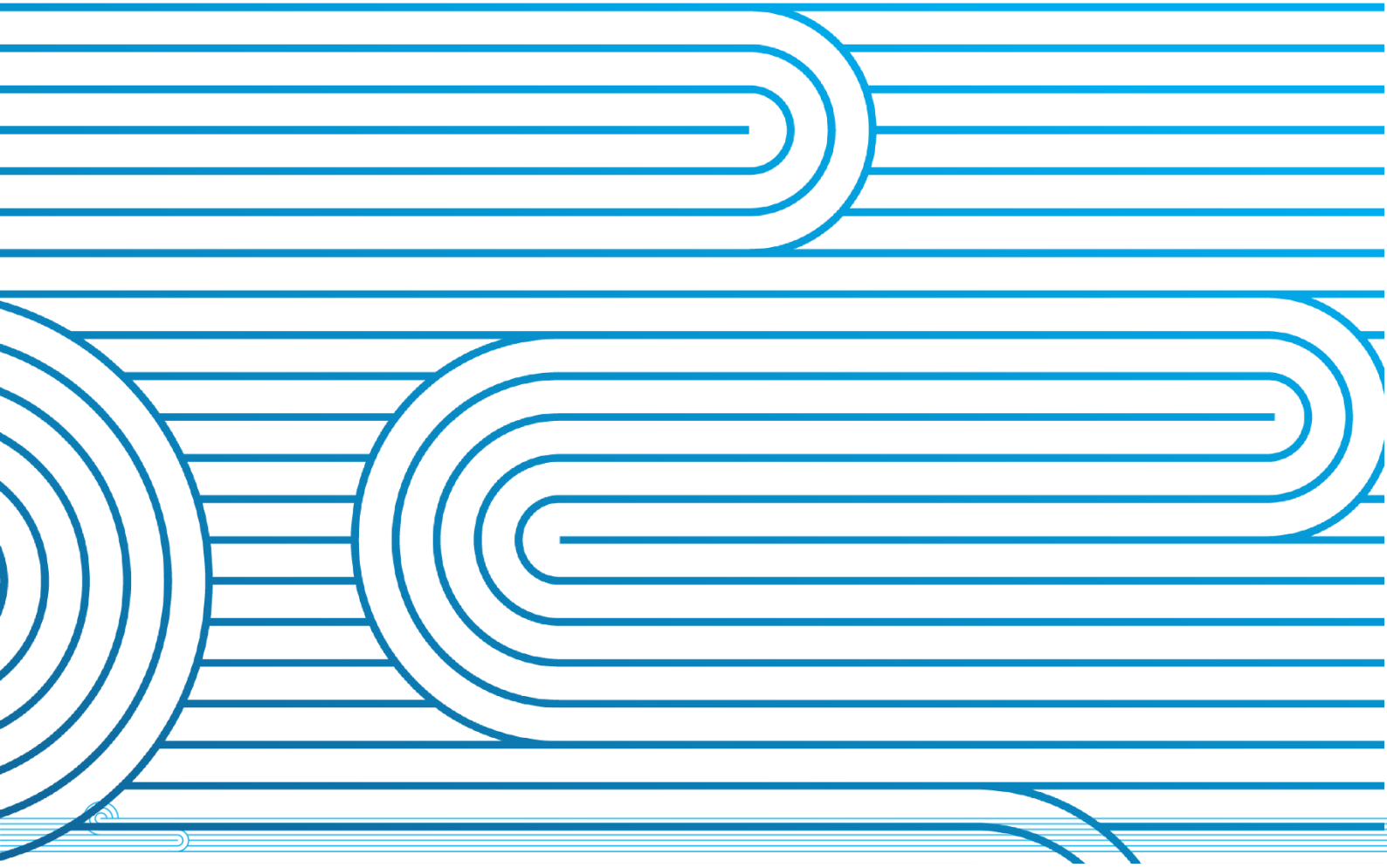


Monthly System Operator performance report

For the Electricity Authority

October 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

- On 9 October NOAA issued a severe geomagnetic storm watch for 10 – 11 October. Maximum current spikes didn't reach thresholds requiring us to take operational action.
- On 16 October 6MW of supply was lost to Main Power at Waipara due to a suspected HEI.
- On 26 October Coleridge – Otira circuits tripped resulting in an approximately 0.4MW loss of supply to Arthurs Pass and Castle Hill. Despite a lack of access due to snow the fault was isolated, and supply restored with the cause subsequently identified as a broken conductor.

Security of supply

- *Electricity Risk Curves (ERCs):* The [October ERCs](#) update shows a significant reduction to the risk curves over the high-risk period of 2025. To realise this reduced risk situation the modelled thermal fuel capability needs to be contracted by the industry.
- *New Zealand Generation Balance (NZGB) potential shortfalls:* The [October NZGB](#) update is forecasting no potential shortfalls for the remainder of the year. There is a period of low margins through November driven by up to 2000MW of generation outages.
- *System Operator Rolling Outage Plan (SOROP):* Implementation of the new SOROP continues across automation of inputs, formatting of outputs for publication, and information provision to participants.
- *Official Conservation Campaign (OCC) development:* Work that commenced under Watch status to support any OCC will progress to finalise the campaign creative approach.
- *2025 annual Security of Supply Assessment (SOSA):* Work on progressed towards consultation on scenarios and sensitivities commencing in November.
- *Winter 2024 Security of Supply review:* 13 responses to a survey provided feedback on our management of the 2024 dry event and a white paper will be released in November.
- *Low Residual Situations review consultation:* A consultation paper on the low residual threshold and coordination of low residual situations is progressing for release in November.
- *Security of Supply webpage established:* A security of supply landing page which provides easy-to-find links to information has been published on our system operator website.

Investigations

- *Event Number 4500: 17 September 2024 – North Island:* Investigation of the event causer is underway.
- *Event Number 4477: 26 July 2024 - South Island:* The engineering investigation identified that further information was required from two parties.
- *Significant event investigation: 20 June 2024 - Northland Loss of Supply:* We have reviewed the actions of the Authority's report against those we proposed in relation to the independent report. Our system operator actions are included alongside the wider Transpower actions in the plan submitted to the Authority in October.

Supporting asset owner activity:

- *Outage Coordination:* As expected during Spring there is up to 2000MW of generation on outage most weeks to year end. The Grid Owner is planning a 3-week HVDC outage in February that is not expected to materially impact energy risk.
- *Generator commissioning and testing:* There are five generation sites commissioning over the next 3 months - Contact's Te Huka Unit 3 59 MW geothermal (In progress); Genesis' Lauriston 52MW, and Northpower's Ruawai 14MW solar farms (November); Lodestone's Te Herenga o Te Ra 38MW solar farm (December); and Meridian's Ruakaka BESS which expects

to begin commissioning activities later this year. There are also seven generation units with commissioning related to upgrades scheduled between now and January.

- *Demand commissioning and testing:* Modelling for the new Waitohe GXP on Horizon's network and an assessment of potential non-conforming load at EDN0331 due to the operation of Fonterra's new electrode boiler occurred in October.
- *Ancillary Services activity:* SolarZero now have a reserves contract, accepted PowerNet's proposed method for meeting the reserve requirements for SIR and tenders for Black Start (South Island) and Over Frequency Reserves closed in October.

Commitment to evolving industry needs:

- *Asset Owner Engineering Forum:* We hosted the annual forum for generation and distribution asset owners and consultants from across the sector. The forum focused on generation commissioning in New Zealand's evolving power system.
- *Very low pricing operational challenges:* We implemented changes to the MW thresholds for releasing a constraint on IG and releasing an IG Flag when dispatch is within the Forecast of Generation Potential (FOGP). We have observed steady behaviour with no negative impact on frequency or security. Further enhancements are on track for early/mid-2025.
- *Electrical Industry Space Weather Working Group (EISWWG):* A workshop considered the industry response plan to an extreme space weather event which highlighted the need for greater capability within New Zealand in relation to space weather and its risks.
- *ENA FNF:* We are a member of the 'Roles and Functions' project which is entering Stage 2 to consider industry architecture and DSO models.
- *Engineering & Technology Awards:* Four system operator initiatives were finalists. Technical implementation of Real Time Pricing won its category, and also won the supreme award.
- *FlexForum:* We participated in Flex Day where the goal was to accelerate delivery of their Flexibility Plan. Six ideas identified are being prioritised by the membership for progression.
- *Powerco controllable load indications:* We are continuing to work through the arrangements to implement this via the ICCP change process.
- *AraAke NI Flexible DER pilot:* The NI Flexibility DER pilot continues to grow in momentum as we gear-up for Winter 2025. As system operator we continue to await aggregator flex response visibility through to the screens already operating in the control room.
- *System Security Forecast (SSF):* Work for the transient rotor angle stability scope for the SSF is mostly complete, with the report planned for completion by end November.
- *System Operator Industry Forums:* Our fortnightly discussion of current operational and market issues were held on 7 and 22 October.
- *Submissions in preparation:* We are working towards submission to Authority consultation on Part 8 Common Quality (2), Outage coordination and Intermittent generation forecasting.
- *Security and Reliability Council:* We attended the SRC's meeting on 24 October for a discussion that will inform the Authority's response to our SO annual self-review.
- *AUFLS 2023 assessment:* The 2023 AUFLS assessment identified some areas of non-compliance but confirmed sufficient AUFLS to recover a severe under-frequency event. The assessment of over-frequency worst-case scenarios found that with the new North Island four block AUFLS scheme there were no insecure cases.

Risk & Assurance

- *Control Self-Assessment:* The current round is progressing for completion in November.
- *Business Continuity Plan:* An update to the system operator process will be completed in November.
- *Business assurance audits:* We have accepted *Audit 53: Manage Security Constraints* two P3 recommendations and developed SMART actions to address them.

1 Operating the power system

System Events

10-11 October 2024 – G4 Geomagnetic Storm: On 9 October the National Oceanic and Atmospheric Administration (NOAA) issued a G4 (Severe) geomagnetic storm watch for 10 – 11 October. In our role as system operator, we monitored the situation and undertook the required studies to enable us to switch out circuits to reduce grid induced currents (GIC) if required. We saw maximum current spikes in the lower South Island of 60A, but overall didn't reach any thresholds to take operational action.

16 October 2024 – Waipara loss of supply: At approximately 13:43 6MW of supply was lost to Main Power at Waipara due to a suspected HEI on site. Supply was restored by 14:00.

26 October 2024 – Arthur's Pass (APS) and Castle Hill (CLH) loss of supply: At approximately 9:10 Coleridge – Otira circuits 1 and 2 (COL-OTI 1 & 2) tripped, and did not successfully auto reclose, resulting in approximately 0.4MW loss of supply to both APS and CLH. Attempts were made to reclose the COL-OTI 1 circuit to restore supply, but after initial success the circuit tripped again within 15 minutes. At the time heavy snow was falling across the South Island, meaning access to assess the cause wasn't possible. System Operator worked with Grid Owner to isolate the suspected faulted section of circuit between APS and CLH, and eventually restore supply from each end to APS at 13:53 and CLH 16:38. The cause was subsequently identified as a broken conductor.

2 Security of Supply

Electricity Risk Curves (ERCs): The October ERCs update was published on 24 October and is available [here](#). The update showed a significant reduction to the risk curves over the high-risk period of 2025 (~800 GWh decrease from February to June 2025). This reduction in risk is due to a combination of improvements to modelled thermal fuel capabilities: increases to coal stockpile and coal import rates, as well as an increase in the gas storage level and slight increase to gas production forecasts over 2025. Given how fuel constrained the ERCs are, these changes had a large positive impact on the risk levels for 2025. However, realising this reduced risk situation, the modelled thermal fuel capability needs to be contracted by the industry. If less gas goes to thermal generators, or the coal stockpile level is not maintained going into Autumn/Winter, then the actual risk will more closely reflect what we were seeing in the September update. As of the October update, no Simulated Storage Trajectories (SSTs) are crossing into NZ Watch or Alert status in 2025. This month, in response to feedback we received in our August consultation on bringing forward access to contingent storage, we added a new (purple) line to ERC charts to clearly show the portion of hydro storage that is contingent storage in lakes Pukaki, Tekapo and Hawea.

New Zealand Generation Balance (NZGB) potential shortfalls: The October NZGB update is available [here](#). NZGB is forecasting no potential shortfalls for the remainder of the year regarding N-1-G. There is a period of low margins through November when only considering Firm Generation under N-1-G. This is driven by up to 2000MW of generation being on outage including Huntly Unit 5. Generation and Transmission outages do typically occur in Spring to ensure critical maintenance is taken after the winter period.

System Operator Rolling Outage Plan (SOROP) review: Implementation of the new SOROP continues. 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 (OCC) 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.

2025 annual Security of Supply Assessment (SOSA): During October work progressed in preparation for consultation on scenarios and sensitivities, which is planned to commence in November. We communicated our early thinking on these to the Authority during October.

Winter 2024 Security of Supply review: During October we sought feedback from participants on our management of the security of supply situation that unfolded in late winter into spring. We received 13 responses. We are preparing this year's winter review white paper, for release in November.

Low Residual Situations review consultation: We are engaging with the Authority as we prepare analysis and a consultation paper to seek feedback on potential amendments to ensure the 200MW low residual threshold and process for coordinating low residual situations with industry are appropriate for the evolving power station. The recent government policy statement to the Authority has informed our approach. Consultation is planned to start in November.

Security of Supply webpage established: We have established a security of supply landing page on our system operator website, which provides easy-to-find links to the security of supply information we publish: [Security of supply | Transpower](#)

3 Investigations

Under-frequency event investigations

Event Number 4500: 17 September 2024 – North Island: Investigation of the causer and assessment of compliance is underway.

Event Number 4477: 26 July 2024 - South Island: The engineering investigation identified that further information was required from two parties. As at the end of October we had not yet received that information. We have been communicating with EA staff in relation to progress and timeframes.

Significant incident investigations

20 June 2024 - Northland Loss of Supply: Following the publication of the Authority's report into the event, we have reviewed the actions against those we proposed in relation to the independent system operator-commissioned report. The two sets of actions are very similar. Our system operator actions are included alongside the wider Transpower actions in the plan submitted to the Authority in October.

4 Supporting Asset-owner activity

Outage coordination

As expected at this time of year, assets are coming out of service to maintenance ahead of next winter. Currently there is around between 1500 - 2000MW of generation on outage most weeks between now and the end of the year, and between 60 – 80 core grid outages each week.

The Grid Owner is planning a 3-week HVDC outage from the 8 Feb 2025 to 3 March 2025. With the ERC's signalling heightened energy risk in 2025 we completed a sensitivity analysis, which determined that the planned HVDC is not expected to materially impact that risk.

Generator commissioning and testing

Power Systems and Markets teams are working with the following generators who are commissioning or expecting to connect in the next 3 months:

- Contact's Te Huka Unit 3 (59 MW) geothermal unit is undergoing commissioning.
- Two solar farms are expected to begin commissioning activities in November: Genesis' Lauriston solar farm (52MW at Ashburton) and Ruawai solar farm (14MW). Ruawai is planned to be deployed into our production market and SCADA systems in early November.
- Lodestone's Te Herenga o Te Ra (38MW at Waiotaha) is scheduled to begin commissioning in December. Dispatch testing with Lodestone is scheduled for 18 November and deployment to our production market and SCADA systems scheduled for 3/ 4 December.
- Meridian's Ruakaka BESS which expects to begin commissioning activities later this year.
- We also have seven generation units with commissioning related to upgrades scheduled between now and January, including a series of AVR upgrades for Atiamuri.

Demand commissioning and testing

New Waitohe GXP (33kV): Markets team modelled the new GXP for Lodestone's solar farm ahead of future development plans from Horizon to take supply at 33kV.

Edendale load: With the commissioning of Fonterra's new electrode boiler at their Edendale dairy site we have noticed the load at EDN0331 is increasingly unforecastable by our load forecast tool. Fonterra have plans to invest \$150M to build a new UHT cream plant at Edendale making it more likely that EDN0331 should be considered as a non-conforming node. We are assessing and will write to the Electricity Authority to make a determination on whether this node should become nonconforming.

Ancillary Services activity

SolarZero DER: SolarZero's reserves contract has been executed. SolarZero are now able to offer into the reserves market.

PowerNet interruptible load (IL): We have accepted PowerNet's proposed method for meeting the reserve requirements for SIR. Frequency response demonstration tests are underway. Dispatch tests with PowerNet are yet to be undertaken. This is a prerequisite before they can be deployed into production systems.

Ancillary Services Tender: the tender for Black Start (South Island) and Over Frequency Reserves closed on 25 October. The Ancillary Services Tender Evaluation Committee meeting will meet early in November to evaluate the submissions.

Interruptible Load: The following table provides an overview of interruptible load testing for October:

	Number of sites	Additional quantities in MW
Annual testing	3 sites	
Additional resource		
Overdue testing		

Over-Frequency Reserve: The following table provides an overview of over-frequency testing for October:

	Number of sites overdue
Four yearly end-to-end relay testing	
Two yearly control and indication testing	2
Circuit breaker timing testing	

5 Commitment to evolving industry needs

Asset Owner Engineering Forum: We hosted the annual Asset Owner Engineering Forum on 30 October. The event included asset owners from generation and distribution businesses, as well as consultants from across the sector. The forum focused on generation commissioning in New Zealand’s evolving power system, with particular attention given to the commissioning framework, timelines and modelling requirements.

We had useful discussions on the following topics:

- New risks to the power system
- The growing connection pipeline
- How an improved generation commissioning framework and a collective effort to improve risk prediction through modelling, will enhance the security of the power system.

These discussions have ensured we are in a stronger position for future changes to the power system.

Very low pricing operational challenges: From late August and through much of September 2024, there were increased quantities of very low-priced (\$0/MWh and \$0.01/MWh) generation in the market. This was related to very low demand arising from a reduction in industrial loads including with Tiwai smelter demand reduced through its demand response agreement with Meridian. It was also a consequence of increased hydro generation following high inflows, increased wind generation, along with baseload geothermal and some thermal generators wanting to remain online. We consider this operational sequence provided warning of the operational challenges that will build as more IG resources connect to the power system, and highlighted the need to ensure the market rules and tools are evolving to manage these challenges going forward.

We experienced 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. IG 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 an IG is constrained down for security reasons its generation will typically be quite stable. If it drops away below constrained dispatch the market system will remove the constraint. If the wind returns rapidly the generator can ramp up quickly, and then a constraint needs to be reapplied. We experienced many instances of IG ramping up quickly in this uncontrolled manner, which caused challenges in maintaining power system frequency and security. Two changes have been implemented in response:

- The threshold for releasing a constraint on IG has been increased from 2 MW to 5 MW, to reduce instances of the constraint being released when actual IG drops a little below constrained dispatch quantity.
- The threshold for releasing an IG Flag when dispatch is within the offered Forecast of Generation Potential (FOGP) – an estimate of the electricity (specified in MW) it will generate during a trading period' - has been adjusted from 30 MW to 15 MW, to reduce the rate at which the IG is allowed to ramp up after being constrained.

We have observed steady behaviour since implementing the changes, with no negative impact on frequency or security.

We are on track to implement further enhancements to the market system (in early/mid-2025) for better real-time management of IG dispatch when IG plant is setting the risk, especially when actual output falls below dispatch levels. 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.

Electrical Industry Space Weather Working Group (EISWWG): We held a workshop with the industry working group on 10 October 2024, where we worked through the industry response plan to an extreme space weather event along with Meridian, Genesis, Mercury and Contact's draft response plans. The workshop highlighted the need for greater capability within New Zealand to forecast and provide SME in relation to space weather, along with completing engineering to confirm asset risk levels. We have provided feedback to NEMA on their draft National Space Weather Response Plan.

ENA FNF: We are a member of the 'Roles and Functions' project which is entering Stage 2. To support the FNF's study of DSO/TSO arrangements in other jurisdictions we shared relevant resources generated through our internal FSO programme. ENA FNF project team meetings are weekly.

Engineering & Technology Awards: The awards evening was held by Transpower on 15 October. Four system operator initiatives had been selected as finalists for Transpower's Engineering & Technology Awards. Technical implementation of Real Time Pricing won the Investment in our industry future category for *Making a significant investment in the engineering and technology future of the industry*. It also won the supreme award against some very strong competition. This is great recognition for the project team's work on a challenging and important multi-year initiative, and of the Authority's wider role in developing and deciding to implement what is the biggest change to New Zealand's electricity market design since the market began.

FlexForum: We attended Flex Day on 17 October. The goal of the day was to bring together the FlexForum membership in person to accelerate delivery of the Flexibility Plan. Six ideas arising from Flex Day are being prioritised by the membership for progression.

Powerco controllable load indications: We are continuing to work through the arrangements to implement this via the ICCP change process.

AraAke NI Flexible DER pilot: The NI Flexibility DER pilot continues to grow in momentum as we gear-up for Winter 2025. Ara Ake have started work in developing a white paper that will look to further examine the barriers to flexibility uptake, expansion, and innovation in the New Zealand Electricity Market. The Transpower Flexibility team has interviewed eleven (11) Flexibility Service Providers to date and are now seeking input and insights from various government agencies. Ara Ake is also developing a webpage for the pilot (which will go live here shortly). This will help to educate and assist with pilot onboarding of interested FSPs. As system operator we continue to await aggregator flex response visibility through to the screens already operating in the control room.

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 November. In December we will publish the transient rotor angle stability report and SSF 2024 summary report.

Connecting with the industry

System Operator Industry Forums:

Our fortnightly discussion of current operational and market issues were held on the 7 and 22 October. Recent slide packs and recordings for forums within the last month are available on our website: [System operator industry forum | Transpower](#).

Weekly Market Movements:

- [6 October:](#) This insight discussed the [Security of Supply Outlook](#) for 2025 published on the Transpower website
- [13 October:](#) This insight looked into the causes of recent low demand
- [20 October:](#) This insight discussed how the AC transmission line can set the risk for the North Island
- [27 October:](#) This insight covered energy and peak contribution of new generation commissioned and expected to be commissioned in 2024

System Operator webpage enhancements:

During October we setup a [Security of Supply](#) webpage (refer to the Security of Supply section above), and a [System Operator consultations](#) webpage. Both are easy to find through the top-level System Operator menu on Transpower's webpage.

Supporting the Authority

Part 8 Common Quality consultation: We continue to work with the regulatory team to draft a 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.)

Outage co-ordination consultation: We continue to work with the regulatory team to draft a submission to the Authority's consultation paper, which proposes mandate outage information that is currently being supplied in a voluntary manner and with very high levels of industry compliance.

Intermittent Generation forecasting: We are preparing to submit to the Authority's consultation paper Review of forecasting provisions for intermittent generators – proposed Code amendments.

Security and Reliability Council: We attended the SRC’s meeting on 24 October for a discussion that will inform the Authority’s response to our SO annual self-review.

AUFLS 2023 assessment: We delivered the 2023 AUFLS assessment on 31 October 2024. This provided an assessment of AUFLS provider compliance. Consistent with assessments in previous years, most providers did not comply with the minimum requirements 100% of the time. The Assessment also includes a security assessment which identified that, despite the non-compliances there was sufficient AUFLS to recover a severe under-frequency event. We also assessed potential over-frequency issues following an AUFLS event, which showed potential risks of over-frequency in worst-case scenarios. We additionally assessed the same worst case scenarios, but with the new North Island four block AUFLS scheme. Under the new scheme there were no insecure cases.

Media interactions

With the conclusion of the enhanced security of supply reporting at the end of September, and in response to our Security of Supply outlook published on 30 September, we engaged with media to explain the rationale and communicate the risk profile for 2025. There was also some interest in space weather in response to a G4 geomagnetic storm on 10 October, and with NEMA’s space weather response plan due for future release.

Date	Outlet/type of engagement	Details	Coverage
1 October	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.	RNZ 1 October
1 October	Engagement with various journalists about the Security of Supply outlook	Context was provided for journalists as to why enhanced security of supply reporting was concluded, and the risks out to the end of 2025.	
2 October	Information sought on how Electricity Risk Curves (ERCs) work	The journalist was referred to existing material on our website that explains the purpose of ERCs and the inputs that go into forecasting the risks. We also provided additional commentary on how Transpower as system operator responds at various risk levels, contextualising this with our actions while closely monitoring the ERCs in Winter 2024.	
2 October	Questions on the topic of space weather considering NEMA’s pending response plan	We provided basic details of space weather and its effects on power grids, and how Transpower currently manages those risks in both its roles as system operator and grid owner. Additional information was given surrounding what was done to mitigate potential damage during the solar	

Date	Outlet/type of engagement	Details	Coverage
		storm of 10 and 11 May, as well as the various initiatives currently underway to better understand potential impacts and prepare for future space weather events.	
4 October	Security of supply and generation pipeline	The journalist was directed to our Security of Supply Outlook, with additional commentary provided on what informs the outlook, and that industry needs to continue focussing on fuel storage and availability ahead of 2025. Questions relating to generation pipeline were handled by the grid owner.	
10 October	Question relating to severe geomagnetic storm watch	With the storm not expected to reach the 'G5 level' which poses a potential impact to the power system, a response was given that said Transpower, in its role as system operator and grid owner, was actively monitoring the storm and was in communication with NEMA and MBIE.	
18 October	Enquiry about a system acronym (HLY_2)	It was picked up that there was an outage at HLY_2, and the journalist as seeking confirmation that that was 'Rankine 2' at Huntly. This was confirmed by the system operator.	

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): The start-up phase is complete and the team are now into the build phase. Workflow software licences have been procured and the test plan has

been approved. Test environment build is in progress. Several workshops have been held to agree the short-term delivery roadmap, feature showcase sessions and schedule placeholders for UAT.

D&A Modernisation – Market System Data: Data ingestion and migration activities continue with a completion date of January 2025. 40% of reports have been delivered and UAT is either complete or in progress on those reports. Training sessions have been delivered on SQL for Snowflake.

SCADA Habitat and EMP Refresh: SCADA solution architecture document has been approved by the design authority. Testing for the first release of customisations has commenced. The GE sprint plan has been confirmed and work on the detailed design for release 1 items is in progress.

Credible Event Review: We published the HVDC cable discharge and HVDC single pole outage reviews in October. These are currently out for industry feedback. We are completing the three remaining CER reports focussed on Interconnecting transformer methodology and updates; Management of fault ride-through non-compliance; and 110 kV busbar faults for publication in mid-November.

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 flight	64
TAS 112- FSR Workstream – Part 8 of the Code – Common Quality Requirements	In flight	145.5

Progress:

TAS 108 AUFLS transition: October security studies are complete with the November studies underway. October had two non-adherences to plan from Powerco and Wellington Electricity.

TAS 112 - Future Security and Resilience (FSR): The Authority has been through a re-prioritisation exercise, and 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 options draft decision paper, and complete study work to inform AOPOs for battery energy storage systems (BESS).

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. An updated TAS SOW was submitted to the Authority for approval. Work is expected to commence early November, and will be progressed within the Authority's wider FSO/FSR workplan activities.

TAS 115 - 9th August 2021 UTS decision: On 2nd October the Authority released their final decision that a UTS did not exist if the market was settled on non-scarcity pricing adjusted per the High Court decision. We will now work with the Authority, under TAS 115, to effect settlement of ancillary services and update our data records to reflect this outcome. Additionally, we will assist the FTR Manager (EMS), the clearing manager and WITS (both NZX), and the grid owner with their respective responsibilities to settle the market for the affected trading periods. The SoW for this TAS was approved on 31 October 2024, and a TAS kick off meeting is scheduled for 5 November 2024.

Scoped TAS initiatives closed after Authority reprioritisation of its work programme:

- TAS110 - Winter Initiatives Permanent Implementation – Interim and long-term implementation to be addressed as part of Market Design project in FT25/26.
- TAS114 - Dispatchable Demand enhancements – Not progressing based on the Authorities communication on 10th of September 2024.

8 Risk & Assurance

Risk Management

We are progressing a control self-assessment round for completion in November. An update to the system operator Business Continuity Plan procedure document and will be completed in November.

Business assurance audits

We have finalised Business Assurance 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 have developed SMART actions to address them.

9 Compliance

During October we advised the Authority of two instances of AUFLS non-adherence (refer to TAS108 update in section 7).

In relation to FOGP offer breaches that we understand two participants have self-reported to the Authority:

- Meridian is keeping us updated on their wind offer update methodology changes as they progress improvements and also replace a transformer at their West Wind site.
- Manawa have corrected an issue where the information used to determine the forecast of generation potential (FOGP) was not always the most up-to-date data.

System Operator 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 between 28 January 2022 and 13 April 2022.</p>	Currently going through the Rulings Panel process.	Ongoing
4479		<p>Non-Response Schedules (long) failed to publish</p> <p>On 26 May 2024 Market System performance slowed over the course of an hour to such an extent that the coordinators were forced to switch to Stand-Alone Dispatch (SAD). SAD is a back-up system that the System Operator uses when Market System is unavailable. SAD was used between 06:12 and 06:45 while we investigated the issue. After going back to the Market System, the coordinators subsequently noticed further deterioration of the Market System performance. During this time, the 06:00 and 06:51 manual non-response schedule long did not solve. 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.	1/10/24

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 impartiality in these circumstances; these items will be monitored to ensure their continued effectiveness.	Corporate Counsel, Compliance and Impartiality
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

Our system operator performance against the performance metrics for the financial year as required by SOSPA 12.3 (a) will be provided in the final monthly report each quarter

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.

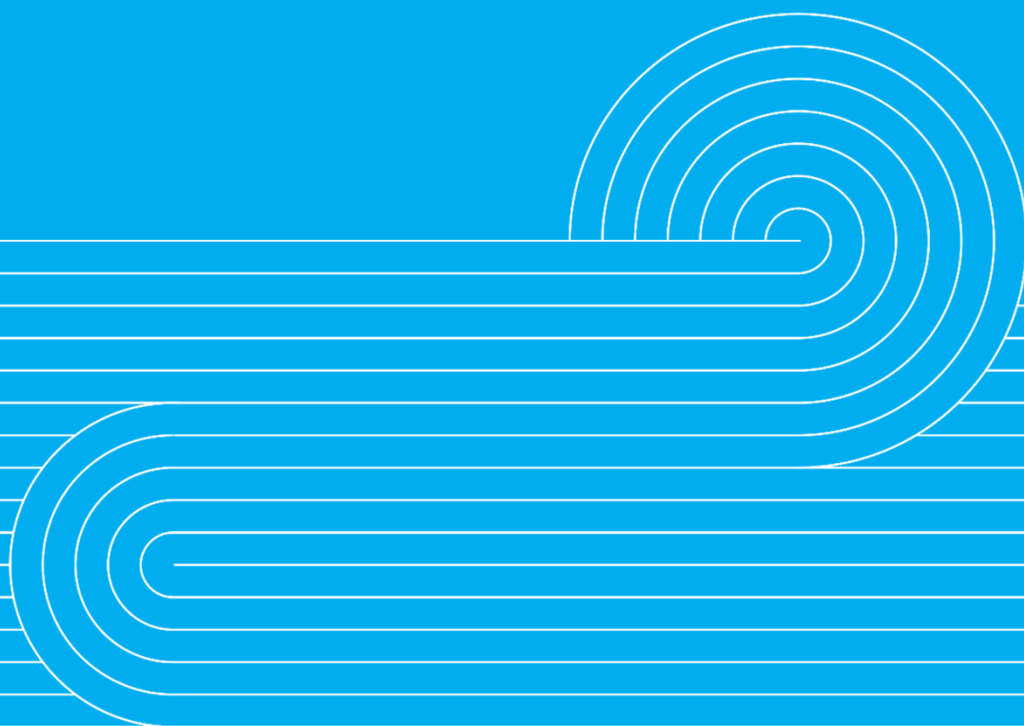
Item of interest	Actions taken
<p>(i) To give effect to the System Operator business plan strategic initiatives:</p>	<p>Support future-focused market developments through white papers, consultation processes and cross-industry forums</p> <ul style="list-style-type: none"> Actively participated in the Electricity Networks Aotearoa Future Network Forum's <i>Roles and Functions to enable distributed flexibility</i> project team weekly meetings. Participated in a FlexForum workshops to provide feedback on Energy Competition Task Force options Met with and provided feedback to Auckland University's Energy Research Consortium (ERC). Continued to progress work with the EISWWG Ran our assets owner forum on 30 October focusing on our commissioning process. Progressed a summary of and response to submissions received on our <i>Evolving market resources coordination</i> white paper <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, with the System Operator supporting the Common Quality Requirements workstream, and the Authority published 2 consultations in October. The Asset Owner forum included a presentation and round table on modelling information required for commissioning. Participated in a meeting with a distributor to progress a trial of (T)SO/DSO data exchange to learn by doing. <p>Enhance quality assurance through delivery of the Modelling Quality Assurance Framework</p> <ul style="list-style-type: none"> Discovery work is complete, and recommendations have been presented internally. Efforts are now focused on

Item of interest	Actions taken
	<p>implementing priority process improvements which will form key components of the overall framework. .</p> <p>Implement stage 1 of new enterprise business process management (BPM) capability for system operations</p> <p>The process architecture review and development are underway with the tool currently being piloted on generator commissioning to demonstrate best practises.</p> <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. User Acceptance Testing has commenced and is complete for Bids & offer data. Deliver improvements to our generator commissioning management and assessment process • Our Asset Owner Forum focussed on generation commissioning and included presentations and discussion on our commissioning and assessment process. These included gaining feedback from participants on our process.
<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"> • We received 1 submission and submitted our draft Policy Statement to the Authority for approval on 30 October. <p>AS procurement plan review (review due 8 June 2025)</p> <ul style="list-style-type: none"> • Internal review process continues • Awaiting any early Authority comment on the review scope shared in September <p>Identify low residual / informational CANs (due 28 March 2025)</p> <ul style="list-style-type: none"> • Completed Sept 2024, ongoing in each Quarterly System Performance Information report. <p>Low residual notices, threshold and process review (due April 2025)</p> <ul style="list-style-type: none"> • Progressed in in October including discussion on approach with the Authority.
<p>(iii) In response to participant responses to any participant survey:</p>	<p>Feedback from the managing security of supply risks 2024 survey</p> <p>In response to the feedback regarding the aspects of our communications that did not work well, we received the following comment: "It can be difficult to find information on the website."</p> <p>Following the conclusion of Watch status activities in late September, we have launched a dedicated Security of Supply page. This page serves as a central source for all relevant information and links, which can be easily accessed through the System Operator main menu. We</p>

Item of interest	Actions taken
	have also setup an easy to find System Operator Consultation page. We will continue to make incremental improvements over time as resources permit.
(iv) To comply with any remedial plan agreed by the parties under SOSPA 14.1	<i>N/A – No remedial plan in place.</i>

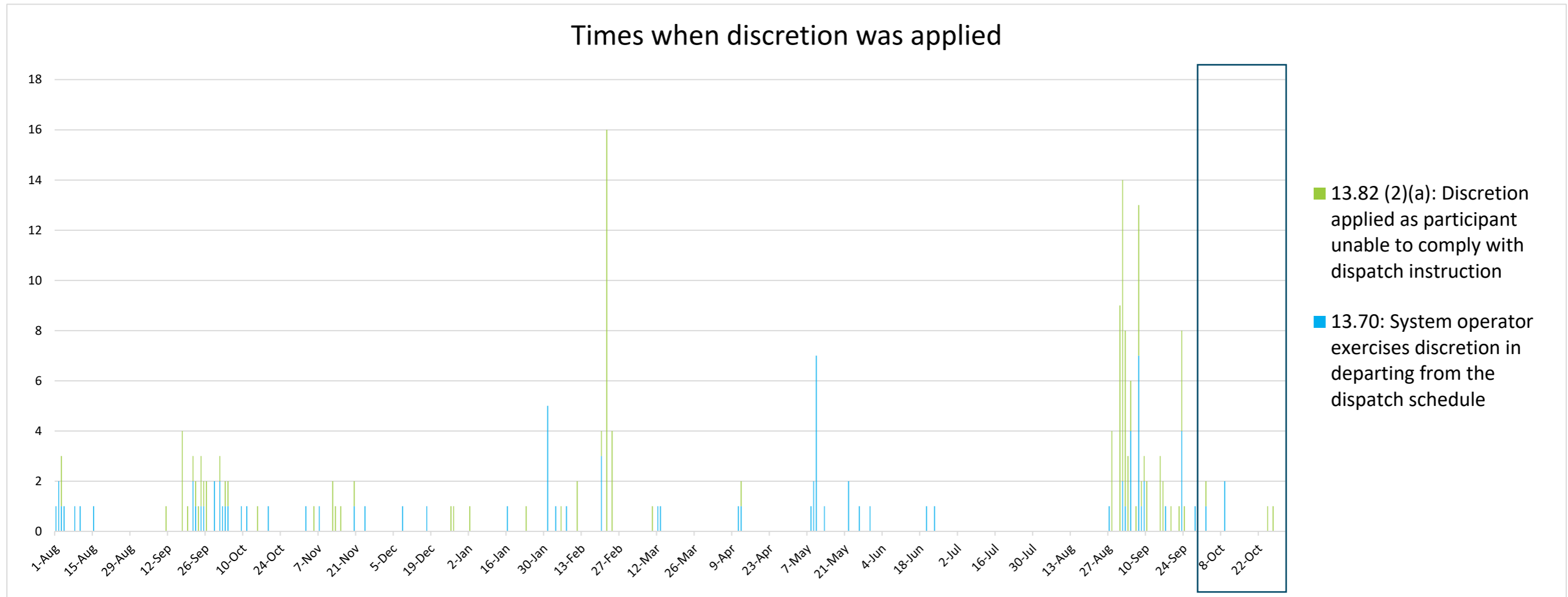


Appendix



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 6 instances:

- 9 October: 2 instances in response to managing Tiwai plotline restoration, 1 instance Benmore (BEN), 1 instance Aviemore (AVI)
- 4 instances by traders as the site dispatched below minimum safe operating range:
 - 2 October: 2 instances, 1 instance at Mangahao (MHO), 1 instance in response to a 13.82(2)(a) rule claim by the trader at Nga Awa Purua (NAP)
 - 25 October 1 instance in response to a 13.82(2)(a) rule claim by the trader at Roxburgh (ROX)
 - 27 October 1 instance in response to a 13.82(2)(a) rule claim by the trader at Clyde (CYD)