

# FTR Manager

## Functional Specification

Version 2.0

19 June 2013

## Version control

Version	Release Date	Section	Description
1.0	30 August 2010	All	Draft released by Authority in FTR Manager RFP
<b>1.1</b>	<b>2 April 2012</b>	<b>All</b>	<b>Version agreed at signing of contract</b>
1.2	5 October 2012	All	Version updated by the FTR Manager and provisionally approved prior to initial audit of the System
1.3	23 Nov 2012	All	Minor updates and clarification. Replaced Process Overview diagram (Section 5)
1.4	6 Dec 2012	All	Updated agreed version, with acceptance of all recent changes
1.5	17 April 2013	2.1.2	Added document version numbers.
<b>2.0</b>	<b>19 June 2013</b>		<b>Version agreed upon System Acceptance and signed as an agreed update to Schedule 3 of the FTR Manager SPA.</b>

# Contents

<b>1</b>	<b>Introduction .....</b>	<b>3</b>
<b>2</b>	<b>This document.....</b>	<b>3</b>
<b>3</b>	<b>Definitions .....</b>	<b>4</b>
<b>4</b>	<b>Overview .....</b>	<b>6</b>
4.1	Develop FTR allocation plan .....	7
4.2	Receive information from the Clearing Manager .....	7
4.3	Apply for registration .....	7
4.4	Manage FTR auction.....	8
4.5	Manage assignment trades .....	8
4.6	Determine FTR rentals.....	9
4.7	Provide market information .....	9
<b>5</b>	<b>Roles and responsibilities .....</b>	<b>10</b>
5.1	Clearing Manager .....	11
5.2	Grid Owners.....	11
5.3	Authority.....	12
5.4	FTR participants.....	12
5.5	Pricing Manager.....	12
5.6	Public.....	12
<b>6</b>	<b>Initial start-up requirements .....</b>	<b>13</b>
6.1	FTR Manager role .....	13
6.2	Prudential trading limit.....	13
<b>7</b>	<b>Sub-processes .....</b>	<b>14</b>
RV-010	Obtain information from the Clearing Manager .....	15
AR-010	Register new participants .....	17
PA-010	Determine volume of FTRs on offer .....	19
PA-020	Issue auction notices .....	21
PA-030	Receive auction bids .....	23
RA-010	Run auction and award FTRs .....	25
RA-020	Suspend auction .....	27
RT-010	Assign ownership in FTR register .....	28
AF-010	Determine FTR rentals .....	31
RP-010	Report to the Authority .....	33
PP-010	Publish FTR register information to public .....	35

# 1 Introduction

- 1.1.1 The Act required the Authority to amend the Electricity Industry Participation Code 2010 (Code) by 1 November 2011 to include seven 'new matters'. One of these new matters was to provide mechanisms to help wholesale electricity market participants manage price risks caused by constraints on the national transmission grid. The proposed mechanism the Authority selected was a market for trading FTRs between the North Island and South Island (an inter-island FTR) in order to manage locational price risk (LPR) between the islands.
- 1.1.2 The Authority also created a new market operation service provider role called the FTR Manager. The responsibilities of the new FTR Manager role are defined in the Code, which may be found on the Authority's website at <http://www.ea.govt.nz/act-code-regs/>.

## 2 This document

- 2.1.1 The purpose of this document is to describe the functional requirements of the FTR Manager role. This document should be read in conjunction with the non-functional specification, the FTR allocation plan, FTR policies and the Code.
- 2.1.2 The FTR Manager is required to agree the interface specifications that are detailed in the following documents (the "Interface Specification Documents") with each service provider:

Integration Requirements FTR Manager and Clearing Manager (DO.25, version 2.7)
Integration Requirements FTR Manager and Pricing Manager (DO.26, version v1.2)
Integration Requirements FTR Manager and Grid Owner (DO.24, version 1.2)

The Interface Specification Documents form part of these Functional Specifications. Notwithstanding clause 17.7 of the SPA, the FTR Manager may amend the Interface Specification Documents from time to time with the written approval of the Authority, which approval may be given by email and shall not be unreasonably withheld or delayed.

The FTR Manager is expected to agree the timing for delivery of each interface with each service provider.

- 2.1.3 The FTR Manager is expected also to provide FTR participants with documentation of actual file formats. This will be done through the FTR policies.

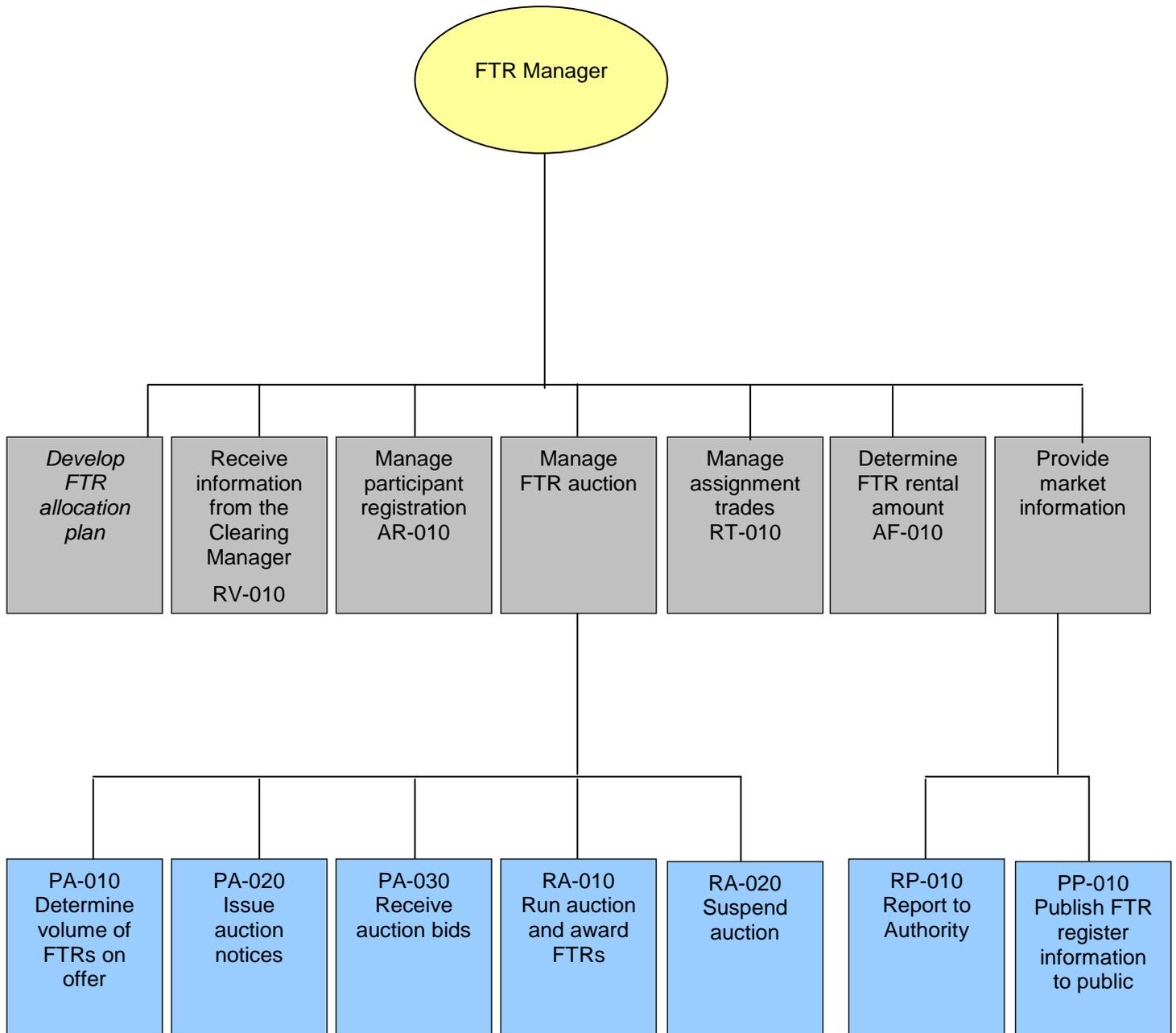
### 3 Definitions

3.1.1 In the main, the terms used in this document are those defined in the Code and have the same meaning. However, there are a few additional terms used in this document:

<b>Daily settlement price</b>	Calculated daily settlement price (FTR value) for auctioned FTR product periods and trading date.
<b>FTR award</b>	The allocation of an FTR to a participant as a result of an auction.
<b>FTR assignment</b>	The assignment of an FTR in accordance with clause 13.248 of the Code.
<b>FTR assignment price per MWh</b>	Price per MWh at which an FTR has been assigned. Expressed in \$/MWh to 2 decimal places.
<b>FTR auction clearing price</b>	Price per MWh for a particular FTR product at which an FTR auction clears. Expressed in \$/MWh to 2 decimal places.
<b>FTR holding</b>	FTRs awarded or assigned to an FTR participant in one transaction. Accordingly, an FTR holding is for a distinct FTR participant, source hub and sink hub (nodes and direction), FTR product type, FTR period, FTR holding quantity and FTR price. The transaction being either: an auction allocation or an FTR assignment.
<b>FTR holding quantity</b>	Quantity in MW (to 1 decimal place), allocated to a party in an auction or assigned in an FTR holding.
<b>FTR information system (FIS)</b>	The electronic systems provided or used by the FTR manager for auctions, assignments, the FTR register and registration of FTR participants, and for any secondary market for FTRs.
<b>FTR participant</b>	A party who has met the requirements to register and be registered by the FTR Manager to participate in an FTR auction or to be assigned FTRs. See process AR-010 for registration conditions.
<b>FTR period</b>	“FTR period” defined in the FTR allocation plan for the FTR product. Initially one month.
<b>FTR policies</b>	Published by the FTR Manager, the FTR policies provide detail to support the FTR allocation plan.
<b>Final price</b>	As defined in the Code and published by the Pricing Manager for every trading period in a month for every node, per MWh. Expressed in \$/MWh to 2 decimal places.
<b>FTR price per MWh</b>	FTR auction clearing price or FTR assignment price per MWh. Expressed in \$/MWh to 2 decimal places.

<b>FTR product type</b>	Obligation FTR or option FTR as defined in the Code.
<b>FTR rentals</b>	A term to describe the portion of the loss and constraint excess determined by the FTR manager following Code clause 14.73(2A) and retained and paid by the clearing manager into the FTR account to part-fund FTR payouts.
<b>Information system</b>	The Code makes reference to an ‘information system’ for the publication or transfer of information to participants. Currently, there are a number of systems that constitute the ‘information system’ and are owned and operated by a number of service providers and range from bespoke systems to Internet websites to standard email. Participants are required to make arrangements with the different service providers for access to specific parts of the ‘information system’. The document can be found on the Authority’s website at <a href="http://www.ea.govt.nz/act-code-regs/code-regs/information-system-definition/">http://www.ea.govt.nz/act-code-regs/code-regs/information-system-definition/</a> .
<b>Maximum initial margin</b>	Maximum assumed liability (initial margin) for this FTR product period to be auctioned on the given auction date.
<b>Prudential trading limit</b>	The maximum liability that a person can incur with respect to the total acquisition costs of their bids in an FTR auction (based on the calculation information received from the Clearing Manager). Expressed in dollars to 2 decimal places.
<b>Sink hub</b>	Has the same meaning as “hub” under the Code. The “Sink” indicates the direction by being the FTR end point (for example, for an Otahuhu to Benmore FTR, sink hub would be Benmore).
<b>Source hub</b>	Has the same meaning as “hub” under the Code. The “Source” indicates the direction by being the FTR starting point (for example, for an Otahuhu to Benmore FTR, source hub would be Otahuhu).

## 4 Overview



## **4.1 Develop FTR allocation plan**

- 4.1.1 The FTR Manager documents the following items in a draft FTR allocation plan:
- the design of the FTR products;
  - the FTR grid design methodology; and
  - the auction design (to award FTRs).
- 4.1.2 In preparing the draft FTR allocation plan, the FTR Manager consults with the persons that the FTR Manager considers are representative of the interests of persons likely to be substantially affected by the plan ('interested parties') and then submits the plan to the Authority for approval. Once approved by the Authority, the FTR allocation plan is made publicly available. Over time it may be updated to include additional products and refinements but any changes must be developed following the process set out in clause 13.241 of the Code and require approval by the Authority.
- 4.1.3 The FTR Manager prepares and publishes FTR policies as provided for in the FTR allocation plan. FTR policies provide details of how certain provisions of the FTR allocation plan are delivered by the FTR Manager.
- 4.1.4 The process for developing and for varying the FTR allocation plan is prescribed in the Code. As this is a manual process not involving the system software, the process is not described further in this functional specification.

## **4.2 Receive information from the Clearing Manager**

- 4.2.1 The FTR Manager requires information from the Clearing Manager to perform its functions. The information is transmitted via an automated interface. The information obtained from the Clearing Manager each day is:
- daily settlement prices and maximum initial margin; and
  - trading limits and registration information for each participant.

## **4.3 Apply for registration**

- 4.3.1 The FTR Manager has an approval and registration process for all potential FTR participants.
- 4.3.2 Any interested party intending to participate in an FTR auction or who is a party to an FTR assignment must apply to be approved for prudential security by the Clearing Manager. The FTR Manager also checks the application against the participation requirements (detailed in process AR-010) and against registration and prudential information requested by the FTR Manager of the Clearing Manager via an automated interface. Once approved by the FTR Manager the applicant becomes a registered FTR participant.

## **4.4 Manage FTR auction**

- 4.4.1 The volume of FTRs to be offered in each auction is determined by the FTR Manager using the FTR grid design methodology documented in the FTR policy required by the FTR allocation plan.
- 4.4.2 A notice containing details of each forthcoming auction is published by the FTR Manager to all interested parties. An FTR calendar is published on the FTR Manager's website that details the schedule of future auctions.
- 4.4.3 Only registered FTR participants are eligible to take part in an auction.
- 4.4.4 Prior to the opening of the bidding window for an auction, the FTR Manager requests and receives from the Clearing Manager, via an automated interface, the latest prudential trading limit of every registered FTR participant.
- 4.4.5 Prior to the opening of the bidding window for an auction, the FTR Manager requests and receives from the Clearing Manager, via an automated interface, the maximum initial margin and daily settlement price.
- 4.4.6 Prior to the opening of the bidding window for an auction, the FTR Manager requests and receives from the Grid Owner, via an automated interface, information about outages, the grid configuration and capacity covering the FTR periods of the auction, This information is used to determine the volume of FTRs on offer.
- 4.4.7 During the period the auction's bid window is open, FTR participants submit their bids (also termed "bid portfolios") to the FTR Manager using the format and interface specified by the FTR Manager for the purpose. Each bid is validated to ensure that the possible acquisitions are within the remaining trading limit of the FTR participant, otherwise it is rejected. If accepted, the remaining trading limit is reduced by the possible acquisition liability. The method used for allocating the FTRs to FTR participants in an auction is described in the FTR allocation plan.
- 4.4.8 Once the auction has completed:
- all allocations of FTRs are recorded in the FTR register, which is accessible by the public via the Internet; and
  - all allocations of FTRs (per FTR participant per auction and per individual allocated FTR) are notified to the Clearing Manager via automated interfaces.
- 4.4.9 Once an auction has commenced, only on instruction from the Authority can the allocation of FTRs be suspended.

## **4.5 Manage assignment trades**

- 4.5.1 Secondary trading of FTRs i.e. sales or transfers of ownership of FTRs originally purchased in FTR auctions, or acquired through assignment, is allowed for in the Code (clause 13.248). Any change to ownership of FTRs (assignment) is only effective when it is recorded (registered) in the FTR register. Both parties of the assignment must use the format and interface specified by the FTR Manager for the purpose.
- 4.5.2 The FTR Manager checks that the assignee for an assignment holds, at the time of assignment, sufficient prudential security. Assignees must be registered FTR participants.

- 4.5.3 In the case of assignments, the FTR register holds information about the relationship with the immediately preceding owner (assignor). A full audit trail of changes is kept.
- 4.5.4 The Clearing Manager can be a party to an assignment in the event of a default.
- 4.5.5 All assignments of FTRs are notified to the Clearing Manager via an automated interface. The Clearing Manager settles all assignments.

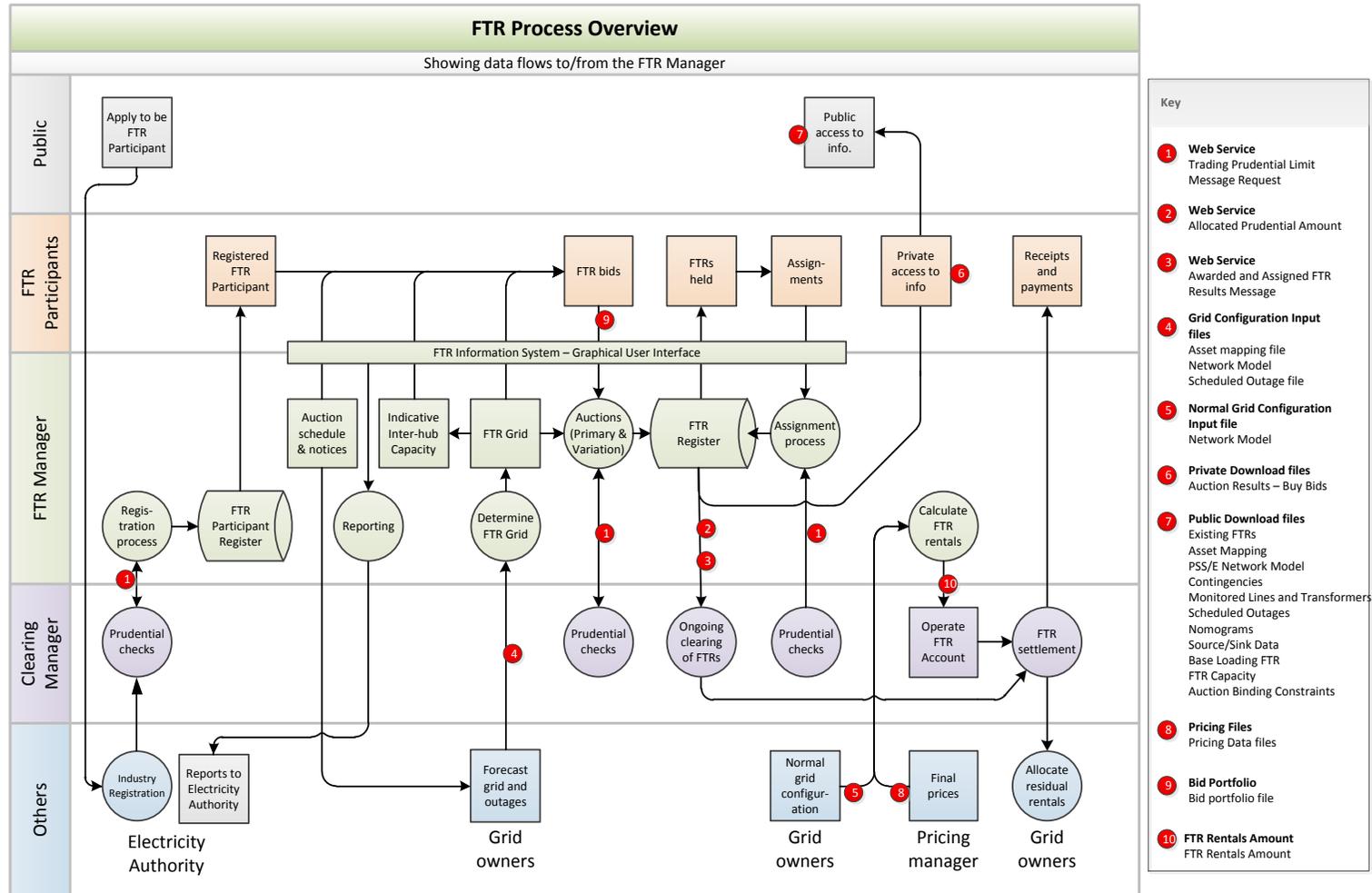
## **4.6 Determine FTR rentals**

- 4.6.1 FTRs are partially funded from a portion of the loss and constraint excess, calculated in accordance with Schedule 14.6 of the Code. The FTR Manager determines the amount of the loss and constraint excess that must be retained by the Clearing Manager and paid into the FTR account (FTR rentals) and notifies the Clearing Manager of the amount each month. The Clearing Manager settles all FTRs and processes payments. Determination of the FTR rentals occurs in the month immediately after the relevant FTR period of the FTRs and once the final prices has been received by the FTR Manager. FTR settlement follows determination of FTR rentals in the same month.
- 4.6.2 To enable the FTR Manager to calculate the FTR rentals, the FTR Manager obtains final pricing schedule and associated information from the Pricing Manager via an automated interface, covering each trading period of the previous month.

## **4.7 Provide market information**

- 4.7.1 The FTR Register is available to the public for searching FTRs and FTR holdings.
- 4.7.2 The FTR Manager produces monthly reports to the Authority summarising auction results, assignment of FTRs and other matters as requested by the Authority.
- 4.7.3 The FTR Manager is responsible for promoting the FTR market.

## 5 Roles and responsibilities



## **5.1 Clearing Manager**

- 5.1.1 The Clearing Manager is responsible for the production and settlement of invoices for the purchase and sale of electricity in New Zealand. These invoices include amounts for energy, ancillary services, hedge contracts, constrained-on compensation, must-run dispatch auction rights, fees and taxes. An FTR created and allocated by the FTR Manager in accordance with the Code is settled and included in the invoices produced by the Clearing Manager. It is the Clearing Manager who determines settlement amounts for FTRs, using final wholesale energy prices.
- 5.1.2 The Clearing Manager manages an FTR account. When notified by the FTR Manager of the FTR rentals required (in accordance with clause 14.73(2A) of the Code), the Clearing Manager credits the FTR account with the amount. Payments and receipts of FTR settlements are applied against this account
- 5.1.3 The Clearing Manager is also responsible for the management of prudential requirements to ensure that payers can meet their financial obligations. All FTRs are included in this risk assessment for each potential payer in respect of FTRs.
- 5.1.4 FTR participants must ensure that they have sufficient security established with the Clearing Manager:
- to meet their current electricity market obligations;
  - before they may purchase an FTR; and
  - at all times while they have any obligations in relation to an FTR.
- 5.1.5 An FTR participant's prudential trading limit is calculated by the Clearing Manager and provided to the FTR Manager at least once a day, via an automated interface. The FTR Manager uses this information to check that the FTR Participant has sufficient prudential security in FTR auctions and assignments.
- 5.1.6 The FTR Manager is required by the Code to provide the Clearing Manager with details of all FTR allocations (clause 13.252(1)) and FTR assignments (clause 13.249(2)) so the Clearing Manager can accurately determine the prudential requirements of participants and their FTR trading limit at any point in time.

## **5.2 Grid Owners**

- 5.2.1 In order to determine the volume of FTRs to offer in auctions (using FTR grid design), the FTR Manager requires information from Grid Owners, being the configuration and capacity of the grid and any relevant planned outages. The information is transmitted via an automated interface.
- 5.2.2 In order to determine the FTR rentals, the FTR Manager obtains normal grid configuration information from the Grid Owners. The information is transmitted via an automated interface.

## **5.3 Authority**

### **5.3.1 The Authority:**

- approves, if appropriate, the FTR allocation plan (refer clause 13.240 of the Code) and any future variations (refer clause 13.241 of the Code);
- may direct the FTR Manager to suspend the awarding of auctioned FTRs in certain circumstances (refer clause 13.255 of the Code);
- receives and processes FTR participant registration requests; and
- approves, if appropriate, the Clearing Manager's draft methodology for determining the minimum level of security required from a payer in relation to FTRs (refer clause 14.19B of the Code).

## **5.4 FTR participants**

### **5.4.1 To take part in an FTR auction or an FTR assignment, an FTR participant must:**

- be registered as a participant under the Act and have established sufficient security with the Clearing Manager;
- be an approved participant under the Authorised Futures Dealers (Financial Transmission Rights) Notice 2012; and
- be approved and registered with the FTR Manager using the procedure designated by the FTR Manager in the FTR allocation plan for this purpose.

### **5.4.2 The process by which an FTR participant registers with the Electricity Authority and establishes sufficient security with the Clearing Manager (to be able to meet its current electricity market and any potential FTR obligations) is outside the scope of this specification.**

## **5.5 Pricing Manager**

### **5.5.1 The FTR Manager requires the wholesale electricity market final pricing schedules and associated input data files and their file formats in order to calculate the FTR rentals that must be retained by the Clearing Manager and paid into the FTR account. The final pricing information is transmitted via an automated interface.**

## **5.6 Public**

### **5.6.1 The FTR Manager provides the general public with access to the FTR register to view the current holdings of FTRs. The public is also able to view notices of forthcoming auctions and general FTR market information via a public website established by the FTR Manager.**

## **6 Initial start-up requirements**

### **6.1 FTR Manager role**

- 6.1.1 There are a number of initial start-up requirements for the FTR Manager role, the most important of which are:
- the establishment of appropriate interfaces with the Clearing Manager, Grid Owners and Pricing Manager;
  - the creation of a web-based client-server system to register FTR participants, register FTR assignments, receive bids, award FTRs via an auction, and notify any bid submission errors, FTR assignment registrations or rejections or insufficient trading limits;
  - the creation of a public website for the publication of auction notices and for public access to the FTR register.

### **6.2 Prudential trading limit**

- 6.2.1 This mechanism is required in the auction, bid validation and the awarding of FTRs processes. Clause 13.251(4) and (5) of the Code provides that the Clearing Manager will advise the FTR Manager whenever an organisation who has applied to participate in an FTR auction meets the prudential security requirements in Part 14 of the Code, and the amount of security that the organisation has provided that exceeds that organisation's other obligations, no later than 2 business days before an auction is held unless otherwise agreed between the FTR Manager and Clearing Manager. This information is updated right up to the time of the auction. The reason for this is that there are other obligations that affect the calculation of an FTR participant's trading limit in the Clearing Manager's system. The trading limit is determined by the extent to which the FTR participant's actual security level exceeds its current obligations under Part 14 of the Code, which can change at any time.

## 7 Sub-processes

Sub-process:	<b>RV-010 Obtain information from the Clearing Manager</b>
Process:	Receive information from the Clearing Manager
Other parties:	Clearing Manager
Code references:	13.251
Dependencies:	

#### Description:

The FTR Manager requests and receives daily from the Clearing Manager:

- daily settlement prices and the maximum initial margin;
- trading limits and registration information for each participant; and

The FTR Manager uses this information in a number of processes to ensure every registered FTR participant has an adequate prudential trading limit before the participant can

- be approved;
- submit bid portfolios in an auction;
- be allocated FTRs in an auction; and
- be assigned an FTR in a secondary market trade.

#### Business requirements:

1. The FTR Manager must request and receive the registration information and trading limit details, daily settlement prices and the maximum initial margin at least once a day from the Clearing Manager using the automatic interface.

#### Data inputs:

The Clearing Manager provides:

- daily settlement prices and the maximum initial margin; and
- trading limits including breach status, and registration information for each participant.

N.B. Refer to the FTR Manager's document - Integration Requirements FTR Manager and Clearing Manager (DO.25) for further details.

#### Processing:

The FTR Manager:

1. Sends a request to the Clearing Manager.

2. Receives and stores the information for use in subsequent processes.

Data outputs:

Exceptions:

Sub-process:	<b>AR-010 Register new participants</b>
Process:	Manage participant registration
Other parties:	Potential FTR participant, Clearing Manager
Code references:	13.243, 14.3
Dependencies:	RV-010

#### Description:

The FTR Manager has an approval and registration process for all potential FTR participants and stores the details of all approved FTR participants.

In order to participate in the FTR market, a party must meet the participation requirements described in the FTR allocation plan:

- meet the prudential requirements in relation to FTRs set out in Part 14 of the Code - the minimum level of security required will be determined by the Clearing Manager under Part 14 of the Code;
- meet one of the criteria for persons to whom the FTR Manager can issue FTRs;
- be an industry participant under section 7 of the Electricity Industry Act 2010; and
- be an approved participant under the Authorised Futures Dealers (Financial Transmission Rights) Notice 2011.

#### Business requirements:

1. The applicant must meet the prudential security requirements of the Clearing Manager.
2. The application must fulfil the participation requirements described in the FTR allocation plan.
3. The application form must:
  - (a) require the person completing the application to warrant that he or she is authorised by the applicant to complete and submit the application; and
  - (b) state that if incorrect or materially inaccurate information is provided in the application the FTR manager may at any time reject the application or cancel any registration arising from the application and that such rejection or cancellation shall not give rise to any liability on the part of the FTR manager or the Authority.

#### Data inputs:

- Applicant to acknowledge that it meets the criteria to become an FTR Participant. Specifically, the applicant acknowledges that it:
  1. has obtained all necessary internal approvals to become a participant in the FTR market;

2. has registered with the Electricity Authority as a trader in electricity;
  3. meets one of the criteria for persons to whom the FTR Manager can issue FTRs, as described in the FTR allocation plan; and
  4. falls into one of the categories of “approved participant” under the Authorised Futures Dealers (Financial Transmission Rights) Notice 2012.
- Registration and prudential trading limit per FTR participant including their breach status from the Clearing Manager.

#### Processing:

##### The FTR Manager:

1. Checks if the applicant’s details exist in the daily registration information obtained from the Clearing Manager via the daily automated interface.
2. Where the participant exists, the FTR Manager requests that the applicant completes the registration details and accepts their terms and conditions.

#### Data outputs:

- Notification to the applicant.
- Registered FTR participant.

#### Exceptions:

If the prudential status indicates the participant is in breach, the application will not be processed.

Sub-process:	<b>PA-010 Determine volume of FTRs on offer</b>
Process:	Manage FTR auction
Other parties:	Grid owners
Code references:	13.242, 13.251, Schedule 13.5
Dependencies:	

#### Description:

The FTR Manager calculates the FTRs to be offered per FTR period in an auction, in accordance with the FTR allocation plan grid design methodology. The limits to the FTR grid to be offered in each period covered by an auction are derived from the forecast network model and publicly-available information concerning planned outages provided by Grid Owners.

#### Business requirements:

1. For each period of an auction advised by the FTR Manager, each Grid Owner must provide to the FTR Manager, not later than 1 month before the auction date (or as otherwise agreed with the FTR Manager), a forecast of the configuration and capacity of the Grid Owner's grid, and relevant planned outages for the FTR periods to be auctioned.
2. The FTR Manager must publish a separate FTR grid for each auctioned FTR period available for access by FTR participants.
3. The FTR Manager must obtain the information using the automated interface agreed with the Grid Owner, with the information and file formats defined in the FTR policy on the FTR grid issued by the FTR Manager in accordance with and as required by the FTR allocation plan.
4. To derive the FTR quantities, the FTR Manager must follow the FTR grid design requirements of Schedule 13.5 of the Code and application of these requirements as described in the FTR allocation plan, including simultaneous feasibility testing and FTR grid capacity factor.

#### Data inputs:

From Grid Owners, per FTR period in an auction:

- network model (including grid forecast configuration and capacity); and
- relevant planned outages.

N.B. Refer to the FTR Manager's document - Integration Requirements FTR Manager and Grid Owner (DO.24) for further details.

From the FTR Manager, per FTR period in an auction:

- FTR grid capacity factor; and
- list of group constraints.

### Processing:

The FTR Manager:

1. determines the grid capacity;
2. conducts simultaneous feasibility testing; and
3. applies the FTR grid capacity factor.

### Data outputs:

- The indicative FTR capacity available to be offered in an auction per FTR period per source hub and sink hub.
- FTR grid for FTR period.

### Exceptions:

Sub-process:	<b>PA-020 Issue auction notices</b>
Process:	Manage FTR auction
Other parties:	Potential FTR participant, FTR participant, Clearing Manager
Code references:	Not applicable
Dependencies:	PA-010, RA-020

#### Description:

For each forthcoming auction, the FTR Manager makes the auction information publicly available on the FTR website.

FTR auction notices are published in accordance with the FTR allocation plan and as detailed in the FTR policy calendar. In addition, special auction notices will be provided should there be any change of information, including change of status (open/suspended/closed) and the reason, if the auction status is suspended (RA-020).

#### Business requirements:

1. A notice must be issued giving sufficient time for interested parties to construct their bid portfolios.
2. Auction notices must be published on the FTR Manager's public website in accordance with the FTR policy on the FTR calendar issued by the FTR Manager in accordance with and as required by the FTR allocation plan.

#### Data inputs:

- FTR volumes to be offered in an auction per period.
- Auction rules.
- FTR calendar.

#### Processing:

The FTR Manager:

1. prepares the auction notices in accordance with the FTR calendar and publishes them on the FTR Manager's website.

#### Data outputs:

Auction notices include:

- the upcoming primary and variation auctions and the FTR periods that will be offered;
- the FTR products offered;
- confirmation of when the FTR grid will be available for FTR participants to access in the FTR information system;
- the indicative inter-hub capacity for each FTR period;
- the FTR grid capacity factor for each FTR period; and
- auction timings including the bid window.

#### Exceptions:

Special auction notices will be issued to FTR Market should there be any change of information, including change of status (open/suspended/closed) and the reason, if the auction status is suspended (RA-020).

Sub-process:	<b>PA-030 Receive auction bids</b>
Process:	Manage FTR auction
Other parties:	FTR participants, Clearing Manager
Code references:	13.244, 14.19A
Dependencies:	RV-010, AR-010, PA-020, RA-020

#### Description:

When an auction's bid window is open, an FTR participant, with a prudential trading limit, submits bid portfolios for a quantity of FTRs in an auction. The FTR Manager confirms whether an FTR market participant has sufficient prudential cover to submit a bid portfolio at an FTR auction. In this case the FTR Manager applies prudential information to the transaction proposed by the FTR participant.

#### Business requirements:

1. To submit their bid portfolios for an auction, FTR participants must use the file format and/or interface as defined in the FTR policy on the use of the FIS in accordance with and as required by the FTR allocation plan.
2. The FTR Manager must reject a bid portfolio if the bidder does not have sufficient prudential security to cover the potential liabilities accruing from that bid portfolio, allowing for all previously accepted bid portfolios in that FTR auction.
3. Adequacy of prudential security must be determined in accordance with the Clearing Manager's FTR prudential security assessment methodology, using information provided by the Clearing Manager, including each FTR participant's prudential trading limit. Such information provided by the Clearing Manager prior to the opening of the bidding window will apply until the auction process is complete and FTRs have been awarded and registered by the FTR Manager.
4. An FTR participant must be able to upload, submit, retract or delete bid portfolios. The FTR Manager must only accept those bids that conform to the auction rules and are submitted using the interface defined for the purpose.
5. The auction for each FTR Period must award FTR products and volumes that maximise the value-as-bid of bids, subject to the combination of all participants' awarded FTR products and volumes being simultaneously feasible on the FTR grid.
6. The FTR Manager must ensure that tied bids are treated equitably, so that equal bids are awarded proportionally.

#### Data inputs:

- Bid portfolios per participating FTR participant.
- Registration and prudential trading limit per FTR participant including their breach status

from the Clearing Manager (RV-010).

- Daily settlement price and maximum initial margin per FTR product from the Clearing Manager (RV-010).

#### Processing:

Bid portfolios will be specific to an FTR participant, FTR auction, and FTR period, and each bid portfolio may include one or more bids, each for a specific:

- FTR product;
- bid quantity (MW) in 0.1 MW increments, which must be a positive value; and
- bid price (\$/MW/h) in \$0.01 (one cent) increments: for option FTRs, bid prices must be positive, while for obligation FTRs, bid prices may be positive, negative or zero.

The FTR Manager:

1. Validates and accepts only those bid portfolios that:
  - conform to the auction rules;
  - are submitted by an FTR participant using the format and user-interface as defined in the FTR policy on the use of the FIS; and
  - satisfy the prudential trading limit as defined by the Clearing Manager.
2. Rejects a bid portfolio if the bidder does not have sufficient prudential security to cover the *potential liabilities* accruing from that bid portfolio, allowing for all previously accepted bid portfolios from that bidder in that FTR auction.

The calculation of the *potential liability* accruing to a bid portfolio is defined in the Policy on Prudential Requirements issued by the FTR Manager.

3. Once the bidding window has closed, calculates the total *potential liability* per FTR participant and transmits it to the Clearing Manager using the automated interface.

#### Data outputs:

- Bid portfolios with a status of:
  - uploaded (system checks for validation);
  - submitted (to be approved based on a prudential checks);
  - retracted; or
  - deleted.
- Where bid portfolios are not validated or approved, this is indicated and the reasons explained in a message.
- Allocated prudentials (*potential liabilities*) per FTR participant transmitted to the Clearing Manager via the automated interface.

#### Exceptions:

Sub-process:	<b>RA-010 Run auction and award FTRs</b>
Process:	Manage FTR auction
Other parties:	FTR participants, public, Clearing Manager
Code references:	13.242, 13.252, 13.254
Dependencies:	PA-030

#### Description:

Once the bidding window has closed, the FTR Manager runs an auction for each FTR period which awards FTR products and volumes to FTR participants that maximises the value-as-bid of bids, subject to the combination of all participants' awarded FTR products and volumes being simultaneously feasible on the FTR grid.

#### Business requirements:

1. FTR Manager will run FTR auctions according to the timeframes set out in the FTR calendar under the FTR allocation plan.
2. The FTR Manager must award FTRs to bidders in an auction based on the auction rules detailed in the FTR allocation plan.
3. The auction rules require the development of an FTR grid for each FTR period offered in each FTR auction, for use in determining Indicative Inter-hub Capacity and clearing the FTR auction.

#### Data inputs:

- FTR grid information which includes:
  - a network model;
  - relevant planned outages;
  - security constraints;
  - allowance for unplanned outages;
  - allowance for electrical losses;
  - instantaneous reserves constraints; and
  - auction hub weightings.
- Submitted bid portfolios specific to an FTR participant, FTR auction, and FTR period. Each bid portfolio may include one or more bids, as per PA-030.

N.B. The format of an FTR bid portfolio is defined in the FTR policy on the Use of the FIS.

### Processing:

The auction process for awarding FTRs to bidders follows the auction rules detailed in the FTR allocation plan. Once the clearing prices have been determined the auction process observes the following conditions and relationships:

- i. FTR auction awards, where not in multiples of 0.1MW, are truncated to multiples of 0.1 MW;
- ii. the auction clearing price for an obligation FTR equals the auction clearing price for an option FTR in the same direction minus the auction clearing price for an option FTR in the opposite direction;
- iii. option FTRs cannot have a negative auction clearing price;
- iv. obligation FTRs in opposite directions have opposite auction clearing prices: one positive, one negative;
- v. the auction clears all bids whose bid prices exceed the relevant auction clearing price; and
- vi. bids whose bid prices equal the relevant auction clearing price will be partially cleared: the pro-rating of tied bids will apply.

### Data outputs:

- Auction clearing prices (\$/MWh) for each of the four FTR products for each FTR period.
- Updated FTR register with the results of the awarded FTRs.
- Awarded FTR results transmitted to the Clearing Manager using the automated interface.

### Exceptions:

Sub-process:	<b>RA-020 Suspend auction</b>
Process:	Manage FTR auction
Other parties:	Authority, public
Code references:	13.255
Dependencies:	PA-020, RA-010

#### Description:

The Authority directs the FTR Manager to suspend the allocation of FTRs in certain circumstances, as specified in clause 13.255 of the Code. The Authority may also direct the FTR manager to reschedule a specific FTR auction.

#### Business requirements:

1. The FTR Manager must only suspend an FTR auction if it receives from the Authority a suspension notice issued under clause 13.255 of the Code before the auction results are entered into the FTR Register.
2. The FTR Manager must advise FTR participants as soon as practicable of the suspension, and of the rescheduling of that auction, if relevant.

#### Data inputs:

- Suspension notice from the Authority.

#### Processing:

The FTR Manager:

1. Manually stops the auction engine, if running, and deletes any auction results and advises FTR participants.
2. Does not publish the results to the FTR register or Clearing Manager.

#### Data outputs:

- Suspension notice to the public website.
- Special notices, if necessary, to advise of a rescheduling of an FTR auction (PA-020).

#### Exceptions:

Sub-process:	<b>RT-010 Assign ownership in FTR register</b>
Process:	Manage assignment trades
Other parties:	FTR participants, Clearing Manager
Code references:	13.248, 13.249, 13.250
Dependencies:	AR-010, RV-010

#### Description:

The holder of FTRs can assign an FTR to another registered FTR participant.

The FTR Manager registers the assignment of FTRs from an assignor to an assignee in accordance with the Code, by:

- ensuring ownership is by the assignor;
- ensuring that the assignee is an FTR participant and has sufficient prudential security;
- updating the FTR register; and
- informing the assignor, assignee and Clearing Manager.

Assignments are possible from the creation of an FTR at an auction or a previous part-assignment, to the last business day before the end of the month immediately preceding the FTR period.

#### Business requirements:

1. The FTR Manager must provide a user-interface to enable FTR participants to assign (transfer) FTRs to another FTR participant. The user-interface must include all the information contained in Form 1 of Schedule 13.6 of the Code. The assignment process must involve one party notifying the FTR Manager of its intention to transfer and the other party confirming the transfer.
2. Using the Clearing Manager's prudential trading limit information provided daily via an automated interface, the FTR Manager must confirm that the assignee meets their prudential security requirements.
3. Where the assignee meets the prudential requirements the FTR Manager must then register the assignment in the FTR register.
4. The FTR Manager must notify the Clearing Manager of each approved assignment via the automated interface.
5. The FTR Manager must allow for the transfer of the whole or a part of an FTR holding.
6. Part-assignments must create a new FTR of the same FTR product but with a different FTR Volume (MW) and registered to the assignee.
7. The original FTR must be retained by the assignor with a correspondingly decreased FTR volume.
8. Partial transfer must result in a new FTR identifier for the transferred FTR.

9. A full audit trail must be possible on all transfers and part transfers.
10. It must be possible to trace back an FTR holding to the original award at an auction.

#### Data inputs:

- From the assignor and the assignee, the proposed assignment details:
  - date of assignment;
  - assignor;
  - assignee;
  - registered number of the FTR in the assignor's FTR holding, as recorded in the FTR register, that the assignor wishes to assign);
  - assignment quantity (in MW); and
  - FTR assignment price (optional). Note this can be negative.
- Registration and prudential trading limit per FTR participant including their breach status from the Clearing Manager.

#### Processing:

##### The FTR Manager:

1. Validates the transfer information from the assignor and matches it against the assignee's confirmation.
2. Checks the assignor's ownership rights – whether it is the holder and there is sufficient quantity to transfer.
3. Confirms the assignee meets the prudential requirements.
4. On confirmation, transfers the assigned FTR from the assignor to the assignee in the FTR register.
5. Notifies the Clearing Manager of the ownership change of the assigned FTR, including the FTR now held by the assignee, and any remaining FTR volume from the original FTR holding that continues to be held by the assignor, via the automatic interface.
6. Records the assignment transactions received from the assignor and assignee together with their audit details.

#### Data outputs:

To the Clearing Manager:

- assignment (results) details transferred using the automated interface.

N.B. Refer to the FTR Manager's document - Integration Requirements FTR Manager and Clearing Manager (DO.25) for further details.

Updates to the FTR register:

- record of the assignment details from the assignor and the assignee.

To the assignor and assignee:

- confirmation of the transfer of ownership.

Exceptions:

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Sub-process:	<b>AF-010 Determine FTR rentals</b>
Process:	Determine FTR rental amount
Other parties:	Clearing Manager, Pricing Manager, Grid Owner
Code references:	14.73, Schedule 14.6
Dependencies:	

#### Description:

The FTR Manager calculates the amount of the loss and constraint excess to be retained by the Clearing Manager and paid into the FTR account (FTR rentals), in accordance with clause 14.73 and Schedule 14.6 of the Code. The Clearing Manager will have an account to hold these funds (the FTR account), which is used to settle FTRs.

#### Business requirements:

1. The FTR Manager must follow the process described in Schedule 14.6 of the Code to calculate the FTR rentals to be paid into the FTR account each month.
2. The FTR Manager must notify the Clearing Manager of the FTR rentals to be paid into the FTR account once a month by 1600 hours on the seventh business day of the month following the relevant billing period.

#### Data inputs:

For the preceding month:

from the Pricing Manager:

- the final pricing schedule and associated input data, specifically as follows:

File reference	Per day or trading period?
MSSMOD	Day
DAILY	Day
MSSNET (=Static MSSNET)	Day
DMSSNET (=Dynamic MSSNET)	Trading period
SPDSOLVED	Trading period
MSSMKT	Day

The format of the final pricing schedule and associated data is defined in the Market Systems Project CSV Reference Manual. This manual is held and managed by Transpower on behalf of the Pricing Manager, and is copyrighted by Areva T&D Inc.

from the Grid Owner(s):

- normal grid configuration(s).

The format of the normal grid configuration file is defined in the FTR grid policy, issued by the FTR Manager in accordance with and as required by the FTR allocation plan.

#### Processing:

The FTR Manager:

1. calculates the amount of the loss and constraint excess to be paid into the FTR account; and
2. notifies the Clearing Manager of the amount, via the automated interface.

#### Data outputs:

- Monthly FTR rental amount.

#### Exceptions:

Sub-process:	<b>RP-010 Report to the Authority</b>
Process:	Provide market information
Other parties:	Authority
Code references:	Section 46 of the Act
Dependencies:	PA-010, RA-010, MS-010, AF-010

#### Description:

The FTR Manager provides monthly reports to the Authority summarising market activity and any other information requested by the Authority.

#### Business requirements:

1. The FTR Manager must provide auction results (if run during the month) and FTR register summary information to the Authority by the last day of each month.

#### Data inputs:

- FTR register
- Auction information – quantities on offer, quantities awarded and auction clearing prices.
- Assignment information – quantities assigned and assignment prices.

#### Processing:

The FTR Manager:

1. summarises and publishes the FTR auction activity; and
2. summarises and publishes assignment activity.

#### Data outputs:

To the Authority:

- FTR products offered per auction by type, source hub, sink hub (nodes and direction) and FTR period;
- FTRs awarded per auction, FTR product type, source hub sink hub (nodes and direction) and FTR period;
- auction clearing prices per FTR period, FTR product type and direction and FTR period;
- FTR assignments by type, source hub, sink hub (nodes and direction) and FTR period

each month; and

- FTR holdings per participant, FTR product type, source hub sink hub (nodes and direction) and FTR period each month.

Exceptions:

Sub-process:	<b>PP-010 Publish FTR register information to public</b>
Process:	Provide market information
Other parties:	Public
Code references:	13.247, 13.254
Dependencies:	RA-010, RT-010

#### Description:

The FTR Manager will record every FTR awarded or assigned in an FTR register, and will operate, maintain and provide public access to that information.

#### Business requirements:

1. The FTR Manager must provide filter functions on open, assigned and settled FTR holdings to the public.
2. The FTR Manager must provide a download facility of selection results.

#### Data inputs:

FTR register that records the holdings of FTRs, the FTR payment for each FTR and assignments of FTRs (including any price disclosed under clause 13.249 of the Code). The following information will be accessible:

- a unique registered number or code;
- FTR product, being:
  - FTR period;
  - FTR type (option or obligation); and
  - Source hub and sink hub;
- FTR holders, being:
  - Current: the FTR participant who owns this FTR;
  - Previous: previous holder (assignor) if FTR has been assigned; and
  - First: the FTR participant awarded the FTR in an auction, or assigned a new FTR that is part of a pre-existing FTR;
- FTR volume;
- FTR auction clearing price;
- FTR acquisition cost;
- auction at which awarded;

- date acquired;
- the FTR allocation plan under which the FTR was first awarded; and
- status: awarded, assigned or settled.

#### Processing:

The FTR Manager:

1. presents the FTR register information;
2. provides download of information in, at least, CSV format; and
3. provides a real-time online search facility.

#### Data outputs:

- Accessible FTR register information (see Data Inputs) displayed on the screen according to filter criteria and able to be downloaded.
- The format of the data outputs is defined in the FTR policy on the use of the FIS by the FTR Manager in accordance with and as required by the FTR allocation plan.

#### Exceptions: