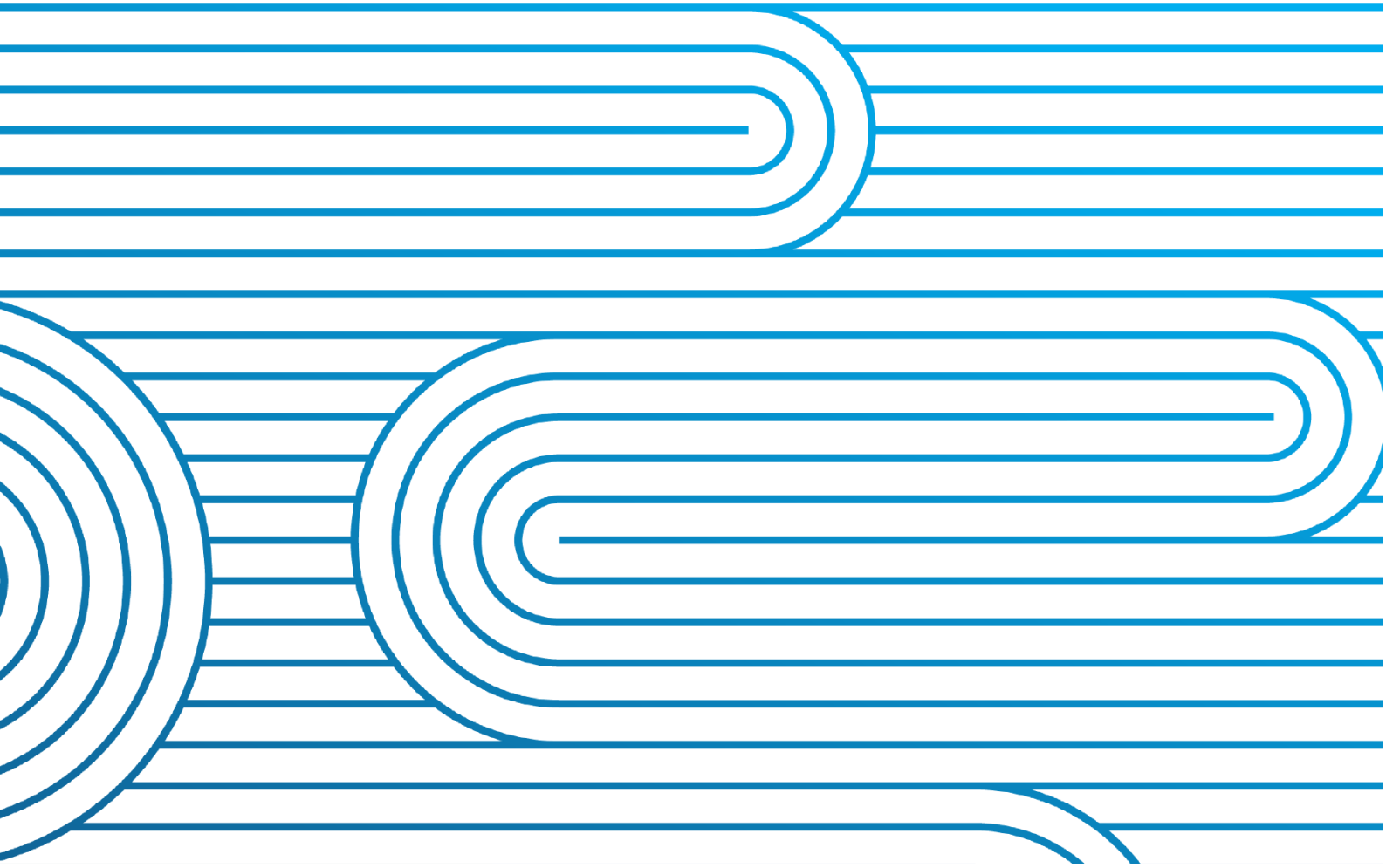
TRANSPOWER

Quarterly system performance information

July to September



Report Purpose

This report is Transpower's review of its performance as system operator in accordance with clauses 3.13 of the Electricity Industry Participation Code 2010 (the Code) and 12.3 of the System Operator Service Provider Agreement (SOSPA):

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*

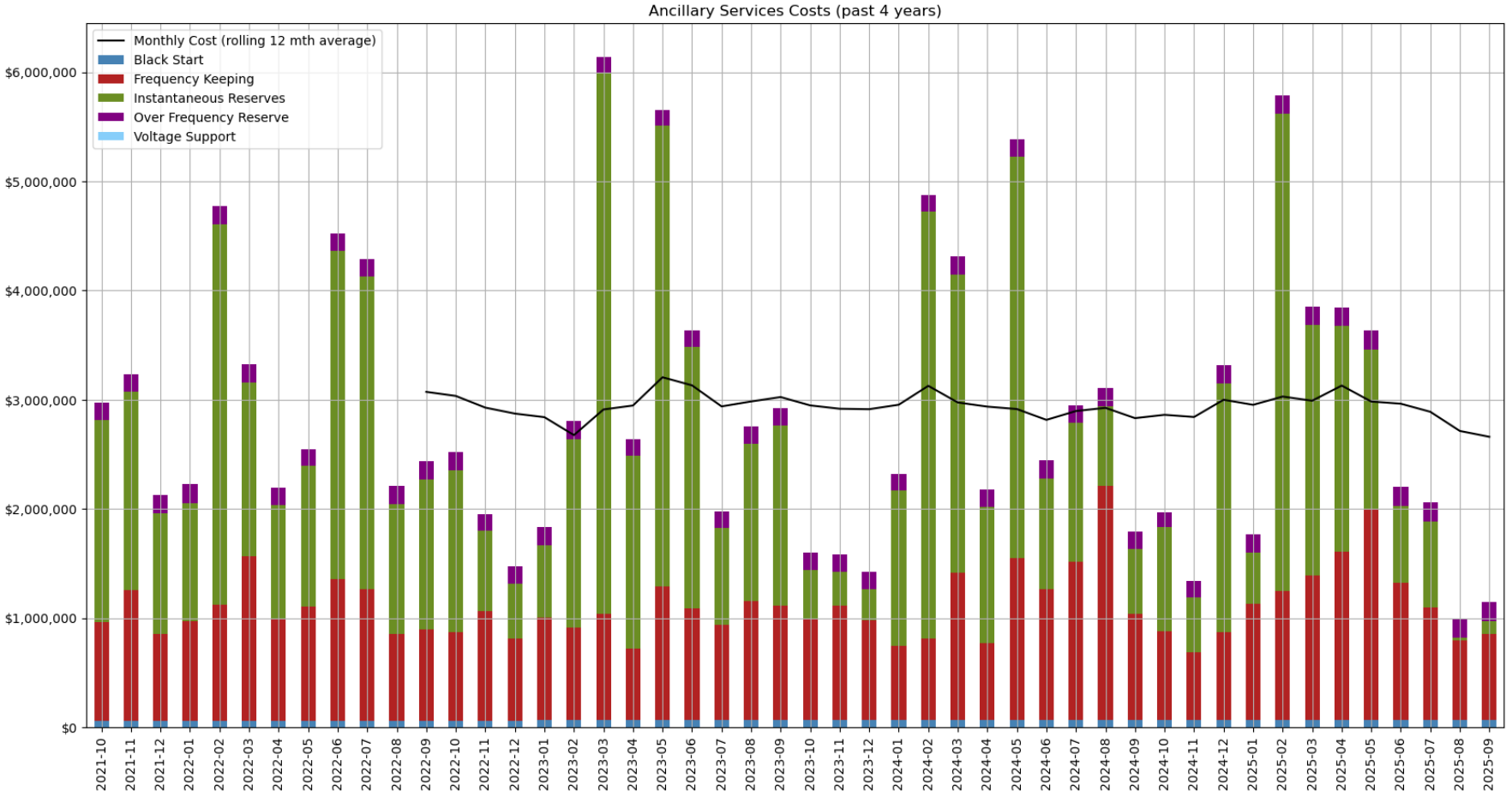
*(c) any performance standards agreed between the **market operation service provider** and the **Authority**; and*

*(d) the provisions of the **market operation service provider agreement**.*

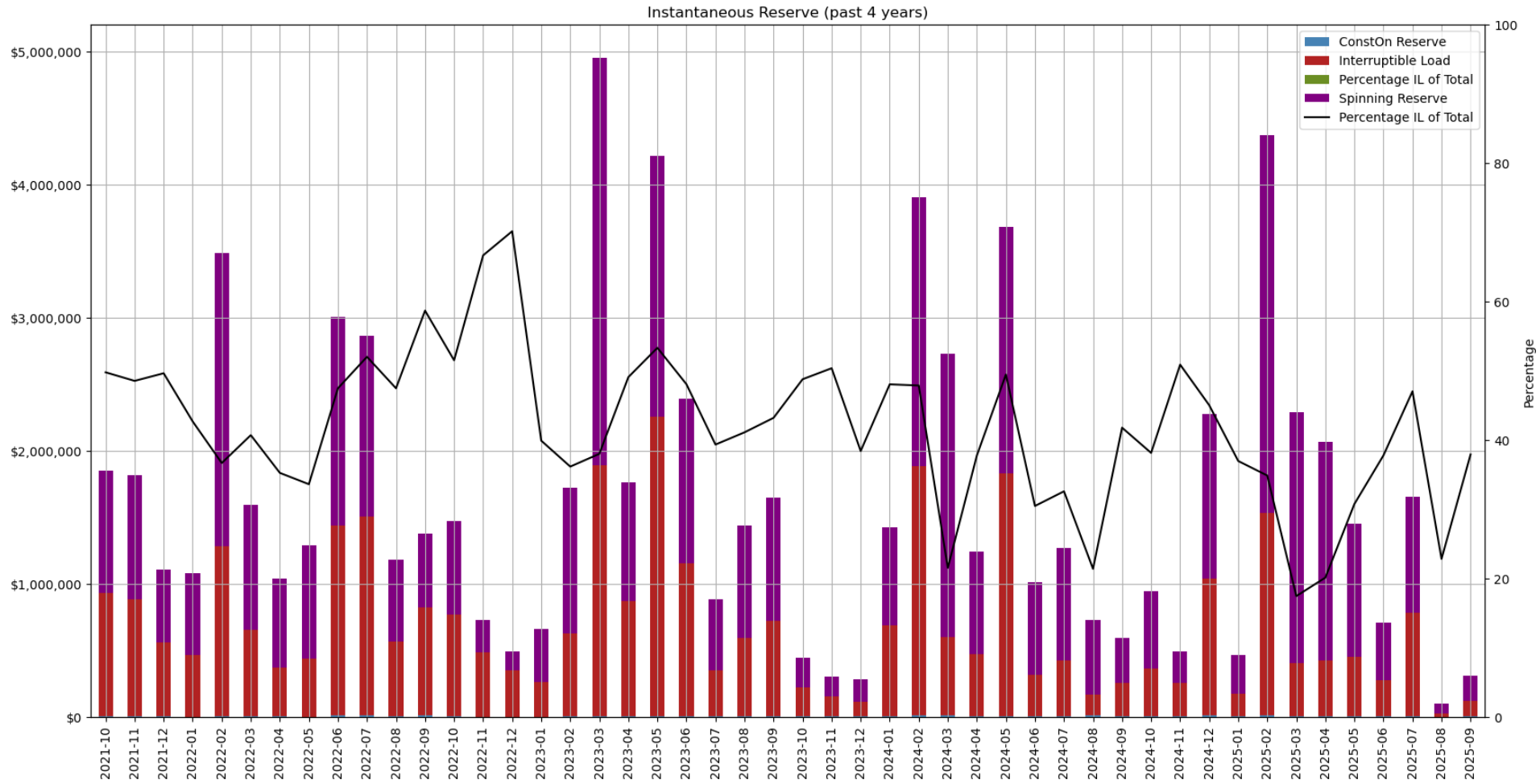
Contents

1. Ancillary services costs 1
1.1 Constrained on/off costs 5
2. Frequency fluctuations 1
2.1 Maintain frequency in normal band (Frequency value) 1
2.1.1 Recover quickly from a fluctuation (Time) 2
2.2 Manage frequency and limit rate of occurrences during momentary fluctuations (Number) 4
3. Commissioning 5
3.1 FY 24/25 Completed and Confirmed Commissioning 5
3.2 FY 24/25 New Capacity (MW) by Generation Type 6
4. Security notices 7
4.1 Low residual CANs 7
5. Grid emergencies 7

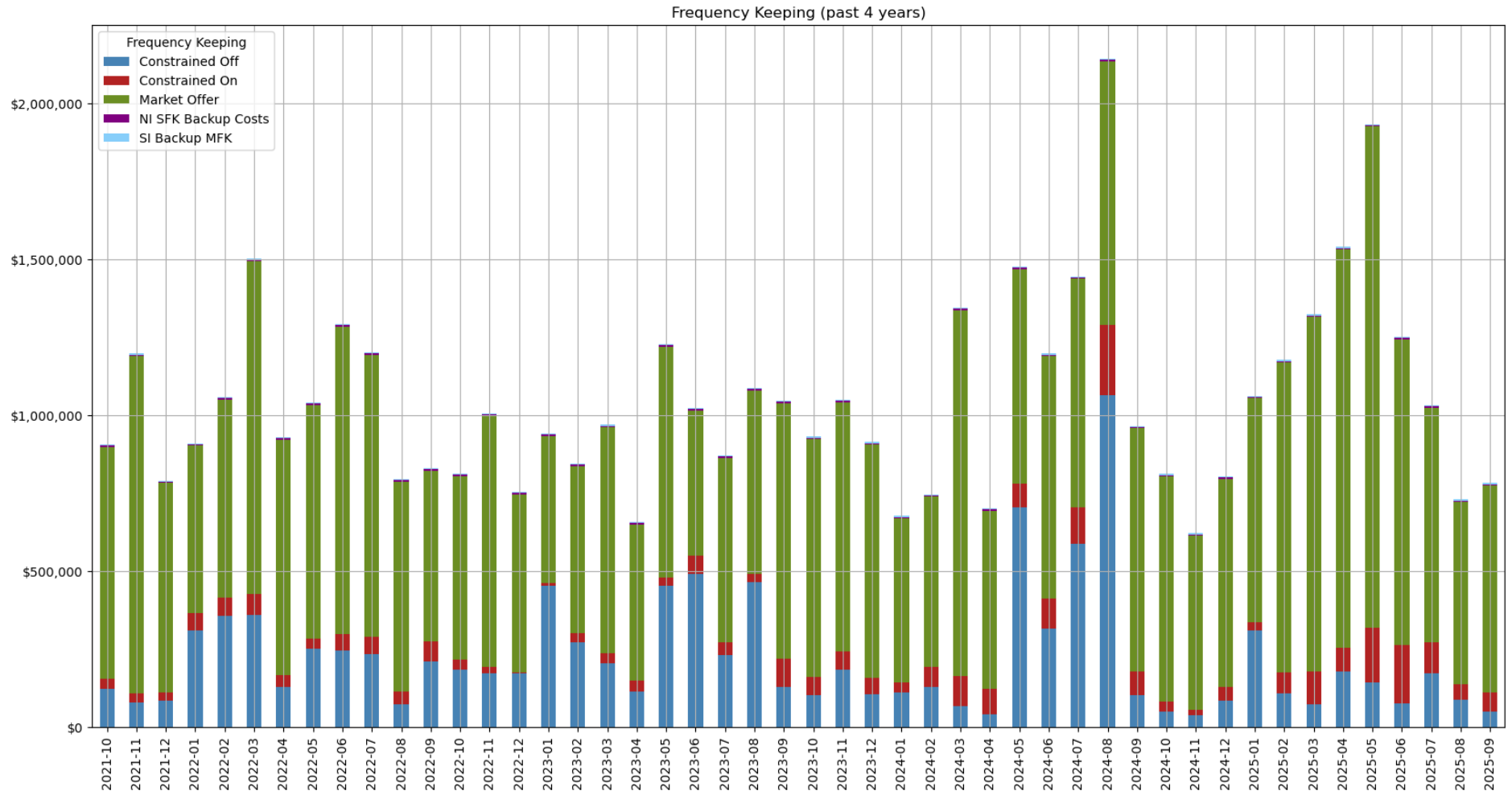
1. Ancillary services costs



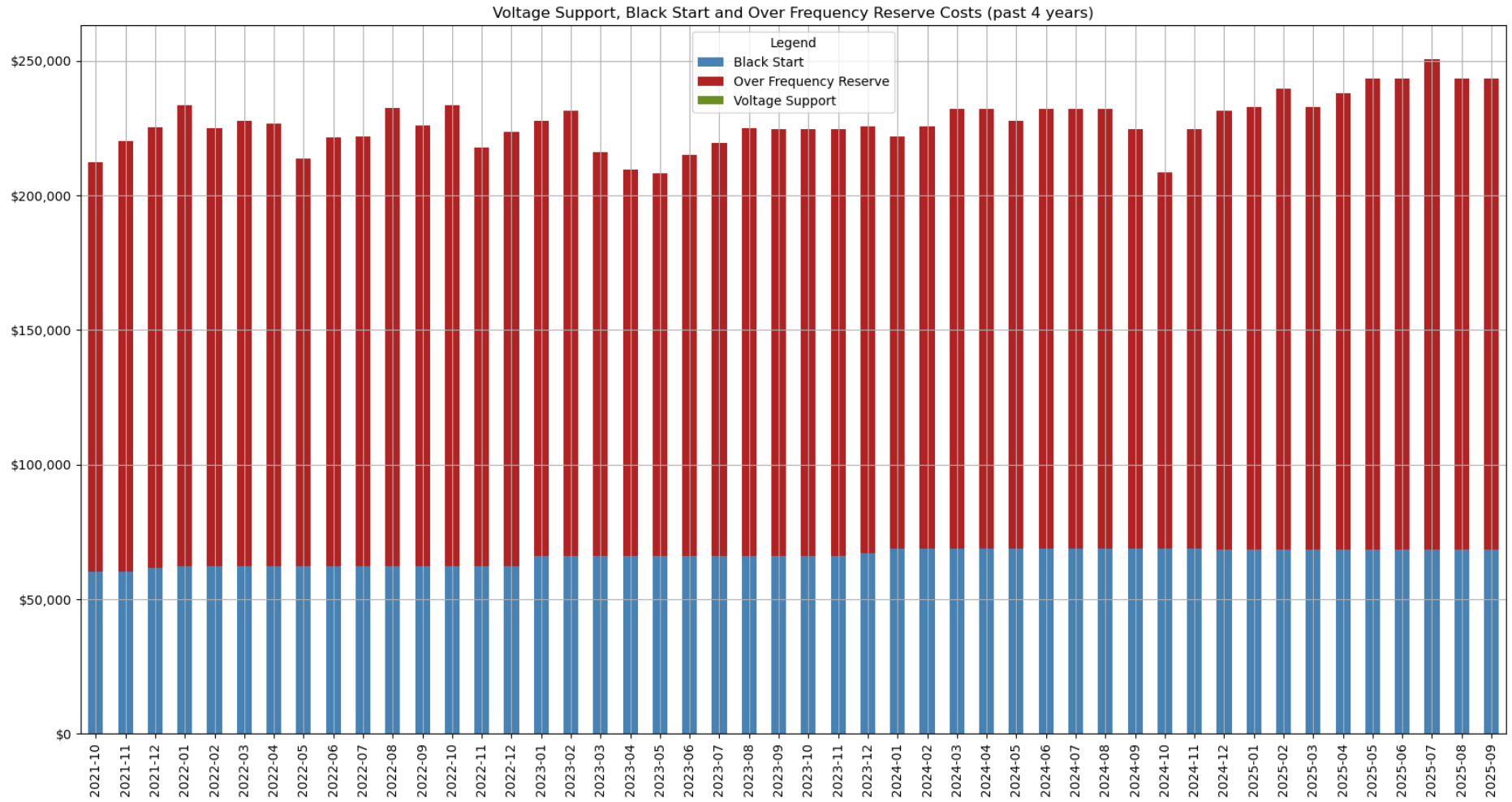
Ancillary service costs were lower this quarter than the previous quarter. The decrease was driven by a decrease in the instantaneous reserve costs and frequency keeping costs which are shown in the graphs below.



Instantaneous reserve costs were significantly lower this quarter than last quarter particularly in August and September. Costs decreased this quarter as higher priced generation was backed off as the temperatures warmed and storage in the South Island hydro catchments continued to improve. With improved South Island storage fewer high priced North Island reserves were required to cover the risk in the South Island. Meridian's grid scale Ruakākā battery energy storage system added significant reserve capacity to the market this quarter which has also contributed to keeping prices low. An under-frequency event in July and some periods of tight energy residuals meant that July prices were higher than later in the quarter.



Frequency keeping costs decreased this quarter driven mainly by decreased frequency keeping market costs in both islands.

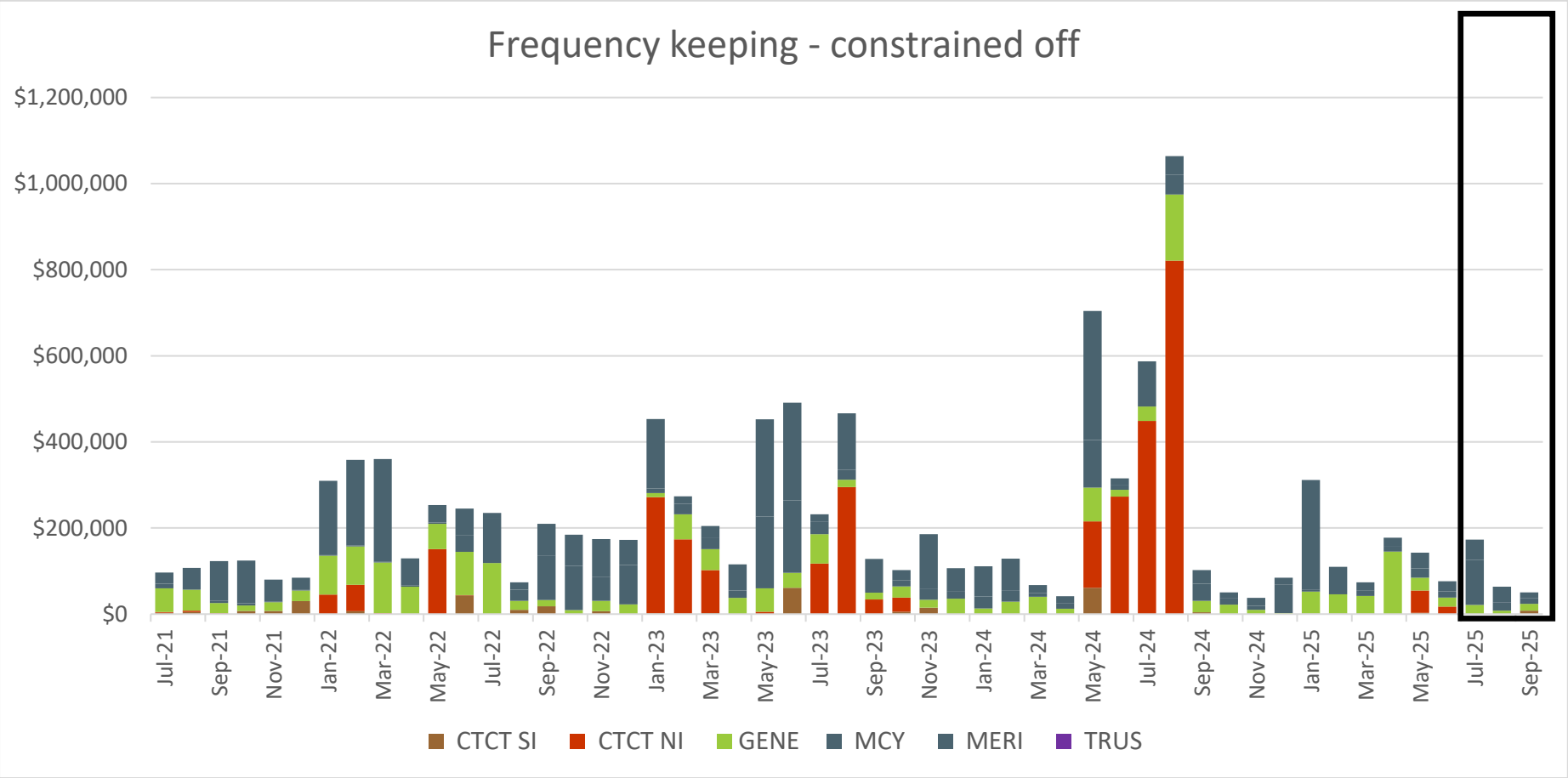


Over frequency reserve costs were higher this quarter reflecting increased availability of generator units which provide these services. Black start costs remained the same.

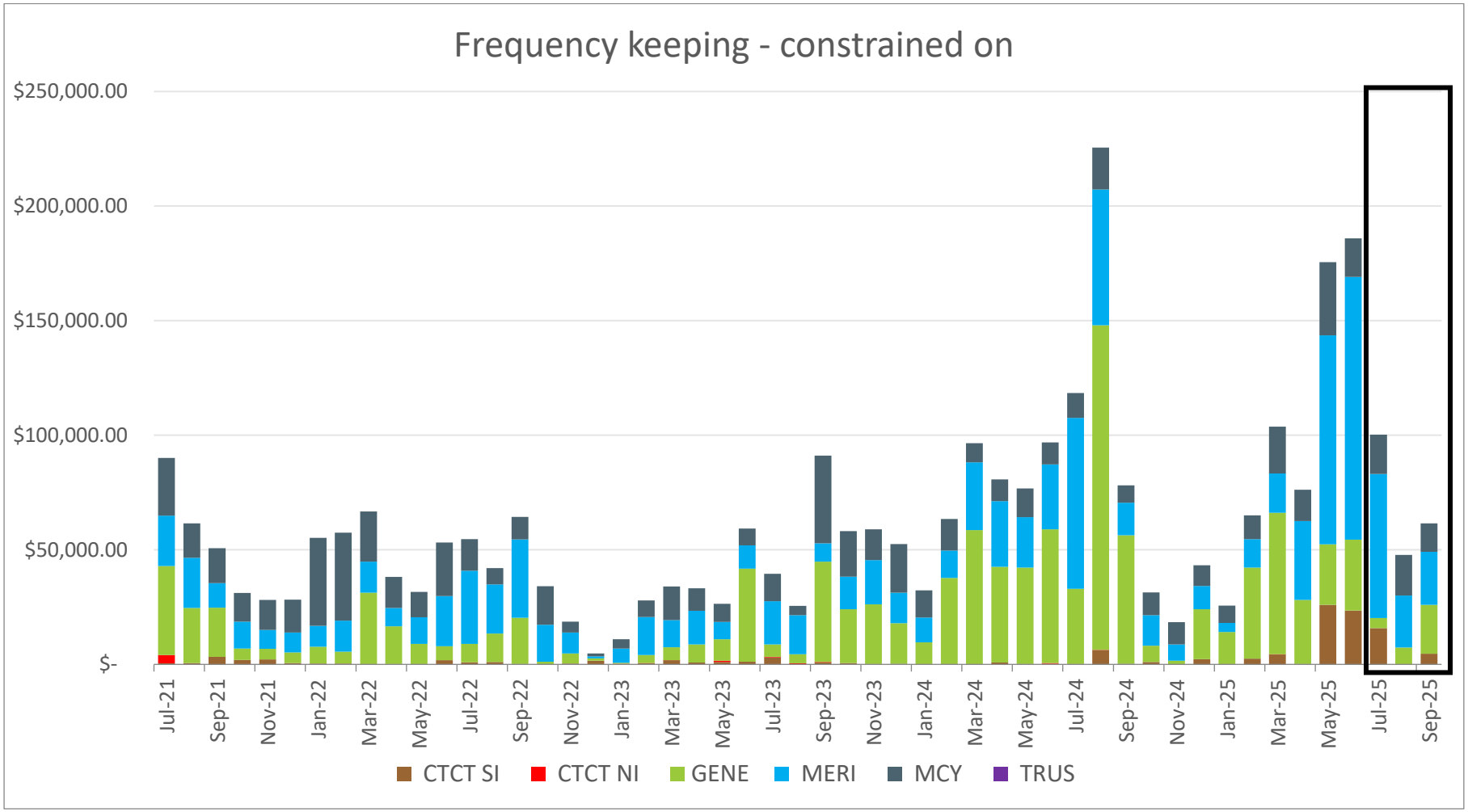
1.1 Constrained on/off costs

Note: Where there is a high payment, as opposed to in increasing/decreasing trend, it will often relate to payments over a small number of trading periods.

Frequency Keeping

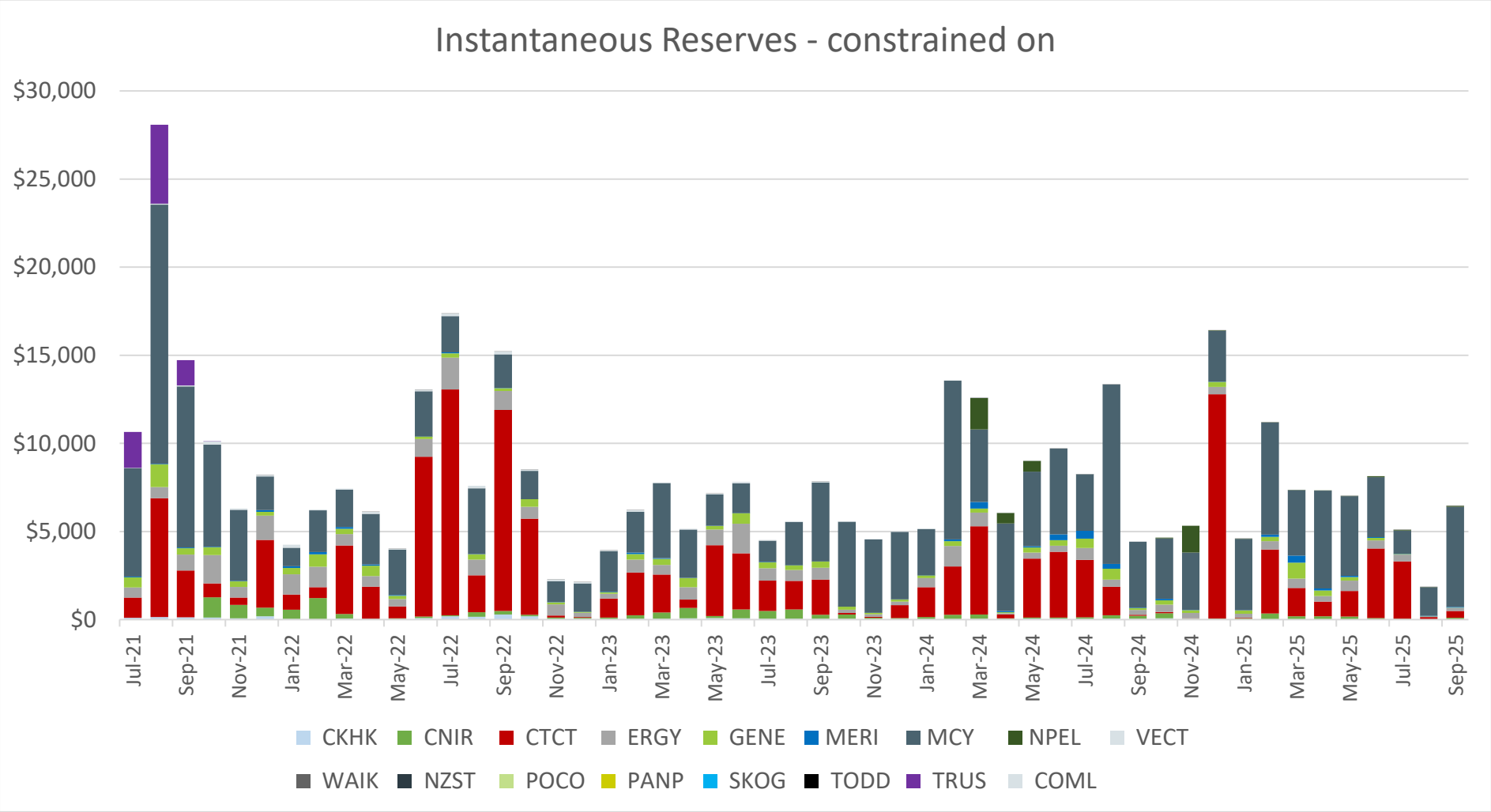


Constrained off costs decreased this quarter particularly in August and September. The decrease in costs can be attributed to the lower market prices for generation compared to the previous quarters.



Constrained on costs decreased this quarter reflecting lower market prices for generation. The decrease in costs can be attributed to the lower market prices compared to the previous quarters as hydro storage catchments in the South Island recovered from record low inflows. However overall, these costs are still relatively low compared to other ancillary service costs.

Instantaneous Reserves



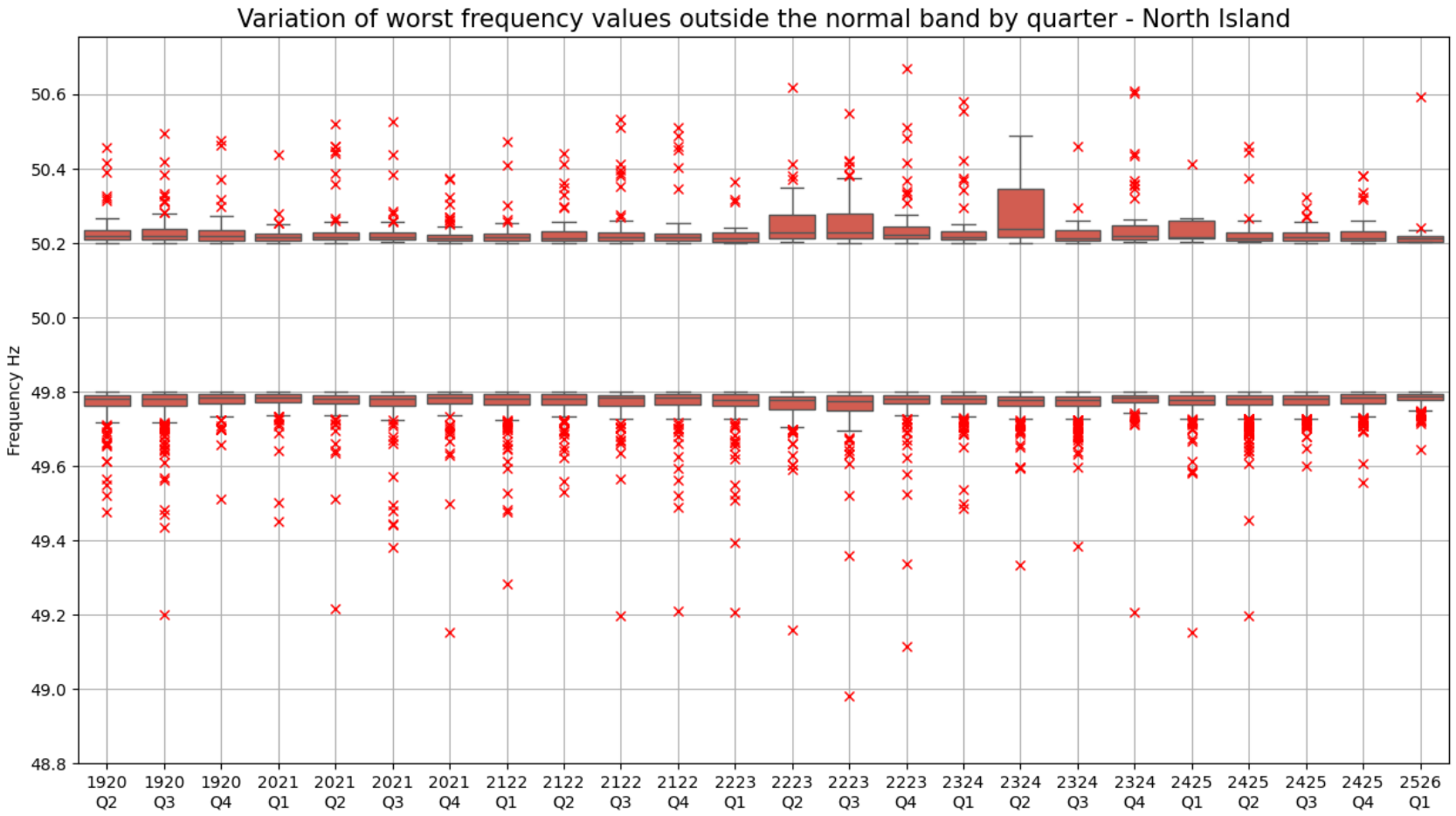
Costs decreased this quarter compared to last quarter. These costs are relatively low compared to other ancillary service costs.

2. Frequency fluctuations

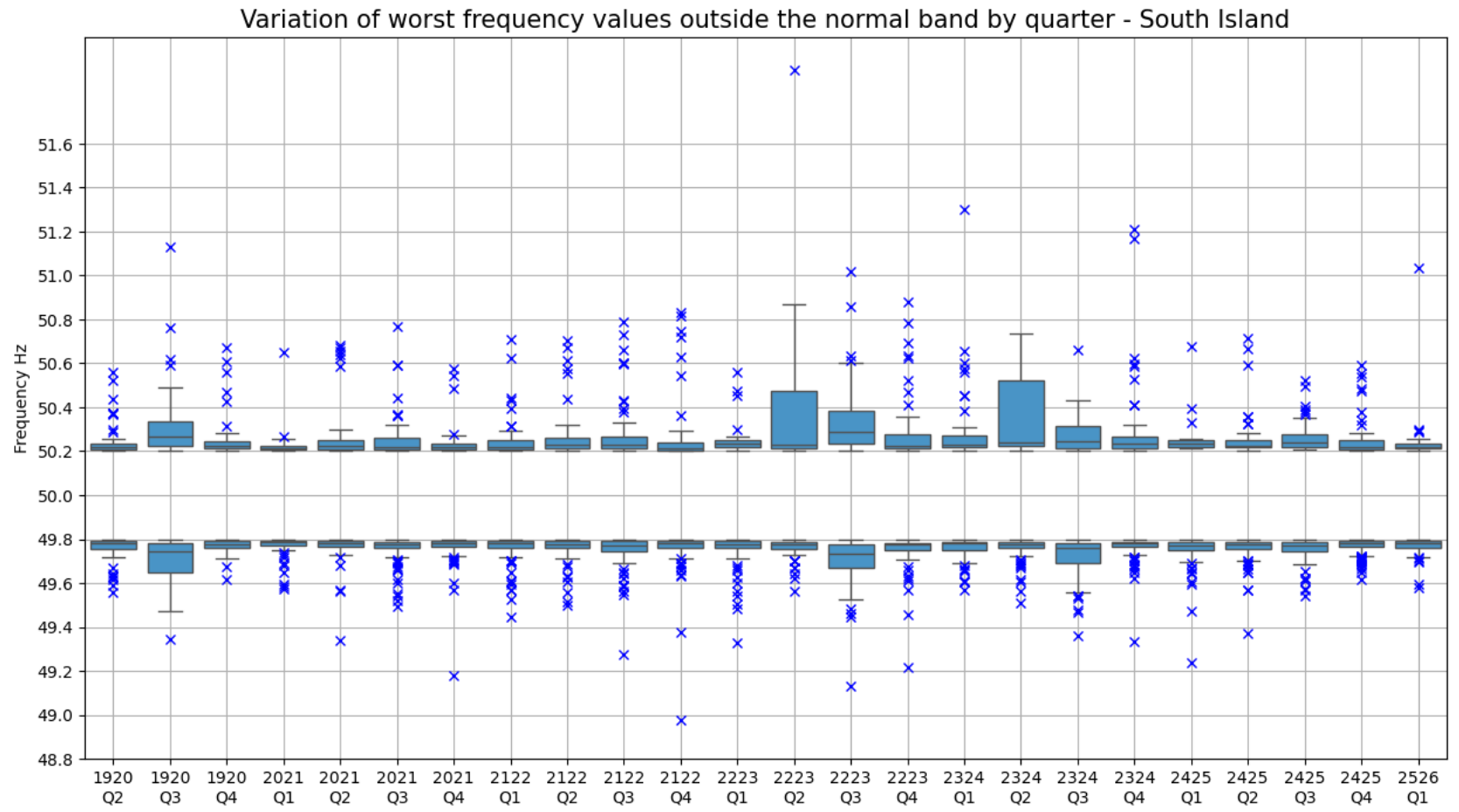
2.1 Maintain frequency in normal band (Frequency value)

The following charts show the distribution of the worst frequency excursion outside the normal band (49.8 to 50.2 Hz) by quarter since Q3 2017/18, including the reporting period.

North Island



South Island



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.

Excursions ± 0.5 Hz of the normal band this quarter:

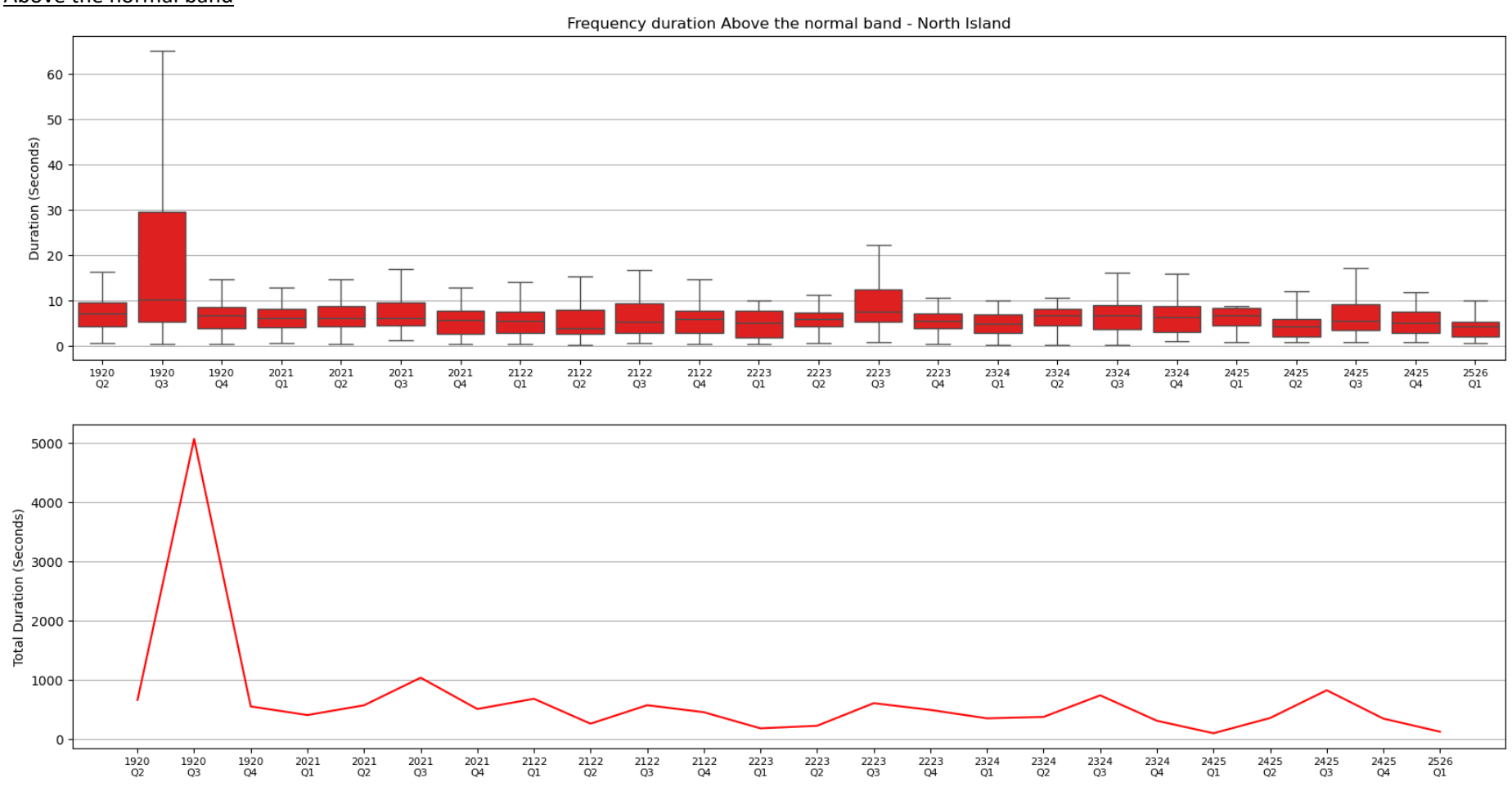
	Above	Below
July		
August	TWI Potline 01/08, 12/08, 18/08	
September	TWI Potline 23/09	

2.1.1 Recover quickly from a fluctuation (Time)

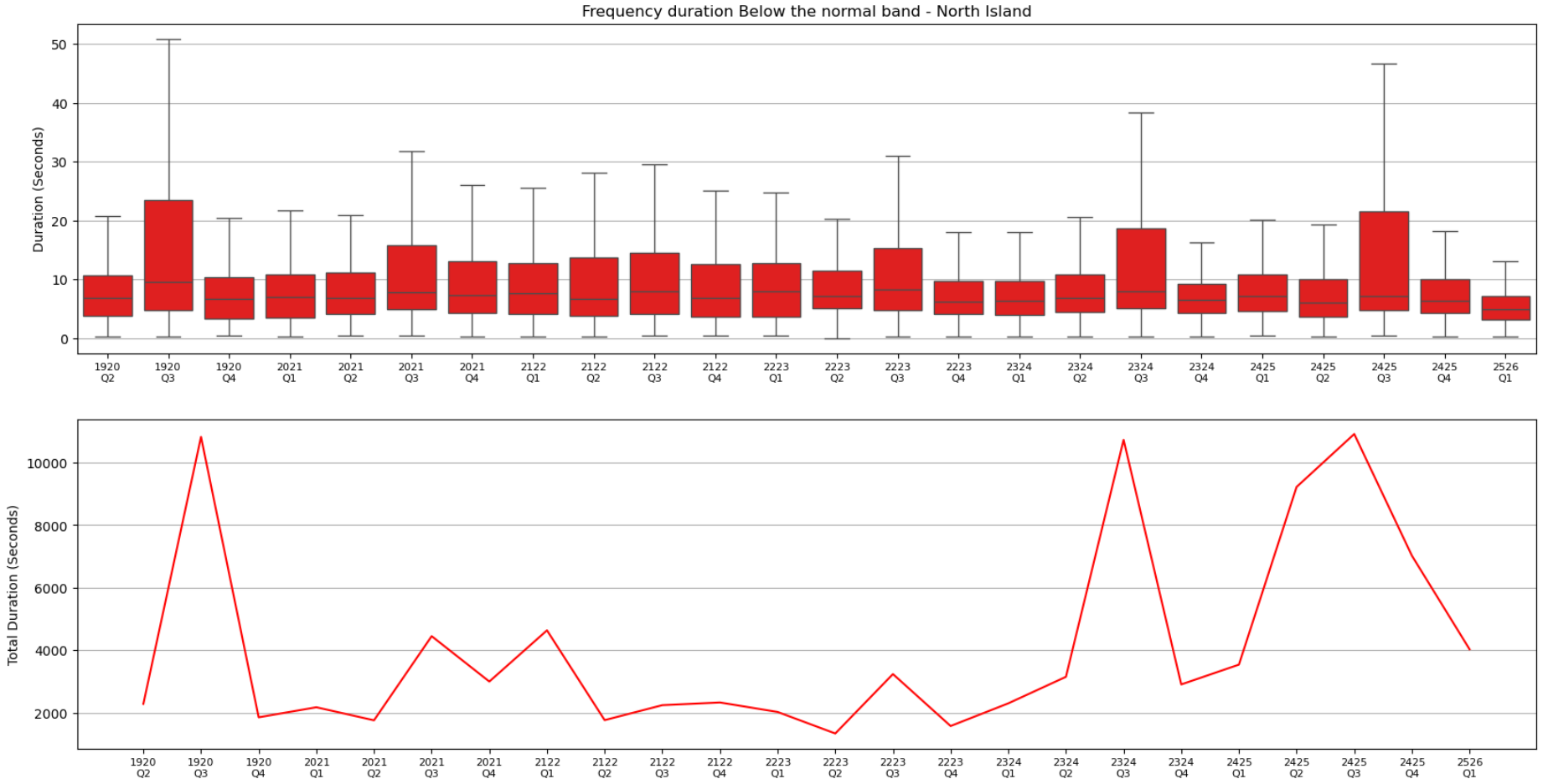
The following charts show the median and total duration of all the momentary fluctuations above and below the normal band for each island. The information is shown as a 4-quarter rolling average to illustrate trends in the data.

North Island

Above the normal band



Below the normal band

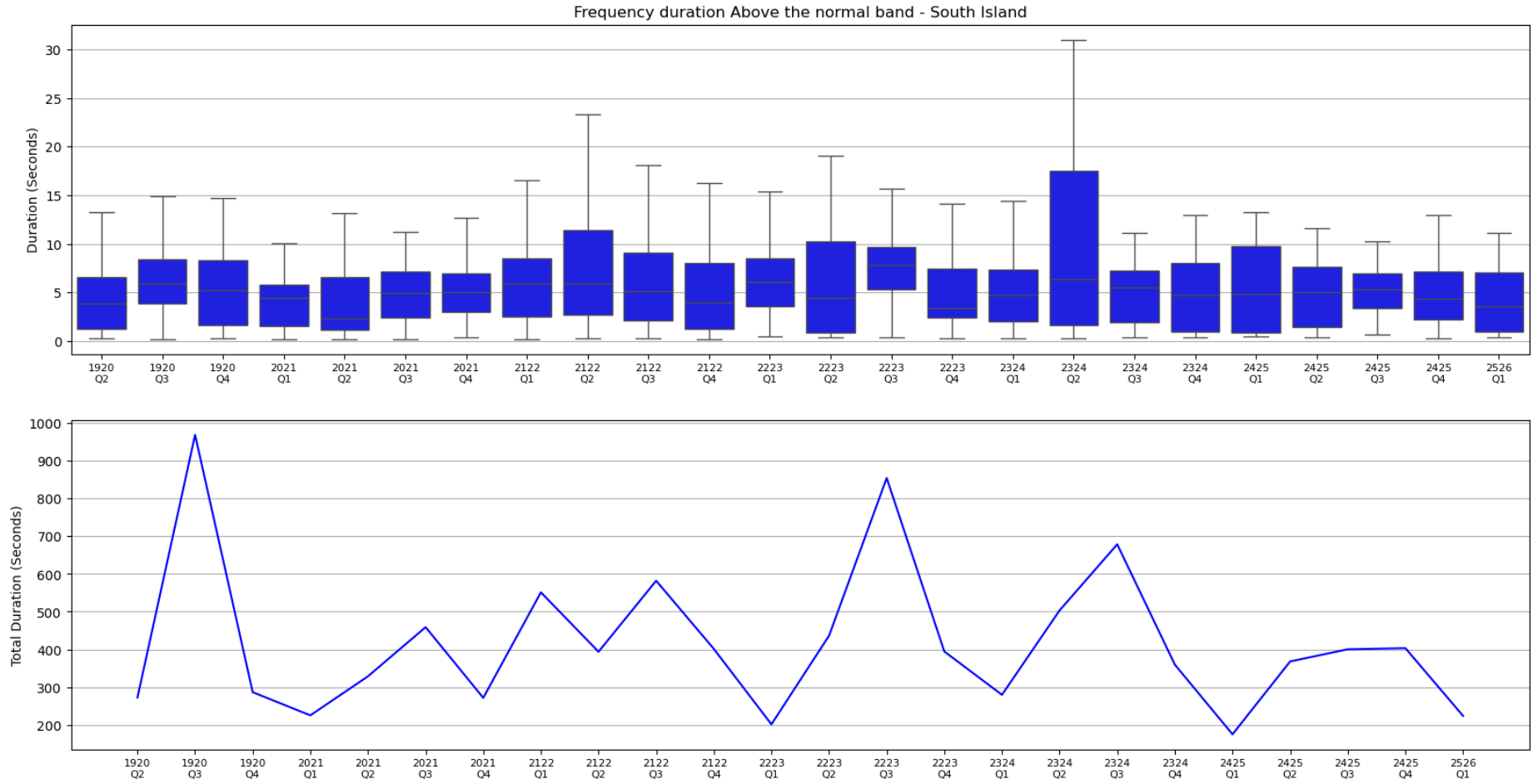


Excursions ± 0.5 Hz of the normal band this quarter:

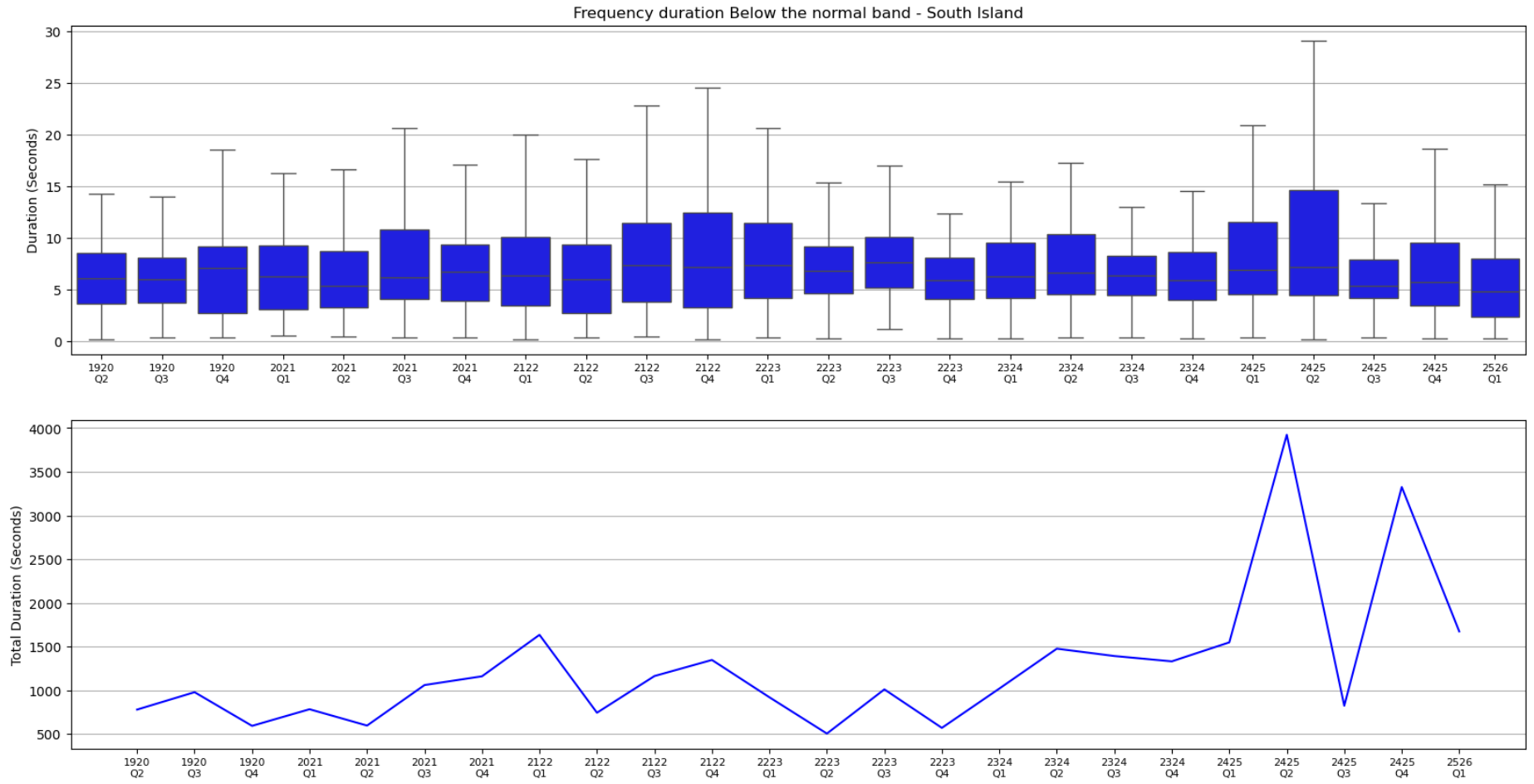
	Above	Below
April		HVDC Pole 2 start-up 20/04, Huntly generation tripping (N/S) 21/04
May		
June	Tiwai Potline 05/06, 14/06 & 22/06	

South Island

Above the normal band



Below the normal band



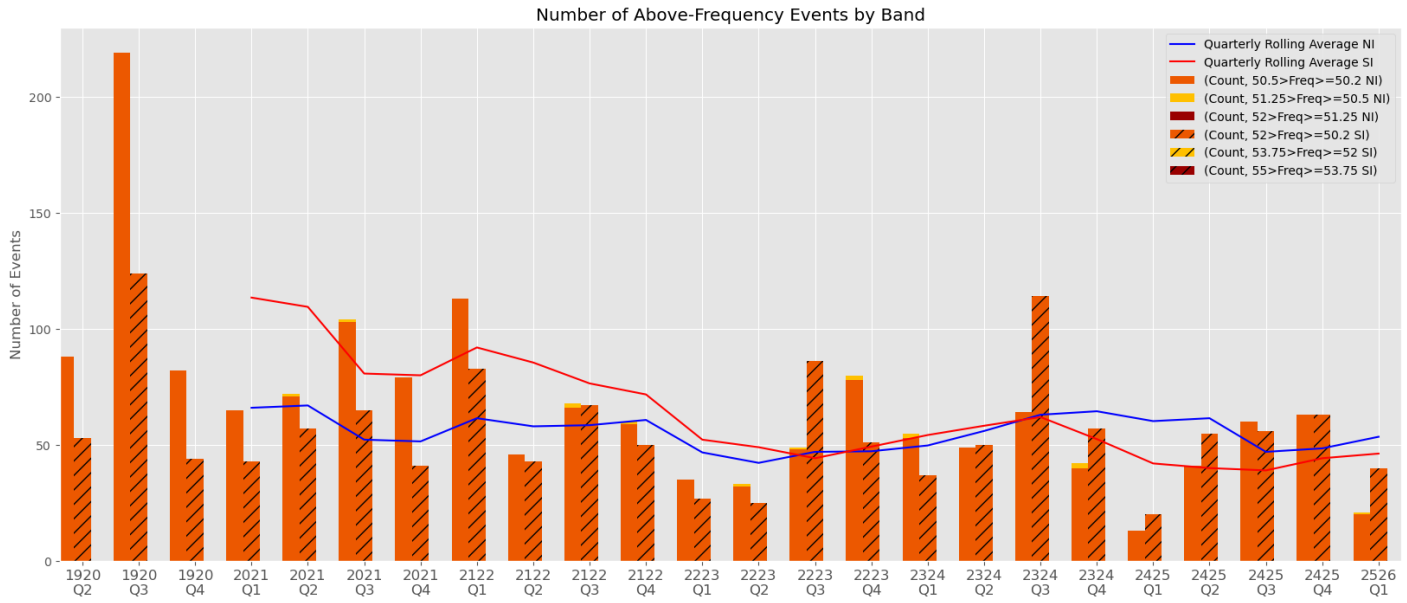
Excursions ± 0.5 Hz of the normal band this quarter:

	Above	Below
April		HVDC Pole 2 start-up 20/04, Huntly generation tripping (N/S) 21/04
May		
June	Tiwai Potline 05/06, 14/06 & 22/06	

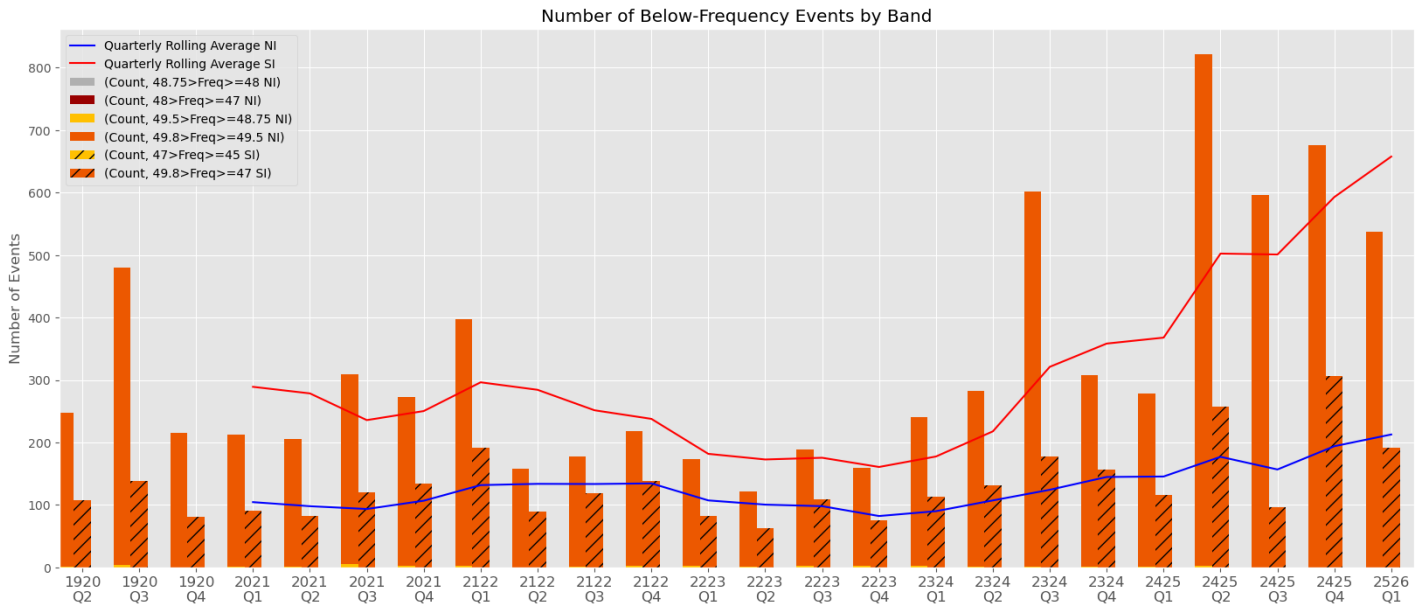
2.2 Manage frequency and limit rate of occurrences during momentary fluctuations (Number)

The following charts show the number of momentary fluctuations outside the frequency normal band, grouped by frequency band, for each quarter since Q3 2017/18. Information is shown by island, including a 4-quarter rolling average to show the prevailing trend.

Over-frequency events



Under-frequency events



Excursions ± 0.5 Hz of the normal band this quarter:

	Above	Below
April		HVDC Pole 2 start-up 20/04, Huntly generation tripping (N/S) 21/04
May		
June	Tiwai Potline 05/06, 14/06 & 22/06	

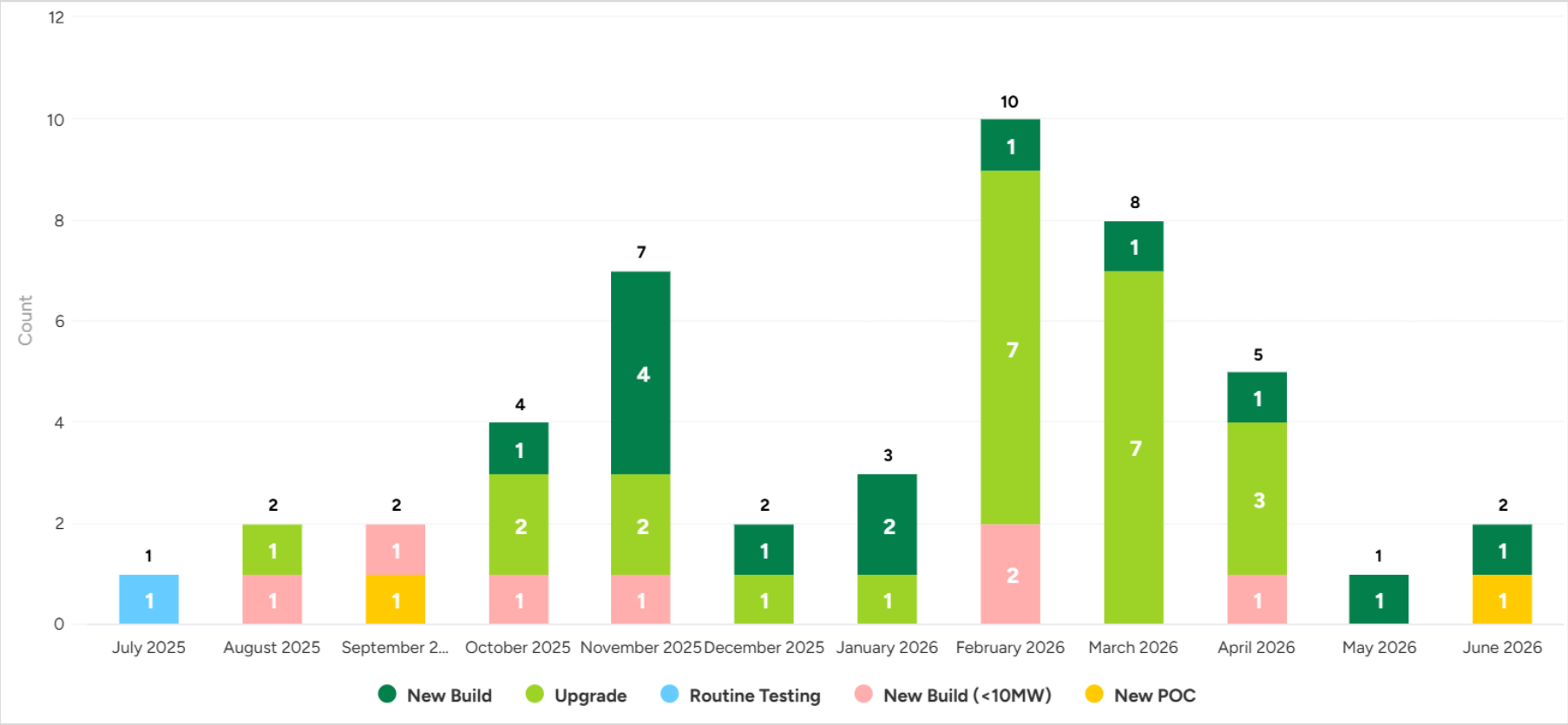
Reporting against Code clause 7.2E:

North Island	52 > x ≥ 51.25	51.25 > x ≥ 50.5	49.5 > x ≥ 48.75	48.75 > x ≥ 48	48 > x ≥ 47
2024					
Apr	0	2	0	0	0
May	0	0	0	0	0
Jun	0	0	1	0	0
Jul	0	0	1	0	0
Aug	0	0	0	0	0
Sep	0	0	1	0	0
Oct	0	0	0	0	0
Nov	0	0	0	0	0
Dec	0	0	2	0	0
2025					
Jan	0	0	2	0	0
Feb	0	0	0	0	0
Mar	0	0	1	0	0
Apr	0	0	1	0	0
May	0	0	0	0	0
Jun	0	0	0	0	0

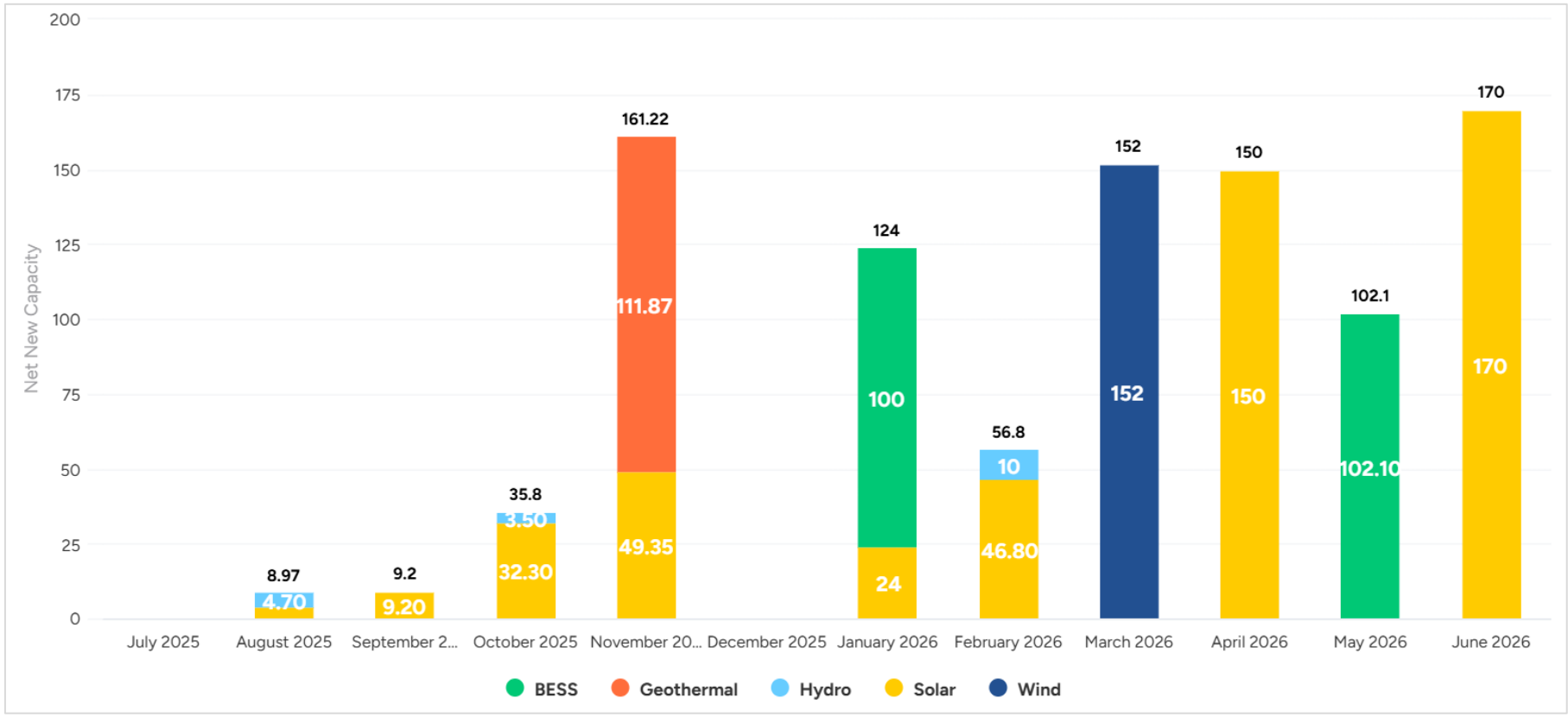
South Island	55 > x ≥ 53.75	53.75 > x ≥ 52	52 > x ≥ 51.25	51.25 > x ≥ 50.5	49.5 > x ≥ 48.75	48.75 > x ≥ 48	48 > x ≥ 47	47 > x ≥ 45
2024								
Apr	0	0	0	2	0	0	0	0
May	0	0	0	0	0	0	0	0
Jun	0	0	0	0	1	0	0	0
Jul	0	0	0	0	1	0	0	0
Aug	0	0	0	0	0	0	0	0
Sep	0	0	0	0	1	0	0	0
Oct	0	0	0	0	0	0	0	0
Nov	0	0	0	0	0	0	0	0
Dec	1	0	0	0	2	0	0	0
2025								
Jan	0	0	0	0	2	0	0	0
Feb	0	0	0	0	0	0	0	0
Mar	0	0	0	0	1	0	0	0
Apr	0	0	0	0	1	0	0	0
May	0	0	0	0	0	0	0	0
Jun	0	0	0	0	0	0	0	0

3. Commissioning

3.1 FY 25/26 Completed and Confirmed Commissioning



3.2 FY 25/26 New Capacity (MW) by Generation Type



4. 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	Sept-24	Oct-24	Nov-24	Dec-24	Jan-25	Feb-25	Mar-25	Apr-25	May-25	Jun-25	Jul-25	Aug-25	Sep-25
Demand Allocation Notice	-	-	-	-	-	-	-	-	-	-	-	-	-
Grid Emergency Notice	-	-	-	1	3	-	-	1	1	-	-	-	-
Warning Notice	-	-	-	-	-	-	-	-	-	-	-	1	-
Customer Advice Notice	17	6	12	12	5	11	18	18	21	10	5	14	10

4.1 Low residual CANs

This quarter we have issued 0 low residual Customer Advice Notices.

5. Grid emergencies

This quarter we have issued 0 Grid Emergency Notices (GEN) and Grid Emergency Reports (GEN RPT).