Other SEM Reports	Active MP/Units
4.3.98	Monthly Updates to Settlement Class	PUB_M_SttlClassesUpdates	Other SEM Reports	Active MP/Units
4.3.99	List of Suspended/Terminated Market Participants	PUB_SuspTermMPs	Other SEM Reports	Suspended/Terminated Participants
4.3.100	Interconnector Offered Capacity Publication	PUB_D_IntconnOfferCapacity_	Interconnector Data	Offered Capacity in Implicit Auctions

## Appendix B: Market Reports Cross-Reference by Main Tab

Market Operations Main Report Tab	Market Operations Secondary Report and Filter Settings	MPI Report	Report Name
Alerts and Messages	Market Messages	Daily Market Operations Notifications	PUB_D_AdvInfo
Bids and Offers	Offer Details; Nomination transaction; Interval=<Offer>	Daily Interconnector Capacity Active Holdings (MP)	MP_D_IntconnCapActHoldResults
Credit Cover	Summary sub-tab; Available Credit Cover Report	Available Credit Cover	MP_D_AvailCreditCover_
Interconnector Data	Capacity Holdings; Version=Daily Active	Daily Interconnector Capacity Active Holdings	PUB_D_IntconnCapActHoldResults
Interconnector Data	Interconnector Details; check Show Agg. Nominations	Daily Aggregated Interconnector Unit Nominations	MP_D_AggIntconnUsrNominations_
Interconnector Data	Interconnector Details; Show ATC=Checked	Daily Interconnector ATC	PUB_D_IntconnATCData
Interconnector Data	Interconnector Details; Show Indicative Flow=Checked	Indicative Interconnector Flows and Residual Capacity	PUB_IndicativeInterconnFlows
Interconnector Data	Interconnector Details; Show Initial Flow=Checked	Initial Interconnector Flows and Residual Capacity	PUB_InitialInterconnFlows
Interconnector Data	Interconnector Details; Show Revised ATC=Checked	Daily Revised Interconnector ATC Data	PUB_D_RevIntconnATCData
Interconnector Data	Interconnector Net Actuals	Daily Interconnector Net Actual	PUB_D_IntconnNetActual
Interconnector Data	Interconnector Revised Modified Nominations	Daily Revised Interconnector Modified Nominations	PUB_D_RevIntconnModNominations
Interconnector Data	Interconnector SO Trades	Daily SO Interconnector Trades	PUB_D_InterconnectorTrades
Market Details and Results	Market Schedule Details; Run Type = EA/EA2/WD1	Daily Ex-Ante Market Schedule Detail (Public)	PUB_D_ExAnteMktSchDetail_
Market Details and Results	Market Schedule Details; Run Type = EP1	Daily Indicative Ex-Post Market Schedule Quantity	PUB_D_ExPostMktSchDetail
Market Details and Results	Market Schedule Details; Run Type = EP2	Daily Initial Ex-Post Market Schedule Quantity	PUB_D_InitialExPostMktSchDetail
Market Details and Results	Market Results; Run Type EA/EA2/WD1	Daily Ex-Ante Market Results	PUB_D_ExAnteMktResults_
Market Details and Results	Market Results; Run Type EP1	Daily Ex-Post Indicative Market Results	PUB_D_ExPostIndMktResults
Market Details and Results	Market Results; Run Type EP2	Daily Ex-Post Initial Market Results	PUB_D_ExPostInitMktResults
Market Forecast	Load Forecast & Assumptions; Jurisdiction=AGG; Version=Annual	Annual Aggregated Load Forecast	PUB_A_AggLoadFcst
Market Forecast	Load Forecast & Assumptions; Jurisdiction=AGG; Version=Daily (D+n)	Daily Aggregated Four Day Rolling Load Forecast	PUB_D_AggLoadFcst
Market Forecast	Load Forecast & Assumptions; Jurisdiction=AGG; Version=Monthly	Monthly Aggregated Load Forecast	PUB_M_AggLoadFcst
Market Forecast	Load Forecast & Assumptions; Version=Annual	Annual Load Forecast	PUB_A_LoadFcst
Market Forecast	Load Forecast & Assumptions; Version=Daily (D+n)	Daily Four Day Rolling Load Forecast and Assumptions	PUB_D_LoadFcstAssumptions
Market Forecast	Load Forecast & Assumptions; Version=Monthly	Monthly Load Forecast & Assumptions	PUB_M_LoadFcstAssumptions
Market Forecast	Load Forecast Summary	Daily Load Forecast Summary	PUB_D_LoadFcstSummary
Market Forecast	Loss of Load Probability Forecast, Version=Daily Forecast Ex-Post LOLP	Daily Ex-Post Loss of Load Probability	PUB_D_EPLossOfLoadProbability
Market Forecast	Loss of Load Probability Forecast, Version=Monthly LOLP Forecast	Monthly Loss of Load Probability	PUB_M_LossLoadProbabilityFcst

Market Operations Main Report Tab	Market Operations Secondary Report and Filter Settings	MPI Report	Report Name
Market Forecast	Wind Generation Forecast	Two Day Rolling Wind Forecast and Assumptions	PUB_D_RollingWindFcstAssumptions
Market Forecast	Wind Generation Forecast (by Juris)	Two Day Rolling Wind Forecast and Assumptions Per Jurisdiction	PUB_D_RollingWindFcstAssumptionsJurisdiction
Market Prices	SEM:Average System Marginal Price <currency>; Price Type = A, Interval=Day	Daily Market Prices Averages (SMP)	PUB_D_MarketPricesAverages
Market Prices	SEM:Shadow Price <currency>; Price Type = A, Interval=30 Minute	Daily Ex-Post Initial Shadow Prices	PUB_D_EPInitShadowPrices
Market Prices	SEM:Shadow Price <currency>; Price Type = F, Interval=30 Minute	Daily Ex-Ante Indicative Shadow Prices	PUB_D_EAShadowPrices_
Market Prices	SEM:Shadow Price <currency>; Price Type = P, Interval=30 Minute	Daily Ex-Post Indicative Shadow Prices	PUB_D_EPIndShadowPrices
Market Prices	SEM:System Marginal Price <currency>; Price Type = A, Interval=30 Minute	Daily Initial Ex-Post Market Prices	PUB_D_InitialMarketPrices
Market Prices	SEM:System Marginal Price <currency>; Price Type = P, Interval=30 Minute	Daily Indicative Ex-Post Market Prices	PUB_D_IndicativeMarketPrices
Market Prices	SEM:Trading Day Exchange Rate: <Euro/Pound> to <Pound/Euro>; Price Type = A, Interval=Day	Daily Trading Day Exchange Rate	PUB_D_ExchangeRate
Metering and Dispatch	Actual Load Summary	Daily Ex-Post Indicative Actual Load Summary	PUB_D_ActualLoadSummary
Metering and Dispatch	Actual Load Summary; Version(s)=Ex-Post 2	Daily Ex-Post Initial Actual Load Summary	PUB_D_ExPostInitActLoadSummary
Metering and Dispatch	Dispatch Instructions	Daily Dispatch Instructions (D+1)	PUB_D_DispatchInstructions
Metering and Dispatch	Error Volume by Jurisdiction; Version(s)=Daily (D+15)	Daily Jurisdiction Error Supply MW (D+15)	PUB_D_JurisdictionErrorSupplyD15
Metering and Dispatch	Error Volume by Jurisdiction; Version(s)=Daily (D+15)	Daily Residual Error Volume (REVLf) D+15 report	PUB_D_ResidualErrorVolumeD15
Metering and Dispatch	Meter Detail; Version=Daily (D+1)	Daily Meter Data Detail D+1 (Price Effecting)	MP_D_MeterDataDetailD1
Metering and Dispatch	Meter Detail; Version=Daily (D+3)	Daily Meter Data Detail D+3 (Price Effecting)	MP_D_MeterDataDetailD3
Metering and Dispatch	Meter Summary; Version=Daily (D+1)	Daily Meter Data Summary D+1 (Price Effecting)	PUB_D_MeterDataSummaryD1
Metering and Dispatch	Meter Summary; Version=Daily (D+3)	Daily Meter Data Summary D+3 (Price Effecting)	PUB_D_MeterDataSummaryD3
Metering and Dispatch	Price-affecting Metered Data	Daily Price-affecting Metered Data	PUB_D_PriceAffectingMeterData
Not Available in UI		Two Day Aggregated Rolling Wind Power Forecast	PUB_D_AggRollingWindFcst
Not Available in UI		Daily Unit Data	PUB_D_TOD_UnitData
Not Available in UI		Daily KPI – Schedules Publication	PUB_D_KPI_Schedules
Not Available in UI		Daily KPI – Gate Publication	PUB_D_KPI_GateInfo
Offer Management	Excluded Bids	Excluded Bids	MP_D_ExcludedBids_
Offer Management	MSP Cancellation	MSP Cancellation	PUB_MSP_Cancel
Other SEM Reports	Active MP/Units	List of Active Market Participants	PUB_ActiveMPs
Other SEM Reports	Active MP/Units	List of Active Units	PUB_ActiveUnits
Other SEM Reports	Active MP/Units	List of Active Market Participants and Units	PUB_ActiveMPUnits

Market Operations Main Report Tab	Market Operations Secondary Report and Filter Settings	MPI Report	Report Name
Other SEM Reports	Active MP/Units	Monthly Updates to Settlement Class	PUB_M_SttlClassesUpdates
Other SEM Reports	Energy-limited Generator Unit Technical Characteristics Report	Daily Energy Limited Generator Unit Technical Characteristics Data Transaction	PUB_D_EnergyLimitedGenUnitTechChars
Other SEM Reports	Ex-Ante Indicative Operations Schedule	Daily Ex-Ante Indicative Operations Schedule	PUB_D_ExAnteIndicativeOpsScheduleDetails
Other SEM Reports	Generator Unit Technical Characteristics Report	Daily Generator Unit Technical Characteristics Data Transaction	PUB_D_GenUnitTechChars
Other SEM Reports	SO System Frequency	Daily SO System Frequency	PUB_D_SystemFrequency
Other SEM Reports	Suspended/Terminated Participants	List of Suspended/Terminated Market Participants	PUB_SuspTermMPs
Other SEM Reports	Within-day Actual Schedule	Daily Within Day Actual Schedules	MP_D_WithinDayActualSchedules
Schedule Tree	Market Results   SEM Shadow Price EUR/GBP	Daily Ex-Ante Indicative Shadow Prices	PUB_D_EAShadowPrices_
Schedule Tree	Market Results   SEM SMP - EUR/GBP	Daily Ex-Ante Market Results	PUB_D_ExAnteMktResults_
Schedule Tree	<Resource ID>:Market Schedule; Ex-Ante statement type	Daily Ex-Ante Market Schedule Detail (MP)	MP_D_ExAnteMktSchDetail_
Schedule Tree	<Resource ID>:Market Schedule; Indicative Actual statement type	Daily Indicative Actual Schedules (MP)	MP_D_IndicativeActualSchedules
Schedule Tree	<Resource ID>:Market Schedule; Indicative Ex-Post statement type	Daily Indicative Ex-Post Market Schedule Detail	MP_D_ExPostMktSchDetail
Schedule Tree	<Resource ID>:Market Schedule; Initial Ex-Post statement type	Daily Initial Ex-Post Market Schedule Details	MP_D_InitialExPostMktSchDetail
Schedule Tree	Demand Control   SEM Demand Control Data	Daily Demand Control Data Transaction	PUB_D_DemandControlData
Schedule Tree	Nomination transaction for I_NIMOYLE; Statement Type=Ex-Ante	Daily Ex-Ante Interconnector Nominations	MP_D_ExAnteIntconnNominations_
Schedule Tree	Nomination transaction for I_NIMOYLE; Statement Type=Indicative	Daily Ex-Post Indicative Interconnector Nominations	MP_D_ExPostIndIntconnNominations
Schedule Tree	Nomination transaction for I_NIMOYLE; Statement Type=Initial	Daily Ex-Post Initial Interconnector Nominations	MP_D_ExPostInitIntconnNominations
Schedule Tree	Nomination transaction for I_NIMOYLE; Statement Type=Modified	Daily Interconnector Modified Nominations	MP_D_IntconnModNominations
Schedule Tree	Nomination transaction for I_NIMOYLE; Statement Type=Revised Modified	Daily Revised Interconnector Modified Nominations (D+1)	MP_D_RevIntconnModNominations
Schedule Tree	Nomination transaction for I_NIMOYLE; Statement Type=Revised Modified	Daily Revised Interconnector Modified Nominations (D+4)	MP_D_RevIntconnModNominationsD4
Schedule Tree	SEM-Market Schedule Summary	Daily Ex-Ante Market Schedule Summary	PUB_D_ExAnteMktSchSummary_
Schedule Tree	SEM-Market Schedule Summary	Daily Indicative Ex-Post Market Schedule Summary	PUB_D_ExPostMktSchSummary
Schedule Tree	SEM-Market Schedule Summary	Daily Initial Ex-Post Market Schedule Summary	PUB_D_InitialExPostMktSchSummary
Technical and Commercial Offer Reports	Commercial Offer Gen/DSU Data	Daily Commercial Offer Data – Standard Generator Unit	PUB_D_CODStandardGenUnits_
Technical and Commercial Offer Reports	Commercial Offer Gen/DSU Data	Daily Commercial Offer Data – Standard Demand Side Unit	PUB_D_CODStandardDemUnits_
Technical and Commercial Offer Reports	Commercial Offer IC Data	Daily Commercial Offer Data – Interconnector Units	PUB_D_CODInterconnectorUnits_
Technical and Commercial Offer Reports	Commercial Offer Nomination Profile	Daily Commercial Data Generator Unit Nomination Profiles	PUB_D_CommercialOfferDataGenNomProfiles_
Technical and Commercial Offer Reports	Commercial Offer Nomination Profile	Daily Commercial Data Demand Side Unit Nomination Profiles	PUB_D_CommercialOfferDataDemNomProfiles_



Market Operations Main Report Tab	Market Operations Secondary Report and Filter Settings	MPI Report	Report Name
Technical and Commercial Offer Reports	Technical Offer Characteristics Report	Daily Technical Offer Data – Standard Units	PUB_D_TODStandardUnits_
Technical and Commercial Offer Reports	Technical Offer Characteristics Report	Daily Technical Offer Data – Demand Side Units	PUB_D_TODDemandSideUnits_
Technical and Commercial Offer Reports	Technical Offer Forecast Data Report	Daily Technical Offer Data – Forecast Data	PUB_D_TODForecastData_

## Appendix C: Settlement Reports Cross-Reference

Report Type	Main Report Tab	Report Sub-tab	Additional Settings
Statement	Settlement & Billing	Summary or Comparison tabs	
Participant Information Report	Settlement & Billing	Participant Info	
Reallocation Agreement Report	Settlement & Billing	Reallocation Agreements	
Cancelled SRA Report	Settlement & Billing	Reallocation Agreements	
Invoice	Settlement & Billing	Invoice, Invoice Validation, or Invoice Comparison	
Market Information Report	Settlement & Billing	GP Settlement Reports	Report Type=Summary or MIR
Market Generation Report	Settlement & Billing	GP Settlement Reports	Report Type=Summary or MGR
Market Financial Report	Settlement & Billing	GP Settlement Reports	Report Type=Summary or MFR
Credit Cover Report	Credit Cover	Summary	External Credit Cover Report

## Appendix D: Configuration - Quick Check List

The list below contains a summary of configuration steps described in this document as essential to obtain a ready-for-use SEM Market manager implementation. Each step has an associated reference to the document section where the step is described in more detail.

Step	Action	Section Reference
1	Verify MEX connectivity using the MEX test page	<a href="#">3</a>
2	Configure MEX URL and turn off Test Mode	<a href="#">4</a>
3	Configure external systems for MEX Switchboard and SEM	<a href="#">6.1</a>
4	Configure offer submission contract for each Participant ID	<a href="#">6.2</a>
5	Configure MEX Switchboard external credentials	<a href="#">7.1</a>
6	Configure SEM external credentials including certificates	<a href="#">7.2</a>
7	Verify market connectivity from the Market Operations User Interface	<a href="#">8</a>
8	Configure market participants and units (via SEMO report download)	<a href="#">9</a>
9	Create transaction for each generating unit to be offered into the market	<a href="#">10</a>
10	Configure Task Execution (TEX) for automated scheduled downloads	<a href="#">13</a>
11	Create Settlement PSEs for each participant in each relevant market (EN/CA/MO/FMO)	<a href="#">14.1</a>
12	Create Settlement Contract for each Participant/Market combination created	<a href="#">14.2</a>
13	Add relevant settlement products and components to each settlement contract	<a href="#">14.3</a>
14	Set up system frequency (via SEMO report download)	<a href="#">15.1.1</a>
15	Set up Exchange Rates (via SEMO report download)	<a href="#">15.1.2</a>
16	Configure registered firm capacity for each Generating Unit	<a href="#">15.2.1</a>
17	Configure Min Sync Times for each Generating Unit	<a href="#">15.2.2</a>
18	Configure VAT rates	<a href="#">15.3.1</a>
19	Configure Transmission Loss Adjustment Factors (TLAFs)	<a href="#">15.3.3</a>
20	Configure Settlement Calendar	<a href="#">15.3.4</a>
22	Configure Credit Parties	<a href="#">16</a>

# Appendix E: Bid/Offer Submit Gate Window Configuration

By default in the current SEM configuration, three Bid/Offer Submit Gate Window types have been configured; however, new Gate Windows can be created for your own needs.

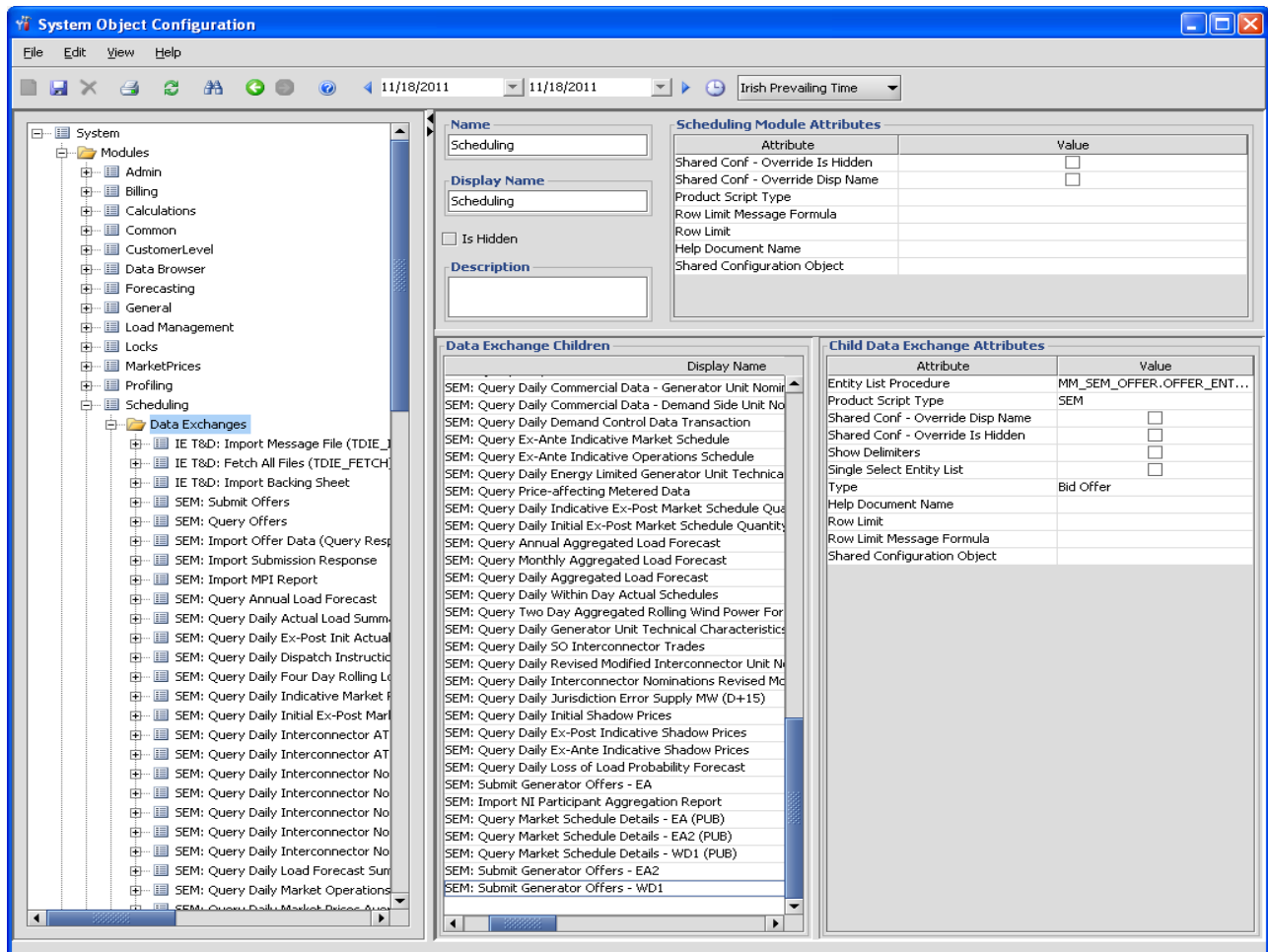
To configure a new Bid/Offer Submit Gate Window, navigate to Tools > Configuration > System Object Configuration. From this screen, navigate to System > Modules > Scheduling on the tree view. Expand "Scheduling" and select "Data Exchanges". Configuration options will be displayed on the right hand side of the screen. In the Data Exchange Children grid, right-click on any row and click "Insert Row". Add an appropriate name for the Display Name and configure the "Child Data Exchange Attributes".

Child Data Exchange Attributes:

- Entity List Procedure:  
MM\_SEM\_OFFER.OFFER\_ENTITY\_LIST\_GATE;INCLUDE\_ALL=0;TRANSACTION\_TYPE="[Transaction type]";GATE\_WINDOW="[GW]"
- Procedure Script Type: SEM
- Shared Conf – Override Disp Name:
- Shared Conf – Override Is Hidden:
- Show Delimiters:
- Single Select Entity List:
- Type: Bid Offer
- Help Document Name:
- Row Limit:
- Row Limit Message Formula:
- Shared Configuration Object:

Change [GW] above or the appropriate Gate\_Window Acronym that you would like to use. This will be used as the Agreement Type during the transaction configuration.

The [Transaction\_Type] above refers to the type of offer transaction this is, 'Generation' or 'Nomination'.



With the new Data Exchange configured, click the **Save** button. Next select and expand the newly configured Data Exchange in the tree and select "Action". You now must create an action for this Data Exchange when the *Run* button is clicked. The following is the configuration.

Child Action Attributes:

- Type: Bid Offer
- Type Reference: MM\_SEM\_OFFER.SUBMIT\_OFFERS

