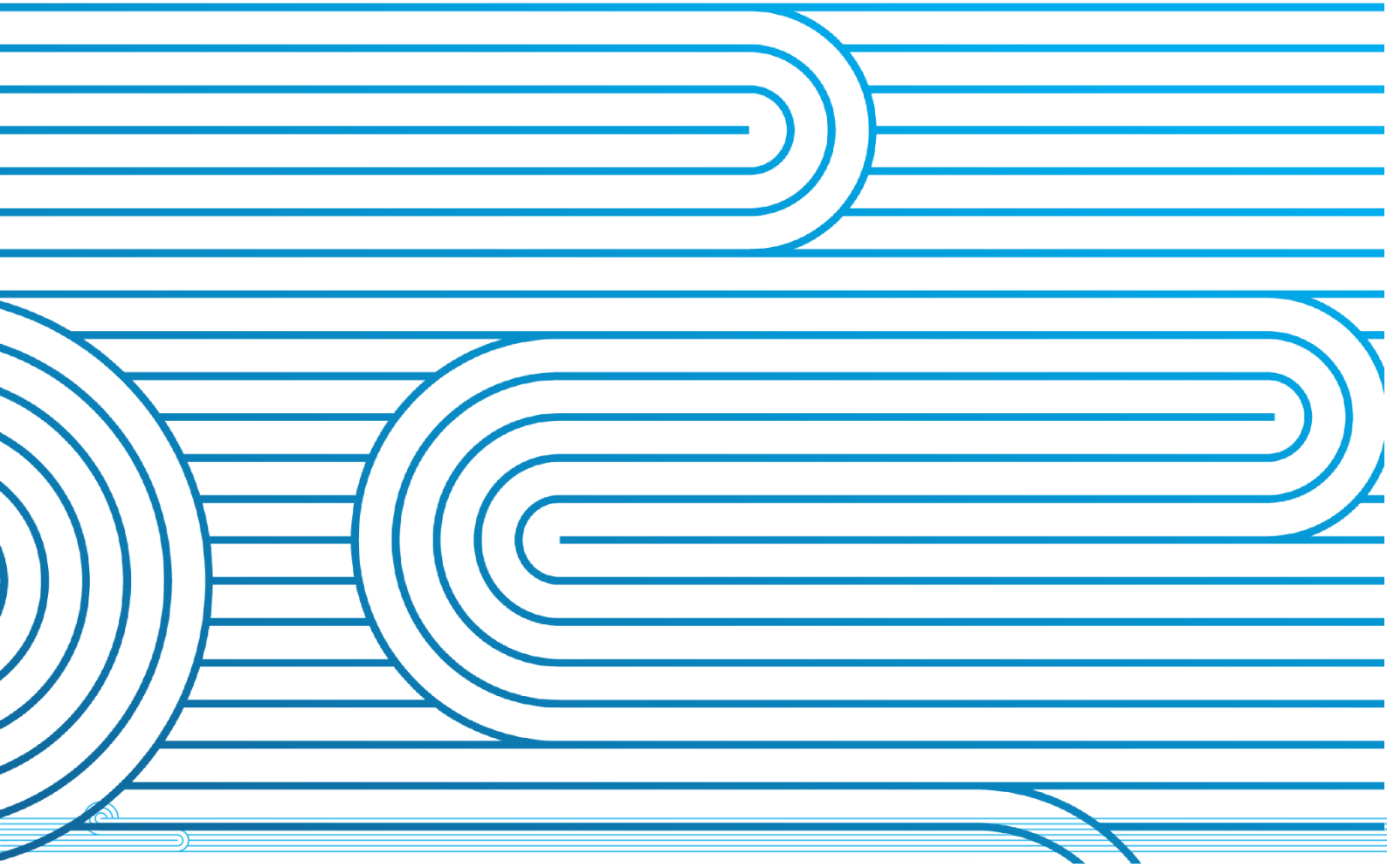


Monthly System Operator performance report

For the Electricity Authority

September 2024



Report Purpose

This report is Transpower's review of its performance as system operator in accordance with clauses 3.13 and 3.14 of the Electricity Industry Participation Code 2010 (the Code):

3.13 Self-review must be carried out by market operation service providers

- (1) Each **market operation service provider** must conduct, on a monthly basis, a self-review of its performance.
- (2) The review must concentrate on the **market operation service provider's** compliance with—
 - (a) its obligations under this Code and Part 2 and Subpart 1 of Part 4 of the **Act**; and
 - (b) the operation of this Code and Part 2 and Subpart 1 of Part 4 of the **Act**; and
 - (c) any performance standards agreed between the **market operation service provider** and the **Authority**; and
 - (d) the provisions of the **market operation service provider agreement**.

3.14 Market operation service providers must report to Authority

- (1) Each **market operation service provider** must prepare a written report for the **Authority** on the results of the review carried out under clause 3.13.
- (1A) A **market operation service provider** must provide the report prepared under subclause (1) to the **Authority**—
 - (a) within 10 **business days** after the end of each calendar month except after the month of December;
 - (b) within 20 **business days** after the end of the month of December.
- (2) The report must contain details of—
 - (a) any circumstances identified by the **market operation service provider** in which it has failed, or may have failed, to comply with its obligations under this Code and Part 2 and Subpart 1 of Part 4 of the **Act**; and
 - (b) any event or series of events that, in the **market operation service provider's** view, highlight an area where a change to this Code may need to be considered; and
 - (c) any other matters that the **Authority**, in its reasonable discretion, considers appropriate and asks the **market operation service provider**, in writing within a reasonable time before the report is provided, to report on.

By agreement with the Authority, this report also provides monthly (rather than quarterly) reporting in accordance with clause 12.3 of the System Operator Service Provider Agreement (SOSPA):

12.3 Quarterly reports: The **Provider** must provide to the **Authority**, with each third self-review report under clause 3.14 of the **Code** during a **financial year**, a report on:

- (a) the **Provider's** performance against the performance metrics for the financial year during the previous quarter;
- (b) the actions taken by the **Provider** during the previous quarter:
 - (i) to give effect to the **system operator business plan**;
 - (ii) to comply with the **statutory objective work plan**;



- (iii) in response to **participant** responses to any **participant survey**; and (iv) to comply with any remedial plan agreed by the parties under clause 14.1(i);
- (c) the progress during the previous quarter of:
 - (i) the feasibility study into **cost-of-services reporting** referred to in clause Error! Reference source not found.; and
 - (ii) if agreed in accordance with clause Error! Reference source not found., the implementation of cost-of-services reporting; and
- (d) the **technical advisory hours** for the previous quarter and a summary of **technical advisory services** to which those **technical advisory hours** related.

System Operator performance reports are published on the [Electricity Authority](#) website in accordance with clause 7.12 of the Electricity Industry Participation Code 2010 (the Code):

7.12 Authority must publish system operator reports

- (1) The **Authority** must publish all self-review reports that are received from the **system operator** and that are required to be provided by the system operator to the **Authority** under this Code.
- (2) The **Authority** must **publish** each report within 5 **business days** after receiving the report.

Following the end of each Quarter, a system performance report is published on the [Transpower website](#).



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Commentary



Key points this month

Operating the power system

- *Dry Year 2024:* The security of supply risk for 2024 has eased and we stopped Watch status activities in late September. However, the security of supply risk forecast for 2025 is concerning, as communicated to industry in a [Security of Supply Outlook](#) published on 30 September. The Alert curve is unusually high for 2025 and so, with the exception of a short period in spring, access to contingent storage would be triggered at a relatively high level of aggregate national hydro storage. Should circumstances closer to the time mean mitigating security of supply risks necessitates bringing forward access to contingent storage, we would follow the process used in 2024.
- *Very low pricing challenges:* Since late August 2024 there have been increased quantities of very low-priced (\$0/MWh and \$0.01/MWh) generation in the market due in part to increased hydro generation following high inflows, increased wind generation, along with baseload geothermal and some thermal generators wanting to remain online. This has highlighted the types of operational challenges that will build as more intermittent generation (IG) resources connect to the power system, and the need to ensure the market rules and tools are evolving to manage these challenges going forward.

Investigations

- *Event Number 4500: 17 September 2024 – North Island:* Data requests have been sent out.
- *Event Number 4477: 26 July 2024 - South Island:* An engineering investigation to identify the event causer is in progress.
- *Event Number 4470: 27 June 2024 – North Island:* We submitted our Causation Report to the Authority and await its determination of the causer of the event.

Commissioning activity:

- *Contact's Te Huka geothermal Unit 3 (59 MW):* commissioning commenced and modelling is complete in the market tools.
- *Energy supply new build in pre-commissioning, modelling and planning:* Genesis' Lauriston solar farm (52MW), Lodestone's Te Herenga o Te Ra (38MW), Ruawai solar farm (14MW), 7 generation unit upgrades.
- *Meridian's BESS at Ruakaka (100MW):* Changes to our market and SCADA tools to be deployed in October.

Ancillary Services:

- *SolarZero DER:* Testing for the provision of instantaneous reserves is complete, SolarZero's model validation report has been reviewed.
- *Ancillary Services tender:* We are inviting tenders, until 25 October, for Black Start (South Island) and Over Frequency Reserves.
- *Interruptible load testing:* 9 sites completed testing, including 0.986 MW of new capacity.
- *Black start testing* commenced preparation for a South Island provider site later this year.

Outage planning and coordination:

- *NZGB forecast:* no N-1-G potential shortfalls for the remainder of the year. There remains a high commitment of thermal units and coupled with still reduced industrial demand robust margins are being maintained in real-time.

Commitment to evolving industry needs:

- *Electrical Industry Space Weather Working Group (EISWWG)*: May 2024 Gannon Geomagnetic Storm report published. We prepared for the response plan workshop on 10 October 2024 and NEMA shared their draft "National Space Weather Response Plan" for review.
- *FlexForum*: We attended two online workshops held to provide feedback to the Authority on the Competition Taskforce initiatives related to flexibility, and have been asked to contribute to FlexForum's review of its Flexibility Plan 1.0.
- *ENA FNF*: We have been added to the 'Roles and Functions' project stage 2, which is to consider industry architecture and DSO models, and the impact on EDBs.
- *PowerCo controllable load indications*: We have agreed the technical details for controllable load indications and are working to implement this via the ICCP change process.
- *AraAke NI Flexible DER pilot*: Our system operator control rooms have screens ready to provide visibility of aggregated flex response made available for tight capacity situations. Transpower's FlexPoint team continue to progress arrangements with the first connected provider.
- *Engineering & Technology Awards*: 4 of 6 system operator initiatives nominated for Transpower's two-yearly awards recognising technical specialists were selected as finalists by the judging panel.
- *Electricity Risk Curves (ERCs)*: The September ERCs show the 2025 risk position is concerning, although improved slightly since August due largely to improved gas storage.
- *System Security Forecast (SSF)*: The transient rotor angle stability report is planned for completion by end October.
- *System Operator Industry Forums*: During September, while we operated at Watch status, we held weekly SO industry forums on 3, 10, 17 and 24 September.
- *System Operator Rolling Outage Plan (SOROP) review*: Implementation of the new SOROP continues, including working with participants on their rolling outage plans.
- *Official Conservation Campaign development*: work commenced while we operated at Watch continues to prepare materials ahead of any need for an OCC
- *Part 8 Common Quality consultation*: We have begun working with the regulatory team towards submission on the next two consultations.
- *Code review programme #6 consultation*: We contributed to a Transpower submission including raising significant concerns with the proposal relating to timing and impact on the system operator of the proposed changes related to Authority reviews of system operator performance.
- *Security and Reliability Council*: We will attend the SRC's October meeting for a discussion that will inform the Authority's response to our annual self-review, and were asked to comment on an Authority paper covering initial steps towards review of the Security Standards Assumptions Document (SSAD).
- *Intermittent Generation forecasting*: We continue to work with wind generators towards improvements to their submitted Forecast of Generation Potential (FOGP), including for consistency with the Code.
- *AUFLS 2023 assessment*: on target for delivery to the Authority by end October.

Risk & Assurance

- *Control Self-Assessment*: Preparations are in progress for the next self-assessment round.
- *Business Continuity Plan*: An update to the system operator process is being prepared.
- *Business assurance audits*: We received the draft *Audit 53: Manage Security Constraints* report and have accept its two P3 recommendations.
- *Northland Loss of Supply report*: We are responding to the recommendations in the Authority's report which relate to the system operator.

1 Operating the power system

Dry Year 2024

Security of supply situation: The security of supply risk for 2024, signalled by the September ERCs, has eased and we stopped Watch status activities in late September. Activity to complete implementation of the new System Operator Rolling Outage Plan (SOROP) and prepare materials ahead of a potential Official Conservation Campaign will be completed in readiness for future. A Winter 2024 Review (including lessons learned) is in progress and planned for release in late October/early November.

Our key security of supply insights, – based on our Electricity Risk Curves (ERCs), New Zealand Generation Balance (NZGB), annual Security of Supply Assessment (SOSA) and commissioning expectations – were communicated to industry in a [Security of Supply Outlook](#) published on 30 September. Our key messages to industry as we look towards the heightened risk forecast for 2025 were:

- 2024 security of supply risk has eased with hydro storage recovered to above historic mean levels for the time of year. However, storage remains below mean in Pūkaki, Hāwea and Taupō, which comprise ~72% of available national storage when full.
- The call period for ~205 MW of Tiwai demand response has ended, and the load is expected to be gradually restored to ~April 2025.
- The Electricity Risk Curves forecast security of supply risk for 2025 is concerning due to the impact on constrained thermal generation of declining gas production and return of gas to the petrochemical sector, the announced retirement of the Taranaki Combined Cycle (TCC) generator, and with the 2 largest Tiwai demand response options (100 MW and 185 MW) not available in 2025.
- In the next 6 months ~250 MW of new generation is expected to be commissioned and ~290 MW of generation expected to return from long term outages. But these increases will be offset with Contact's TCC generator (330 MW) signalled for decommissioning before 2025.
- It is critical the industry continues to focus on fuel storage and availability ahead of 2025, including across controlled hydro storage and thermal fuel arrangements, as observed on 17 and 18 September (see below).
- Peak capacity risks, especially in cold snaps, will persist until there is sufficient investment in flexible resources such as batteries, demand response and peaking generation.
- Ahead of winter 2025 we will consult on the low residual threshold and process, and work to improve clarity of the Electricity Risk Curves reporting in relation to contingent storage and Watch status.

On 1 November 2024 the contingent storage release boundary (CSRB) will revert to its default level consistent with the SOSFIP. With the heightened security of supply risk forecast by the current ERCs, the Alert curve is unusually high for 2025. A consequence of this is that, with the exception of a short period in spring, access to contingent storage would be triggered at a higher aggregate national hydro storage.

Should circumstances closer to the time mean mitigating security of supply risks necessitates bringing forward access to contingent storage, we would follow the process we used in 2024. We remain mindful that any consideration of potential decisions by the system operator relating to access to contingent storage is market sensitive information with material trading, hedging and investment decision implications for participants. We will continue to ensure all participants have access to the same information at the same time.

Transpower's Resource Management Act (RMA) experts continued to support the system operator with technical advice in relation to consenting arrangements for contingent storage.

Any decision to permanently amend the default contingent storage release boundary buffer and/or mechanism in the SOSFIP would follow a substantive review including consideration by the Authority. That substantive review is not achievable this year.

Very low pricing challenges

Since late August 2024, there have been increased quantities of very low-priced (\$0/MWh and \$0.01/MWh) generation in the market due in part to increased hydro generation following high inflows, increased wind generation, along with baseload geothermal and some thermal generators wanting to remain online. Under lower demand periods we are experiencing an over-supply of very low-priced offers and intermittent generators (IG) or a group of IGs setting the island risk. During these situations, automatic constraints are applied and dispatched to IG to reduce generation to meet demand. They can also be dispatched down to allow for more inflexible generation to stay connected due to plant safety, resource consent or future power system requirements as the inflexible plant might need to remain offline for extended periods if dispatched off.

When the constraints on IG's are removed, they can ramp up quickly in an uncontrolled manner which has resulted in challenges in maintaining power system frequency and security.

We are currently working with IGs to improve their forecast of generation potential (FOGP). FOGP values should be aligned with forecast generation to represent potential generation, regardless of changes in actual generation output due to dispatch instructions. We've also raised awareness of the Authority's guidance note on resource persistence forecasting interpretation.

In the medium-term (currently expected early/mid 2025) we will be introducing additional functionality into the market system to better manage IG dispatch in real-time when IG plant is setting the risk, including when their actual output drops below dispatch.

In the longer-term, to reduce the risks on system security and frequency, we are investigating options to reduce the risk of rapid ramping of IG when constraints are removed.

The recent low-demand period has highlighted operational challenges associated with increased IG and increased inflexible capacity. We consider this provides warning of the operational challenges that will build as more IG resources connect to the power system. This highlights the need to ensure the market rules and tools are evolving to manage these challenges going forward.

System Events

30 September 2024 - TKA-ABY-TIM 1 tripping: At approximately 10:25 a helicopter hit and broke two phases of the circuit with a spray boom, resulting in the loss of supply (around 3 MW) to customers in the Tekapo and Albury regions. Alpine Energy was able to restore some supply via backup generation, with repairs to the circuit and full restoration of supply completed just after 15:00 the following day.

20 September 2024 - Intermittent phone issues: At approximately 12:00 our National Coordinator Centres began experiencing intermittent issues receiving external calls. A Customer Advice Notice (CAN) was published to alert industry to the issue and reconfirming backup cell phone numbers. The issue was resolved by 17:00 and a revised CAN was issued.

17/18 September 2024 – Low residual situations: Two low residual Customer Advice Notices (CANs) were issued on 17 September at around 13:00. This was due to uncertainty in available generation

and increased demand as a result of unseasonably cold temperatures, increasing the risk that residual generation could drop below 200MW during the [evening peak on 17 September](#) and [morning peak on 18 September](#). Both CANs were issued after a generation unit at Huntly tripped on 17 September around 2pm, removing close to 400MW of generation from the system. The successful return to service of the Huntly generation unit, increases in non-wind generation and demand reduction, a delay to the Kawerau bus outage, and a delay to the Albury-Tekapo circuit outage helped ensure sufficient residuals were maintained during real-time operation.

2 Investigations

Under-frequency event investigations

Event Number 4500: 17 September 2024 – North Island: Requests for data have been sent out to all providers who were dispatched for reserves during the event. Once the data is received, we will assess compliance during the event.

Event Number 4477: 26 July 2024 - South Island: We are currently undertaking an engineering investigation to be able to identify the event causer.

Event Number 4470: 27 June 2024 – North Island: On 23 September 2024 we submitted our Causation Report to the Authority and await its determination of the causer of the event.

Significant incident investigations

20 June 2024 - Northland Loss of Supply: Following the publication of the Authority's report into the event, we are reviewing the actions against those we proposed, following the completion of the system operator-commissioned report. The two sets of actions are very similar. We will coordinate with the grid divisions on preparing a plan for the Authority.

3 Commissioning activity

Energy supply activity

Generation commissioning and testing: Power Systems and Markets teams are working with the following generators:

- Contact's Te Huka Unit 3 (59 MW) geothermal unit has begun commissioning. Modelling is complete in the market tools.
- Three solar farms: Genesis' Lauriston solar farm (52MW at Ashburton) to begin commissioning activities late October/November, and Lodestone's Te Herenga o Te Ra (38MW at Waiotaha), Ruawai solar farm (14MW) to begin later this year. Market modelling is complete for Lauriston and we are working with Northpower and Lodestone on updating our market and SCADA tools for their Ruawai and Te Herenga o Te Ra generation projects.
- We also have seven generation units with commissioning related to upgrades scheduled between now and January, including a series of AVR upgrades for Atiamuri.

- Meridian’s BESS at Ruakaka (100MW): We will be deploying changes to our market and SCADA tools on the 8-9 October for the Ruakaka BESS. This will be the second battery system participating in the market and will offer energy, reserves and dispatchable demand.

Ancillary Services activity

SolarZero DER: Testing for the provision of instantaneous reserves is complete. The model validation report from SolarZero has been reviewed. We will be issuing SolarZero’s new ancillary services contract once they have provided contact details for their control rooms

Ancillary Services Tender: We are inviting tenders, until 25 October, for provision of the following ancillary services for the period from 1 December 2024 to 31 December 2026:

- Black Start (South Island): two-year term only
- Over Frequency Reserves: two-year term only

Interruptible Load: The following table provides an overview of interruptible load testing from July to September:

	Number of sites	Additional quantities in MW
Annual testing	4 sites	
Additional resource	3 sites	0.986
Under-frequency event – 26 July 2024	2 sites	
Sites overdue for testing	0 sites	

Interruptible load that met our dispatch instructions for an under frequency is exempt from baseline testing requirements.

4 Outage planning and coordination

New Zealand Generation Balance (NZGB) potential shortfalls and outage planning

NZGB is forecasting no potential shortfalls for the remainder of the year regarding N-1-G. Lake levels across New Zealand have significantly increased during September, they are now above the historic mean and the risk of a capacity shortfall in hydro lakes for 2024 has dissipated. There remains a high commitment of thermal units and coupled with still reduced industrial demand robust margins are being maintained in real-time.

5 Commitment to evolving industry needs

Electrical Industry Space Weather Working Group (EISWWG): This month we published our summary report, and lessons learnt from the May 2024 Gannon Geomagnetic Storm. We finalised attendees

and a scenario for the response plan workshop on 10 October 2024. NEMA have shared a copy of their draft “National Space Weather Response Plan” for review.

FlexForum: We attended two online workshops held to discuss and provide feedback to the Authority on the Competition Taskforce initiatives related to flexibility. Themes expressed during the pan-industry group discussion included scepticism of regulatory intervention, unintended consequence, and enduring concerns such as equity. We have been asked to contribute to FlexForum’s review of its Flexibility Plan 1.0.

ENA FNF: The FNF itself is moving to a project and community approach using Slack channel for less structured discussions. We’ve been added to the ‘Roles and Functions’ project. This project seeks to “improve understanding and alignment between EDBs on the capability, roles, functions and industry architecture to enable distributed flexibility.” The project is entering Stage 2 which is to consider “industry architecture and DSO models to fulfil these roles and functions, and the impact of these capabilities on EDBs.”

PowerCo controllable load indications: We have agreed the technical details for controllable load indications with PowerCo. We are now working through the arrangements to implement this via the ICCP change process.

AraAke NI Flexible DER pilot: Our system operator control rooms have screens ready to provide visibility of aggregated flex response made available for tight capacity situations. Transpower’s FlexPoint UAT environment has been stood-up with the first flexibility aggregator (Cortexo) connected via the OpenADR standard. Further testing was conducted last week with various test event signal types being issued out from FlexPoint to Cortexo’s FlexSplice DERMS successfully. FlexPoint is also now receiving sample data points from this active, flex aggregator.

Engineering & Technology Awards: 4 of 6 system operator initiatives nominated for Transpower’s two-yearly awards recognising technical specialists were selected as finalists by the judging panel. Our finalists are:

- Transpower – Real Time Pricing (with a focus on the technical implementation of the market design: modernisation of the market system and developing new techniques for real-time data processing)
- Transpower – Digital Switch Management
- Transpower – Reactive Power Control
- Transpower – First utility scale battery energy storage system (BESS) into energy and reserve markets

Electricity Risk Curves (ERCs)

The September Electricity Risk Curves (ERCs) update at 20 September was published and is available [here](#). The ERCs show a slight decrease in the risk curves for 2025 due largely to the increased gas storage levels at Ahuroa. While the 2025 risk position has improved slightly it remains concerning with a large number of Simulated Storage Trajectories crossing into Watch and Alert statuses. This reflects constrained thermal generation due to further constrained gas production and return of gas to the petrochemical sector, the announced retirement of the Taranaki Combined Cycle (TCC) generation unit, and the largest Tiwai demand response products not being available in consecutive years.

System Security Forecast (SSF)

Most of the work for the transient rotor angle stability scope for the SSF is complete, with the report under review and planned for completion by end October.

Connecting with the industry

System Operator Industry Forums:

During September, while we operated at Watch status, we held weekly SO industry forums on 3, 10, 17 and 24 September. We have now reverted to our regular fortnightly cycle. Recent slide packs and recordings for forums within the last month are available on our website: [System operator industry forum | Transpower](#).

Weekly Market Movements:

- [1 September](#): The insight covered the low energy process, high wind generation and low demand
- [8 September](#): The insight looked at the forecast of generation potential (FOGP) values for intermittent generators as defined in the Electricity Industry Participation Code.
- [15 September](#): The insight covered the significant increase in hydro storage levels
- [22 September](#): The insight discussed the low Residual Customer Advice Notices on 17 September
- [29 September](#): The insight discusses the contribution of renewable generation to supplying peak demand

Supporting the Authority

System Operator Rolling Outage Plan (SOROP) review: Implementation of the new SOROP continues, including working with participants on their rolling outage plans. Workstreams include automation of inputs for this modelling, formatting of output to be fit for publication and information provision to participants on their daily energy consumption. We are also working with PowerCo on the information that would be exchanged with EDBs on demand forecasts with a view to developing templates for this.

Official Conservation Campaign development: Communications continued work commenced as part of Watch status activities to prepare materials ahead of any need for an OCC. Our creative agency proposed two campaigns and an independent consumer research company has been commissioned to concept test these to determine which messaging resonates and is clearest on the action consumers need to take. Once that is complete, Communications will proceed to finalise the campaign creative.

Part 8 Common Quality consultation: We have begun working with the regulatory team to draft up our submission on the next two consultations relating to Part 8: Addressing Common Quality Information Requirements (this covers information needed on assets connected to the Grid) and Part 8 Code amendment proposal (which covers changes needed to Part 8 to enable emerging or new technologies.)

Code review programme #6 consultation: We contributed to a Transpower submission as system operator, notably on 2 key matters. We raised significant concerns with the proposal relating to timing and impact on the system operator of the proposed changes related to Authority reviews of system operator performance (CRP6-008). On the proposal to align reporting requirements for AUFLS (CRP6-012) the SO submission made in support of the proposal was separate and independent from the GO submission.

Security and Reliability Council: We will attend the SRC’s meeting on 24 October for a discussion that will inform the Authority’s response to our SO annual self-review. We have been asked to comment on an Authority paper, also for the 24 October meeting, covering initial steps towards the planned review of the Security Standards Assumptions Document (SSAD), which sets requirements for our annual Security of Supply Assessment (SOSA).

Intermittent Generation forecasting: Since we contacted intermittent wind generators requesting they review their submitted Forecast of Generation Potential (FOGP), two have responded indicating they believe their FOGP is consistent with the Code requirements. We’ve had a meeting with another intermittent wind generator (also attended by the Authority) who are having issues with their wind forecast model and might need to switch back to persistence forecasts for the short-term (next two hour) forecast. We are awaiting response from other IGs.

AUFLS 2023 assessment: This is progressing well and on target for our deadline for delivery to the Authority by end October.

Media interactions

With the security of supply situation lessening from late August, no media enquiries related to the issue were received. The only media engagement related to the system operator concerned the low residual CANs issued on 18 September:

Date	Outlet/type of engagement	Details	Coverage
18 and 19 September	Reactive media responses about the low residual CANs	Efforts were made to position the low residual CANs as business-as-usual communication with industry to illicit a response to the situation and that we would communicate proactively if there was any risk to consumer electricity supply. Several experienced journalists with a good understanding of the sector decided not to publish stories, including Stuff, TVNZ, NZ Herald and business publications. A new-to-the-sector reporter at RNZ pushed the story hard and media picked it up from there resulting in more widespread coverage into the following morning. Media were also approached proactively when the industry responded with more generation to say residual generation was now comfortable but that we are still closely coordinating the response. Several corrections were also requested for factual errors. Reporting after the event generally acknowledged that it was the system working as	RNZ 18 Sep NZ Herald blog 18 Sep TVNZ via RNZ 18 Sep

Date	Outlet/type of engagement	Details	Coverage
		intended to manage the potentially tight electricity supply, which was caused by an unseasonable cold snap. We declined interviews as it was an operational matter with no impact on consumers but a senior manager at a generator told RNZ that the event was well managed by Transpower.	
30 September	Outage in Tekapo and Albury after helicopter cuts transmission lines	Multiple media interviews were conducted and statements issued. These were handled by the grid owner and no enquiries were made about system issues.	

6 Project updates

Progress against high value, in-flight market design, service enhancement and service maintenance projects are included below along with details of any variances from the current capex plan.

6.1 Market design and service enhancement project updates

There are no market design or service enhancement projects in-flight.

6.2 Other projects and initiatives

Ancillary Services Cost Allocation System (ASCAS): Sprint 0 was completed on 30 September with a demonstration to Product Owners. Fortnightly feature development planning sessions have begun and sprint 1 is underway. The procurement plan has been approved and procurement activity for required platform capacity is underway.

D&A Modernisation – Market System Data: Data ingestion and migration are complete for bids and offers, one of the largest subject areas. Remainder of ingestion and migration activities will occur between now and January 2025. Build of data products, semantic models and critical reports is in progress.

SCADA Habitat and EMP Refresh: SCADA solution architecture document has been endorsed by the architecture review board and is awaiting approval from the design authority. Build phase and test scripting is underway. Collaboration with GE is occurring on their sprint plan and provision of access

to Transpower development tools and environments for GE is in progress. Business SMEs have completed base product assessment and are progressing with new/changed feature business review.

Credible Event Review: The HVDC cable discharge, HVDC single pole outage, reports are under review and scheduled for EGM review this month. Following EGM approval they will be published for consultation.

Preparation of regional electro-magnetic transient models (EMT): We continue to review seven grid-zone network models and user guides ahead of publishing as an enabler for asset owner connection studies.

7 Technical advisory hours and services

The following table provides the technical advisory hours for the month and a summary of technical advisory services to which those hours related (SOSPA 12.3 (d) refers).

TAS Statement of Work (SOW)	Status	Hours worked during Month
TAS 108 – AUFLS transition	In progress	89.00
TAS 112 - FSR	In progress	57.50

Progress:

TAS 108 AUFLS transition: October security studies are complete with the November studies underway. October had one non-adherence to plan from PowerCo (1 feeder only).

TAS 110 - Winter Initiatives Permanent Implementation: The Authority has advised these initiatives are “intended” but are subject to budget and resource prioritisation constraints. We have not had any further updates from the Authority on progression of these initiatives.

TAS 112 - Future security and resilience (FSR): The Authority has been through a re-prioritisation exercise, but has confirmed FSR remains a high priority. We are working with their project team on the submissions from the frequency, voltage and harmonics consultation papers. The other priority areas for the TAS currently are GXP power factor work which needs to be completed by Jan/Feb 2025 to support the Voltage Option papers, and then work on AOPOs for batter energy storage systems.

TAS 113 - BESS wholesale market enhancements: Following the Authority’s reprioritisation exercise TAS 113 has been delayed from original timeframe but Authority looking for completion around the end of March 2025. It will be progressed within the Authority’s wider FSO/FSR workplan activities. The draft TAS SoW has been shared with the Authority at the end of September for comment/review.

TAS 114, Dispatchable Demand enhancements: Following the Authority’s reprioritisation exercise TAS 114 has been deprioritised and will not be progressed until the new year, if at all.

8 Risk & Assurance

Risk Management

We are preparing for the next control self-assessment round, to be completed by mid-November. An update to the system operator Business Continuity Plan process is being prepared.

Business assurance audits

We have received the draft report from the Auditors for Audit 53: Manage Security Constraints. There are two P3 recommendations regarding removing deactivated constraints from the market system and lack of triggers for communication by Operations Planning with other System Operator teams. We accept these recommendations and are investigating actions required.

We are responding to the recommendations in the Authority's Northland Loss of Supply report which relate to the system operator and coordinating with the grid owner on actions where appropriate.

9 Compliance

We reported one system operator self-breach in this reporting period (Event 4430 reported 5 September 2024). We also advised the Authority of one potential compliance matter observed relating to a participant's offers, and one instance of AUFLS non-adherence (refer to TAS108 update in section 7).

We continued to discuss with members of the Authority Compliance Team how and what we report about Dispatch Non-Compliance events.

The Compliance activity for this period is set out in the table below:

Event number	Event date	Event Description	Update	Date sent to EA
4275	11/04/22	<p>VSAT node breaker modelling for TWI - Southland voltage stability constraint impact</p> <p>On 5 June 2024 the Authority filed a notice of formal complaint with the Rulings Panel in respect of Transpower in its role as system operator.</p> <p>The complaint alleges Transpower, as a result of errors in the system operator's voltage stability assessment tool (VSAT), failed to correctly apply security constraints</p>	Currently going through the Rulings Panel process.	Ongoing

Event number	Event date	Event Description	Update	Date sent to EA
		between 28 January 2022 and 13 April 2022.		
4380	04/05/23	RTD Topology error after planned market system outage	SO has now responded to the Authority's fact finding – request for further information (EA ref 2313NZSO1)	3/09/24
4430	10/02/24	<p>Non-Response Schedules (long) failed to publish</p> <p>On 10 February 2024, the automatic 00:00 and 10:00 long non-response (NRSL) schedules failed to publish. Operators manually started new NRSL schedules at 01:16 and 11:28 respectively. Both schedules were completed and published successfully by 01:40 and 11:52 respectively. This event is a breach as a schedule started in a trading period was not completed by the end of the following trading period.</p>	Following investigation, corrective actions and reassessment, SO filed a self-notified breach.	5/09/24

10 Impartiality of Transpower roles

We have two open items in the Conflict of Interest Register (below). These are being actively managed in accordance with our Conflict of Interest procedure.

System Operator Open Conflict of Interest Issues		
ID	Title	Managed by
40	General system operator/grid owner dual roles: This is a general item that will remain permanently open to cover all employees with a dual system operator/grid owner role. The item documents the actions necessary to ensure	Corporate Counsel, Compliance and Impartiality

System Operator Open Conflict of Interest Issues		
ID	Title	Managed by
	impartiality in these circumstances; these items will be monitored to ensure their continue effectiveness.	
41	General relationship situation: This is a general item that will remain permanently open to cover all potential conflicts of interest arising under a relationship situation. This item documents the actions necessary to prevent an actual conflict arising and will be monitored by the SO Compliance & Impartiality Manager to ensure their continued effectiveness.	Corporate Counsel, Compliance and Impartiality

AraAke Trial: The System Operator and Grid Owner are collaborating on the FlexPoint platform. As the only impact of this collaboration to date is increased visibility of information in system operator control rooms and to external parties – there are currently no actual or potential conflicts of interest identified. There is nothing in or resulting from the trial that is of benefit to the Grid Owner over and above other participants. We will continue to monitor the trial from an impartiality perspective.

11 Performance metric and monitoring

Each quarter we report our year-to-date performance against the Performance Metrics and Incentives Agreement with the Authority. A quarterly review session is then held to discuss and agree an interim / indicative score. Following the end of the financial year we reach a joint determination of our full-year performance, that is used to determine our performance incentive outcome.

The Q1 scores show below are interim ahead of the review meeting to be held at the end of October. Year end forecast score reporting will begin from Q2.

Q1 interim performance score

Risk register has been updated and tested externally with the Authority and widely among industry participants	PM1 Score 3	On time delivery of significant event reports	PM7 Score 4	Average score from stakeholders on their perception of SO impartiality	PM13 Score N/A
% of SMART actions from the control self-assessment with maturity ratings of 1 or 2 will be addressed by the planned due date	PM2 Score 5	Average satisfaction score from stakeholders, as per responses received to transactional surveys taken at forums an...	PM8 Score 5	Number of thought leadership publications on specific areas of system operator work that affect and/or are of interest to the industry	PM14 Score 3
At least one pan-industry event exercise held to test existing controls	PM3 Score 3	All categories of stakeholders are actively engaged by the system operator throughout the year	PM9 Score N/A	# of SO Industry Forums held	PM16 Score 3
% of actions from industry exercises which were completed on time	PM4 Score N/A	% of industry submissions, made in response to system operator consultations, which are responded to	PM10 Score 3	% of key SOSPA documents delivered on time to the Authority	PM17 Score 3
Average score of internal process assessments arising from significant events	PM5 Score N/A	Stakeholder engagement in project delivery	PM11 Score 2		
Percentage of actions from significant events which are closed on time	PM6 Score 5	Average satisfaction score from stakeholders from Annual Survey	PM12 Score N/A		

Q1 interim outcome score

New security and reliability risks are identified and appropriately managed	O1 Score 3.86
Significant events are appropriately scoped, understood, prepared for and managed	O2 Score 3.89
The Authority is supported to evolve and develop the electricity market and power systems	O3 Score 3.30
Relevant market information is made accessible to stakeholders	O4 Score 3.34
Stakeholders are effectively informed on and included in decisions where relevant	O5 Score 3.00
Stakeholders are satisfied with our service	O6 Score 5.00
SOSPA delivery provides value	O7 Score 3.40

Overall Outcome Score
3.71

Performance % Score
77%

Score	Level of performance
1	Poor/unacceptable performance, requires focused improvement
2	Partially meets requirements, some improvement needed
3	Performance of all requirements in line with requirements of the Code and SOSPA
4	Exceeds some aspects of what is required by the Code and SOSPA
5	Consistent delivery of exceptional performance of (or beyond) what is required by the Code and SOSPA

12 Cost of services reporting

The cost of services reporting for 2023/24 will be delivered to the Authority by the end of the financial year.

13 Actions taken

The following table contains a full list of actions taken this month regarding the System Operator business plan, statutory objective work plan, participant survey responses and any remedial plan, as required by SOSPA 12.3 (b).

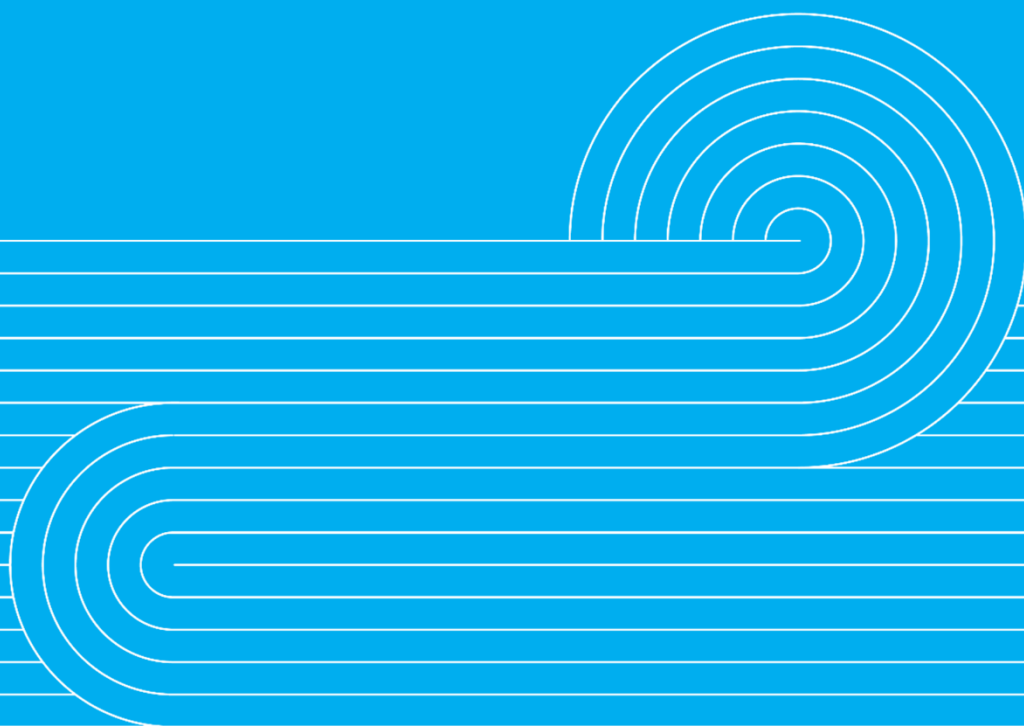
We note that re-prioritisation of our resources to support the system operator and Authority Northland loss of supply investigations, the 2024 security of supply situation and the SOSPA3 process has constrained our capacity to progress our work on these activities to planned timelines.

Item of interest	Actions taken
<p>(i) To give effect to the System Operator business plan strategic initiatives:</p>	<p>Support future-focused market developments through white papers, consultation processes and cross-industry forums</p> <ul style="list-style-type: none"> • Joined the Electricity Networks Aotearoa Future Network Forum's <i>Roles and Functions to enable distributed flexibility</i> project team • Participated in two FlexForum workshops to provide feedback on Energy Competition Task Force options • Published a Security of Supply Outlook communicating key ERC, NZGB and SOSA insights to industry • Hosted EA Networks board and management team • Contributed to a participant-initiated discussion with the participant and the Authority concerning the participants intermittent generation offers • Progressed work with the EISWWG • Contributed to a CE forum session on Security of Supply • Attended Association of International Power Exchanges (APEX) annual conference, including participation in a panel session <i>Energy Transition: Reliability Market Challenges</i> • Preparing for our assets owner forum on 30 October focusing on our commissioning process. <p>Develop a view of the information, market and standards required to operate the future electricity system to support the FSR work program</p> <ul style="list-style-type: none"> • Work continues to support the Authority's FSR programme <p>Enhance quality assurance through delivery of the Modelling Quality Assurance Framework</p>

Item of interest	Actions taken
	<ul style="list-style-type: none"> Discovery work and best practice sharing discussion with other organisations nearly complete. <p>Implement stage 1 of new enterprise business process management (BPM) capability for system operations</p> <ul style="list-style-type: none"> The resourcing plan and approach is being reviewed while an initial stocktake of existing collateral and artifacts is currently underway. <p>Leverage data and analytics developments to improve our data modelling and reporting</p> <ul style="list-style-type: none"> Data ingestion of market system data into the new data warehouse is ongoing with User Acceptance Testing due to start in next couple weeks. Bids & offer data ingestion is complete, one of the largest subject areas. <p>Deliver improvements to our generator commissioning management and assessment process</p> <ul style="list-style-type: none"> We are updating our commissioning requirements and preparing for our asset owner forum on 30 October.
<p>(ii) To comply with the statutory objective work plan:</p>	<p>Policy statement review (review due 1 November 2024)</p> <ul style="list-style-type: none"> Having received Authority consent to consult, consultation is in progress until 23 October <p>AS procurement plan review (review due 8 June 2025)</p> <ul style="list-style-type: none"> Internal review process in progress Review scope shared with the Authority for comment <p>Identify low residual / informational CANs (due 28 March 2025)</p> <ul style="list-style-type: none"> Quarterly System Performance Information report now specifies low residual Customer Advice Notices that were issued over the reporting period <p>Low residual notices, threshold and process review (due April 2025)</p> <ul style="list-style-type: none"> Planned to commence in October (following completion of Watch status activity in late September)
<p>(iii) In response to participant responses to any participant survey:</p>	<p>Feedback from the 2023-24 survey "We do have an opportunity to coordinate public facing messages still - want to ensure we get consistency across the industry and only call on the public when absolutely necessary"</p> <p>During the low residual event on 18 and 19 September, we used the Major Power System Event Contact List to invite communications and customer leads to the industry briefing to align on our public messaging approach; namely that this is a system of notices for coordinating the industry response, that no impact on consumers was expected, and that we would not be asking consumers to be mindful</p>

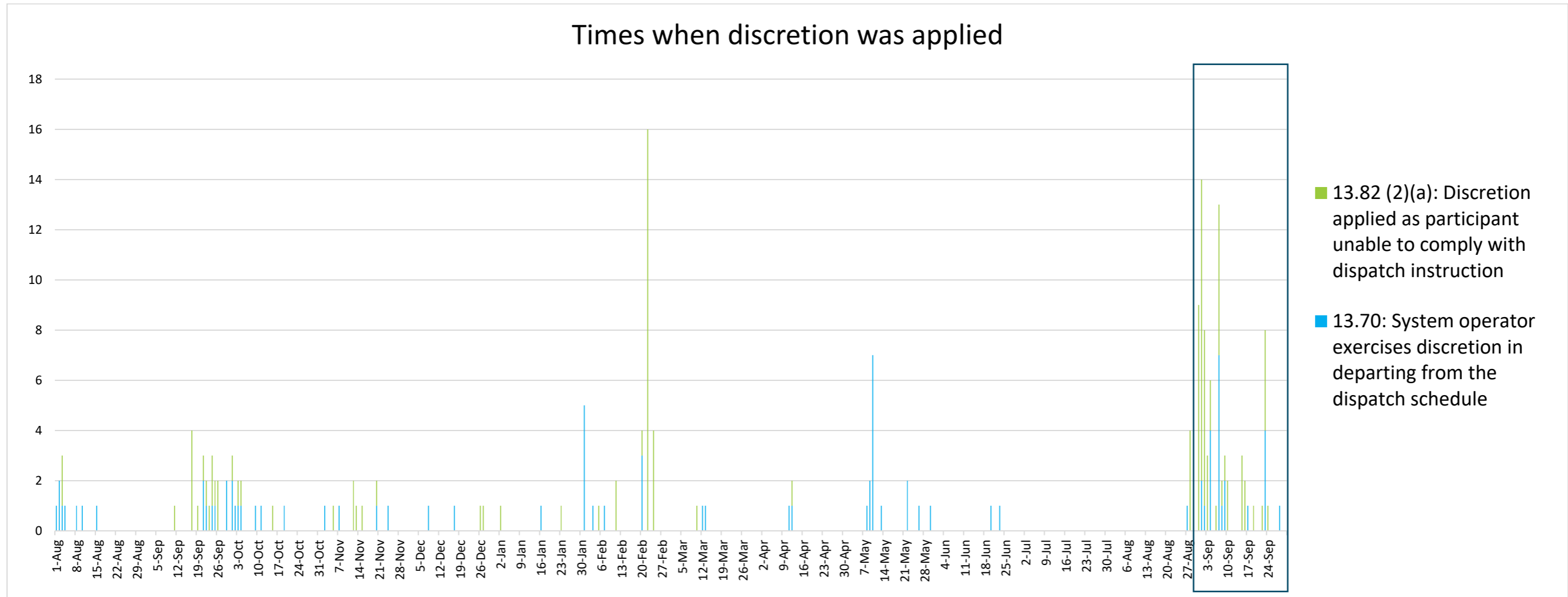
Item of interest	Actions taken
	of electricity use during the peak. On the morning of 19 September, we aligned messaging with a major generator ahead of one of its senior managers doing an interview on RNZ. We continue to develop our electricity shortfall messaging and plan to consult further with industry on refinements since the averted shortfall on 10 May.
(iv) To comply with any remedial plan agreed by the parties under SOSPA 14.1	<i>N/A – No remedial plan in place.</i>

Appendix



Appendix A: Discretion

The graph below shows a recent trend of instances of discretion application. The individual instances of discretion application this month are summarised further below.



System operator applied discretion under cl 13.70 in instances:

1 instance was applied as a test only

- 7 September at Gore (GOR)

2 instances were applied due a generator tripping

- 17 September 1 instance at Huntly (HLY)
- 28 September 1 instance at Kawerau (KAW)

4 instances were applied due to generators shutting down, having been dispatched below rough running range when not required for security

- 4 September 3 instances at Roxborough (ROX)
- 7 September 1 instance at Halfway Bush (HWB)

6 instances were applied due to Tiwai (TWI) potline restoration

- 4 September 1 instance at Manapouri (MAN)
- 9 September 1 instance at MAN

- 23 September 4 instances – Benmore (BEN) 1 instance, Aviemore (AVI) 2 instances, Ohau C (OHC) 1 instance

10 instances were applied due to wind generator FOGP offers incorrectly reflecting constrained down dispatch such that SPD released the IG flag allowing the generator to ramp up above dispatch

- 1 September 2 instances at Linton (LTN)
- 7 September 7 instances – LTN 5 instances, Tararua Wind Central (TWC) 2 instances
- 8 September 1 instance at LTN

1 instance where a 13.82(2)(a) rule claim was applied by traders due to plant safety as there was flooding risk

- 16 September at Coleridge (COL)

3 instances where a 13.82(2)(a) rule claim was applied by traders due to flooding and a risking of breaching resource consent

- 1 September 3 instances at Hawera (HWA)

43 instances where a 13.82(2)(a) rule claim was applied by traders as the site dispatched below minimum safe operating range due to low or zero pricing

- 1 September 9 instances - Nga Awa Purua (NAP) 4 instances, Ohaaki (OKI) 2 instance, Tauhara (TAB) 1 instance, Te Mihi, (THI) 2 instances, Poihipi (PPI) 1 instance, Wairakei (WRK) 1 instance, Huntly (HLY) 1 instance. :
- 2 September 8 instances - TAB 3 instances, NAP 2 instances, HLY 1 instance, OKI 1 instance, WRK 1 instance
- 3 September 3 instances - TAB 1 instance, HLY 1 instance, Contact geothermal site 1 instance
- 4 September 2 instances ROX 1 instance, TAB 1 instance
- 6 September 1 instance at TAB
- 7 September 4 instances at NAP
- 8 September 1 instance at Matahina (MAT)
- 9 September 2 instances at MAT
- 10 September 2 instances - MAT 1 instance, TAB 1 instance
- 15 September 3 instances - TAB 2 instance NAP 1 instance
- 16 September 1 instance at MAT
- 19 September 1 instance at HLY
- 22 September 1 instance at TAB
- 23 September 4 instances - NAP 2 instances, HLY 5 1 instance, TAB 1 instance

24 September 1 instance at MAT