Monthly System Operator and system performance report

for the Electricity Authority

August 2022

Report Purpose

This report is Transpower's review of its performance as System Operator for August 2022, in accordance with clause 3.14 of the Electricity Industry Participation Code 2010 (the Code).

A detailed system performance report (Code obligated) is provided for the information of the Electricity Authority (Authority).

Contents

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System Operator performance

1 Highlights this month

- Our external consultancy providers and our project team recently delivered a joint report of findings from the Operational Excellence work. This report is generally favourable regarding our procedures and capability with recommendations for several quick wins. The report includes a high level five-year roadmap of recommended improvement activities with supporting detailed recommendations. The project team is now translating the material into a set of 'business case-ready' proposals and structuring the implementation programme. The programme plan is expected to be in place by the end of this calendar year.
- Capacity margins on 12 August were forecast to have very low residuals. In the week ahead of the 12 August we published customer advice notices and held two online industry briefings to provide information and make requests to industry participants to help coordinate and drive a response from the market over the morning peak for 12 August. Multiple generation asset failures just prior to the morning peak also added to the challenge.
- Following a significant rain event, hydro storage has increased from 112% to 153% of average for the time of year. Lake Manapouri is spilling, while all other lakes are above 80% of full.
- Phase 3 development of the Real Time Pricing project has been completed and is now being tested, including the standalone dispatch (SAD) development work. Deployment and transition testing was completed in the 3rd week of August with one final deployment mock-test to be completed in September.
- Our teams have been engaging with industry participants to explore active engagement in system operation by Distributed Energy Resources. We have also been speaking with international peers through the Energy Systems Integration Group to explore approaches to system operation in a low carbon power systems.
- The first Business Audit of the year - Defects and Enhancements Audit – is progressing to plan with a final report due end of September.
- Following the return to service of the Pakuranga-Whakamaru 2 circuit, the grid owner has increased restrictions on the use of cable circuits for voltage management during low load periods (usually overnight periods). We are working through the implications for voltage management for the coming months and into the summer period.

2 Customers and other relationships

System Operator Industry Forums

Our fortnightly industry forums have been used to brief a wide range of participants and stakeholders on market updates, outage information, the current NZGB balance forecasts and a general operational update.

12 August low residual situation

In the week ahead of the 12 August we published customer advice notices and held two online industry briefings to provide information on a forecast generation capacity shortfall. Our briefings covered the differences in wind forecasts and offers and we saw improvements in wind offers through the week, as well as bids and offers from supply and demand side. Sufficient generation was not offered until the evening of the 11th August. At 3am on the 12th August some thermal generation assets had operational issues, but these were resolved in time to provide adequacy over the morning peak. We debriefed industry on this event in the following week and received positive feedback from industry and the Authority on our handling of this event.

Energy Systems Integration Group (ESIG)

One of our principal market engineers attended the ESIG webinar hosted by National Grid System Operator on good practices for operating the UK's Net-zero energy transition across Grid Forming code development, stability constraint management, system strength management, and inertia management.

Flex Forum Industry Working Group

Throughout August our teams supported and informed this industry working group which is exploring how to best deign and procure flexibility services from market participants and consumers. This work ensures that new developments around flexibility services at a distribution network level integrate with and support national electricity system operation for the benefit of consumers.

Exploring provision of ancillary services by new technologies

We have set up a project team to work with a new market entrant around how they might offer into the reserves market with a new technology and business model.

3 Risk & Assurance

COVID-19

A risk assessment was carried out regarding access to the control rooms. This is in line with the organisational risk matrix and has enabled us to reinstate external visits to the control rooms. Visitors are asked to undertake a RAT test and wear masks; entry is limited to no more than five at a time and for a maximum time of 15 minutes.

Risk Management Framework

A paper outlining the System Operator's risk management framework was presented at the 8 August 2022 Electricity Authority System Operator Committee (SOC) meeting. The SOC commented that they have more comfort in our approach to risk management having seen the paper. We are now preparing for a deep dive paper based on "failure to maintain service levels" for the SOC meeting in November.

Business assurance audits

As per our System Operator Service Provider Agreement obligations, we met with the Authority on 23 August to provide an overview of the 2021/2022 audit findings. This is to ensure our audits are meeting the Authorities expectations and delivering value. No concerns were raised by the Authority.

The Defects and Enhancements Audit is progressing to plan with a final report due end of September. The Load Forecast Audit scope is being finalised and is scheduled to start early October. The three remaining System Operator Audits (Voltage stability assessment tool change management, Ancillary service contract management, Realtime management of simultaneous feasibility test constraints) will be executed according to the agreed plan.

4 Compliance

We did not self-report any system operator breaches in this reporting period.

9th August 2021 event

A directions conference with the Rulings Panel has been scheduled for 10th October.

5 Impartiality of Transpower roles

We have three open items in the Conflict of Interest Register (below). These are being actively managed in accordance with our Conflict of Interest Procedure. Note in this reporting period item 42 was closed. The item related to a former employee of Mercury managing the KPO upgrade (and a residual family relationship at Mercury). The family member has now left Mercury and the SO employee has now been in the role for 12 months. The controls remain effective (management oversight), and the SO is comfortable there is no longer a conflict of interest.

System Operator Open Conflict of Interest Issues		
ID	Title	Managed by
29	**Preparing the Net Benefit test – System Operator involvement:** The System Operator is reviewing how it	Operations Planning Manager

System Operator Open Conflict of Interest Issues		
ID	Title	Managed by
	can provide information for use by the grid owner undertaking a Net Benefit Test.	
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

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

In August, the Authority Board approved the publishing of the FSR phase 2 roadmap. The roadmap sets out a 8–10-year programme of work required to enable New Zealand to address the challenges and opportunities associated with maintaining a secure and resilient power system.

The Authority has brought in additional resource to help shape the direction of this year's work focussing on updating Part 8 of the Code on common quality. System Operator continues to support the Authority where it can while the plan for this year's work is taking shape.

Real-Time Pricing (RTP)

Phase 3 development has been completed and is now being tested, including the standalone dispatch development work. Deployment and transition testing was completed in the 3rd week of August with one final deployment mock-test to be completed in September. The remaining schedule of work has been reassessed and has confirmed that the deployment date of 18th of October can be met.

Work has commenced on the change request for additional budget, to be submitted in September and to coincide with reaching the $15m threshold, as agreed with the Authority.

Phase 4 development has now commenced, although this is 4 weeks later than planned, due to illness impacts in April through to July.

Operational Excellence

Our external consultancy providers delivered the final report of findings from the Operational Excellence work in August 2022. This report includes a high level 5-year roadmap for recommended activities. The final outputs from this work were presented to the project governance team on 1 September. Work is now underway to translate the material into a set of 'business case' ready outcome proposals and to assess the requirements to manage the programme through implementation. The programme plan is expected to be delivered before the end of this calendar year.

Customer Portal Programme

The project team is progressing well with the development of the new New Zealand Generation Balance (NZGB) application, which is still on target to be available through the Operations Customer Portal from early November this year. The new tool will provide improved navigation and user experience in the tool and integration with the Planned Outage Co-ordination Process. Once the new NZGB application is delivered we will progress with the final phase of the programme, i.e. the implementation of the Dispensations and Equivalence application in the portal.

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

Outage numbers in the later part of August dropped off, primarily because of the Grid Owner's transition to new Service Providers, although the transition has also seen an increase in the number of changes to outages in short notice. We are assessing outages for September and October with numbers climbing as we come out of the winter high demand period and into better weather. There have been several complex assessments associated with grid changes such as the new Bombay interconnecting transformer.

New Zealand Generation Balance (NZGB) analysis

The NZGB application is currently forecasting potential N-1-G shortfalls in September but increasing margins as we approach spring. There are two periods where the margins dip but remain manageable at this stage. These align with large thermal outages in November and the HVDC outages in February. We will be monitoring these times closely

The System Operator has published monthly NZGB reports covering potential shortfalls and an NZGB assessment and Customer Advice Notices specifically covering early September shortfalls. These have also been communicated in the fortnightly System Operator Industry Forum. The message from the System Operator has been to recommend that the Grid Owner and Asset Owners move their outages (which may remove or reduce generation output) outside of these periods of higher risk and avoid scheduling any further outages for this period.

9 Power systems investigations and reporting

No items to report.

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 next quarterly report.

11 Cost-of-services reporting

The next cost of services reporting, for 2021/22 will be delivered to the Authority before the end of 2022.

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.

System performance

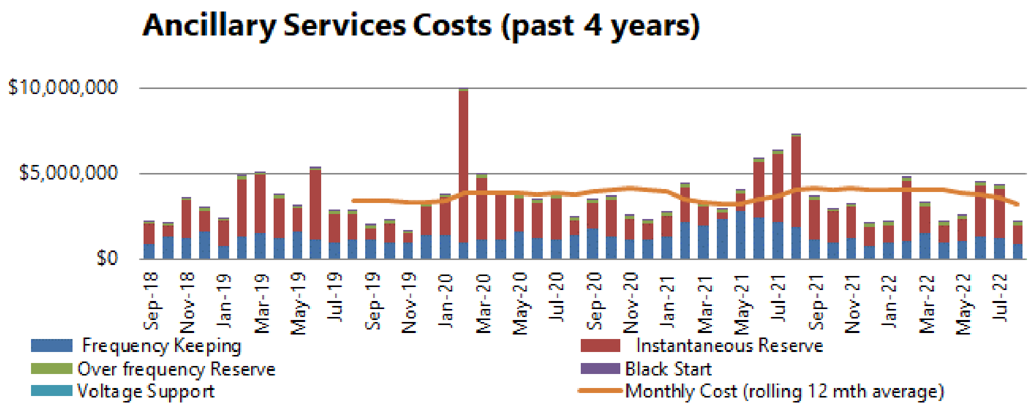
13 Security of supply

Following a significant rain event, hydro storage has increased from 112% to 153% of average for the time of year. Manapouri is spilling, while all other lakes are above 80% of full.

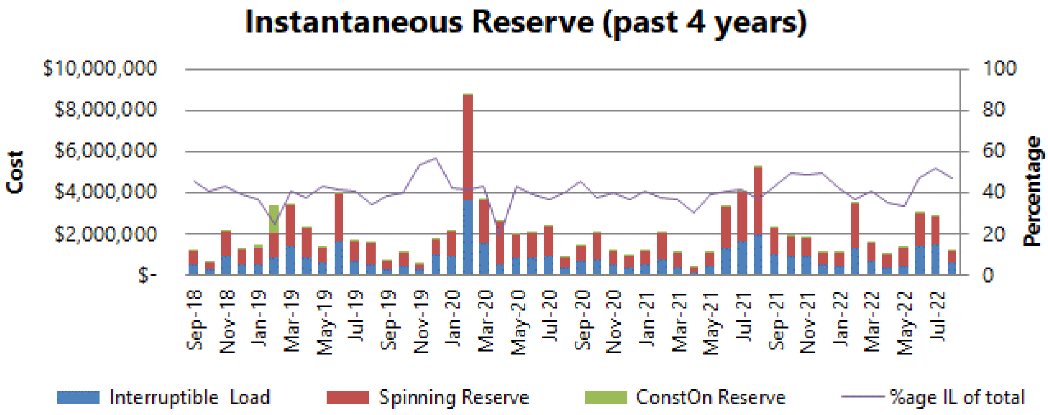
Average prices have dropped in response, now averaging around $20/MWh, down from around $50/MWh at the beginning of August. While prices are down, they are increasingly volatile, shifting from below $10/MWh to above $150/MWh when thermal generation is needed to meet periods with high demand and low wind generation.

As a result of the lower average prices, baseload thermal that has a start-up time of 6 hours or more is beginning to drop out of the market when load is low and wind generation is high and swing back into the market over periods of forecast high peak demand and low wind generation. This is putting pressure on the System Operators forecasts 24 to 12 hours ahead which are generally subject to higher degree of change the further ahead they are forecasting. We have implemented additional data feeds from Metservice regarding wind and temperature monitoring, including expert advice from a meteorologist SME. This is in addition to the improved System Operator load forecast which has seen a 30 to 50% forecasting improvement.

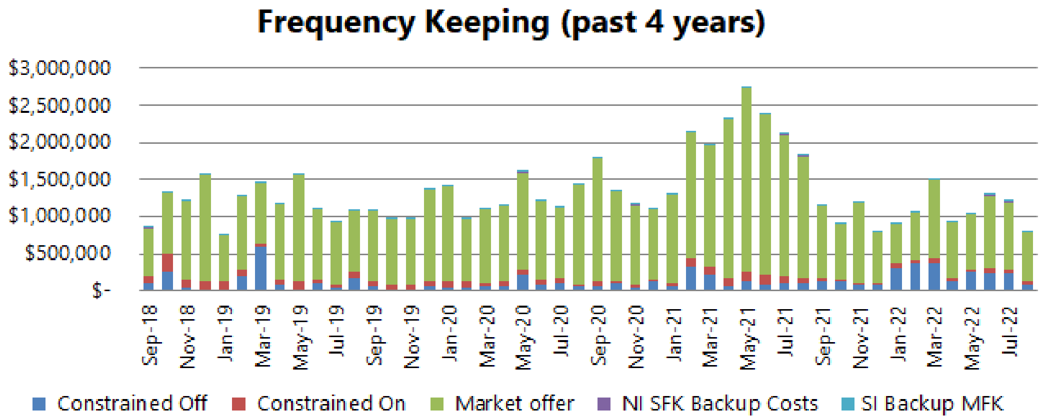
14 Ancillary services



This month's ancillary services costs were $2.21 million, a decrease of $2.08 million (48% decrease) from the previous month. Instantaneous reserve and frequency keeping costs have both decreased compared to the previous month; instantaneous reserve costs decreased by $1.68 million (59% decrease) while frequency keeping costs decreased by $407k (34% decrease).

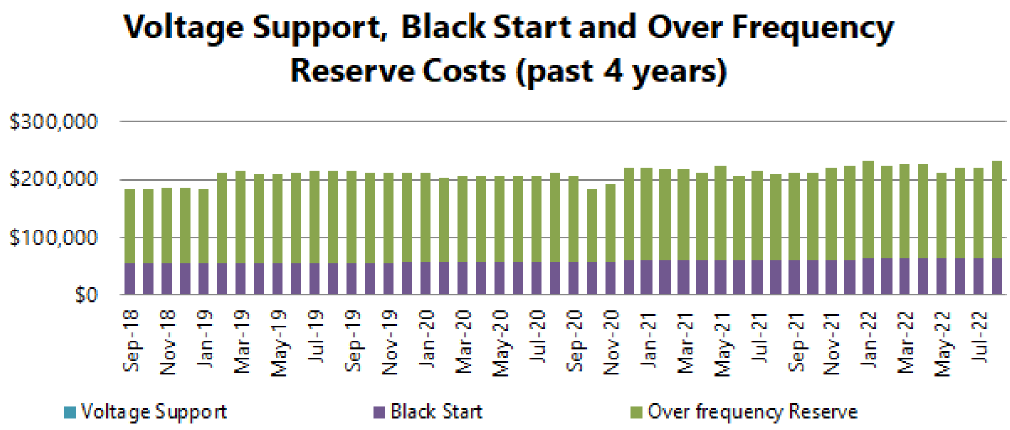


This month's instantaneous reserve costs were $1.18 million, a decrease of $1.68 million (59% decrease). Both spinning reserves and interruptible load costs were more than halved. Overall quantities of fast and sustained reserves were lower than the previous month in both the North and South Islands. The average prices per megawatt of fast and sustained reserves decreased by over 50% in both the North Island and South Island.



This month's frequency keeping costs were $796k, a decrease of $407k on the previous month (34% decrease). North Island frequency keeping costs decreased this month by $413k (61% decrease) while in the South Island frequency keeping costs increased by $6k (1% increase).

Constrained on costs decreased by $12k (23% decrease) and constrained off costs decreased by $161k (69% decrease).



Over frequency costs increased by $10k to $170k this month (6% increase). Black start costs remained at $62k this month. There are currently no voltage support costs.

15 Commissioning and Testing

System Operator is tracking many solar PV and wind projects which are still awaiting financial approval, as such our involvement is minimal at this stage. Should all these projects proceed it will result in a significant increase in workload for System Operator engineering teams. Projects in construction at present include Tauhara B 166 MW geothermal, Harapaki 176 MW wind, Turitea (south) 100 MW wind, and a 33 MW Battery “Rotohiko” connecting behind Huntly GXP.

16 Operational and system events

17 August HVDC risk reclassification

A fault of the Grid Owner’s HVDC Pole 2 converter transformer neutral earthing resistor at Benmore required the System Operator to take action to reclassify an HVDC bi-pole tripping as a contingent event in the market system between 03:30 to 11:30. This was communicated to Participants via Customer Advice Notices (CANs).

11-12 August potential generation shortfall

Low residual periods were forecast to occur on the 11 and 12 August. System Operator activated a response to the situation, publishing additional information highlighting the risk to industry via Customer Advice Notices (CANs) and holding several industry conferences calls. Participants responded to this engagement increasing and improving accuracy of generation offers (particularly wind offers) and reducing demand which resolved these potential generation shortfalls.

23 June grid emergency

Ranil de Silva (PBA Consulting) has completed the independent review of the System Operator’s performance during the grid emergency on 23 June 2022. The PBA report notes that the new demand management processes implemented post 9 August 2021 were successfully followed to manage the generation shortfall with minimal disruption to consumers. The report highlights the impractical manual collation of controllable load availability (via phone calls) and suggests the Authority pursue a Code change to provide the System Operator with real-time visibility of available controllable demand.

Significant incident investigations

No new significant events were reported during August. We continued to investigate two significant event which occurred in June:

- Event 4284 (multiple lightning strikes in June). We currently preparing a more detailed report at the request of the Authority who did not agree with our proposal to close out the incident after our initial report.
- Event 4292 – (loss of supply at Hangitiki for more than 1 hour in June). Investigation report is being drafted.

We have prepared a proposal for submission to the Authority to review the significant incident criteria to ensure we are reporting on the right level of incidents.

Upper North Island voltage management

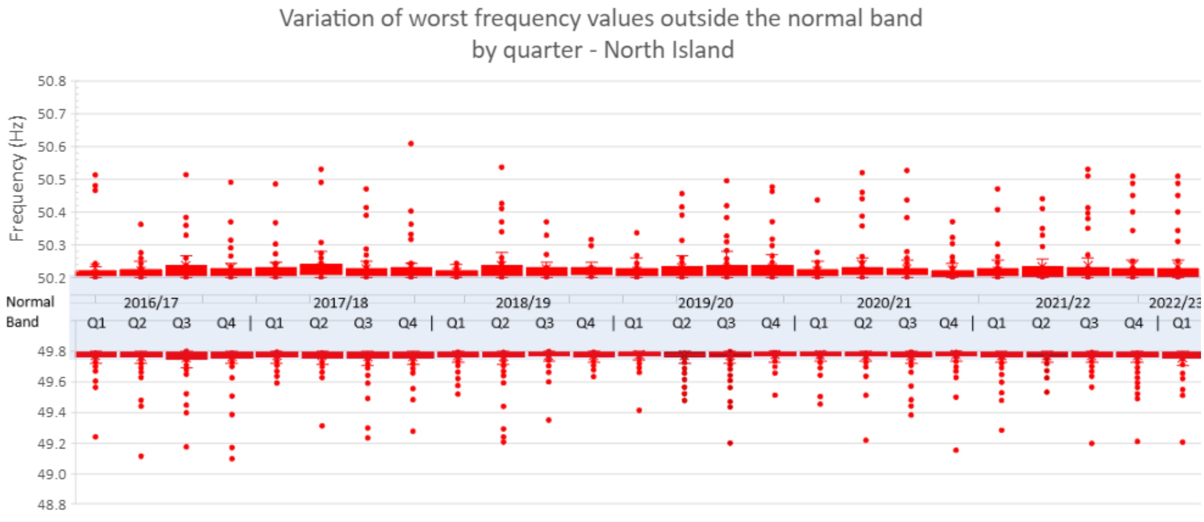
Brownhill – Pakarunga 2 220kV cable was returned to service on 6 August 2022 to manage peak load into the Upper North Island while the Otahuhu – Whakamaru 1 220kV circuit is being reconductored. High voltage management in the region overnight and especially during the weekends is proving challenging. We continue to discuss options with the Grid Owner to mitigate high voltages pending installation of reactors in the region later this year.

17 Frequency fluctuations

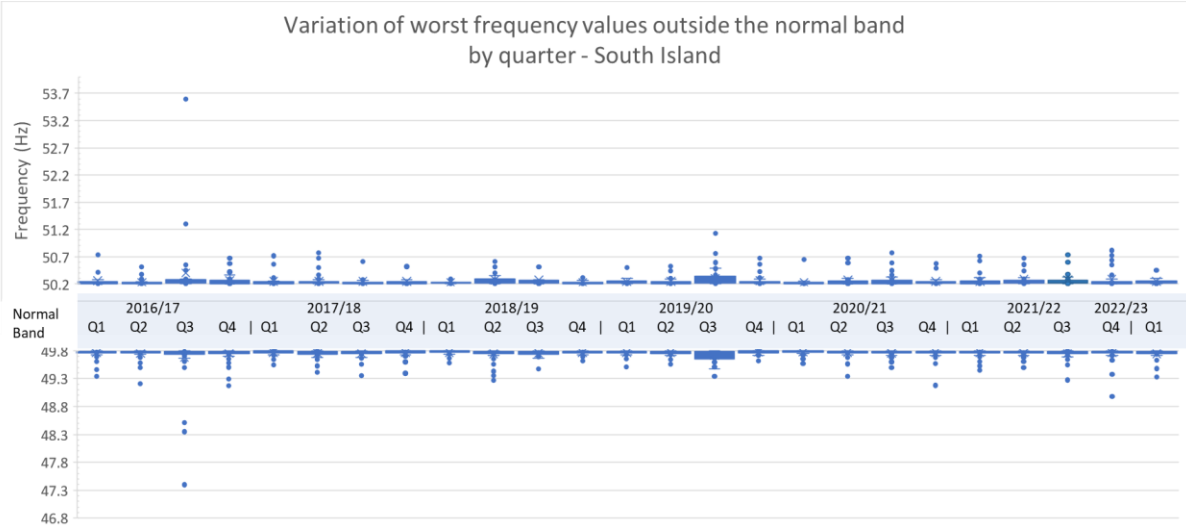
17.1 Maintain frequency in normal band (Frequency value)

The following charts show the distribution of the worst frequency excursion outside the normal band (49.8 to 50.2 Hz) during the reporting period.

North Island



South Island



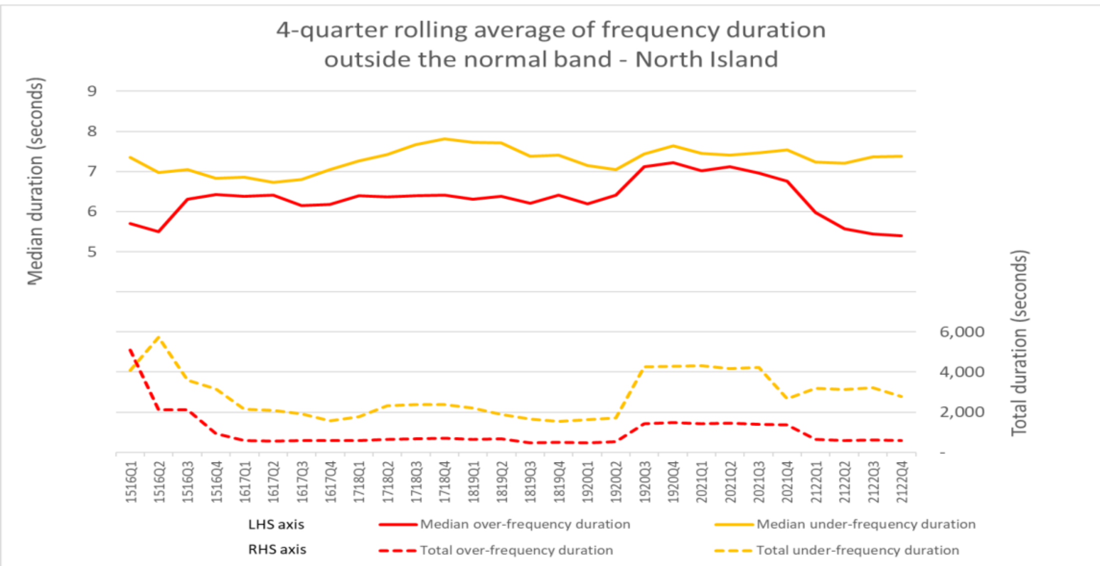
*2022/23 Q1 contains data for July/August only

Note: These box and whisker charts show the distribution of data. The “box” represents the distribution of the middle 50% of the data, the “whiskers” indicate variability, and outliers are shown as single data points.

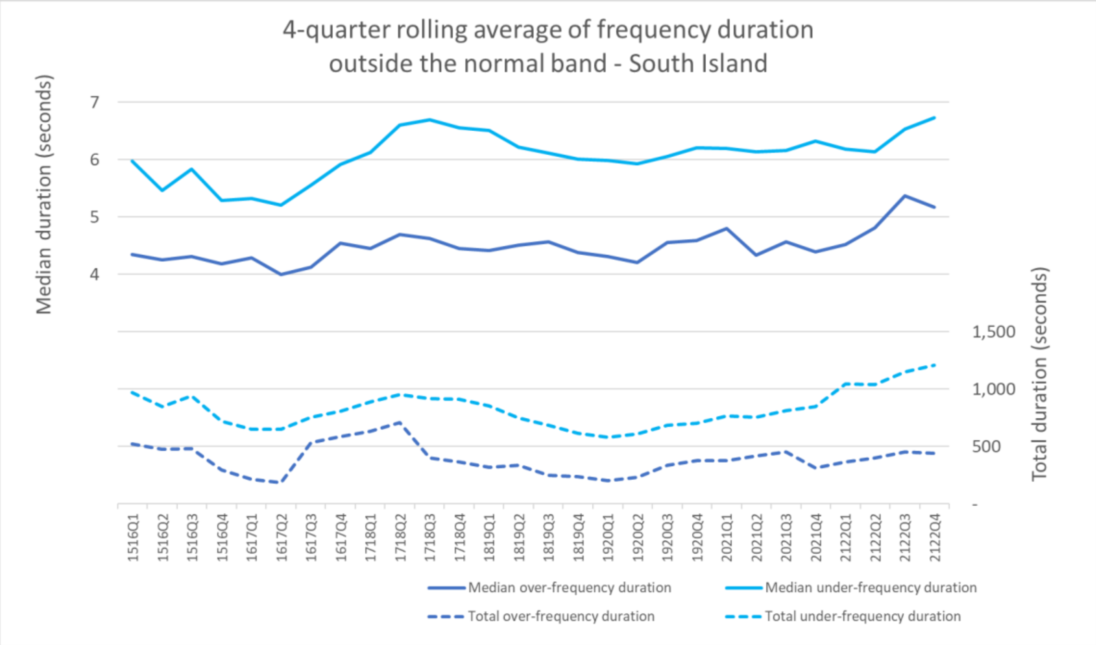
17.2 Recover quickly from a fluctuation (Time)

The following charts show the median and total duration of all the momentary fluctuations above and below the normal band for each island. The information is shown as a 4-quarter rolling average to illustrate trends in the data.

North Island



South Island

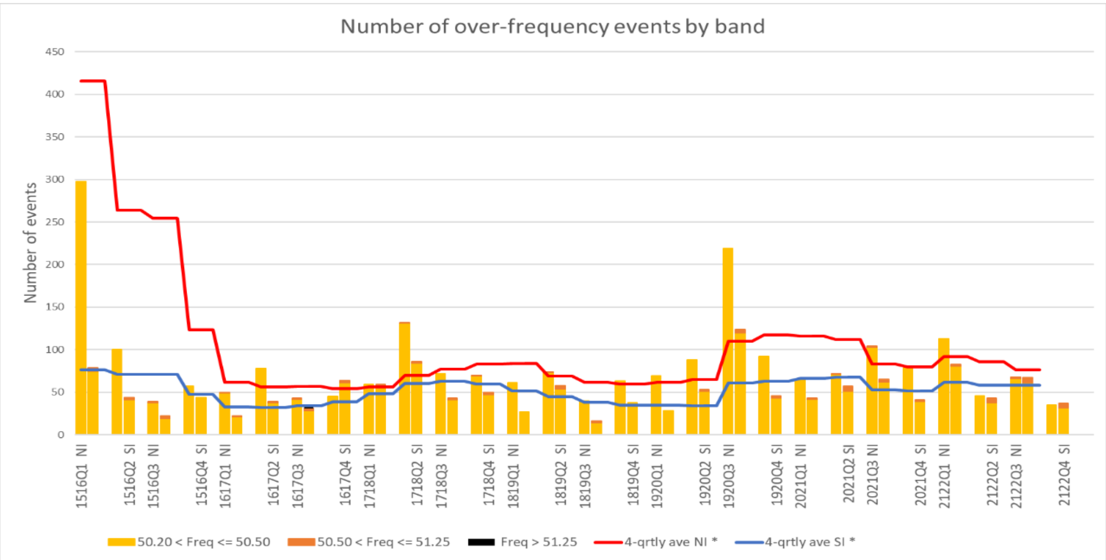


*These graphs have not been updated since 2021/22 Q4; they will only be updated at the end of each quarter

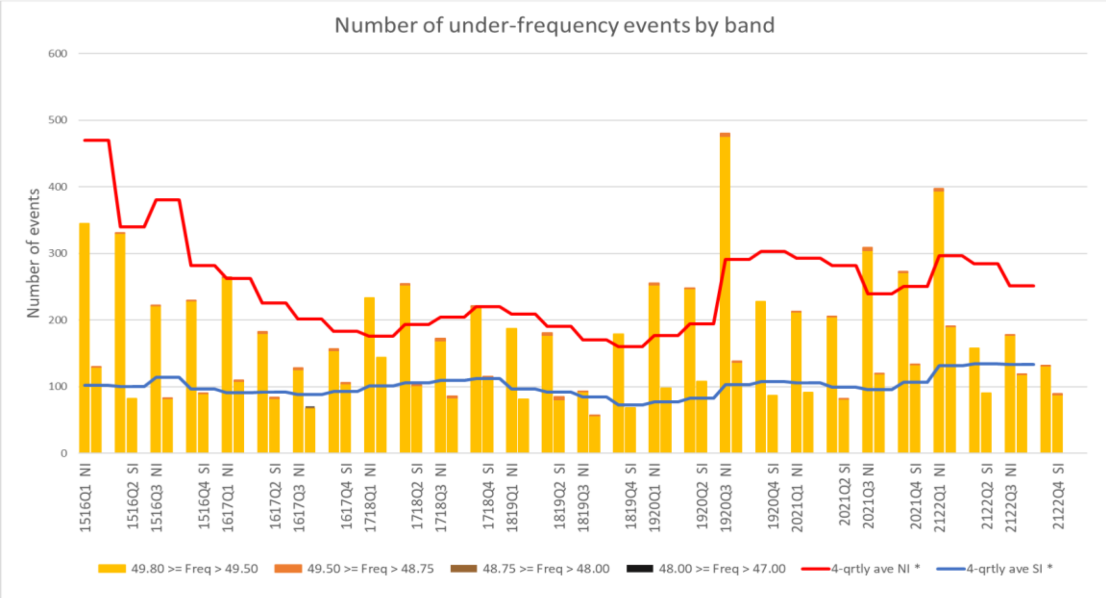
17.3 Manage frequency and limit rate of occurrences during momentary fluctuations (Number)

The following charts show the number of momentary fluctuations outside the frequency normal band, grouped by frequency band, for each quarter since Q1 2015/16. The information is shown by island, including a 4-quarter rolling average to show the prevailing trend.

Over-frequency events



Under-frequency events



* 4-quarterly rolling averages for NI and SI are only updated at the end of each quarter.

2022/23 Q1 contains data for July only

17.4 Manage time error and eliminate time error once per day

There were no time error violations in the reporting period.

18 Voltage management

Grid voltages did not exceed the Code voltage ranges during the reporting period.

19 Security notices

The following table shows the number of Warning Notices, Grid Emergency Notices and Customer Advice Notices issued over the last 12 months.

Notices issued	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22
Demand Allocation Notice	1	-	--	--	-	-	-	-	-	-	-	-	-
Grid Emergency Notice	4	2	--	2	-	-	-	-	-	-	1	-	-
Warning Notice	4	-	--	--	-	-	-	-	-	1	-	-	-
Customer Advice Notice	42	34	9	7	5	7	9	15	14	15	28	24	25

20 Grid emergencies

None to report.

Appendices

Appendix A: Discretion

Event Date and Time	Description
31/08/22 21:07	NAP scheduled to be dispatched below 139 MW (min run) from 00:00 (30 Aug) to 05:30. Mercury trader confirm they will claim rule 13.82(2) for these periods if dispatched to scheduled values, and that should NAP be dispatched off it will take them 48 hours to return. NI REF price increases by approx. $4 per MW if NAP was to come off. 138 MW applied as NI optional AC CE risk from 00:00 (30 Aug) to 05:30.
31/08/22 21:07	"HLY 5 scheduled to be dispatched below 190 MW (min run) from 23:00 to 23:30. Genisis trader confirm they will claim rule 13.82(2) for these periods if dispatched to scheduled values. 189 MW applied as NI optional AC CE risk from 23:00 to 23:30. HLY 5 required for peak security, energy, and reactive reserve.
30/08/22 20:39	NI optional AC CE Risk of 189 also applied for 05:30 and 06:00 TP's 01 Sep for same reasons as above."
30/08/22 20:39	NAP scheduled to be dispatched below 139 MW (min run) from 00:00 (30 Aug) to 05:30. Mercury trader confirm they will claim rule 13.82(2) for these periods if dispatched to scheduled values, and that should NAP be dispatched off it will take them 48 hours to return. NI REF price increases by approx. $4 per MW if NAP was to come off. 138 MW applied as NI optional AC CE risk from 00:00 (30 Aug) to 05:30.
29/08/22 21:14	HLY 5 scheduled to be dispatched below 190 MW (min run) from 23:00 to 23:30. Genisis trader confirm they will claim rule 13.82(2) for these periods if dispatched to scheduled values. 189 MW applied as NI optional AC CE risk from 23:00 to 23:30. HLY 5 required for peak security, energy, and reactive reserve.
29/08/22 20:23	NAP scheduled to be dispatched below 140 MW (min run) from 00:00 (29 Aug) to 05:30. Mercury trader confirm they will claim rule 13.82(2) for these periods if dispatched to scheduled values, and that should NAP be dispatched off it will take them 48 hours to return. NI REF price increases by approx. $4 per MW if NAP was to come off. 139 MW applied as NI optional AC CE risk from 00:00 (29 Aug) to 05:30.
28/08/22 19:03	HLY 5 scheduled to be dispatched below 190 MW (min run) from 23:00 to 23:30. Genisis trader confirm they will claim rule 13.82(2) for these periods if dispatched to scheduled values. 189 MW applied as NI optional AC CE risk from 23:00 to 23:30. HLY 5 required for peak security, energy, and reactive reserve.
28/08/22 18:45	NAP scheduled to be dispatched below 140 MW (min run) from 00:00 (29 Aug) to 05:30. Mercury trader confirm they will claim rule 13.82(2) for these periods if dispatched to scheduled values, and that should NAP be dispatched off it will take them 48 hours to return. NI REF price increases by approx. $4 per MW if NAP was to come off. 139 MW applied as NI optional AC CE risk from 00:00 (29 Aug) to 05:30.

Event Date and Time	Description
27/08/22 18:51	HLY 5 scheduled to be dispatched below 190 MW (min run) from 23:00 to 23:30. Genisis trader confirm they will claim rule 13.82(2) for these periods if dispatched to scheduled values. NI REf price rises by $10/MW with HLY 5 off.189 MW applied as NI optional AC CE risk from 23:00 to 23:30. HLY 5 required for peak security, energy, and reactive reserve.
27/08/22 06:06	NAP scheduled to be dispatched below 140 MW (min run) from 01:30 to 06:00. Mercury traders confirm they will claim rule 13.82(2) for these periods if dispatched to scheduled values, and that should NAP be dispatched off it will take them 48 hours to return. 139 MW applied as NI optional AC CE risk from 01:30 to 06:00.
26/08/22 21:18	TKA0111 TKA1 Discretion Clause 13.70, Part 13 ENR Max: 0 Start: 27-Aug-2022 06:06 End: 27-Aug-2022 06:30 Notes: ABY_TKA circuit tripped, TKA generation confirmed tripped off. Last Dispatched Mw: 23
25/08/22 17:30	NAP scheduled to be dispatched below 138 MW (min run) from 00:00 to 06:00. Mercury traders confirm they will claim rule 13.82(2) for these periods if dispatched to scheduled values, and that should NAP be dispatched off it will take them 48 hours to return. 137 MW applied as NI optional AC CE risk from 00:00 to 06:00.
24/08/22 23:17	SFD2201 SFD21 Discretion Clause 13.70, Part 13 EN Min: 10 Start: 25-Aug-2022 17:30 End: 25-Aug-2022 18:00 Notes: Discretioned on for security reasons over the evening peak Last Dispatched Mw: 43.28
24/08/22 22:08	HLY2201 HLY5 Discretion Clause 13.70, Part 13 ENR Max: 0 Start: 24-Aug-2022 23:17 End: 24-Aug-2022 23:30 Notes: Trader claimed 13.82a as dispatched to 135MW, min is 182MW. Discretioned to zero as no security reason to keep the unit on, unit was scheduled to come off at 23:30. Last Dispatched Mw: 137.11
24/08/22 17:01	NRSL schedules had NAP scheduled below minimum run level (140MW). Mercury Trader confirmed that if dispatched as scheduled, they would be claiming Rule 13.82(a). SC has applied NI Optional Island Manual CE Risk from 24/08 00:30 - 24/08 06:00 to schedule NAP at its minimum run level (139MW). Keeping NAP on is the least cost solution as per clause 13.57
24/08/22 17:00	ARI1102 ARI0 Discretion Clause 13.70, Part 13 ENR Max: 80 Start: 24-Aug-2022 17:01 End: 24-Aug-2022 17:30 Notes: Applied for switching duration for KIN_TRK_1 outage to avoid ARI runback triggering, and for security reasons as WTO stations are all at max output and unable to compensate (max 160MW ARI N & S generation total as ARI_CB48 to be opened) Last Dispatched Mw: 111
24/08/22 14:25	ARI1101 ARI0 Discretion Clause 13.70, Part 13 ENR Max: 80 Start: 24-Aug-2022 17:00 End: 24-Aug-2022 17:30 Notes: Applied for switching duration for KIN_TRK_1 outage to avoid ARI runback triggering, and for security reasons heading into the evening peak (max 160MW ARI N & S generation total as ARI_CB48 to be opened) Last Dispatched Mw: 81
24/08/22 14:15	MRPL trader rang concerning NAP dispatched below 136MW for 15:00 and 15:30 trading periods in NRSS. Claimed 13.82a as plant physically unable to meet dispatch. SC had analysed HLY5 for same trading periods and applied manual NI CE risk to keep them on for economic and security reasons

Event Date and Time	Description
24/08/22 07:32	At 15:00 HLY5 dispatched 128.06MW, at 15:30 HLY5 dispatched to 128.06MW, at 16:00 HLY5 dispatched 148.24MW. Genesis called and claimed 13.82A for the trading periods due to running in their rough running range. At present with HLY5 on, interval cost for 15:00 is $79.75 and at 17:30 HLY 5 on interval cost is $1090.88. OPS case ran with HLY 5 off. Interval cost for 15:00 is $169.55. Interval cost for 17:30 is $11328.99. HLY 5 is also required for security over evening peak. 189MW applied as NI optional AC CE risk from 15:00 to 16:30.
24/08/22 07:32	ARI1101 ARI0 Discretion Clause 13.70, Part 13 ENR Max: 80 Start: 24-Aug-2022 07:32 End: 24-Aug-2022 08:00 Notes: Applied for switching duration for KIN_TRK_1 outage to avoid ARI runback triggering, and for security reasons as WTO stations are all at max output and unable to compensate (max 160MW ARI N & S generation total as ARI_CB48 to be closed) Last Dispatched Mw: 81
23/08/22 23:06	ARI1102 ARI0 Discretion Clause 13.70, Part 13 ENR Max: 80 Start: 24-Aug-2022 07:32 End: 24-Aug-2022 08:00 Notes: Applied for switching duration for KIN_TRK_1 outage to avoid ARI runback triggering, and for security reasons as WTO stations are all at max output and unable to compensate (max 160MW ARI N & S generation total as ARI_CB48 to be closed) Last Dispatched Mw: 111
23/08/22 16:57	HLY2201 HLY5 Discretion Clause 13.70, Part 13 ENR Max: 0 Start: 23-Aug-2022 23:06 End: 23-Aug-2022 23:30 Notes: Trader claimed 13.82a as dispatched to 135MW, min is 182MW. Discretioned to zero as no security reason to keep the unit on. Last Dispatched Mw: 135
23/08/22 13:36	NRSL schedules had NAP scheduled below minimum run level (140MW). Mercury Trader confirmed that if dispatched as scheduled, they would be claiming Rule 13.82(a). SC has applied NI Optional Island Manual CE Risk from 23/08 22:30 - 24/08 06:30 to schedule NAP at its minimum run level (139MW). Keeping NAP on is the least cost solution as per clause 13.57
23/08/22 13:35	HLY2201 HLY5 Discretion Clause 13.70, Part 13 EN Min: 190 Start: 23-Aug-2022 13:36 End: 23-Aug-2022 14:00 Notes: Trader claimed 13.82a as dispatched to 157MW, min is 190MW. Discretioned on for security for evening peak. Last Dispatched Mw: 157.35
22/08/22 23:07	HLY2201 HLY5 Discretion Clause 13.70, Part 13 EN Max: 190 Start: 23-Aug-2022 13:35 End: 23-Aug-2022 14:00 Notes: Trader claimed 13.82a as dispatched to 157MW, min is 190MW. Discretioned on for security for evening peak. Last Dispatched Mw: 157.35
22/08/22 18:54	HLY2201 HLY5 Discretion Clause 13.70, Part 13 ENR Min: 182 Start: 22-Aug-2022 23:07 End: 22-Aug-2022 23:30 Notes: Dispatched to minimum run to allow adequate cool down for 1 trading period as claimed by trader, along with rule 13.82(a) for plant safety. Last Dispatched Mw: 135

Event Date and Time	Description
21/08/22 23:19	20:00 NAP dispatched below 140 MW (min run) from 23:00 to 06:00. Mercury trader claimed rule 13.82a for these periods if dispatched to scheduled values. 139MW applied as NI optional AC CE risk from 23:00 to 06:00. 24-48 hours to come back online, required for system security.
21/08/22 22:51	HLY2201 HLY5 Discretion Clause 13.70, Part 13 EN Min: 189 Start: 21-Aug-2022 23:19 End: 21-Aug-2022 23:30 Notes: For optimal solution, below minimum run, claimed 13.82(a), cheaper to keep on than shutdown. Last Dispatched Mw: 189
21/08/22 22:50	NAP2202 NTM0 Discretion Clause 13.70, Part 13 EN Min: 84 Start: 21-Aug-2022 22:51 End: 21-Aug-2022 23:00 Notes: For optimal solution, below minimum run, claimed 13.82(a), cheaper to keep on than shutdown Last Dispatched Mw: 84.71
21/08/22 22:15	NAP2201 NAP0 Discretion Clause 13.70, Part 13 EN Min: 139 Start: 21-Aug-2022 22:50 End: 21-Aug-2022 23:00 Notes: For optimal solution, below minimum run, claimed 13.82(a), cheaper to keep on than shutdown. Last Dispatched Mw: 140
21/08/22 22:11	ROX2201 ROX0 Discretion Clause 13.70, Part 13 EN Min: 80 Start: 21-Aug-2022 22:15 End: 21-Aug-2022 23:00 Notes: For security (tomorrow ampk), if shutdown will lose local service and be unable to start again. Last Dispatched Mw: 80
21/08/22 20:27	ROX Generation scheduled off at 22:30 from 101MW. Contact operator advised if U6 (providing LocalService) was shut down, the machines couldn't be restarted until tech on site to restore LS. SC decided it was prudent to keep 220 kV generation on for 22:30 period asf ROX generation was scheduled back up to 101 MW through to AMPK.
20/08/22 22:39	Discretion applied to ROX 2201 to 80 MW.