



TRANSPower

System Operator Industry Forum

11 August 2026



Today's agenda

- Key messages
- Market update
- Security of supply update
- NZGB update
- Outage update – next four weeks
- Operational update
- MFK Trial
- New Dynamic Market Node Constraints
- Consultations, publications, and events
- Questions / Pātai





Key Messages

- Cold weather drove eight of the 10 highest demand peaks ever, with a new record of 7,415 MW (trading period average total demand). A strong response from generators, distributors and industrials kept the system secure. Our thanks to you all for the great response.
- Continued attention through winter matters, across generation offers, and difference bids for controllable load if requested.
- August capacity risks still need unit commitment, plant availability, and flexibility. Please keep POCP updated.
- From 1 Sept we will trial a wider MFK band to assess whether it would help better manage frequency impacts from faster demand changes and more intermittent generation.
- New Dynamic Node Constraints arrive late August, reducing manual intervention to protect must-run generation during periods of oversupply.



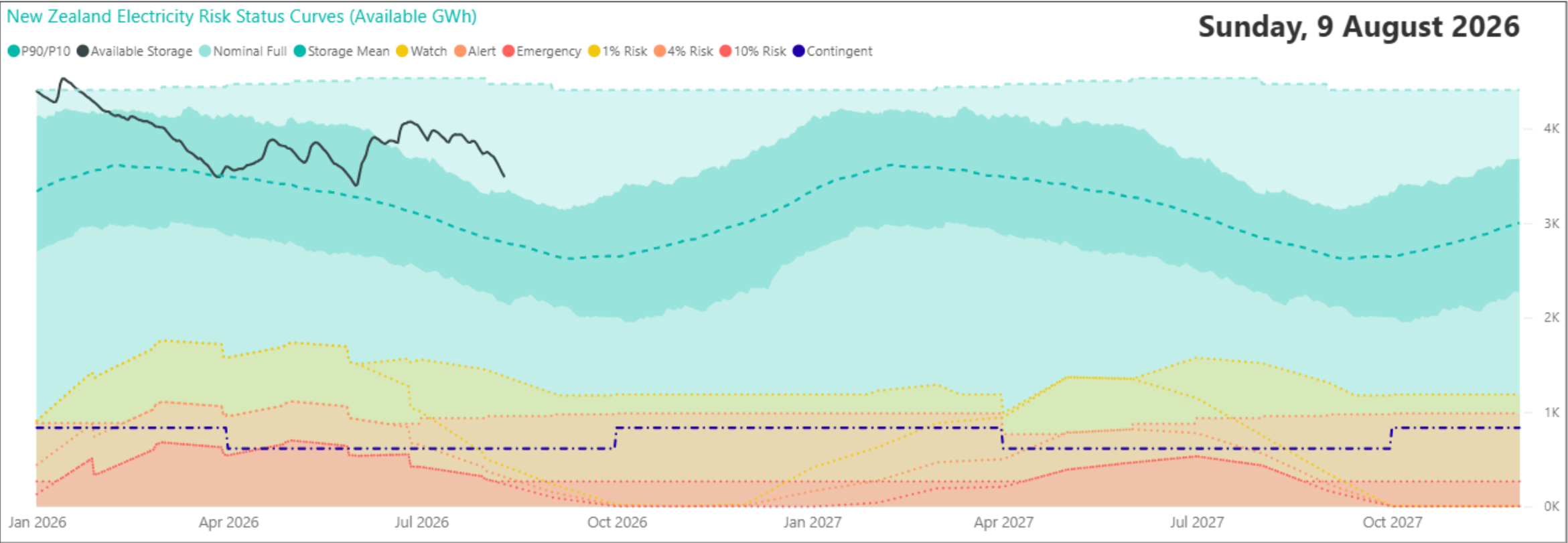
Market update

Energy: National hydro storage

Decrease in storage for both islands in the last fortnight. National hydro storage remains healthy and above average.

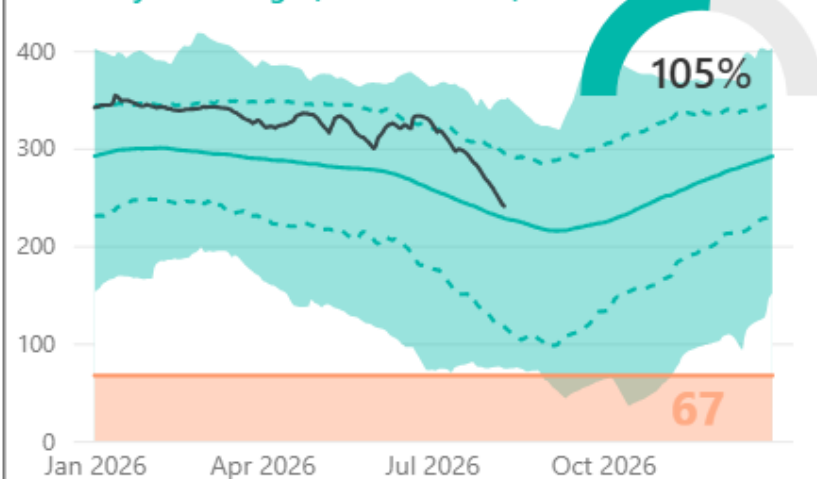
	Hydro storage level (% of mean ▲ / ▼)		
	New Zealand	South Island	North Island
Last forum	134%	137%	111%
Now	125% ▼	130% ▼	87% ▼

Note: these numbers include contingent storage, so they differ from those reported by NZX

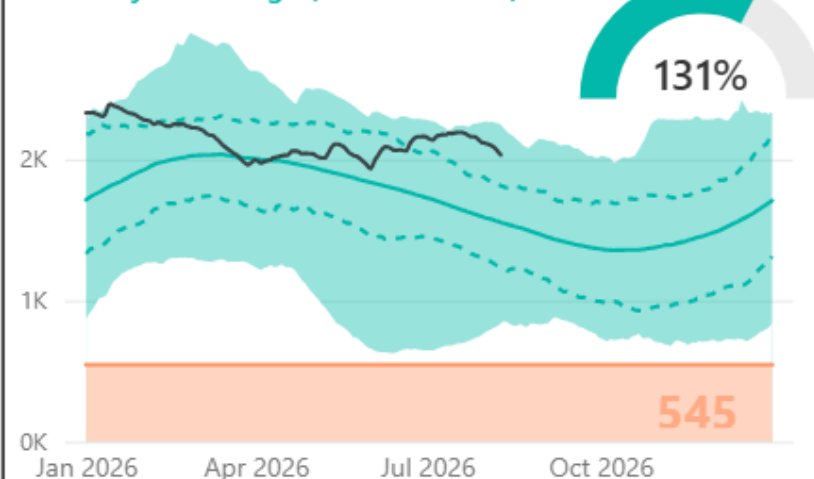


Hydro storage by catchment

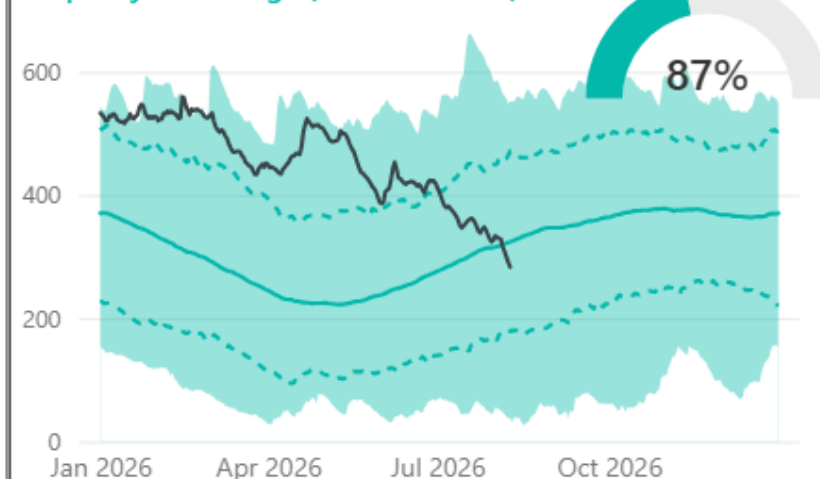
Hāwea Hydro Storage (Available GWh)



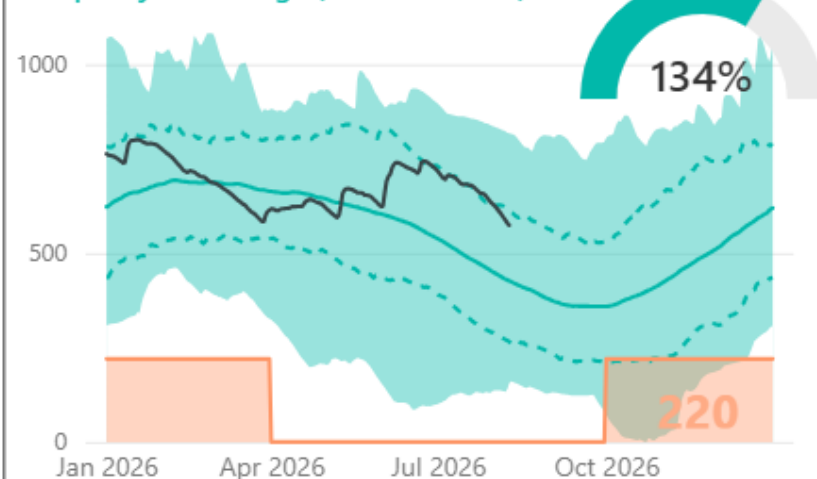
Pukaki Hydro Storage (Available GWh)



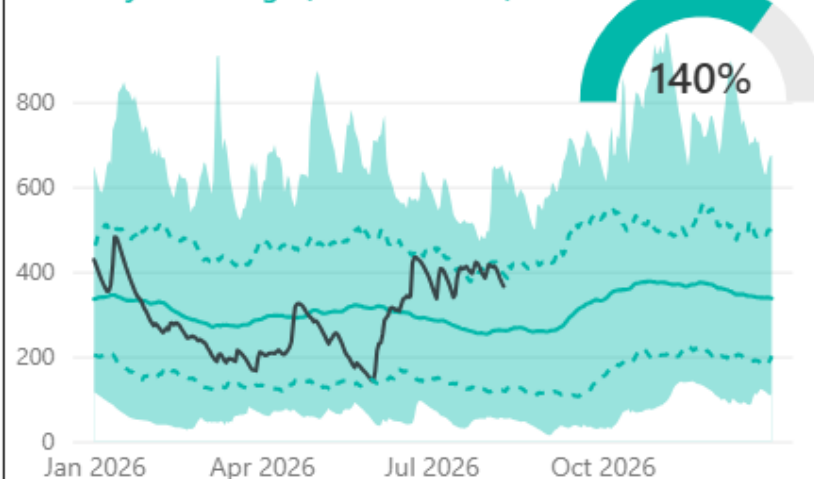
Taupo Hydro Storage (Available GWh)



Tekapo Hydro Storage (Available GWh)



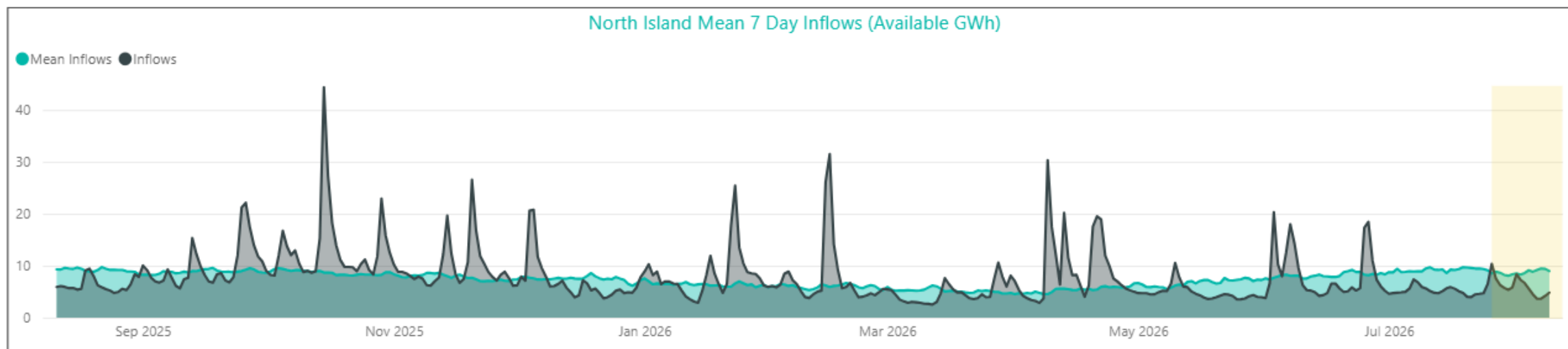
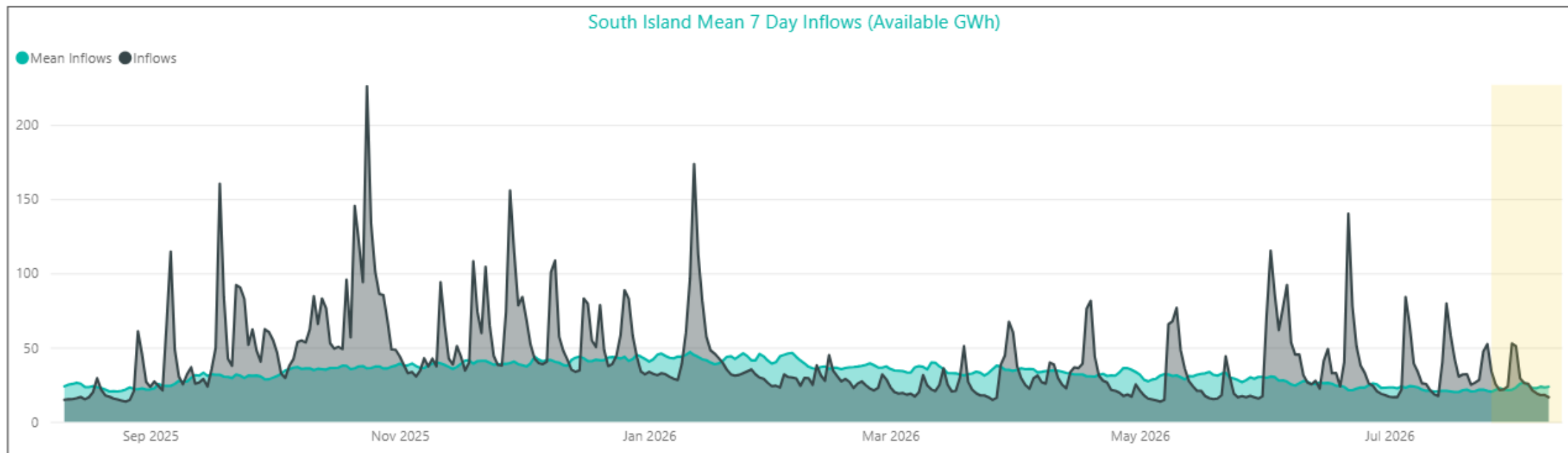
Waiau Hydro Storage (Available GWh)



Lake	Percent	GWh	Mean
Hāwea	105%	241	228
Manapōuri	142%	127	89
New Zealand	125%	3496	2794
Pūkaki	131%	2033	1554
South Island	130%	3213	2470
Taupō	87%	283	324
Te Anau	139%	239	172
Tekapo	134%	574	427

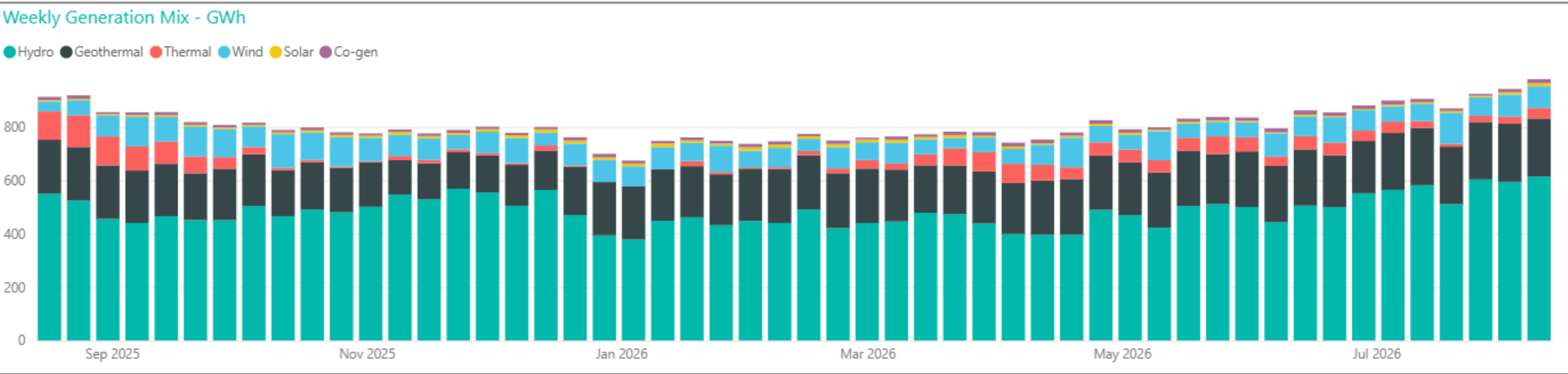
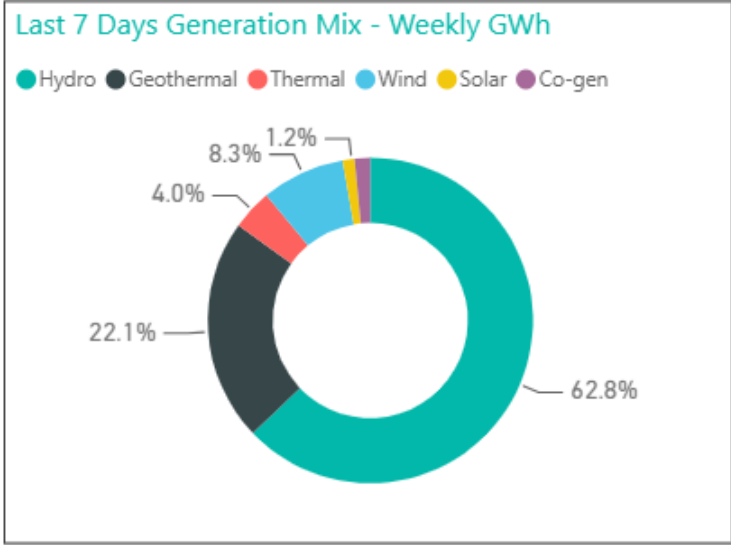
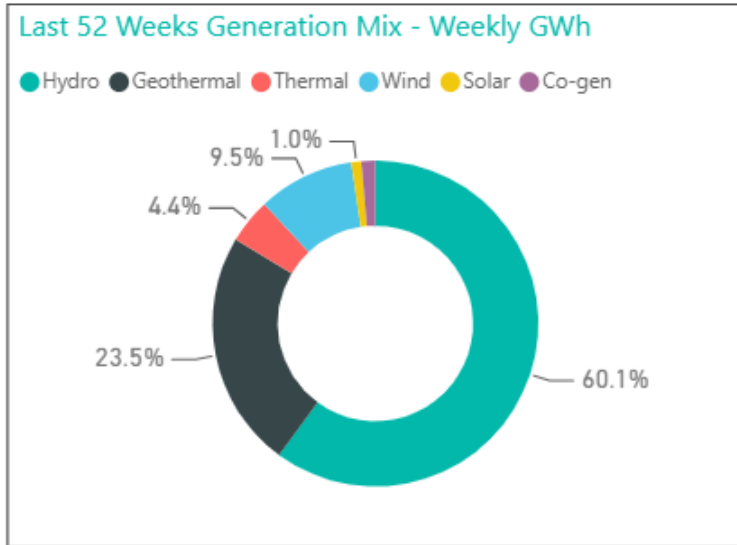


Hydro inflows



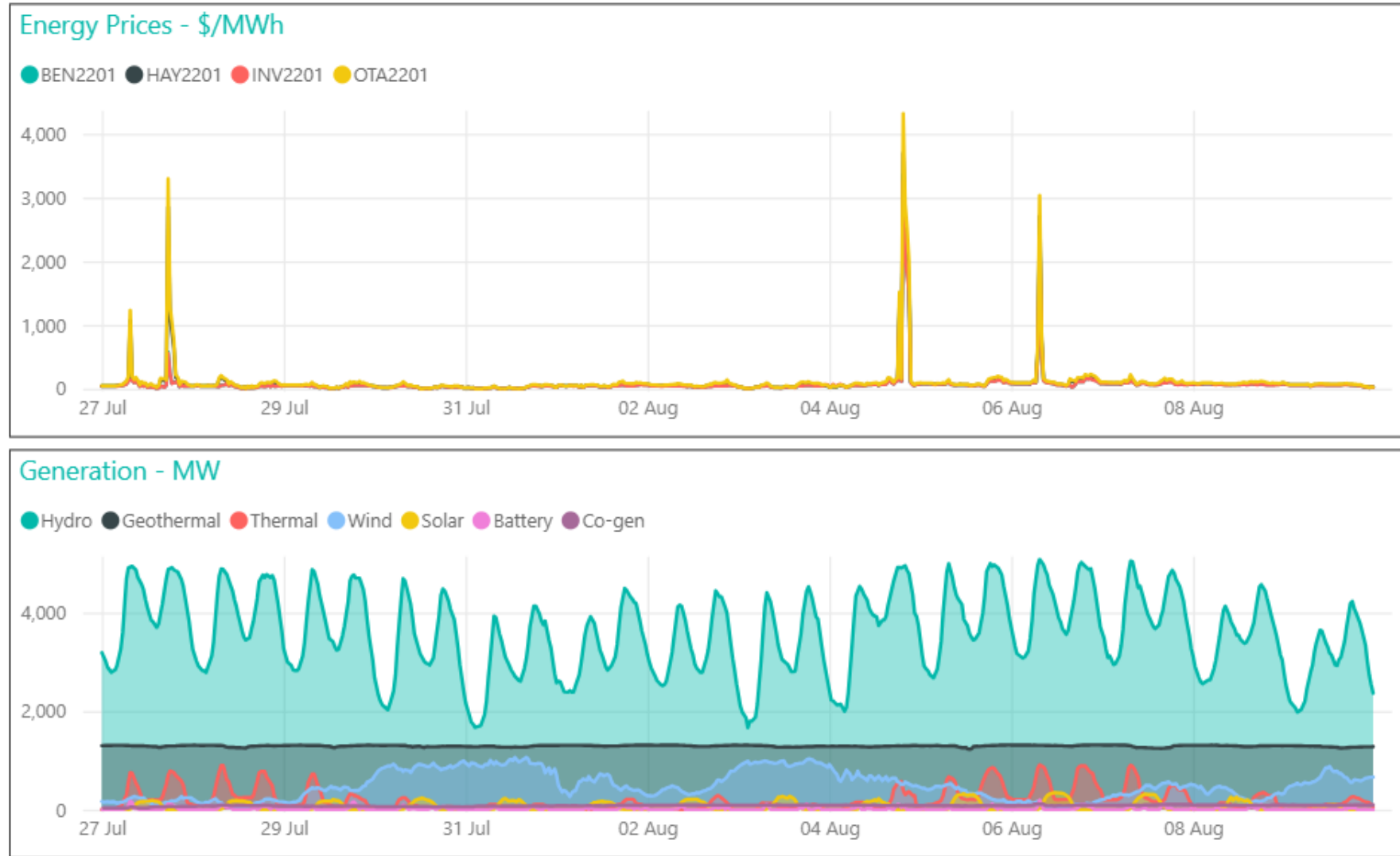
Generation mix

- Hydro generation at 63% of the mix – above yearly average
- Below average wind generation at 8%
- Thermal generation close to its yearly average at 4%



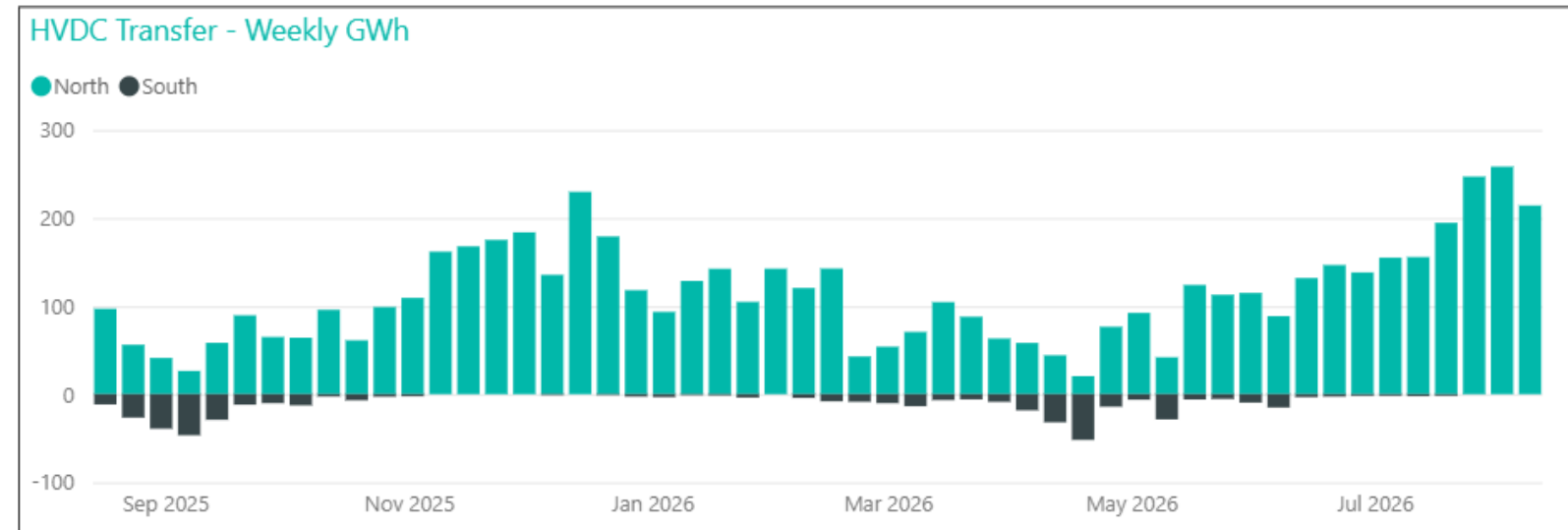
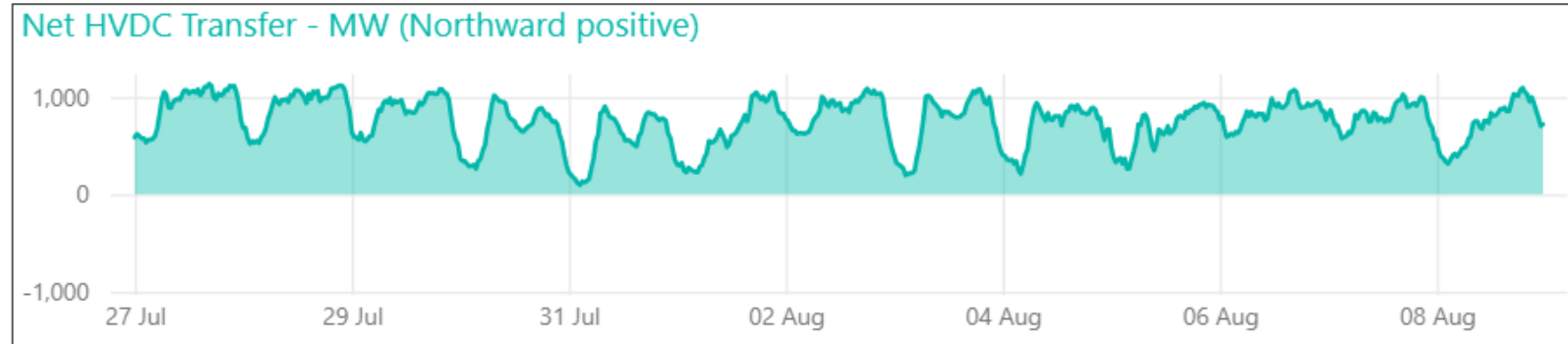
Pricing

- Price at Ōtāhuhu averaged \$140/MWh last week.
- Prices peaked at \$4,320/MWh at Ōtāhuhu on 4 August during the 7:30 pm trading period, coinciding with an Under Frequency Event (UFE).
- The other price spikes were during periods of high demand and low residual.



HVDC transfer

- HVDC transfer was exclusively northward during the fortnight.
- Northward transfer was 257 GWh during the first week and 214 GWh in the second.
- Record single-period HVDC north transfer of 1,137 MW on 27 July.

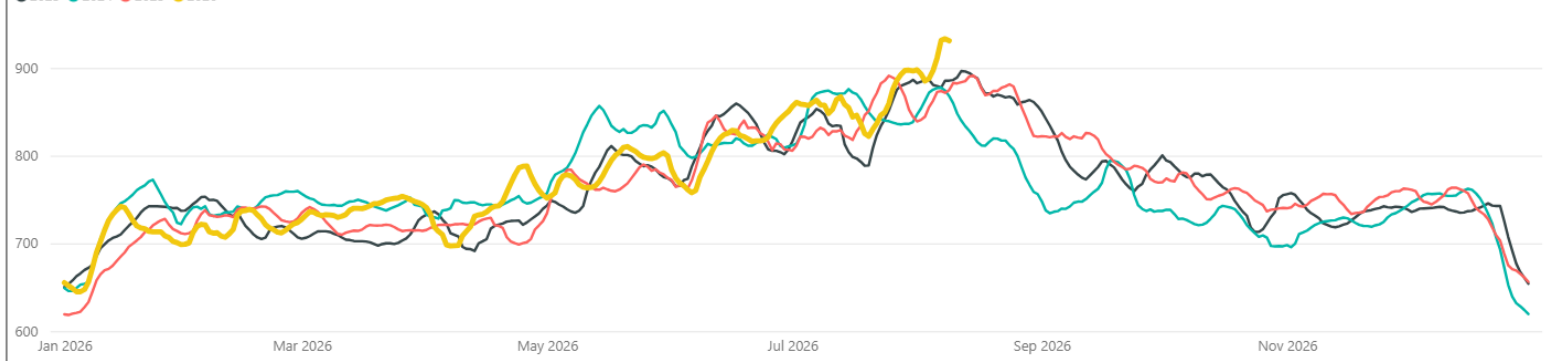


Demand

- Record demand driven by a sustained cold snap across NZ, resulting in increased heating load.
- National demand reached eight of the 10 highest demand peaks over the past fortnight.
- The highest record set on 6 August morning when demand reached average peak of 7,415 MW.

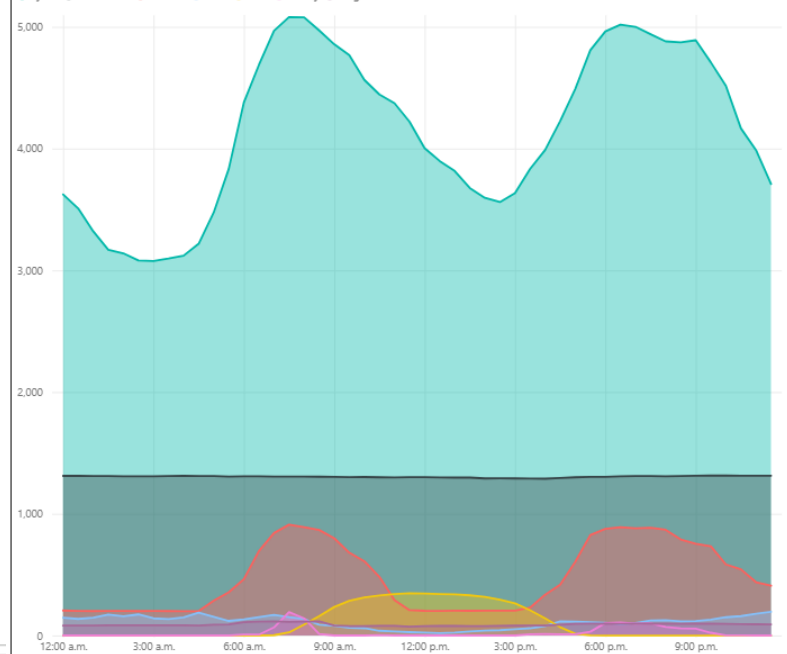
National Weekly Demand - GWh - 7 Day Rolling

● 2023 ● 2024 ● 2025 ● 2026

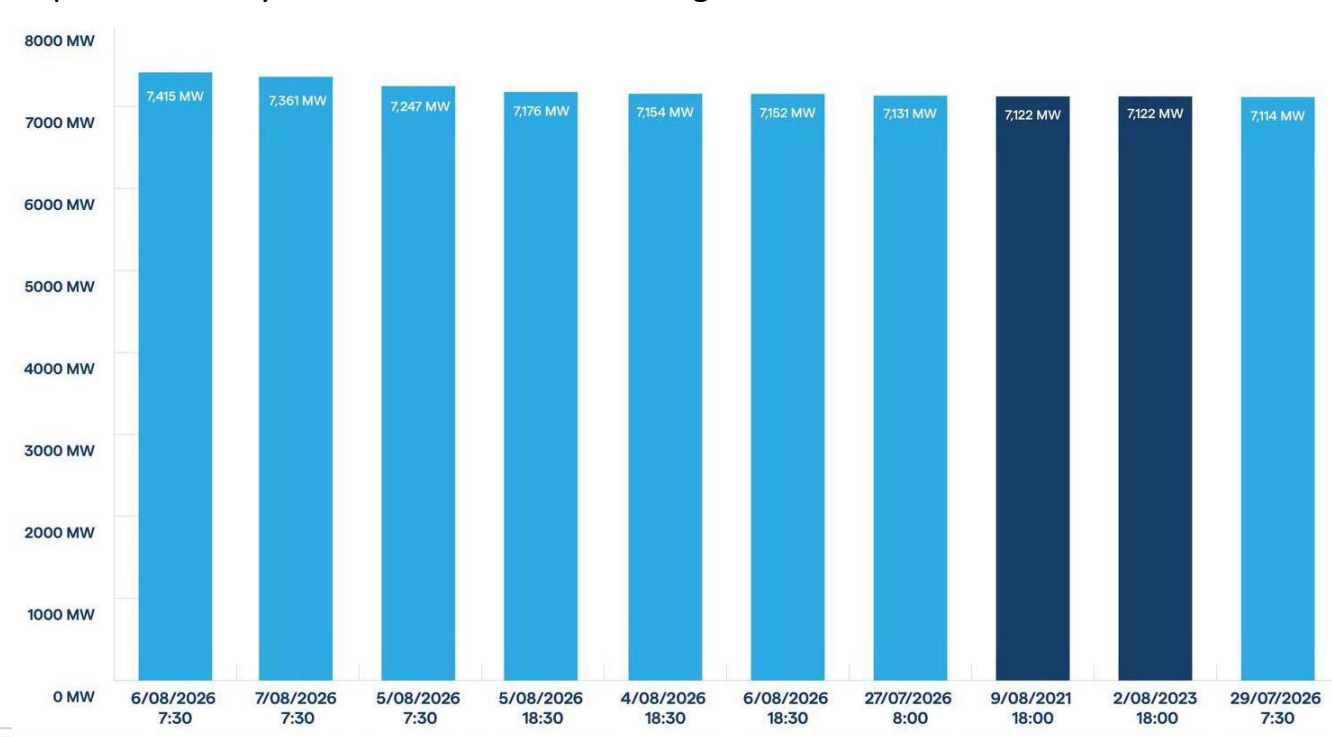


Generation on 6 August 2026 - MW

● Hydro ● Geothermal ● Thermal ● Wind ● Solar ● Battery ● Co-gen

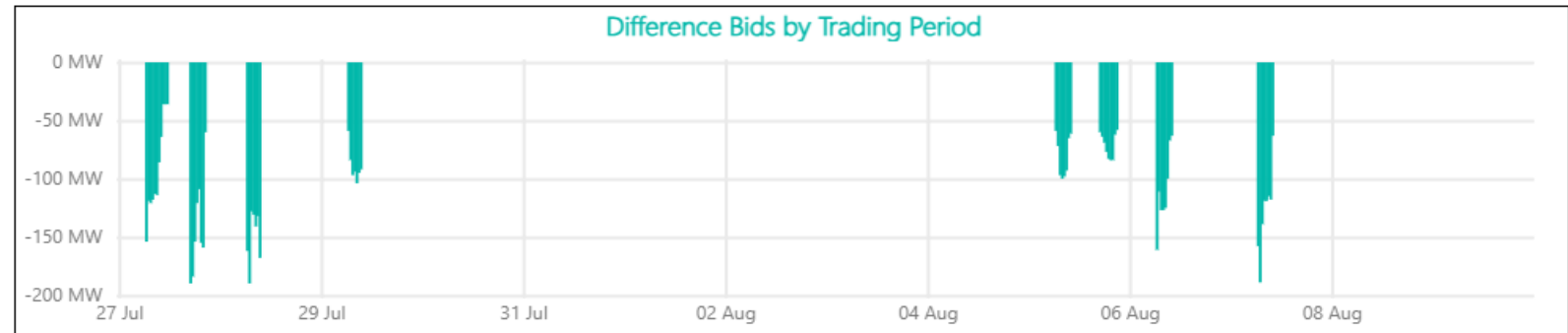
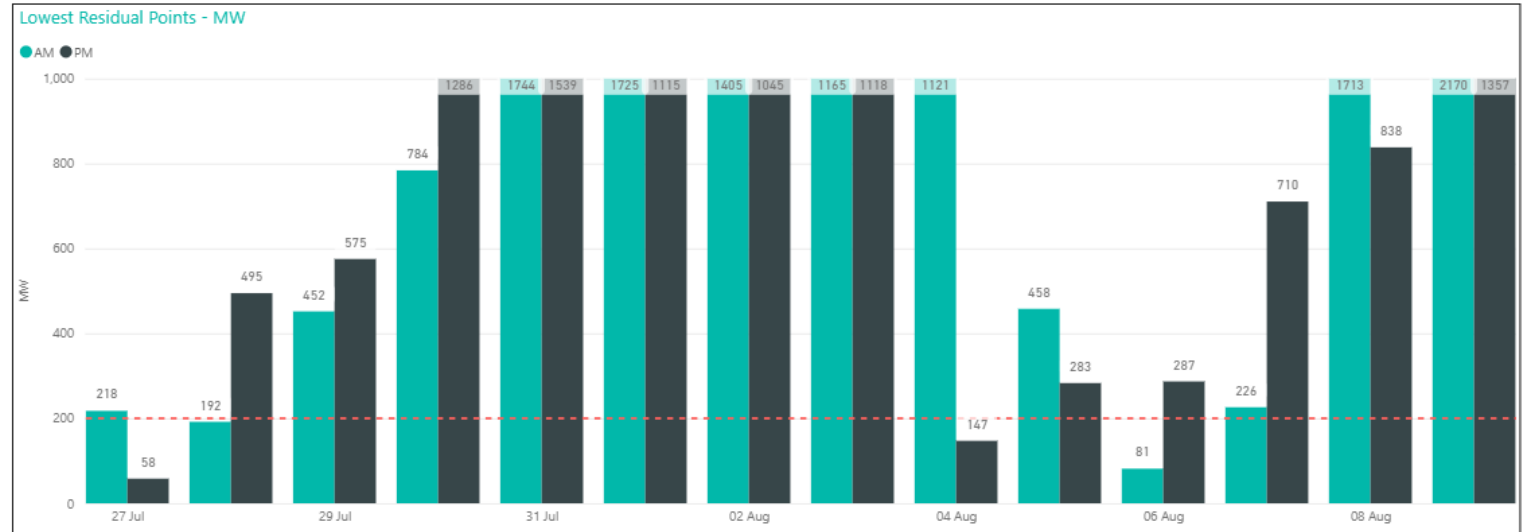


Top 10 Electricity Demand Peaks – as of 9 August 2026



Capacity residual margins

- Record demand led to several low residual margins, with a minimum residual of 58 MW on 27 July evening.
- Six CANs were published during the fortnight. Further detail provided in this week's Market insight.
- Additional generation offers and demand response helped maintain supply throughout the peaks, including a record 7,415 MW on 6 August with 81 MW of residual during the morning peak.





Security of Supply update

Energy Security Outlook

Fuel Capability Case (Base Case)

Changes in July'26:

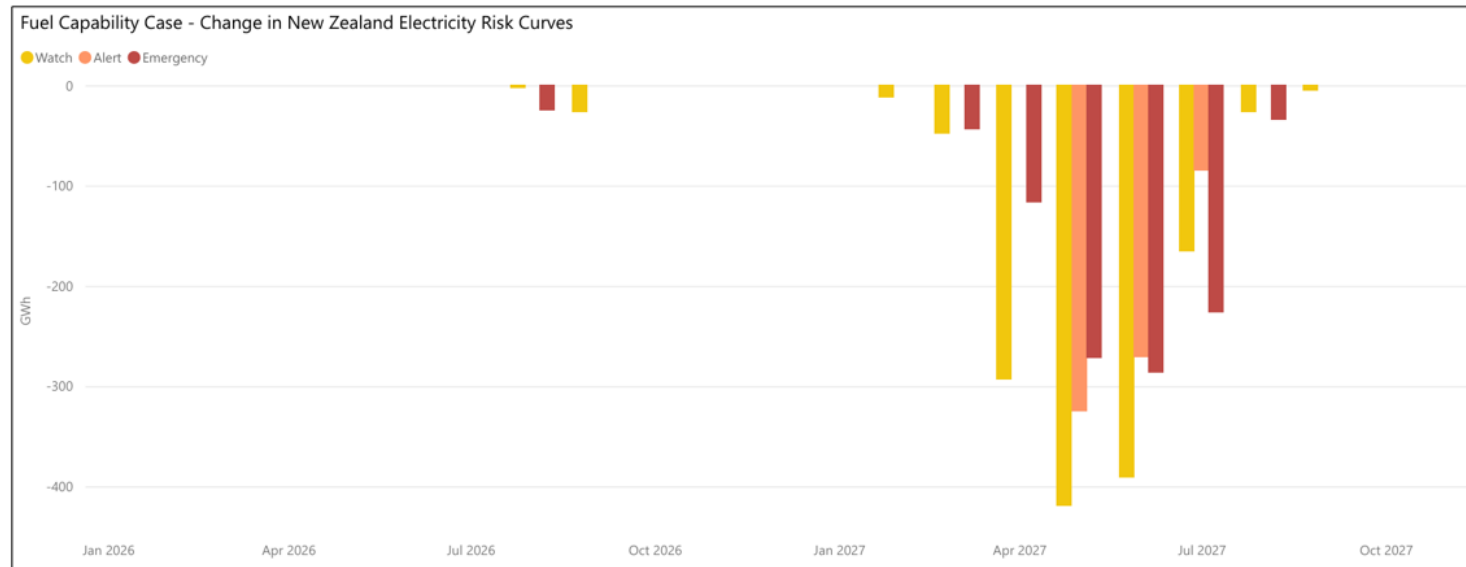
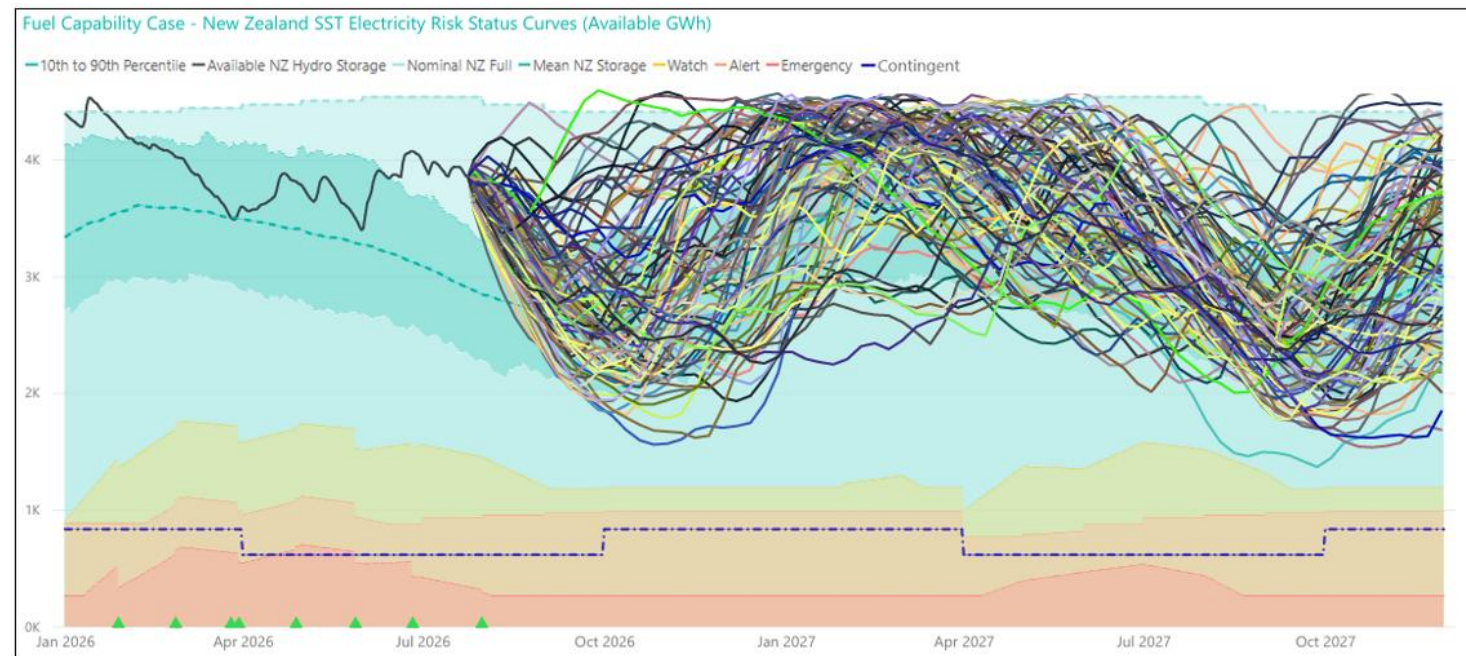
- AGS gas storage, coal stockpile both at or near maximum at start of July
- Decreased expectation of gas use for generation for the rest of this year with HLY5 temporary shutdown and high hydro
- This increases expected AGS storage for 2027, which drops the curves for winter 2027

Decreases of up to:

- 420 GWh Watch (May 2027)
- 290 GWh Emergency (June 2027)

SSTs (Simulated Storage Trajectories) crossing NZ:

	Watch	Alert	Emergency
2026	0	0	0
2027	0	0	0



Energy Security Outlook

Contracted Fuel Case

Available thermal energy strictly restricted to currently secured (firm) contracts by generators

Changes in July'26:

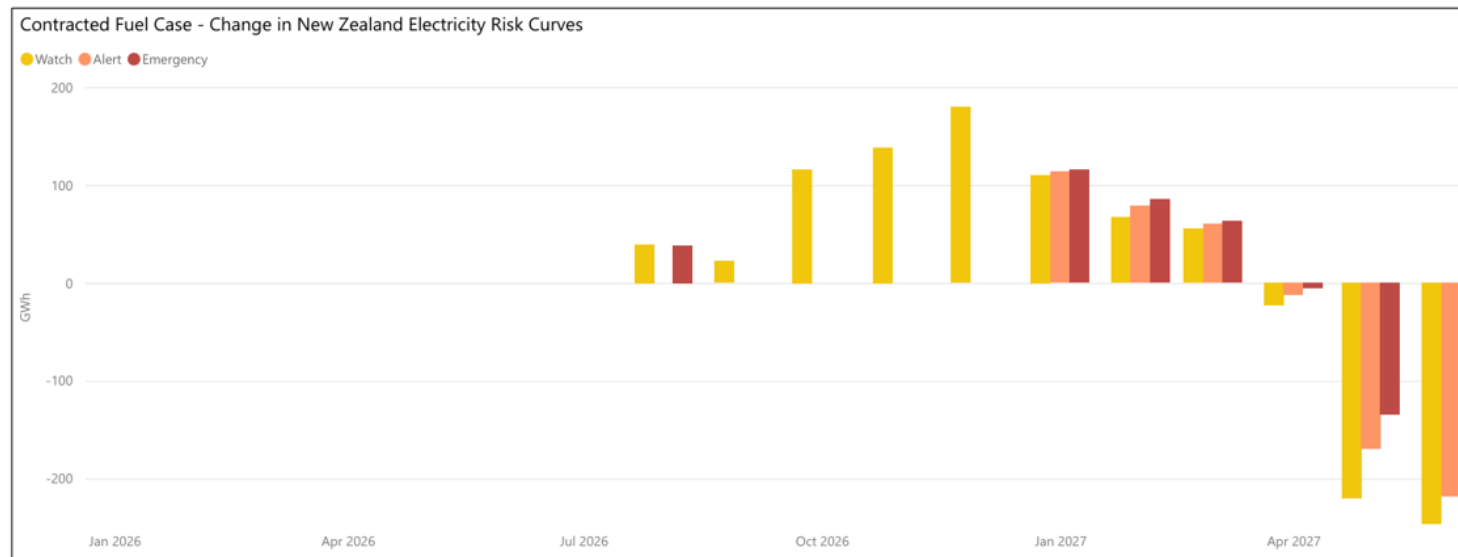
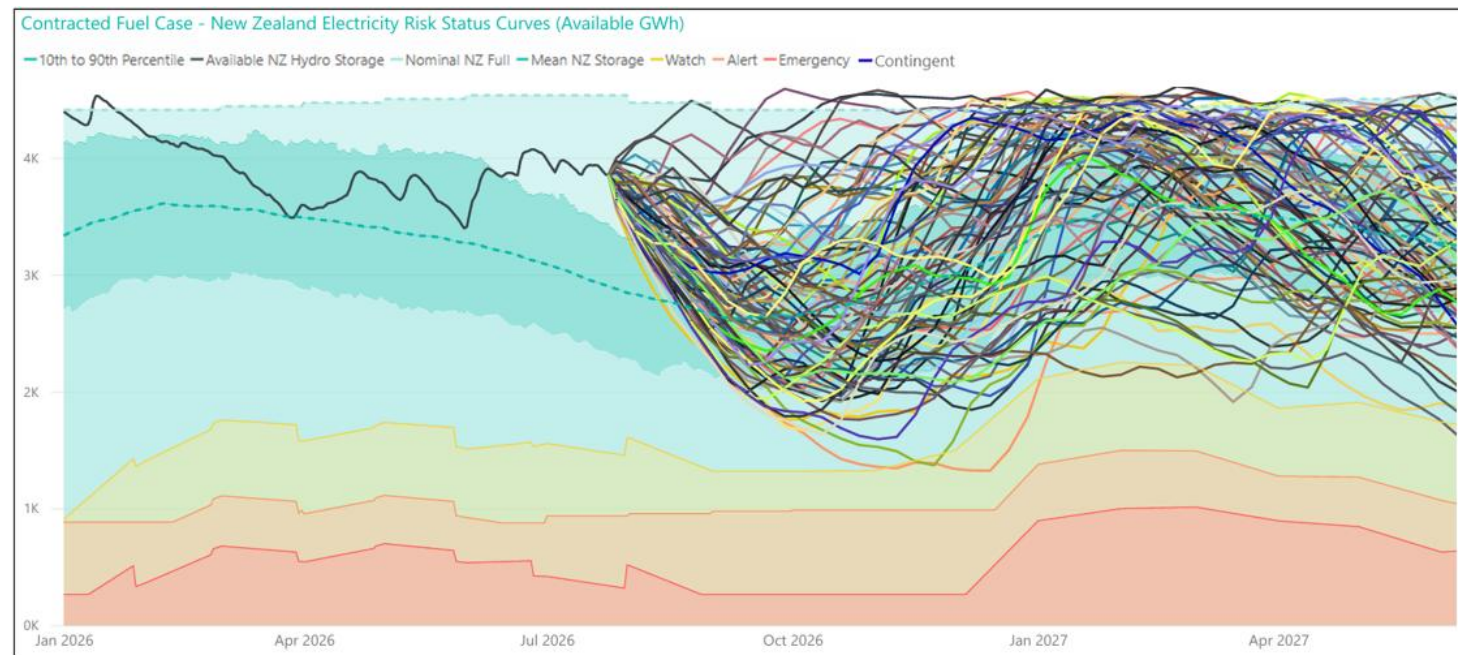
- Lower expected starting coal stockpile with HLY5 temporary shutdown
- Increased contracted gas volumes for 2027; increased expected starting AGS storage

Differences of up to:

- 180 GWh Watch Increase (Dec 2026)
- 250 GWh Watch Decrease (Jun 2027)

SSTs (Simulated Storage Trajectories) crossing NZ:

	Watch	Alert	Emergency
2026	2	0	0
2027	4	0	0



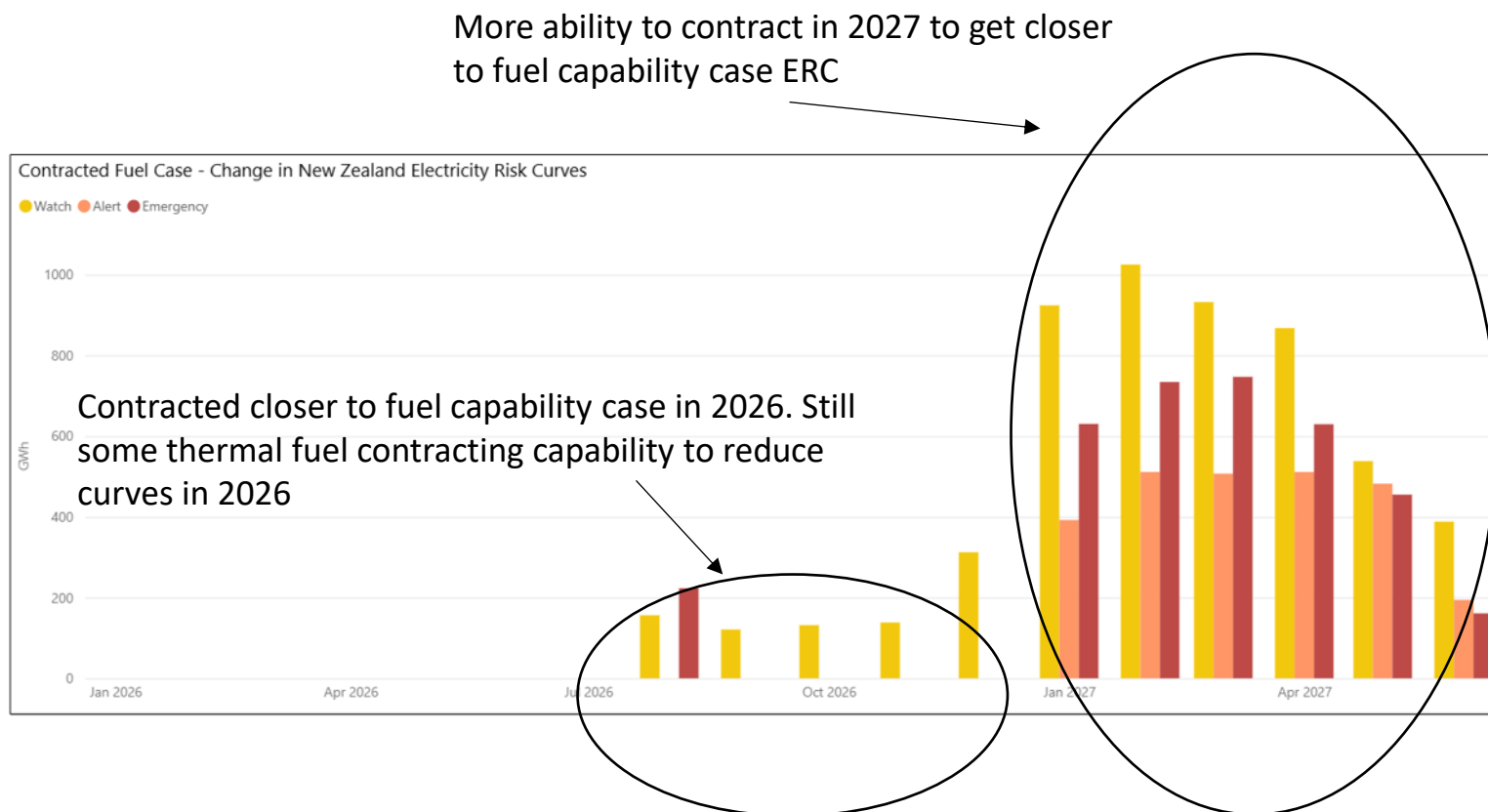
Energy Security Outlook

Fuel Capability vs Contracted Fuel Case

- Most of the system's thermal generation capability is currently deliverable in 2026
- The gap becomes more pronounced in 2027, reflecting the market's tendency to contract fuel closer to need

Differences of up to:

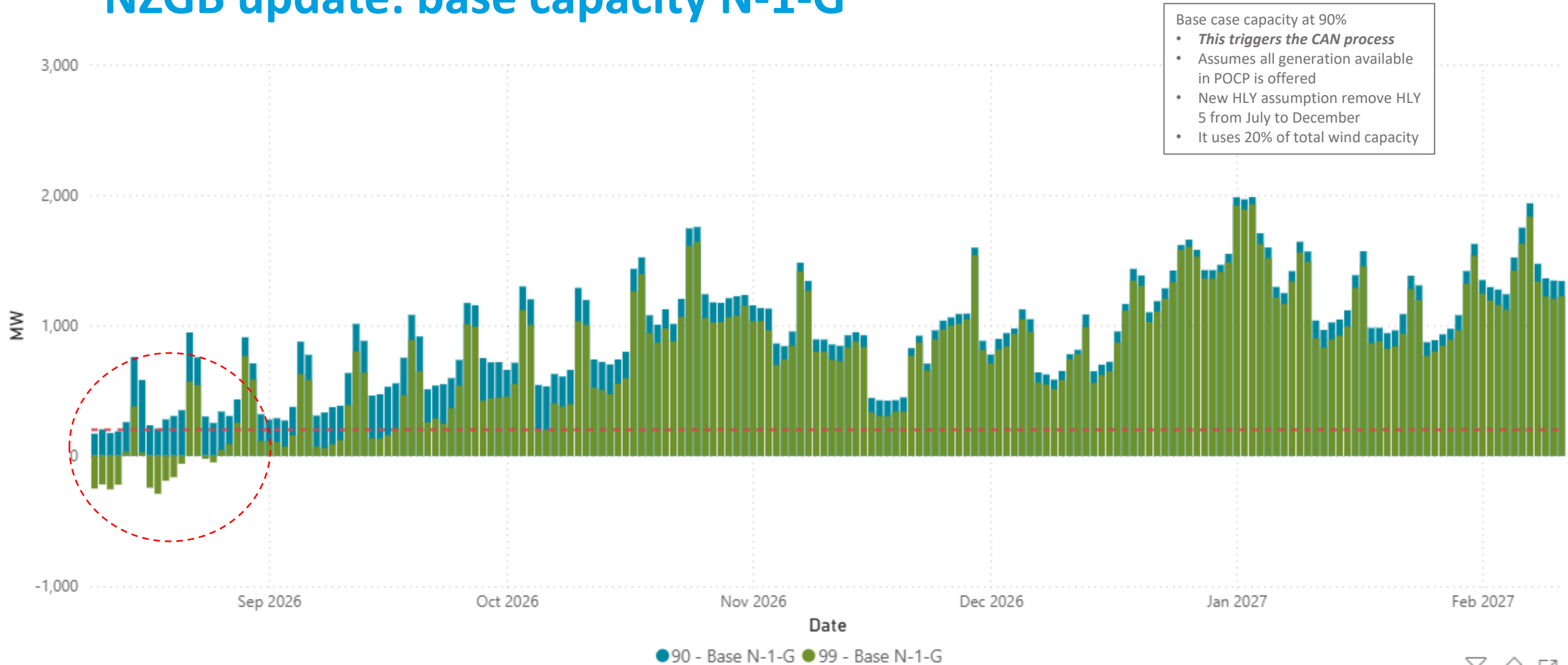
- 220 GWh Emergency (Aug 2026)
- 1020 GWh Watch (Feb 2027)



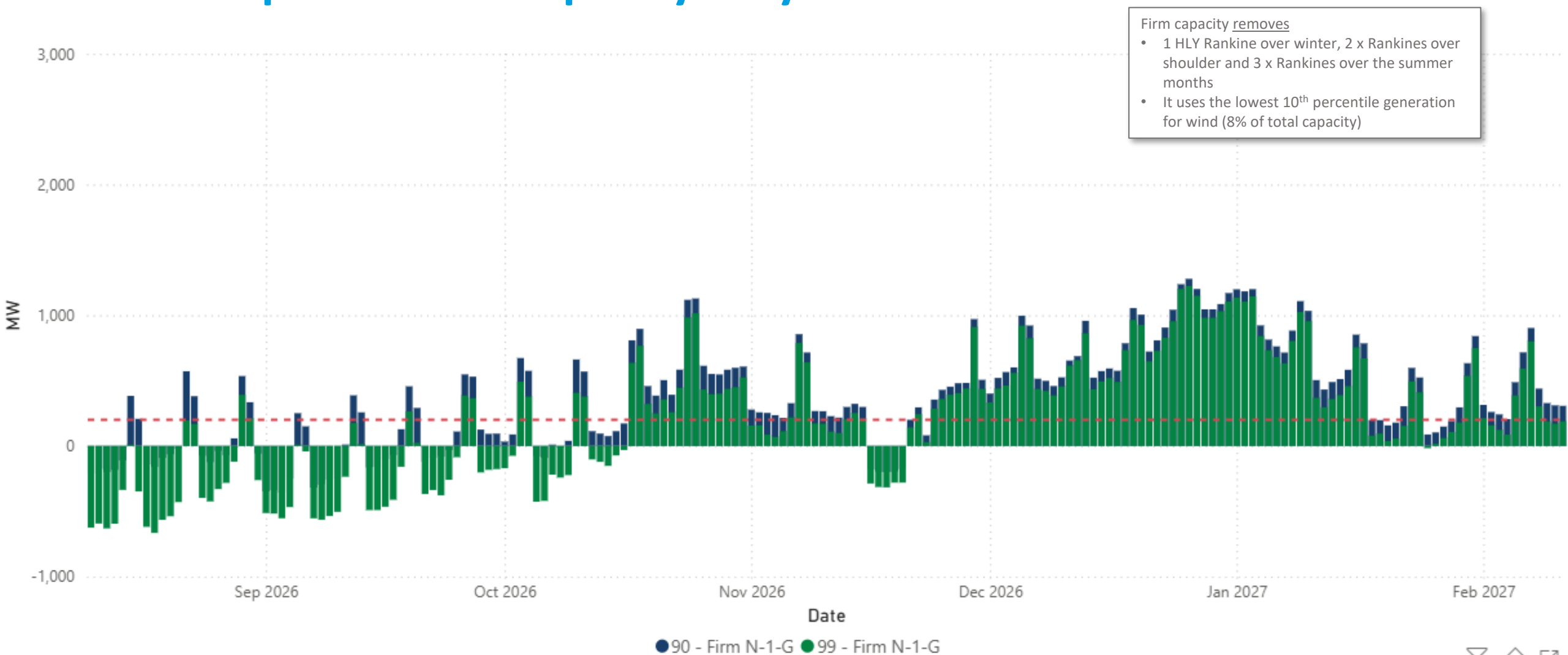


NZGB update

NZGB update: base capacity N-1-G



NZGB update: firm capacity only N-1-G





Outages next 4 weeks

Outages

NNI outages

SNI outages

SI outages

Asset owners:

- Check in POCP for detailed dates
- Consider the impact on your own outages



NNI Outages

Week of 17 August

- EDG_T5
- OTA_ROS_1
- DRY_TAK_OTA_1

Week of 24 August

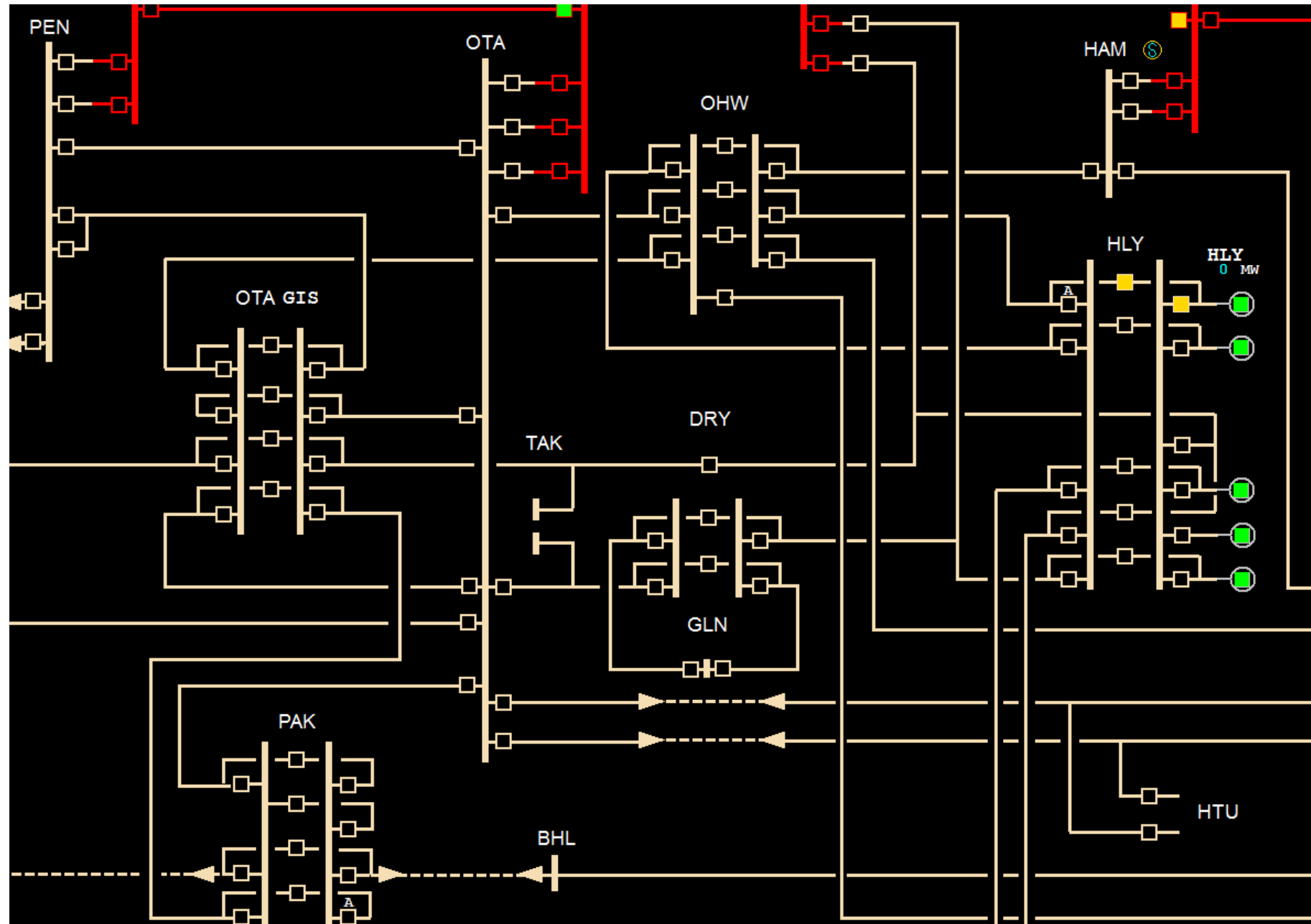
- EDG_T5
- DRY_TAK_OTA_1
- ARI_HAM_1 & 2

Week of 31 August

- EDG_T5
- EDG_KAW_1
- EDG_OWH_2
- MNG_ROS_2
- MDN_MPE_1

Week of 7 September

- EDG_T5
- EDG_KAW_1
- EDG_OWH_2
- OTA_ROS_2
- MDN_MPE_2



SNI Outages

Week of 17 August

- BPE_MTN_WGN_2
- BRK_SFD_3
- BPE_MTR_1
- NAP_OKI_2

Week of 24 August

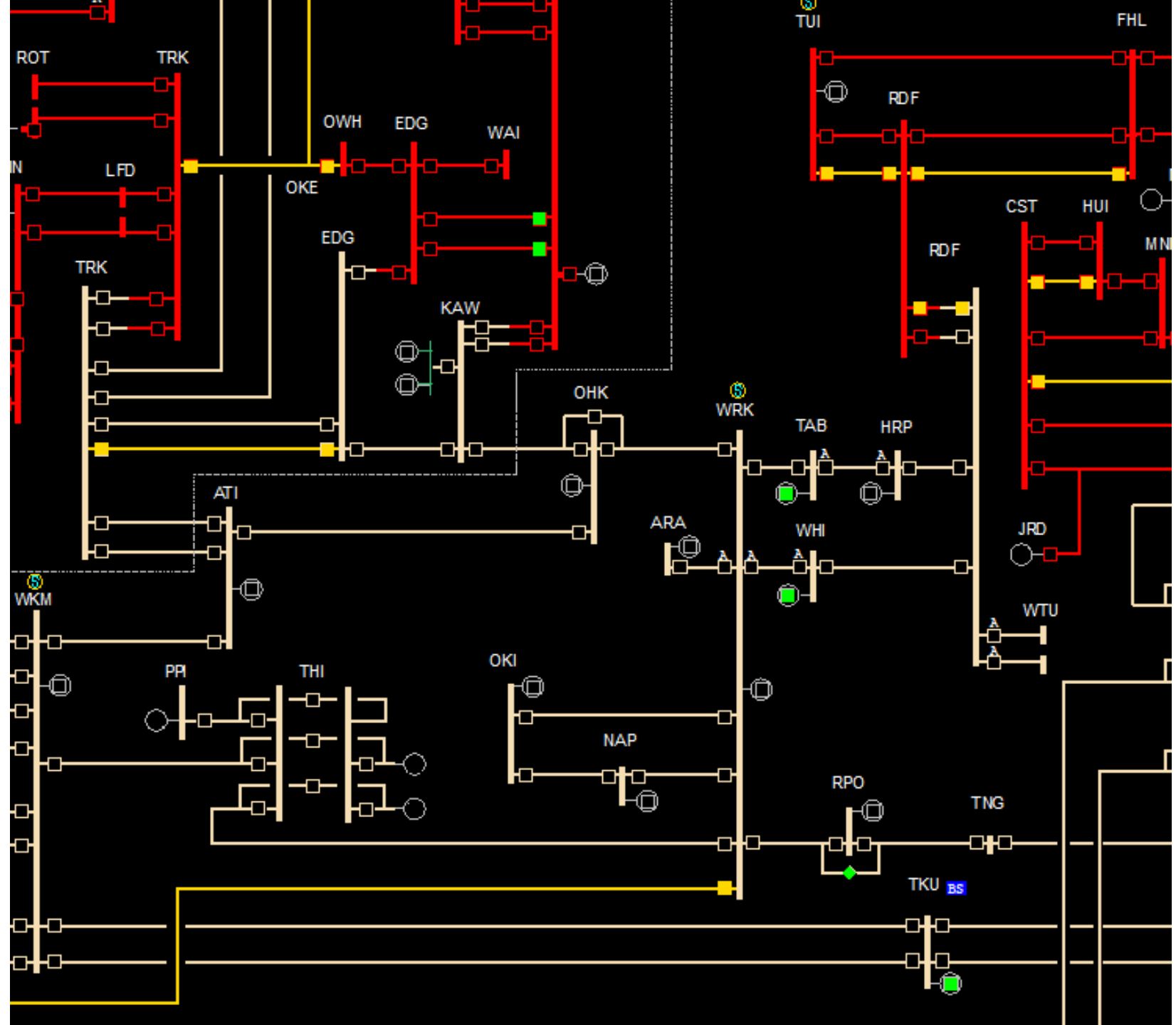
- RDF_TUI_1
- BPE_TNG_1

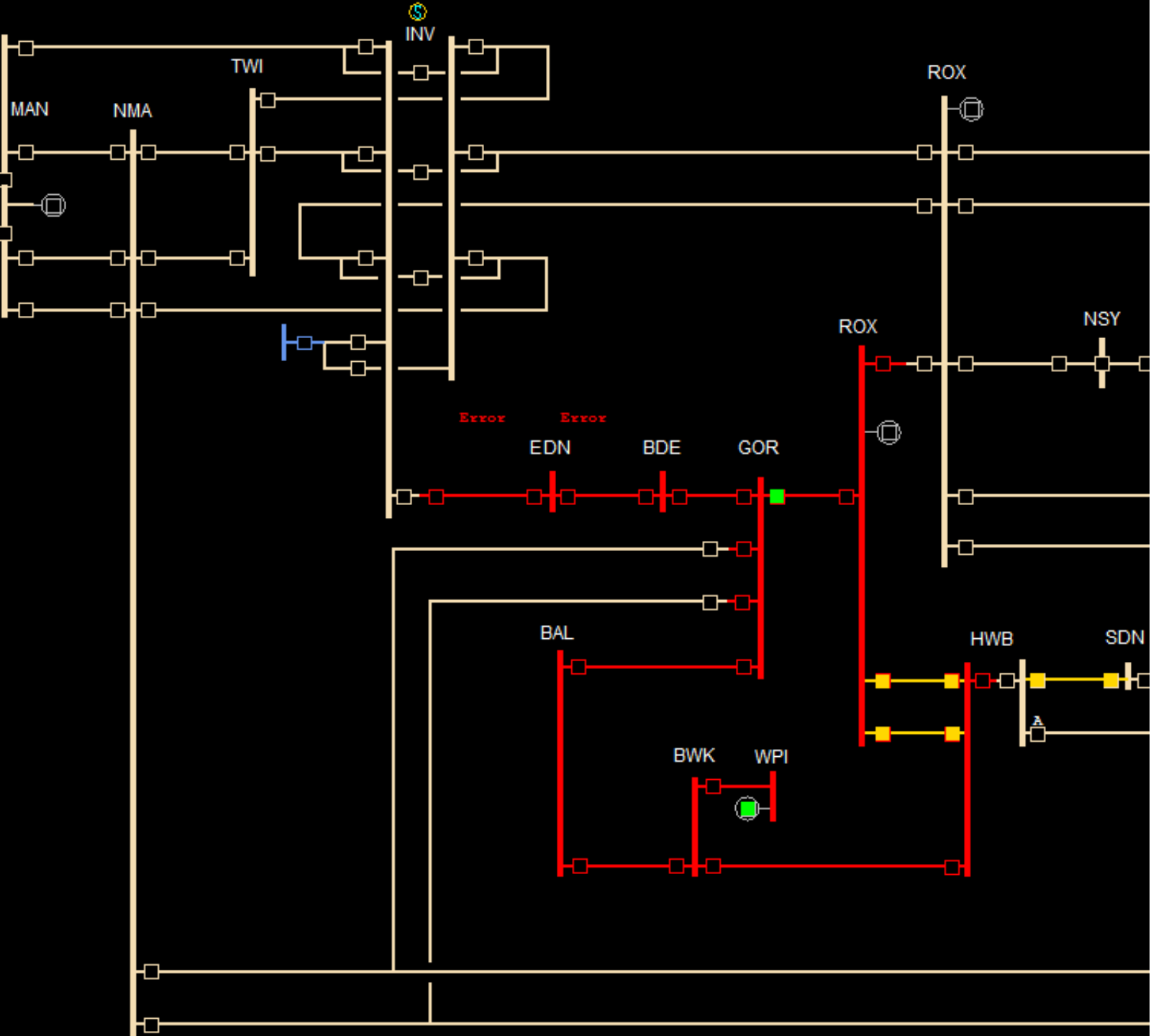
Week of 31 August

- BPE_MTN_WGN_1
- FHL_TUI_1

Week of 7 September

- BPE_MTN_WGN_1
- BRK_SFD_3





SI Outages

Week of 17 August

- ASB_BRY_1

Week of 24 August

- ARG_KIK_1
- ISL_WPR_CUL_KIK_2
- ISL_T8

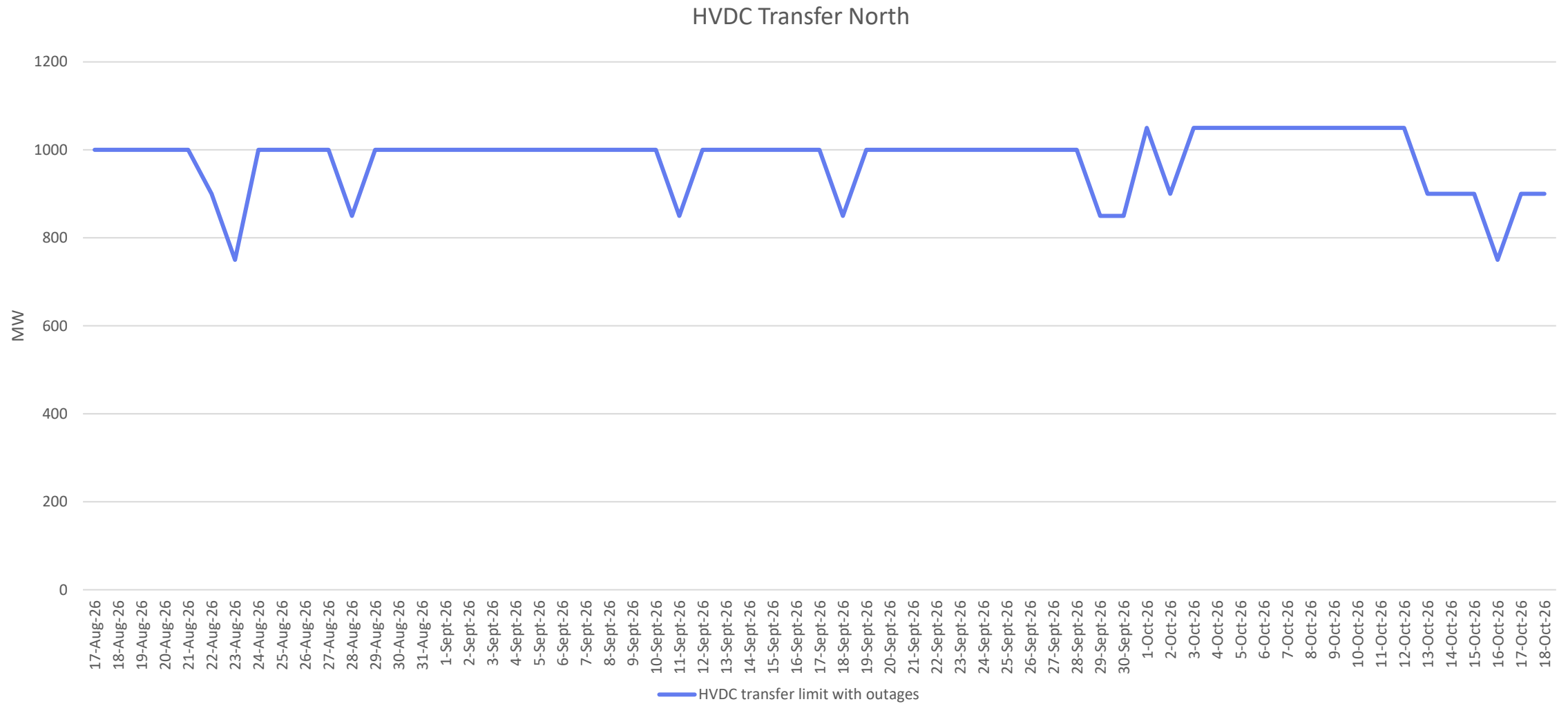
Week of 31 August

- MAN_NMA_1
- GOR_ROX_1
- DOB_RFN_IGH_1
- ISL_TKB_1

Week of 7 September

- DOB_RFN_IGH_1
- ISL_NWD_1
- KIK_STK_3

HVDC North transfer limit





Operational update

Last Weeks Cold Snap – Operational Lens

Communications

- Notices: Potential (WDS) & Actual (NRS) Low Residual CANs
- Industry Briefing
- Media Spotlight

Readiness

- Trained and prepared
- Additional control room staff
- Incident Management Team (IMT)

Realtime

- Observed ~80 LR Thursday AM
- Intense focus, careful and considered approach



www.transpower.co.nz/system-operator/information-industry/industry-workshops-webinars



Upcoming MFK Trial

1st September to 30th November 2026

MFK Trial

Background Context – recent analysis completed for the Electricity Authority indicates that the current MFK settings are becoming increasingly constrained during periods of rapid demand change and higher levels of intermittent generation. Recommendation to increase the MFK band as an effective short-term measure.

⚡ What is MFK?

MFK is an ancillary service used by the System Operator to help maintain system frequency close to 50 Hz.

30 MW

Current national band
(since 2015)

~1.3 GW

Wind capacity
early 2026

~1 GW

Solar projected
end 2026

- Current MFK band set at ± 15 MW per island in 2015 when intermittent capacity was ~ 0.7 GW
- Frequency standard deviation has risen noticeably since late 2023 as intermittent generation has increased

❓ Why a Trial?

Three compounding drivers justify a time-limited trial before any enduring change to the current frequency keeping band.

- **Variability:** Rapid and significant wind and solar output deviations from dispatch can cause frequency fluctuations that exceed the capability of the current frequency keeping band to compensate.
- **Persistence:** Off-dispatch generation causes sustained frequency bias away from 50 Hz causing the frequency keepers' response to saturate at its' ± 15 MW band limits during peak demand and ramping periods.



MFK Trial

📅 Trial Period: 1 September – 30 November 2026, testing expanded band under three distinct scenarios

Scenario	Band	Period
T1 National	50 MW (25 MW/island) - Trial	05:00–21:00 daily
T2A NI North Island	Full 50 MW NI - Trial	5–11 Oct 2026
T2B SI South Island	Full 50 MW SI - Trial	2–8 Nov 2026
Overnight	30 MW – No change	21:00–05:00 daily

📋 Monitoring

The trial will be monitored against the following criteria.

- ➊ **Frequency Quality:** Reduction in minutes outside normal band and threshold crossings
- ➋ **Cost Effectiveness:** Frequency quality benefit proportionate to FK procurement cost
- ➌ **Operational Outcomes:** No adverse interactions with constraints or HVDC operation
- ➍ **Market Outcomes:** Pricing competitiveness and provider participation at higher procurement quantities

Further Information –

📖 Electricity Authority [website](#)
Frequency Management Strategy
and MFK Review Report

🗣️ System Operator [website](#) (from Mid-August)
MFK Trial Report

✉️ **Questions**
system.operator@transpower.co.nz



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New Dynamic Market Node Constraints

Management of oversupply



New constraint for management of over supply:

During periods of over supply, energy price can be very low or zero.

- Need to protect non-flexible must run generation
- SPD can dispatch must run generation below minimum run
- Requires manual intervention to manage
- Traditional Market Node constraints have risk of creating infeasible dispatch solution if offer or conditions change

New Dynamic Market Node Constraints (late August 2026)

- Uses standard MW Minimum market node constraint
- Automatically updates the RHS to reflect offer in price tranche 1
- Only if price is \$0.01 or less
- If offer changes RHS is automatically updated
- If Generator trip's and Bonafide's off RHS automatically updated to 0MW



New constraint for management of over supply:

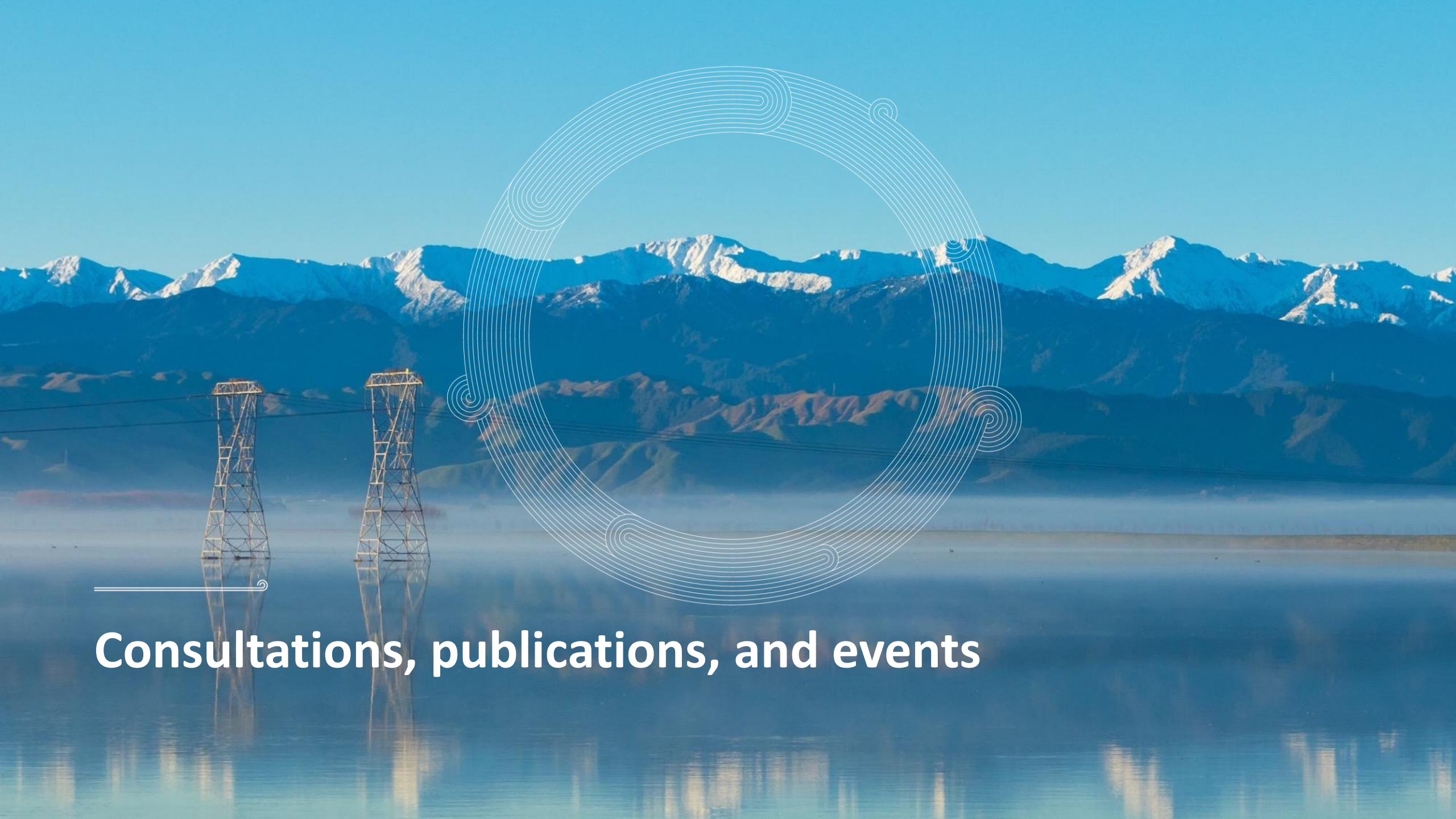
Benefits of Dynamic Market Node Constraints

- Improved accuracy and security checking of forward schedules
- Provides flexibility for offer changes
- Reduced risk of infeasible dispatch solution if offer or conditions change
- Reduced manual operator action
- Removes ability for gaming of constraint

Will be used during periods where a risk over supply such as:

- To protect must run geothermal generation being dispatched below minimum during outages e.g. Wairakei ring
- To protect geothermal or thermal generation being dispatched below minimum must run due to reserve optimization
- To protect must run generation where rule 13.82.2(a) is claimed for risk to personal or plant safety or following the dispatch instruction would contravene a law.



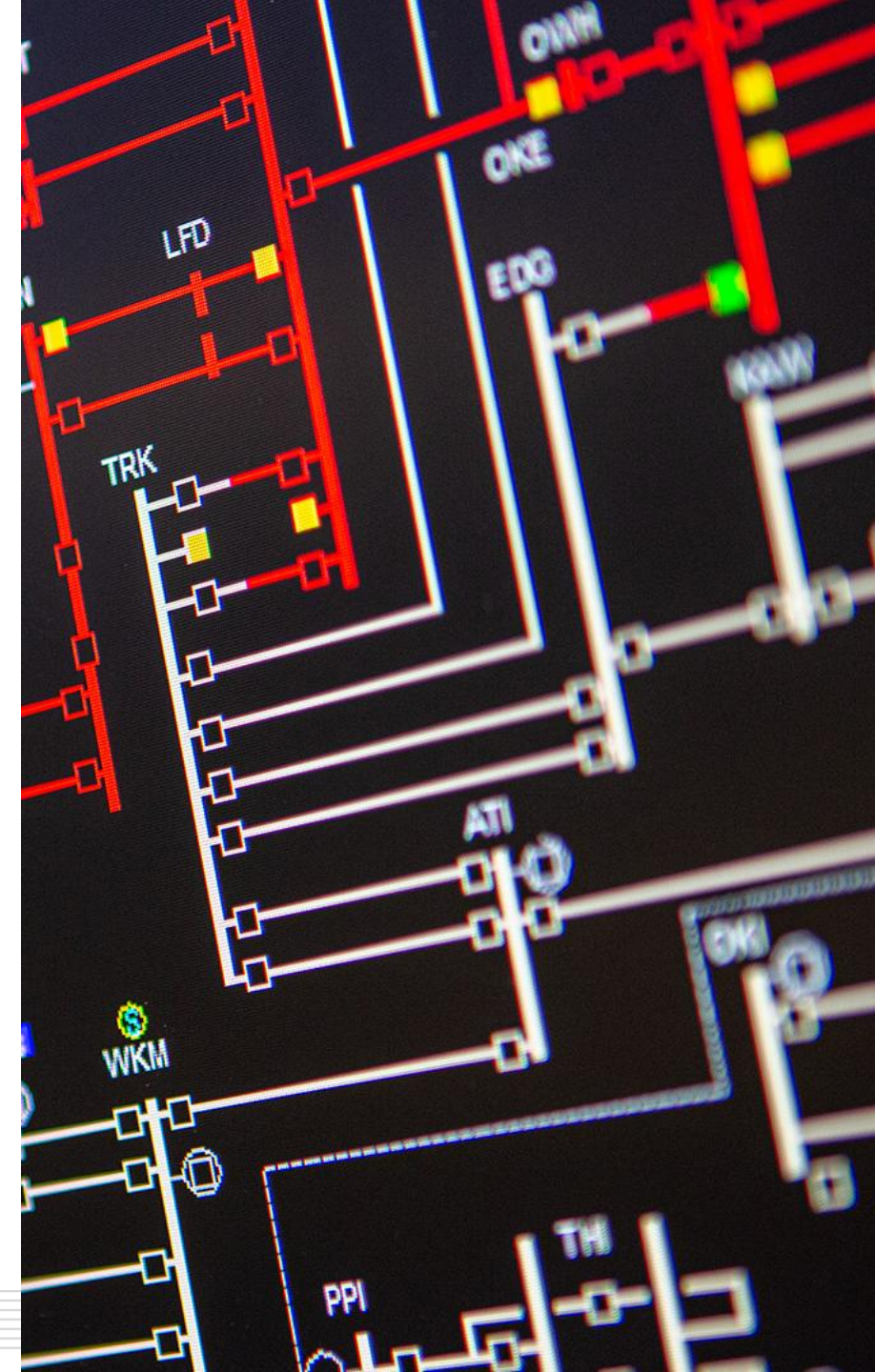


Consultations, publications, and events

Consultations, publications, and events

We have published the submissions to our recent [System Operator Strategy](#) consultation as we work to finalise the strategy.

The [MFK Trial report](#) will be available on our website from today.



Questions / Pātai



Please raise your hand

If you have feedback let us know via our [Feedback Form](#)

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