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FTR POLICY: PRUDENTIAL REQUIREMENTS

JANUARY 2026

VERS. 3.1.6

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Document History

Version	Date	Status	Edited By	Revision Description
0.1	24/01/2013	Released	EMS	Initial draft.
0.2	16/07/2014	Released	EMS	Small updates, including Bid Window times and references to FTR Allocation Plan
3.1.5	27/09/2021	Released	EMS	Branding update
3.1.6	20/01/2026	Released	EMS	Formula updates

1. Introduction

The FTR Allocation Plan 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 Prudential Requirements.

Please refer to the FTR Glossary for an explanation of terms used in this policy[1].

1-1 Process for developing the policy

Section 1.6 of the FTR Allocation Plan 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 an FTR users' group
- Considering and incorporating where appropriate feedback from interested parties
- Keeping the industry up to date
- Advising the Authority on developments as they arise

The FTR Manager operates a public website that provides access to consultations on the FTR Allocation Plan and FTR policies, including the change process for these, and submissions received. This can be found at www.ftr.co.nz/ftr-docs.

1-2 Scope of this policy

This Policy clarifies the FTR manager's role in ensuring that FTR participants meet prudential requirement, how their role operates from an FTR participant's perspective and the related role of the Clearing manager. This Policy:

- Outlines the FTR manager's daily schedule for prudential assessments on normal days and auction days
- Explains the steps the FTR Manager takes and what the FTR manager relies on to determine whether FTR participants' auction portfolio bids and assignments meet the prudential requirements
- Explains the Clearing manager's role and refers to related policies including:
    - The Clearing manager's Prudential Security Assessment Methodology (refer to PSAM[2]) and Clearing manager policies under the PSAM
    - The FTR manager's FTR Policy on Registration policy (step 4) that refers to how the clearing manager undertakes an initial assessment of applicants

[1] Available at *www.ftr.co.nz*

[2] Available at *www.ftrclearing.co.nz/documents*

1-3 Requirements

Code

Clauses 13.251(4) and 13.244 of the Code specify the framework for the FTR Manager's and the Clearing Manager's application of prudential requirements with regard to FTRs.

FTR Participants must adhere to the prudential requirements of Part 14 of the Code.

FTR Allocation Plan

Section 1.3 – Requirements for FTR participation
[…] The FTR Manager may only accept a party as an FTR Participant if the party meets all of the following requirements: • Meets the prudential requirements in relation to FTRs set out in Part 14 of the Code, as determined by the Clearing Manager. […]
Section 2.6 – FTR Assignment
The FTR Manager will register Assignment of FTRs from an Assignor to an Assignee in accordance with the Code, including: • Ensuring ownership by the Assignor • Ensuring that the Assignee is an FTR Participant and has sufficient prudential security • Updating the FTR Register • Informing the Assignor, Assignee and Clearing Manager. Adequacy of prudential security will be determined in accordance with the Clearing Manager's FTR Prudential Security Assessment Methodology. […]
Section 3.10 – Prudential security check
The FTR Manager will 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. Adequacy of prudential security will 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 Bid Window will apply until the Auction process is complete and FTRs have been awarded and registered. The FTR Manager will publish its calculation method in its FTR policy on Prudential Requirements, consistent with the Clearing Manager's FTR Prudential Security Assessment Methodology.

FTR Prudential Security Assessment Methodology

As described above, the FTR Allocation Plan requires the FTR Manager's application of prudential security requirements to be consistent with the Clearing Manager's *FTR Prudential Security Assessment Methodology*.

The *FTR Prudential Security Assessment Methodology*[3] defines the maximum exposure to each FTR held by an FTR Participant as:

$$EXP_f = (MIM_f + AC_f - DSP_f) \times \frac{V_f \times TP_p}{2}$$

Where:	*Is the:*
p	FTR Period
f	FTR that is a specific FTR Product (FTR Type, Source Hub and Sink Hub), for FTR Period p
EXP_f	Exposure assessed for FTR f, in $
MIM_f	Maximum Initial Margin for FTR f, being the Clearing Manager's assessment of the assumed liability from holding an FTR, in $/MWh
AC_f	Acquisition Cost for FTR f, in $/MWh
DSP_f	Daily Settlement Price, being the Clearing Manager's assessment of the Hedge Value of FTR f on any given day prior to settlement, in $/MWh
V_f	The Volume of FTR f, in MW
TP_p	Number of Trading Periods in FTR Period p, accounting for any daylight saving transitions
2	A factor to convert from half-hour trading period length to hours

This formula is not applied by the FTR Manager. Rather, it forms the basis of the two formulae that the FTR Manager does apply, for prudential checks of Bid Portfolios and Assignments, described in sections 3 and 4 respectively below.

[3] This is the same formula but different terminology from the 12 June 2012 version of the *FTR Prudential Security Assessment Methodology*. The FTR Manager understands that this is the terminology that the Clearing Manager intends to adopt in its final version.

2. FTR Manager's daily schedule for prudentials

2-1 Daily information from the Clearing Manager

Daily at 11:00 a.m. the Clearing Manager advises the FTR Manager of the:

Maximum Initial Margin (MIM)	The Clearing Manager's assessment of the maximum margin required to cover market movements of the FTR Hedge Value This is assessed for each FTR Product and FTR Period that have already been auctioned (i.e. in the FTR Register) or are being offered for the first time in the FTR Auction that day (if any) It is expressed in $/MWh, and may be positive or zero, but not negative
Daily Settlement Price (DSP)	The Clearing Manager's assessment of the Hedge Value of an FTR on any given business day prior to settlement This is assessed for each FTR Product and FTR Period that have already been auctioned (i.e. in the FTR Register) It is expressed in $/MWh, and may be positive, zero or negative
Prudential Trading Limit	The excess prudential security held by the Clearing Manager on behalf of the participant, available to an FTR Participant for FTR transactions It is expressed in $, and may be positive, zero or negative
Participant Breach Status	This flag is set if and when the Clearing Manager has an unremedied default. When the default is resolved, the breach status flag is cleared.

The amounts are calculated by the Clearing Manager in accordance with the *FTR Prudential Security Assessment Methodology* and, in the case of the Prudential Trading Limit, in accordance with Part 14 of the Code.

2-2 Daily timetable

Normal days (other than the day of or following an auction)

Continuous	Requests for Assignments will be accepted at any time
11:00 a.m.	Every FTR Participant's Prudential Trading Limit, the Maximum Initial Margin and the Daily Settlement Price are advised to the FTR Manager by the Clearing Manager

Auction days

7:00 a.m.	No requests to register an Assignment will be accepted from 7:00 a.m.
11:00 a.m.	Every FTR Participant's Prudential Trading Limit, the Maximum Initial Margin and the Daily Settlement Price are advised to the FTR Manager by the Clearing Manager
12:00 p.m. to 4:30 p.m.	Bid Window
5:00 p.m.	The FTR Manager advises the Clearing Manager of each FTR Participant's Allocated Prudential Amount, being the prudentials that would be allocated to each market participant if all of their bids were accepted
	Processing of bids commences

Day following an auction

11:00 a.m.	Every FTR Participant's Prudential Trading Limit, the Maximum Initial Margin and the Daily Settlement Price are advised to the FTR Manager by the Clearing Manager
By 4:00 p.m.	The auction results are published: the FTR Manager publishes the awarded FTRs for FTR Participants to view on the FTR Register The Clearing Manager can now determine the prudentials required to cover the successful bids
	Requests for Assignments will be accepted from 4:00 p.m.

Two Days following an auction

Continuous	Requests for Assignments will be accepted at any time
11:00 a.m.	Every FTR Participant's Prudential Trading Limit, the Maximum Initial Margin and the Daily Settlement Price are advised to the FTR Manager by the Clearing Manager
	The Prudential Trading Limits now take into account newly registered FTRs

The sequence of events and restrictions is shown in the table below. This is replicated in the FTR Policy on Prudential Requirements. For further detail on the transfer of prudential information between the Clearing Manager and the FTR Manager see the FTR Policy on Prudential Requirements.

Please see the FTR Calendar for more detail on FTR market timings.

Figure 1 Pattern of bids, prudential information and assignment restrictions for each FTR auction

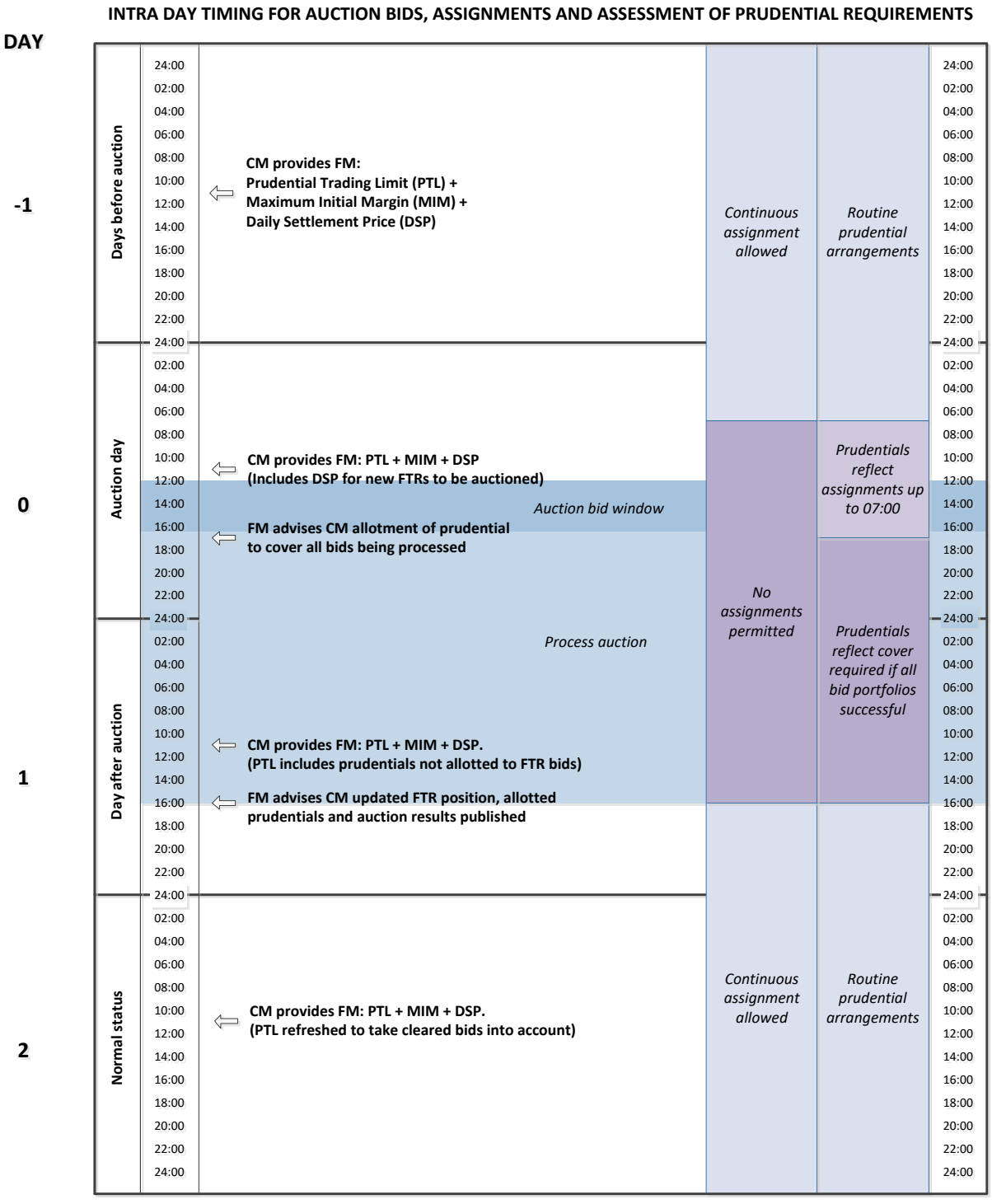

Figure 1 portrays the sequence of events around the auction and the way the FTR Manager and Clearing Manager work together to deliver their respective responsibilities. In particular this figure shows the supply of information on prudential cover from the Clearing Manager to the FTR Manager, and the feedback to the Clearing Manager as the auction period unfolds.

3. Prudential checks of Bid Portfolios

When market participants submit a Bid Portfolio the FTR Manager is required to ascertain that the participant has "sufficient prudential security" to cover the FTRs the participant wishes to acquire.

3-1 The prudential check

Prudential checks are made by the FTR Manager whenever an FTR Participant uploads a valid Bid Portfolio to the FTR Information System. The checks are per FTR Participant and per FTR Auction. Bid Portfolios that fail the prudential check will be rejected; those that pass it will be accepted.

FTR Participants that are in breach of their prudential requirements (as determined by the Participant Breach Status) will not be permitted to bid.

For the format of bid portfolios and the process for submitting them, see the FTR Policy on the FTR Information System (FIS).

Each Bid Portfolio applies to a specific FTR Participant, FTR Auction and FTR Period. A Bid Portfolio can contain multiple BUY and SELL bids. Each bid in a Bid Portfolio defines the FTR Product bid for, and the bid price and bid quantity.

In checking prudential, each bid in a Bid Portfolio is assumed independent, to reduce complexity and ensure that multiple bids in one portfolio are treated equivalently to the same bids in multiple portfolios.

The prudential test for a valid Bid Portfolio being accepted is, for that FTR Participant and that FTR Period:

$$PFAL = \sum_{b=1}^{B} PFALB_b \leq Remaining\ Prudential\ Limit$$

With, for sell bids for an Obligation or Option FTR:

$$PFALB_b = 0$$

And, for buy bids for an Obligation FTR:

$$PFALB_b = MIM_{f_b} \times Max_{t=1}^{T}\left(BV_{b,t}\right) \times TP_{f_b}/2$$

Or, for buy bids for an Option FTR:

$$PFALB_b = Max\left(\begin{cases} if\ MIM\ crosses\ slope & MIM \times BV_b^m \\ otherwise & 0 \end{cases}, Min\left(MIM_{fb}, Max\left(BP_{b,1}^*, 0\right)\right) \times BV_{b,1}^*, Min\left(MIM_{fb}, Max\left(BP_{b,2}^*, 0\right)\right) BV_{b,2}^*, \ldots, Min\left(MIM_b, Max\left(BP_{b,T}^*, 0\right)\right) BV_{b,T}^*\right) \times TP_{f_b}/2$$

Where:	*is the:*
$PFALB_b$	Potential FTR Acquisition Liability for bid b
PFAL	Potential FTR Acquisition Liability for that bid portfolio
b = 1 to B	Bid in that Bid Portfolio
f_b	FTR Product and FTR Period defined in bid *b*
MIM_{f_b}	Maximum Initial Margin assessed for FTR f_b, as provided to the FTR Manager by the Clearing Manager prior to the Bid Window opening, in $/MW/h
t = 1 to T	Volume and price pair in a bid (as at publication, T can be 2 to 11 for any bid)
$BV_{b,t}$	Bid volume of the t'th tranche of bid *b,* in MW, with $BV_{b,t+1} > BV_{b,t}$
$BP_{b,t}$	Bid price of the t'th tranche of bid *b,* in $/MW/h
$BV_{b,t}^*$	$BV_{b,t}$ as modified for sloped bids: $$BV_{b,t}^* = BV_{b,t} \; if \begin{cases} t = T, or \\ BP_{b,t+1} = BP_{b,t}, or \\ BV_{b,t+1} = BV_{b,t} \end{cases}$$ $$BV_{b,t}^* = Max\left(Min\left(\frac{BP_{b,t} + BV_{b,t} \times S_{b,t,t+1}}{2S_{b,t,t+1}}, BV_{b,t+1}\right), BV_{b,t}\right) otherwise$$
$BP_{b,t}^*$	$BP_{b,t}$ as modified for sloped bids: $$BP_{b,t}^* = BP_{b,t} \; if \begin{cases} t = T, or \\ BP_{b,t+1} = BP_{b,t}, or \\ BV_{b,t+1} = BV_{b,t} \end{cases}$$ $$BP_{b,t}^* = BP_{b,t} - S_{b,t,t+1}(BV_t^* - BV_t) \; otherwise$$
$S_{b,t,t+1}$	Slope of a bid tranche, determined as: $$S_{b,t,t+1} = -\frac{BP_{b,t+1} - BP_{b,t}}{BV_{b,t+1} - BV_{b,t}}$$
If MIM crosses slope	True for bid b if there is a t such that $BP_{b,t} > MIM_{fb} > BP_{b,t+1}$
BV_b^m	If MIM crosses slope for bid b, between t and t+1, then this is the volume at the intersection: $$BV_b^m = BV_{b,t} + \frac{BP_{b,t} - MIM}{BP_{b,t} - BP_{b,t+1}} (BV_{b,t+1} - BV_{b,t})$$
TP_{f_b}	Number of Trading Periods in the FTR Period of FTR f_b
2	A factor to convert from half-hour trading period length to hours

Remaining Prudential Limit	Remaining Prudential Limit for the participant, in $ For the first submitted Bid Portfolio in an FTR Auction, this is the FTR Participant's Prudential Trading Limit For subsequent submitted bid portfolios in that FTR Auction, the Remaining Prudential Limit is reduced by the Potential FTR Acquisition Liability (PFAL) of every previous successfully submitted Bid Portfolio in that FTR Auction
Prudential Trading Limit	The excess prudential security held by the Clearing Manager on behalf of the participant, available to an FTR Participant for FTR transactions, as provided to the FTR Manager by the Clearing Manager prior to the Bid Window opening, in $

In essence, an FTR Participant needs sufficient prudential to cover the Maximum Initial Margin for every FTR bid for.

3-2 Allocated prudential amount

Once the bid window has closed the FTR Manager advises the Clearing Manager of each FTR Participant's Allocated Prudential Amount. The Allocated Prudential Amount is the amount of prudential that would be allocated to each market participant if all of their bids were accepted.

The Allocated Prudential Amount for each FTR Participant is calculated as the sum of the Potential FTR Acquisition Liabilities (PFALs) across all successfully submitted Bid Portfolios in that Auction, across all FTR Products and FTR Periods auctioned.

4. Prudential checks of Assignments

Prudential checks are made by the FTR Manager prior to accepting a request for an Assignment of an FTR.

4-1 Process

FTR Participants are free to enter into deals between themselves at any time regarding their wish to assign an FTR between themselves. They can then request an Assignment through the FTR Information System (FIS). This request for Assignment can be made at any time other than when no Assignments are permitted around an Auction, as described in section 2-1.

The prudential check is made in the FIS when the assignee submits and agrees to an assigner's request. The Assignment is not complete until the FTR Manager registers the Assignment (from which point FTR Participants can see the change in the FTR Register) and notifies the Clearing Manager.

4-2 The prudential check

FTR Participants that are in breach of their prudential requirements will not be permitted to be either an Assignor or an Assignee.

In effect, the test for accepting an Assignment is equivalent to that used for Bid Portfolios, treating the requested Assignment as a single bid and bid tranche, with its value set by the Disclosed Assignment Price, if any, otherwise by the FTR Acquisition Cost.

An Assignment is for a particular FTR, so the FTR Period and the FTR Type are known, as is the Assignor and Assignee, both of whom are FTR Participants. The Assignment Volume can be the same or lower than the FTR Volume prior to Assignment, to allow for part Assignments.

No prudential checks are made for the Assignor.

For an Assignment to be accepted, the Assignee must have sufficient prudential to cover the Assignment Prudential Requirement.

The prudential test for an Assignment being accepted is:

If there is a Disclosed Assignment Price:

$$\begin{matrix} Assignment \\ Prudential \\ Requirement \end{matrix} = Max(0, (MIM_f + AP - DSP_f) \times \frac{AV \times TP}{2} \leq \begin{matrix} Remaining \\ Prudential \\ Limit_{Assignee} \end{matrix}$$

If there is no Disclosed Assignment Price:

$$\begin{matrix} Assignment \\ Prudential \\ Requirement \end{matrix} = Max(0, (MIM_f + AC_f - DSP_f) \times \frac{AV \times TP}{2} \leq \begin{matrix} Remaining \\ Prudential \\ Limit_{Assignee} \end{matrix}$$

Where:	*Is the:*
f	FTR Product and FTR Period
MIM_f	Maximum Initial Margin assessed for FTR *f*, as most recently provided to the FTR Manager by the Clearing Manager, in $/MW/h
AP	Assignment Price, in $/MW/h
AC_f	Acquisition Cost of FTR f, from the FTR Register, in $/MW/h
DSP_f	Daily Settlement Price for FTR *f*, as most recently provided to the FTR Manager by the Clearing Manager, in $/MW/h
AV	Assignment Volume, in MW
TP	Number of Trading Periods in the FTR Period, accounting for any daylight saving transitions
2	Adjustment from half-hour trading period length to hours
Remaining Prudential Limit$_{Assignee}$	Remaining Prudential Limit for the Assignee, in $ For the first Assignment each day after the 11am information from the Clearing Manager is processed by the FTR Manager (*daily refresh*), this is the Assignee's Prudential Trading Limit For subsequent Assignments until the following day's *daily refresh*, the Remaining Prudential Limit is reduced by the Assignment Prudential Requirement of every previously accepted Assignment after the *daily refresh*
Prudential Trading Limit	The excess prudential security held by the Clearing Manager on behalf of the participant, available to an FTR Participant for FTR transactions, as provided to the FTR Manager by the Clearing Manager in the *daily refresh*