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FTR GLOSSARY

1 JUNE 2021

Disclaimer

EMS, as FTR Manager, will only accept a person as an FTR participant, and will only offer and issue FTRs to that person, if the person meets all of the following requirements:

- (a) Meets the prudential requirements in relation to FTRs set out in Part 14 of the Electricity Industry Participation Code 2010 (**Code**), as determined by the Clearing Manager under the Code.
- (b) Is a natural person resident in New Zealand, a body corporate that is incorporated in New Zealand, or a person with a branch office or other substantial physical presence in New Zealand through which it conducts its FTR participation.
- (c) Has provided EMS as FTR Manager with either:
 - (i) a current and valid eligible investor certificate under clause 41 of Schedule 1 of the Financial Markets Conduct Act 2013 (FMCA) in respect of the issue or sale of FTRs; or
 - (ii) a current and valid wholesale investor certificate under clause 44 of Schedule 1 of the FMCA.
- (d) Is registered by the Electricity Authority as an Industry Participant under section 9 of the Electricity Industry Act 2010 as a trader in electricity.
- (e) Agrees to the standard FTR participation agreement, **(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. The FTR auction, reconfiguration auction and assignment facilities provided by EMS as FTR Manager are not licensed financial product markets under the FMCA or otherwise. However, those facilities and the FTR Manager are regulated under the Electricity Industry Act 2010, Electricity Industry (Enforcement) Regulations 2010 and Electricity Industry Participation Code 2010.

FTR Glossary

The purpose of the FTR glossary is to provide a central source for the definition of terms used in the FTR Allocation Plan, associated FTR Policies and FTR related documentation. This document should be read in conjunction with these publications.

This policy assumes the FTR Allocation Plan as revised 14 November 2012 which, following its 10 Oct 2012 consultation, the FTR Manager submitted unchanged to the Authority for approval.

If you notice any errors in or omissions from this glossary, please advise frmanager@ems.co.nz.

Unless otherwise specified, all dollar values are expressed in NZ\$ exclusive any GST to 2 decimal places.

Term	Meaning	See
\$/MW/h \$/MWh	Dollars per Megawatt per hour	
Allocated Prudential Amount	The amount of prudentials that would be allocated to each market participants if all of their bids in an FTR Auction were accepted.	FTR Policy on prudential requirements
APNode	Aggregate Pricing Node (i.e. a Hub). One APNode is mapped to one or more PNodes with defined participation factors.	FTR Policy on the FTR Grid
Assignment Assignor Assignee	The Assignment of an FTR in accordance with clause 13.248 of the Code. Assignor and Assignee refer to the two parties to an Assignment.	FTR Allocation Plan
Asset Owner	The name of the FTR participant or Market Participant.	FTR Policy on the use of the FIS
Assignment Difference Payment Assignor to Clearing Manager	In cases of an FTR Assignment with an FTR Disclosed Assignment Price, then if the FTR Disclosed Assignment Price is less than the FTR Acquisition Cost, a payment of the assignment difference is made by the Assignor to the Clearing Manager.	FTR Allocation Plan FTR Models
Assignment Difference Payment Clearing Manager to FTR Holder	In cases of an FTR Assignment with an FTR Disclosed Assignment Price, then if the FTR Disclosed Assignment Price is greater than the FTR Acquisition Cost, a payment of the assignment difference is made by the Clearing Manager to the Assignor.	FTR Allocation Plan FTR Models
Auction	A method for awarding FTRs for an FTR period based on FTR participants' bids. There will usually be two auctions in an Auction Month, being either a Primary Auction or a Variation Auction. An FTR Auction can be for multiple FTR Periods.	FTR Allocation Plan
Auction Clearing Price	Price for each FTR Type and FTR Direction at which an FTR Auction for a particular FTR Period clears.	FTR Allocation Plan FTR Models

Term	Meaning	See
Auction Horizon	An Auction Horizon is the period of time between the Auction Month and the FTR Period auctioned. Thus if an FTR Period of June 2015 is auctioned in June 2014, it has an Auction Horizon of 12 months. See also FTR Horizon.	FTR Allocation Plan
Auction Month	The month in which an FTR Auction occurs.	FTR Allocation Plan
Authority	Electricity Authority	
Base Loading FTRs	Pre-existing FTRs for the Market. Pre-existing FTRs are used to determine what capacity has already been allocated and hence how much capacity remains available in the auction.	FTR Policy on the FTR Grid
BEN	Benmore, being the south end of the HVDC inter-island link.	
Bid Portfolio	A set of bids for a particular FTR Auction and FTR Period that an FTR Participant uploads or enters into the FTR Information System.	FTR Allocation Plan
Bid Window	The period when a particular FTR Auction is open to receive Bid Portfolios.	FTR Allocation Plan
Binding Constraints	A constraint that has been met in the network model which will prevent more power from flowing through the circuit. This can occur due to: <ul style="list-style-type: none"> • A circuit's capacity limit • An N-1 contingency • Group constraints or Nomograms 	
Capacity Release Factor	The proportion of available FTR Grid capacity that is released in an FTR Auction for an FTR Period. The available FTR Grid capacity is the FTR grid capacity remaining after allowance for any FTRs already awarded and held.	FTR Allocation Plan
Circuit	A conductor that forms a single electrical connection between two or more stations and which when faulted is removed automatically from the system (by circuit-breakers) as a single entity. (FTR models represent the three conductors of a physical HVAC circuit by a single circuit)	FTR Policy on the FTR Grid
Clearing Manager CM	The person appointed by the Authority to act as the Clearing Manager under the Code, currently NZX	
Code	Electricity Industry Participation Code 2010	
Contingency	An event that the transmission system is operated to be robust to, e.g. by ensuring that the unplanned failure of any one grid asset will not cause the resultant changed power flows to overload any grid assets.	FTR Policy on the FTR Grid

Term	Meaning	See
Daily Settlement Price	The Clearing Manager's assessment of the Hedge Value of an FTR on any given business day prior to settlement	FTR Policy on prudential requirements
EA	Electricity Authority	
Elemental Price Nodes	See PNode	FTR Policy on the FTR Grid
EMS	Energy Market Services	
Excel®	Microsoft Excel	
Final Price	Wholesale electricity prices as defined in the Code and published by the Pricing Manager for every trading period for every node. Expressed in \$/MW/h to 2 decimal places.	FTR Allocation Plan
FIS	FTR Information System provided by the FTR Manager.	FTR Allocation Plan FTR Policy on the use of the FIS
FTR	Financial Transmission Right. FTRs are allocated to FTR Participants (who then become FTR Holders) in an FTR Auction or through Assignment.	FTR Allocation Plan
FTR Account	The trust account established by the Clearing Manager in accordance with clause 14.43A of the Code. (Made up of loss and constraint rentals and auction income)	FTR Allocation Plan
FTR Account Amount	The amount in the FTR Account for a particular FTR Period at the time of determining revenue adequacy for that period.	FTR Allocation Plan
FTR Acquisition Cost	The cost (\$/MW/h or \$) of an FTR awarded at an FTR Auction, or acquired through Assignment.	FTR Allocation Plan FTR Models
FTR Allocation Plan 2012	The FTR Allocation Plan as approved by the Authority in 2012.	FTR Allocation Plan
FTR Allocation Plan 2013	The FTR Allocation Plan as approved by the Authority in 2013.	FTR Allocation Plan
FTR Calendar	A calendar of forthcoming events in the FTR market, issued as an FTR Policy.	FTR Allocation Plan FTR Calendar
FTR Direction	FTRs are from one hub (the From or Source Hub) to another hub (the To or Sink Hub). So, an FTR whose direction is A to B has a From Hub A and a To Hub B. For the Initial FTR Design with the BEN and OTA hubs only, it is sometimes convenient to refer to FTR Directions as northwards (BEN-OTA) or southwards (OTA-BEN).	FTR Allocation Plan

Term	Meaning	See
FTR Disclosed Assignment Price	The price that can be disclosed by the assignor and assignee in an Assignment. The price at which an FTR has been assigned, if a price is disclosed. Expressed in \$/MW/h to 2 decimal places.	FTR Allocation Plan FTR Models
FTR Duration	The length of the time period for which an FTR applies at settlement.	FTR Allocation Plan
FTR Grid	The grid used by the FTR Manager to auction FTRs for an FTR Period. The FTR Grid includes not only the network model but also associated factors such as the contingent event list, constraints, outages and capacity scaling, if any.	FTR Allocation Plan
FTR Hedge Value	The value calculated in accordance with sections 2.7 and 2.9 of this allocation plan. There is a Provisional and a Final FTR Hedge Value, corresponding to the FTR Hedge Value before and after any FTR Payment Scaling, being the values calculated in accordance with sections 2.7 and 2.9 of this allocation plan respectively.	FTR Allocation Plan FTR Models
FTR Holder	An FTR Participant that holds an FTR. Every FTR has an FTR Holder.	FTR Allocation Plan
FTR Horizon	An FTR Horizon is the period of time between a specified time (e.g. now, or an auction) and the FTR Period. See also Auction Horizon	FTR Allocation Plan
FTR Manager	The market operation service provider who has been appointed as FTR manager for the purpose of the Code. The FTR Manager is currently EMS.	Code
FTR Models	The FTR Manager provides models that illustrate the workings of the FTR market	www.ftr.co.nz
FTR Participant	A party who has been approved and registered by the FTR Manager to participate in an FTR auction and to be Assigned FTRs.	FTR Allocation Plan
FTR Payment	The value calculated in accordance with section 2.9 of [this] allocation plan.	FTR Allocation Plan FTR Models
FTR Payment Scaling	The process of scaling down FTR Hedge Values in cases of Revenue Inadequacy.	FTR Allocation Plan
FTR Payment Scaling Factor	The degree of scaling down of positive FTR Hedge Values in cases of Revenue Inadequacy.	FTR Allocation Plan
FTR Period	The time period for which an FTR applies at settlement, the length of which is the FTR Duration. Each FTR Period is a specific calendar month.	FTR Allocation Plan

Term	Meaning	See
FTR Product	An FTR of specific FTR Period, FTR Type and for a specific source hub and a specific sink hub.	FTR Allocation Plan
Prudential Trading Limit	The excess prudential security held by the Clearing Manager on behalf of the participant, calculated by the Clearing Manager in accordance with Part 14 of the Code The Prudential Trading Limit refers to the amount available to an FTR Participant for FTR transactions	FTR Allocation Plan FTR Policy on prudential requirements
FTR Rentals Amount	The amount calculated by the FTR Manager for a specific FTR Period in accordance with Schedule 14.6 of the Code, that the Clearing Manager assigns to the FTR Account and uses for FTR Settlement.	FTR Allocation Plan
FTR Type	An FTR can be either an Obligation FTR or an Option FTR.	FTR Allocation Plan
FTR Volume	The assigned volume of an FTR in MW (to 1 decimal place). Note that this is equivalent to the Code definition of 'amount'.	FTR Allocation Plan
Grid Owner	A person who owns or operates any part of the transmission grid. Currently the only Grid Owner is Transpower.	
HAY	Haywards, being the north end of the HVDC inter-island link	
Hub	A node or group of nodes (and in the case of a group of nodes, nodes in the group may be given different weightings) identified as either source hub or sink hub in an FTR.	FTR Allocation Plan
HVAC	High Voltage Alternating Current, applying to the transmission grid other than the HVDC	FTR Allocation Plan
HVDC	High Voltage Direct Current, applying to the inter-island link between Benmore in the South Island and Haywards in the North Island.	FTR Allocation Plan
i-HEDGE®	The name of Nexant Inc's FTR product that the FTR Manager will use to run the FTR market.	FTR Allocation Plan
Indicative Inter-hub Capacity	The inter-hub capacity determined by the FTR Manager and published to FTR Participants prior to an Auction. It is indicative because adjustments to the FTR Grid may need to be made to ensure optimal clearance in the Auction.	FTR Allocation Plan
Line	A circuit. (Not to be confused with Transpower terminology in which a line is a series of structures carrying overhead one or more transmission circuits.)	FTR Policy on the FTR Grid
Maximum Initial Margin	The Clearing Manager's assessment of the maximum margin required to cover market movements of the FTR Hedge Value	FTR Policy on prudential requirements
MOI	Market Operator Interface	

Term	Meaning	See
MUI	Market User Interface	
MW	Megawatts. The unit of measurement used to define the volume of FTR	FTR Allocation Plan
Network Model	The Network Model is a model of the grid (including key assets) and how they interrelate. The Network Model forms the basis of the FTR Grid.	FTR Allocation Plan FTR Policy on the FTR Grid
Nomogram	The i-HEDGE term for constraints.	FTR Policy on the FTR Grid
OTA	Otahuhu, in Auckland	
Outage	A grid asset that is to be removed completely from the Network Model. The Outage file contains a list of grid assets which are to be removed from the network model (Grid Owner creates that outage file for each FTR grid)	FTR Policy on the FTR Grid
P Node	Elemental Pricing Node (i.e load elemental PNode, generator PNode). One PNode is mapped to one and only one Bus, and one APNode is mapped to one or more PNodes with defined participation factors. Note that the definition of PNode here is not the same as in scheduling, dispatch and pricing.	FTR Policy on the FTR Grid
Period	See FTR Period or Trading Period	
Portal	A graphical user interface used to log into the FTR components	Policy on the use of the FIS
Pricing Manager PM	The person appointed by the Authority to act as the Pricing Manager under the Code, currently NZX	
Primary Auction	The first of two auctions in a month, being for the initial auctions of new FTR periods. For example the first three offerings of a new FTR period will be made in three consecutive months alongside the other two months that make up an ASX futures quarter. These auctions will be primary auctions.	FTR Allocation Plan
Prudential Trading Limit	The excess prudential security held by the Clearing Manager on behalf of the participant, calculated by the Clearing Manager in accordance with Part 14 of the Code The Prudential Trading Limit refers to the amount available to an FTR Participant for FTR transactions	FTR Allocation Plan FTR Policy on prudential requirements
PSS/E®	A power systems analysis system and registered trademark of Siemens Energy, Inc.	

Term	Meaning	See
Reserve Constraints	Constraints that prevent additional power from flowing due to insufficient reserves being available.	FTR Policy on the FTR Grid
Revenue Adequacy	A situation where the FTR Account Amount is sufficient to settle all FTR Hedge Values in full for a particular FTR Period.	FTR Allocation Plan
Revenue Adequacy Objective	An objective for the FTR Manager to use in developing the Policy on Determining the FTR Grid.	FTR Allocation Plan
Sink	The 'to' Hub of an FTR.	FTR Allocation Plan
Source	The 'from' Hub of an FTR.	FTR Allocation Plan
Trading Period	A period of 30 minutes ending on each hour or 30 minutes past each hour on any trading day.	FTR Allocation Plan
Transformer	A static electric device consisting of a winding or two or more coupled windings which transfer power by electromagnetic induction between circuits of the same frequency, usually with changed values of voltage and current.	FTR Policy on the FTR Grid
Variation Auction	The second of two FTR Auctions in an Auction Month. The FTR periods auctioned through the variation auction as shown in the FTR Policy : FTR calendar	FTR Allocation Plan