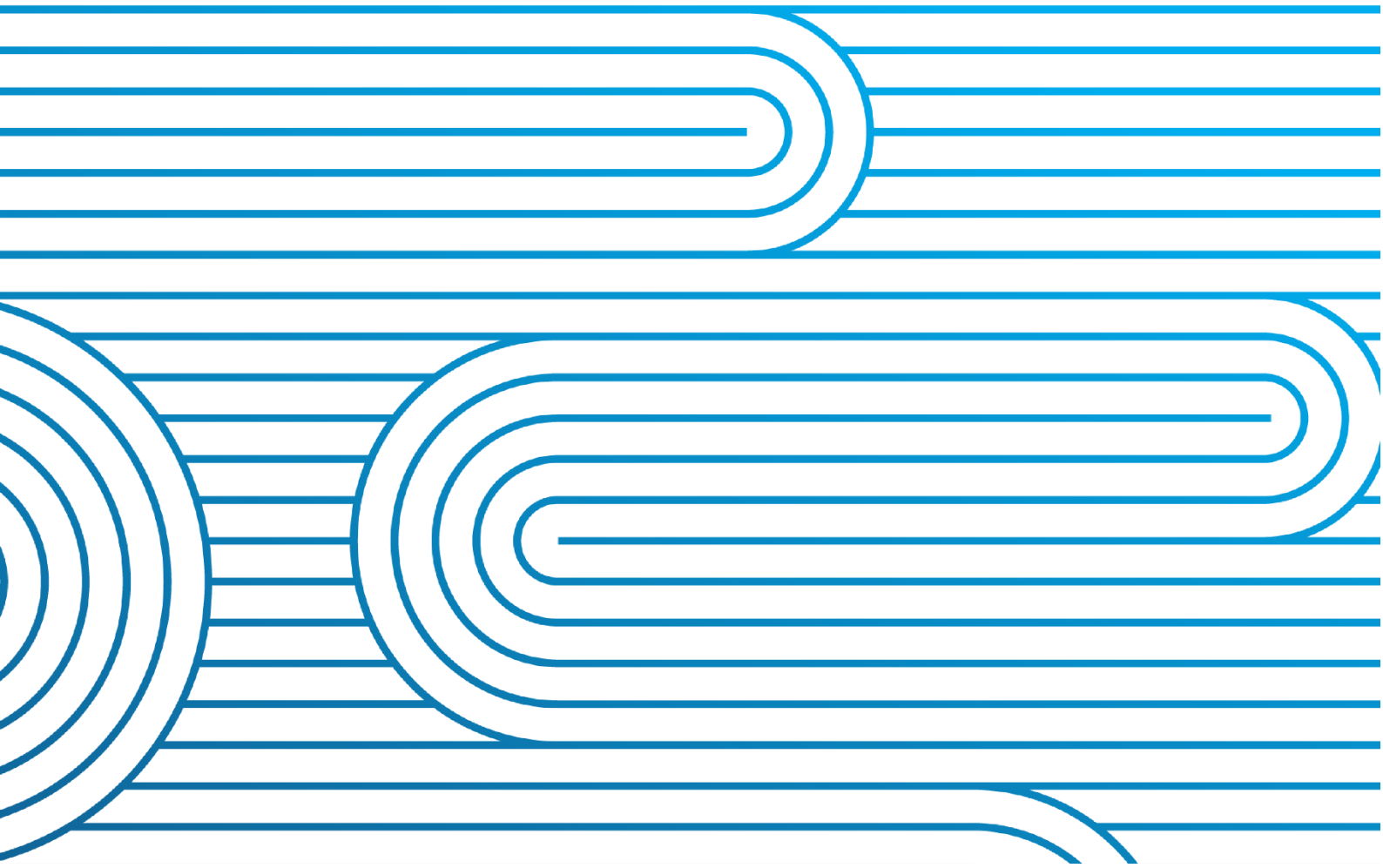
TRANSPOWER

Monthly System Operator performance report

For the Electricity Authority

May 2025



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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Key points this month

Operating the power system

- During the period of 1 – 4 May 2025 there were various unplanned outages of HVDC Pole 2 and Pole 3 to remove salt contamination from insulation at Haywards and Oteranga Bay. This was required due to severe wind and storm activity in the Wellington region.
- On 20 May 2025 during a planned outage of Paraparaumu T1 a transient fault caused Bunnythorpe-Paraparaumu-Haywards 2 circuit to auto reclose. However, Paraparaumu T2 tripped and remained out of service (as designed). With both transformers out of service there was an approximately 31 MW loss of supply to Electra for 11 minutes.
- On 27 2025 May there was an unplanned outage of HVDC Pole 3 for the urgent repair of a jumper insulator on a transmission tower. During the outage, price separation occurred.

Security of supply

- *Security of Supply Forecasting and Information Policy (SOSFIP) review:* We have moved into the key analysis phase of the SOSFIP review where we will assess key assumptions, ensure energy and capacity risks are appropriately captured as part of the Security of Supply reporting, consider any wider risk scenarios, and assess contingent storage and broader strategic options. We are engaging with Authority staff on the consultation approach and timeline
- *2025 Annual Security of Supply Assessment (SOSA):* We finalised our draft SOSA report and published it for consultation. Submissions has been received from a number of stakeholders.
- *Energy Security Outlook:* Our latest update of the ERCs and SSTs was published on 28 May. The report showed no SSTs cross the Watch curve in 2025 with 17 of the 93 SSTs cross the Watch curve in January-July 2026. This assumes the market supplements the existing coal stockpile at its maximum import capability to maintain increased thermal generation during low hydro inflows. The Electricity Risk Curves (ERCs) for May and June 2025 have dropped relative to the April update due to the purchase of gas from industrial users by electricity generators. The ERCs for 2026 have increased relative to the April update, indicating a higher risk. This is primarily due to the announced retirement of a Rankine unit in January 2026 and TCC's retirement.
- *Energy Security Outlook 101:* On 30 May, we published an updated Energy Security Outlook 101. The update provides a more holistic view of security of supply forecasting and management, including details around ERCs, SSTs, and regulatory requirements, and addressed actions identified from our SOSFIP issues paper consultation.
- *New Zealand Generation Balance (NZGB) potential shortfalls:* The NZGB shows that we are resilient to the loss of the largest generator or HVDC pole tripping provided all assets not on planned outage are available to the market. It is noted since late May as storage has improved, we are seeing lower thermal unit commitment to the market. This is in line with our firm capacity scenario which shows margins will be low or negative if a large unit goes on unplanned outage, indicating a reliance on the market to co-ordinate slow start units over cold winter peaks.
- *Industry Exercise 2025:* We are working with the Authority to gather lessons learned, agree improvement opportunities, and report back to industry.
- *Winter risk communications:* We briefed communications leads across key industry and government agencies on our approach to communicating energy and capacity risks through industry and out to the public and media.
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Investigations

- *21 December 2024 Hawke's Bay Loss of Supply:* We completed our investigation into the 21 December 2024 Hawke's Bay UFE and provided the causation report to the Authority on 1 May 2025.
- 21 April UFE following a Huntly trip is currently being investigated.

Supporting Asset-owner Activity

- *Generator commissioning and testing:* Meridian's Ruakākā BESS (100 MW at Bream Bay) commissioned 31 May 2025. Far North Solar Farm/Aquila's Pukenui Solar Farm (20 MW in Northland) began commissioning 22 May 2025. Ranui's Twin Rivers Solar Farm (25 MW connected to Top Energy) is due to begin commissioning in July 2025.
- *Ancillary services activity:* Industry consultation on the draft Ancillary Services Procurement Plan closed in May, and we are finalising our amendment proposal and updated draft Procurement Plan for submission to the Authority in early June. Work continues with Lastmyle to establish interruptible load services. A Black Start test was successfully completed at Clyde on 10 May and planning continues for testing at Tokaanu later in 2025.

Commitment to evolving industry needs

- *Grid Owner Outage Optimisation:* The System Operator continues to support the Grid Owner in its implementation of its outage optimisation project that aims to enable more work on the grid without increasing the number of outages and the risks and costs they pose to system operations.
- *Outage co-ordination:* The System Operator has started interviews with asset owners to understand areas of improvement to its outage co-ordination tools and processes. This will also seek to understand areas of regulatory change that asset owners support and why.
- *Electricity Networks Aotearoa (ENA):* The System Operator continues to support ENA as part of the Future Network Forum DSO project team and providing input into their Load Management Protocol project.
- *System Operator Industry Forums:* Forums were held on 13 and 27 May.

Risk & Assurance

- *Risk management*: We have completed our next control self-assessment round for five out of our 10 critical controls. This information will inform areas selected for future business assurance audits. A workshop with the Authority to identify current and emerging risks took place on 5 June. This proved a good way to gather perceived risks from both parties and the output will be incorporated into our risk framework.
- *Business assurance audits*: We are completing our final reviews of the auditor's draft reports for Audit 50 (Generation commissioning process requirements) and Audit 51 (Manage a national SCADA_EMS). The auditors are currently preparing the draft report for Audit 52 (ERC Modelling). We are finalising a list of possible services for audit during the next three financial years.

1 Operating the power system

System Events

EVENT DATE	EVENT NAME	EVENT ACTIVITY
1 – 4 May	Various HVDC P2 / P3 unplanned outages	Due to severe wind and storm activity in the Wellington region unplanned outages of HVDC Pole 2 (P2) and Pole 3 (P3) were undertaken to remove salt contamination from insulation at Haywards and Oteranga Bay. The industry was kept informed of the timing and operational impact of these outages via multiple Customer Advice Notices (CANs) issued over the period. P2 was on unplanned outage from 19:03 1 May – 18:00 2 May (for insulation cleaning at Haywards), and 14:00 – 18:00 3 May (for insulation cleaning at Oteranga Bay). P3 was on unplanned outage from 12:00 – 16:30 4 May (for insulation cleaning at Oteranga Bay). Note the Grid Owner undertook live line washing of Benmore-Haywards 1 and 2 circuit line insulators in the Wellington region during the week of 5 May as an additional precaution.
20 May	Loss of supply at PRM	On 20 May Paraparaumu T1 was on planned outage. At approximately 13:07 a transient fault caused Bunnythorpe-Paraparaumu-Haywards 2 circuit to auto reclose. However Paraparaumu T2 tripped and remained out of service (as designed). With both transformers out of service there was a loss of supply of approximately 31 MW to Electra. Supply was restored by 13:17. The cause of the fault was suspected to be birds with several nests subsequently removed.
27 May	HVDC P3 unplanned outage	On 26 May a CAN was issued notifying industry of an unplanned outage of HVDC P3 on 27 May from 09:30 – 14:30. This outage was for urgent repair of a jumper insulator on a transmission tower. During the outage, price separation occurred.

Market Operations

Forecast v real-time residual variability: We monitor the variations[1] between forecast and real-time dispatch conditions to determine if the 200 MW residual continues to provide sufficient coverage to cater for this variability. The graph in Appendix B presents, for the last 24 months, the proportion of time within each month that a 200 MW residual was sufficient to cover the variation in load and intermittent generation between forecast (30 minutes ahead of real-time) and real-time.

In May more than 96% of the variability is covered by the 200 MW residual. This indicates that entering a trading period with at least 200 MW of residual provided a high chance of having sufficient market resources to meet the variability within the period.

[1] The variability measure is the same as outlined in Page 11 of our Low Residual Situation Review Consultation paper.

2 Security of supply

Our Security of supply webpage collates material we produce under our statutory role to provide information and near to medium term forecasting on all aspects of security of supply, and manage supply emergencies.[2] It also provides links to the regulatory framework under which we do so as set by the Authority.

Security of supply forecasting and information policy (SOSFIP) review: We have moved into the key analysis phase of the SOSFIP review where we will assess key assumptions, ensure energy and capacity risks are appropriately captured as part of the Security of Supply reporting, consider any wider risk scenarios, and assess contingent storage and broader strategic options. We will complete our analysis in preparation for consultation in September. We expect to submit a final amendment proposal by the end of 2025 to ensure there is sufficient time for the Authority to have the changes in place for Winter 2026. Discussions progressed with the Authority to ensure we remain aligned and work together to achieve this objective.

2025 annual Security of Supply Assessment (SOSA): The SOSA provides a ten-year view (2025 to 2034) of the balance between electricity supply and demand. In early May we finalised and published our draft report for consultation. The consultation period opened on 9 May with submissions due by 3 June. The final SOSA must be published by 30 June.

Energy Security Outlook (ESO): The May update, published on 28 May is available here. The report showed no Simulated Storage Trajectories (SSTs) cross the Watch curve in 2025. 17 of the 93 SSTs cross the Watch curve in January-July 2026. This assumes the market supplements the existing coal stockpile at its maximum import capability to maintain increased thermal generation during low hydro inflows. The Electricity Risk Curves (ERCs) for May and June 2025 have dropped relative to the April update due to the purchase of gas from industrial users by electricity generators. This includes the Methanex/Contact deal. Consistent with the SOSFIP, the ERCs otherwise assume Methanex will operate one train at 80 TJ/day. The ERCs for 2026 have increased relative to the April update, indicating a higher level of risk. This is primarily due to the announced retirement of a Rankine unit in January 2026, as indicated in Genesis's FY25 Q3 Performance Report. TCC's retirement is also expected to occur in this period.

While the market has responded to mitigate hydro storage risk in 2025, continued focus on hydro storage management and ensuring sufficient backup thermal fuel availability will support an increased thermal generation response under extended periods of low inflows over winter.

Energy Security Outlook 101: On 30 May, we published an updated Energy Security Outlook 101 (ESO101). The document supports understanding of the monthly Energy Security Outlook and is an extension of the ERC101 document. The update provides a more holistic view of security of supply forecasting and management, including details around ERCs, SSTs, and regulatory requirements. The update also addressed actions we committed to in response to submission to our SOSFIP issues paper. We will be hosting an extended Industry Forum on 24 June to present information on our ESO101 updates.

Industry Exercise 2025: We continued working with the Authority to gather lessons learned, agree improvement opportunities, and report back to industry on these. A report is likely to be released during July.

Winter risk communications: We briefed communications leads across key industry and government agencies on our approach to communicating energy and capacity risks through industry and out to the public and media. This included Official Conservation Campaign materials and our approach to

[2] Electricity Industry Act 2010, s8

earlier stages of potential dry year risk as well as our approach to communicating about low residual situations and supply shortfalls. We reiterated that a public call for electricity conservation remains a last resort if power cuts are otherwise likely.

New Zealand Generation Balance (NZGB) potential shortfalls: The latest NZGB update is available through our Customer Portal. The NZGB shows that we are resilient to the loss of the largest generator or HVDC pole tripping under a 90th percentile load, provided all available assets not on planned outage are available to the market, with wind generating at 20% of its capacity. This is the primary measure we use to inform the market and coordinate outages in a way that maintains capacity margins. However, as storage has improved, from late May we have been seeing lower thermal unit commitment with only 1 Rankine unit and Huntly 5 committing to the market. This is in line with our firm capacity scenario. This scenario shows margins will be low or negative if a large unit goes on unplanned outage, indicating a reliance on the market to co-ordinate slow start units over cold winter peaks.

3 Investigations

Under-frequency event investigations

Event Number 4550: We are currently investigating the 21 April Huntly generation trip UFE.

Significant incident investigations

20 June 2024 - Northland loss of supply: We continue to work on completing actions in response to both the Ray Hardy report and the Authority's report. All actions which were due by end of March are completed, including updates to the relevant Northland contingency plan. Remaining actions involve potential updates to other contingency plans.

4 Supporting Asset-owner activity

Outage Coordination

Following the typical outage profile, average weekly outages have trended downwards to 40 to 70 per week. During May there were important outages that facilitated the successful Clyde Black start test, the commissioning of a larger Frankton transformer and the ongoing commissioning of the new Hautapu GXP which will service load in Cambridge.

Generation profiles throughout May meant there were very few constraints on planned outages as the temperature starts to drop and peak loads are increasing.

Generator commissioning and testing

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

- Meridian's Ruakākā BESS (100 MW at Bream Bay) commissioned 31 May 2025.
- Far North Solar Farm (FNSF) and Aquila's Pukenui Solar Farm (20 MW in Northland) began commissioning 22 May 2025.
- Ranui's Twin Rivers Solar Farm (25 MW connected to Top Energy) is due to begin commissioning in July 2025.
- Solar Bay and Maungaturoto Solar Farm Project's 'Golden Stairs' Solar Farm (17.6 MW in Northland) is due to begin commissioning in September 2025.

- Eastland Generations 'TAOM' geothermal generation (24 MW) is due to move from their existing 11kV connection at Kawerau to the 220kV connection at Kawerau in July, ahead of their new 'TOPP2' geothermal generator (52 MW) starting in September 2025.
- New Power's Taiohi Solar Farm (22 MW connected to WEL Networks) is due to begin commissioning in September 2025.
- Contact's Glenbrook BESS (100 MW at GLN) is due to begin commissioning October 2025
- Lodestone's Whitianga Solar Farm (24 MW connected to Powerco) is due to begin commissioning in November 2025.

We are also working with existing generators to commission maintenance and upgrade projects.

Demand commissioning and testing

Edendale load forecast: In May we again discussed with the Authority our view that the Edendale (EDN0331) GXP should be assessed as non-conforming. We await the Authority's decision on this request.

Ancillary Services activity

Lastmyle: We have reviewed a proposal from LastMyle for offering interruptible load and have provided initial feedback. The next step is to model LastMyle in our dispatch simulator so they can build their dispatch system. We will also work with LastMyle as they get connected to our systems.

Ancillary Services Procurement Plan Review: We received six submissions and one cross submission to our consultation on the draft Ancillary Services Procurement Plan that closed on 15 May. Submissions were supportive of updating the Procurement Plan and generally supported our specific drafting proposals. The main area of concern was that aspects of the proposals could result in higher compliance costs, which could act as a barrier to entering ancillary service contracts. Our updated procurement plan proposal will be submitted to the Authority by June 6.

Interruptible Load: The following table provides an overview of interruptible load testing activity by the number of sites tested and associated additional quantities for those sites.

	Number of sites	Additional quantities in MW	
Annual testing	12 sites	N/A	
Additional resource	3 sites	0.813 MW FIR	0.892 MW SIR

Over-Frequency Reserve (OFR): The following table provides an overview of OFR testing activity.

	Number of sites overdue
Four yearly end-to-end relay testing	2
Two yearly control and indication testing	42
Circuit breaker testing	13

Frequency Keeping: One station in the South Island remains unavailable to provide frequency keeping as a result of failed testing.

Black Start: A Black Start test was carried out successfully on 10 May at Clyde Power Station. Planning is underway for testing at Tokaanu Power Station in October 2025.

5 Commitment to evolving industry needs

Electrical Industry Space Weather Working Group (EISWWG): Transpower as both Grid Owner and System Operator met with MBIE, NEMA and the Authority to review the industry response plan to an extreme G5 event and discuss the role of government in decision making during an event. DPMC were also due to attend but could not on the day. Two webinars with international experts on space weather were arranged and held over the month - one on NOAA space weather forecasting, and the other on the impacts of space weather on communications. These were well attended by not only the New Zealand electricity sector, but others responsible for New Zealand infrastructure at risk due to space weather.

Electricity Networks Aotearoa (ENA) Future Networks Forum (FNF): On 7 May, the Baringa report was published, evaluating the industry architecture and models for distribution system operation (DSO) in New Zealand to fulfil the roles and functions identified by ENA FNF in Stage 1. This report was heavily supported by the ENA FNF project team including our System Operator representative.

We followed up with the Authority concerning two points where our transmission system operator (TSO) perspective differs from the Baringa report recommendations:

- The cost estimates for Total TSO being 'red' while the cost estimate for Total DSO is 'orange' when these two options are likely to be very similar in cost to deliver, and
- Concerns around the Total DSO model dispatch of large-scale generation connected to distribution networks.

The FNF DSO project team will reconvene once the Authority publishes its FSO paper.

Electricity Networks Aotearoa (ENA) Load Management Protocol (LMP): As System Operator we have been assisting ENA's project looking to create a common LMP. Specifically, we have been asked for our views on the interaction between the LMP and the existing grid emergency load management provisions.

Grid Owner Outage Optimisation: The System Operator is supporting the Grid Owner to implement its identified target state. Four Grid Owner initiatives are being progressed:

- Increase outage quantity in the annual outage plan. Process changes should be complete by 31 July for delivery in the Grid Owner's 2026/27 annual planning process.
- Create a process to agree and implement a rolling 4-monthly locked down plan. This rolling plan will be in place by July, initially locking down a 1 month plan, and extending to 4 months by the end of December.
- Develop data to optimise outages in the rolling 4 month locked down plan. This should be complete by 1 July.
- Create a roadmap of tool changes that will support optimisation, including a package of work for the OHMS enhancements phase. This is expected to be completed by end of June.

The System Operator supports these initiatives as they will result in longer Grid Owner outage lead times and certainty. This will enable better, more certain cross-industry outage planning and co-ordination.

Outage Co-ordination: The System Operator has begun talking to the asset owners (including the Grid Owner) to identify areas where it can improve tools and processes. This feedback will be used to inform a roadmap of work to continuously improve our outage co-ordination and tool changes to POCP or NZGB. We are also seeking feedback on regulatory changes to understand the varying views.

Evolving markets resource co-ordination - Tie-breaker provisions: We are preparing consultation documents to seek industry feedback on how "tie breaker" situations should be resolved for multiple competing generator offers in the wholesale electricity market. The consultation includes a proposed tie-breaking solution and alternative options. We plan to open the consultation period in June.

Connecting with the industry

System Operator Industry Forums:

Our fortnightly discussions on current operational and market issues were held on 13 and 27 May. Recent slide packs and recordings for forums within the last month are available on our System Operator industry forum webpage.

Market Operations Weekly Reports:

Our Market Operations Weekly Reports provide information to assist interested parties' understanding of the current security of supply situation[3] and other market events. These reports also include a Market Insight each week covering a topic of interest to the industry. The reports we published this month, and the Market Insight in each are as follows[4]:

- 4 May: Severe weather impacts on Aotearoa's power system.
- 11 May: 2025 draft Security of Supply Assessment.
- 18 May: Real-time versus forecasted intermittent offers and the centralised forecasting system.
- 25 May: Scheduling, Pricing & Dispatch (SPD) link risks.

Supporting the Authority

Electricity Authority levy funded appropriations: The Government's decision on the funding the Authority can collect as levies for FY26, including to fund the System Operator Service, was announced on Budget Day (22 May 2025). We have confirmed with the Authority that it is funding the full amount of the agreed SOSPA3 reset settings System Operator funding for FY26 (including the adjustment to March 2025 CPI): $55.2m. This is sufficient to cover the SOSPA3 year 1 fixed fee requirement of $50.7m plus recovery of the Market Design projects of $4.5m (primarily Real Time Pricing).

Future system operations (FSO) project: On 16 May a System Operator representative joined an ESIG hosted webinar "Operationalising DER Flexibility – An Introduction to Local Flexibility Markets, the UK DSO model, and what it means for US Utilities." We shared notes from the webinar and a link to the recording with the Authority's FSO project team and the ENA FNF DSO project team.

Conforming and non-conforming GXP determinations: During May we assisted Authority staff concerning the Authority's role to determine whether a GXP is conforming or non-conforming. Our support included provision of a list of the current GXPs, reasons for the changes since the Authority's 2014 list, 'archival' information from the previous full determination process in 2012, and suggestions on how the process could be simplified.

Distributor involvement in flexibility markets: As System Operator, we submitted on the Authority's request for feedback on the draft guidelines for distributor involvement in flexibility markets. Primarily, our feedback concerned interactions between the proposed guidelines and existing emergency management provisions.

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[3] As required by the Security of Supply Forecasting and Information Policy section 11, incorporated by reference into the Electricity Industry Participation Code 2010

[4] Past Market Operations Weekly Reports including our weekly insights can be viewed on our website,.

Electricity Industry Participation Code (EIPC): In late April and May we engaged with the Authority concerning the Code and documents incorporated into the Code. We contacted the Authority:

- when we noticed a Code update had been published as the 'live' Code before its effective date,
- to request a 'text searchable' version of the Policy Statement to be loaded in place of the 'unsearchable' version on the Authority's website, and
- to log a candidate for a future Code Review Programme (a definition and singular usage in the Code which appear to be 'legacy' in origin and no longer relevant).

Intermittent generation central forecasting project: We contacted the Authority in May to highlight a potential issue with the gazetted Code for implementing a central intermittent generator. The Code was intended to apply the same timing requirements on parties using their own IG forecasts as the central forecast. However, we believe the Code drafting may not work as intended. In our correspondence with the Authority, we suggested an alternative means of achieving the intended outcome via the Authority using its ability to place conditions on the approval given to a party to use their own IG forecast.

A new TAS 119 is currently being finalised. The System Operator will be required to:

- Review the technical specifications of the IG Forecaster Service Provider Agreement;
- Provide feedback on whether the specifications are fit for purpose; and
- Respond to questions from Authority staff and the preferred service provider, as needed, to support the finalisation of procurement activities for a centralised IG forecast provider.

LV Network Visibility initiative: In May we met with Authority staff working on improving the visibility of LV networks. We provided an initial high-level System Operator view on the topic. Both organisations undertook to have ongoing dialogue on this workstream.

Media interactions

Consistent with our usual approach we did not proactively information about our draft SOSA consultation to media. However, it was picked up by Energy News, Radio New Zealand and The Post, and our Chief Executive appeared on RNZ's Morning Report.

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): This project is delivering a new AST and GSS software (ASCAS) replacing previous end-of-life tech vital to accurate information sharing with the Authority and NZX. The development remains on schedule. User Acceptance Testing for the second tranche is underway and production infrastructure build is in progress ahead of the June interim release for technical verification.

D&A Modernisation – Market System Data: This project is migrating Market Systems data to the newly established Cloud Data Platform to meet interim requirements for Ancillary Service Reports

(ahead of completion of the ASCAS project) and increase consistency and efficiency. Go Live of MS Data and BI Publisher completed successfully on 28th May.

SCADA Habitat and EMP Refresh: This project is to upgrade critical components of the SCADA system and Market Solvers, to ensure operational integrity of the System Operator's market system tools into the future. Factory Acceptance Testing was extended to resolve critical issues, which shifted System Integration Testing completion to 11 July 2025 (without impacting the 3 December go-live target). Project phases have been restructured and are under close review, with the 3 December upgrade Go/No-Go decision now expected by the end of June. Engagement with business stakeholders continues to ensure readiness through updated training and process documentation, while SCADA Staging environment preparations are progressing to support early implementation testing.

Control room of the future (CROF): The draft report outlining the challenge New Zealand's energy transition presents to real-time operations and what actions are proposed to ensure our control rooms have the capability to continue to deliver effective services is being reviewed. Consideration of how we engage and test our thinking with the Authority and wider industry is in progress.

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	74
TAS 112 – Future Security and Resilience	In progress	335.5
TAS 113 - BESS Wholesale Market Enhancements	Closed	0.0
TAS 114 – Dispatchable Demand	Closed	17.0
TAS 115 - Settlement of the market following publication of final prices for 9 Aug 2021	Closed	0.0
TAS 117 – Scarcity Pricing	In progress	13.5

Progress:

TAS 108 Extended Reserve Implementation 23/24 – Extended Implementation: Transition continued in May with a total of 1,275 feeders (83%) transitioned to the 4-block AUFLS scheme. A total of four change requests were received for the June transition period, with all four approved. Six of the fourteen NI Connected Asset Owners (CAOs) have completed their transition. The System Operator

identified two non-adherences during the May transition period and informed the Authority accordingly. In addition, two of the NI CAOs have informed the System Operator that they will not meet the current completion timeframe and will continue their transition beyond 30 June 2025.

TAS 112 FSR Workstream - Part 8 of the Code - Common Quality Requirements: In May, the System Operator continued supporting the Authority by providing technical input and reviewing draft options decisions and Code amendment proposals ahead of its upcoming Board meetings. Significant progress was made on the draft Connected Asset Commissioning and Information Standard (CACTIS) Document Incorporated by Reference (DIBR), which was submitted at the end of the month along with a Cover Note and Q&A document as requested. Work also advanced on System Strength Phase 1, with investigations completed and preparations for FY25/26 underway; the draft report is complete and undergoing internal review. Additional low inertia analysis was carried out to validate the proposed threshold band. Planning and prioritisation of the FY25/26 FSR scope also continued in collaboration with the Authority.

TAS 114 – Dispatchable demand enhancement assessment pre-implementation: The final report has been submitted to the Authority on 13 May 2025, shortly followed by the project closeout report on 23 May 2025.

TAS 117 – Scarcity Pricing: A change request to add animation updates to scope has been approved as of 15 May 2015. Animation work is underway, and the project completion date is 30 June 2025.

TAS 118: Emergency Reserve Scheme initial scoping: In late May the Authority commissioned Transpower as system operator to review a report compiled by Robinson Bowmaker Paul (RBP) on preliminary design for an Emergency Reserve Scheme (ERS). The Scheme would be a new ancillary service the system operator contracts to provide emergency demand reduction prior to instructing involuntary load shedding. The Scheme design has strong similarities to the CE Forum's proposal to the Authority in late 2022. The system operator will provide the Authority with initial feedback on operability of the Scheme as proposed by RBP, with further detailed design work expected to follow in the new financial year.

[redacted]

8 Risk & Assurance

Risk Management

Control Self Assessments: We have completed our next control self-assessment round for five out of our 10 critical controls: change management, connected asset monitoring, monitor operating environment, people management and stakeholder management. As well as identifying the effectiveness of our controls, it has highlighted where the size of the risk is changing as the composition of generation changes and new players join the market. This information will inform areas selected for future business assurance audits.

Risk Register workshop with the Authority: A 'blank sheet' workshop with the Authority to identify current and emerging risks took place on 5 June. The workshop proved a good way to gather perceived risks from both parties and the output will be incorporated into our risk framework.

Business assurance audits

Audit 50: Generation Commissioning Process Requirements (Power Systems) and Audit 51: Manage a national SCADA EMS (Grid & System Operations): We are completing our final reviews of the auditor's draft reports. Once signed these will be provided to the Authority.

Audit 52: ERC modelling (Market Services): The interviews for this audit are completed and the auditors are preparing their draft report.

Business Assurance Audits for 2025/26 and business planning for 2026/27 and 2027/28: We are finalising a list of proposed business auditable services for audit during the next financial year. The list also signals potential audits topics for the subsequent two financial years. We have arranged to discuss this list with the Authority on 16 June.

9 Compliance

Other Participant Breaches:

[redacted]

System Operator Compliance:

On 22 May 2025 we self-notified a breach of the Code for not meeting the requirement to maintain time error within 5 seconds. The event was outside the control of the System Operator and due to conditions at the time (primarily transmission and generation outages). There was no market, operational or security impact apart from the steps taken by the System Operator. We understand that the Authority intends to remove time error requirements from the Code and that is scheduled to occur later in 2025.

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 continue 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 System Operator Compliance & Impartiality Manager to ensure their continued effectiveness.	Corporate Counsel, Compliance and Impartiality

Ara Ake Trial: The System Operator and Grid Owner are collaborating on the FlexPoint platform. As outlined in previous reports, there are currently no actual or potential conflicts of interest identified. We will continue to monitor the trial from an impartiality perspective.

AUFLS Equivalence Arrangement at Tiwai: Transpower, as the Grid Owner, has applied for a new equivalence arrangement in relation to AUFLS obligations at Tiwai. The System Operator has completed the engineering assessment, taking into account various NZAS operating conditions, including demand response arrangements with its electricity suppliers. The System Operator has approved this equivalence arrangement with conditions. Interested participants, including the Authority, have been notified of this decision.

AUFLS 2024 Compliance Assessment: The System Operator is conducting annual compliance assessments for all AUFLS providers, including the Grid Owner, for the 2024 annual load profile information submission. We have agreed on the compliance scope, reporting timeframes, and approach with the Authority for all providers.

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 2024/25 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 the Authority's 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
(i) To give effect to the **System Operator business plan** strategic initiatives:	***Support future-focused market developments through white papers, consultation processes and cross-industry forums*** • Continued to participate in the Electricity Networks Aotearoa Future Network Forum's *Roles and Functions to enable distributed flexibility* project team weekly meetings. This project is actively engaging with the Authority. • 2025 Security of Supply Assessment: We have completed our consultation on the draft SOSA report and are now in the process of making the final updates before publishing the SOSA in June. • The System Operator has contributed to a joint submission with the Grid Owner to the National Emergency Management Agency's consultation on Strengthening New Zealand's emergency management legislation discussion document. ***Develop a view of the information, market and standards required to operate the future electricity system to support the FSR work program*** • Work continued to support the Authority's FSR programme, and we have continued predominantly focussing on the completion of the draft Connected Asset Commissioning Testing and Information Standard (CACTIS), through further reviews with the Authority and legal teams. We have finalised the CACTIS Cover Note and Questions and Answers and

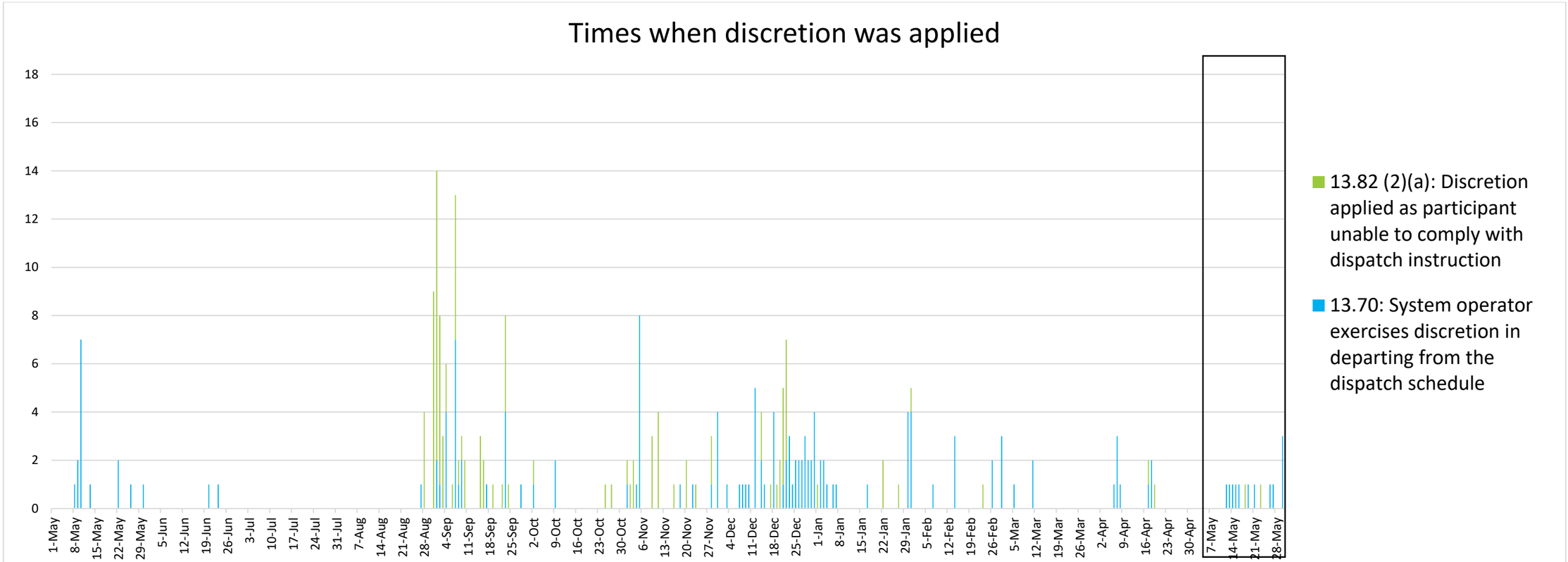
Item of interest	Actions taken
	submitted the documents to the Authority at the end of May. These documents will be in support of the Authority's Information Sharing Options and Code Amendment Proposal Consultation Paper, which will be published at the start of July. • We continued providing support to the Authority in drafting the options decision and Code Amendment consultation paper covering options addressing voltage management issues, and options regarding information sharing requirements. We also provided feedback to the Authority's updated BESS Regulatory Roadmap ahead of its consultation in June. • We progressed phase 1 of the system strength investigation initiative, with a focus on identifying system strength-related operational issues that the New Zealand power system will likely face with a continued uptake of IBR and discussion of various mitigations that can be applied to resolve the issues. We have drafted the report for internal review. Phase 2 is planned for FY25/26 and will focus on completing further studies following the recommendations from Phase 1. • We completed additional analysis of the outputs of the low system inertia threshold study, providing increased confidence in the low inertia threshold band for monitoring being proposed in the study report. • We progressed planning and prioritisation of work with the Authority. The outcome will be covered under a new FSR TAS SOW for FY25/26. • We held an initial introductory catch-up with Authority staff on LV network visibility, providing some high level thoughts and undertaking ongoing engagement with the Authority on this topic. ***Enhance quality assurance through delivery of the Modelling Quality Assurance Framework*** • Process and QA checklists are 70% complete, with ongoing collaboration with key internal stakeholders to extract and consolidate data from another system (Jira) and supplementary registers to support integrated reporting and oversight. ***Implement stage 1 of new enterprise business process management (BPM) capability for system operations*** • The first iteration of the Power System Group end-to-end modelling process is now documented in the BPM tool, with modelling of remaining compliance-related processes to follow.

Item of interest	Actions taken
	Leverage data and analytics developments to improve our data modelling and reporting • Transfer of Market System Data into the new data warehouse is now complete. ***Deliver improvements to our generator commissioning management and assessment process*** • New and updated generation commissioning documentation and webpages were published in late January 2025, with the changes communicated to the Industry throughout February, including at the System Operator Industry Forum. This process has now bedded in, and regular Generator commissioning updates are provided at the fortnightly System Operator Forum.
(ii) To comply with the **statutory objective work plan**:	***Policy statement review*** *(review due 1 November 2024)* • The review has been completed with the Authority approving the submitted draft which took effect on 14 March. ***AS procurement plan review*** (*review due 8 June 2025)* • The consultation period closed on 15 May. We received 6 submissions and one cross submission. • We are now working on our amendment proposal including response to submissions, and the amended draft Procurement Plan following industry feedback. This will be delivered by the deadline of 8 June. ***Identify low residual / informational CANs*** *(due 28 March 2025)* • Completed September 2024, and ongoing in each Quarterly System Performance Information report. ***Low residual notices, threshold and process review*** *(due April 2025)* • Complete. On 4 April we published our summary and response to the 6 submissions and 2 cross-submissions to our Low Residual Situation review consultation paper. We will develop and consult on potential Policy Statement amendments related to Low Residual Situations as part of the next Policy Statement review.
(iii) In response to participant responses to any **participant survey**:	In response to feedback from the 2024-25 survey ***"Security Coordinators and Energy Coordinators respond positively to queries in general, but there can be some inconsistencies. It would be nice if SO personnel came to visit our operation."*** Each year we organise opportunities for our coordinators to engage with other participants outside the control room, including visiting sites and control rooms. Examples include the annual Meridian,

Item of interest	Actions taken
	Transpower, NZAS tour, South Island black start simulation, and regional restoration workshops. We would welcome more opportunity to see other participants' control room operations so that we can better understand each other's needs. If your organisation is interested in hosting a visit from our coordinators, we'd love to hear from you. Please get in touch with us at system.operator@transpower.co.nz.
(iv) To comply with any **remedial plan** agreed by the parties under SOSPA 14.1	*N/A – No remedial plan in place.*

Appendix

Appendix A: Discretion



System Operator applied discretion under cl 13.70 in 15 instances:

- 2 May: 1 instance applied for system security, due to multiple oscillations in scheduled and real time dispatch Scheduling, Pricing and Dispatch (SPD) solutions for HVDC.
- 8 instances in response to managing Tiwai plotline restoration at Manapouri (MAN)
    - 12 May 1 instance
    - 13 May 1 instance
    - 14 May 1 instance
    - 15 May 1 instance
    - 16 May 1 instance
    - 19 May 1 instance
    - 21 May 1 instance
    - 27 May 1 instance
- 18 May: 1 instance applied at Tauhara B (TAB) by traders in response to a 13.82(2)(a) for plant safety
- 23 May: 1 instance at Huntly (HLY) by traders in response to a 13.82(2)(a) for resource consent as they were required on for security
- 26 May: 1 instance applied at Argyle (ARG) for switching ARG - Kikiwa (KIK) 1 outage
- 30 May: 1 instance applied at TAB by traders in response to a 13.82(2)(a) as they were dispatched below minimum run.
- 30 May: 2 instances applied at ARG for the restoration of ARG - Blenheim (BLN)

Appendix B: Forecast v real-time residual variability

The graph below presents, for the last 24 months, the proportion of time within each month ('MW Percentile') that a 200 MW residual was sufficient to cover the variation in load and intermittent generation between forecast (30 minutes ahead of real-time) and real-time.

Date	Forecast	Island	MW Value	MW Percentile
1/06/2023	30 minutes	New Zealand	200	97.50
1/07/2023	30 minutes	New Zealand	200	97.60
1/08/2023	30 minutes	New Zealand	200	97.60
1/09/2023	30 minutes	New Zealand	200	98.50
1/10/2023	30 minutes	New Zealand	200	99.20
1/11/2023	30 minutes	New Zealand	200	99.70
1/12/2023	30 minutes	New Zealand	200	99.80
1/01/2024	30 minutes	New Zealand	200	99.90
1/02/2024	30 minutes	New Zealand	200	99.40
1/03/2024	30 minutes	New Zealand	200	99.00
1/04/2024	30 minutes	New Zealand	200	98.60
1/05/2024	30 minutes	New Zealand	200	97.30
1/06/2024	30 minutes	New Zealand	200	97.90
1/07/2024	30 minutes	New Zealand	200	96.90
1/08/2024	30 minutes	New Zealand	200	97.30
1/09/2024	30 minutes	New Zealand	200	94.50
1/10/2024	30 minutes	New Zealand	200	98.60
1/11/2024	30 minutes	New Zealand	200	98.90
1/12/2024	30 minutes	New Zealand	200	99.20
1/01/2025	30 minutes	New Zealand	200	99.22
1/02/2025	30 minutes	New Zealand	200	99.24
1/03/2025	30 minutes	New Zealand	200	99.37
1/04/2025	30 minutes	New Zealand	200	98.73
1/05/2025	30 minutes	New Zealand	200	96.93