

NZX – Market Operator

New Participant Welcome Pack



NEW ZEALAND'S EXCHANGE
TE PAEHOKO O AOTEAROA

ELECTRICITY
AUTHORITY
TE MANAHIKO



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Disclaimer

This information booklet identifies and generally describes the steps required to interact with the NZX market operations services under the Electricity Industry Participation Code 2010 (Code). This information booklet does not form part of the Code. It is provided for general information only. It is not as legal advice and does not establish any legal obligation.

Although NZX has taken every care in the preparation of the content of this information paper, NZX and the Electricity Authority offers no warranty (express or implied) as to the accuracy, completeness, or legality of that content. The Electricity Authority is not liable or responsible to any persons for direct or indirect loss or damage that may result from the action or failure to act by any person in reliance on this information booklet.

The publishing of this information booklet does not place any obligation on NZX as a market operations service provider or the Electricity Authority to follow any interpretation contained in it when carrying out any of its functions under the Electricity Industry Act 2010 (Act).

The Code places many obligations on a retailer and should be consulted in full by intending retailers. Some of those obligations are contained in this booklet, however many obligations may be specific to the type of activity a retailer wishes to trade on. NZX suggests if you are in doubt that you do ask.

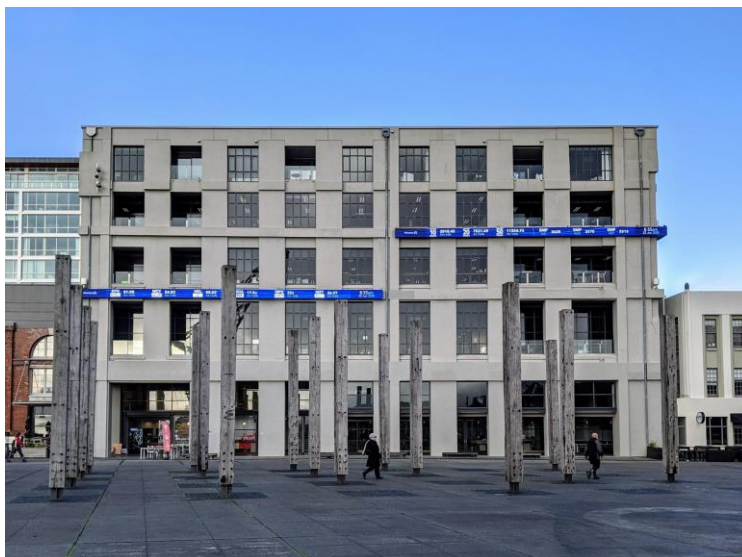
Introduction

NZX is a specialist provider of services to the New Zealand electricity market and has been providing these services for over 20 years

NZX provides key market operation services, network billing services, stress testing for risk exposure reporting, hydro data, customised data provision and expert analysis. Within 2021 NZX also became the operator for the ETS Carbon Auction platforms as commissioned by the Ministry for the Environment.

NZX Energy is a market operation service provider contracted by the Electricity Authority (EA). Using expert knowledge and proprietary systems, we enable the 24/7 trading through the WITS manager, as well as the pricing, clearing and reconciliation of the spot market electricity through the pricing manager, clearing manager and reconciliation manager roles. NZX carries out these activities in accordance with the Electricity Participant Code 2010 (Code) and various Functional and Non functional requirements agreed with the Electricity Authority.

We work collaboratively with the EA, system operator (Transpower), FTR manager (Energy Market Services), registry manager (Jade Software Corporation Limited), all energy retailers, generators, network distributors and those participants trading FTRs or contract for difference hedging facilitated through the clearing manager.



Have feedback?

NZX is always looking for ways to innovate and improve our systems and processes. We value the opinions and ideas of electricity participants, so if you have any feedback please send it through.

Important Dates



Energy participants have monthly obligations to the electricity market

Day	Time	Event
Business day 2	16:00	RM: Reconciliation manager publishes outage constraints
Business day 3		CM: Previous month's hedge settlement amounts sent to participants from clearing manager
Business day 4	16:00	RM: Participant's initial reconciliation volume due to the reconciliation manager
Business day 5		CM: Clearing manager publishes wash-up notifications
Business day 7	16:00	RM: Reconciliation manager publishes initial volume reports
Business day 9		CM: Clearing manager usually publishes invoices to settle previous month
Business day 13	16:00	RM: Participant's wash-up reconciliation volume due to the reconciliation manager
20th of the month	13:00 16:00	CM: Participant's settlement amounts must be received by clearing manager CM: Clearing manager settlement payments made to participants
Last business day	12:00	RM: Reconciliation manager publishes wash-up reconciled volume reports
Daily	12:00 16:00	PM: Wholesale electricity prices published to WITS CM: Participants prudential payments must be received by clearing manager

CM: Clearing manager **PM:** Pricing manager **RM:** Reconciliation manager

The Code permits these days/times to be altered on a case-by-case basis. The CM/RM/PM will notify relevant participants when this happens. Please ensure your contact information is kept up to date.

Entering New Zealand's Electricity Market

To enter the New Zealand wholesale electricity market a participant must complete the following process.

1

Register with the Electricity Authority (EA)

- Participants in the electricity industry must supply information such as area of activity and contact details to the EA.
- The Participant Registration form can be found on the EA website ([here](#)).
- Advise the Authority you want to know how to enter the market (marketoperations@ea.govt.nz)

2

Apply to Electricity Authority for a participant identifier

- After registration, participants need to apply for a unique 4-character code from the EA.
- The participant identifier application form can be found on the EA website ([here](#)).

3

Complete NZX participant and contact forms

Participants must provide information including banking and contact details to the clearing manager.

4

Fulfil Anti Money Laundering compliance requirements

Participants are required to comply with requests to allow the clearing manager to complete due diligence checks, required by legislation. This may include supplying proof of identification (passports).

5

Meet with NZX Energy Operations

Before becoming a participant, you are invited to meet with the NZX Energy Operations team. We will support you through the onboarding process.

6

Receive relevant system access

For a participant to gain their system access, they must complete and return the relevant use of system forms provided by NZX Energy Operations team.

7

Provide estimated usage data

- Participants must supply an estimation of purchase and/or generation quantities by GXP to the clearing manager.
- The clearing manager uses the estimates to calculate the minimum amount of prudential security required.

8

Organise appropriate prudential and security arrangements

- The clearing manager must receive the appropriate prudential and security arrangements estimated in step 7, to cover the first month's trading obligations.
- This includes 'Letter of Credit' and/or 'Security Deed'.

9

Understand and comply with code obligations processes

It is crucial for participants to understand all their obligations to the market, including those found in the Electricity Industry Participation Code 2010.

10

Receive market start date

- Once all the above requirements have been met, you will be provided with the date you are able to start trading in the electricity market.
- If you are going to be a retailer there are additional steps regarding the registry. The Authority will advise when you contact them at step 1 above

Additional information

More information on the electricity market can be found here: www.ea.govt.nz/operations

The Wholesale Information Trading System (WITS) provides a near real-time view; it is the authoritative source of up-to-date, accurate information and trading functionality for the market.

The WITS manager facilitates the buying and selling of spot market electricity.

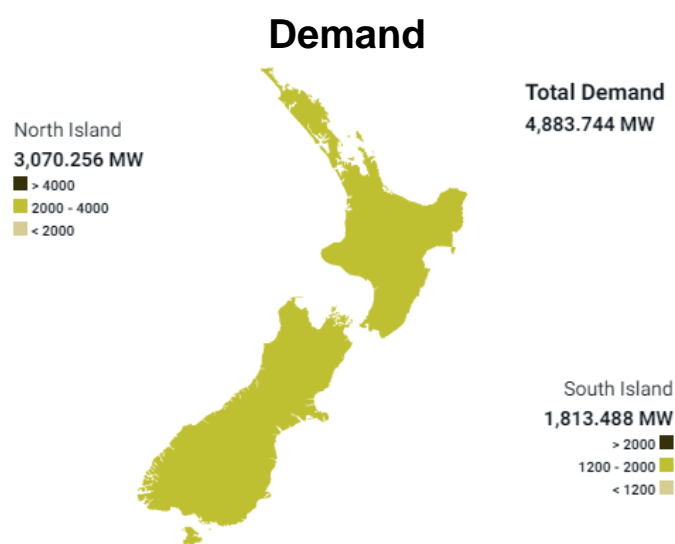
24/7 Access to WITS, allows purchasers and generators to enter bids and offers for energy, and publishes them every 5 minutes.

The Wholesale Information and Trading System:

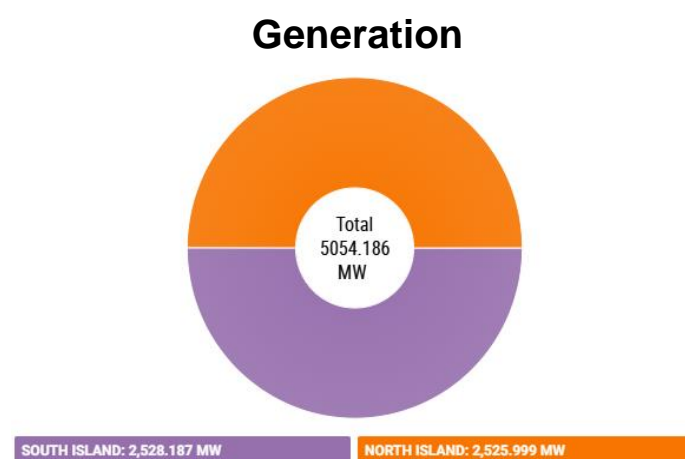
- Is used by participants to upload their bids and offers for the wholesale electricity market
- Sends these bids and offers to the System Operator and pricing manager for dispatch and validation.

WITS data comes from a range of sources:

- Pricing data from the pricing manager
- Scheduling data from the system operator
- Constraints, block settlement differences, and invoices for distribution to participants from the clearing manager.



Snapshot of total energy demand in New Zealand



Snapshot of total daily energy generation in New Zealand

How to get access?

WITS data can be accessed through the following sites:

www.electricityinfo.co.nz - Site for public access

www1/www2.electricitywits.co.nz - Trading platform for wholesale market participants

SFTP is available on request.

COMING SOON – full electronic M2M interfaces for pricing and some other data

For more information email wits@nzx.com

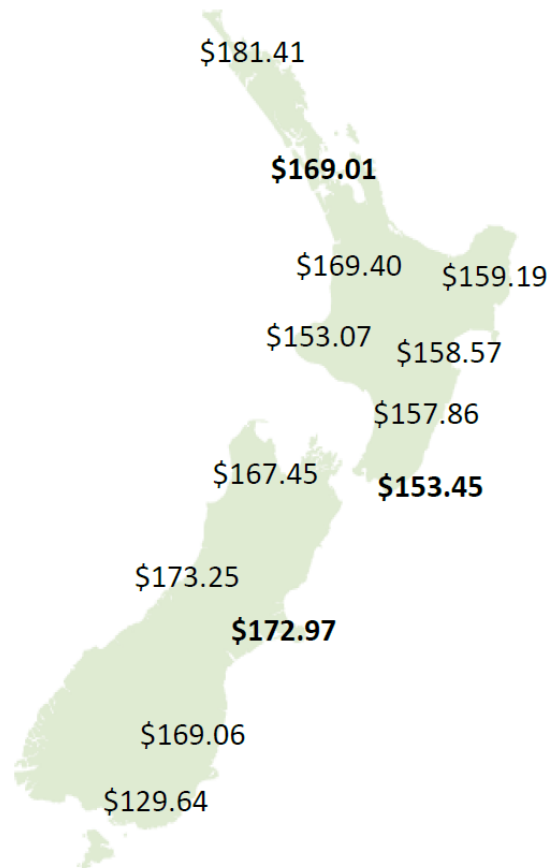
Pricing Manager

The pricing manager is responsible for calculating, validating, and publishing electricity market spot prices to WITS and sharing them with the clearing manager.

Electricity prices vary around New Zealand at different locations and time of day; therefore, the pricing manager needs to calculate the electricity prices at all nodes per half hourly trading period.

Market participants can view the electricity spot prices that are made available through WITS, and the clearing manager uses the prices calculated by the pricing manager to use in the invoicing and prudential process.

Prices are calculated for yesterday's trading day. They are firstly published interim, however if participants believe prices are incorrect, they can lodge a pricing error claim against the interim prices. If there is a pricing error claim or an error in the calculation process the prices will be published as provisional. The business day following interim prices, if there are no more pricing error claims or errors in the prices, they will be published as final.



Snapshot of energy prices around New Zealand

How to get access?

Pricing information can be accessed through WITS.

NZX Energy also provides reporting and data services to industry participants and market observers. Data requests can be packaged to user specifications by emailing the pricing manager.

There is also a free Daily Wholesale Market Report which summarises key electricity market metrics covering price, demand, supply, transmission, and climate – ask to subscribe to the email list.

For more information email pm@nzx.com

Reconciliation Manager

The reconciliation manager balances participant volume submissions with actual usage provided by the Grid Owners, ensuring that all volume is distributed accurately amongst those trading within a specific area.

The locations and volume of electricity that is generated or consumed constantly changes. Therefore, all electricity must be reconciled against what the grid owner measures on a half hourly period basis (with non-half hourly submissions being profiled into half hourly trading periods). The reconciled volumes are used by the clearing manager, in conjunction with final pricing to create settlement invoicing for participants.

The process of reconciling participants submitted data to grid meter volumes is reconciled in balancing areas at a NSP level. Distributors must notify the reconciliation manager of any new or changed balancing areas or NSPs. The NSP mapping table is held by the Registry.

There is a regular revision (washup) process to submit more accurate data as it becomes available.

Volume Dispute!

Reconciliation participants who have received their reconciled volumes and believe them to be incorrect can raise a volume dispute. A participant can submit a dispute from business day 5 until the clearing manager generates invoices on business day 9.

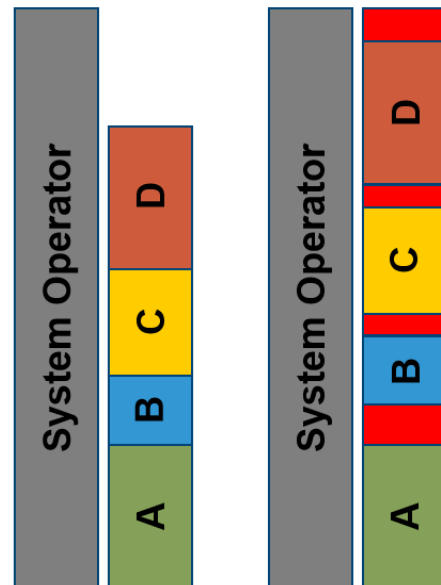
To submit a volume dispute, please log it through the portal and follow up with an email to the reconciliation manager.

How to get access?

To gain access to the reconciliation portal, please contact the reconciliation manager. Once the reconciliation manager has a contact email and confirmation from the EA, you will have a reconciliation portal profile created. Reconciliation uploads and downloads can also be completed via SFTP on request.

For more information email rm@nzx.com

Unaccounted for Electricity (UFE)



Participants' submissions do not always match what the grid operator reports has been used at the grid. This leads to UFE that gets allocated amongst participants based on their market share in that balancing area

Participants must submit their initial volumes for the previous consumption month by 1600 on business day 4 (15.4(1) of the Code), and their revised wash-up volumes for the previous consumption period, as well as revision data for 3, 7 and 14 periods ago by 1600 on business day 13 (15.4(2) of the Code).

The reconciliation web portal contains further explanatory information including file names and file formats documents and system user guide. UAT sites are also available, and we recommend participants to check their file submissions using the file checker tool.

Reconciliation Changes in Submissions

Reconciliation Participants have a Code obligation to provide complete and accurate data to the reconciliation manager. The revision process allows participants to submit more accurate data as it becomes available, however there is a very prescriptive process for doing this. Errors in submissions often occur when incorrectly submitting revised data and will impact other participants through the balancing process.

Changes in submissions - Zero out previous NSP submissions

When participants wish to remove volumes incorrectly submitted to an NSP in revisions, they must first submit a new file with zeros allocated to the NSP, then submit the changes to that NSP. The reconciliation system stores multiple submissions as differences, and when submissions are changed (for example, the loss code or dedicated flags) without zeroing out the previous submission, the result is additional submission volume (and a higher invoice for you).

Incorrect submission example										
May 2020 R1										
BRY0661	ORON	GN	XXXX	RPS	LVL	X	Y	May-20	17984.1	17984.1
May 2020 R3										
BRY0661	ORON	GN	XXXX	N0D	LVL	X	Y	May-20	17984.1	17984.1
Total May 2020 Volumes										
BRY0661	ORON	GN	XXXX	RPS	LVL	X	Y	May-20	17984.1	17984.1
BRY0661	ORON	GN	XXXX	N0D	LVL	X	Y	May-20	17984.1	17984.1

In this example your invoice will be for a total volume that is the sum of the two lines (35,968.2)– effectively doubling your invoice

Correct submission example										
May 2020 R1										
BRY0661	ORON	GN	XXXX	RPS	LVL	X	Y	May-20	17984.1	17984.1
May 2020 R3										
BRY0661	ORON	GN	XXXX	RPS	LVL	X	Y	May-20	0	0
BRY0661	ORON	GN	XXXX	N0D	LVL	X	Y	May-20	17984.1	17984.1
Total May 2020 Volumes										
BRY0661	ORON	GN	XXXX	N0D	LVL	X	Y	May-20	17984.1	17984.1

In this example your invoice will be for the correct amount (17,984.1).

Clearing Manager

The reconciliation manager invoices energy retailers for their generation, consumption, and market-related costs. Participant's hedges may also be settled through the clearing manager

Invoicing

The clearing manager combines participant's reconciled volumes from the reconciliation manager, with the half-hourly pricing information from the pricing manager, to calculate the invoices for each industry participant per node and trading period. This is to ensure generators and market related costs are paid.

The clearing manager will advise the participant of the amount owing for settlement no later than the 9th business day of the month section (14.18(2)(a)). Participants must pay their invoice amount by the 20th calendar day of the month before 1300 (14.31(1)(a)) and the clearing manager must pay amounts owing by 1600 on the 20th calendar day (14.34(1)).

Although you get paid for your generation, the clearing manager generates 'buyer created tax invoices' on your behalf.

Prudential

Participant's security exposure is calculated and held with the clearing manager. The calculation determines risk to generation should a participant default on settlement.

Participants must have the required prudential security in the clearing manager's account no later than 1600 on the relevant business day (14A.6(2) of the Code).

Invoice Dispute!

Clearing participants who have received their invoices and believe them to be incorrect are able to raise an invoice dispute. Participants can raise an invoice dispute up to 2 years after receiving the invoice (14.25(2)(a) of the Code).

To submit an invoice dispute, please send a formalised email to the clearing manager (cm@nzx.com)

42,517GW

Electricity generated in the year

\$5,696M

Electricity purchased in the year

Snapshot from Jan - Dec 2020

How to get access?

The clearing manager publishes invoices to www.electricityclearing.co.nz. To receive access, please contact the clearing manager

For more information email cm@nzx.com

The clearing manager is required to hold the net purchase exposure of each participant in the form of prudential security. This is to maintain market security in case of a purchaser defaulting, as electricity can be consumed up to 50 days before settlement payment is required.

Forms of prudential security:

- Cash deposit
- Letter of Credit/Bank Guarantee/Bond
- Hedge contract lodged with and settled by the clearing manager

Sample Prudential Statement (non-FTR participant)

Participant →

From →

Date issued and date of assessment. →

A summary of security held, exposure and amounts available for release. If additional security is required today, this is shown here. →

Summary of security held with the clearing manager. →

The number of days that make up the total exposure, with detail shown for each item. The amounts include invoiced amounts, or reconciled amounts, or estimates. The best available data is used. →

The last three estimates of today's exposure and today's estimate. The lowest of these four amounts is the minimum that must be lodged with the clearing manager. →

Estimates for the next three business days, based on the last 7 days change in net exposure. →

Reference to the Code clauses that cover this statement. →

Prudential Statement			
Sample Participant #2			
Energy Clearing House Limited Prudential Statement for 14th May 2014 (assessed at: 27-Nov-2014 09:57AM)			
Prudential Security Position Summary			
Total Security Lodged		\$4,047.83	\$4,047.83
less Total Exposure (min)			\$1,175.84
Total Security Required		\$1,175.84	
Excess/(Deficit) Prudential Security Amount Available for Reduction		\$2,871.99	\$2,871.99
Security Lodged Summary			
Cash - ANZ			\$2,023.19
Cash - ASB			\$2,024.64
Total Security Lodged			\$4,047.83
Exposure Detail (62 Days)			
Component	Current Exposure 01/04/14 to 13/05/14	Exit Period Exposure 14/05/14 to 01/06/14	Total Exposure 01/04/14 to 01/06/14
Spot Market Purchase	\$10,789.61	\$667.06	\$11,456.67
Spot Market Sales	\$0.00	\$0.00	\$0.00
Ancillary Services	\$22.14	\$9.78	\$31.92
Washup Amounts	\$0.00	\$0.00	\$0.00
Hedge Settlement Amounts	\$0.00	\$0.00	\$0.00
FTR Amounts	\$0.00	\$0.00	\$0.00
Other Amounts	\$0.00	\$0.00	\$0.00
GST	\$1,621.76	\$101.52	\$1,723.28
Pre Payments			<-\$1,000.00>
Total Exposure (Net)	\$12,433.51	\$778.36	\$12,211.87
Total Security Required			\$1,175.84
Previous Exposure Calculation (for 14-May-2014).			
Date Calculated	Exposure	(Pre)Payments	Net Exposure
09-May-2014	\$2,167.98	\$0.00	\$2,167.98
12-May-2014	\$2,180.22	\$0.00	\$2,180.22
13-May-2014	\$2,175.84	\$1,000.00	\$1,175.84
14-May-2014	\$13,211.87	\$1,000.00	\$12,211.87
Min. Security Required (calc. 13-May-2014)	\$2,175.84	\$1,000.00	\$1,175.84
Forward Exposure Calculation (from 14-May-2014).			
Date Calculated	Exposure	(Pre)Payments	Net Exposure
15-May-2014	\$15,442.15	\$1,000.00	\$14,442.15
16-May-2014	\$17,672.42	\$1,000.00	\$16,672.42
19-May-2014	\$19,961.46	\$1,000.00	\$18,961.46
05/12/2014 12:59:34			
This statement is the clearing manager's estimates as required by clause 14A.5 of the Electricity Industry Participation Code 2010. Participants must provide the minimum security required as described by clause 14A.6.			
Page 1 of 1			

The clearing manager determines the required level of prudential that each electricity purchaser must provide, by daily estimating each purchaser's net exposure over a period of 55-60 days.

A 3-business day forward estimate of security required is provided by the clearing manager each day. If a participant's exposure is more than the current prudential security has already provided a call will be issued for additional security (14A.5(1)). If a participant is on call, they must provide the additional security before 1600 hours that business day (14A.6(2)).

Participants may choose to reduce the security they hold with the clearing manager if their lodgement exceeds their exposure amount. Participants may also change the type of security provided after notifying the clearing manager of their intention to do so. To request to reduce security, please email the clearing manager who will process it within 24 hours of the request being made.

Participants are also able to pay towards their settlement invoice from their prudential account but you must specifically instruct the clearing manager to do this prior to settlement day. You may also make this a standing instruction for every month.

Stress Test Registrar

NZX is the independent stress test registrar that collects disclosure statements from disclosing participants. These statements are used by you to determine your risk exposure to the energy market spot price in specified scenarios. Anonymised results are provided to the Authority and are published.

Stress Test Scenarios

Scenario E1:

Measures exposure to energy shortage events (e.g., sustained high spot prices)

Scenario C1:

Simulates conditions possible during a brief but unexpected shortfall in generation capacity at a time of high demand

Disclosing participants: a participant who consumes electricity that is conveyed to them directly from the national grid and/or buys electricity from the clearing manager.

For each stress test case, the participant must:

- estimate the value of electricity they expect to buy and sell to the clearing manager,
- estimated net cash flows from operating activities,
- state whether they have an explicit risk management policy in respect of your exposure to the wholesale market,
- state the target cover ratio for each stress test calculated.

NZX collects these results, anonymises them before the Authority publishes the results as a report. Disclosing participants can review the report and compare their exposure to other participants.

How to get access?

Participants submit their quarterly statements via the Stress Test Registrar application:

www.electricitysta.co.nz

To receive access, please email stregistrar@nzx.com or call + 64 4 470 9769

Quarterly Statements: Disclosing participants must apply a set of standard stress tests to their market position and report their results to their Board and NZX as an independent registrar. The results include the scenario's effect on the participant's annual net cash flow from operating activities and the level of shareholders' equity.

These must be submitted via the Stress Test Application at a minimum of 5 business days before the next quarter starts.

Certificates of spot price risk disclosure statement: each disclosing participant must annually submit a certificate verifying that the participant's Board has considered the disclosure statements for the certification period.

Each participant's initial certificate must be submitted to the Stress Test Registrar no later than the end of the fourth quarter following the quarter in which the first spot price risk disclosure statement is submitted by the participant.

Energy Data

NZX Energy provides reporting and data services to industry participants and market observers.

Wholesale Energy Market Reports

Free subscriptions:

- **NZX Energy Daily Wholesale Market Report** is a free service provided on weekdays summarising key electricity market metrics covering price, demand, supply, transmission, and climate.
- **NZX Energy Weekly Summary** is a free report provided Tuesday providing a high-level summary of energy metrics from the past week.

Hydrological Information



Premium subscriptions:

- **The Daily Hydrological Summary Report** covers current and historical hydrology patterns of New Zealand's key generation catchments.
- **NZX Energy Hydro** is a database and analysis tool, which provides access to historical hydrological data. It includes real-time and historical (since 1980) information about the water levels in the rivers and lakes, and energy potential from 14 locations spread across New Zealand.

Custom Data Request:

NZX Energy provides customised data requests covering all functions of the service provider roles it provides. To enquire for a quote, please contact energy.data@nzx.com with information outlining the report you are after.

How to get access?

NZX Energy Hydro database can be accessed on www.energy.nzx.com. To register for a premium hydro subscription, please email the pricing manager pm@nzx.com

To join complimentary wholesale energy market report please email energy.data@nzx.com

To enquire about a custom data request please email energy.data@nzx.com

All participants are required to comply with the electricity rules and regulations outlined under the Electricity Industry Act 2010 and the Electricity Industry Participation Code 2010.

The Electricity Industry Participation Code 2010

'The Code' sets out the duties and responsibilities that apply to industry participants, service providers and the Authority.

The key sections that relate to the service provider roles NZX performs are:

- Part 13 - Trading Arrangements (pricing manager and stress test registrar)
- Part 14 - Clearing and settlement (clearing manager)
- Part 14A - Prudential requirements (clearing manager)
- Part 15 - Reconciliation (reconciliation manager)

Failing to comply with the rules set out in the code is considered a breach. NZX Energy is obligated to report all breaches to the Electricity Authority who will determine a resolution to the misconduct. It is recommended for participants to self-report misconduct for failing to comply with The Code, and this will be considered in the breach report.

NZX Energy will also notify the Electricity Authority if we believe a participant is at risk of committing a default situation regarding market security or settlement. Should a participant feel it will be unable to meet its obligations they should contact the relevant service provider prior to the breaching incident. Support may be able to be provided.

Participants are required to advise the clearing manager if there are likely to be any changes to their activities (e.g. are increasing customer numbers, are entering new areas etc).

Anti-Money Laundering and Countering Financing of Terrorism Act 2009

The Energy Clearing House (the legal entity NZX uses to perform the clearing manager service) is required to complete AML checks and due diligence set out in the Anti-Money Laundering and Countering Financing of Terrorism Act 2009 administered by the Financial Markets Authority.

New participants must complete the compliance checks prior to commencing trading. The compliance purpose is to assess risk and identify beneficial owners at or above 25%, directors and any authorised persons.

Key requirements:

- Evidence; certified identification and address
- "Politically exposed persons" questions

Trusts are required to provide documents confirming trustees, beneficiaries and a trust deed extract evidencing source of wealth and income.

Resources

Clearing Manager	
Telephone	+64 4 495 2801
Email	cm@nzx.com
Clearing Portal	www.electricityclearing.co.nz (primary) wlg.electricityclearing.co.nz (secondary)
Pricing Manager	
Telephone	+64 4 498 0028
Email	pm@nzx.com
Reconciliation Manager	
Telephone	+64 4 498 0044
Email	rm@nzx.com
Reconciliation Portal	www.electricityreconciliation.co.nz (primary) wlg.electricityreconciliation.co.nz (secondary)
NSP mapping table	www.emi.ea.govt.nz/Reports/Wholesale/Data/R_NSPL_DR
WITS	
Telephone	0800 699 363749 (0800 NZX Energy)
Email	wits@nzx.com
WITS Portal	www1.electricitywits.co.nz (primary) www2.electricitywits.co.nz (secondary)
Stress Test Registrar	
Telephone	+64 4 470 9769
Email	stregistrar@nzx.com
Stress Test Registrar	www.electricitysta.co.nz
Anonymised results	https://www.emi.ea.govt.nz/Wholesale/Reports/Tagged/stress-testing
Additional Resources	
NZX Energy address:	11 Cable Street, Wellington Central
The Code:	www.ea.govt.nz/code-and-compliance/the-code
Authority's newsletter	https://www.ea.govt.nz/about-us/media-and-publications/market-brief
Authority's operations page	https://www.ea.govt.nz/operations/
Hydro database	energy.nzx.com

