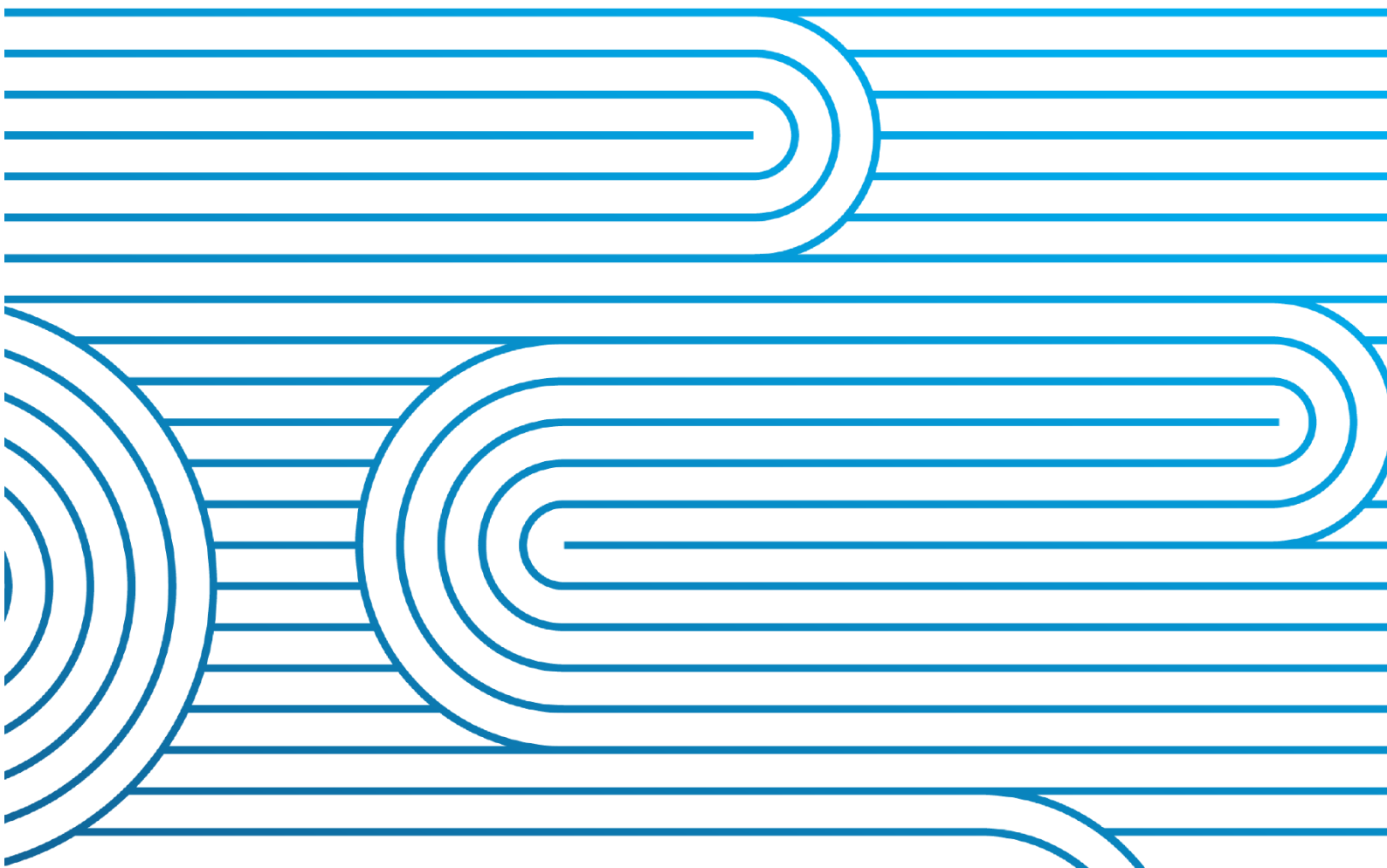


Monthly System Operator report

for the Electricity Authority

July 2023



Report Purpose

This report is Transpower's review of its performance as system operator for July 2023, in accordance with clause 3.14 of the Electricity Industry Participation Code 2010 (the Code).

Changes to the monthly report content

From April 2023 the monthly report will focus on the activity and performance of the system operator, as agreed with the Authority. System performance data which was previously included in this report will be presented through other channels where relevant, such as the system operator industry forum.

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1 Key points this month

- Performance measure for the system operator service in 2022/23 has been confirmed as 97% following a review meeting with the Authority in July. This score is above the incentives mechanism cap of 80%, above which the full payment of \$200k is payable from the Authority.
- We have set up a formal structure internally for the SOSPA3 negotiation, which will take effect from 1 July 2025.
- As of 3 August, potential shortfalls exist early in the month in our base N-1-G scenario. This is due to the ongoing unplanned Huntly 5 outage, two Manapouri unit outages and a Stratford peaker outage, in addition to other generation outages.
- We are continuing to monitor the HVDC pole outages period in September. There are low margins during that period due to scheduled generation outages and peak load.
- We are supporting the Authority to prepare for the second Common Quality Technical Group.
- We are working on two wind, one solar and one geothermal upcoming generator commissioning plans with stakeholders, in addition to the commissioning of a grid-scale battery behind a GXP.

2 Customers and other relationships

We have taken part, and presented at a number of NZ and international events:

- CIGRE event: We helped to organise the NZ market development and regulation event at Victoria university and presented on “Move to RTP and updating distribution network setting”.
- IEEE power engineering society general meeting: We presented a paper on "Analysis of wind and solar resource correlation and its impact on real time balancing in NZ".
- Energy Traders conference: In conjunction with the Authority, we presented on recent changes and upcoming work programme.
- EirGrid: We met with Eirgrid to discuss optimal grid ratings and operational limits.
- AEMO: In preparation for the Authority consultation, we met with AEMO to discuss their experience of Wind and Solar forecasting.
- ENA Future Networks Forum: We led workshops on SO/EDB interfaces.

In addition, we published an international comparison of energy and capacity adequacy measurements and policies as a market insight on 11 July. The thought leadership publication considers the enduring suitability of the New Zealand security of supply frameworks and invites stakeholder feedback.

We continue to work with MetService who provide us with daily 15 min briefings to assist with close monitoring of weather risks - particularly wind generation and temperature uncertainty – in order to help us manage winter peaks.

3 Risk & Assurance

Risk Management Framework

We are developing a risk register to provide visibility and assurance of system operator risks with the industry (including the Authority); these risks are subject to be reviewed/challenged by the industry. This register fulfils one of the KPI requirements for this year and also serves as an input to our internal risk bowtie and will help identify threats/risk controls which have not yet been captured.

Business assurance audits

We have begun work on the 2023/24 Audit Plan. The first audit, the system operator gatekeeper process, is underway. The second audit on discretion of demand or generation in potential shortfall scenarios is in the planning phase. The scopes for the other three audits have also been drafted.

4 Compliance

We did not report any system operator self-breaches in July.

5 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.	SO Compliance & Impartiality Manager
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

6 Project updates and other initiatives

6.1 Market design and service enhancement 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.

Future Security and Resilience (FSR) Programme

We are supporting the Authority to prepare for the second Common Quality Technical Group (CQTG) meeting on the 10 August 2023. Preparations include:

- Assessment of the medium-list of options and assessment of the additional 10 long-list options which were raised by the CQTG in July..
- Using the evaluation criteria to create a short list of options to address the identified common quality issues. The short list of options will be agreed at the second CQTG and will determine the studies needed to identify the changes required to Part 8 of the Code.
- Preparing study scope for the no-regret options which were identified in the last CQTG meeting.

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

AUFLS assessment report 2022: We have started the AUFLS 2022 assessment and will prepare the AUFLS 2022 Compliance Assessment Report for the Authority. The report is due with the Authority end November 2023.

AUFLS Transition: We have completed security studies, based on the submitted NI connected asset owners' individual transition plans, to assess system security and ensuring we can maintain our PPOs during the 18-month AUFLS transition period. The consolidated transition plan was shared with the NI connected asset owners in July. We have started work under a new TAS (TAS107) to complete final preparations ahead of the start of the AUFLS transition period in January 2024.

6.2 Other projects and initiatives

Operational Excellence

We are embedding the updated procedure review process. This is a robust approach with a checklist including validation of inputs and tools and compliance with the Code as appropriate. It has been well received by the teams and provides a methodology that captures learnings identified in real time use, in training, or through event investigations.

A prototype tool for resource planning has been developed. This will be used for forward planning of resourcing requirements and timing of recruitment and training.

7 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.

8 Outage planning and coordination

Outage planning – near real time

Transmission outage numbers remain low as we are in the winter months, but we are assessing outages from September onwards as the numbers climb into the spring maintenance season.

New Zealand Generation Balance (NZGB) analysis

As of 10 August, potential shortfalls exist in September in our base N-1-G scenario. The most significant outages during this period are the ongoing unplanned Huntly 5

outage, two Manapouri unit outages and the HVDC outage. Since last month, the unplanned Huntly 5 outage has been extended until May 2024. Low margins persist throughout the winter.

The main risk we are looking at is further generation outages that can push the margins even lower. We continue to bring awareness of this during our regular SO Forums.

9 Power systems investigations and reporting

Significant incident investigations

No new significant events were identified in July.

Commissioning

We are working on two wind, one solar and one geothermal upcoming generator commissioning plans with stakeholders, in addition to the commissioning of a grid-scale battery behind a GXP.

We have also engaged with a stakeholder for a proposed battery currently planned for Autumn 2024.

SolarZero went live as the first participant in the Dispatch Notification service, implemented through the Real Time Pricing project. SolarZero began offering ~23MW of aggregated residential batteries, and this capacity will increase over time as part of an innovation pilot project in partnership with Ara Ake.

10 Performance metrics and monitoring

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

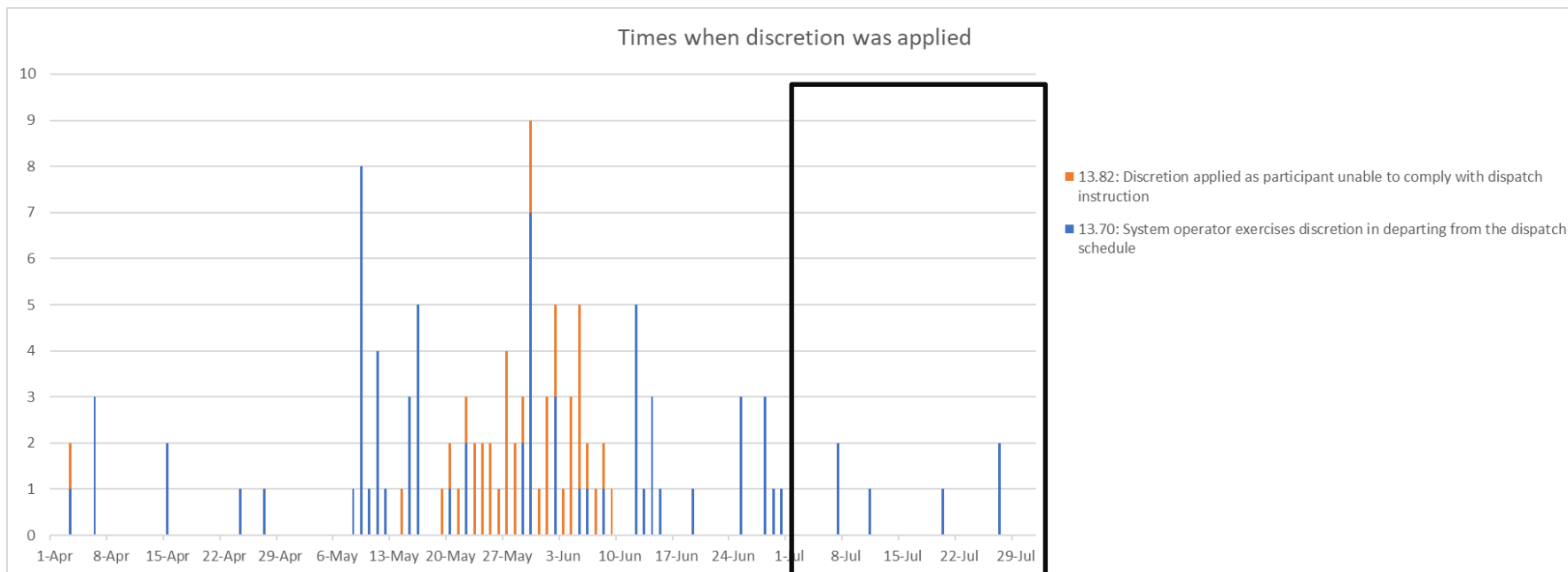
The cost of services reporting for 2022/23 will be delivered to the Authority by the end of the financial year.

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 all instances of discretion application with a summary beneath of some of the individual instances of application this month.



6 instances

The number of discretions this month are fewer than in previous months due to the generation mix in the July. When there is low wind and hydro generation, as was the case in July, thermal generation is running more consistently and therefore the system operator is not required to discretion thermal generators onto their minimum safe running range prior to their generating.