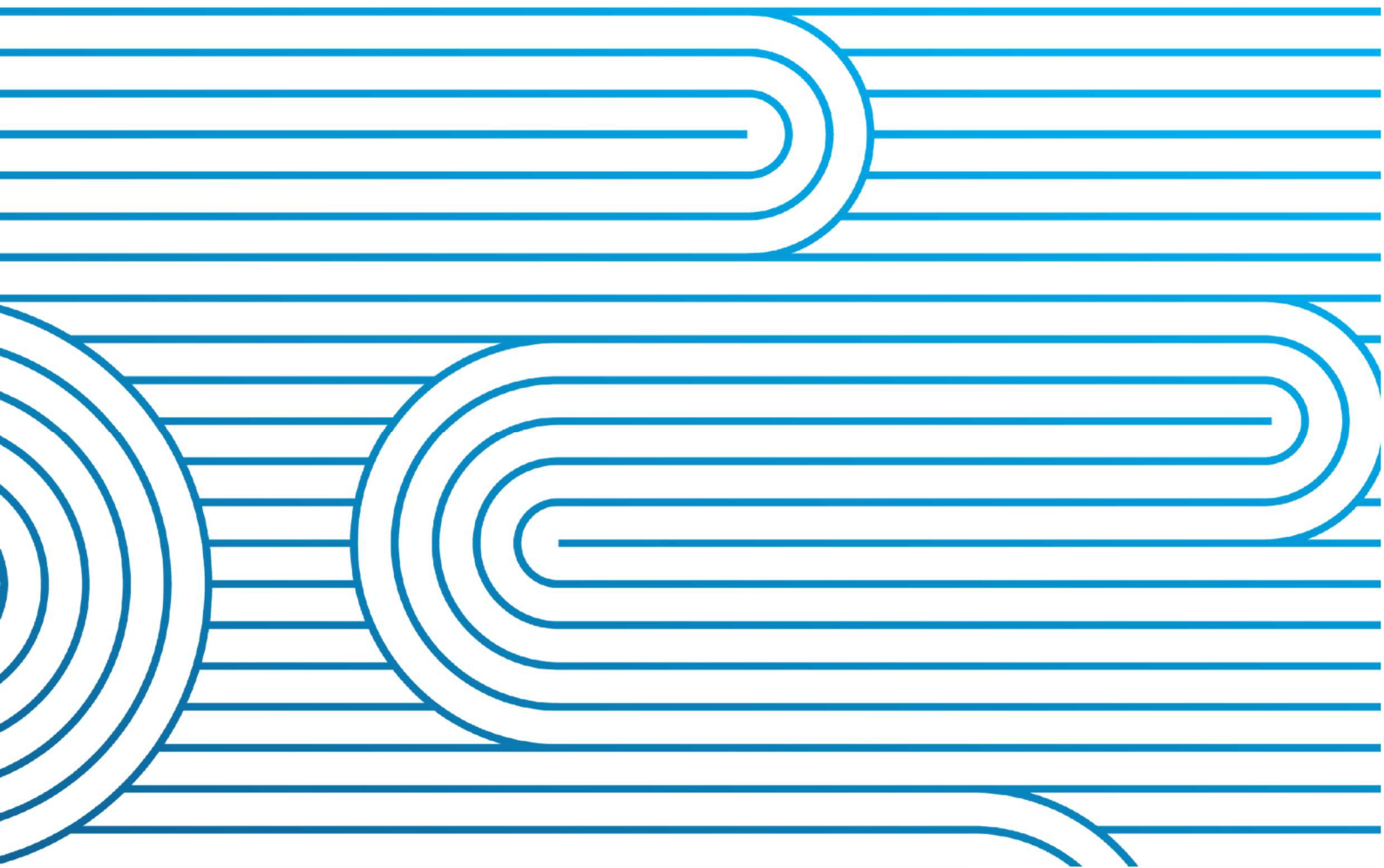


Monthly System Operator report

For the Electricity Authority

April 2024



Report Purpose

This report is Transpower's review of its performance as system operator for April 2024, in accordance with clause 3.14 of the Electricity Industry Participation Code 2010 (the Code).

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Key points this month

- **Winter 2024 Readiness**

Our preparations for winter 2024 included continued planning for the May pan-industry exercise hosted in collaboration with the Authority. We will begin our daily briefings with MetService next month due to the expected colder temperatures in May. We have continued to work on our System Operator Rolling Outage Plan (SOROP) and expect to submit it to the Authority in May.

- **Hawke's Bay scarcity pricing**

Following a bona fide offer change to reduce output at Tuai, a constraint on the Redclyffe interconnecting transformers bound, and there were two 5-minute periods of scarcity pricing in the Hawkes Bay region (Fernhill, Tuai, Redclyffe). No load shed was required. We have requested and received performance data to help us with our report on the causer of the event.

- **Under-Frequency Event**

A Huntly Rankine unit tripped from 210 MW on 11 April causing an Under-Frequency Event. Our next steps are to complete this report and start assessing ancillary service agents' performance during the event.

- **Future Security and Resilience (FSR) programme**

Under the FSR Technical Advisory Service (TAS) contract, the Authority has requested further work from us this financial year on fault-ride through curves and minimum inertia. We are addressing Common Quality Technical Group (CQTG) comments in the drafts of our FSR technical reports and are working on a plan with the Authority for next year.

- **Consultation on draft Security of Supply Assessment about to begin**

The draft 2024 Security of Supply Assessment was published for consultation on 7 May and submissions close on 4 June. The draft is available on the [Invitation to Comment](#) page of our website. Feedback from industry and other stakeholders is an important part of the process.

- **System Operator Service Provider Agreement (SOSPA) contract reset**

Negotiations for SOSPA have begun. We have held a number of governance meetings with the Authority regarding the list of negotiation items to seek clarity on extent of change being propose by the Authority.

1 Operating the power system

Under-Frequency Event: On 11 April just after midnight, there was an Under-Frequency Event in the North Island when a Huntly Rankine unit tripped from 210 MW. We have requested and received performance data from contracted ancillary service agents, and from asset owners to help us with our report on the causer of the event. Our next steps are to complete this report and start assessing ancillary service agents' performance during the event to determine if their actual performance was as expected. Based on our analysis we will provide information to participants outlining their response and any non-compliance.

Dispatching from backup tools: On Monday 15 April, we had to utilise stand alone dispatch for a period of approximately 20 minutes due to the Market System Market Operator Interface being unresponsive. The cause of this was identified as a Market System database 'lockup' issue. Our Market Applications team successfully implemented a workaround on 2 May to resolve these database lockups, and no further issues have been experienced since. We continue to monitor this situation and are investigating a permanent fix. At the time a CAN was issued to industry informing them of the situation.

Hawke's Bay scarcity pricing: On Monday 29 April morning, we dispatched two 5-minute periods of scarcity pricing in the Hawkes Bay region (Fernhill, Tuai, Redclyffe). This happened as generation at Tuai submitted a bona fide offer change to reduce output, and a constraint on the Redclyffe interconnecting transformers bound. No load-shed was required as the overload was small and quickly rectified. Final prices were ~\$3,200/MWh for the half hour.

2 Power systems investigations and reporting

Significant incident investigations

No new significant events were identified in April.

System Security Forecast (SSF)

This month we started work to deliver the System Security Forecast for 2024. We have completed the pre-work training and started the N-1 analysis to model security in the case of a single contingent event. This work is due to be completed by June.

3 Outage planning and coordination

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

NZGB Margins are low throughout May. The main reason for the low margins is a higher than normal level of generator outages being taken ahead of winter, coupled with rising demand through Autumn. The margins improve in June and July, despite higher demand, as the number of generation outages reduce considerably.

The low May margins are resulting in numerous NZGB CANs being issued requesting outages to be moved. The industry has responded to these requests by re-scheduling outages on those days.

4 Commitment to the evolving industry needs

Winter 2024 readiness

2024 Pan-industry exercise: During April, we continued to plan for and engage with participants in collaboration with the Authority regarding the exercise planned for 1 and 8 May.

Extended SO forum: On 9 April, we hosted an extended SO Industry Forum where we stepped industry through our approach to Winter 2024. This included what information is available to industry, operational notices and response, as well as industry communications. The forum was well attended.

MetService daily briefings: MetService has informed us it expects May to be colder than the past five years, due in part to colder ocean temperatures, with potential for more intense sharp cold snaps. Consequently, daily MetService briefings will begin from May (instead of June). The briefings occur each weekday looking ahead 48 hours and help us better understand the weather risk to peak load and wind generation forecasts.

Week-ahead dispatch schedule (WDS) offers: Generators have improved the quality of offers into the WDS but there remains room for improvement. The system operator is preparing its view of what good looks like to provide to participants, and inform higher quality offers into the week-ahead schedules.

System Operator Rolling Outage Plan (SOROP) review: Following consideration of the submissions and cross submissions from industry, we have made some revisions to our proposed SOROP and shared our draft proposal paper and draft SOROP with Authority staff. We expect to submit our proposal to the Authority in late May, and publish it for stakeholders.

Transpower's discussion paper "Examining the purpose and future role of our HVDC link": On 26 April, we provided [feedback](#) that we agree with the assessment of the increasing importance of the HVDC to the operation of the power system. We highlighted our unique insight into the operation of the HVDC as part of the wider electricity system and markets, and signalled our intention to engage with the grid owner's process.

Security of Supply

Electricity Risk Curves (ERCs): The April update of the ERCs has been published and is available [on our website](#).

Consultation on the draft Security of Supply Assessment is about to begin: The draft 2024 Security of Supply Assessment (SOSA) was published for consultation in early May. The South Island Winter Energy Margin (SIWEM) has worsened relative to last year's SOSA due to an increased South Island energy demand forecast. Both the New Zealand Winter Energy Margin (NZWEM) and the North Island Winter Capacity Margin (NIWCM) have improved due to a reduced demand forecast and an increase in the existing and committed generation pipeline. The draft was made available on the [Invitation to Comment](#) page of our website on 7 May and

submissions close on 4 June. Feedback from industry and other stakeholders is an important part of the process.

Connecting with the industry

Weekly Market Movements: Every Tuesday we publish a Market Operations weekly report on our website (or via email to those that have [subscribed](#)) containing the latest information about the electricity market, including security of supply, wholesale price trends and system capacity. The report also contains an insight on topical item for that week. During April we provided the following insights for the weeks ending:

- [7 April](#): An overview of the market schedules which inform the system operator's security assessments and provide information to market participants from a week-ahead down to real-time.
- [14 April](#): Key changes to the updated Electricity Risk Curves 101 document, including a link to a video introducing the various concepts and modelling assumptions.
- [21 April](#): How the recent hydro inflow event compares to previous large inflow events.
- [28 April](#): The growth of wind turbines and wind farms.

5 Project updates and other initiatives

5.1 Market design and service enhancement project updates

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

Future Security and Resilience (FSR) programme

We are addressing the Common Quality Technical Group (CQTG) comments in the drafts of our FSR technical reports. Under the FSR Technical Advisory Service (TAS) contract, the Authority has requested further work from us this financial year. These are:

- to do a high-level review on the fault-ride through curves to determine if the curves are fit-for-purpose for synchronous machines and can apply to lower system voltage level.
- to determine the minimum inertia before the power system will fail to recover from an under-frequency event.

We are working on a plan with the Authority for next year.

Extended Reserves – Automatic Under-Frequency Load Shedding (AUFLS) project

North Island distributors are continuing to transition to 4-block AUFLS.

5.2 Other projects and initiatives

System Operator Service Provider Agreement (SOSPA) contract reset

Negotiations have commenced. We have held a number of governance meetings with the Authority regarding the list of negotiation items to seek clarity on extent of change being propose by the Authority.

Operational Excellence

This month the focus has been on progressing coordinator training and capability workstreams.

Data & Analytics (D&A) Modernisation – Market System Data

The data ingestion and data migration design and development work are completed, ready for testing to commence. Technical preparations are underway to build the standby Market System database. We are progressing business requirements activities, starting with identifying the critical reports to migrate.

New Zealand Generation Balance (NZGB) demand forecast

Funding and resource have been secured to update the NZGB demand forecast to use the Tesla forecast. This will provide a probabilistic demand forecast based on weather history using the current day’s demand forecast. While the demand forecast is being implemented, we will simplify the supply side scenarios and review the messaging NZGB reports to the market.

6 Technical advisory hours and services

Technical advisory hours and a summary of all technical advisory services (TAS) to which those hours related (SOSPA 12.3 (d) refers) will be provided in the next quarterly report.

7 Risk & Assurance

Risk management

Our six-monthly review of half our critical controls is underway for completion in May.

Business assurance audits

The 2023/2024 Audit Plan is progressing as follows:

- Three audits are completed and provided to the Authority for review.
- A fourth audit is in draft and undergoing review and management response (Synchronising and reconnecting an Island)
- The final audit covering our main security of supply process is underway.

8 Compliance

We reported no system operator self-breaches in this reporting period.

9 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	SO Compliance & Impartiality Manager

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

10 Performance metrics 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 quarterly report.

11 Cost-of-services reporting

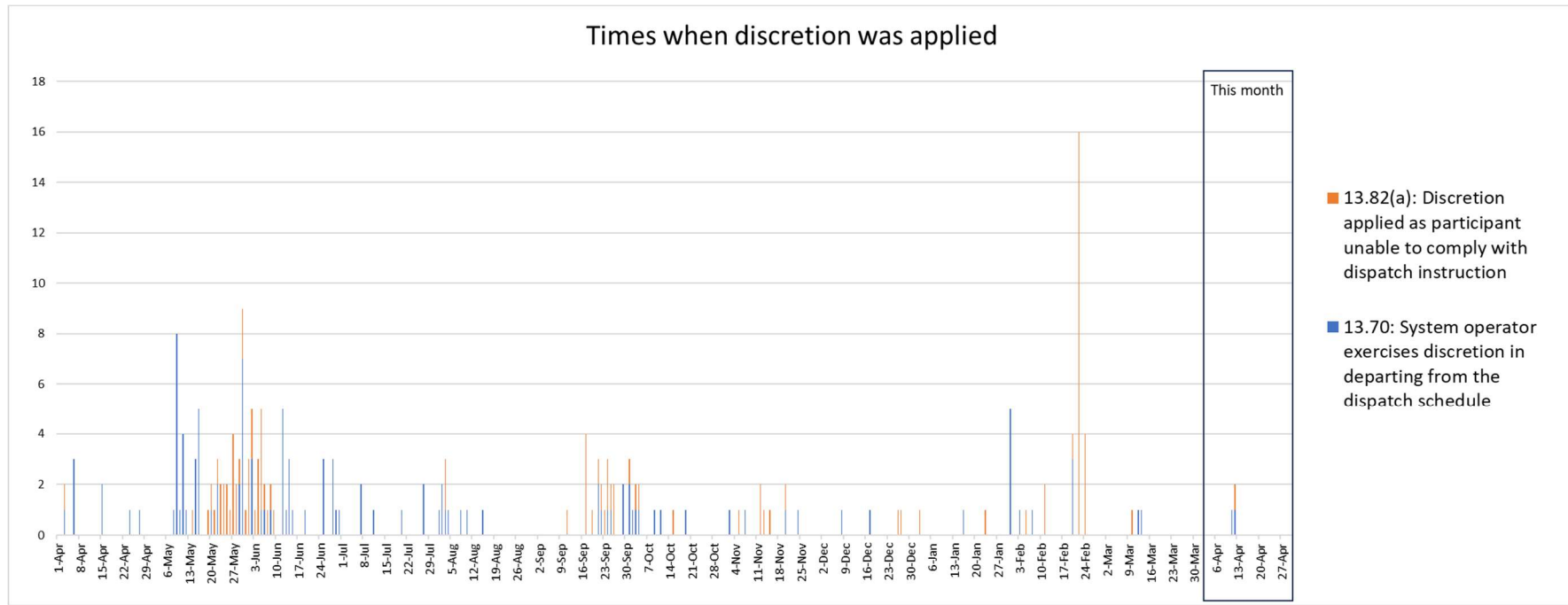
The cost of services reporting for 2022/23 will be delivered to the Authority by the end of the financial year.

12 Actions taken

A full list of actions taken regarding the system operator business plan, statutory objective work plan, participant survey responses and any remedial plan, as required by SOSPA 12.3 (b) will be provided in the next quarterly report

Appendix A: Discretion

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



3 instances

2 were applied in response to discretion clause 13.70

- 11 April – Discretion at HLY was applied but not sent as electronic bona fide change came through in time for next 5 minute dispatch.
- 12 April – Discretionary constraint 311 MW max applied to MAN to provide capacity for reduction line restoration.

1 was applied in response to discretion clause 13.82(a)

- 12 April – NAP scheduled below minimum of 143MW. Least cost solution was to keep NAP on.