



FTR MANAGER

# FTR POLICY: USE OF THE FTR INFORMATION SYSTEM (FIS)

1 DECEMBER 2016



## Disclaimer

1. EMS, as FTR Manager, will only offer and issue FTRs in New Zealand to persons who are:
  - (a) natural persons resident in New Zealand, bodies corporate who are incorporated in New Zealand, or persons with a branch office or other substantial physical presence in New Zealand through which they participate in the FTR market; and
  - (b) within one of the categories of “approved participant” in The Authorised Futures Dealers (Financial Transmission Rights) Notice 2012, (**authorised persons**).
2. Information about FTRs made available by EMS through any medium (**FTR information**) is not:
  - (a) advice on, or a recommendation of, FTRs or any other investment, financial product or risk management arrangement;
  - (b) an offer or solicitation by EMS to issue or deal in FTRs or any other investment, financial product or risk management arrangement; or
  - (c) directed to any person who is not an authorised person.
3. Clause 2(c) applies to all FTR information including FTR information that is or may be accessible to persons who are not authorised persons, for example on the Internet or by being distributed outside New Zealand by persons to whom EMS initially made the FTR information available. No recipient of FTR information is authorised to distribute it outside New Zealand.
4. Prior to any person acquiring, entering into or dealing in any investment, financial product or risk management arrangement they should obtain their own tax, legal and financial advice.
5. EMS is not an authorised futures exchange under the Securities Markets Act 1988 or otherwise. The FTR auction, reconfiguration auction and assignment facilities provided by EMS as FTR Manager are not regulated under New Zealand law other than by the Electricity Authority under the Electricity Industry Act 2010, Electricity Industry (Enforcement) Regulations 2010 and Electricity Industry Participation Code 2010.

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## Document History

Version	Date	Status	Edited By	Revision Description
1.0	30 January 2013	Released	EMS	
1.1	16 July 2014	Draft	EMS	Updates for AP14 and portal security updates
1.2	1 December 2016	Released	EMS	Updates for Portal Updates

## Abbreviations and Acronyms

AO	Asset Owner
CSV	Comma Separated Values
DB	Database
EMS	Energy Management System
FTR	Financial Transmission Right
GUI	Graphical User Interface
MOI	Market Operator Interface
MP	Market Participant
MUI	Market User Interface
PAR	Phase Angle Regulator
PTP	Point to Point FTR
XML	Extensible Markup Language

# 1. Introduction

The FTR Allocation Plan 2016 provides in section 1.6 that the FTR Manager will develop, publish, apply and regularly review FTR Policies detailing how it will implement the FTR Allocation Plan, including an FTR Policy on:

- Registration
- Use of the FTR Information System
- FTR Calendar
- Determining the FTR Grid
- Application of Prudential Requirements

## 1.1 Process for developing the policy

Section 1.6 of the FTR Allocation Plan 2016 provides further that the FTR Manager will develop these FTR Policies transparently with the industry through:

- Open publication of current and proposed policies and their rationale
- Use of the FTR users' group (FUG)
- Considering feedback from interested parties
- Keeping the industry up to date
- Advising the Authority on developments as they arise

The FTR Manager will operate a public website that will provide access to consultations on the FTR Allocation Plan and FTR policies, including the change process for these, and submissions received.

## Glossary

Please refer to the FTR Glossary for an explanation of terms used in this policy<sup>1</sup>.

# 2. Use of the FTR Information System

## 2.1 Scope of this Policy

The FTR Information System (FIS) gives access to information on any aspect of the FTR market and provides different functionality at each access level. This policy covers the access requirements for each level, and outlines the information and functionality that respective users can expect.

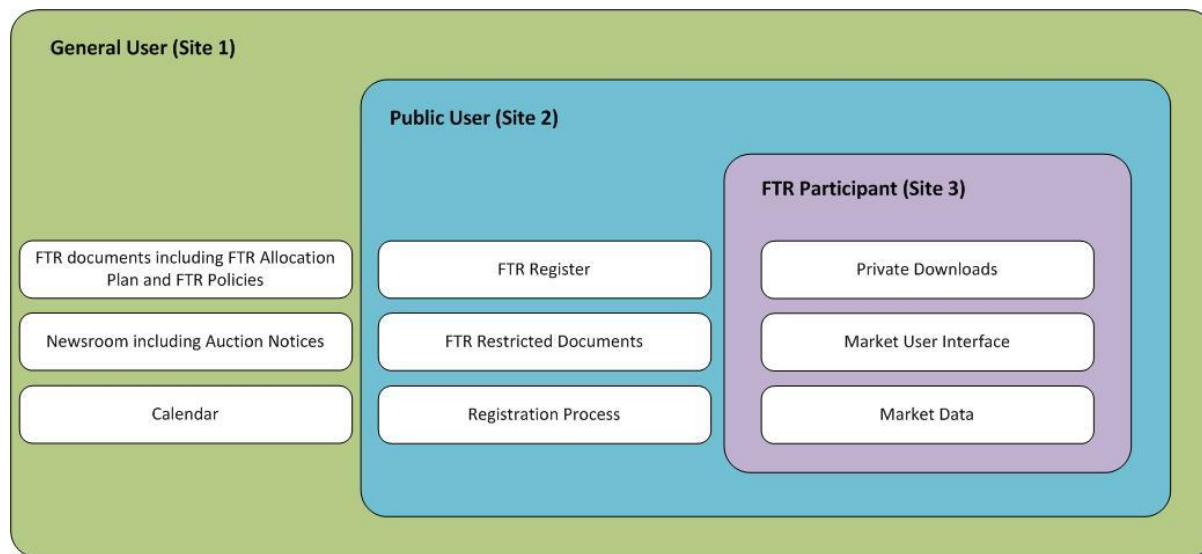
The diagram below illustrates the scope of this policy. It represents the site as a series of levels separated by the use of clear user level permissions. The FIS includes the provision of publicly

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<sup>1</sup> Available at [www.ftr.co.nz](http://www.ftr.co.nz)

available information, access to the FTR register and access to the market user interface (MUI). All users enter via the same website (URL). There are three levels of access:

- **General user (Site # 1):** Public users who remain anonymous
- **Public user (Site # 2):** Public users who identify themselves (i.e. sign up for a Portal account) so they can access the FTR register
- **FTR Participant (Site # 3):** FTR Market Participants wishing to trade FTRs via the MUI (Market User Interface)



Scope of the FTR Information System (FIS)

## 2.2 Generally Available Information

The general user access in the FIS provides public access to a wide variety of information on FTRs and the FTR market. Information available to all includes:

- Current Auction Notice
- The latest FTR auction clearing prices
- FTR Allocation Plan, product specifications, auction rules and standard FTR participation agreement
- FTR Policies:
  - Use of the FIS
  - FTR Calendar Policy - Auction schedule
  - Registration Policy - How to register to become an FTR Market Participant
  - Prudential Requirements Policy - How the FTR Manager will apply prudential information provided by the Clearing Manager to market participants who wish to bid for FTRs or assign FTRs
  - FTR Grid Determination – How the FTR Manager will deliver the revenue adequacy targets in the FTR Allocation Plan
- Plans and progress updates on any on-going evolution of the current FTR Allocation Plan.
- Other information the FTR Manager thinks will be useful for participants



The FTR Manager updates the information content on the public pages.

## 2.3 Access to Information on the Public User Site

The public user site is restricted to the extent that users are required to register and log in to the FIS to get access to information on this level. Once a user has authenticated they can access the **FTR Register** and see all FTR details.

A Market Participant (MUI Site) can access information contained on the public user site but cannot register separately with the same email address on this level. All email ID's must be unique throughout the FTR Information System.

## 2.4 Market User Interface (Site 3)

The Market User Interface is accessed by registered FTR participants for the purpose of taking part in auctions, uploading bids and the management of assignments.

# 3. Overview of this User Manual

This FTR Market Participants User's Manual is organised into chapters that cover the following topics:

- **Introduction** gives an overview of FTRs and the EMS FTR auctions.
- **EMS FTR System Overview** gives an overview of EMS FTR system and its components
- **EMS Portal Web Site** gives an overview of how to access the FTR portal
- **Public and Private Functions of the FTR Interface** describes the information and functions available from the FTR portal interface
- **Message Board** not in use in NZ.
- **Managing FTR Portfolios** describes how to manage FTR BUY and SELL auction portfolios via the Private FTR interface
- **Managing FTR BUY/SELL Bids** describes how to manage FTR BUY and SELL bids via the Private FTR interface
- **Trading in Assignment** describes how to trade FTRs on the Assignment via the Private FTR interface
- **FTR Organisation and Users** describes the use of Site 3 for Super Users and standard Users of a Participant Organisation

The EMS Commercial Model calls for one Asset Owner to be represented by a single Market Participant. Access to the FTR System and ownership of FTRs are in the name of Asset Owners. Hence, this user manual will refer to Asset Owners and Market Participants interchangeably.

## 4. FTR Introduction

### 4.1 What is an FTR?

A **Financial Transmission Right (FTR)** is a financial instrument that entitles the holder to receive compensation for or requires the holder to pay certain congestion related transmission charges. These congestion charges arise when the transmission system is congested and differences in LMPs result from the re-dispatch of resources out of economic merit in order to relieve that congestion. An FTR is based on transmission **congestion charges** calculated in the **energy market**. A Market Participant can acquire an FTR in several ways:

- A Primary FTR Auction
- A Variation/or Reconfiguration FTR Auction
- An FTR Assignment

An FTR is structured to hedge a Market Participant for the uncertain cash flow resulting from congestion of the transmission system. FTRs do not apply to the real-time market.

On a monthly basis, the FTR Manager will conduct FTR auctions to provide Market Participants with the opportunity to purchase and sell FTRs. The FTR manager will also facilitate an Assignment Market to support trading of FTRs outside of an auction. To buy or sell FTRs in an auction or to buy or sell FTRs in the FTR Assignment, a Market Participant must meet the NZX Clearing Manager Credit criteria.

### 4.2 FTR System

The FTR system is used to conduct FTR auctions and support the bilateral trading of FTRs in the Assignment. A Market Participant can use the FTR system to:

- Submit FTR buy bids into a primary or variation FTR auction
- Submit SELL bids into a reconfiguration auction
- Participate in the FTR Assignment Market
- Review and download the applicable public and private data including auction results

### 4.3 Interfacing with the FTR System

Market Participants access the FTR system through a web-based interface termed the FTR portal.

### 4.4 Who is this User Manual for?

This User Manual is intended for use by FTR Market Participants to aid them in performing the following tasks:

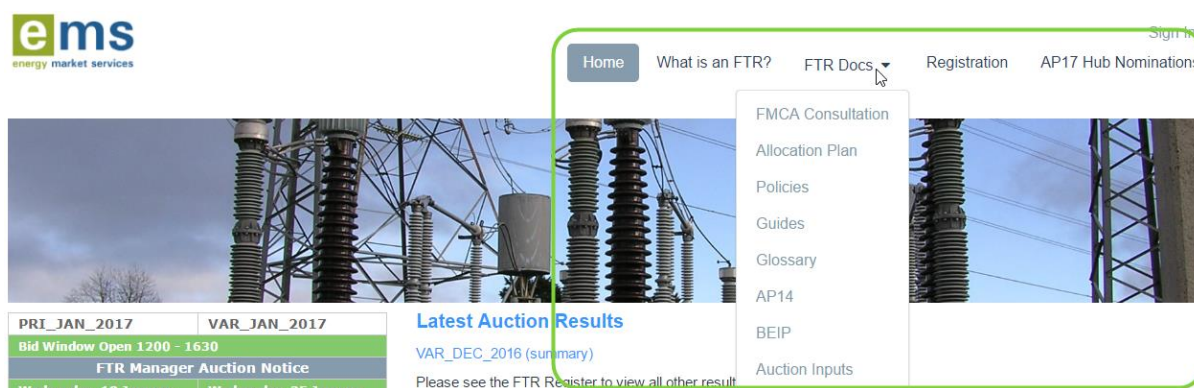
- View and download the public existing FTRs
- View and download the public auction information such as network data, the contingency list, monitored lines/transformers; source/sink definitions and public auction results
- View and download private information such as Asset Owner specific auction results (FTR BUY and SELL bids and results)
- Manage their auction bids and FTR portfolios, including upload and download of the auction related files
- Participate in the Assignment process

## 5. The FTR Portal

The FTR Portal is a platform that provides a simple and a convenient way to access various web content published by the FTR Manager team. The term web content in this context primarily includes web pages, notices and other documents. The published web content might be made accessible to anyone on the Internet or to a group of users or to a particular user. The scope of published web content is determined by the FTR manager. Any user can access the published web content based on their identity within the Portal. There are two types of identity based users:

- **Anonymous User** – An anonymous user will not have an identity within the FTR Portal and is not required to sign up for a portal account.
- **Portal User** – A portal user will have a unique identity within the portal and MUST sign up for a portal account.

The URL of the FTR Portal is <http://www.ftr.co.nz>. The portal can be accessed using IE11, FireFox, Chrome and Safari browsers. The Portal provides content through different web pages, of which the following represent those available to all users.



- Home
- What is an FTR?
- FTR Docs
- Registration

The following table outlines the access to the web pages for Anonymous and Portal users.

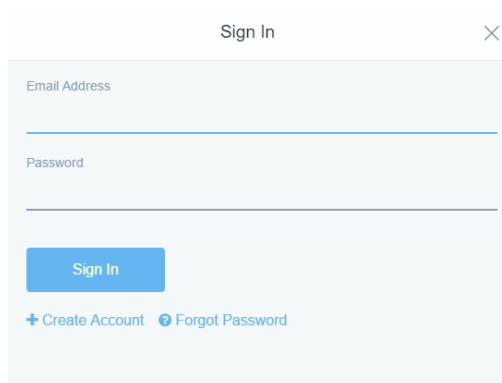
Web Page	Anonymous User	Portal User
Home	Yes	Yes
FTR Docs	Yes	Yes
FTR Register	No	Yes
Registration	YES	YES

**Yes** – The user can access the web page

**No** – The user cannot access the web page

## 5.1 The Web Pages

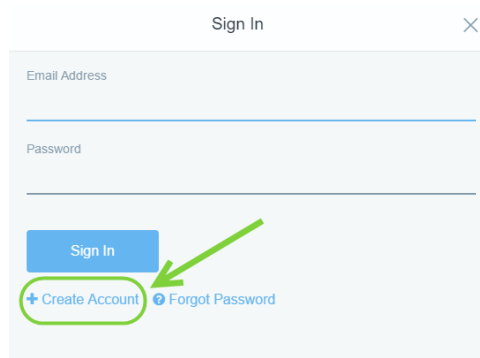
The Home page has a link to sign in in the top right hand corner. The sign-in window provides the following features:



The screenshot shows a 'Sign In' window with a close button (X) in the top right corner. It contains two input fields: 'Email Address' and 'Password'. Below the fields is a blue 'Sign In' button. At the bottom, there are two links: '+ Create Account' and 'Forgot Password'.

- **Create Account link:** An anonymous user (Site 1) can create a portal account to become a portal user (Site 2)
- **Sign In Button:** An existing Portal user can provide the login credentials and login to the Portal
- **Forgot Password link:** An existing Portal user can reset the password.

## Create Account

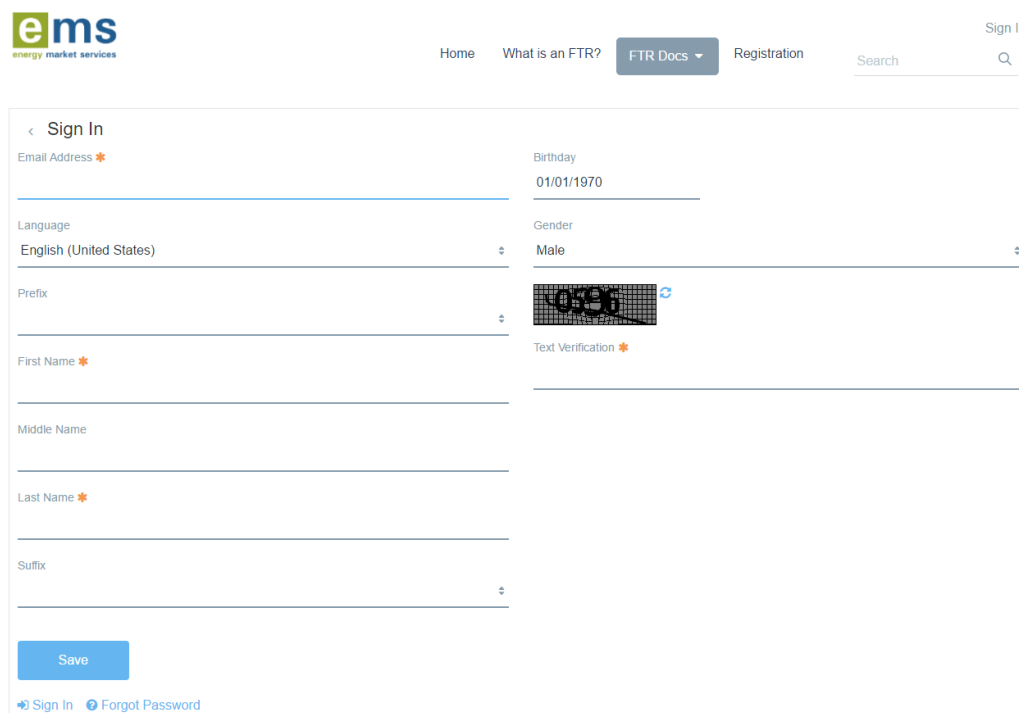


This screenshot is identical to the one above, but with a green circle around the '+ Create Account' link and a green arrow pointing to it from the right.

**Figure 1 Create Account on the FTR Portal**

**Error! Reference source not found..** The email address of the user is the unique identifier within the portal system. The portal ensures no two users can have the same email address.

Any anonymous user accessing the portal can create a portal user account through the **create account** link in the Sign-In window as shown above.

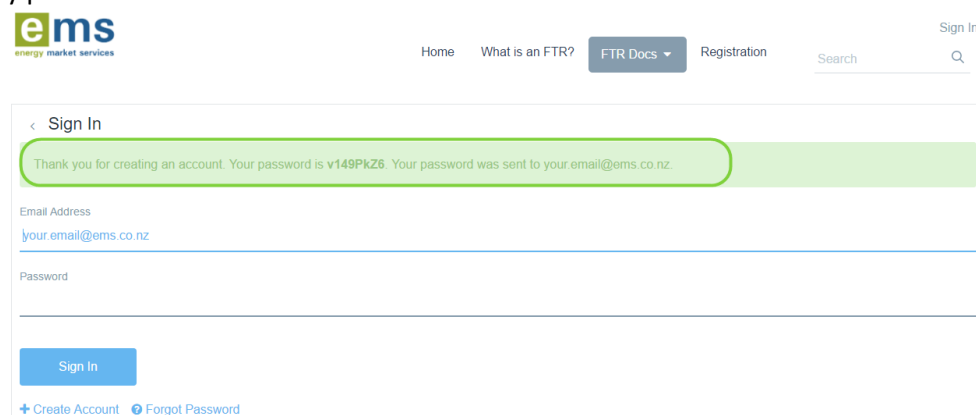


The screenshot shows the EMS portal's 'Sign In' page. The EMS logo is in the top left. The navigation bar includes 'Home', 'What is an FTR?', 'FTR Docs', 'Registration', and 'Search'. A 'Sign In' link is in the top right. The main content area is titled '< Sign In'. It contains a form with the following fields: 'Email Address \*' (required), 'Birthday' (01/01/1970), 'Language' (English (United States)), 'Gender' (Male), 'Prefix', 'First Name \*' (required), 'Middle Name', 'Last Name \*' (required), and 'Suffix'. A 'Text Verification \*' field contains a captcha image. A blue 'Save' button is at the bottom left. Below the button are links for '+ Sign In' and 'Forgot Password'.

**Figure 2 Creation of the Portal User Account**

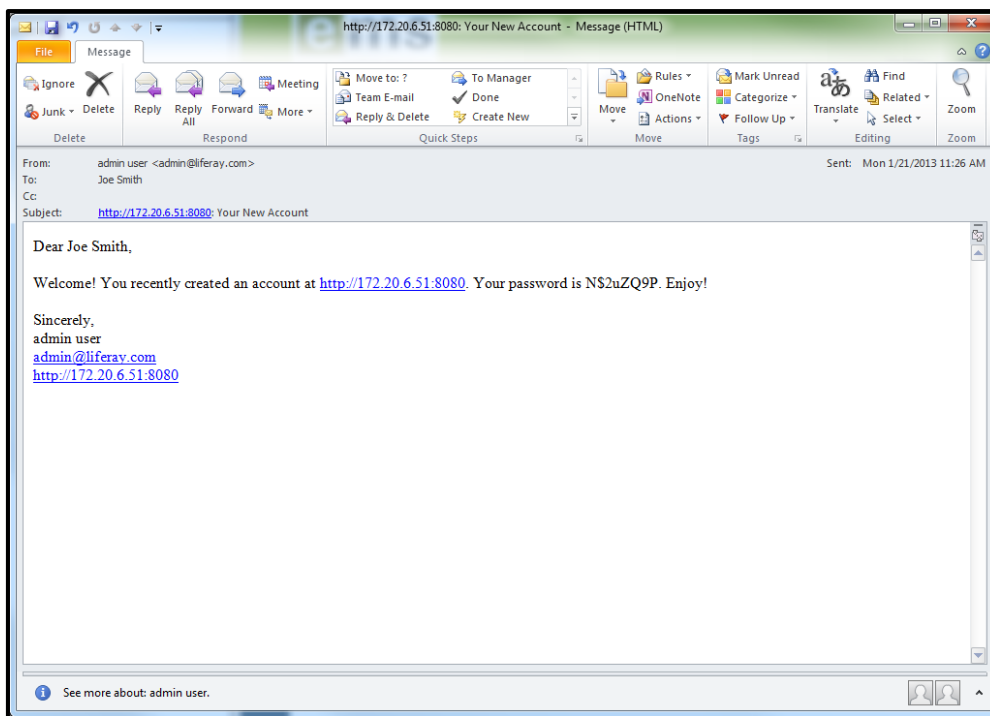
The first name, last name and email address is required to create the portal user account as shown in Figure 2. The captcha shown as an image must also be typed in the Text verification field. The email address must be unique within the FTR portal.

Once the EMS Portal establishes the email address is unique, an automatic message with the temporary password is sent to the user.



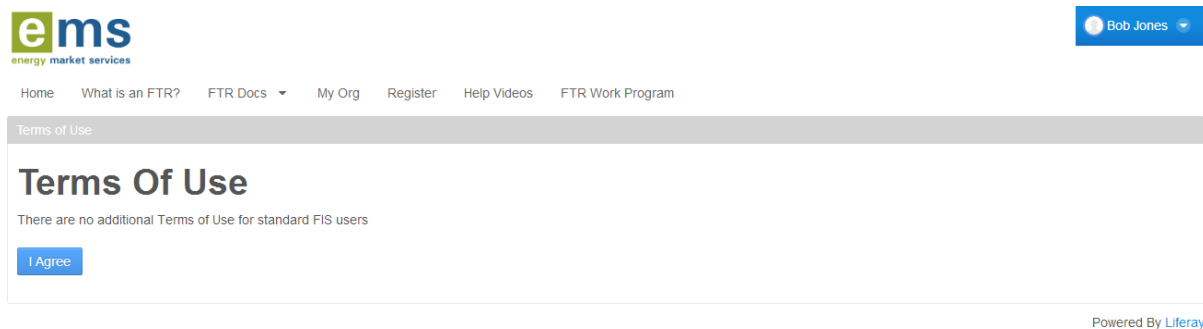
The screenshot shows the EMS portal's 'Sign In' page after account creation. The EMS logo is in the top left. The navigation bar includes 'Home', 'What is an FTR?', 'FTR Docs', 'Registration', and 'Search'. A 'Sign In' link is in the top right. The main content area is titled '< Sign In'. A green success message is displayed: 'Thank you for creating an account. Your password is v149PkZ6. Your password was sent to your.email@ems.co.nz'. Below the message are the 'Email Address' field (containing 'your.email@ems.co.nz') and the 'Password' field. A blue 'Sign In' button is at the bottom left. Below the button are links for '+ Create Account' and 'Forgot Password'.

**Figure 3 Password related to Creation of the Portal User Account**



**Figure 4 Sample email sent to the users account**

A similar email is sent to the users' email with the temporary password, as shown in Figure 4. Once the user signs in with the temporary password provided in the email, the user must agree to the Terms of Use (if any) as shown in Figure 5. If the user disagrees, the account is not activated and the user cannot sign-in.



**Figure 5 Terms of Use of the EMS Portal and FTR System**

After setting the password, the user is prompted to choose a reminder query as shown in Figure 6. The user is challenged with the same query when attempting to reset the password.

ems  
energy market services

Home What is an FTR? FTR Docs My Org Register Help Videos FTR Work Program

New Password

Please set a new password.

**New Password**

Password  
\*\*\*\*\*

Enter Again  
\*\*\*\*\*

Save

Figure 6a New Password

ems  
energy market services

Home What is an FTR? FTR Docs My Org Register Help Videos FTR Work Program

Password Reminder

Please choose a reminder query.

**Password Reminder**

Question  
What is your father's middle name?

Answer  
skywalker

Save

Figure 6b Password Reminder

After accepting the terms of use, the user must provide a new password that satisfies the EMS Portal Password Policy requirements. The user must then set a reminder query and the answer to complete the portal user account creation process. The user can sign-in with the email address and the new password to access the FTR Portal.

## Sign In

The sign-in process requires the user to provide the valid credentials as shown in Figure 7. After successfully creating a portal account, the user can sign in by selecting the sign in button at the top right hand corner of the screen and providing their account details.

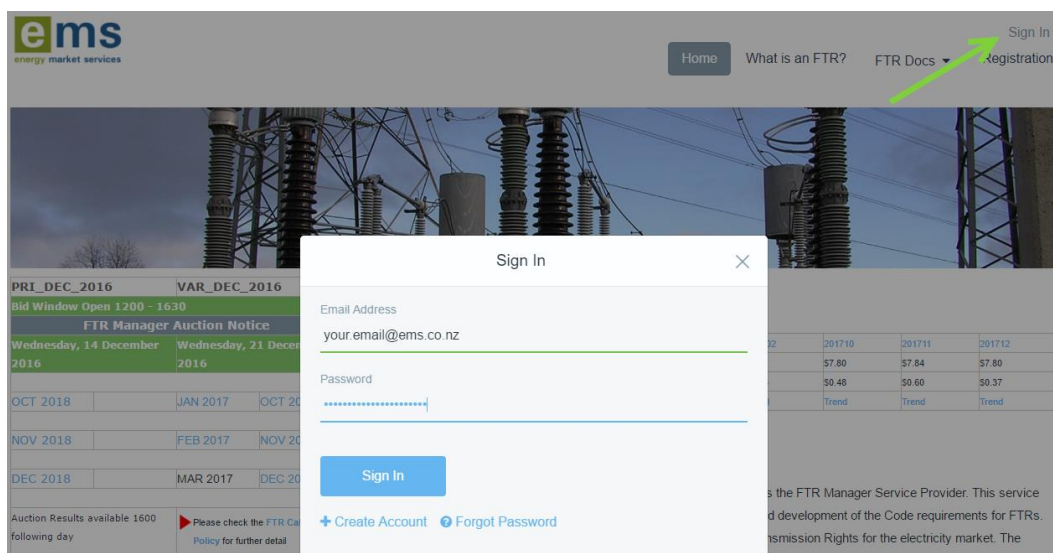


Figure 7 Sign-In Widget

After a successful sign-in as shown in Figure 8, the user will see their name displayed in the top-left corner which validates the user sign-in process. If the user provides invalid credentials, the sign-in process fails and the user will be prompted to provide the valid credentials.

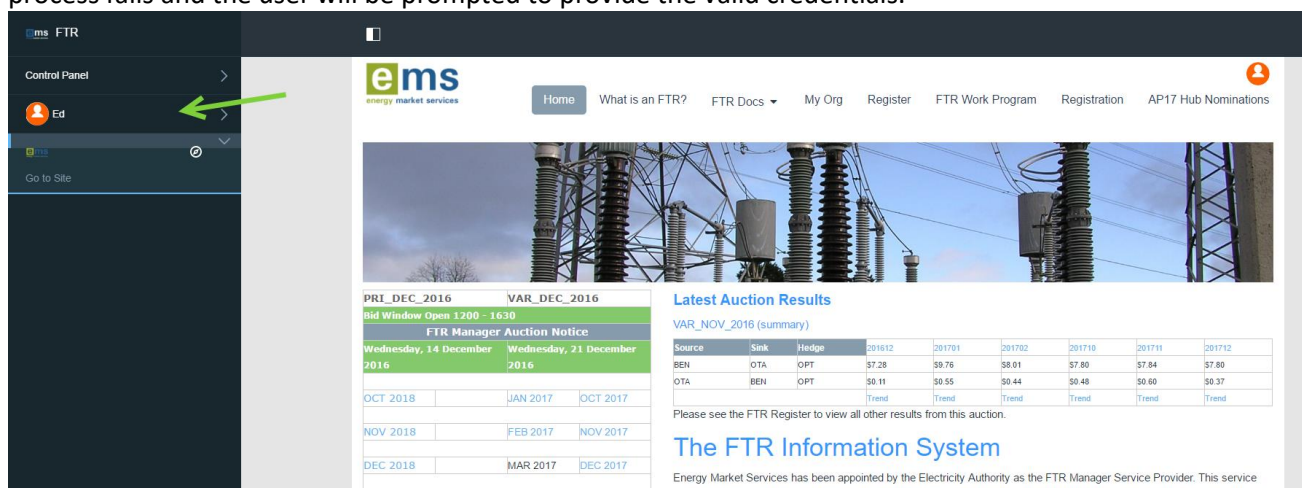
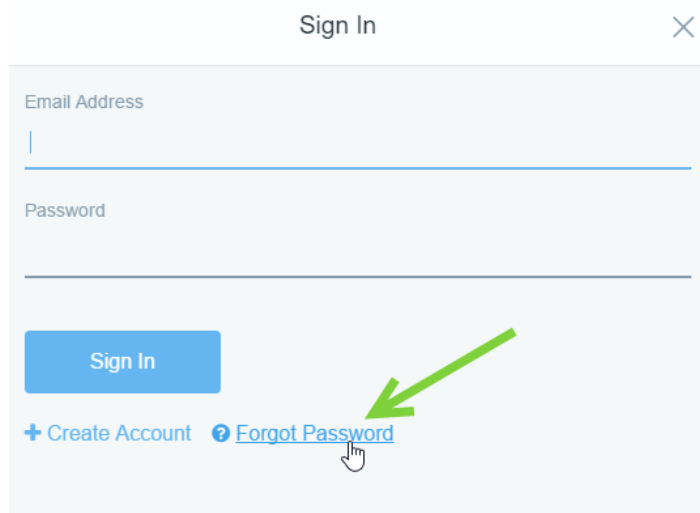


Figure 8 Successful Sign-In

## Forgot Password

If a user forgets their sign-in password, the password can be reset through the **Forgot password** link shown in Figure 9.





Sign In

Email Address

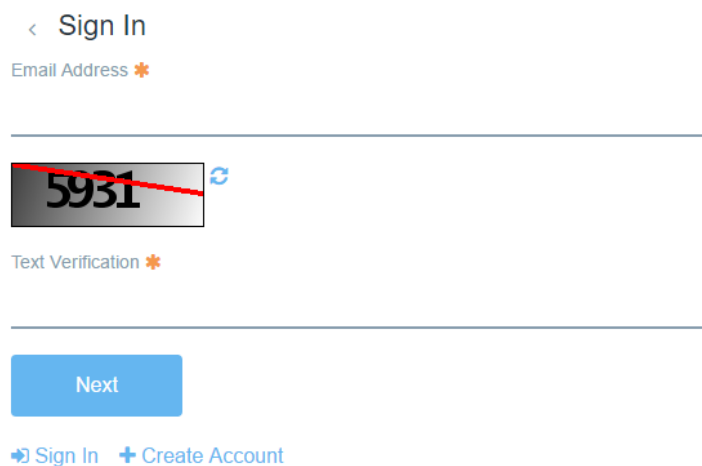
Password

Sign In

+ Create Account [Forgot Password](#)

**Figure 9** Sign-In page and the Forgot Password Link

As shown in Figure 10, the user is challenged with a captcha to ensure a human is trying to reset the password.



< Sign In

Email Address \*

5931

Text Verification \*

Next

↩ Sign In + Create Account

**Figure 10** Captcha challenge during a reset of the password



A new password will be sent to bob.jones@ems.co.nz if you can correctly answer the following question.

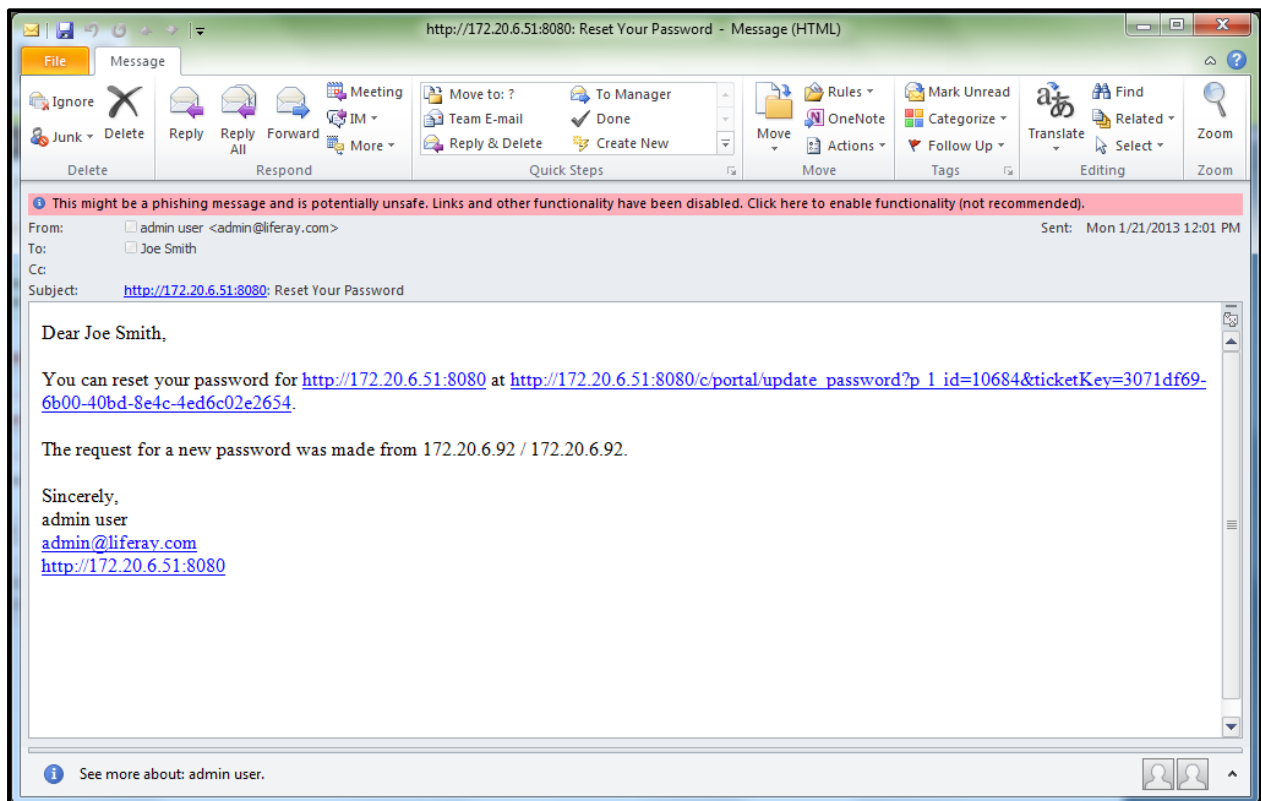
what-is-your-father's-middle-name

Send Password Reset Link

- [Sign In](#)
- [Create Account](#)

**Figure 11** Challenge to Password Reset

If the user provides the correct answer to the query created during the account setup process, a new password reset link is sent to the established email address.



**Figure 12** Email sent in response to a Password Reset request

The user must provide a new password that satisfies the EMS Portal Password Policy requirements and this action completes the process of resetting a password.

## 5.2 FTR Docs

The FTR Docs page is the online repository of all the FTR Market related documents. The FTR Manager will publish the necessary documents as per business policy. Anonymous and portal users can only browse and download the documents. Both user types cannot upload any new documents into the repository.

## FTR Docs page

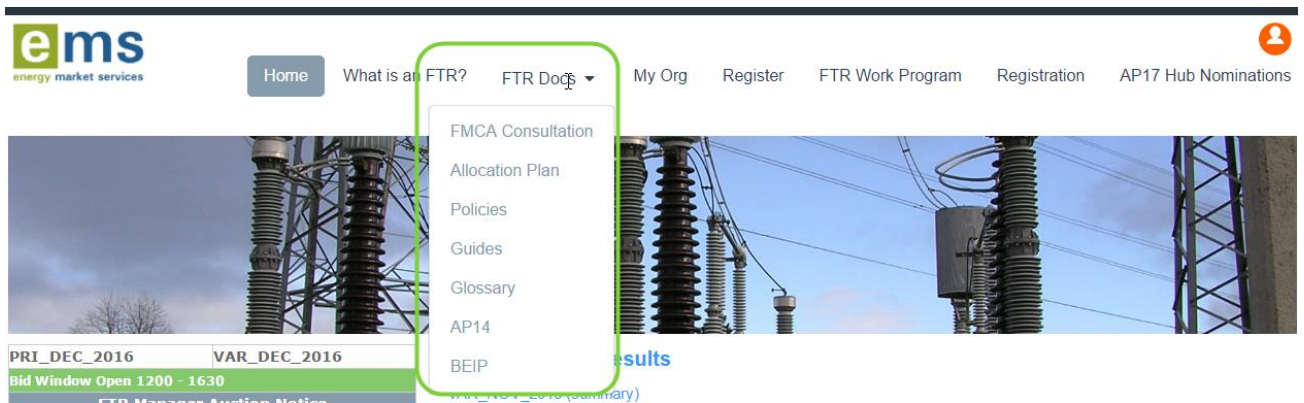


Figure 13 FTR Documents web page

### 5.3 The Register

The Register is only accessible to registered portal users. A portal user has to successfully login to the portal to view the FTR Register. The register provides a grid view of the published FTR data. A portal user can filter the results, sort the results per column and download the market FTR data.

### Register Page

The portal user must sign-in to access the FTR Register data.

FTR ID	Auction Name	StartDate	EndDate	CurrentOwner	PreviousOwner	FirstOwner	HedgeType	Source	Sink	MW	price	DateAcq
2363547	VAR_NOV_2016	01/12/2017	31/12/2017	OHFM		OHFM	OPT	HAY	OTA	24.3	4.67	17/11/17
2363461	VAR_NOV_2016	01/12/2017	31/12/2017	MRPL		MRPL	OPT	HAY	BEN	5.0	0.22	17/11/17
2363497	VAR_NOV_2016	01/12/2017	31/12/2017	OHFM		OHFM	OPT	BEN	ISL	15.6	3.14	17/11/17
2363475	VAR_NOV_2016	01/12/2017	31/12/2017	MERI		MERI	OPT	BEN	HAY	32.8	3.13	17/11/17
2363479	VAR_NOV_2016	01/12/2017	31/12/2017	MERI		MERI	OPT	HAY	BEN	4.2	0.22	17/11/17
2363553	VAR_NOV_2016	01/12/2017	31/12/2017	OHFM		OHFM	OPT	HAY	OTA	0.6	4.67	17/11/17
2363543	VAR_NOV_2016	01/12/2017	31/12/2017	OHFM		OHFM	OPT	BEN	ISL	20.2	3.14	17/11/17
2363541	VAR_NOV_2016	01/12/2017	31/12/2017	OHFM		OHFM	OPT	INV	ISL	9.1	3.64	17/11/17
2363495	VAR_NOV_2016	01/12/2017	31/12/2017	TRUS		TRUS	OPT	ISL	BEN	18.9	0.01	17/11/17
2363533	VAR_NOV_2016	01/12/2017	31/12/2017	CTCT		CTCT	OPT	HAY	OTA	17.7	4.67	17/11/17
2363548	VAR_NOV_2016	01/12/2017	31/12/2017	OHFM		OHFM	OPT	OTA	HAY	31.4	0.15	17/11/17
2363478	VAR_NOV_2016	01/12/2017	31/12/2017	MERI		MERI	OPT	OTA	HAY	14.9	0.15	17/11/17
2363525	VAR_NOV_2016	01/12/2017	31/12/2017	OHFM		OHFM	OPT	OTA	HAY	2.3	0.15	17/11/17
2363481	VAR_NOV_2016	01/12/2017	31/12/2017	MERI		MERI	OPT	INV	ISL	14.3	3.64	17/11/17
2363476	VAR_NOV_2016	01/12/2017	31/12/2017	MERI		MERI	OPT	BEN	ISL	17.5	3.14	17/11/17
2363537	VAR_NOV_2016	01/12/2017	31/12/2017	CTCT		CTCT	OPT	BEN	ISL	16.9	3.14	17/11/17
2363546	VAR_NOV_2016	01/12/2017	31/12/2017	OHFM		OHFM	OPT	HAY	BEN	33.5	0.22	17/11/17
2363531	VAR_NOV_2016	01/12/2017	31/12/2017	CTCT		CTCT	OPT	BEN	HAY	15.0	3.13	17/11/17
2363545	VAR_NOV_2016	01/12/2017	31/12/2017	OHFM		OHFM	OPT	BEN	HAY	38.9	3.13	17/11/17
2363551	VAR_NOV_2016	01/12/2017	31/12/2017	OHFM		OHFM	OPT	BEN	ISL	22.5	3.14	17/11/17
2363544	VAR_NOV_2016	01/12/2017	31/12/2017	OHFM		OHFM	OPT	ISL	BEN	76.2	0.01	17/11/17
2363467	VAR_NOV_2016	01/12/2017	31/12/2017	MRPL		MRPL	OPT	ISL	BEN	0.2	0.01	17/11/17
2363538	VAR_NOV_2016	01/12/2017	31/12/2017	CTCT		CTCT	OPT	INV	ISL	8.7	3.64	17/11/17
2363542	VAR_NOV_2016	01/12/2017	31/12/2017	OHFM		OHFM	OPT	INV	ISL	17.1	0.45	17/11/17
2363552	VAR_NOV_2016	01/12/2017	31/12/2017	OHFM		OHFM	OPT	BEN	HAY	0.9	3.13	17/11/17
2363474	VAR_NOV_2016	01/12/2017	31/12/2017	MERI		MERI	OPT	BEN	OTA	5.8	7.80	17/11/17
2363499	VAR_NOV_2016	01/12/2017	31/12/2017	OHFM		OHFM	OPT	HAY	BEN	17.4	0.22	17/11/17
2363512	VAR_NOV_2016	01/12/2017	31/12/2017	OHFM		OHFM	OPT	ISL	BEN	1.8	0.01	17/11/17
2363454	VAR_NOV_2016	01/12/2017	31/12/2017	MRPL		MRPL	OPT	HAY	OTA	95.0	4.67	17/11/17

Figure 14 FTR Register

Download as Download With Filter as FILTERS APPLIED:

FTR ID	Auction Name	StartDate	EndDate	CurrentOwner	PreviousOwner	FirstOwner	HedgeType	Source	Sink	MW	price	DateAcq
2363547	VAR_NOV_2016	01/12/2017		OMFM		OMFM	OPT	HAY	OTA	24.3	4.67	17/11
2363461	VAR_NOV_2016	01/12/2017		MRPL		MRPL	OPT	HAY	BEN	5.0	0.22	17/11
2363497	VAR_NOV_2016	01/12/2017		OMFM		OMFM	OPT	BEN	ISL	15.6	3.14	17/11
2363475	VAR_NOV_2016	01/12/2017		MERI		MERI	OPT	BEN	HAY	32.8	3.13	17/11
2363479	VAR_NOV_2016	01/12/2017		MERI		MERI	OPT	HAY	BEN	4.2	0.22	17/11
2363553	VAR_NOV_2016	01/12/2017		OMFM		OMFM	OPT	HAY	OTA	0.6	4.67	17/11
2363543	VAR_NOV_2016	01/12/2017	31/12/2017	OMFM		OMFM	OPT	BEN	ISL	20.2	3.14	17/11
2363541	VAR_NOV_2016	01/12/2017	31/12/2017	OMFM		OMFM	OPT	INV	ISL	9.1	3.64	17/11
2363405	VAR_NOV_2016	01/12/2017	31/12/2017	OMFM		OMFM	OPT	ISL	BEN	10.9	0.01	17/11
2363533	VAR_NOV_2016	01/12/2017	31/12/2017	CTCT		CTCT	OPT	HAY	OTA	17.7	4.67	17/11
2363548	VAR_NOV_2016	01/12/2017	31/12/2017	OMFM		OMFM	OPT	OTA	HAY	31.4	0.15	17/11
2363478	VAR_NOV_2016	01/12/2017	31/12/2017	MERI		MERI	OPT	HAY	HAY	14.9	0.15	17/11
2363525	VAR_NOV_2016	01/12/2017	31/12/2017	OMFM		OMFM	OPT	OTA	HAY	2.3	0.15	17/11
2363481	VAR_NOV_2016	01/12/2017	31/12/2017	MERI		MERI	OPT	INV	ISL	14.3	3.64	17/11
2363476	VAR_NOV_2016	01/12/2017	31/12/2017	MERI		MERI	OPT	BEN	ISL	17.5	3.14	17/11
2363537	VAR_NOV_2016	01/12/2017	31/12/2017	CTCT		CTCT	OPT	BEN	ISL	16.9	3.14	17/11
2363546	VAR_NOV_2016	01/12/2017	31/12/2017	OMFM		OMFM	OPT	HAY	BEN	33.5	0.22	17/11
2363531	VAR_NOV_2016	01/12/2017	31/12/2017	CTCT		CTCT	OPT	BEN	HAY	15.0	3.13	17/11

Figure 15 Filter Options on the FTR Register page

Every column in the grid can be filtered to view a subset of the published FTR data.

Download as Download With Filter as FILTERS APPLIED:

FTR ID	Auction Name	StartDate	EndDate	CurrentOwner	PreviousOwner	FirstOwner	HedgeType	Source	Sink	MW	price	DateAcq
2363553	VAR_NOV_2016	01/12/2017	31/12/2017	OMFM		OMFM	OPT	HAY	ISL	1.6	4.67	17/11
2363552	VAR_NOV_2016	01/12/2017	31/12/2017	OMFM		OMFM	OPT	BEN	ISL	1.9	3.13	17/11
2363551	VAR_NOV_2016	01/12/2017	31/12/2017	OMFM		OMFM	OPT	BEN	ISL	2.5	3.14	17/11
2363548	VAR_NOV_2016	01/12/2017	31/12/2017	OMFM		OMFM	OPT	OTA	HAY			17/11
2363547	VAR_NOV_2016	01/12/2017	31/12/2017	OMFM		OMFM	OPT	HAY	HAY			17/11
2363546	VAR_NOV_2016	01/12/2017	31/12/2017	OMFM		OMFM	OPT	HAY	HAY			17/11
2363545	VAR_NOV_2016	01/12/2017	31/12/2017	OMFM		OMFM	OPT	BEN	HAY			17/11
2363544	VAR_NOV_2016	01/12/2017	31/12/2017	OMFM		OMFM	OPT	ISL	BEN			17/11
2363543	VAR_NOV_2016	01/12/2017	31/12/2017	OMFM		OMFM	OPT	BEN	ISL			17/11
2363542	VAR_NOV_2016	01/12/2017	31/12/2017	OMFM		OMFM	OPT	ISL	INV			17/11
2363541	VAR_NOV_2016	01/12/2017	31/12/2017	OMFM		OMFM	OPT	INV	ISL			17/11
2363538	VAR_NOV_2016	01/12/2017	31/12/2017	CTCT		CTCT	OPT	INV	ISL			17/11
2363537	VAR_NOV_2016	01/12/2017	31/12/2017	CTCT		CTCT	OPT	BEN	ISL			17/11
2363533	VAR_NOV_2016	01/12/2017	31/12/2017	CTCT		CTCT	OPT	HAY	OTA			17/11
2363531	VAR_NOV_2016	01/12/2017	31/12/2017	CTCT		CTCT	OPT	BEN	HAY			17/11
2363525	VAR_NOV_2016	01/12/2017	31/12/2017	OMFM		OMFM	OPT	OTA	HAY			17/11
2363524	VAR_NOV_2016	01/12/2017	31/12/2017	OMFM		OMFM	OPT	OTA	HAY			17/11
2363512	VAR_NOV_2016	01/12/2017	31/12/2017	OMFM		OMFM	OPT	ISL	BEN			17/11
2363499	VAR_NOV_2016	01/12/2017	31/12/2017	OMFM		OMFM	OPT	HAY	BEN			17/11
2363497	VAR_NOV_2016	01/12/2017	31/12/2017	OMFM		OMFM	OPT	BEN	ISL			17/11
2363481	VAR_NOV_2016	01/12/2017	31/12/2017	MERI		MERI	OPT	INV	ISL			17/11
2363479	VAR_NOV_2016	01/12/2017	31/12/2017	MERI		MERI	OPT	HAY	BEN			17/11
2363478	VAR_NOV_2016	01/12/2017	31/12/2017	MERI		MERI	OPT	OTA	HAY			17/11
2363476	VAR_NOV_2016	01/12/2017	31/12/2017	MERI		MERI	OPT	BEN	ISL			17/11
2363475	VAR_NOV_2016	01/12/2017	31/12/2017	MERI		MERI	OPT	BEN	HAY			17/11
2363474	VAR_NOV_2016	01/12/2017	31/12/2017	MERI		MERI	OPT	BEN	OTA	5.8	7.80	17/11


Figure 16 Sort Options on the FTR Register page

The grid data can also be sorted based on a column to meet the user needs. The sorted or the filtered data can be downloaded as an Excel spreadsheet by using the download and download with filter buttons.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	FTR_ID	AuctionNar	StartDate	EndDate	CurrentOw	PreviousOw	FirstOwner	HedgeType	Source	Sink	MW	Price	AcquisitionCost	OriginalAcc	DateAcquired	Status	AllocationPlan	
2	2363553	VAR_NOV_1/12/2017	31/12/2017	OMFM			OMFM	OPT	HAY	OTA	0.6	4.67	2084.69	2084.69	17/11/2016	AWARDED	2014	
3	2363552	VAR_NOV_1/12/2017	31/12/2017	OMFM			OMFM	OPT	BEN	HAY	0.9	3.13	2095.85	2095.85	17/11/2016	AWARDED	2014	
4	2363551	VAR_NOV_1/12/2017	31/12/2017	OMFM			OMFM	OPT	BEN	ISL	22.5	3.14	52563.6	52563.6	17/11/2016	AWARDED	2014	
5	2363548	VAR_NOV_1/12/2017	31/12/2017	OMFM			OMFM	OPT	OTA	HAY	31.4	0.15	3504.24	3504.24	17/11/2016	AWARDED	2014	
6	2363547	VAR_NOV_1/12/2017	31/12/2017	OMFM			OMFM	OPT	HAY	OTA	24.3	4.67	84429.86	84429.86	17/11/2016	AWARDED	2014	
7	2363546	VAR_NOV_1/12/2017	31/12/2017	OMFM			OMFM	OPT	HAY	BEN	33.5	0.22	5483.28	5483.28	17/11/2016	AWARDED	2014	
8	2363545	VAR_NOV_1/12/2017	31/12/2017	OMFM			OMFM	OPT	BEN	HAY	38.9	3.13	90587.21	90587.21	17/11/2016	AWARDED	2014	
9	2363544	VAR_NOV_1/12/2017	31/12/2017	OMFM			OMFM	OPT	ISL	BEN	76.2	0.01	566.93	566.93	17/11/2016	AWARDED	2014	
10	2363543	VAR_NOV_1/12/2017	31/12/2017	OMFM			OMFM	OPT	BEN	ISL	20.2	3.14	47190.43	47190.43	17/11/2016	AWARDED	2014	
11	2363542	VAR_NOV_1/12/2017	31/12/2017	OMFM			OMFM	OPT	ISL	INV	17.1	0.45	5725.08	5725.08	17/11/2016	AWARDED	2014	
12	2363541	VAR_NOV_1/12/2017	31/12/2017	OMFM			OMFM	OPT	INV	ISL	9.1	3.64	24644.26	24644.26	17/11/2016	AWARDED	2014	
13	2363538	VAR_NOV_1/12/2017	31/12/2017	CTCT			CTCT	OPT	INV	ISL	8.7	3.64	23560.99	23560.99	17/11/2016	AWARDED	2014	
14	2363537	VAR_NOV_1/12/2017	31/12/2017	CTCT			CTCT	OPT	BEN	ISL	16.9	3.14	39481.1	39481.1	17/11/2016	AWARDED	2014	
15	2363533	VAR_NOV_1/12/2017	31/12/2017	CTCT			CTCT	OPT	HAY	OTA	17.7	4.67	61498.3	61498.3	17/11/2016	AWARDED	2014	
16	2363531	VAR_NOV_1/12/2017	31/12/2017	CTCT			CTCT	OPT	BEN	HAY	15	3.13	34930.8	34930.8	17/11/2016	AWARDED	2014	
17	2363525	VAR_NOV_1/12/2017	31/12/2017	OMFM			OMFM	OPT	OTA	HAY	2.3	0.15	256.68	256.68	17/11/2016	AWARDED	2014	
18	2363524	VAR_NOV_1/12/2017	31/12/2017	OMFM			OMFM	OPT	OTA	HAY	25.4	0.15	2834.64	2834.64	17/11/2016	AWARDED	2014	
19	2363512	VAR_NOV_1/12/2017	31/12/2017	OMFM			OMFM	OPT	ISL	BEN	1.8	0.01	13.39	13.39	17/11/2016	AWARDED	2014	
20	2363499	VAR_NOV_1/12/2017	31/12/2017	OMFM			OMFM	OPT	HAY	BEN	17.4	0.22	2848.03	2848.03	17/11/2016	AWARDED	2014	
21	2363497	VAR_NOV_1/12/2017	31/12/2017	OMFM			OMFM	OPT	BEN	ISL	15.6	3.14	36444.1	36444.1	17/11/2016	AWARDED	2014	
22	2363481	VAR_NOV_1/12/2017	31/12/2017	MERI			MERI	OPT	INV	ISL	14.3	3.64	38726.69	38726.69	17/11/2016	AWARDED	2014	
23	2363479	VAR_NOV_1/12/2017	31/12/2017	MERI			MERI	OPT	HAY	BEN	4.2	0.22	687.46	687.46	17/11/2016	AWARDED	2014	
24	2363478	VAR_NOV_1/12/2017	31/12/2017	MERI			MERI	OPT	OTA	HAY	14.9	0.15	1662.84	1662.84	17/11/2016	AWARDED	2014	
25	2363476	VAR_NOV_1/12/2017	31/12/2017	MERI			MERI	OPT	BEN	ISL	17.5	3.14	40882.8	40882.8	17/11/2016	AWARDED	2014	
26	2363475	VAR_NOV_1/12/2017	31/12/2017	MERI			MERI	OPT	BEN	HAY	32.8	3.13	76382.02	76382.02	17/11/2016	AWARDED	2014	
27	2363474	VAR_NOV_1/12/2017	31/12/2017	MERI			MERI	OPT	BEN	OTA	5.8	7.8	33658.56	33658.56	17/11/2016	AWARDED	2014	
28	2363467	VAR_NOV_1/12/2017	31/12/2017	MRPL			MRPL	OPT	ISL	BEN	0.2	0.01	1.49	1.49	17/11/2016	AWARDED	2014	
29	2363461	VAR_NOV_1/12/2017	31/12/2017	MRPL			MRPL	OPT	HAY	BEN	5	0.22	818.4	818.4	17/11/2016	AWARDED	2014	
30	2363455	VAR_NOV_1/12/2017	31/12/2017	MRPL			MRPL	OPT	OTA	BEN	5	0.37	1376.4	1376.4	17/11/2016	AWARDED	2014	
31	2363454	VAR_NOV_1/12/2017	31/12/2017	MRPL			MRPL	OPT	HAY	OTA	35	4.67	121606.8	121606.8	17/11/2016	AWARDED	2014	
32	2363453	VAR_NOV_1/12/2017	31/12/2017	MRPL			MRPL	OPT	OTA	HAY	5	0.15	558	558	17/11/2016	AWARDED	2014	
33	2363405	VAR_NOV_1/12/2017	31/12/2017	TRUS			TRUS	OPT	ISL	BEN	10.9	0.01	81.1	81.1	17/11/2016	AWARDED	2014	
34	2363262	VAR_NOV_1/11/2017	30/11/2017	OMFM			OMFM	OPT	HAY	OTA	1.2	4.57	3948.48	3948.48	17/11/2016	AWARDED	2014	
35	2363261	VAR_NOV_1/11/2017	30/11/2017	OMFM			OMFM	OPT	BEN	HAY	1.3	3.27	3060.72	3060.72	17/11/2016	AWARDED	2014	
36	2363260	VAR_NOV_1/11/2017	30/11/2017	OMFM			OMFM	OPT	BEN	ISL	27.4	3.18	62735.04	62735.04	17/11/2016	AWARDED	2014	
37	2363257	VAR_NOV_1/11/2017	30/11/2017	OMFM			OMFM	OPT	OTA	HAY	33	0.15	3564	3564	17/11/2016	AWARDED	2014	

Figure 17 Downloaded FTR Register

### 5.4 My Account

**My Account** is accessible to any user with a valid portal account. It is used to change passwords or update user details. After sign-in, the user can access **My Account** by clicking the reveal tab  in the top-left hand corner. The My Account page of the portal provides a detailed view of the user account.

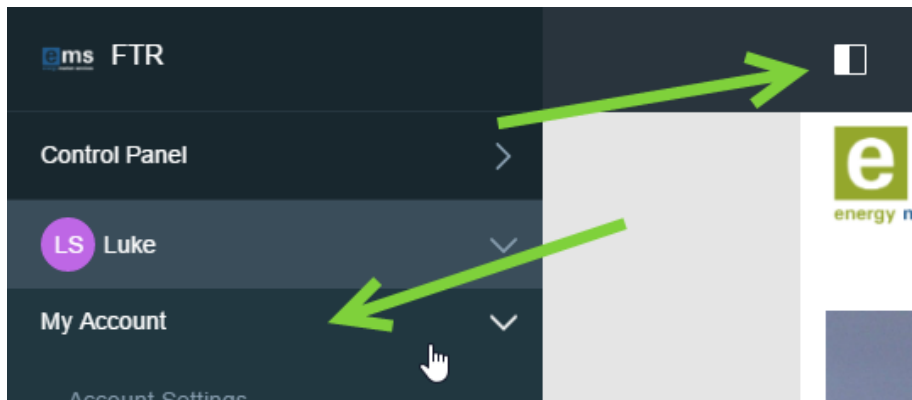


Figure 18 Accessing My Account

**Figure 19 My Account page with a detailed view of the account**

In the Details section, the portal user can update their email address, first name, last name, middle name, Job title, picture and the organisation name. The changes are saved through the save button at the bottom of the screen.

**Figure 20 Password Management from My Account page**

In the Password section, the portal user can change the password or the reminder question and answer. The changes are saved through the save button.

## 6. EMS FTR System Overview

### 6.1 Overview

The FTR System allows Market Participants to participate in FTR auctions and in the FTR Assignment process. Market Participants can use the web-based FTR system to purchase or bilaterally trade FTRs. Primary Auctions, which include previously unlisted FTR Periods, and Variation Auctions/Reconfiguration Auctions, for previously listed FTR Periods, will be performed by the FTR Manager. The number of runs in each auction (primary or variation) depends on the number of associated FTR (monthly) period(s). Definitions of FTR periods associated with each auction can be found in the FTR Allocation Plan, released by the FTR Manager.

Point to Point (PTP) FTRs acquired in an auction will be available between any single node (bus) or combination of nodes (buses) designated by EMS (subject to a simultaneous feasibility test). The list of nodes and their aggregates include: Generation Nodes, Load Nodes, Hubs, Load Zones, Interfaces, Receipt Zones, Pseudo-generators, Pseudo-loads Nodes.

All acquired FTRs will have duration of one calendar month.

### 6.2 FTR System Components

The FTR system has the following key components:

- **FTR Interface.** The FTR interface is a web-based market interface subsystem that allows:
  - Market Participants to view public data, public auction results.
  - Market Participants to view and download private data, private auction results.
  - Market Participants to manage and submit their FTR bids to an upcoming auction
  - Market Participants to participate in the Assignment to bilaterally trade their FTRs (i.e. the FTR Assignment process)
- **Market Operator Interface (MOI).** The MOI subsystem is a web-based system through which EMS personnel operate and manage the FTR System. This interface is not available to Market Participants.
- **FTR Database.** The Database subsystem manages all access to both public and private data in the FTR System. All bid data submitted by Market Participants are stored in this database.

### 6.3 FTR Auction Time Line

EMS will initiate, direct and oversee the FTR auctions.

For each auction, the timeline incorporates the following steps:

- PSS/E files and other auxiliary files are posted when the market operator initiates the auction process.
- A bidding period is opened during which Market Participants submit bids for the auction.

- The EMS market operator conducts the auction (primary or variation).
- Auction results are published/posted at the conclusion of the auction.

## 7. FTR System Web Site

Market Participants interface with EMS FTR system via the FTR portal. The portal is accessed via the Internet, using the following web browsers:

- Microsoft Internet Explorer Version 11.0
- Mozilla Firefox
- Google Chrome

### 7.1 Portal Navigation

The EMS portal can be navigated by using drop-down menus available in the EMS portal system web pages, control tabs and buttons within these web pages, or through use of the Forward/Back controls of the web browser.

### 7.2 FTR System Interface

#### FTR System Basics

The FTR system is a web-based system that allows Market Participants to participate in FTR auctions, the FTR Assignment, as well as viewing and downloading grid data, auction results, and viewing associated messages.

#### Access to the FTR System

On the FTR Portal Site 3, there is navigation tab to My Organisation (**My Org**) which directs the users to the FTR Market User Interface. From here the user can access the FTR application.

For the FTR application, a Market Participant can be set up with one of the following roles:

- The **submit role (READ\_WRITE)** allows full privilege to the Market Participants to submit FTR bids and participate in the Assignment. The **submit role (READ\_WRITE)** can access all the public and private web pages.
- The **view role (READ\_ONLY)** that provides view-only access to the user's private and public pages. This account does not permit submission of portfolios into the FTR auctions or to trade FTRs on the Assignment.

A user (i.e. a human being) will be navigating through the FTR system as a Market Participant.

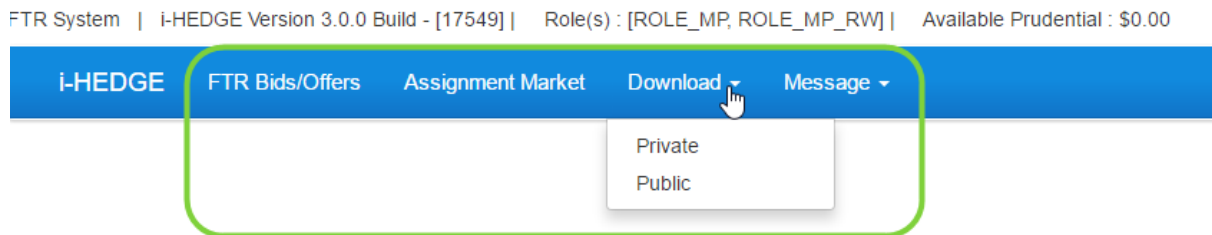
#### FTR System Interfaces

The FTR interface has many features which are all accessible through the four dropdown menus shown in Figure 21.



The four dropdown menu items are as follows:

- **FTR Bids/Offers** – link to FTR Bid Portfolio List page
- **Assignment Market**– link to FTR Assignment pages
- **Download**– link to *Public* and *Private* Download page
- **Message** – link to Message Board – Not in Use.



## FTR Market User Interface (MUI)

**Figure 21 Functions of the FTR MUI**

There are two types of information available to Market Participants: **Public information**, which is general information available to any FTR Market Participant, and **Private Information**, which is confidential information pertinent to only that Market Participant.

- The **public interface** allows Market Participants to download and view:
  - General data, which consists of the list of FTRs for all Market Participants.
  - Network data, which consists of the contingency list, monitored lines/transformers, network model in PSS/E format, nomograms and scheduled outages. This data is available for each auction period.
  - Market data, which consists of source/sink definitions, capacity and base loading FTRs. This data is available for each auction period.
  - Market Results data:
    - Auction data, which includes the auction binding constraints.
    - Public announcements/messages – Not in use.
- The **private interface** allows Market Participants to access:
  - FTR Bid page that permits Market Participants to submit portfolios of buy or sell bids to primary or variation auctions.
  - Prepare and manage portfolios of buy and sell bids.
  - View portfolios that have been submitted to auctions.
  - Upload and download bid portfolios.
    - Assignment - View, post and accept bilateral FTR trades.

- Private downloads
  - Private Auction data, which consists of the results of the FTR auction, including the bid curve associated with each of the FTR buy bids in the portfolios submitted to an auction.
- Private messages – Not in use.

### 7.3 FTR System Web Pages

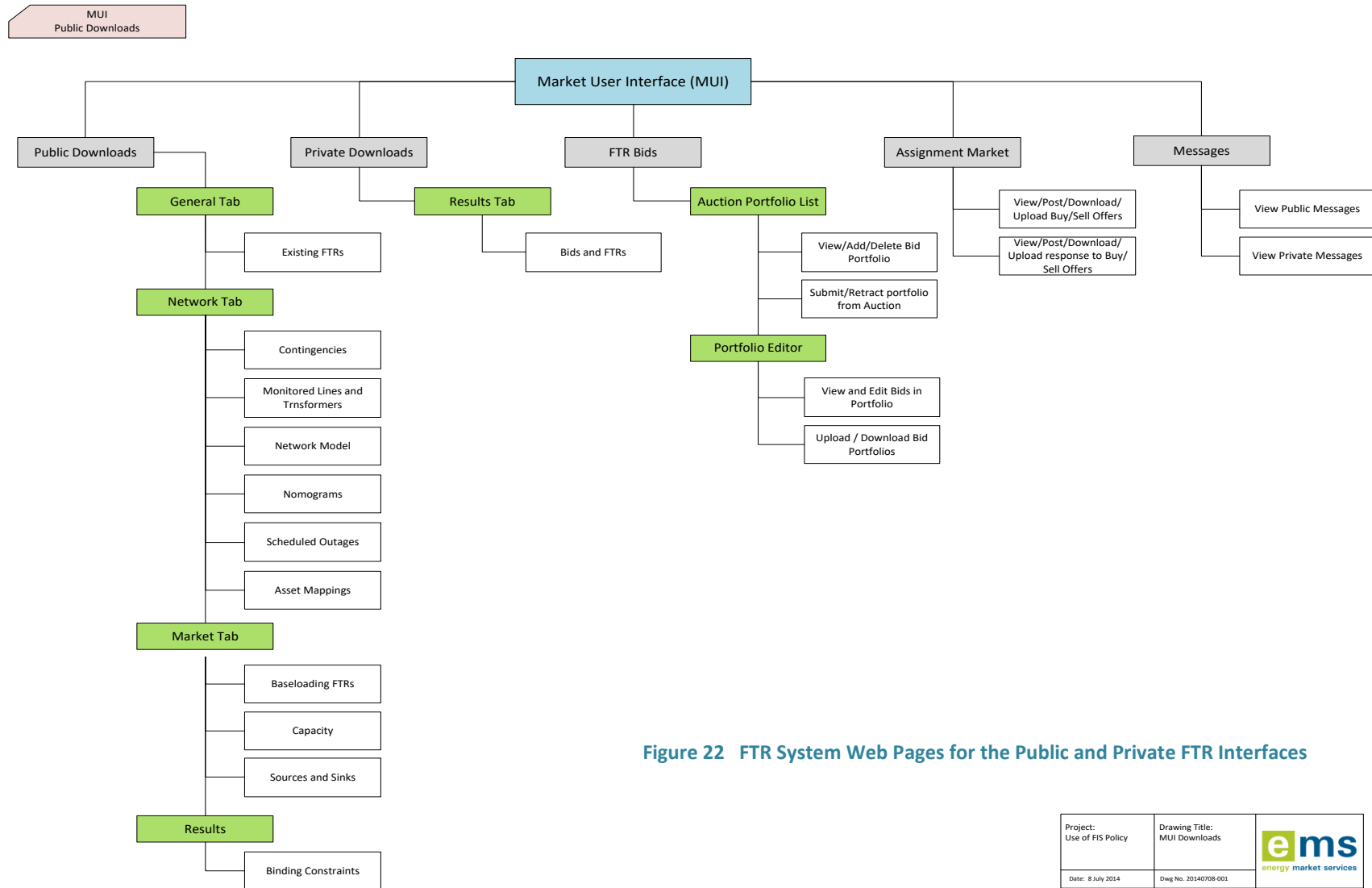



Figure 22 FTR System Web Pages for the Public and Private FTR Interfaces

Project: Use of FIS Policy	Drawing Title: MUI Downloads	
Date: 8 July 2014	Dwg No. 20140708-001	

## 8. Managing FTR Auction Portfolios

### 8.1 Overview of an FTR Auction Portfolio

One of the important functions of the FTR interface is to manage FTR auction portfolios. An auction portfolio is an efficient and effective package to manage PTP FTR bids. Each valid FTR portfolio consists of a set of PTP FTR bids.

### 8.2 Valid FTR Portfolio

A valid FTR portfolio should have a name and should have the following data fields:

- **Bid ID:** system generated ID of the FTR Bid.
- **FTR ID:** ID of the FTR being sold (used only when selling FTRs in Reconfiguration auctions)
- **Bid Description:** an optional field for the FTR participant to add description to each bid.
- **Asset Owner:** The 4 letter code of the Asset Owner who wants to buy or sell a PTP FTR
- **Source:** The name of the source for a PTP FTR buy/sell bid
- **Sink:** The name of the sink for a PTP FTR buy bid/sell
- **HEDGE Type:** OBL for Obligation hedge type or OPT for Option hedge type
- **Class:** time of use indicator – 24-HOURS
- **Type:** BUY or SELL
- **Period:** Name of the FTR period (the period that the portfolio is being submitted to).
- **Bid Curve (MW, \$/MWh):** must contain a minimum of two bid curve break points (a maximum of 11 break points, giving 10 segments).
  - the first quantity must be zero
  - each quantity must be positive (>0)
  - for buy bids, each price point must be ≤ the preceding price point (monotonically decreasing)
  - for sell bids, each price point must be ≥ the preceding price point (monotonically increasing)

A sloped bid can include positive and/or negative price points, as long as they obey the above relationships. A sample buy bid curve is shown in Figure 23.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF
1	Bid ID	FTR ID	Bid Description	Asset Owner	Source	Sink	Hedge Type	Class	Type	Period	Bid MW 1	Bid Price 1	Bid MW 2	Bid Price 2	Bid MW 3	Bid Price 3	Bid MW 4	Bid Price 4	Bid MW 5	Bid Price 5	Bid MW 6	Bid Price 6	Bid MW 7	Bid Price 7	Bid MW 8	Bid Price 8	Bid MW 9	Bid Price 9	Bid MW 10	Bid Price 10	Bid MW 11	Bid Price 11
2		123							BUY		0	15	5	14	10	13	18	13	25	12	25	6	30	6	32	2	40	-2	45	-5	48	-8
3		456							SELL		0	4	2	6	3	10	3	14	5	16	6	16										

Figure 23 Sample Buy / Sell Bid Curve

This creates a buy bid curve as illustrated in Figure 24:

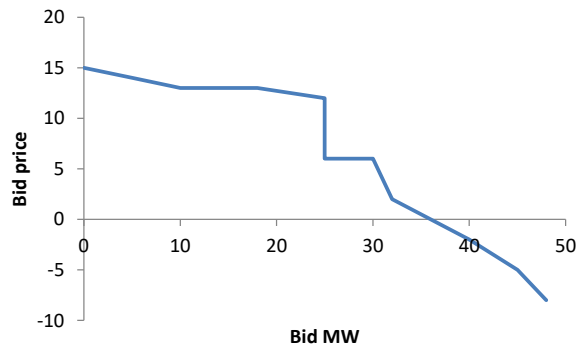


Figure 24 – Diagram of proposed sloped buy-bid structure (example)

and, a sell bid curve as illustrated in

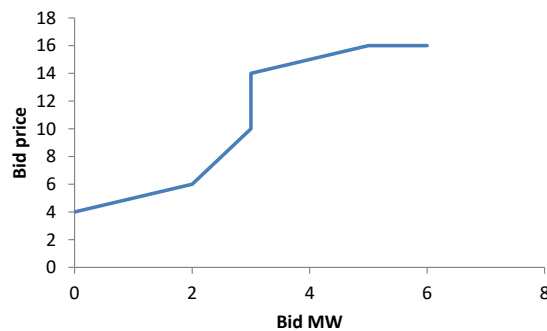


Figure 25:

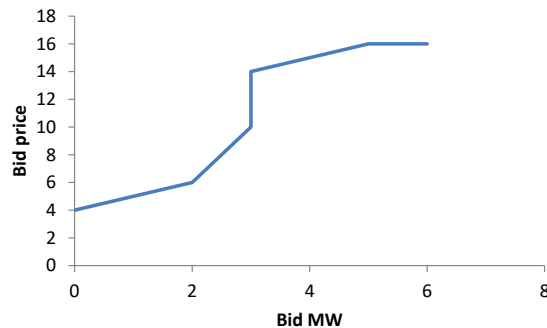


Figure 25 – Diagram of proposed sloped sell-bid structure (example)

### 8.3 Managing Auction Portfolios on the Private FTR Interface

The FTR Bids tab is used to view and submit bids for and FTR auction as shown in Figure 26. The auction market and required FTR period must be selected. Selecting 'Go' to view and manage an existing auction portfolio/s and/or create a new auction portfolio. The dates on the right hand side of Figure 26 reflect the effective dates of the FTR period and the bidding window of the selected auction market and period.

FTR System | I-HEDGE Version 3.0.0 Build - [17549] | Role(s) : [ROLE\_MP, ROLE\_MP\_RW] | Available Prudential : \$0.00

i-HEDGE FTR Bids/Offers Assignment Market Download Message

Home / Auction Portfolio List

Market: PRI\_JAN\_2017 (dropdown menu with scroll list)

Period: 201901

Go

Effective Dates		Bidding Window	
Start Date	End Date	Open Date	Close Date
01/01/2019	31/01/2019	18/01/2017 12:00:00 GMT-05:00	18/01/2017 16:30:00 GMT-05:00

Modified Download Status Submit Retract Delete Msg Allocated Prudential

No data available in table

First Previous Next Last

Refresh Add New

Figure 26 Auction market and period selection for managing Auction Portfolios

Selecting **Go** displays a list of existing auction portfolios (for the selected auction and period). The **'Add New'** button to create new portfolios is only available to FTR participants with **ORG\_RW** role. The **'Refresh'** button is for refreshing the auction portfolio list. The FTR Bids pages for **ORG\_RW** and **ORG\_RO** roles are shown in Figure 27 and Figure 28, respectively.

FTR System | I-HEDGE Version 3.0.0 Build - [17549] | Role(s) : [ROLE\_MP, ROLE\_MP\_RW] | Available Prudential : \$0.00

i-HEDGE FTR Bids/Offers Assignment Market Download Message

Home / Auction Portfolio List

Market: PRI\_JAN\_2017

Period: 201901

Go

Effective Dates		Bidding Window	
Start Date	End Date	Open Date	Close Date
01/01/2019	31/01/2019	18/01/2017 12:00:00 GMT-05:00	18/01/2017 16:30:00 GMT-05:00

10 records per page

Portfolio Name Date Modified Download Status Submit Retract Delete Msg Allocated Prudential

No data available in table

Showing 0 to 0 of 0 entries

First Previous Next Last

Refresh Add New

Figure 27 Portfolio List – Submit Role (READ\_WRITE)

FTR System | i-HEDGE Version 3.0.0 Build - [17549] | Role(s) : [ROLE\_MP,ROLE\_MP\_RO] | Available Prudential : \$0.00

I-HEDGE FTR Bids/Offers Assignment Market Download Message

Home / Auction Portfolio List

Market: PRI\_JAN\_2017 Period: 201901 Go

Effective Dates		Bidding Window	
Start Date	End Date	Open Date	Close Date
01/01/2019	31/01/2019	18/01/2017 12:00:00 GMT-05:00	18/01/2017 16:30:00 GMT-05:00

10 records per page

Portfolio Name	Date Modified	Download	Status	Submit	Retract	Delete	Msg	Allocated Prudential
No data available in table								

Showing 0 to 0 of 0 entries

First Previous Next Last Refresh

Figure 28 Portfolio List – View Role (READ\_ONLY)

## Viewing Existing Portfolios

- From the main menu, select the **FTR Bids/Offers** tab.
- Select the desired Auction Market and Period using the drop down menus and then click **Go**.
- Click the portfolio's name, which is in the column "**Portfolio Name**". The **Portfolio Editor** is covered in detail in the following chapter.

## Creating Auction Portfolios

Click the command button "**Add New**" to create an empty portfolio and upload a CSV format portfolio file from the local computer. The user is presented with a pop-up window as shown in Figure 29.

Create New Portfolio

Portfolio Name: MY\_FIRST\_PORTFOLIO  
MY\_FIRST\_PORTFOLIO is valid.

Market Name: VAR\_JAN\_2017

Period Name: 201702

Upload Bid File: Browse

Create Portfolio Cancel


Figure 29 Create New Portfolio

- To create an *empty* portfolio, enter a valid Portfolio Name and click "**Create Portfolio**".

- To upload a portfolio, enter a valid Portfolio Name, browse for the file and then click “**Create Portfolio**”. A sample representation, and embedded CSV file is shown below in **Figure 30**.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
1	Bid ID	FTR ID	Bid Description	Asset Owner	Source	Sink	Hedge Type	Class	Type	Period	Bid MW 1	Bid Price 1	Bid MW 2	Bid Price 2	Bid MW 3	Bid Price 3	Bid MW 4	Bid Price 4	Bid MW 5	Bid Price 5	Bid MW
2	540001			MERI	INV	OTA	OPT	24-HOURS	BUY	201504	0	34	12	31	16	21					
3	540005			MERI	HAY	OTA	OBL	24-HOURS	BUY	201504	0	12	10	11	15	10	20		9		
4	540006			MERI	ISL	BEN	OPT	24-HOURS	BUY	201504	0	23.56	22	21.23	33	19.5	37	16.52			
5	540007			MERI	BEN	HAY	OBL	24-HOURS	BUY	201504	0	5.32	10	4.31	15	3.54	20	3.54	20	2.23	
6	540008	400038		MERI	BEN	OTA	OPT	24-HOURS	SELL	201504	0		10	1	11.56	2	12.56	9	13.99		
7																					
8																					
9																					
10																					
11																					
12																					
13																					
14																					
15																					

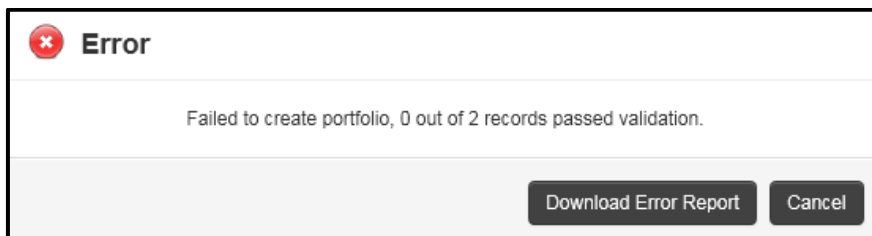
Sample CSV Bid Portfolio (BUY and SELL bids)



201610\_PRI\_1\_MT\_  
NOV\_2014.csv

**Figure 30 BUY and SELL Bid Portfolio in CSV Format**

- The Portfolio Name is a required field when uploading a Portfolio. Without a name, the portfolio will be rejected. The portfolio name must be unique within the same auction and FTR period.
- The FTR Auction name and period are greyed out, reflecting the selected market and period.
- It is optional to create a portfolio with bids in the upload bid file or to leave it blank.
- When the upload bid file is specified and ‘**Create Portfolio**’ button is clicked, the data in the upload file will be validated. If there is at least one validation violation, the *entire* portfolio will be rejected. A pop-up window will prompt the FTR participant the number of records that pass the validation and the total number of records in the upload files. ‘**Download Error Report**’ button will be available for the FTR participant to download details of all errors. A sample of the pop-up window is shown in Figure 31.

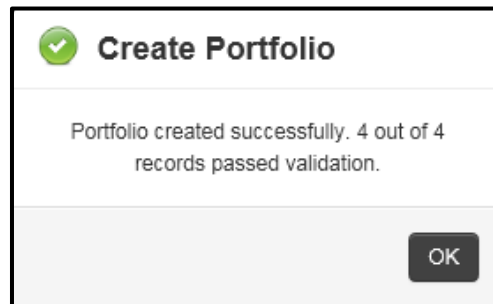


**Figure 31 Error message for failed Portfolio Creation**

- When all bids in the upload file pass the validations, a portfolio containing bids in the upload file will be created and saved. A confirmation window, as shown in Figure 32,

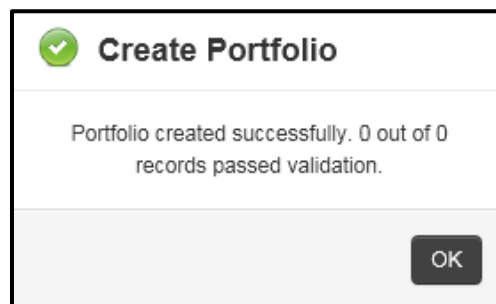


displays the number of valid bids. When the **OK** button is clicked, the uploaded portfolio will be displayed in the Portfolio Editor.



**Figure 32** Confirmation message for successful creation of a portfolio with bids

- When a portfolio is created without an upload file, the confirmation window, as shown in Figure 33, displays 0 out of 0 records passed validation and a blank portfolio with status 'New' is created. When the OK button is clicked, a blank portfolio is displayed in the Portfolio editor.



**Figure 33** Confirmation message for successful creation of a blank portfolio

## Downloading Portfolios

- Select the CSV link in the “**Download**” Column in the page [Portfolio List](#).
- The portfolio in the CSV format with the same name as the portfolio will be downloaded.

## Deleting Portfolios

- Click the command button “**DELETE**” to delete the portfolio that is no longer required. The delete button is only available for portfolios that have not been submitted. To delete a portfolio that has been submitted, it must first be retracted using the **retract** button. After the bid window has closed, a portfolio that has been submitted cannot be edited.

## Submitting Portfolios

This function is only available to users with **READ\_WRITE** access. One or more portfolios can be submitted to an FTR auction during the bidding window as shown in Figure 34. After the bidding window has closed, portfolios cannot be submitted or retracted. FTR participants may submit more than one portfolio to an auction. Presently, the FTR manager limits the total number of a Market participant bids to 2000 bids in each auction period.

FTR System | i-HEDGE Version 2.0.0 | Role(s) : [ROLE\_MP, ROLE\_MP\_RW] | Available Prudential : \$21,954,880.96

**i-HEDGE** FTR Bids/Offers Assignment Market Download Message

Home / Auction Portfolio List

Market: TEST4\_VAR\_MAY\_2014 | Period: 201504 | **Go**

Effective Dates		Bidding Window	
Start Date	End Date	Open Date	Close Date
01/04/2015	30/04/2015	15/07/2014 00:00:00 GMT-05:00	16/07/2014 09:00:00 GMT-05:00

10 records per page

Portfolio Name	Date Modified	Download	Status	Submit	Retract	Delete	Msg	Allocated Prudential
My_first_portfolio	08/07/2014 09:47:30 GMT-05:00	CSV	Rejected	<b>Submit</b>		Delete	msg	
My_second_portfolio	08/07/2014 09:43:40 GMT-05:00	CSV	Approved		<b>Retract</b>			\$23,072.00
My_third_portfolio	08/07/2014 09:40:26 GMT-05:00	CSV	New			Delete		

Showing 1 to 3 of 3 entries

First Previous 1 Next Last

Refresh Add New

**Figure 34 Portfolio List – Submit Button, Retract Button and Msg link**

- To submit a portfolio, click the **“Submit”** button as shown in Figure 34.
- If the portfolio passes all data validations including prudential validation, the selected portfolio will be submitted into the FTR auction as shown for a portfolio in Figure 34, and the **“Retract”** link will become active for that particular portfolio. The portfolio status will become ‘Approved’. The allocated prudential will be subtracted from the available prudential at the top of the screen.
- If the portfolio fails one of the validations, the selected portfolio will have ‘Rejected’ status as shown for a portfolio in Figure 34. The portfolio will NOT be submitted to the auction and the error message will be available for the FTR participant to download from the **‘msg’** link.

## Retract Portfolios from Auction

This function is also only available to users with **READ\_WRITE** access. The portfolios can be retracted from the auction only when the bid window is open. After this bid window has closed, portfolios cannot be retracted.

- For the selected portfolio click the **“Retract”** button in the table column **“Retract”** shown in Figure 34.

- The retracted portfolio will be removed from the list of submitted FTR portfolios and the “Submit” link will become active again and its status will become “Valid” shown in Figure 35. Please note that this action does not remove the portfolio from the **Portfolio List** but removes the portfolio from being submitted to the auction.

FTR System | i-HEDGE Version 2.0.0 | Role(s): [ROLE\_MP, ROLE\_MP\_RW] | Available Prudential: \$21,977,952.96

i-HEDGE FTR Bids/Offers Assignment Market Download Message

Home / Auction Portfolio List

Market: TEST4\_VAR\_MAY\_2014 | Period: 201504 | Go

Effective Dates		Bidding Window	
Start Date	End Date	Open Date	Close Date
01/04/2015	30/04/2015	15/07/2014 00:00:00 GMT-05:00	16/07/2014 09:00:00 GMT-05:00

10 records per page

Portfolio Name	Date Modified	Download	Status	Submit	Retract	Delete	Msg	Allocated Prudential
My_second_portfolio	08/07/2014 09:50:20 GMT-05:00	CSV	Valid	Submit		Delete		
My_first_portfolio	08/07/2014 09:47:30 GMT-05:00	CSV	Rejected	Submit		Delete	msg	
My_third_portfolio	08/07/2014 09:40:26 GMT-05:00	CSV	New			Delete		

Showing 1 to 3 of 3 entries

First Previous 1 Next Last

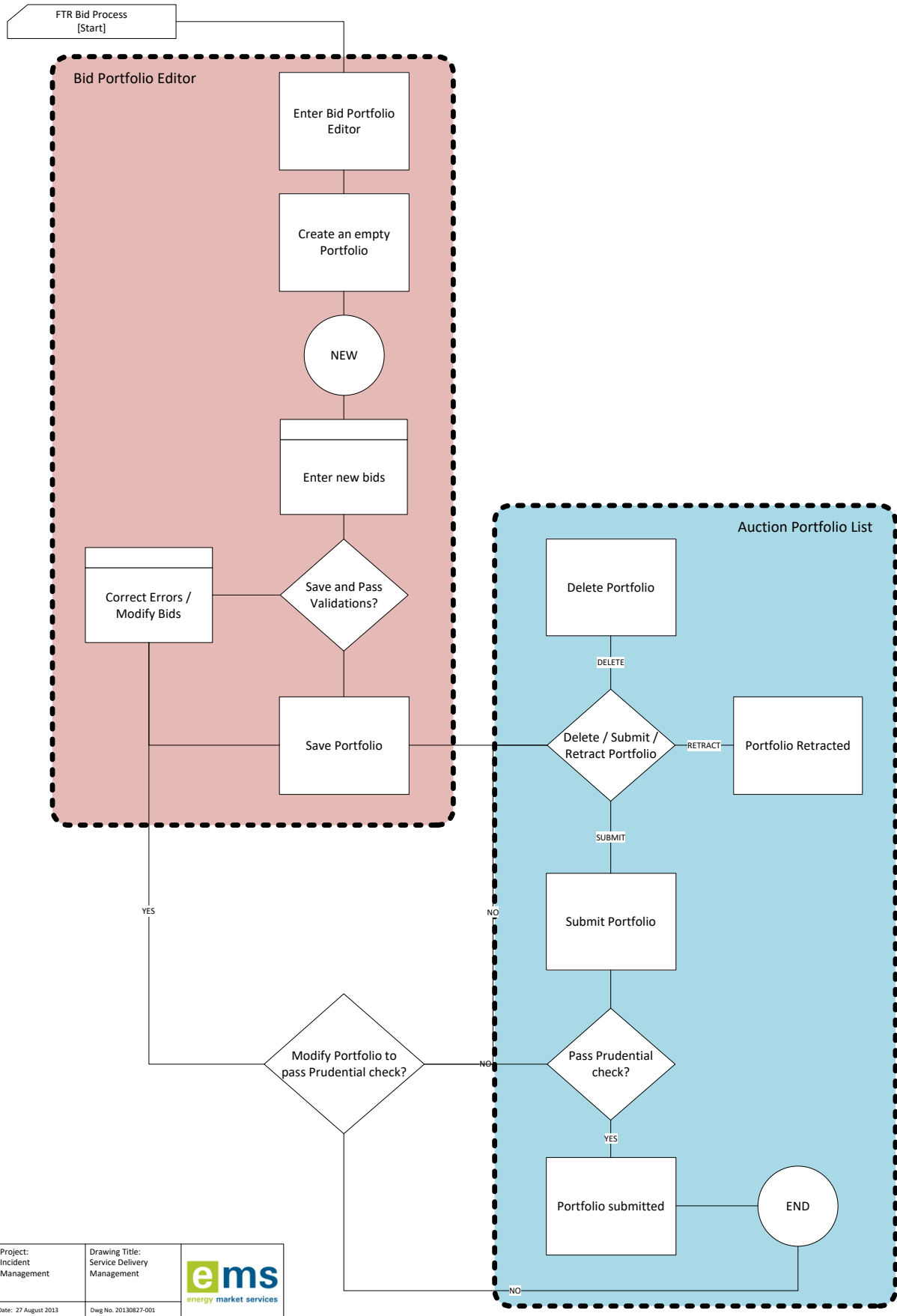
Refresh Add New

Figure 35 Portfolio List – After Retraction from an Auction

## Auction Portfolio Statuses

The auction portfolio page, lists the portfolios along with their statuses. The following statuses are supported by the portfolio list page:

- New** An empty portfolio without any bids/offers in it.
- Valid** A portfolio with a valid set of bids/offers. The portfolio is not in a “Submitted” state.
- Invalid** A portfolio with at least one invalid bid/offer in it.
- Approved** A portfolio with a valid set of bids that has passed the prudential check. The portfolio is in a “Submitted” state with respect to the auction.
- Rejected** A portfolio with a valid set of bids that has failed the prudential check. The portfolio is not in a “Submitted” state with respect to the auction. The general flow of tasks in managing portfolios is shown in Figure 36



Project: Incident Management	Drawing Title: Service Delivery Management	
Date: 27 August 2013	Dwg No. 20130827-001	

Figure 36 Managing Portfolios

## 9. Managing FTR Bids

### 9.1 Overview of FTR Bids

The FTR auction supports the following type of FTR bid/offers:

- **Point-to-Point FTR (PTP FTR)** – submitted by Asset Owners who wish to purchase a PTP FTR in the auction from a valid source to a valid sink.

A user can submit up to 2000 buy and sell bids.

### 9.2 Valid FTR Bids

A valid FTR bid consists of the following information:

- **ID** – A field containing the ID for each of the Bids added and saved. This textbox cannot be edited.
- **FTR ID** – ID number of the FTR for sell offers (Applicable to Sell Offer tab only).
- **Asset Owner** – The name of the Asset Owner who wishes to sell or buy the FTR.
- **Source** – The name of the source for a PTP FTR
- **Sink** – The name of the sink for a PTP FTR
- **Bid Curve** – The bid curve of the FTR which allows up to 11 break points (See Figure 30 BUY and SELL Bid Portfolio in CSV Format above)
- **Class** – 24-HOURS time of use
- **Hedge Type** – OBL (Obligation) or OPT (Option)
- **Bid Type** – BUY or SELL

### 9.3 Portfolio Editor

The Auction **Portfolio Editor** is the location where Market Participants manage their auction portfolios, as shown in Figure 37.

Portfolio Name: My\_second\_portfolio | Description(Optional): | Select Another Portfolio: My\_second\_portfolio

Market: TEST4\_VAR\_MAY\_2014 | Period: 201504

**Bid Portfolio Editor**

Valid

Add | Remove | Clear All | Upload | Save | Download | Download Message | Back

**FTR Buy Bids** | **FTR Sell Offers**

ID	Bid Curve	Source	Sink	Class	AssetOwner	Bid Description	Hedge Type
540001		INV	OTA	24-HOURS	MERI		OPT
540005		HAY	OTA	24-HOURS	MERI		OBL
540006		ISL	BEN	24-HOURS	MERI		OPT
540007		BEN	HAY	24-HOURS	MERI		OBL

**Data**

Set Source | Set Sink

Sources & Sinks

- BEN
- HAY
- INV
- ISL
- OTA

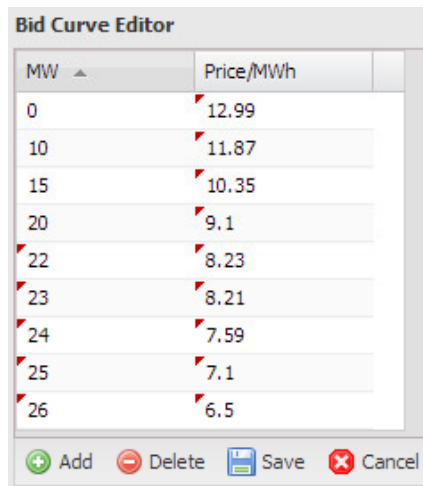
Figure 37 Portfolio Editor

The **Portfolio Editor** page contains three display panels: the upper panel, the left central panel and the right central panel. Each of the three panels contain toolbox provided to edit a portfolio. All of the panels and their associated tool boxes are described as below.

- **Upper Panel** – describes the global properties of the portfolio and contains the following tool boxes:
  - **Portfolio Name** – A text box to which to view or input the name of the portfolio currently being managed.
  - **Description (optional)** – A text box to view or input the description for the current portfolio
  - **Select Another Portfolio** – A list box with all of other existing portfolios listed for selection. When one of the portfolios is selected from this list, the portfolio editor will redirect to the selected portfolio.
- **Left Central Panel** – where the Market participant can navigate to the **FTR Buy Bids** or **FTR Sell Offers**, a tabular form to edit required data fields for buy or sell bids:

#### **FTR Buy Bids**

- **ID** – This is a numeric ID generated by the system when the bid is saved. This textbox cannot be edited.
- **Bid Curve** – A pop up form to input the break points of the bid curve for the current FTR being edited. Clicking the icon in one of the Bid Curve cells, pops up a bid curve dialog as shown below in **Figure 38**.



MW	Price/MWh
0	12.99
10	11.87
15	10.35
20	9.1
22	8.23
23	8.21
24	7.59
25	7.1
26	6.5

Buttons: Add, Delete, Save, Cancel

Figure 38 Bid Curve Pop-up Window

- The left column and the right column of the bid curve table are the MW amount and the price in \$/MWh of the break point respectively. Note that the first breakpoint for a BUY bid is always at 0 MW. Under the bid curve table there are four command buttons
  - **Add:** This adds a new bid curve point. Up to 11 break points can be added for sloped bids
  - **Delete:** This removes a selected row / bid point
  - **SAVE:** Save all inputted bid curve break points. This button is available only when the portfolio is not in 'Approved' status (submitted to an auction) or the associated auction has not been posted.
  - **CANCEL:** Cancel all actions since the last saving operation.
- **Source** – A text box to denote the name of the source for a PTP FTR. The data can be entered by selecting the record, then selecting the desired source name under the folder **Sources & Sinks** in the right central panel and clicking the “**Set Source**” button.
- **Sink** – A text box to denote the name of the sink for a PTP FTR. The data can be entered by selecting the record, then selecting the desired sink name under the folder **Sources & Sinks** in the right central panel and clicking the “**Set Sink**” button.
- **Class** – A text box to denote the name of the time-of-use. “24-HOURS” is automatically filled in this column
- **Asset Owner** – A text box to denote the name of the owner for a particular FTR. This data is automatically populated with the name of the **Asset Owner** for whom the bid portfolio is being created.
- **Bid Description** – An optional short description that a market participant may wish to associate with the bid. It can be used to store tags or IDs that market participants use within their own systems.
- **Hedge Type** – A drop-down list for a selection of OBL (Obligation) or OPT (Option) hedge type.

### FTR Sell Offers

- **ID** – This is a numeric ID generated by the system when the sell offer is saved. This textbox cannot be edited.
- **FTR ID** – This is automatically populated when an existing FTR is added. The FTR details are entered by selecting the record, then selecting the desired FTR under the folder **Existing FTRs** in the right central panel and clicking the “**Set FTR**” button.
- **Bid Curve** – A pop up form to input the break points of the bid curve for the current bid being edited. Clicking the icon in one of the Bid Curve cell pops up a bid curve dialog shown as below in Figure 41a.

MW ▲	Price/MWh
0	10
1	11.56
2	12.56
3	13.99
4	14.23
5	14.56
6	14.8
7.7	15.99
8.5	16.9

At the bottom of the window, there are four buttons: Add (green plus icon), Delete (red minus icon), Save (blue floppy disk icon), and Cancel (red X icon).

**Figure 39a Bid Curve Pop-up Window**

- The left column and the right column of the bid curve table are the MW amount and the price in \$/MWh of the break point respectively. Note that the first breakpoint for a SELL offer is always at 0 MW. Under the bid curve table there are four command buttons
  - **Add:** This adds a new bid curve point. Up to 11 break points can be added for sloped sell offers
  - **Delete:** This removes a selected row / bid point
  - **SAVE:** Save all inputted bid curve break points. This button is available only when the portfolio is not in ‘Approved’ status (submitted to an auction) or the associated auction has not been posted.
  - **CANCEL:** Cancel all actions since the last saving operation.
- **Source** – A text box to denote the name of the source for a PTP FTR. This is automatically populated when the FTR to be offered is selected.
- **Sink** – A text box to denote the name of the sink for a PTP FTR. This is automatically populated when the FTR to be offered is selected.
- **Class** – A text box to denote the name of the time-of-use. “24-HOURS” is automatically populated when the FTR to be offered is selected.



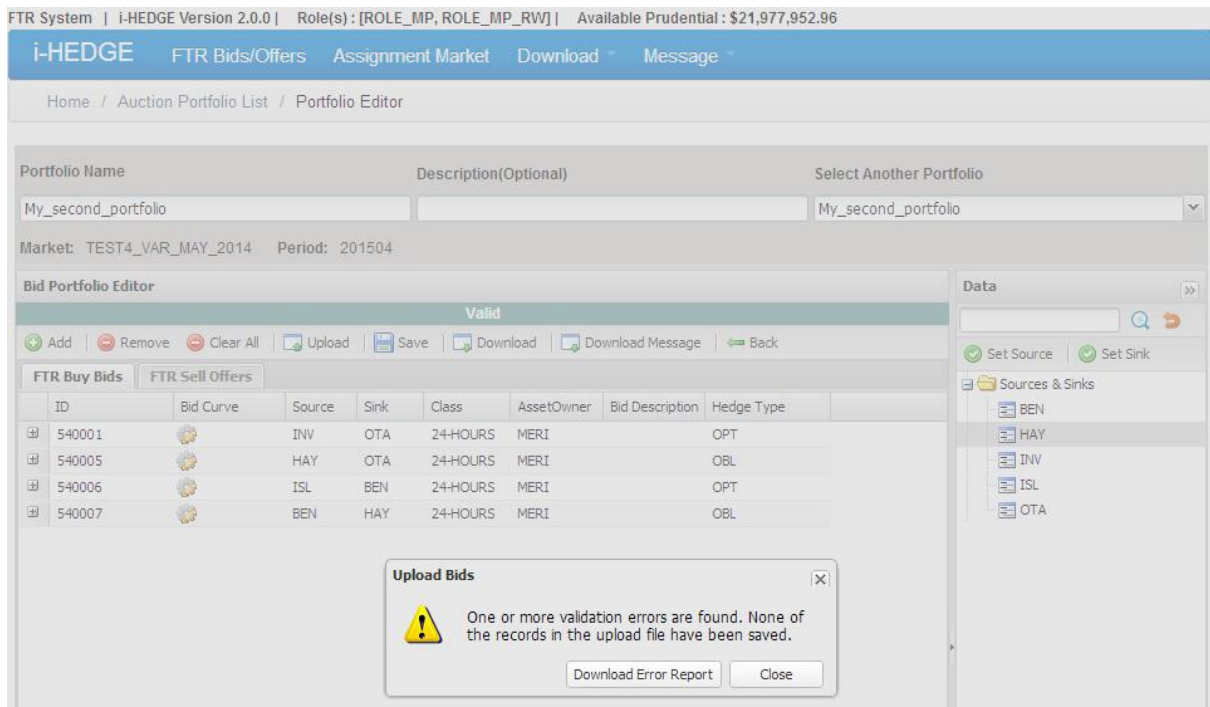
- **Asset Owner** – A text box to denote the name of the owner for a particular FTR. This data is automatically populated with the name of the **Asset Owner** for whom the bid portfolio is being created.
- **Bid Description** – An optional short description that a market participant may wish to associate with the bid. It can be used to store tags or IDs that market participants use within their own systems.
- **Hedge Type** - This is automatically populated when the FTR to be offered is selected.

Immediately below the Upper Panel in the Bid Portfolio Editor, the user is presented with several functions:



**Figure 40 Bid Portfolio Editor Functions**

- **Add** – This button adds a single new buy or sell bid record to the portfolio editor. It is available only when the portfolio is not in 'Approved' status (submitted to an auction) or the associated auction has not been posted.
- **Remove** – This button deletes the selected set of bid record from the portfolio editor. Note that multiple rows can be selected by holding down the "Shift" key. It is available only when the portfolio is not in 'Approved' status (i.e. not submitted to an auction) or the associated auction has not been posted.
- **Clear All** - This button deletes all bid records from the portfolio editor. It is available only when the portfolio is not in 'Approved' status (submitted to an auction) or the associated auction has not been posted.
- **Upload** - This button allows the user to upload a csv formatted file of bids to the portfolio editor. The format of the upload file must be in the format as shown in Figure 30. Validation of the bid set is conducted during the upload. When one or multiple errors are found, all bids in the upload file are rejected. A pop-up window, as shown in Figure 41, will prompt the status of the upload. An error report can be downloaded by clicking on '**Download Error Report**' button before closing the pop-up window.



**Figure 41 Download Error Report upon Upload of Auction Portfolio on Bid Editor**

If there are no validation errors, bids without a bid ID in the upload file will be added to the existing bids in the portfolio and bids with bid IDs in the upload file will be used to update the existing bids in the portfolio. All new and updated bids are automatically saved upon the upload process.

The upload button is available only when the portfolio is not in 'Approved' status (i.e. not submitted to an auction) or the associated auction has not been posted

- **Save** - This button instructs the system to save the bid records on the portfolio editor. Validation of the bid set is conducted during the save operation and errors are immediately reported to the user on the screen. It is available only when the portfolio is not in 'Approved' status (submitted to an auction) or the associated auction has not been posted.
- **Download** - This button permits the user to download a valid set of bids from the portfolio editor. The format of the download file is the same as the format of the upload file. All bids in the download file have bid IDs.
- **Download Message** - This button downloads the error messages discovered during the save operation. The errors upon upload are not available for download using this button.
- **Back** - This button allows the user to navigate back to the bid portfolio list page.
- **Right Central Panel** - a display tree that contains the following FTR information:
  - **Sources/Sinks** - The folder contains all valid names of FTR sources and sinks that are applicable to the period and the auction.

## 9.4 Managing FTR Bids with the Portfolio Editor

Clicking on the **FTR Buy Bids** tab on the **Portfolio Editor** page brings up the **FTR Editor** panel. This panel is used to manage FTR auction bids. The following subsections describe these functions.

### View Existing Portfolios

- From the **Portfolio Editor** select one of the existing portfolios from “**Select Another Portfolio**” list box. Then all the bids in this selected portfolio will be loaded in the bid editor table.

### Add FTR Buy Bids

- Click “**ADD**” button in **Portfolio Editor**
- A new row will appear in the bid table and ready to be edited.

Fill all the necessary data fields except Class and Asset Owner. The Bid Description is optional. **Source** and **Sink** are filled by setting the appropriate item under the **Sources/Sinks** folder from the right central panel.

- Click “**Save**” button to save new bids.

### Modify FTR Bids

- Modify fields of one or multiple FTR bids on the screen. Only ID, Class and Asset Owner are not editable.
- Click “**SAVE**” button in the bottom panel if necessary to save the updated bids of the portfolio in the database.

### Delete FTR Bids

- Find the bid/s you wish to delete and select them
- Click the “**DELETE**” button in the bottom panel to delete each highlighted bid/s from the portfolio.
- All bids can be deleted by using the “**Clear All**” button.

### Save FTR Bids in the Portfolio

- Click the “**SAVE**” button in the bottom panel.
- All modified bids in the current portfolio are saved in the database.

## 10.Trading in the Assignment Market

### 10.1 Overview of Assignment Market

The FTR Assignment market is a bilateral trading system that facilitates the trading of existing FTRs between Market Participants. The FTR manager automatically transfers ownership of the FTRs for each Market Participant accordingly.

The Assignment allows trading of existing FTRs only. An FTR as originally defined or a portion of the FTR can be traded, as long as the total MW amount of the FTR as well as the original FTR time spans are maintained. With these restrictions, trading in the Assignment has no impact on the simultaneous feasibility of the existing outstanding FTRs or on market-clearing prices in FTR auctions. In particular, there is no need for the FTR manager to perform simultaneous feasibility tests for trades in the Assignment.

When an FTR is traded, the associated firm transmission capability is not reassigned, just the financial entitlements.

The following steps are required to trade an FTR in the Assignment:

- A Market Participant creates a buy or sell offer for a particular market participant.
- The responding Market participant accepts the assignment and confirms the trade.
- The system executes a prudential check to ensure that the trade can be consummated. If the prudential requirements are satisfied, the trade is accepted and comes into effect, while if the prudential requirements are not satisfied, the trade is denied.

### 10.2 Accessing the Assignment

In the Assignment market tab the functionality for RO and RW users remains the same except that except that a RO user cannot post a bid or sell offer or accept a trade.

The Assignment market is designed to facilitate the trading of FTRs by two Market Participants after the terms of the FTR sale are negotiated. The money is exchanged outside the purview of the FTR System and the transfer of ownership of the FTR is conducted through the FTR System.

The Assignment can be accessed through the FTR interface. Figure 42 shows the “**Assignment Market**” tab. By clicking this tab, the user will be taken to the **Assignment Market** web page shown in Figure 42.

FTR System | i-HEDGE Version 2.0.0 | Role(s) : [ROLE\_MP, ROLE\_MP\_RW] | Available Prudential : \$21,977,952.96

**i-HEDGE** FTR Bids/Offers Assignment Market Download Message

Home / Assignment Market

**Assignment Market Offers & Responses**

Offer Response

My Buy Offer My Sell Offer

Add Retract Upload Save Download All Offers

ID	Type	Responding AO	Status	Source	Sink	MW	Start Date	EndDate	Class
480912	PRIVATE	DEUT	Approved	ISL	INV	5	01/03/2016	31/03/2016	24+HC
480905	PRIVATE	DEUT	Approved	HAY	BEN	10.7	01/03/2016	31/03/2016	24+HC

Data

Set AO Set Source Set S

Asset Owners

Sources & Sinks

Figure 42 The Assignment Editor

### 10.3 Assignment Public posting display

The Assignment editor as shown in Figure 42 contains two tabs: Offer, and Response.

- **Offers tab** – editor for Market Participants to initiate the purchase or sale of FTRs in the Assignment. This tab has two sub-tabs – **My Buy Offer** and **My Sell Offer** – each displaying a table containing the following information
  - **ID** – The unique id of the transaction for purchase or sale of the FTR.
  - **Type** – The type is automatically filled as ‘PRIVATE’.
  - **Responding AO** – The name of the counter party Asset Owner who will respond to the offer.
  - **Status** – Status of the FTR for sale
    - **Posted** – The buy bid or sell offer of the FTR has been posted.
    - **Pending AO Response** – Market Participants are working on closing the transaction for the FTR
    - **Approved** – FTR exchange was approved.
    - **Error** – FTR exchange was not approved as validations and/or prudential checks fail
  - **FTR ID** – The specific ID of the FTR for sale - applicable only to the **My Sell Offer** sub-tab
  - **Source** - The name of the source of the FTR
  - **Sink** – The name of the sink of the FTR
  - **MW** – The MW amount of the FTR

- **Start Date** – The effective starting date of the FTR
- **End Date** – The effective expiration date of the FTR
- **Class** – The class is automatically filled as '24-HOURS'.
- **Contact** – The name, address, phone number, email address of the designated person regarding this transaction for the purchase of the PTP FTR. It is assumed that this person is authorized to conduct this transaction on behalf of the Market Participant. This field is optional.
- **Hedge Type** – OBL for Obligation hedge type and OPT for Option hedge type.
- **Price** – The assignment price. This field is optional
- **Response tab** - editor for Market Participants to respond to buy or sell offers in the Assignment Market. This tab has two sub-tabs – **Respond to Buy Offer** and **Respond to Sell Offer** – each displaying a table the following containing the following information
  - **Response ID** - The specific ID of the Response.
  - **Request ID** - The Specific ID of the Request.
  - **Type** - The type is automatically filled as 'PRIVATE'.
  - **Initiating AO** - The name of the Initiating Asset Owner
  - **FTRID** - The specific ID of the FTR being used to satisfy a buy request. This is applicable only in the "Respond to Buy Offer".
  - **Status** - Status of the FTR being traded
    - **Posted** – The buy bid or sell offer of the FTR has been posted.
    - **Pending AO Response** – Asset Owners are working on closing the transaction for the FTR
    - **Approved** – FTR exchange was approved.
    - **Error** – FTR exchange was not approved as validations and/or prudential check fail
  - **Source** - The name of the source of the FTR being traded
  - **Sink** - The name of the sink of the FTR being traded
  - **MW** - The MW amount of the FTR being traded
  - **Start Date** - The effective starting date of the FTR being traded
  - **End Date** - The effective expiration date of the FTR being traded
  - **Class** - The class is automatically filled as '24-HOURS'.
  - **Contact** - The name, address, phone number, email address of the designated person regarding this transaction for the PTP FTR. It is assumed that this person is authorized to conduct this transaction on behalf of the Asset Owner. The field is optional.
  - **Hedge Type** - OBL for Obligation hedge type and OPT for Option hedge type.
  - **Price** – The assignment price. This field is optional. The price can be assigned only by the Asset Owner who initiates the Assignment.

## 10.4 Posting an Assignment offer

The Offer tab is divided into two sub-tabs, “My Buy Offers” and “My Sell Offers”. The following sections describe how to post a buy offer or sell offer for FTR Assignments:

### Submit a Buy Offer

To post a new Buy offer, the user must click the **Add** button found at the top of the “My Buy Offer” panel. Doing so will create a blank row (or record) in the “My Buy Offer” panel as shown in Figure 43.

FTR System | i-HEDGE Version 2.0.0 | Role(s) : [ROLE\_MP, ROLE\_MP\_RW] | Available Prudential : \$21,977,952.96

i-HEDGE FTR Bids/Offers Assignment Market Download Message

Home / Assignment Market

Assignment Market Offers & Responses

Offer response

My Buy Offer My Sell Offer

Add Retract Upload Save Download All Offers

ID	Type	Responding AO	Status	Source	Sink	MW	Start Date	EndDate	Class
N/A	PRIVATE		New	HAY	ISL	0			24-HC
480912	PRIVATE	DEUT	Approved	ISL	INV	5	01/03/2016	31/03/2016	24-HC
480905	PRIVATE	DEUT	Approved	HAY	BEN	10.7	01/03/2016	31/03/2016	24-HC

Data

Set AO Set Source Set S

Asset Owners

- CTCT
- CYPH
- DEUT
- EANZ
- GENE
- GENF
- MRPL
- OMFM
- PUNZ
- TRUS
- X00X

Sources & Sinks

- BEN
- HAY
- INV
- ISL
- OTA

Figure 43 Posting “My Buy Offer”

The Market Participants can then fill in the necessary information by setting **Responding Market Participant, Sources/Sinks** data from the right hand panel data structures in the appropriate fields of the editor (using the “Set AO”, “Set Source” and “Set Sink” buttons to specify the Responding AO, Source and/or Sink to one or multiple selected new buy offers), typing in desired **MW**; entering **Start Date** and **End Date** (or selecting them from a calendar which appears when the calendar icon on the right of the cell is clicked); and selecting **Hedge Type** from a drop-down list for either **OPT** or **OBL** from drop-down menus. Contact and Price are optional. In order to fill in Contact Information, the user must click on the symbol in the Contact column, which displays a popup shown in Figure 44. The user must enter the relevant contact information (name, address, phone number & e-mail address) and click **Save** to save the information, or **Cancel** to close without saving.

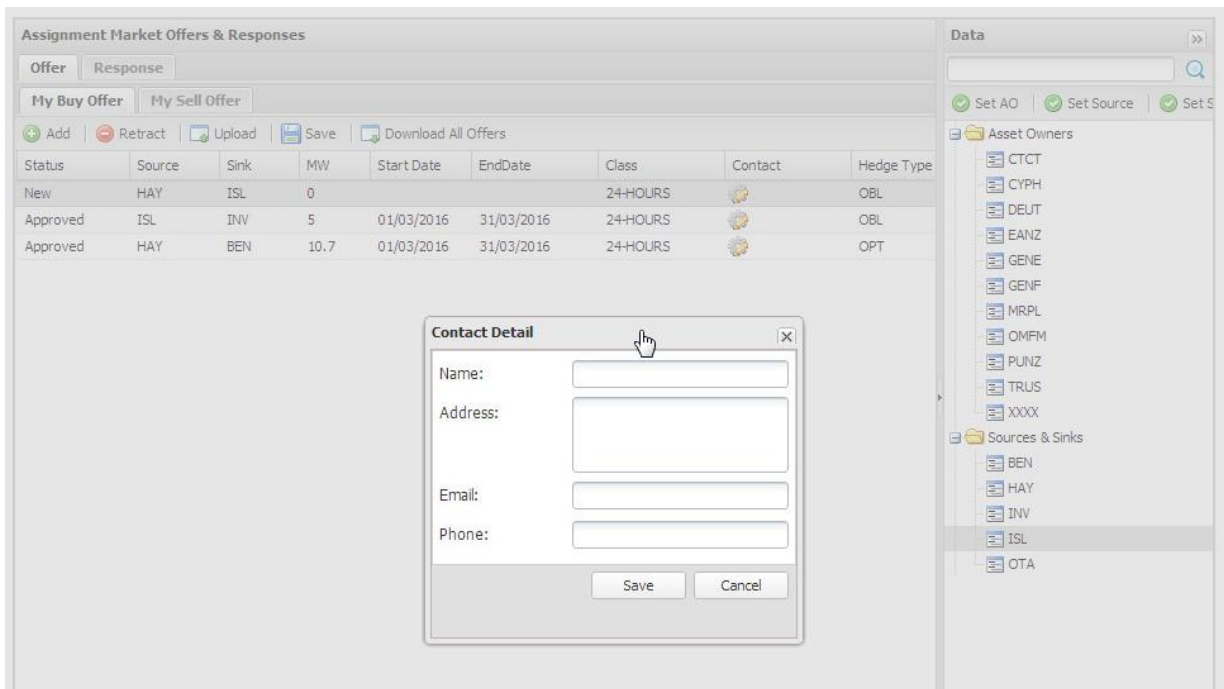


Figure 44 Private Posting Editor with Contact Information pop-up window

Once all fields of the buy offer has been entered, click on the “**Save**” button to post the buy offer. As shown in Figure 45, the status field of this new buy offer will now change to “**Pending AO Response**” in the “My Buy Offers” panel after the buy offer has been saved.

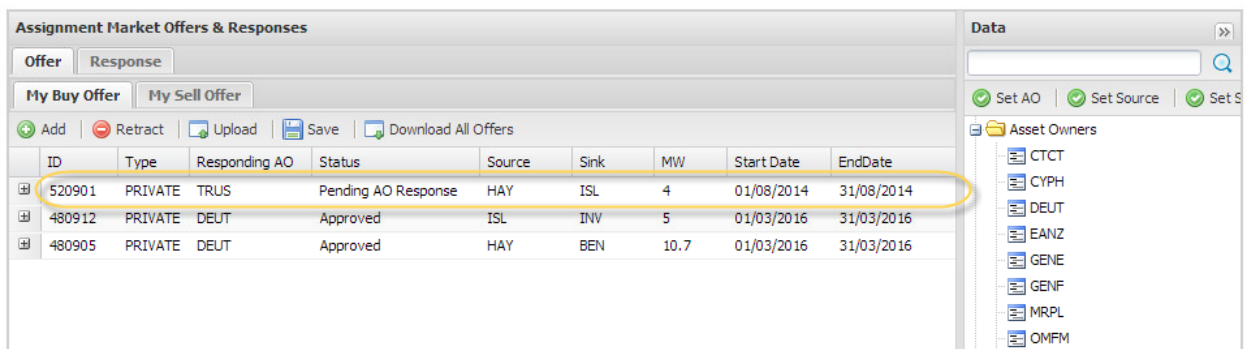


Figure 45 Private Posting Editor with an FTR Buy Offer

## Submit a Sell Offer

To post a new Sell offer, the user must click the **Add** button found on the left of the “**My Sell Offer**” panel under the Offer Tab. Doing so will create a blank record in the “**My Sell Offer**” panel as shown in Figure 46.



ID	Type	Responding AO	Status	FTR ID	Source	Sink	MW
N/A	PRIVATE		New	0			0
480914	PRIVATE	MRPL	Approved	511203	ISL	INV	6
480915	PRIVATE	MRPL	Approved	511201	ISL	OTA	0.5
480916	PRIVATE	MRPL	Approved	511199	BEN	ISL	23
480909	PRIVATE	DEUT	Approved	510564	OTA	ISL	1.8
41002	PRIVATE	DEUT	Approved	440423	BEN	OTA	11.8
40001	PRIVATE	CTCT	Approved	401985	BEN	OTA	5.5

Figure 46 Posting “My Sell Offer”

An FTR for sale can be selected from the Existing FTRs listed on the right panel. The market Participant can view their existing FTRs by opening the ‘Existing FTRs’ folder. Expanding a sub-folder of an FTR and double clicking the record displays the FTR properties as shown in Figure 47.

**FTR Properties**

- ID : 510559
- Asset Owner : MERI
- source : INV
- sink : ISL
- Available MW : 19
- TOU : 24-HOURS
- Hedge Type : OBL
- Start Date : 01/01/2016
- End Date : 31/01/2016

Figure 47 FTR Properties of an existing FTR

The Market Participant can then set an FTR from the existing FTRs into the “My Offer Details” pane and fill in the remaining necessary information:

- **Responding AO** – Asset Owner who will respond to the sell offer. The asset owner can be selected and set to one or multiple selected new sell offer(s) from the Asset Owner list on the right panel.
- **MW** – The MW amount of the FTR, which may be less than or equal to the original FTR.

Start Date and End Date fields are editable but the effective start and end date of the FTR sell offer must be the whole calendar month.

Contact and Price fields are optional. In order to fill in Contact Information, the user must click on the icon in the contact cell, which displays a popup shown in Figure 44. The user must enter the relevant contact information (name, address, phone number & e-mail address) and click **Save** to save the information, **Cancel** to close without saving.

Once the information has been entered, as shown in Figure 48, click on the “**Save**” button to post the sell offer. The status field of this new sell offer will change to “**Pending AO Response**” as shown in Figure 49, after the sell offer has been saved.

ID	Type	Responding AO	Status	FTR ID	Source	Sink	MW
N/A	PRIVATE	OMFM	New	510559	INV	ISL	19
480914	PRIVATE	MRPL	Approved	511203	ISL	INV	6
480915	PRIVATE	MRPL	Approved	511201	ISL	OTA	0.5
480916	PRIVATE	MRPL	Approved	511199	BEN	ISL	23
480909	PRIVATE	DEUT	Approved	510564	OTA	ISL	1.8
41002	PRIVATE	DEUT	Approved	440423	BEN	OTA	11.8
40001	PRIVATE	CTCT	Approved	401985	BEN	OTA	5.5

Figure 48 Private Posting Editor with a new Sell Offer

ID	Type	Responding AO	Status	FTR ID	Source	Sink	MW
520902	PRIVATE	OMFM	Pending AO Response	510559	INV	ISL	19
480914	PRIVATE	MRPL	Approved	511203	ISL	INV	6
480915	PRIVATE	MRPL	Approved	511201	ISL	OTA	0.5
480916	PRIVATE	MRPL	Approved	511199	BEN	ISL	23
480909	PRIVATE	DEUT	Approved	510564	OTA	ISL	1.8
41002	PRIVATE	DEUT	Approved	440423	BEN	OTA	11.8
40001	PRIVATE	CTCT	Approved	401985	BEN	OTA	5.5

Figure 49 Private Sell Offer with Pending AO Response Status after Save

## 10.5 Responding to Buy/Sell Offer of an FTR Assignment

The following steps describe how to respond to a buy or sell offer of an FTR assignment.

### Responding to a “Buy Offer”

When a Market Participant responds to a buy offer of an FTR assignment, the Market Participant must match that bid with its FTR holding. The matching holding must have the sufficient MW amount, same start and end dates, same hedge type (OBL or OPT). If the assignment price is defined in the offer and the Market Participant responds to it, it means the Market Participant agrees on the price which will be subject to the prudential check on the FTR buyer.

- Step 1: The selling participant must sign into the system and go to the Response tab and Response to Buy Offer sub-tab. The user must select a buy offer to be responded.
- Step 2: The Market Participant must select an FTR from Existing FTRs folder in the right panel to fulfill the buy bid, ensuring that the total MW is sufficient to the amount necessary to fulfill the offer and other properties of the FTR match the offer’s properties. See Figure 50.

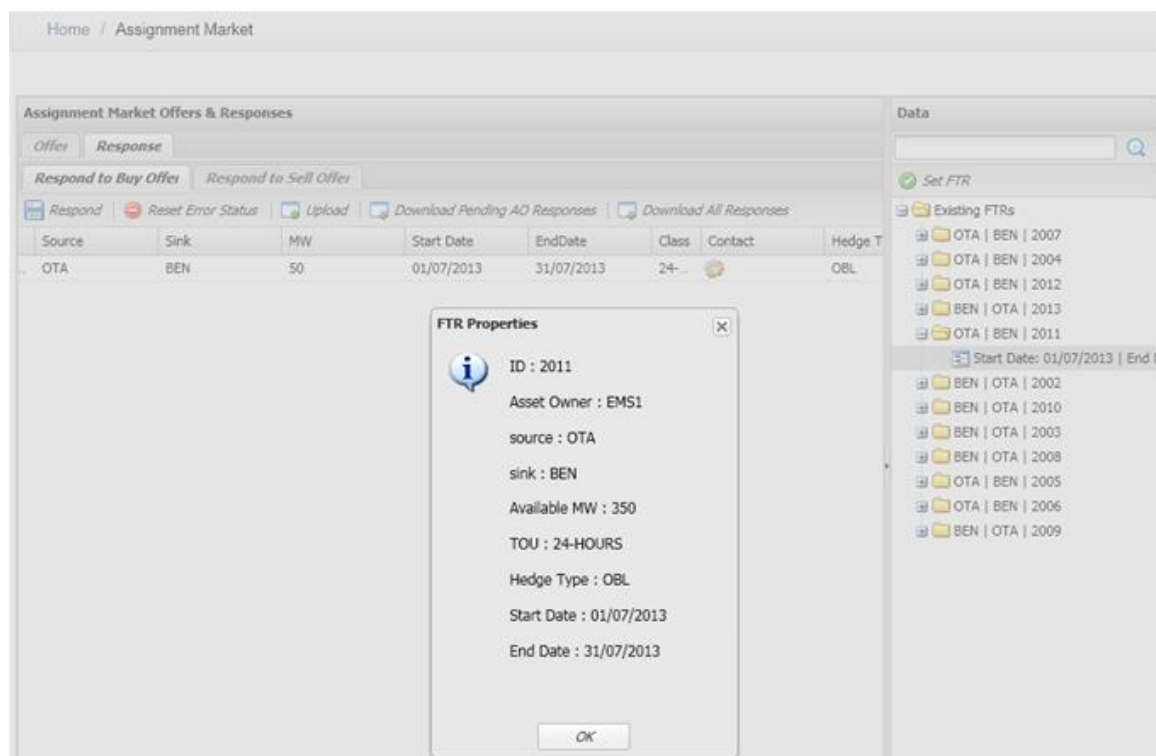


Figure 50 Existing FTR used to respond to a buy offer

- Step 3: Click ‘Set FTR’ button, as shown in Figure 51, to the buy offer. Clicking ‘Set FTR’ button will prompt an error if the FTR does not match the offer, e.g., source/sink does not match or the MW amount of the FTR is insufficient. If the FTR matches the buy offer, the FTR ID on the record will become ID of set FTR as shown in Figure 52.

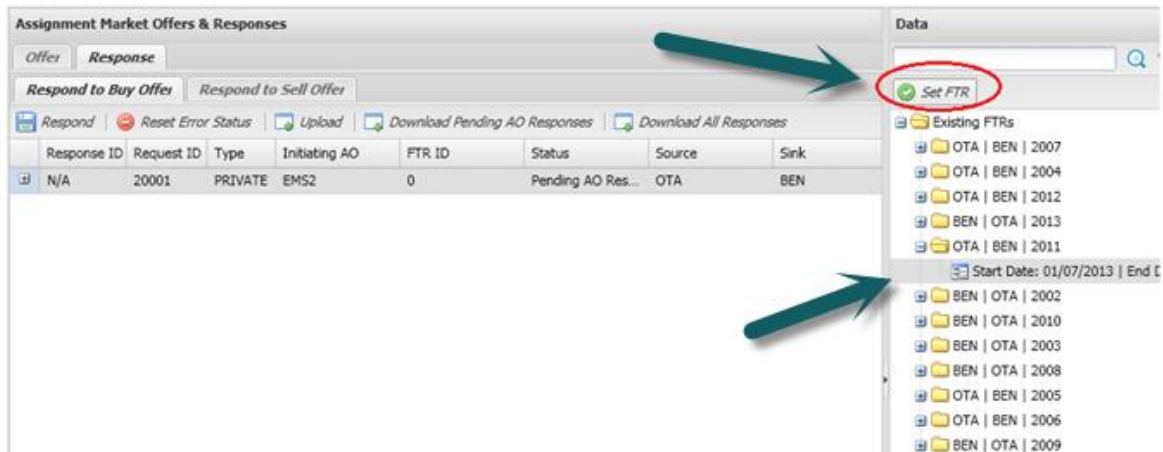


Figure 51 'Set FTR' to match its own FTR to the buy offer

- Step 4: Click on 'Respond' button to finalize the response. If the assignment price is defined in the offer and the Market Participant responds to it, it means the Market Participant agrees on the price.

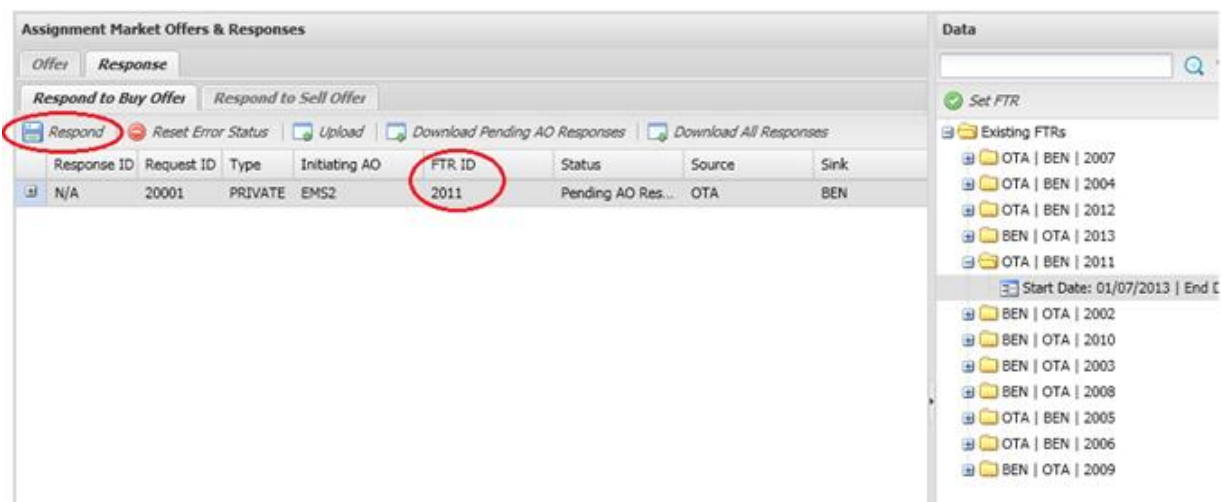


Figure 52 Click Respond button to finalize the response

The status of the response to the buy offer will change to **“Approved”** or **“Error”** depending on the validation result. Figure 53 shows a sample of an approved FTR assignment initiated by the buyer. The Market Participant who posted the buy offer will also see the status of the offer as **“Approved”**.

The screenshot shows the 'Assignment Market Offers & Responses' window. The 'Response' tab is active, and the 'Respond to Buy Offer' sub-tab is selected. A table lists response details, with the 'Status' column for response ID 24001 circled in red. The right-hand 'Data' panel shows a list of existing FTRs for various years and participants.

Response ID	Request ID	Type	Initiating AO	FTR ID	Status	Source	Sink
24001	20001	PRIVATE	EM52	2011	Approved	OTA	BEN

Figure 53 Approved FTR Assignment initiated by the buyer

If the response to the buy offer fails the validations, the FTR assignment transaction will have “**Error**” status. In the event that the response is in error due to a violation in a validation other than prudential check, the Market Participant who posted the buy offer will still see the status of the offer as “**Pending AO Response**”.

If the buying Market Participant does not have the requisite prudential to purchase the FTR, the offer and the response will be in “**Error**”. An error will notify the selling Market Participant that the transaction is in error because the buyer has insufficient prudential as shown in Figure 54. An error message, as shown in Figure 55, will be displayed describing the required prudential to fulfill the purchase and the buyer’s available prudential.

The screenshot shows the 'Assignment Market Offers & Responses' window with the 'Response' tab active. The 'Respond to Buy Offer' sub-tab is selected. The table shows response ID 24002 with a status of 'Error'. Below the table, a message box is displayed, and a green arrow points to it. The right-hand 'Data' panel shows a list of existing FTRs.

Response ID	Request ID	Type	Initiating AO	FTR ID	Status	Source	Sink
24002	20001	PRIVATE	EM52	2011	Error	OTA	BEN

**Message:** Response to offer is disapproved. Buyer's unallocated prudential is insufficient to buy the FTR.

Figure 54 Error Response to a Buy Offer due to Buyer’s Insufficient Prudential

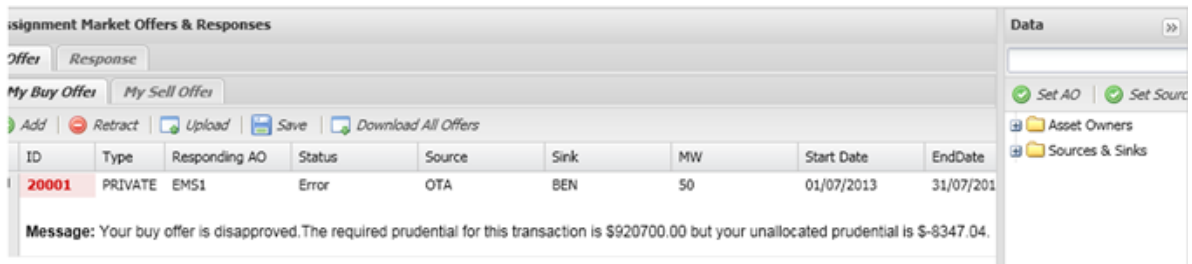


Figure 55 Error Buy Offer due to Buyer’s Insufficient Prudential

- Step 5: One or multiple error responses to any buy offers can be reset by clicking on ‘Reset Error Status’ button. Once the Market Participant confirms to reset the error on the dialog illustrated in Figure 56, the status of FTR assignment offer(s) and response(s) is reset to ‘Pending AO Response’.

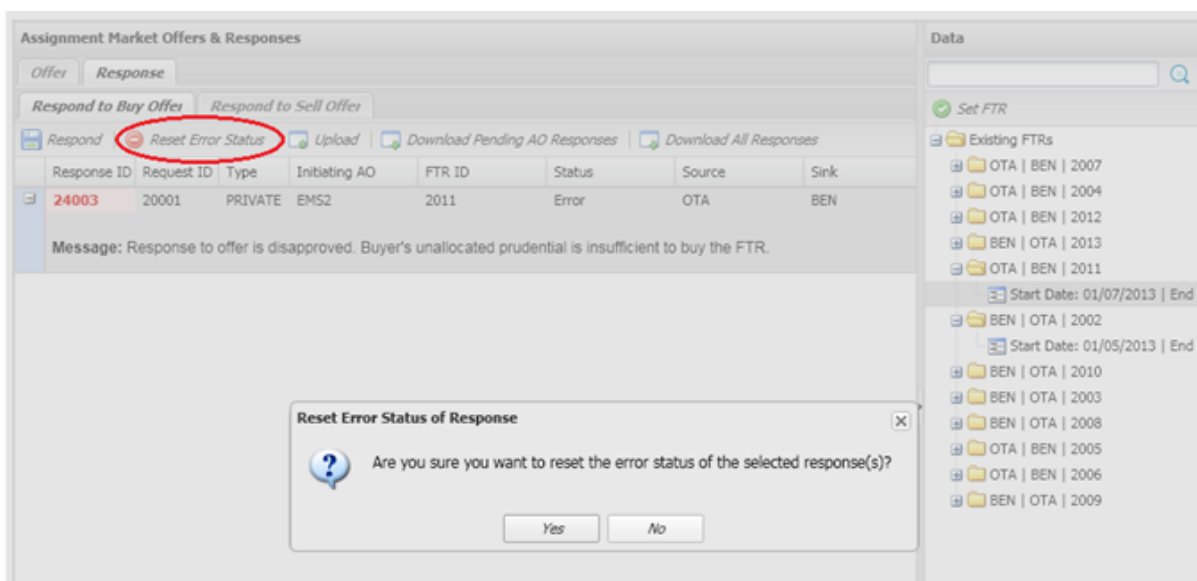


Figure 56 ‘Reset Error Status’ of Response

## Responding to a “Sell Offer”

The following steps describe how to respond to one or multiple sell offer:

- Step 1: Buying Market Participant must confirm FTR purchase by simply selecting one or multiple sell offer(s) and clicking on ‘Respond’ button as shown in Figure 57.

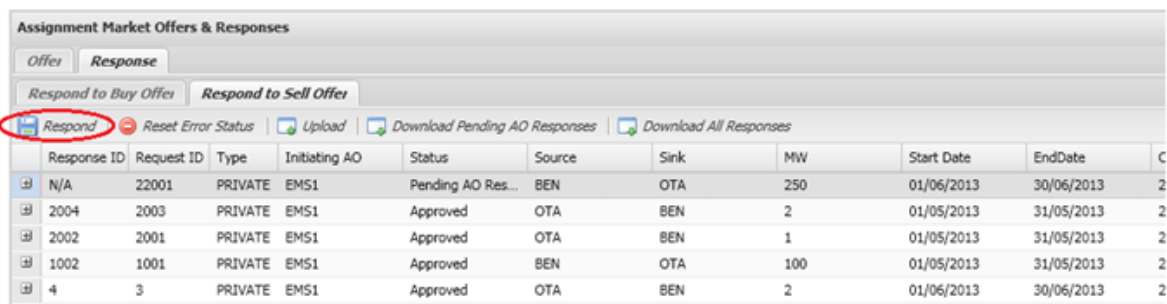


Figure 57 Respond to Sell Offer

If the assignment price is defined in the offer and the Market Participant responds to it, it means the Market Participant agrees on the price which will be subject to the prudential check on the FTR buyer.

The status of the response to the sell offer will change to **“Approved”** or **“Error”** depending on the validation result. Figure 58 shows a sample of an approved FTR assignment initiated by the seller. The Market Participant who posted the sell offer will also see the status of the offer as **“Approved”**.

Response ID	Request ID	Type	Initiating AO	Status	Source	Sink	MW	Start Date	EndDate	C
24007	22001	PRIVATE	EMS1	Approved	BEN	OTA	250	01/06/2013	30/06/2013	2
2004	2003	PRIVATE	EMS1	Approved	OTA	BEN	2	01/05/2013	31/05/2013	2
2002	2001	PRIVATE	EMS1	Approved	OTA	BEN	1	01/05/2013	31/05/2013	2
1002	1001	PRIVATE	EMS1	Approved	BEN	OTA	100	01/05/2013	31/05/2013	2
4	3	PRIVATE	EMS1	Approved	OTA	BEN	2	01/06/2013	30/06/2013	2

Figure 58 Approved Response to Sell Offer

If the response to the sell offer fails the validations, the FTR assignment transaction will have **“Error”** status. In the event that the response is in error due to a violation in a validation other than prudential check, the Market Participant who posted the sell offer will still see the status of the offer as **“Pending AO Response”**.

If the buying Market Participant does not have the requisite prudential to purchase the FTR, the offer and the response will be in **“Error”**. An error message, as shown in Figure 59, will be displayed describing the required prudential to fulfill the purchase and the buyer’s available prudential. An error will notify the selling EMS Market Participant that the transaction is in error because the buyer has insufficient prudential as shown in Figure 60.

Response ID	Request ID	Type	Initiating AO	Status	Source	Sink	MW	Start Date	EndDate	C
24006	22001	PRIVATE	EMS1	Error	BEN	OTA	250	01/06/2013	30/06/2013	2
<b>Message:</b> Your buy offer is disapproved. The required prudential for this transaction is \$91485000.00 but your unallocated prudential is \$-8347.04.										
2004	2003	PRIVATE	EMS1	Approved	OTA	BEN	2	01/05/2013	31/05/2013	2
2002	2001	PRIVATE	EMS1	Approved	OTA	BEN	1	01/05/2013	31/05/2013	2
1002	1001	PRIVATE	EMS1	Approved	BEN	OTA	100	01/05/2013	31/05/2013	2
4	3	PRIVATE	EMS1	Approved	OTA	BEN	2	01/06/2013	30/06/2013	2

Figure 59 Error Response to Sell Offer due to Buyer’s Insufficient Prudential

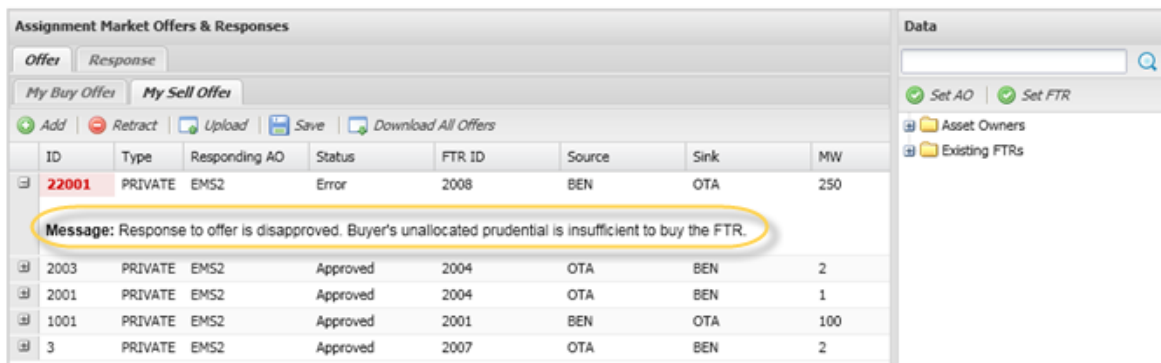


Figure 60 Error Sell Offer due to Buyer’s Insufficient Prudential

- Step 2: One or multiple error responses to any sell offers can be reset by clicking on ‘Reset Error Status’ button. Once the Market Participant confirms to reset the error on the dialog illustrated in Figure 61, the status of FTR assignment offer(s) and response(s) is reset to ‘Pending AO Response’.

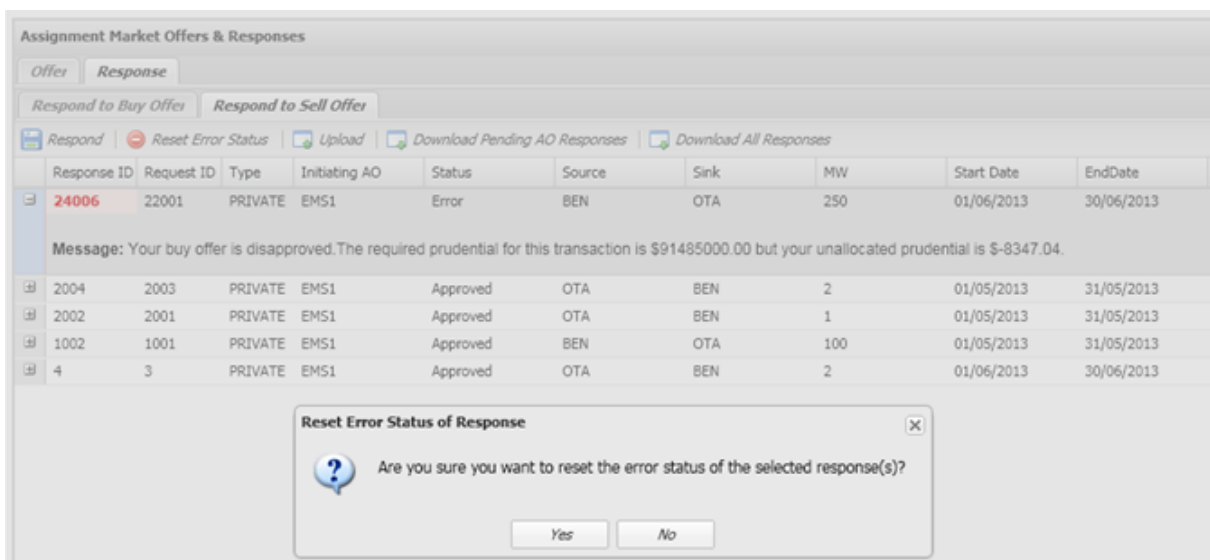


Figure 61 Reset Error Status of Response to Sell Offer

## 10.6 Upload Assignments

Only Market Participants with ‘READ\_WRITE’ role will be able to upload buy/sell offers and responses to buy/sell offers.

### Upload Buy/Sell Offers

Using ‘Upload’ button under ‘My Buy Offer’ or ‘My Sell Offer’ tab allows the FTR participants to post multiple buy and/or sell offers in Assignment Market. Figure 62 shows a sample upload file containing FTR buy and sell offers.



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1	Request ID	Public/Private	Buy/Sell	FTR ID	Responding AO	Source	Sink	Start Date	End Date	TOU	Hedge Type	MW	Price	Contact Name	Contact Address	Contact Email	Contact Phone
2		PRIVATE	SELL	2007	EMS2	OTA	BEN	1/6/2013	30/06/2013	24-HOURS	OBL	2	3.45				
3		PRIVATE	BUY		EMS2	BEN	OTA	1/6/2013	30/06/2013	24-HOURS	OBL	2	2.07				
4																	

**Figure 62 Sample Upload File for Assignment Buy/Sell Offers**

The format of the upload file for the Assignment Offers must contain the following columns:

- **Request ID** - The Specific ID of the Request. The Request ID column shall be left blank and the system will assign the Request ID of each valid record upon upload if all records in the upload file pass the data validations.
- **Public/Private Type** - EMS currently allows only 'PRIVATE'.
- **Buy/Sell Type** - BUY for buy offer or SELL for sell offer
- **FTR ID** - The specific ID of the FTR. This is applicable only in the "Sell Offer".
- **Responding AO** - The name of the Market Participant who will respond
- **Source** - The name of the source of the FTR being traded
- **Sink** - The name of the sink of the FTR being traded
- **Start Date** - The effective starting date of the FTR being traded
- **End Date** - The effective expiration date of the FTR being traded
- **TOU** - The class is automatically filled as '24-HOURS'.
- **Hedge Type** - OBL for Obligation or OPT for Option
- **MW** - The MW amount of the FTR being traded
- **Price** - The assignment price. This field is optional.
- **Contact** - The name, address, phone number, email address of the designated person regarding this transaction for the PTP FTR. The field is optional.

The data validations are performed upon the upload. If at least one validation fails, all records in the upload file are not saved and a button will be available on the upload result notification window for the FTR participant to download the error report.

## Upload Responses to Buy/Sell Offers

Using 'Upload' button under 'Respond to Buy Offer' or 'Respond to Sell Offer' tab allows the FTR participants to respond to multiple buy and/or sell offers in Assignment Market. Figure 63 shows a sample of upload file. Responses to both buy and sell offers can be in the same upload file.

	A	B	C	D	E	F	G	H	I	J	K	L
1	Request ID	Buy/Sell Offer	FTR ID	Initiating AO	Source	Sink	Start Date	End Date	TOU	Hedge Type	MW	Price
2	20001	BUY	2011	EMS2	OTA	BEN	1/7/2013	31/07/201	24-HOURS	OBL	100	20
3	20002	SELL		EMS2	OTA	BEN	1/7/2013	31/07/201	24-HOURS	OPT	20	20

**Figure 63 Sample Upload File for Responses to Assignment Buy/Sell Offers**

The format of the upload file for the responses to the Assignment Offers must contain the following columns:

- **Request ID** - The Specific ID of the Request. The Request ID refers to an existing offer in 'Pending AO Response' status.
- **Buy/Sell Type** – BUY for buy offer or SELL for sell offer. It must match the offer's buy/sell type.
- **FTR ID** - The specific ID of the FTR being used to satisfy a buy request (it is required only for response to the buy offer).
- **Initiating AO** - The name of the Market Participant who initiated the private offer. It must match the offer's Market Participant.
- **Source** - The name of the source of the FTR being traded. It must match the offer's source.
- **Sink** - The name of the sink of the FTR being traded. It must match the offer's sink.
- **Start Date** - The effective starting date of the FTR being traded. It must match the offer's start date.
- **End Date** - The effective expiration date of the FTR being traded. It must match the offer's end date.
- **TOU** - The class is automatically filled as '24-HOURS'.
- **Hedge Type** – OBL for Obligation or OPT for Option. It must match the offer's Hedge Type.
- **MW** - The MW amount of the FTR being traded. It must match the offer's MW.
- **Price** – The assignment price. This field is not validated. The price can be assigned only by the Market Participant who initiates the Assignment.

The data validations are performed upon the upload. If at least one validation fails, all records in the upload file are not saved and a button will be available on the upload result notification window for the FTR participant to download the error report.

## 10.7 Download Assignments

### Download Buy/Sell Offers

Using 'Download All Offers' button allows the FTR participants to download all of existing buy and sell offers under 'My Buy Offer' and 'My Sell Offer'. Figure 65 shows a sample of download file containing various statuses of buy and sell offers.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	Request ID	Public/Private	Buy/Sell	FTR ID	Responding AO	Source	Sink	Start Date	End Date	TOU	Hedge Type	MW	Price	Contact N	Contact A	Contact E	Contact P	Status
2	28011	PRIVATE	BUY		EMS2	BEN	OTA	1/7/2013	31/07/2013	24-HOURS	OBL		9	0				Approved
3	27004	PRIVATE	BUY		EMS2	BEN	OTA	1/7/2013	31/07/2013	24-HOURS	OBL		3	0				Approved
4	27003	PRIVATE	BUY		EMS2	BEN	OTA	1/7/2013	31/07/2013	24-HOURS	OBL		2	0				Approved
5	27002	PRIVATE	BUY		EMS2	BEN	OTA	1/7/2013	31/07/2013	24-HOURS	OBL		1	1.23				Approved
6	29001	PRIVATE	SELL	2007	EMS2	OTA	BEN	1/6/2013	30/06/2013	24-HOURS	OBL		2	3.45				Pending AO Response
7	22001	PRIVATE	SELL	2008	EMS2	BEN	OTA	1/6/2013	30/06/2013	24-HOURS	OBL		250	500				Approved
8	2003	PRIVATE	SELL	2004	EMS2	OTA	BEN	1/5/2013	31/05/2013	24-HOURS	OBL		2	0				Approved
9	2001	PRIVATE	SELL	2004	EMS2	OTA	BEN	1/5/2013	31/05/2013	24-HOURS	OBL		1	9.99				Approved
10	1001	PRIVATE	SELL	2001	EMS2	BEN	OTA	1/5/2013	31/05/2013	24-HOURS	OBL		100	200000				Approved
11	3	PRIVATE	SELL	2007	EMS2	OTA	BEN	1/6/2013	30/06/2013	24-HOURS	OBL		2	3.45				Approved

Figure 64 Sample Download File for Assignment Buy/Sell Offers

## Download Responses to Buy/Sell Offers

The FTR participants have two options to download the assignment responses – ‘**Download Pending AO Responses**’ or ‘**Download All Responses**’. Using ‘**Download Pending AO Responses**’ button, only buy and sell offers that need to be responded (i.e. in “**Pending AO Response**” status) will be downloaded. The download file can be used in upload of responses. Note that an FTR ID is required to be filled in the upload file for a response to a buy offer before it’s used for upload.

Figure 65 shows a sample of download file containing pending offers which the initiator posted to the Market Participant.

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Request ID	Buy/Sell Offer	FTR ID	Initiating	Source	Sink	Start Date	End Date	TOU	Hedge Type	MW	Price	
2	20001	BUY		EMS2	OTA	BEN	1/7/2013	31/07/2013	24-HOURS	OBL	100	20	
3													

**Figure 65 Sample Download File for Assignment Buy/Sell Offers Pending for Responding AO to Respond**

Using the ‘**Download All Responses**’ button, all responses will be downloaded in one file. Figure 66 shows a sample download file of all responses with status.

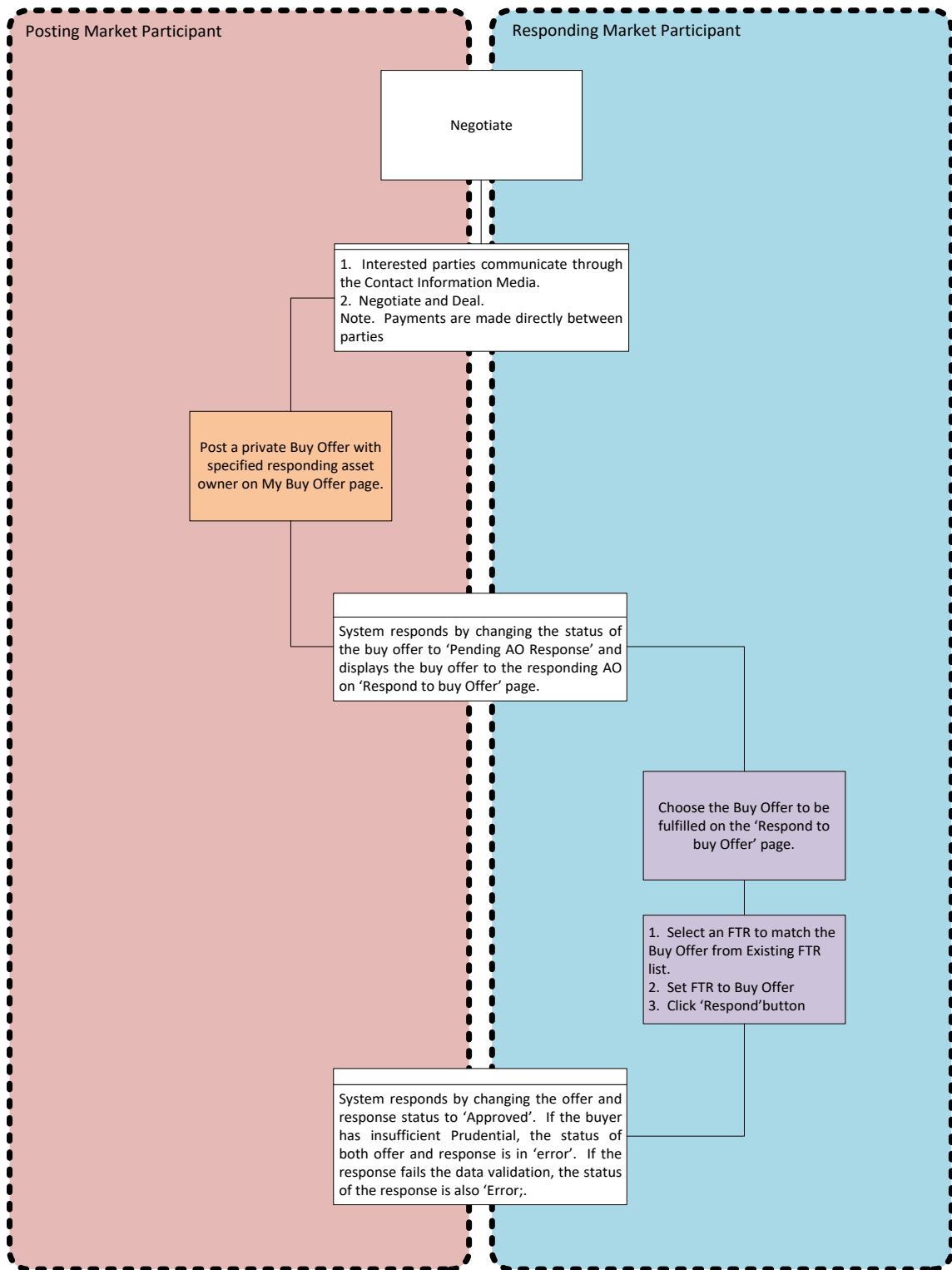
	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	Response ID	Request ID	Buy/Sell Offer	FTR ID	Initiating	Source	Sink	Start Date	End Date	TOU	Hedge Type	MW	Price	Status
2	28012	28011	BUY	28014	EMS1	BEN	OTA	1/7/2013	31/07/2013	24-HOURS	OBL	9	0	Approved
3	28010	27002	BUY	28014	EMS1	BEN	OTA	1/7/2013	31/07/2013	24-HOURS	OBL	1	1.23	Approved
4	28009	27003	BUY	28014	EMS1	BEN	OTA	1/7/2013	31/07/2013	24-HOURS	OBL	2	0	Approved
5	28004	27004	BUY	28014	EMS1	BEN	OTA	1/7/2013	31/07/2013	24-HOURS	OBL	3	0	Approved
6		29001	SELL		EMS1	OTA	BEN	1/6/2013	30/06/2013	24-HOURS	OBL	2	3.45	Pending AO Response
7	24007	22001	SELL		EMS1	BEN	OTA	1/6/2013	30/06/2013	24-HOURS	OBL	250	500	Approved
8	2004	2003	SELL		EMS1	OTA	BEN	1/5/2013	31/05/2013	24-HOURS	OBL	2	0	Approved
9	2002	2001	SELL		EMS1	OTA	BEN	1/5/2013	31/05/2013	24-HOURS	OBL	1	9.99	Approved
10	1002	1001	SELL		EMS1	BEN	OTA	1/5/2013	31/05/2013	24-HOURS	OBL	100	200000	Approved
11	4	3	SELL		EMS1	OTA	BEN	1/6/2013	30/06/2013	24-HOURS	OBL	2	3.45	Approved

**Figure 66 Sample Download File for All Responses to Assignment Buy/Sell Offers with Status**

## 10.8 Assignment Trade Activity Flows

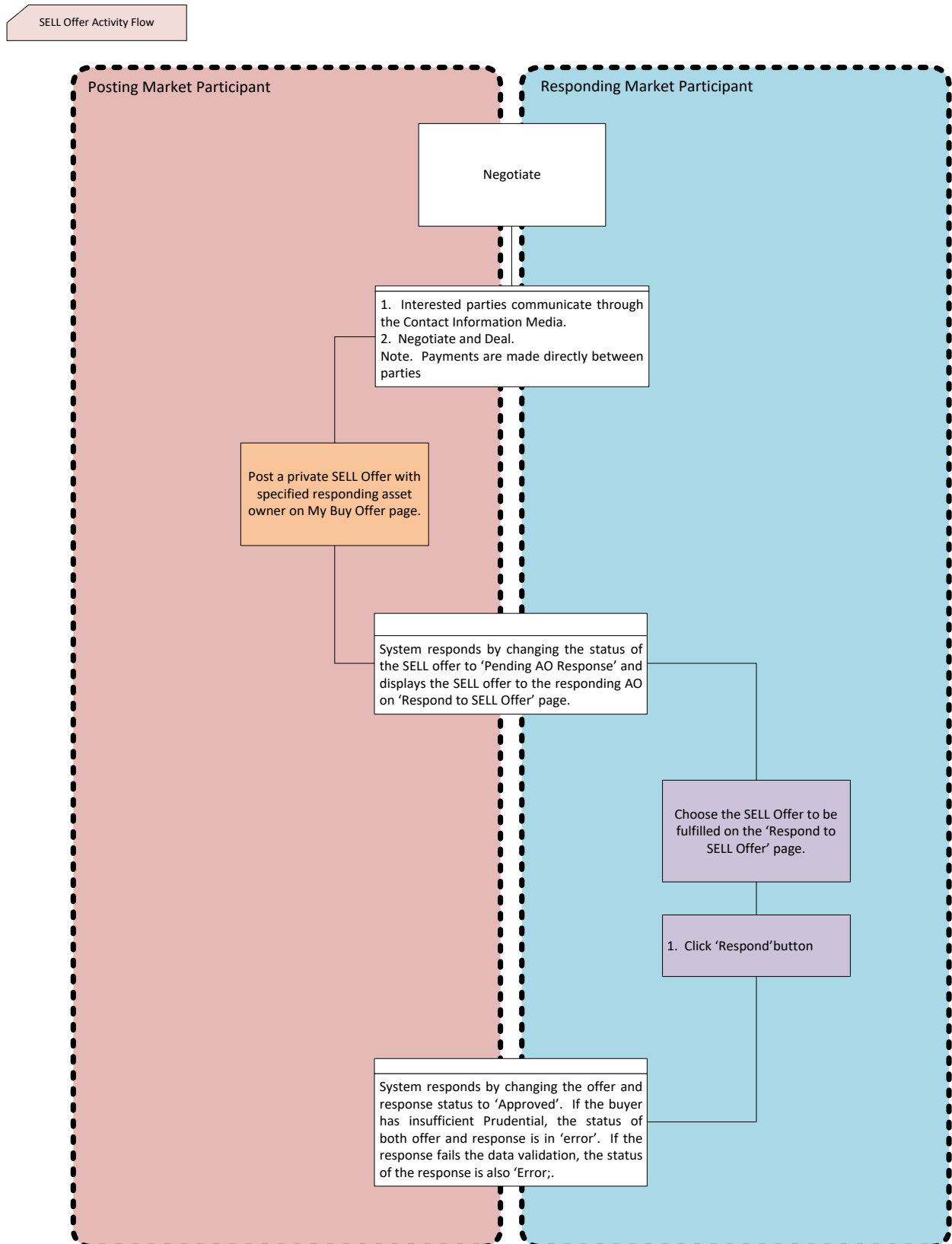
An activity flow of the FTR assignment initiated by a buyer is shown in Figure 67. The activity flow of the FTR assignment initiated by a seller is shown in Figure 68.

BUY Offer Activity Flow



Project: Use of FIS Policy	Drawing Title: BUY Offer Process	
Date: 9 July 2014	Dwg No. 20140709-003	

Figure 67 Assignment Buy Offer Activity Flow



Project: Use of FIS Policy	Drawing Title: SELL Offer Process	
Date: 9 July 2014	Dwg No. 20140709-004	

Figure 68 Assignment Sell Offer Activity Flow

# 11. Public and Private Downloads

## 11.1 Available Public Information on the FTR Download Interface

The FTR Public download interface is available to all EMS Market Participants and the same information is presented to all of them.

At any time, users can download and view:

1. **General Data**
  - Existing FTRs in CSV and XML formats

Starting from a few days before the opening of the bidding window, users can download and view the following data (one file per period):

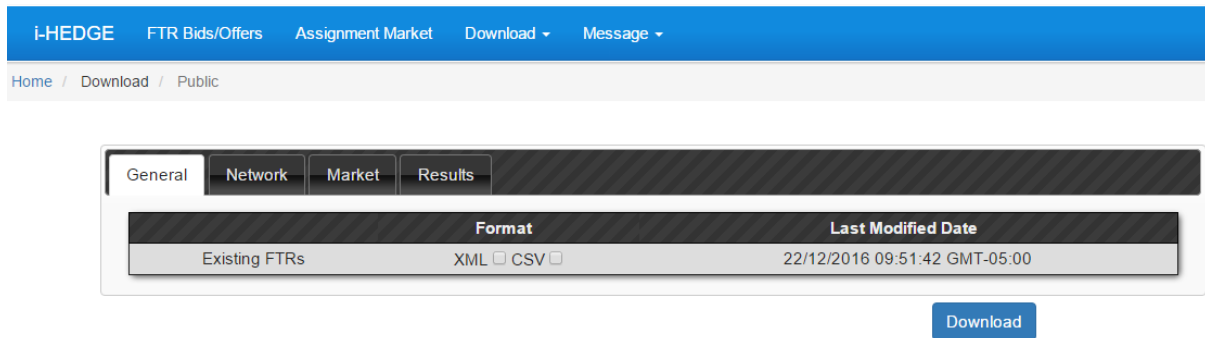
1. **Network Data**
  - Asset Mappings in CSV and XML formats
  - Contingency list in CSV and XML formats
  - Monitored Lines and Transformers list in CSV and XML formats.
  - Network(s) in PSS/E RAWD format release 32.0
  - Nomogram in CSV and XML formats
  - Scheduled Outages in CSV and XML formats
2. **Market Data**
  - Source and sink definitions in CSV and XML formats
  - Baseloading FTRs in CSV and XML formats.
  - FTR Capacity in CSV and XML formats.

After an auction is completed, users can download and view the auction results (one file per period):

1. **Auction results**
  - Binding Constraints in CSV and XML formats

## Download and View General Data

By clicking the **General** tab on Public FTR interface the users will enter the General Data download page shown in Figure 69. Data is generally available in CSV formatted files, which are easily read by software packages such as Microsoft EXCEL™, or in XML formatted files. Details of the CSV formatted data files are described below and are viewed using Microsoft EXCEL™. Details of the corresponding XML formatted files can be found in the document entitled: **EMS Financial Transmission Rights System – Market User Interface – XML Reference**.



**Figure 69 General Data Available from the Public FTR Interface**

To download existing FTRs list, check the box for XML and/or CSV formats and click the **Download** button. The download files will be in a zipped format, which can be viewed using a un-compression tool.

	A	B	C	D	E	F	G	H	I	J	K
1	FTR_ID	SegmentID	MarketPa	Category	Source	Sink	StartDate	EndDate	HedgeType	Class	MW
2	220251	1	CTCT	PTP	BEN	OTA	1/06/2014	30/06/2014	OPT	24-HOURS	10
3	220342	1	MRPL	PTP	OTA	BEN	1/06/2014	30/06/2014	OPT	24-HOURS	15
4	220262	1	OMFM	PTP	OTA	BEN	1/06/2014	30/06/2014	OPT	24-HOURS	0.2
5	220243	1	DEUT	PTP	OTA	BEN	1/06/2014	30/06/2014	OPT	24-HOURS	10
6	220310	1	OMFM	PTP	OTA	BEN	1/06/2014	30/06/2014	OPT	24-HOURS	0.3
7	220248	1	MRPL	PTP	OTA	BEN	1/06/2014	30/06/2014	OPT	24-HOURS	2
8	220252	1	OMFM	PTP	BEN	OTA	1/06/2014	30/06/2014	OPT	24-HOURS	0.3
9	220244	1	OMFM	PTP	OTA	BEN	1/06/2014	30/06/2014	OPT	24-HOURS	0.3
10	220253	1	CTCT	PTP	BEN	OTA	1/06/2014	30/06/2014	OPT	24-HOURS	5

**Figure 70 Sample Existing FTR List in CSV Format**

The following information is available from the existing FTR download file:

- **FTR\_ID** – The unique ID of the FTR
- **SegmentID** – The segment number of a profiled FTR.
- **MarketParticipant** – Name of the Asset Owner who owns the PTP FTR. EMS uses Asset Owner and Market Participant interchangeably and they both are the same as FTR participant name in four characters.
- **Category** – Flag denoting the type of the FTR – Point-to-Point (PTP)
- **Source** – Name of the Source for the PTP FTR
- **Sink** – Name of the Sink for the PTP FTR
- **StartDate** – The beginning date of the time period for which the FTR is considered valid.
- **EndDate** – The end date of the time period for which the FTR is considered valid.
- **HedgeType** – obligation (OBL) of the PTP FTR.
- **Class** – 24-HOURS time of use of the PTP FTR
- **MW** – The MW value associated with the FTR

## Download and View Network Data

By clicking the **Network** tab on Public FTR interface the users will enter the Network Data download page shown in Figure 71. The user has to select both a particular Market Term (Primary Auction or Variation Auction) from a drop down list and the specific Auction Market name from the second drop down list.

Market Term:  Market:

	Format	Last Modified Date
Asset Mappings	XML <input type="checkbox"/> CSV <input checked="" type="checkbox"/>	22/12/2016 09:51:50 GMT-05:00
Contingencies	XML <input type="checkbox"/> CSV <input checked="" type="checkbox"/>	22/12/2016 09:51:46 GMT-05:00
Monitored Lines and Transformers	XML <input type="checkbox"/> CSV <input type="checkbox"/>	22/12/2016 09:51:47 GMT-05:00
Network Model	RAW <input type="checkbox"/>	22/12/2016 09:51:47 GMT-05:00
Nomograms	XML <input type="checkbox"/> CSV <input type="checkbox"/>	22/12/2016 09:51:48 GMT-05:00
Scheduled Outages	XML <input type="checkbox"/> CSV <input checked="" type="checkbox"/>	22/12/2016 09:51:48 GMT-05:00

[Download](#)

**Figure 71 Network Data on the Public FTR Interface**

To download the asset maps, contingencies, monitored lines and transformers, network model, nomograms and/or scheduled outages, check the box for XML, CSV and/or RAW formats and click the **Download** button. The download files will be in a zipped format, which can be viewed using a un-compression tool.

A sample asset mapping download file in CSV format is shown in. A sample existing FTRs list in CSV format is shown in Figure 70.

The following information is available from the asset mapping download file:

- FromBusName – Name of ‘From Bus’
- ToBusName – Name of ‘To Bus’
- CircuitID – Circuit ID
- AssetType – Asset Type (Line or Transformer)
- AssetName – Name of line or transformer that is between ‘From Bus’ and ‘To Bus’ on ‘Circuit ID’



	A	B	C	D	E
1	FromBusName	ToBusName	CircuitID	AssetType	AssetName
2	TGA/TGA110	TGA/TGA-R1	1	Transformer	TGA.TF.T1
3	HTI/HTI110	RTO_110-Tee	1	Line	HTI.RTO.1
4	GYM/GYM_66	GYM/GYM_11	2	Transformer	GYM.TF.T2
5	RKA_33	RKA_11	12	Transformer	RKA.TF.T12
6	KAW2/KAW220A	KAW11_T11/T1	11	Transformer	KAW.TF.T11
7	WHU/WHU110	WKO/WKO110	2	Line	WHU.WKO.2
8	COL/COL_66	OTI/OTI_66	2	Line	COL.OTI.2
9	BRY-REA-R4-T	BRY11/BRY11A	4	Line	BRY.REA.R4
10	PAP-REA-R1-T	PAP/PAP_11A	1	Line	PAP.REA.R1
11	PNI/PNI110-1	TKR/TKR110	1	Line	PNI.TKR.1
12	TKA/TKA_110	TKA/TKA_11	6	Transformer	TKA.TF.T6
13	KAW/KAW-T11A	KAW1/KAW110A	1	Transformer	KAW.TF.T1
14	MHO/MHO110-1	MHO/MHO33-1	4	Transformer	MHO.TF.T4
15	BHL/BHL220_B	WKN2/WKM220E	2	Line	BHL.WKM.2
16	EDG2/EDG220A	EDG33/EDG33A	7	Transformer	EDG.TF.T7
17	EDG33/EDG33A	EDG2/EDG220A	8	Transformer	EDG.TF.T8
18	DOB/DOB_66	DOB.TF.T11	11	Transformer	DOB.TF.T11_S
19	TGA/MPA_33	TGA/TGA33	1	Line	MPA.TGA.1
20	KIN11/KIN110	KIN.TF.T5	5	Transformer	KIN.TF.T5_P
21	OTA2/OTA220K	PAK2/PAK220A	2	Line	OTA.PAK.2
22	PRI-G4-110	TUI/TUI110	4	Line	PRI.TUI.4
23	NSY2/NSY220A	ROX2/ROX220A	1	Line	NSY.ROX.1
24	TKR/TKR110	WIL/WIL110A1	2	Line	TKR.WIL.2
25	WHI11_Reacto	WHI/WHI11_T1	1	Line	WHI.REA.R1
26	WRD-110-1	WRD/WRD33	1	Transformer	WRU.TF.T1
27	ROX2/ROX220A	ROX_G1_11	1	Transformer	ROX.TF.T1
28	WTK2/WTK220A	WTK11/WTK11B	22	Transformer	WTK.TF.T22
29	CUL/CUL_66	CUL/CUL_33	1	Transformer	CUL.TF.T1
30	WHI/WHI220	WHI/WHI11_T1	1	Transformer	WHI.TF.T1
31	MOT/MOT_66A	STK/STK_66	1	Line	MOT.STK.1
32	HWB1/HWB110A	HWB.TF.T1	1	Transformer	HWB.TF.T1_P
33	TWI/TWI_11_1	TWI.TF.T2	2	Transformer	TWI.TF.T2_T
34	Opihi_1-Tee	TIM2/TIM220B	1	Line	OPI.TIM.1
35	DOB/DOB_66	DOB/DOB_33	3	Transformer	DOB.TF.T3

**Figure 72 Sample Asset Mapping download file in CSV format**

Sample download files of contingency and monitored lines and transformers in CSV format are shown in Figure 73 and Figure 74 respectively.

A sample network model file in RAW format is shown in Figure 75.

Sample download files of nomograms and scheduled outages in CSV format are shown in Figure 76 and Figure 77 respectively.

	A	B	C	D	E
1	Contingency	DeviceName	DeviceType	Action	Class
2	CTG_377015	GNV.OAM.2	Line	OUT	24-HOURS
3	CTG_376843	ARI.RTO.1	Line	OUT	24-HOURS
4	CTG_376755	MKE.SFD.1	Line	OUT	24-HOURS
5	CTG_376943	BRK.SFD.1	Line	OUT	24-HOURS
6	CTG_376829	WKM.WRK.1	Line	OUT	24-HOURS
7	CTG_376861	ASB.ISL.1	Line	OUT	24-HOURS
8	CTG_376961	CPK.MHT.3	Line	OUT	24-HOURS
9	CTG_376921	BPE.MTR.1	Line	OUT	24-HOURS
10	CTG_376773	MVE.WHU.1	Line	OUT	24-HOURS
11	CTG_377197	NAT.WRK.1	Line	OUT	24-HOURS
12	CTG_377111	ISL.LIV.1	Line	OUT	24-HOURS
13	CTG_376897	BHL.WKM.2	Line	OUT	24-HOURS
14	CTG_376491	ALB.SVL.2	Line	OUT	24-HOURS
15	CTG_377325	TKB.TWZ.1	Line	OUT	24-HOURS
16	CTG_376727	KMO.MTM.1	Line	OUT	24-HOURS
17	CTG_377037	HAY.HAY.55	Line	OUT	24-HOURS
18	CTG_376509	BEN.BEN.1	Line	OUT	24-HOURS
19	CTG_377259	OTA.PEN.2	Line	OUT	24-HOURS
20	CTG_377321	TIM.TMK.2	Line	OUT	24-HOURS
21	CTG_376505	ATI.TRK.2	Line	OUT	24-HOURS
22	CTG_376783	NMA.TWI.2	Line	OUT	24-HOURS
23	CTG_377157	MAN.NMA.3	Line	OUT	24-HOURS
24	CTG_376533	BEN.BEN.22	Line	OUT	24-HOURS
25	CTG_376801	PRI.TUI.5	Line	OUT	24-HOURS
26	CTG_377147	LIV.NSV.1	Line	OUT	24-HOURS

Figure 73 Sample Contingency List in CSV Format

The following information is available from the contingency file:

- **Contingency** – The name of the contingency
- **Device Name** – The name of the device which is in service or out of service in the contingency
- **Device Type** – The type of the device (Line, Transformer)
- **Action** – Whether the device is inaged (put IN service) or outaged (taken OUT of service)
- **Class** – The time period of use – 24-HOURS

	A	B	C	D	E
1	DeviceName	DeviceType	BaseCaseRating	EmergencyRating	Class
2	ABY.TIM.1	Line	51.4	51.4	24-HOURS
3	ABY.TKA.1	Line	51.4	51.4	24-HOURS
4	ALB.HEN.1	Line	87.3	87.3	24-HOURS
5	ALB.HEN.2	Line	87.3	87.3	24-HOURS
6	ALB.HEN.3	Line	512.4	512.4	24-HOURS
7	ALB.HPI.1	Line	512.4	512.4	24-HOURS
8	ALB.SVL.1	Line	317.2	317.2	24-HOURS
9	ALB.SVL.2	Line	317.2	317.2	24-HOURS
10	ALB.WRD.1	Line	83	83	24-HOURS
11	ALB.WRD.2	Line	83	83	24-HOURS
12	ALB.WRD.3	Line	83	83	24-HOURS
13	ALB.WRD.4	Line	623.7	623.7	24-HOURS
14	ANI.MAT.1	Line	84	84	24-HOURS
15	ARA.WRK.1	Line	241.9	241.9	24-HOURS
16	ARG.BLN.1	Line	56.5	56.5	24-HOURS
17	ARG.KIK.1	Line	56.5	56.5	24-HOURS
18	ARI.DCB.1	Line	51.4	51.4	24-HOURS

Figure 74 Sample Monitored Lines and Transformers List in CSV Format

The following information is available from the monitored lines and transformers file:

- **DeviceName** – The name of the device name
- **DeviceType** – The type of device (Line or Transformer)
- **BaseCaseRating** – MW Rating of branch to be observed in the base case.
- **EmergencyRating** – MW Rating of branch to be observed in the contingency cases.
- **Class** – Time of use designation – 24-HOURS where the branch is to be monitored

```

b, 100.00, 32, 0, 0, 50.00
FTRcase_NIPS-1.4.1b_SIPS-1.4.1b(2)-FTR Studycase
PowerFactory 2016 SP3 Date: 11/22/2016, Time: 2:39:10 PM
1, 'ABY/ABY_11', 11, 1, 3, 6, 1, 0.96347, -104.9279
2, 'ABY/ABY_110', 110, 1, 3, 6, 1, 0.9891, -12.0839
3, 'ABY/ABY_33', 33, 4, 3, 7, 1, 0, 0
4, 'ADD-M/ADD11A', 11, 1, 3, 7, 1, 1.01597, -113.5082
5, 'ADD-M/ADD11B', 11, 1, 3, 7, 1, 1.00785, -113.5093
6, 'ADD6/ADD66A1', 66, 1, 3, 7, 1, 1.02874, -23.5065
7, 'ADD6/ADD66B1', 66, 1, 3, 7, 1, 1.02877, -23.5062
8, 'ALB-T4-Terti', 11, 1, 2, 7, 1, 1.03497, -116.8449
9, 'ALB/ALB110A1', 110, 1, 2, 7, 1, 1.03457, -26.8121
10, 'ALB20_SVC', 20, 1, 2, 7, 1, 1.03351, -55.7219
11, 'ALB/ALB220A1', 220, 1, 2, 7, 1, 1.03351, -25.7219
12, 'ALB33/ALB33a', 33, 1, 2, 7, 1, 1.00267, -120.985
13, 'ALD/ALD_3-3', 3, 3, 4, 3, 7, 1, 0, 0
14, 'ALD/ALD_33', 33, 4, 3, 7, 1, 0, 0
15, 'ALD_TF1_11', 11, 4, 3, 7, 1, 0, 0
16, 'AMS11', 11, 2, 3, 7, 1, 1.01451, 156.2912
17, 'ANI/ANI33', 33, 1, 2, 7, 1, 1.00023, -89.0913
18, 'ANI/ANI_110', 110, 1, 2, 7, 1, 1.02, -6.0084
19, 'ANI/ANI_G1', 11, 2, 2, 7, 1, 1.03522, 26.9768
20, 'ANI/ANI_G2', 11, 2, 2, 7, 1, 1.03522, 26.9768
21, 'APS/APS_11', 11, 1, 3, 5, 1, 0.99877, -116.1394
22, 'APS/APS_66', 66, 1, 3, 5, 1, 1.02077, -26.0238
23, 'ARA/ARA220', 220, 1, 2, 7, 1, 1.02, -5.9355
24, 'ARA/ARA_G1', 11, 2, 2, 7, 1, 1.01385, -92.7653
25, 'ARA/ARA_G2', 11, 2, 2, 7, 1, 1.01385, -92.7653
26, 'ARA/ARA_G3', 11, 2, 2, 7, 1, 1.097, -93.3357
27, 'ARG/ARG_11', 11, 1, 3, 2, 1, 1.02, -55.2283
28, 'ARG/ARG_110', 110, 1, 3, 2, 1, 1.02456, -27.9592
29, 'ARG_G1_3.3', 3, 3, 2, 3, 2, 1, 0.98411, -83.538
30, 'ARI11/ARI11', 11, 2, 2, 7, 1, 0.99595, -41.033
31, 'ARI1/ARI110A', 110, 1, 2, 7, 1, 1.035, -18.8465
32, 'ARI1/ARI110B', 110, 1, 2, 7, 1, 1.035, -8.9958
33, 'ARI/ARI11_G5', 11, 2, 2, 7, 1, 1.11367, -36.1025
34, 'ARI/ARI11_G6', 11, 2, 2, 7, 1, 1.11367, -36.1025
35, 'ARI/ARI11_G7', 11, 2, 2, 7, 1, 1.11367, -36.1025

```

Figure 75 Sample of Network Model in RAW format

	A	B	C	D	E	F	G	H
1	Name	Class	Constraint	Limit	DeviceName	DeviceType	Direction	Factor
2	SOUTHLAND_STABILITY_P_1A	24-HOURS	Perm-6-SOUTHLA	830	EDN.INV.1	Line	From-To	1
3					INV.ROX.1	Line	To-From	1
4					INV.ROX.2	Line	To-From	1
5					NMA.TMH.1	Line	To-From	1
6					NMA.TMH.2	Line	To-From	1
7	HVDC_Northwards	24-HOURS	HVDC_N	752.81	BEN.HAY.1	Line	From-To	1
8	WELLINGTON_STABILITY_P_1B	24-HOURS	Perm-9-WELLING	869.01	BPE.LTN.1	Line	From-To	1
9					BPE.PRT.1	Line	From-To	1
10					BPE.PRT.2	Line	From-To	1
11					HAY.LTN.1	Line	To-From	1
12					MGM.WDV.1	Line	To-From	1
13	HLY_SFD_Stability_P_z	24-HOURS	Perm-3-HLY_SFD	456.5	HLY.SFD.1	Line	From-To	1
14					SFD.TMN.1	Line	From-To	1
15	MAN_INTERTRIP_DISABLED_STABILITY_P_1	24-HOURS	Perm-4-MAN_INT	701.35	INV.MAN.2	Line	To-From	1
16					MAN.NMA.1	Line	From-To	1
17					MAN.NMA.2	Line	From-To	1
18					MAN.NMA.3	Line	From-To	1
19	HVDC_Southwards	24-HOURS	HVDC_S	522.9	BEN.HAY.1	Line	To-From	1
20	MAN_INTERTRIP_ENABLED_STABILITY_P_1	24-HOURS	Perm-5-MAN_INT	730.4	INV.MAN.2	Line	To-From	1
21					MAN.NMA.1	Line	From-To	1
22					MAN.NMA.2	Line	From-To	1
23					MAN.NMA.3	Line	From-To	1
24	UPPER_NORTH_ISLAND_STABILITY_P_1D	24-HOURS	Perm-8-UPPER_N	2075	ARI.BOB.1	Line	From-To	1
25					BHL.WKM.1	Line	To-From	1
26					BHL.WKM.2	Line	To-From	1
27					BOB.HAM.1	Line	To-From	1
28					BOB.HAM.2	Line	To-From	1
29					HLY.OHW.1	Line	To-From	1
30					HLY.OHW.2	Line	To-From	1
31					HLY.SFD.1	Line	To-From	1
32					HLY.TWH.1	Line	To-From	1

Figure 76 Sample of Nomogram download file in CSV format

The following information is available from the nomogram file:

- **Name** – The name of nomogram
- **Class** – Time of use designation – 24-HOURS
- **Constraint** – Name of constraint in the nomogram. A nomogram can have one or multiple constraints.
- **Limit** – Limit on the constraint
- **DeviceName** – Name of device monitored as part of the constraint
- **DeviceType** – The type of device (Line or Transformer)
- **Direction** – Constraint direction compared to the device's From Bus and To Bus.
- **Factor** – Participation factor of the device flow in the constraint.

	A	B	C	D
1	Name	DeviceName	DeviceType	Class
2	1013634	WGN.TF.T2	Transformer	24-HOURS
3	1003118	NPL.SFD.2	Line	24-HOURS
4	1002931_2	OKE.TMI.1	Line	24-HOURS
5	1002853	HLY.TWH.1	Line	24-HOURS
6	1005213_2	LFT.TRK.2	Line	24-HOURS
7	1002857	HPI.MDN.1	Line	24-HOURS
8	1008900_S	GIS.TF.T4_S	Transformer	24-HOURS
9	1002722	ARI.BOB.1	Line	24-HOURS
10	1008900_P	GIS.TF.T4_P	Transformer	24-HOURS
11	1003137	RPO.TNG.1	Line	24-HOURS
12	1005212_T	TRK.TF.T1_T	Transformer	24-HOURS
13	1008755	HAM.TF.T2	Transformer	24-HOURS
14	1005212_S	TRK.TF.T1_S	Transformer	24-HOURS
15	1009993	ROT.TF.T4	Transformer	24-HOURS
16	1008900_T	GIS.TF.T4_T	Transformer	24-HOURS
17	1008996	WTU.TF.T4	Transformer	24-HOURS
18	1002825	HEN.SWN.1	Line	24-HOURS

**Figure 77 Sample Scheduled Outages List in CSV Format**

The following information is available from this file:

- **Name** – Designated name for the Outage
- **DeviceName** – The name of the transmission line or transformer being outaged.
- **DeviceType** – Type of device (Line or Transformer)
- **Class** – The time of use designation – 24-HOURS

## Download and View Market Data

By clicking the **Market** tab on Public FTR interface the users will enter the Market Data download page.

A user has to select both a particular Market Term (Primary Auction or Variation Auction) from the drop down list and the specific Auction Market name from the second drop down list.

To download the Base Loading FTRs, Capacity and/or Sources and Sinks data, check the box for XML and/or CSV formats and click the **Download** button. The download files will be in a zipped format, which can be viewed using a un-compression tool.

Sample download files of base loading FTRs, capacity and sources and sinks in CSV format are shown in Figure 78, Figure 79 and Figure 80 respectively.

	A	B	C	D	E	F	G
1	FTR_ID	MarketPart	Source	Sink	MW	HedgeType	Class
2	2282231	OMFM	ISL	INV	6.2	OPT	24-HOURS
3	2282244	OMFM	OTA	INV	0.5	OPT	24-HOURS
4	2282212	OMFM	HAY	BEN	13	OPT	24-HOURS
5	2282201	OMFM	BEN	INV	0.3	OPT	24-HOURS
6	2282240	OMFM	OTA	HAY	10	OPT	24-HOURS
7	2282241	OMFM	OTA	BEN	3.2	OPT	24-HOURS
8	2282197	OMFM	BEN	HAY	0.7	OPT	24-HOURS
9	2282204	OMFM	BEN	ISL	0.4	OPT	24-HOURS
10	2282214	OMFM	HAY	INV	0.7	OPT	24-HOURS
11	2282242	OMFM	OTA	BEN	7.7	OPT	24-HOURS
12	2282246	OMFM	OTA	HAY	10	OPT	24-HOURS
13	2282232	OMFM	ISL	INV	2.6	OPT	24-HOURS
14	2282230	OMFM	ISL	BEN	50	OPT	24-HOURS
15	2282210	OMFM	HAY	BEN	5.8	OPT	24-HOURS
16	2282252	OMFM	BEN	INV	4.3	OPT	24-HOURS
17	2282174	MERI	ISL	INV	2	OPT	24-HOURS
18	2282168	MERI	BEN	ISL	35.2	OPT	24-HOURS
19	2332219	OMFM	INV	BEN	5.7	OPT	24-HOURS
20	2282256	OMFM	ISL	BEN	30.2	OPT	24-HOURS
21	2332220	OMFM	BEN	INV	8.3	OPT	24-HOURS
22	2332143	MRPL	HAY	OTA	15	OPT	24-HOURS
23	2332227	OMFM	HAY	OTA	20.2	OPT	24-HOURS

Figure 78 Sample Base Loading FTRs Data in CSV Format

The following information is available from the base loading FTR file:

- **FTR ID** – The ID of the previously awarded FTR.
- **Market Participant** – The name of the Market Participant who owns the FTR
- **Source** – The name of the FTR source.
- **Sink** – The name of the FTR sink.
- **MW** – The MW associated with the FTR.
- **HedgeType** – The Hedge Type of the FTR (Obligation, Option).
- **Class** – 24-HOURS time-of-use

	A	B	C	D
1	Source	Sink	Class	Capacity
2	HAY	ISL	24-HOURS	405.4
3	OTA	INV	24-HOURS	394.8
4	INV	ISL	24-HOURS	356
5	INV	OTA	24-HOURS	363.1
6	BEN	OTA	24-HOURS	577.7
7	HAY	INV	24-HOURS	394.8
8	INV	BEN	24-HOURS	363.1
9	ISL	HAY	24-HOURS	583.5
10	BEN	HAY	24-HOURS	583.5
11	HAY	BEN	24-HOURS	405.4
12	OTA	HAY	24-HOURS	578
13	BEN	INV	24-HOURS	394.8
14	OTA	ISL	24-HOURS	405.4
15	ISL	BEN	24-HOURS	744.7
16	BEN	ISL	24-HOURS	745.3
17	ISL	OTA	24-HOURS	577.7
18	INV	HAY	24-HOURS	363.1
19	OTA	BEN	24-HOURS	405.4
20	ISL	INV	24-HOURS	387.1
21	HAY	OTA	24-HOURS	577.7

Figure 79 Sample Capacity Download File in CSV Format

The following information is available from the capacity file:

- **Source** – The name of the source in the FTR capacity calculations.
- **Sink** – The name of the sink in the FTR capacity calculations.
- **Class** – 24-HOURS time-of-use
- **Capacity** – MW capacity.

	A	B	C	D	E	F	G
1	Name	Type	Class	PriceNode	BusName	participationFactor	
2	OTA	HUB	24-HOURS	P-OTA	OTA/OTA220B1	100	
3	BEN	HUB	24-HOURS	P-BEN	BEN/BEN_220	100	
4	HAY	HUB	24-HOURS	P-HAY	HAY2/HAY220A	100	
5	ISL	HUB	24-HOURS	P-ISL	ISL2/ISL220A	100	
6	INV	HUB	24-HOURS	P-INV	INV/INV220A1	100	

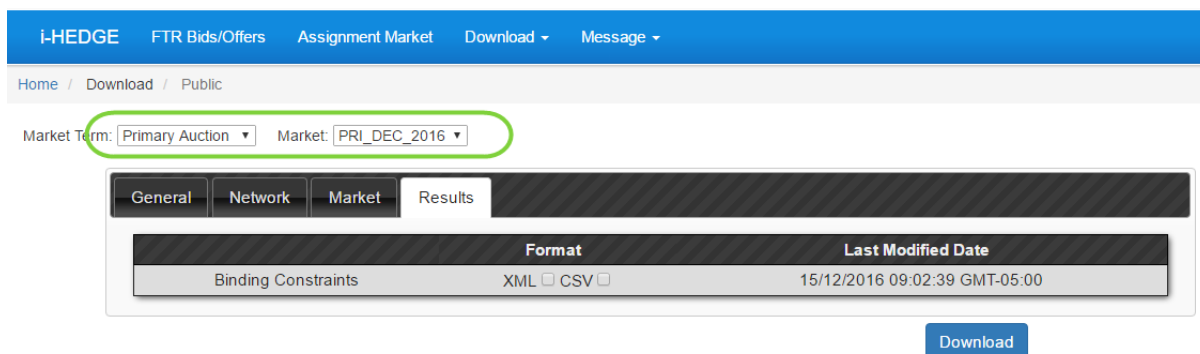
**Figure 80 Sample Source/Sink Data in CSV Format**

The following information is available from the source/sink file:

- **Name** – The name of the Source/Sink.
- **Type** – The source/sink type (Generator Node, Load Node, Load Zone, Hub, Fixed Aggregate, Interface, Loop Flow Node, Pseudo-Tie Generator Node, Pseudo-Tie Load Node, Demand Node Type 1, Demand Node Type 2, External Asynchronous Resource Node, and Stored Energy Resource). **Typically, the EMS FTR auctions will use “HUB” type only.**
- **Class** – States whether the source/sink is valid during the time of use (24-HOURS)
- **PriceNode** – The name of the elemental Pnode associated with the source/sink.
- **BusName** – The name of the bus associated with the source/sink associated with the source/sink. This bus name is the augmented name from the PSS/E file.
- **Participation Factor** – Factor allocated to PriceNode(s) constituting the source/sink

## Download and View (Auction) Results Data

By selecting an Auction option from the Market Type and Term dropdown list within the Results tab, the user is presented with a screen shown in Figure 81. The user has to select both a particular Market Term (Primary Auction or Variation Auction) from a drop down list and the specific Auction Market name from the second drop down list.



**Figure 81 Auction Results Available from the Public FTR Interface**

To download the Auction Binding Constraints data, check the box for XML and/or CSV formats and click the **Download** button. The download files will be in a zipped format, which can be viewed using a un-compression tool.

Sample download files of Auction Binding Constraints in CSV format are shown in Figure 82.

	A	B	C	D	E	F	G	H	I
1	DeviceName	DeviceType	Direction	Limit	Flow	Violation%	Contingency	Class	MarginalCost
2	DVK.WDV.2	Line	To-From	38.2	-28.6	0	CTG_58547	24-HOURS	53.97
3	HVDC_S	Nomogram		122.4	100.3	0	Base Case	24-HOURS	5

**Figure 82 Sample Auction Binding Constraints in CSV Format**

The following information is available from the binding constraint file:

- **DeviceName** – The name of the congested device
- **DeviceType** – The type of device in the binding constraint. It can be transmission line (Line), transformer or nomogram.
- **Direction** – Direction of MW flow on the congested device. It can take on the values of “From\_To”, “To\_From”.
- **Limit** – The flow limit of the binding constraint. If the limit goes soft (i.e. relaxed), the flow on this binding constraint may be larger than its corresponding limit.
- **Flow**: - The MW flow on the device.
- **Violation %** – Percentage violation of the limit. For hard constraints, this value will be zero and for soft constraints, this value will be a positive number.
- **Contingency** – The name of the contingency associated with the constraint that is binding.
- **Class** – The time period of use – 24-HOURS where the constraint is binding
- **Marginal Cost** – The clearing or shadow price of the binding constraint in \$/MWh

## 11.2 Available Private Information on the FTR Download Interface

The FTR Private download interface is available to all EMS Market Participants and presents confidential information pertinent to a particular Market Participant.



After an auction is completed, users can:

1. Download and view Auction results (FTRs) in CSV and XML formats

### Download and View Private Auction Results

On the Private Downloads interface, under the Results tab, by selecting an Auction market with the Market Term dropdown menu, choosing the appropriate market name, the user is presented with the following display for the Private Bid and FTR Data as shown in Figure 83.

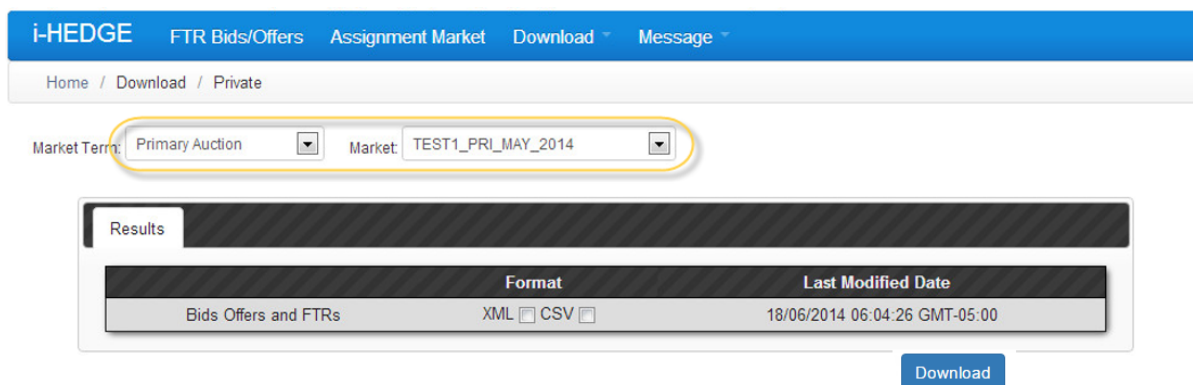


Figure 83 Private Auction Result Downloads

To download/view the private auction results, check the box associated with the **Bids and Offers Results** data category as shown in Figure 83 for XML and/or CSV formats and click the **Download** button to download the auction results data in text file(s) of the chosen formats. The download will be in a zipped format, which can be viewed using an unzipping tool. A sample private auction results list in CSV format is shown in Figure 84.

BID_ID	FTR_ID	Bid Desc	Category	Portfolio	AssetOw	Source	Sink	StartDate	EndDate	HedgeTy	Type	Class	Awarded	Clearing Bid MW	Bid Price	Bid MW	Bid Price	Bid MW	Bid Price	Bid MW	Bid Price	Bid MW	Bid Price	Bid MW	Bid Price	Bid MW	Bid Price	Bid MW
1	510081	510741	1	PTP	MERL_20;MERE	OTA	HAY	1/03/2016	31/03/2016	OBL	BUY	24-HOUR	19	-0.73	0	10	5	9	6	8	7	6	8	5	9	3		
3	510082	510742	2	PTP	MERL_20;MERE	OTA	BEN	1/03/2016	31/03/2016	OBL	BUY	24-HOUR	19	0.22	0	10	5	9	6	8	7	6	8	5	9	3		
4	510083	510743	3	PTP	MERL_20;MERE	OTA	ISL	1/03/2016	31/03/2016	OBL	BUY	24-HOUR	19	0.18	0	10	5	9	6	8	7	6	8	5	9	3		
5	510084	510744	4	PTP	MERL_20;MERE	OTA	INV	1/03/2016	31/03/2016	OBL	BUY	24-HOUR	19	-0.1	0	10	5	9	6	8	7	6	8	5	9	3		
6	510085	510745	5	PTP	MERL_20;MERE	HAY	OTA	1/03/2016	31/03/2016	OBL	BUY	24-HOUR	19	0.73	0	10	5	9	6	8	7	6	8	5	9	3		
7	510086	510746	6	PTP	MERL_20;MERE	HAY	BEN	1/03/2016	31/03/2016	OBL	BUY	24-HOUR	18.8	0.96	0	10	5	9	6	8	7	6	8	5	9	3		
8	510087	510747	7	PTP	MERL_20;MERE	HAY	ISL	1/03/2016	31/03/2016	OBL	BUY	24-HOUR	18.9	0.92	0	10	5	9	6	8	7	6	8	5	9	3		
9	510088	510748	8	PTP	MERL_20;MERE	HAY	INV	1/03/2016	31/03/2016	OBL	BUY	24-HOUR	19	0.63	0	10	5	9	6	8	7	6	8	5	9	3		
10	510089	510749	9	PTP	MERL_20;MERE	BEN	OTA	1/03/2016	31/03/2016	OBL	BUY	24-HOUR	19	-0.22	0	10	5	9	6	8	7	6	8	5	9	3		
11	510090	510750	10	PTP	MERL_20;MERE	BEN	HAY	1/03/2016	31/03/2016	OBL	BUY	24-HOUR	19	-0.96	0	10	5	9	6	8	7	6	8	5	9	3		
12	510091	510751	11	PTP	MERL_20;MERE	BEN	ISL	1/03/2016	31/03/2016	OBL	BUY	24-HOUR	19	-0.04	0	10	5	9	6	8	7	6	8	5	9	3		
13	510092	510752	12	PTP	MERL_20;MERE	BEN	INV	1/03/2016	31/03/2016	OBL	BUY	24-HOUR	19	-0.32	0	10	5	9	6	8	7	6	8	5	9	3		
14	510093	510753	13	PTP	MERL_20;MERE	ISL	OTA	1/03/2016	31/03/2016	OBL	BUY	24-HOUR	19	-0.18	0	10	5	9	6	8	7	6	8	5	9	3		
15	510094	510754	14	PTP	MERL_20;MERE	ISL	HAY	1/03/2016	31/03/2016	OBL	BUY	24-HOUR	19	-0.92	0	10	5	9	6	8	7	6	8	5	9	3		
16	510095	510755	15	PTP	MERL_20;MERE	ISL	INV	1/03/2016	31/03/2016	OBL	BUY	24-HOUR	19	-0.28	0	10	5	9	6	8	7	6	8	5	9	3		
17	510096	510756	15	PTP	MERL_20;MERE	ISL	BEN	1/03/2016	31/03/2016	OBL	BUY	24-HOUR	19	0.04	0	10	5	9	6	8	7	6	8	5	9	3		
18	510097	510757	18	PTP	MERL_20;MERE	INV	HAY	1/03/2016	31/03/2016	OBL	BUY	24-HOUR	19	-0.63	0	10	5	9	6	8	7	6	8	5	9	3		
19	510098	510758	17	PTP	MERL_20;MERE	INV	OTA	1/03/2016	31/03/2016	OBL	BUY	24-HOUR	19	0.1	0	10	5	9	6	8	7	6	8	5	9	3		
20	510099	510759	20	PTP	MERL_20;MERE	INV	ISL	1/03/2016	31/03/2016	OBL	BUY	24-HOUR	19	0.28	0	10	5	9	6	8	7	6	8	5	9	3		
21	510100	510760	19	PTP	MERL_20;MERE	INV	BEN	1/03/2016	31/03/2016	OBL	BUY	24-HOUR	19	0.32	0	10	5	9	6	8	7	6	8	5	9	3		
22	510101	510761	22	PTP	MERL_20;MERE	OTA	BEN	1/03/2016	31/03/2016	OPT	BUY	24-HOUR	4.8	9.04	0	10	5	9	6	8	7	6	8	5	9	3		
23	510102	510762	21	PTP	MERL_20;MERE	OTA	HAY	1/03/2016	31/03/2016	OPT	BUY	24-HOUR	6.5	6.89	0	10	5	9	6	8	7	6	8	5	9	3		
24	510103		24	PTP	MERL_20;MERE	OTA	INV	1/03/2016	31/03/2016	OPT	BUY	24-HOUR	0	15.15	0	10	5	9	6	8	7	6	8	5	9	3		
25	510104		23	PTP	MERL_20;MERE	OTA	ISL	1/03/2016	31/03/2016	OPT	BUY	24-HOUR	0	10.26	0	10	5	9	6	8	7	6	8	5	9	3		
26	510105	510765	26	PTP	MERL_20;MERE	HAY	BEN	1/03/2016	31/03/2016	OPT	BUY	24-HOUR	13.5	2.14	0	10	5	9	6	8	7	6	8	5	9	3		

Figure 84 Sample Private Bids and Offers data in CSV Format

The following information is available from this file:

- **BID\_ID** – The ID of the auction bid
- **FTR\_ID** – The unique id of the PTP FTR associated within the Bid. The FTR\_ID is valid only when Awarded MW is greater than zero MW.

- **Category** – Flag denoting the type of the FTR – Point-to-Point (PTP)
- **Portfolio** – The name of the portfolio containing the bids
- **AssetOwner** – The name of the Market Participant associated with the PTP FTR
- **Source** – The name of the source associated with the PTP FTR
- **Sink** – The name of the sink associated with the PTP FTR
- **StartDate** – The starting date that the FTR is valid
- **EndDate** – The ending date that the FTR is valid
- **HedgeType** – FTR type – OBL (Obligation) or OPT (Option).
- **Type** – States that the type of the bid – BUY or SELL
- **Class** – 24-HOURS time-of-use
- **AwardedMW** – The MW amount of the FTR awarded to the nearest tenth of a MW.
- **ClearingPrice** – The clearing price of the FTR awarded in \$/MWh. The clearing price may be positive or negative.
- **MW** – The bid MW amount (part of the bid curve)
- **PricePerMWh** – The bid price in \$/MWh (part of the bid curve).

## 12.Message Board

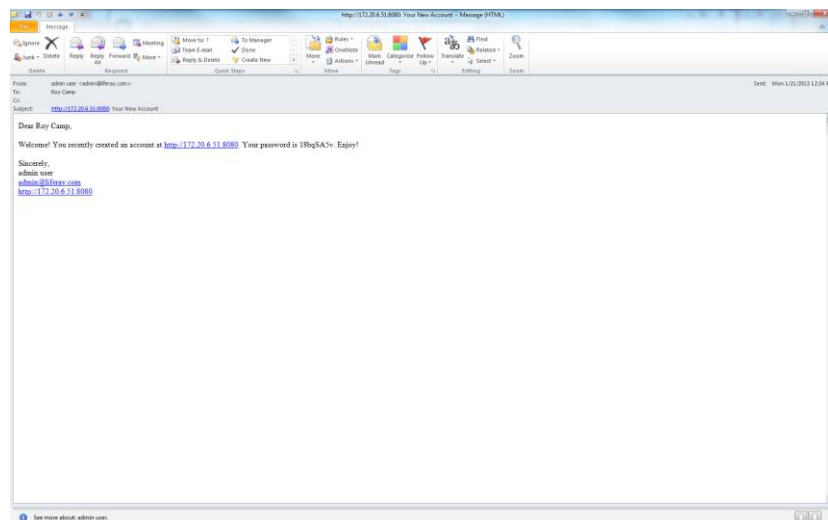
Not in use.

## 13.FTR Organisation and Users

Every participating FTR organisation has a portal account that represents the organisation. An organisation represents a Market Participant or Entity on whose behalf the FTR will be awarded in the FTR Market. So the organisation that needs to participate in the FTR Market must go through a pre-approval process. The portal account representing the organisation is created by the EMS FTR Manager. After creating the organisation portal account, a super user is assigned to the organisation portal account. The super user is in charge of administering the regular users without any intervention from the EMS Portal administrator. The Super user has the required privileges to create and manage the portal accounts of the regular users within his or her organisation. By managing the users of the organisation and controlling who can visit the organisation account, the super user can guarantee the confidentiality of the FTR data.

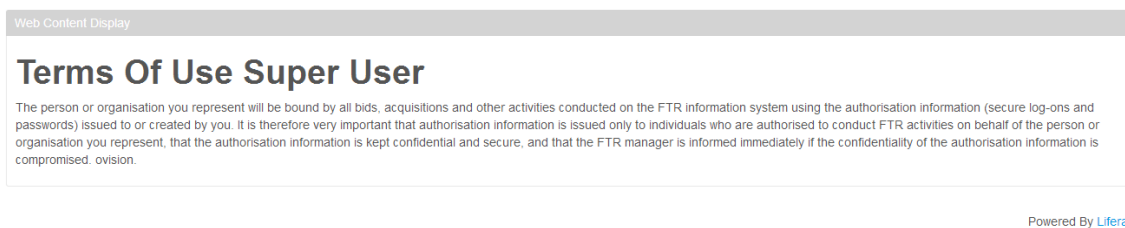
### 13.1 Super-User – Portal Sign-up

Once pre-approved, the organisation account is created and a super-user is assigned to the organisation account. The super user portal account is not yet active and requires action from the super user to complete the portal account creation process. The super-user is notified via email about the new portal account as shown in Figure 85.



**Figure 85 Email notification about new account for the super-user**

The super user has to sign-in to the portal using the registered email address and the temporary password to gain access to the portal and to create regular users in the system.



**Figure 86 Terms of Use for the Super User**

The super user has to agree to the Terms of Use on behalf of the organisation that he or she is representing. A sample Terms of Use document is shown in Figure 86.

The super user must reset the temporary password generated by system. The new password is the sign-in password and must meet the password policy set the by EMS FTR manager.

What is your father's middle name?

SKYWALKER

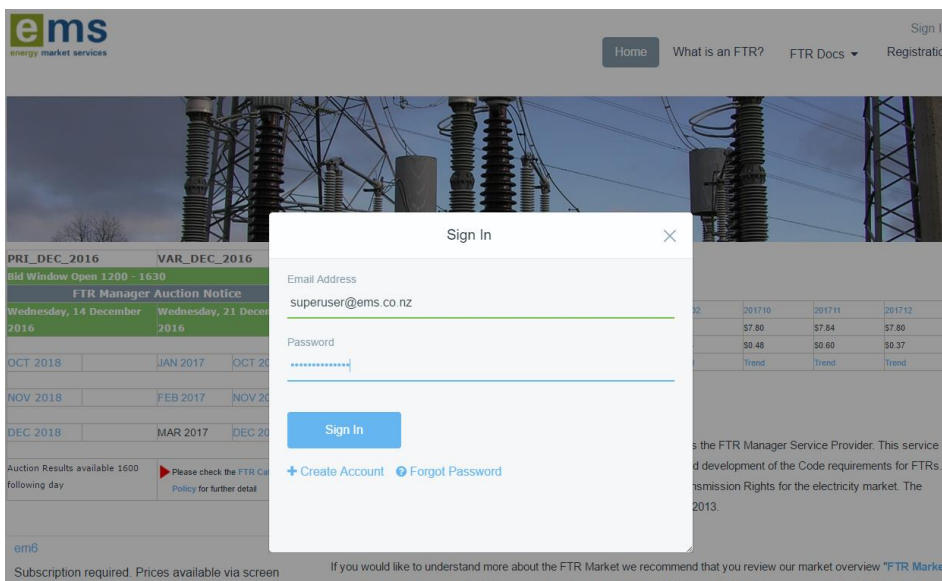
---

[Send Password Reset Link](#)

[← Sign In](#) [+ Create Account](#)

**Figure 87 Password reminder for the super user**

After resetting the temporary password, the super user must select a password reminder along with the answer as shown in Figure 87. It is the last step in the creation of the super user portal account.



**Figure 88 Sign in page for the super user**

After the successfully creating the super user portal account, the super user can sign-in to the portal using the email address and the new updated password as shown in Figure 88.

## 13.2 Super User – Create Regular Organisation Users

The super user can create regular users within his or her organisation. The super user cannot assign existing portal users to an organisation due to security concerns. The super user cannot validate the authenticity of existing portal accounts without requiring access to the browse through all the portal accounts. Hence the super user must create new portal accounts to represent the regular user of the organisation.

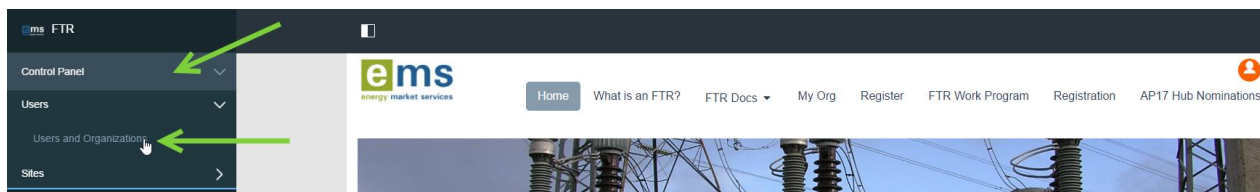


Figure 89 Sign in page of the FTR Portal for the super user

After sign-in as shown in Figure 89, the control panel provides all the administration features for an organisation super user. The control panel can be accessed at the top-left corner of the portal page.

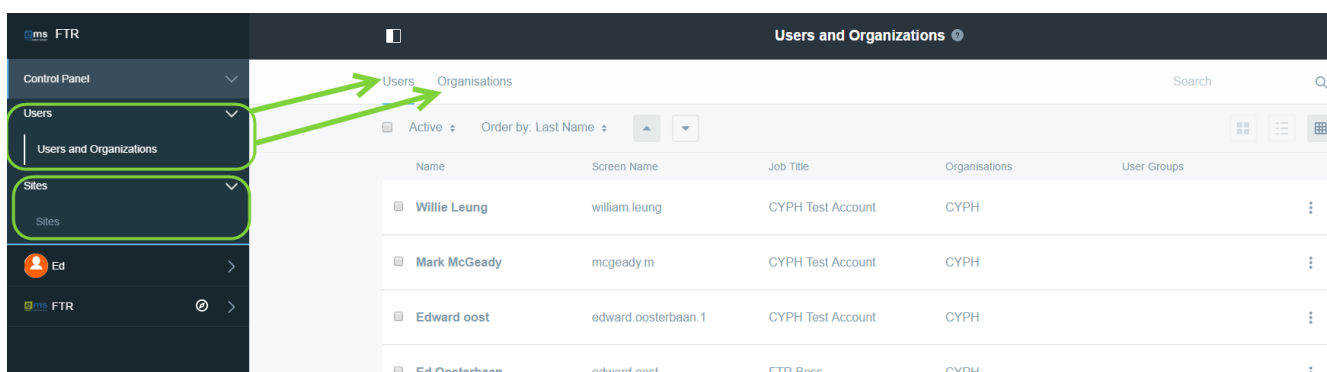


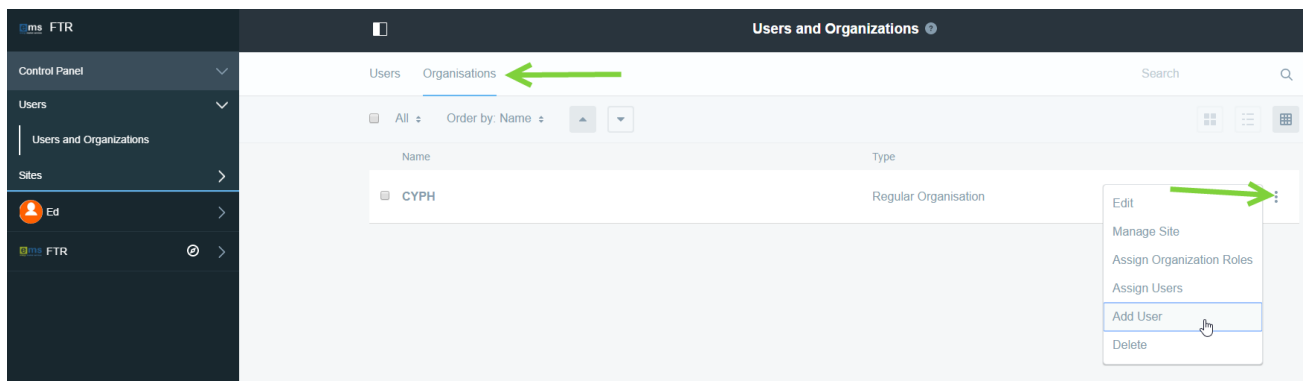
Figure 90 Control Panel page of the FTR Portal

The Super User control panel as shown in Figure 90.


There are two main tabs:

- Sites
  - Super User can create customised sites for the organisation (not in use)
- Users and Organisations
  - Super user can manage the regular users of the organisation.

The super user can represent only one organisation and can create or manage users under that organisation. As seen in , **Users and Organisations** is a portal application used to manage the users of the corresponding organisation. Even by accident, the super-user will not be able access or manage other users from a different organisation.



**Figure 91 Adding a Regular User**

The super user can add a regular user by selecting the three small dots icon  and “Add user” from the action menu as shown in Figure 91. The super user can add only regular users and cannot create super users. By adding a new user, a new portal account will be created in the system. The regular user then can login to the portal using the newly created account.

The super user can create any number of regular users. The information required to create a regular user account is the following:

- Email address (must be unique within the FTR Portal)
- First Name
- Last Name

After entering the information about the user and saving the information by clicking on the save button, the regular user will be notified via email about the new portal account with a temporary password. The temporary password is generated by the system and not by the super user. The new regular user will be asked to reset the password and accept the terms of use during the initial sign-up process.

**Figure 92 Customisation of the user account**

After successfully saving the new user, the super user is provided with additional details about the user that can be customized as shown in Figure 92. By default the created user is not assigned any specific role. The super user must grant the roles to the individual users as part of the account setup process.

Assign Organization Roles

Step 1 of 2. Choose a role.

keywords


Title	Type
ROLE_MP_RO	Organisation
ROLE_MP_RW	Organisation
ROLE_ORG_SUPER_USER	Organisation

**Figure 93 Roles of users**

As shown in Figure 93, the main roles pertaining to the MUI Applications are

- **ROLE\_MP\_RO**
  - The user has only Read Only privilege in the FTR MUI application
- **ROLE\_MP\_RW**
  - The user has Read Write privilege in the FTR MUI application

A **super user** can assign the appropriate roles to the user. Granting either of the above roles provides access to the MUI application. A regular organisation user without these roles still cannot access the MUI Application even though they might be a valid user within the organisation.

To assign user roles, select three small dots icon  next to your organisation name and '**Assign Organisational Roles**'. Select the role you wish to assign, then select the user/s that you want to associate with the role and select '**Update Associations**'.

Current Available

Q Keywords

Update Associations

<input type="checkbox"/>	Name	Screen Name
<input type="checkbox"/>	Willie Leung	william.leung
<input type="checkbox"/>	Mark McGeady	mcgeady.m
<input type="checkbox"/>	Ed Oosterbaan	edward.oost
<input checked="" type="checkbox"/>	Luke Skywalker	luke.skywalker

**Figure 94 Confirmation of Roles**



After assigning the roles successfully, the granted roles are listed in the appropriate sub sections. Only the Regular Roles and Organisation Roles can be customised.

## Super User – Modify Regular User MUI Roles

To modify the roles of a regular user, the super user has to sign-in to the portal like any other portal user by providing the email address and the password.

After a successful login, the control panel is in top-right corner under the **Admin** menu. The control panel provides link to the user management module.

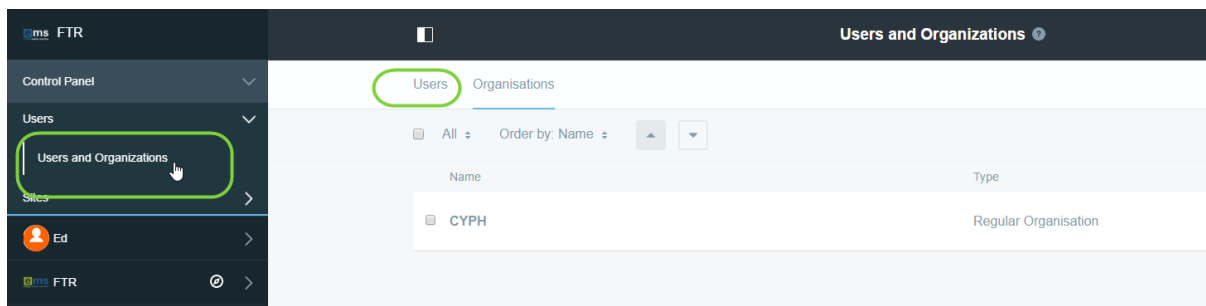


Figure 95 Selection of Users within the Organisation

Select **Users and Organisations** as shown in Figure 95. It will show the current organisation with a count of the number of users, selecting the organisation will list all specific users under that organisation.

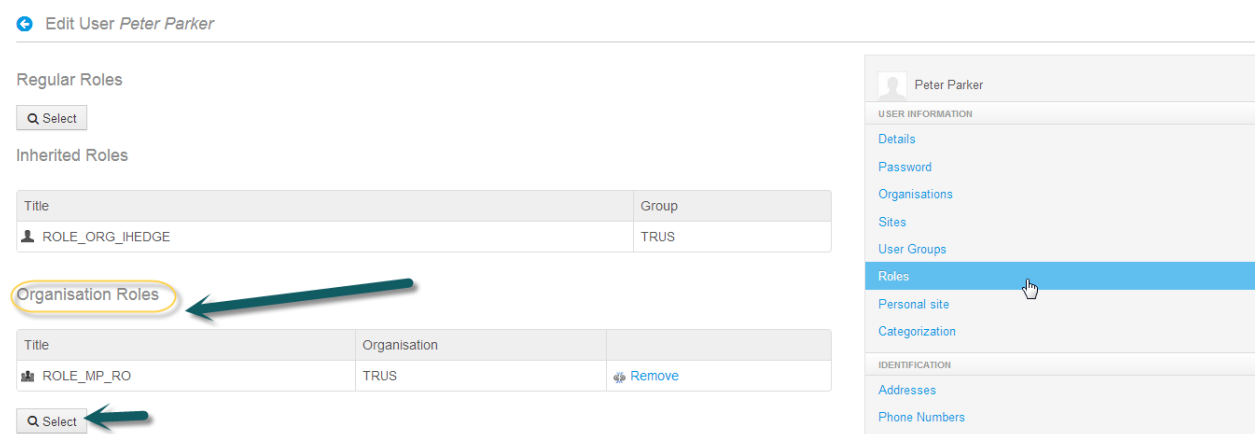

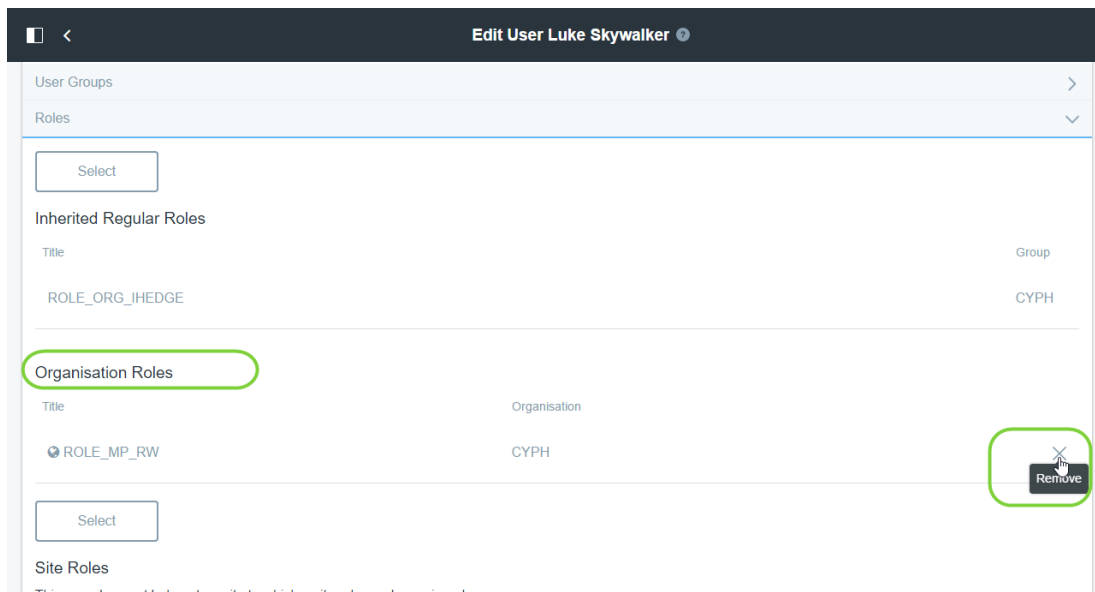


Figure 96 Accessing the Roles section for the user

To assign user roles, select three small dots icon  next to your organisation name and **'Assign Organisational Roles'**. Select the role you wish to assign, then select the user/s that you want to associate with the role and select **'Update Associations'**.



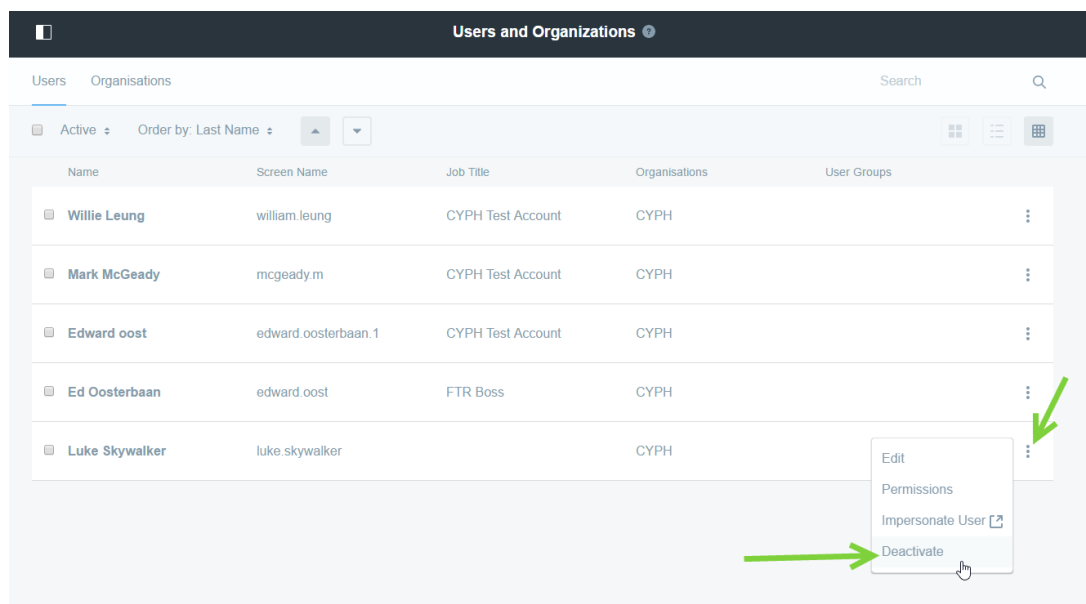
**Figure 97 Removal of new roles to the user**

The organisation roles that are not required can be removed by selecting the user in your organisation and scrolling down to the '**Organisation Roles**' heading. Simply select the remove 'X' icon using the remove link.

#### Super User – Deactivate Regular User

The super user must sign-in to the portal and navigate to the super user **control panel** under **admin**.

After a successful login the super user must select the **Users and Organisations** module then their organisation to list all users.



**Figure 98 Deactivation of a user**

In order to deactivate the user, select the deactivate link as shown in Figure 98. Once the account is deactivated, the corresponding portal user cannot login to the FTR portal again.

### 13.3 Regular User – Portal Sign-up

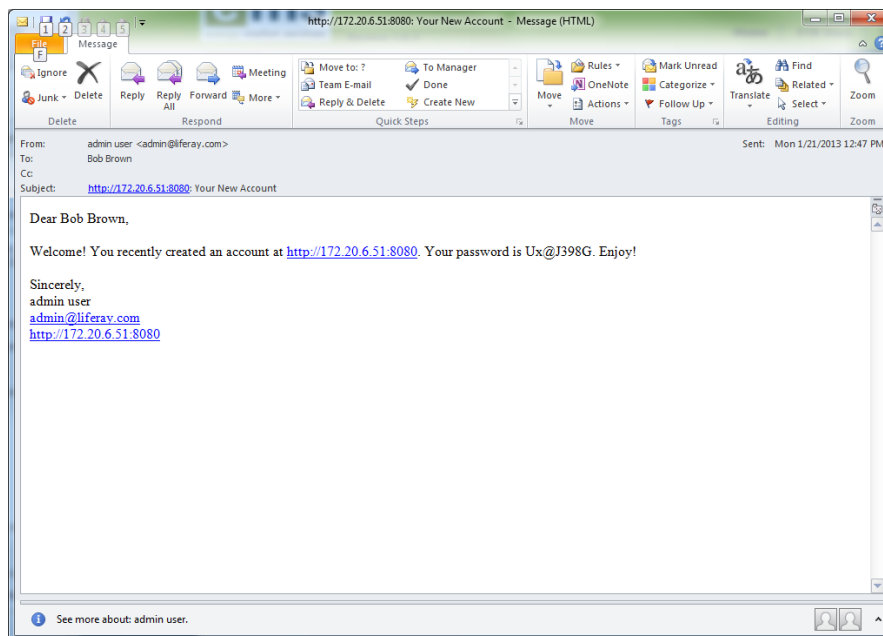


Figure 99 Sample welcome email for newly created user

The creation of the regular user of an organisation is initiated by the super user. When the super user creates new users within their organisation, the portal account is created but not activated. An email is sent to the newly created user with a temporary password as shown in Figure 99.

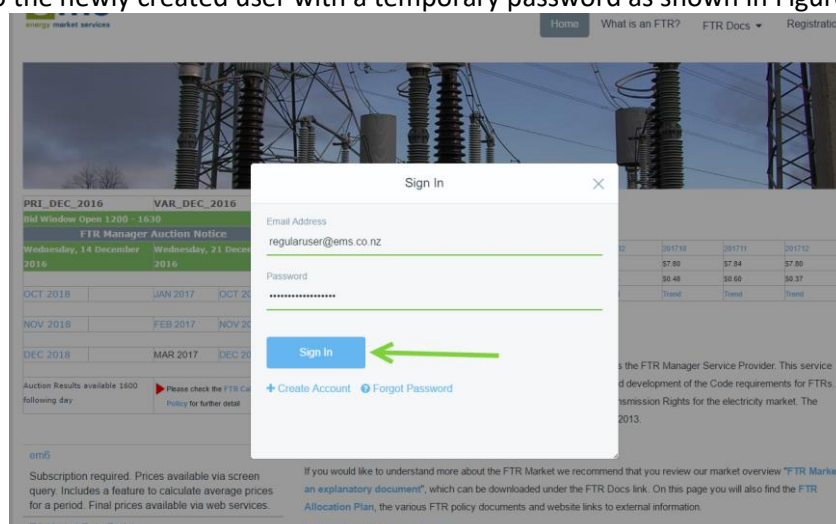
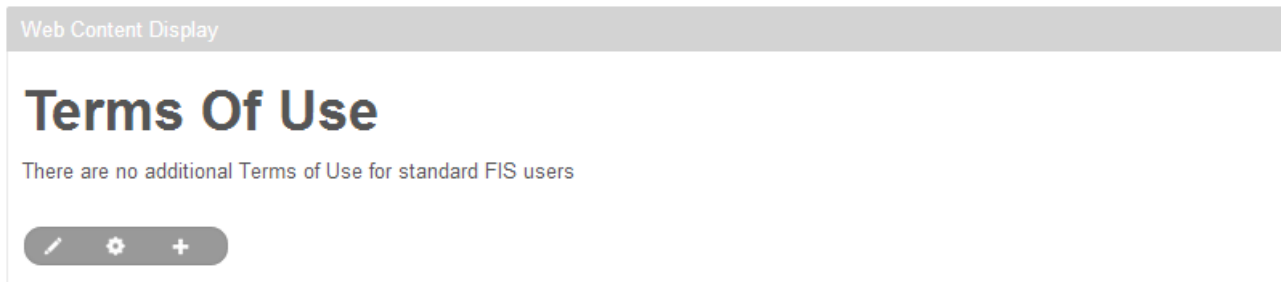


Figure 100 Regular user sign in

The user can login to the portal with the email address and the temporary password as shown in Figure 100.



**Figure 101 Terms of Use for Regular User**

There are no additional terms of use to agree to for a regular **PORTAL USER** (shown in Figure 101) in order to activate the account created by the super user of the organisation.

The temporary password set by the system must be reset by the regular user. The new password must meet the password policy set the by FTR manager.

As part of the process to reset the password, a password reminder question and answer must be selected.

On successful login, a regular user on successful login can access the following pages much like a regular portal user organisation user:

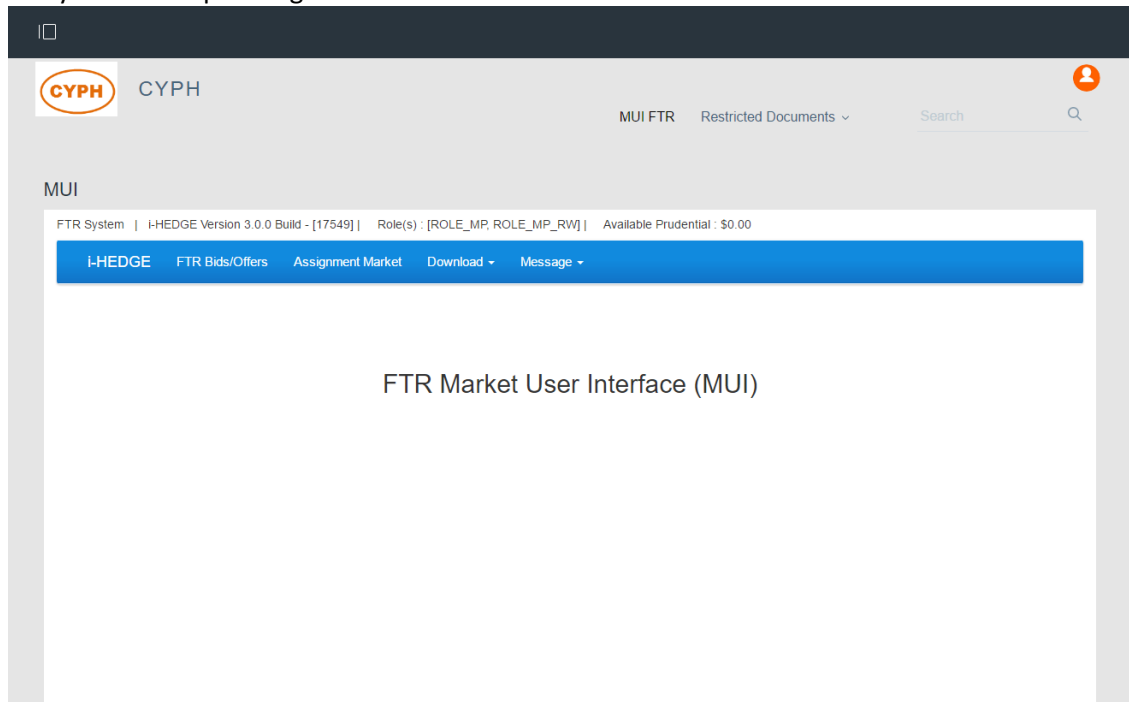
- Home
- FTR Docs
- Register
- My Org

The only difference between a portal user and an organisation general user is the **My Org** page. The **My Org** page will take the user to an organisation specific site, which is not accessible otherwise. The content of the **My Org** page is described in the next section.

### 13.4 Regular User – Access i-HEDGE MUI Application

The regular organisation user has to sign-in to the portal.

The **My Org** page is the only additional page that is accessible to users who are member of any FTR Participant organisation. All other functionality is accessible by a portal user who is not associated with any FTR Participant organisation.



**Figure 102 Access to the i-HEDGE application**

The **My Org** page takes the user to the organisation specific site. The name of the organisation is displayed on the screen as well as the organisation's logo. Based on the assigned roles of **ROLE\_MP\_RO** or **ROLE\_MP\_RW**, the i-HEDGE application will enable users to simply view portfolios or submit.