August 2026 Energy Security Outlook

Friday, 28 August 2026

The Electricity Risk Curves are evaluated through two lenses: the Fuel Capability Case (Base Case), which uses the original methodology based on total physical capability to source thermal fuels and utilise it for generation, and the Contracted Fuel Case, which limits thermal energy to firm commercial contracts secured by generators. This approach highlights the gap between physical capability and actual commercial certainty, signalling to industry where additional fuel contracts can yet be secured to reduce security of supply energy risks.

On 3 July Meridian received consent for their fast-track application to access what has been considered contingent storage in lake Pūkaki without an Alert or Emergency status being declared. This consent will expire on 31 December 2028. Once this consent is effective, it will impact the ESO by lowering the Alert and Emergency risk curve floors and by lowering the SSTs on average to reflect the lower expected operating levels for lake Pūkaki with unrestricted access below 518m RL (down to 513m RL). However, the consent has conditions which must be met before it can be exercised and it will take Meridian some time to meet these conditions. As such, the effect of the consent is not modelled in this ESO update.

Fuel Capability Case (Base Case)

The Fuel Capability Case (Base Case) assumes the market supplements the existing coal stockpile at its maximum import capability to maintain increased thermal generation during any extended periods of low hydro inflows.

The national controlled hydro storage position is currently 115% of the historic mean with South Island storage at 122% (at 25 August), providing a strong energy storage position for the current winter. Earth Sciences NZ (formerly NIWA) has confirmed that El Niño conditions have been reached. The August-October Climate Outlook is for "normal or below" or "below" rainfall for most of the country except for the western South Island, where rainfall is most likely to be above normal. Earth Sciences NZ predicts about an 80% chance for El Niño to reach or exceed strong intensity, and expects the El Niño influence to become more apparent later in the season. These conditions could improve inflows into major SI catchments in the western South Island.

No Simulated Storage Trajectories (SSTs) cross any New Zealand or South Island risk curve in 2026. In 2027, one SST crosses the New Zealand and South Island Watch curves.

Overall, there have been minimal changes to the 2026 risk curves, while the 2027 risk curves have decreased primarily due to:

- Higher forecast gas production in the first half of 2027, increasing the gas available for electricity generation in a dry year.
- Additional generation expected to be commissioned in 2027 compared with the previous update.

Together, these factors indicate a low risk of hydro storage depletion given the current storage levels and future market conditions where the market continues to supplement thermal fuel to manage extended periods of low hydro inflows.

Contracted Fuel Case

The Contracted Fuel Case assumes that only thermal fuel supplies currently secured through contractual arrangements are available for generation. Current thermal fuel contracts are sufficient to fuel most of the power system's thermal generation capability in 2026, reflecting a strong near-term contracted fuel position. As a result, the Contracted Fuel ERCs for 2026 are similar to the Fuel Capability ERCs.

Should extended dry conditions emerge in 2026, additional thermal fuel contracts can help reduce the risk curves and raise the SSTs. The risk curves can reduce by up to 130 GWh or 22 Rankine days.

The gap between the Contracted Fuel Case and Fuel Capability Case risk curves becomes more pronounced in 2027 (diverging by up to 430 GWh or 75 Rankine days). This results in some SSTs crossing the Watch curve (8 for the New Zealand Watch curve and 9 for the South Island), reflecting the market's tendency to contract fuel closer to need.

By restricting available energy strictly to currently secured contracts, this Contracted Fuel Case intentionally highlights the physical capacity that remains uncontracted, and the ability for additional contracting to reduce risks. This reinforces that contracted positions require continuous updating to provide ongoing security of supply cover.

Fuel Capability Case - Electricity Risk Curves (ERCs) - Updates and Assumptions

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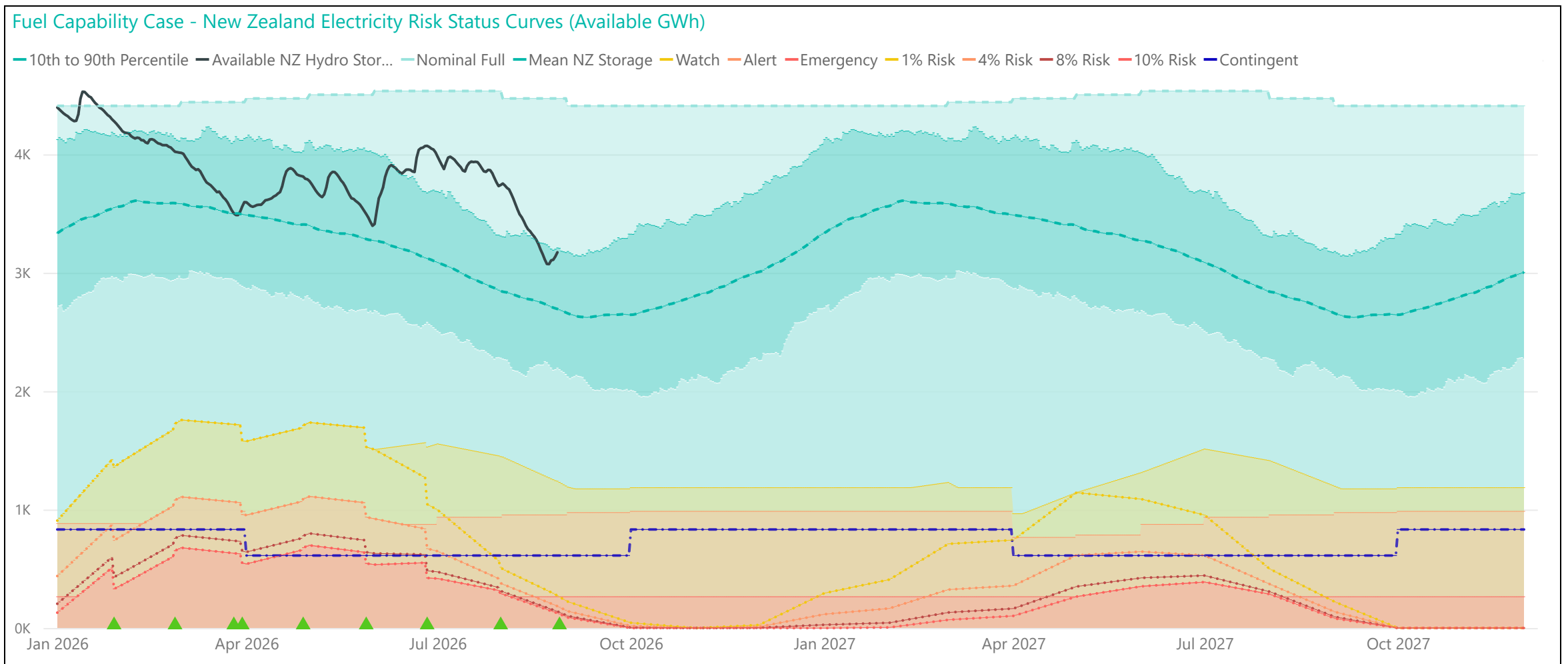
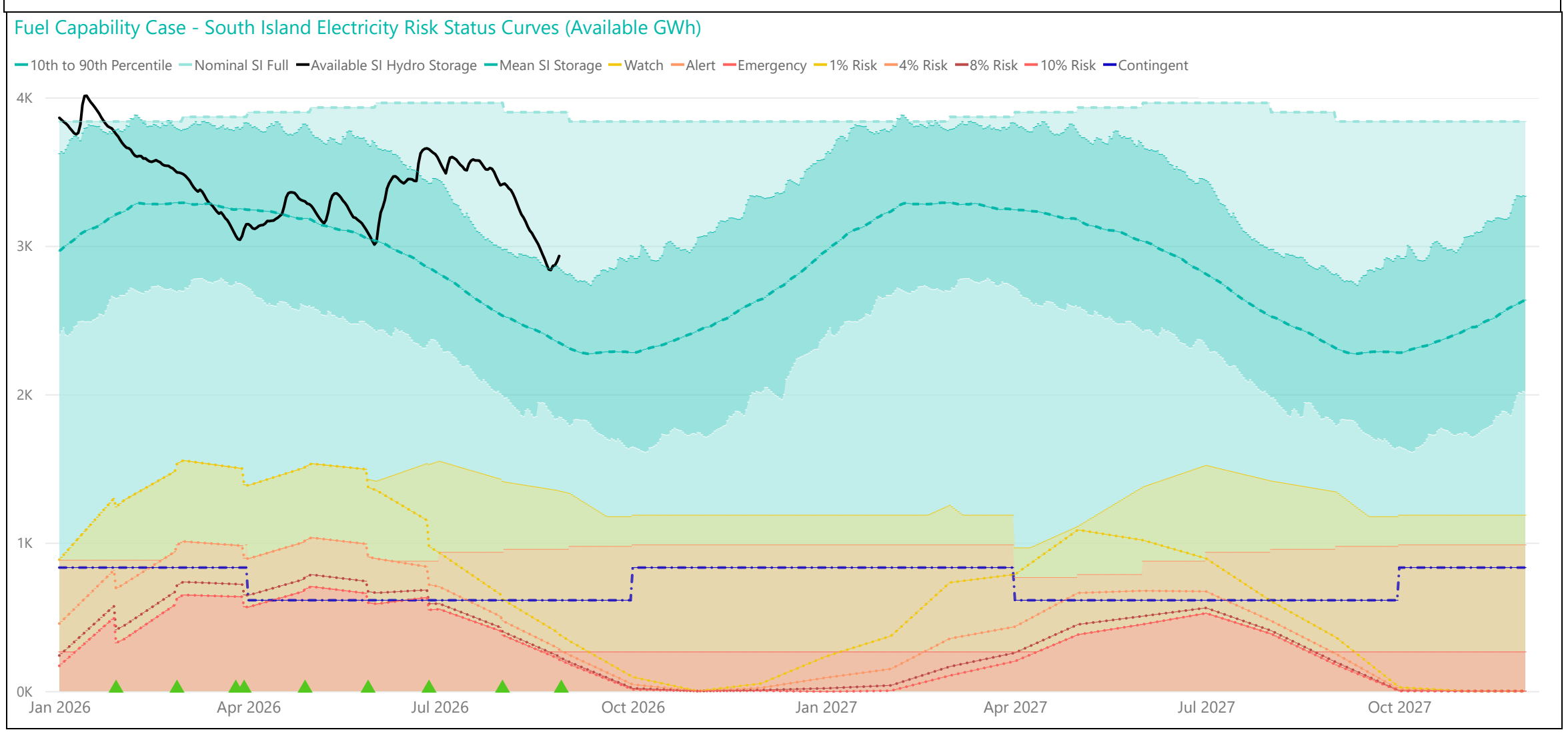
- Input data prepared as of 20 August indicates (~10%) decreases in current Ahuroa Gas Storage (AGS) levels, while the current coal stockpile remains at a similar level and at or near its maximum level.
- The generation capability of the thermal fleet is reduced in late 2026 and early 2027. This is driven by scheduled Huntly outages affecting Unit 5 and Unit 6, alongside an extended Unit 4 (Rankine) outage commencing in November 2026.
- The model incorporates updates to planned generator outages and upcoming new generation commissioning dates and retains permanent removal of TCC.
- Datagrid data centre demand is not included in the demand forecast used for this update.





Energy Security Outlook Explanation:
Energy Security Outlook 101

Watch Curve - The one percent risk curve.
Alert Curve - The maximum of the four percent risk curve and the floor.
Emergency Curve - The maximum of the 10 percent risk curve and the floor.
Official Conservation Campaign Start - See cl. 9.23 of the code.
Official Conservation Campaign Stop - See cl. 9.23A of the code.
Triggers and actions of Watch/Alert/Emergency status are set only by the official base case curves (not scenario curves).

Note: The floor is equal to the amount of contingent hydro storage that is linked to the specific electricity risk curve, plus any contingent hydro storage linked to electricity risk curves representing higher levels of risk of future shortage, and the buffer as specified in the SOSFIP.

Fuel Capability Case - Changes in the Electricity Risk Curves From Previous Update

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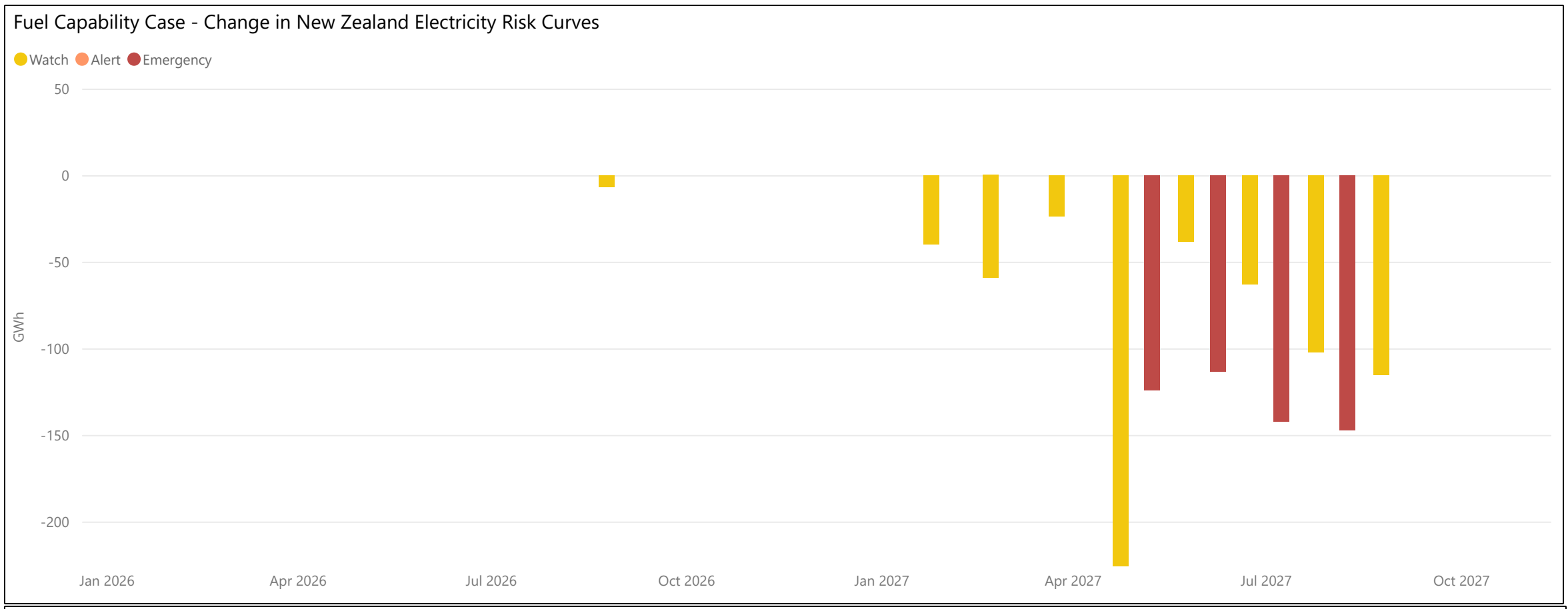
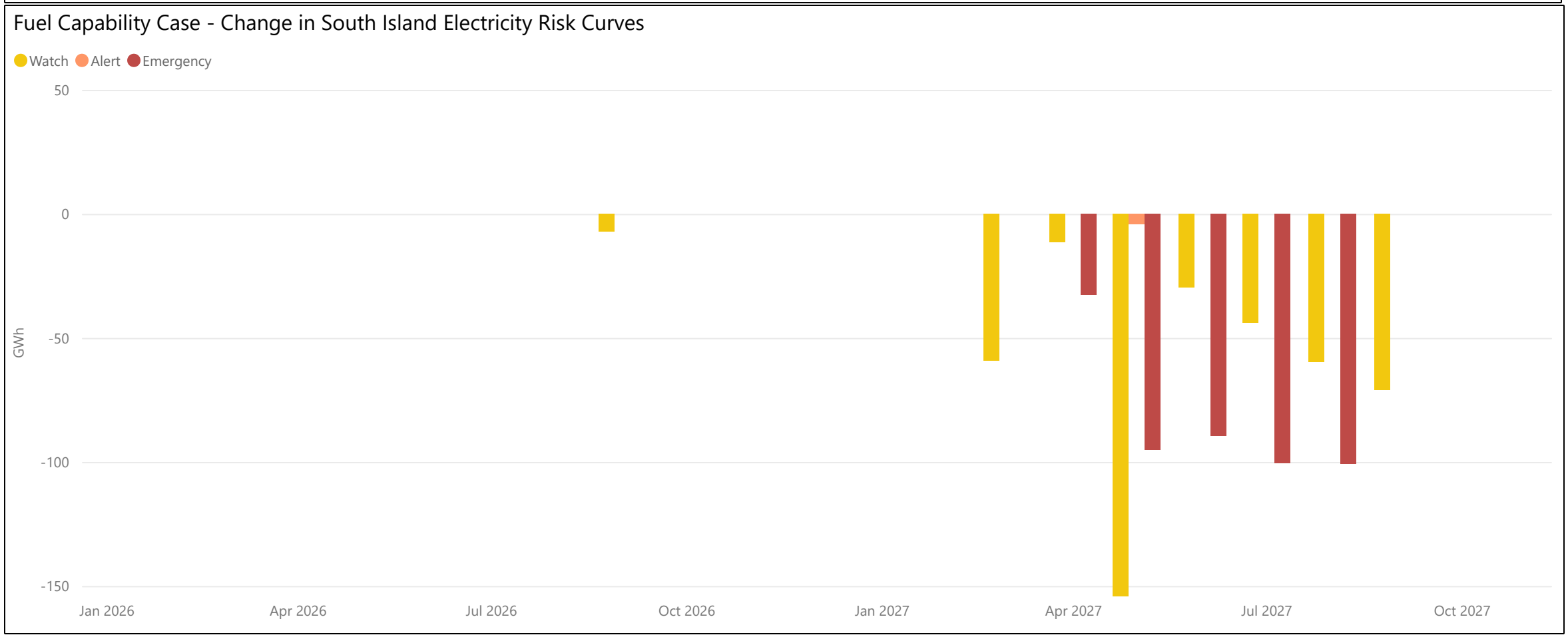
The changes to the Watch/Alert/Emergency curves compared to the last update are shown below.

The New Zealand ERCs have reduced by up to 225 GWh (Watch curve, May 2027) and the South Island ERCs have reduced by up to 155 GWh (Watch curve, May 2027).

These reductions in risk curves are primarily due to higher forecast gas production in the first half of 2027, increasing the gas expected to be available for electricity generation in a dry year.

Changes are also influenced by shifts in project commissioning timing. While several projects have been delayed slightly over the past month, two additional solar farms and a battery are now expected to be commissioned in 2027 compared with the previous update.





Fuel Capability Case - Thermal Deratings

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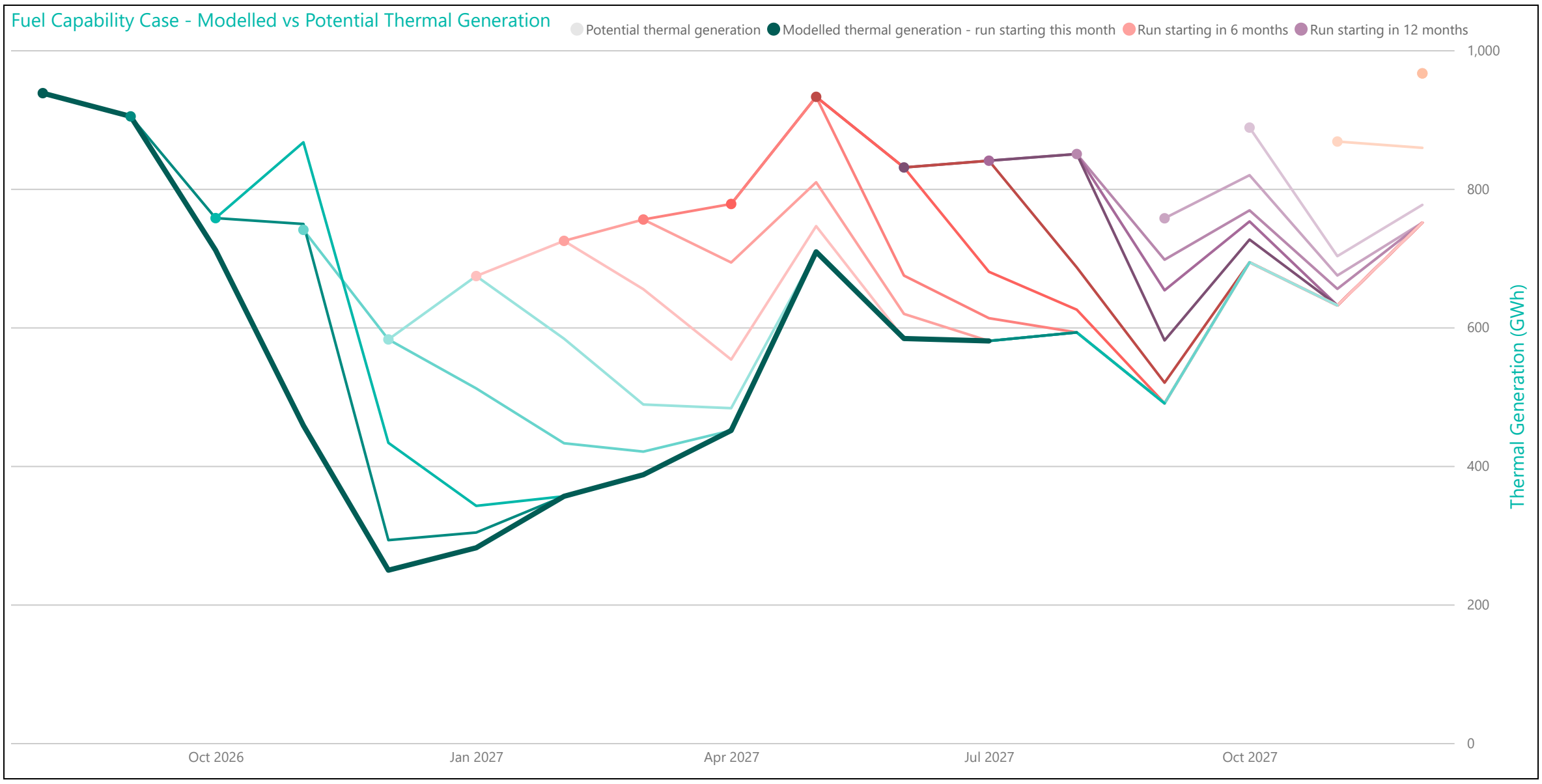
The thermal deratings and key considerations for the August 2026 ERCs update are below:

- Thermal generation capability is higher than in last month's update due to higher estimated starting AGS gas storage, particularly in 2027.
- Gas storage levels at AGS have slightly decreased to 6.2 PJ as of the beginning of August and could fuel a large combined cycle gas plant at full output for ~3 months (ignoring draw down rates) or a peaker for ~10 months.
- The current coal stockpile can fuel three Rankines at full output for ~4 months, or one Rankine for ~13 months without further imports.

On the chart below, potential thermal generation is the total capacity of available units. Modelled thermal generation (shown by the lines) is what those units could generate using the gas and coal available for electricity generation. There is a separate model run starting each month, with the start of each run shown by a dot. In the table, each row corresponds to a separate run. Each run starts with a stockpile of stored coal and gas, and modelled generation tends to decline initially as this stockpile is consumed. Whirinaki is a diesel generator and is not included in the charts below, however it is still included in the model where it is limited to 60 GWh generation over a 6 month period.

Fuel Capability Case - Modelled vs Potential Thermal Generation



Fuel Capability Case - Modelled Thermal Generation (GWh) by Run Month

Run Month	2026-08	2026-09	2026-10	2026-11	2026-12	2027-01	2027-02	2027-03	2027-04	2027-05	2027-06	2027-07	2027-08	2027-09	2027-10	2027-11	2027-12	2028-01	2028-02	2028-03	2028-04	2028-05	2028-06	2028-07
2026-08	938	904	711	458	249	282	356	387	451	709	584	580												
2026-09		904	758	749	293	304	356	387	451	709	584	580	593											
2026-10			758	867	433	342	356	387	451	709	584	580	593	490										
2026-11				741	582	512	433	421	451	709	584	580	593	490	694									
2026-12					582	674	584	489	483	709	584	580	593	490	694	632								
2027-01						674	725	655	553	746	584	580	593	490	694	632	751							
2027-02							725	756	694	809	619	580	593	490	694	632	751	749						
2027-03								756	778	933	675	613	593	490	694	632	751	749	532					
2027-04									778	933	831	680	625	490	694	632	751	749	532	604				
2027-05										933	831	840	686	520	694	632	751	749	532	604	648			
2027-06											831	840	850	581	727	632	751	749	532	604	648	638		
2027-07												840	850	653	753	632	751	749	532	604	648	638	583	
2027-08													850	698	769	655	751	749	532	604	648	638	583	564
2027-09														757	820	675	751	749	532	604	648	638	583	564
2027-10															888	703	777	749	532	604	648	638	583	564
2027-11																868	859	790	532	604	648	638	583	564
2027-12																	966	914	592	628	648	638	583	564
2028-01																		965	740	735	699	638	583	564
2028-02																			740	816	881	744	616	564
2028-03																				816	881	886	674	597
2028-04																					881	886	830	664
2028-05																						886	830	828
2028-06																							830	828
2028-07																								828

Fuel Capability Case - Simulated Storage Trajectories (SSTs)

Friday, 28 August 2026

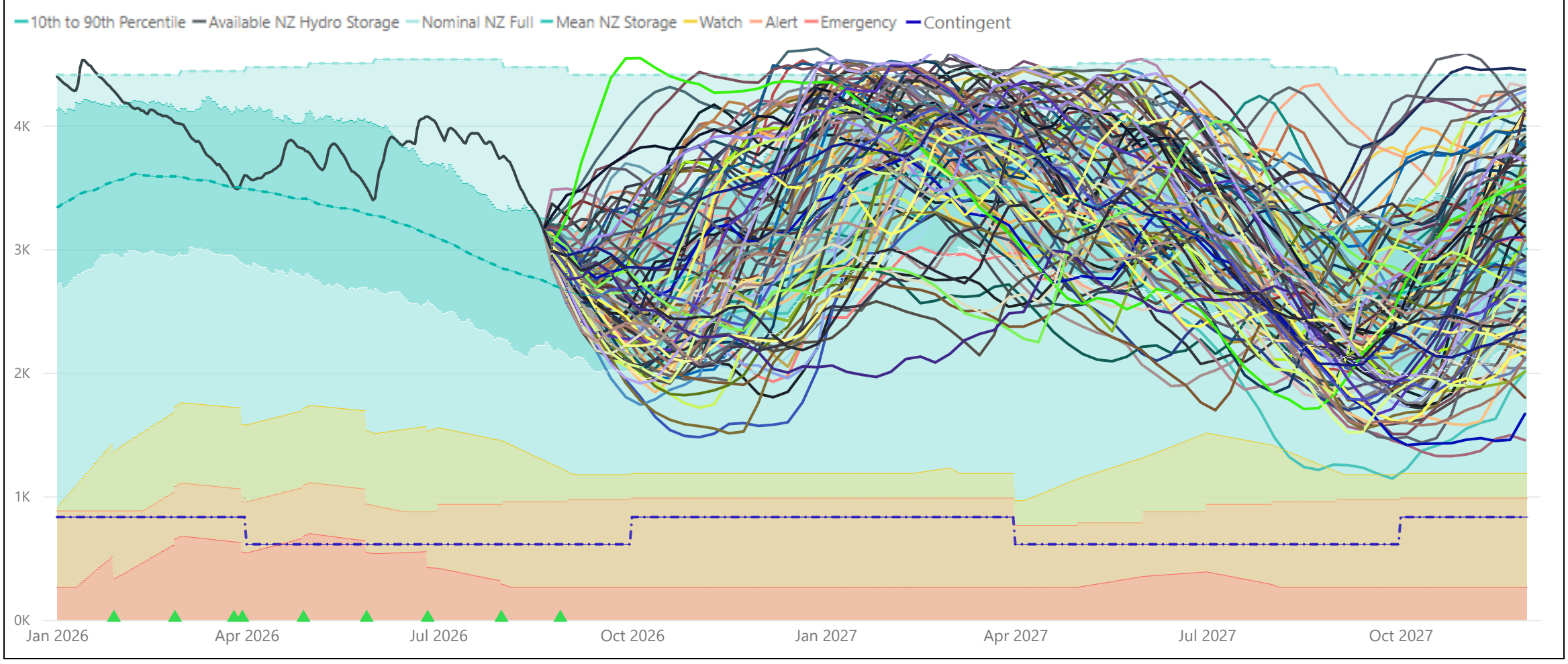
The August SST update is shown below. The hydro storage starting date is 20 August.

None of the SSTs cross any of the NZ or SI risk curves in 2026.

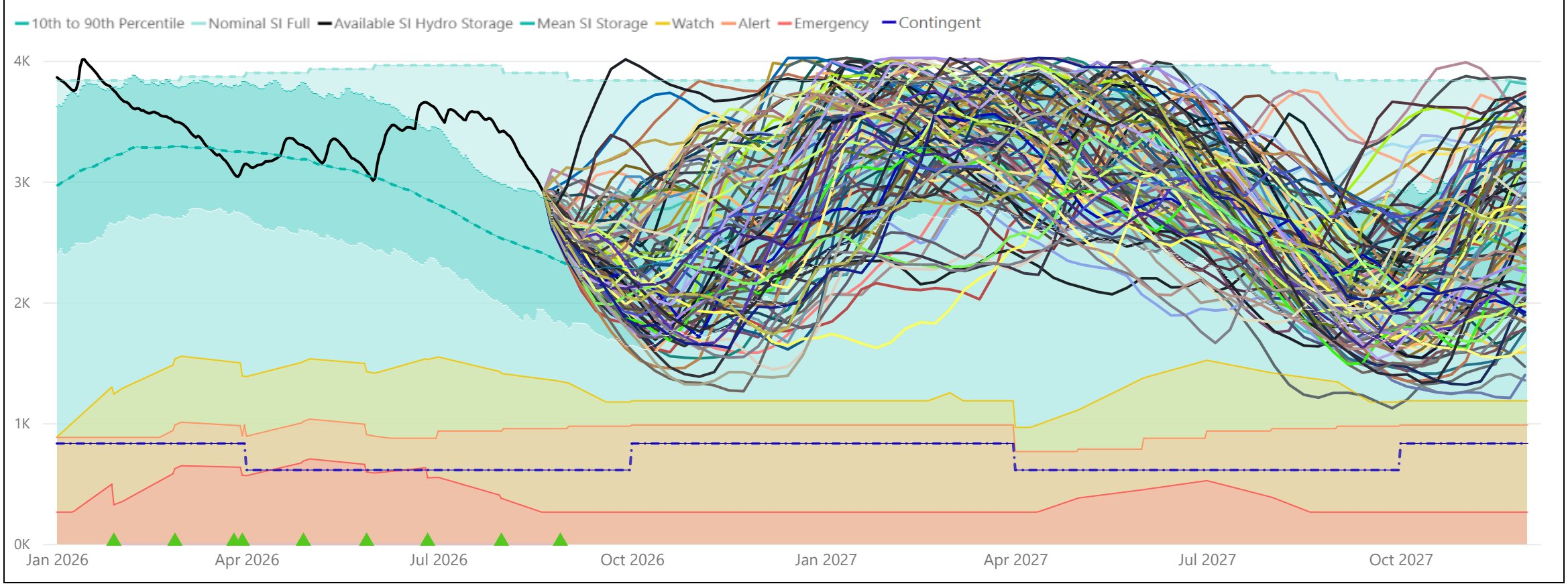
1 SST, corresponding to 1931 inflow year, cross NZ watch curve in 2027.

1 SST, also corresponding to 1931 inflow year, cross SI watch curve in 2027.

Fuel Capability Case - New Zealand SST Electricity Risk Status Curves (Available GWh)



Fuel Capability Case - South Island SST Electricity Risk Status Curves (Available GWh)



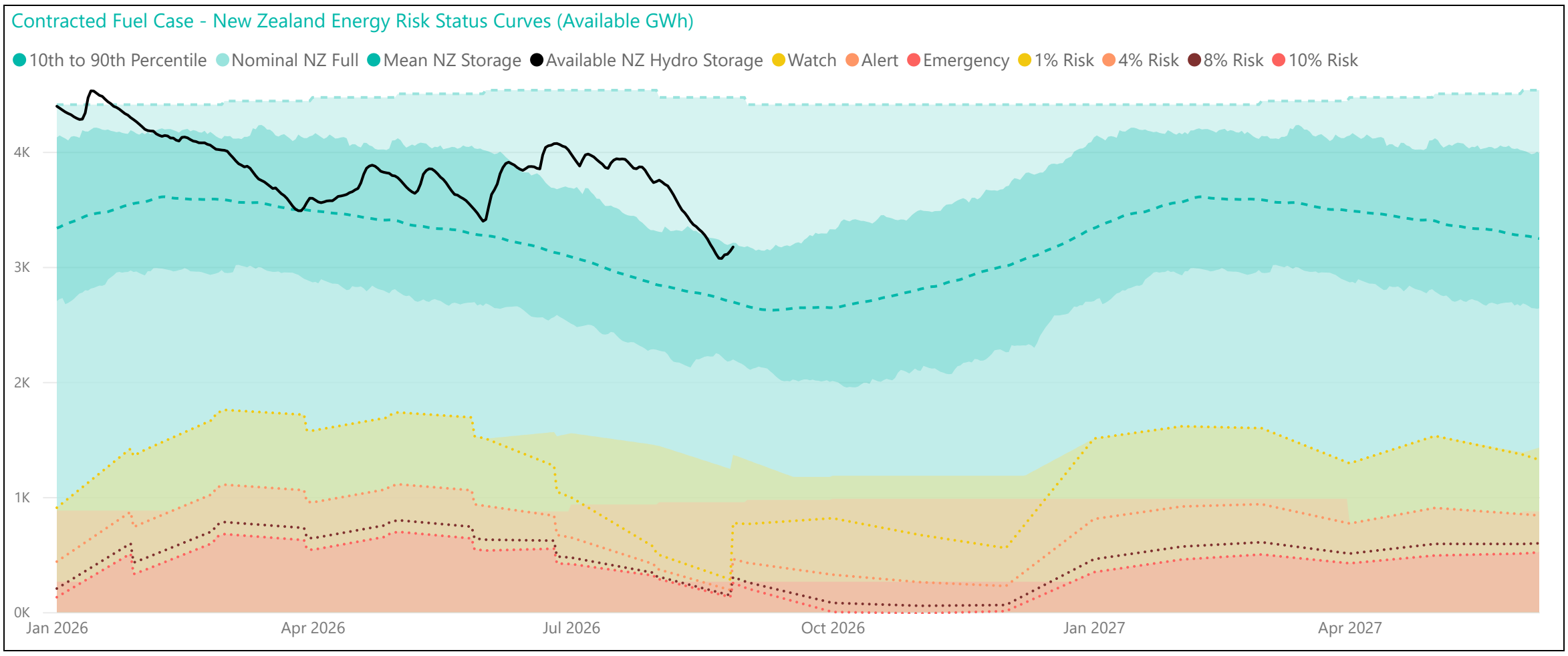
Contracted Fuels Case - Electricity Risk Curves

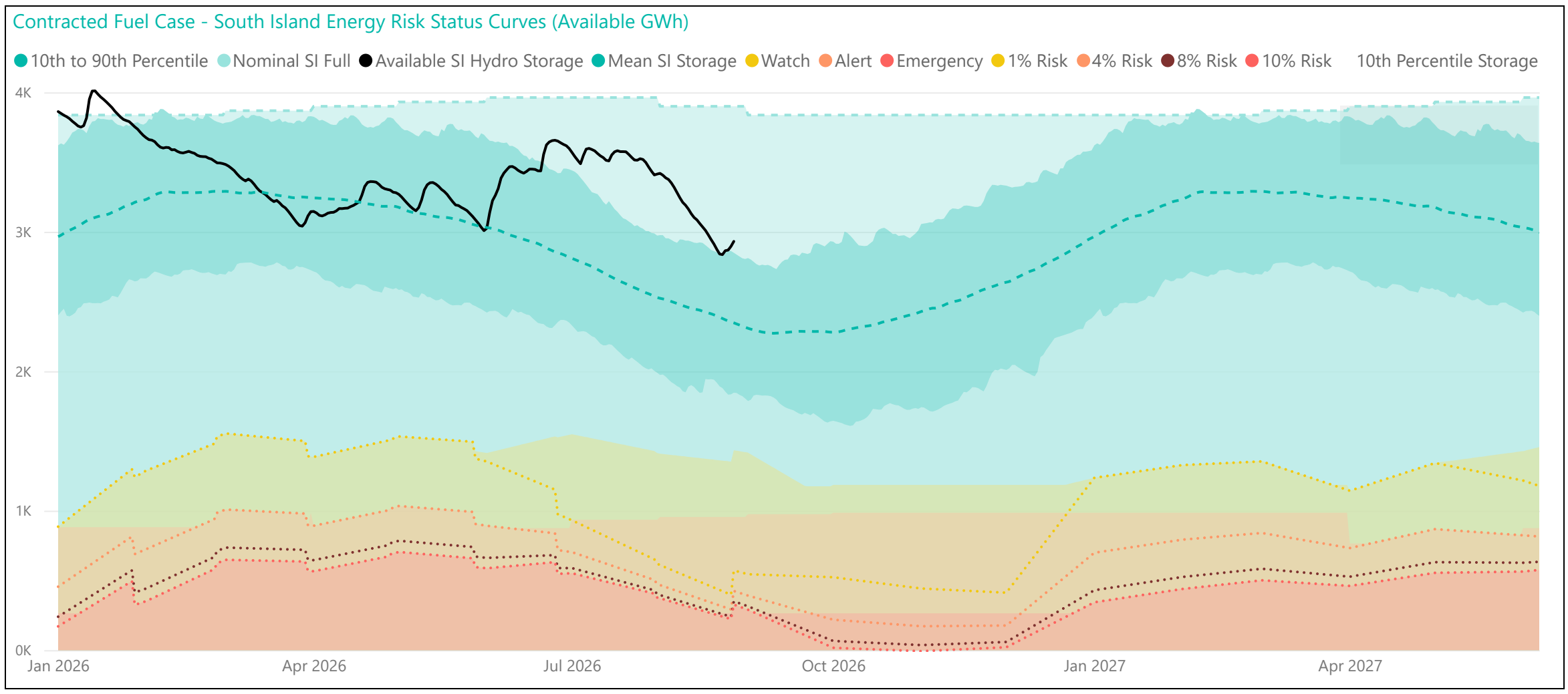
This case illustrates the shift in the Energy Risk Curves when constrained strictly to firm thermal fuel contracts, as implemented in accordance with the recently amended Security of Supply Forecasting and Information Policy (SOSFIP) which came into effect on 1 May.

In 2026 the risk curves for the Contracted Fuel Case are lower in the near term (till end 2026) compared to 2027. This reflects the increased thermal fuel stockpiles and contracts to enable a stronger thermal response to lower inflows in 2026. The risk curves are higher in 2027 because current firm contracts do not yet reflect the amount of thermal fuel than can or will be contracted. The gap between the Contracted Fuel risk curves in 2027 and the Fuel Capability risk curves reflects the pool of physically available thermal energy in 2027 and beyond that has not yet been commercially secured.

There has been decrease to the risk curves in 2026 and 2027 since the last update. Factors contributing to this are discussed on the next page.

Under a well-functioning market with sufficient incentives, we would expect additional thermal fuel to be contracted as future market conditions (including dry year risk mitigation) become more visible. This would be reflected as a reduction in the risk curves under the Contracted Fuels Case.





Contracted Fuel Case - Changes in the Electricity Risk Curves from Previous Update

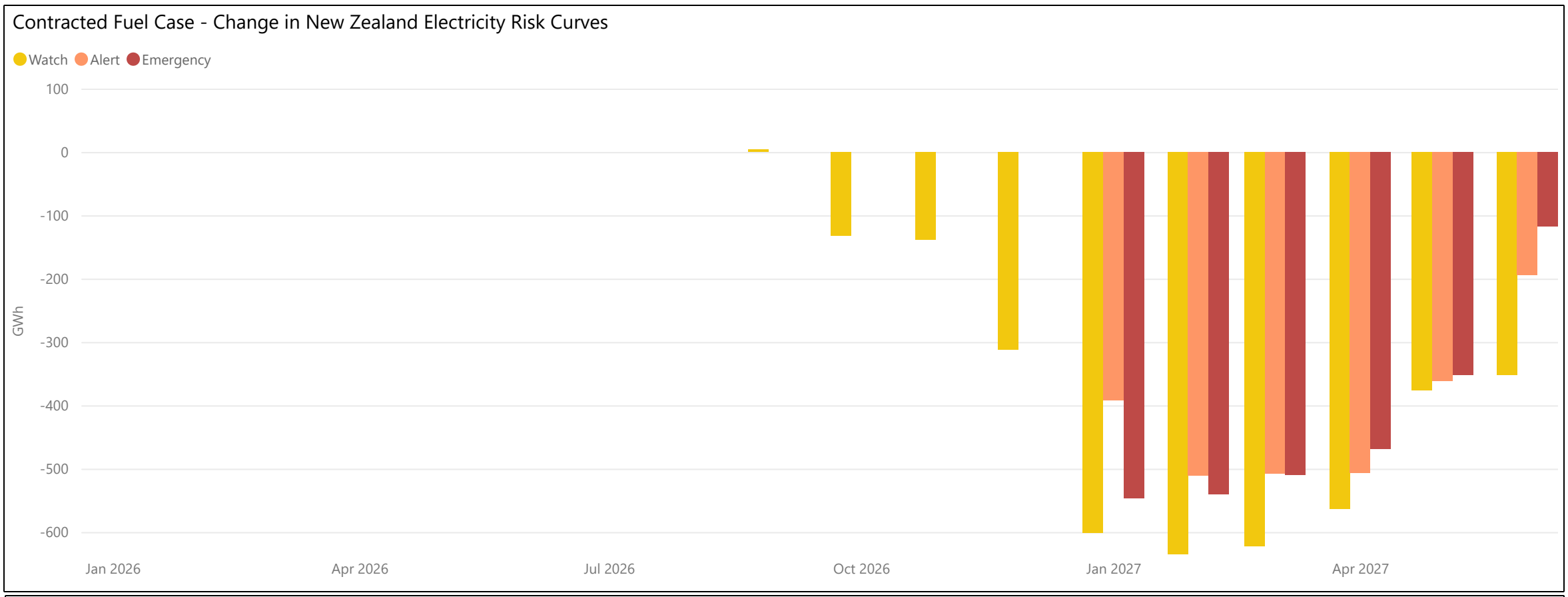
The combined effect of the changes in this update is a decrease in the risk curves. The New Zealand Watch curve decreases by up to 640 GWh in February 2027, while the South Island Watch curve decreases by up to 440 GWh in April 2027.

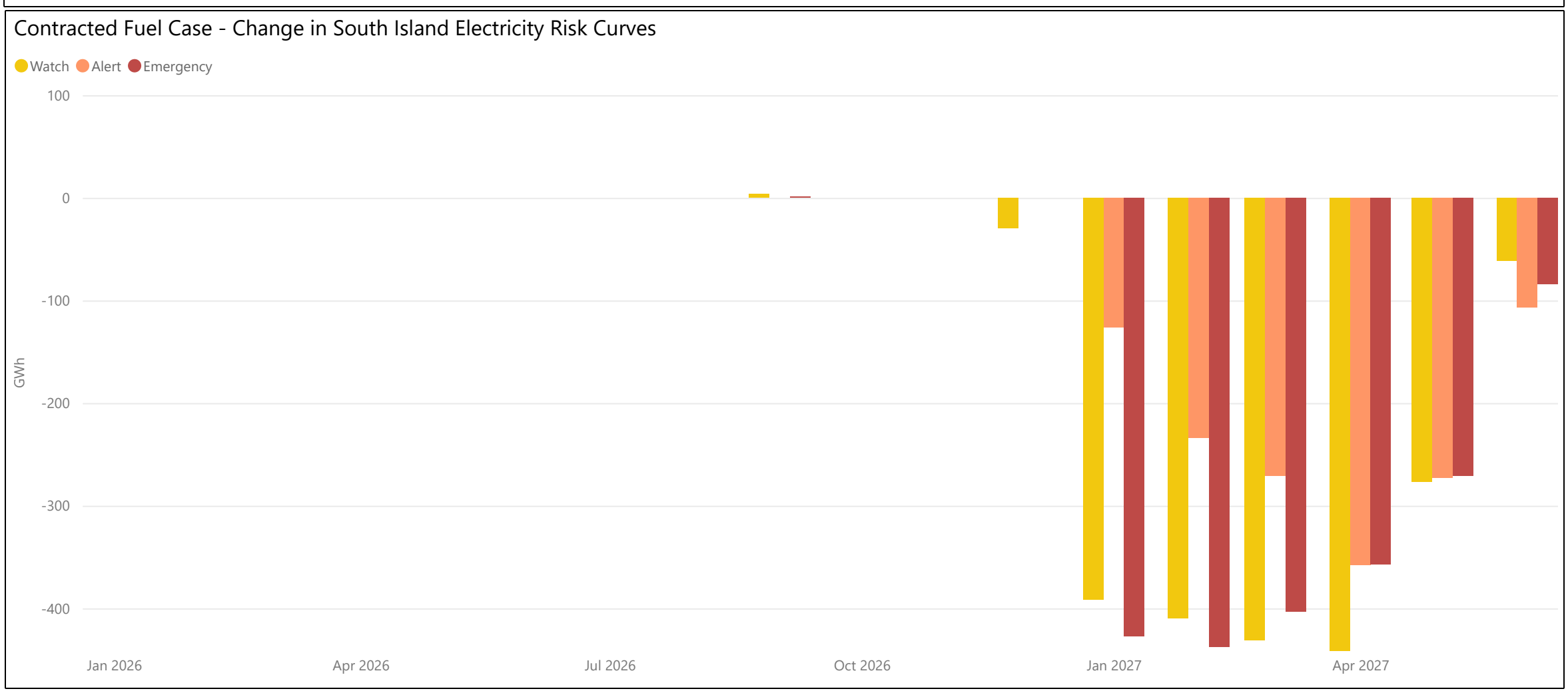
The main factor reducing the risk curves is:,

- Increased contracted gas volumes for 2027 compared with the previous update.
- Additional generation expected to be commissioned in 2027 compared with the previous update.

This decrease is partly offset by:

- Delays to generation commissioning dates.



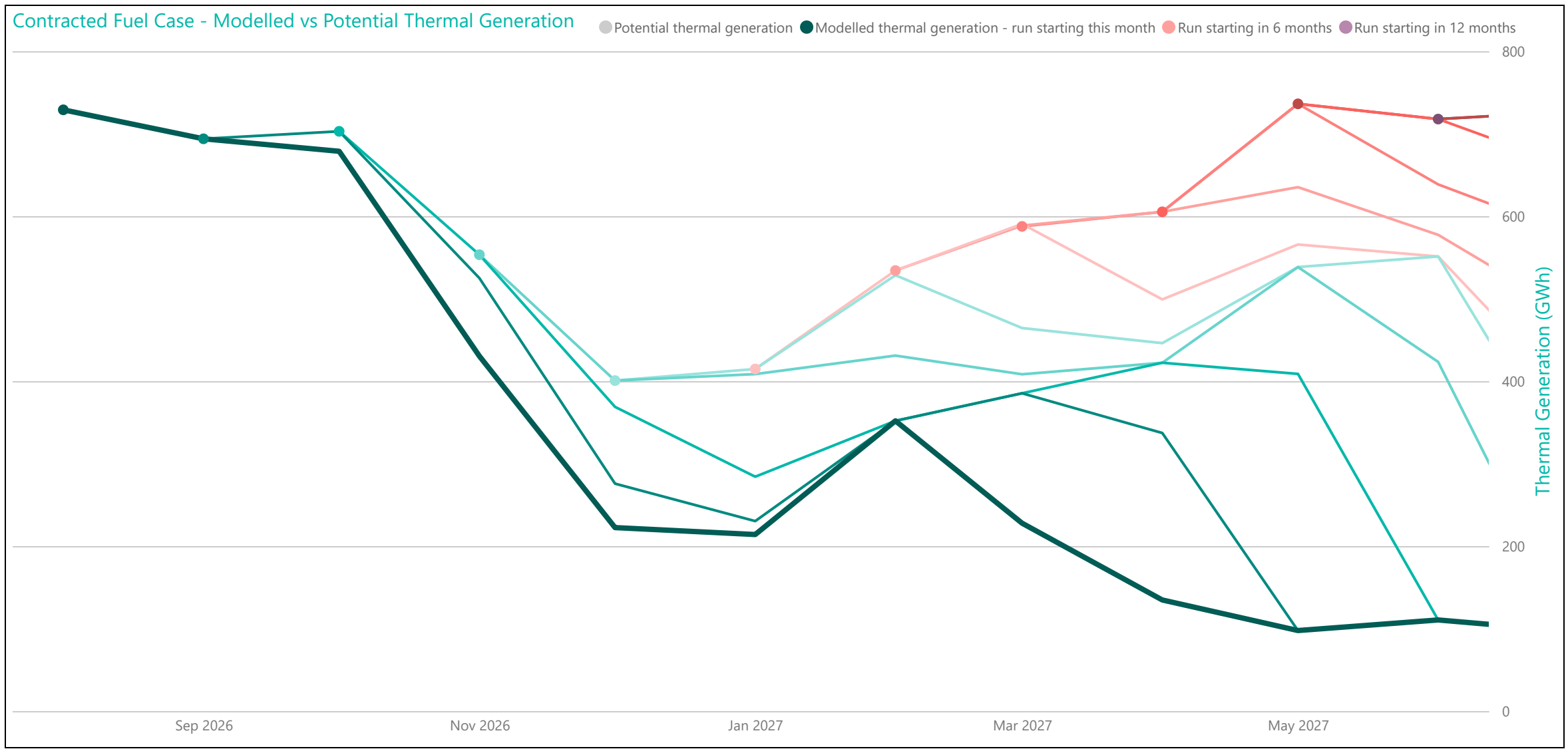


Contracted Fuel Case - Thermal Deratings

Thermal capacity typically reliant on spot market purchases or non-binding industrial flexibility is fully derated in this scenario. Only firmly secured, forward-contracted supply agreements are included in the available energy pool.

The Contracted Fuel Case includes the current coal stockpile, diesel storage and AGS gas reported as available for electricity generation, but does not assume additional future coal or diesel imports unless already contracted. Modelled thermal generation is therefore limited by available thermal units, physical fuel delivery limits, and firm contracted fuel volumes.

On the chart below, potential thermal generation is the total capacity of available units. Modelled thermal generation (shown by the lines) is what those units could generate using the gas and coal available for electricity generation. There is a separate model run starting each month, with the start of each run shown by a dot. In the table, each row corresponds to a separate run. Each run starts with a contracted volume of coal and gas, and modelled generation tends to decline initially as this available energy is consumed. Whirinaki is a diesel generator and is not included in the charts below, however it is still included in the model where it is limited to 60 GWh generation over a 6 month period.



Contracted Fuel Case - Modelled Thermal Generation (GWh) by Run Month

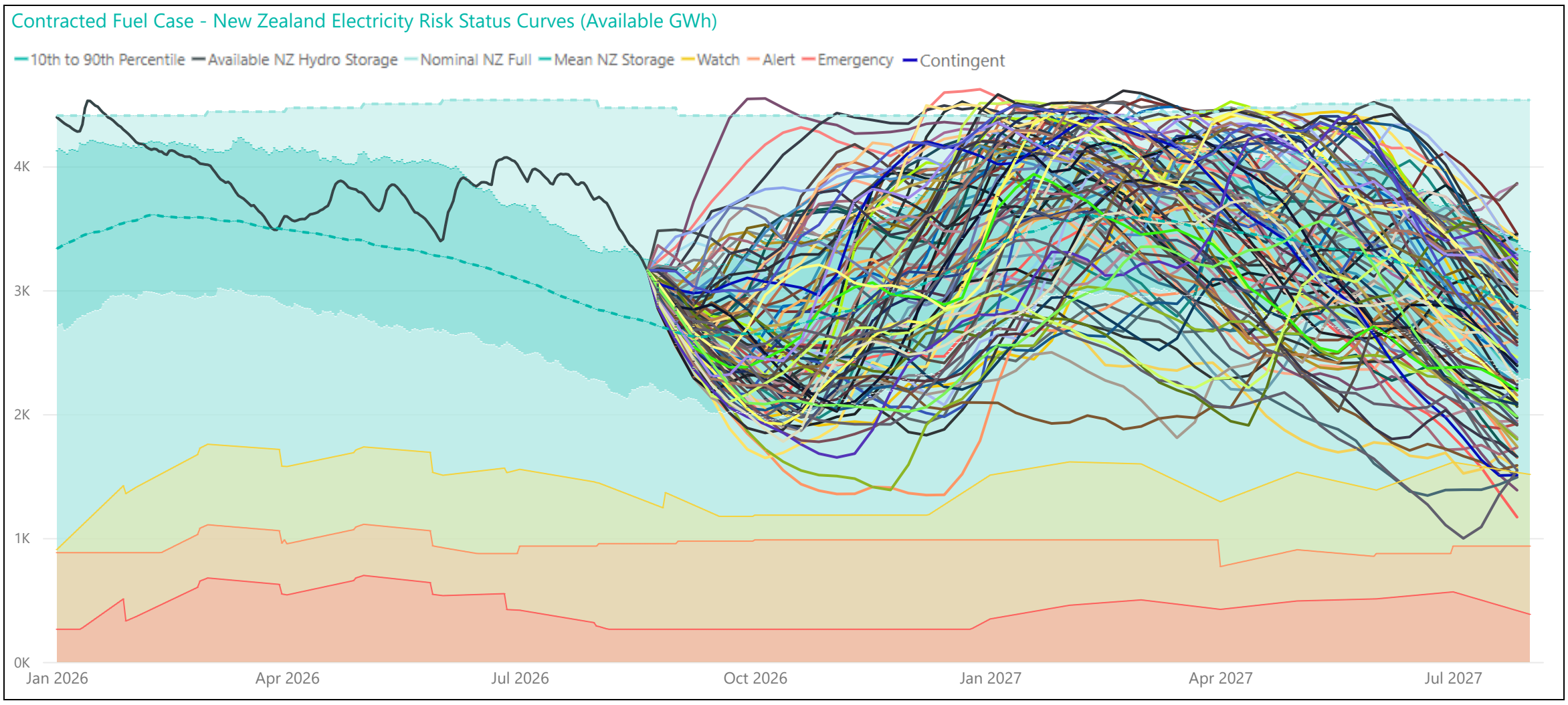
Run Month	2026-08	2026-09	2026-10	2026-11	2026-12	2027-01	2027-02	2027-03	2027-04	2027-05	2027-06	2027-07
2026-08	729	694	679	430	222	214	352	228	135	98	110	96
2026-09		694	703	525	276	230	352	385	337	98	110	96
2026-10			703	553	369	284	352	385	422	409	110	96
2026-11				553	401	409	431	408	422	538	423	96
2026-12					401	415	528	464	446	538	551	281
2027-01						415	534	591	499	566	551	378
2027-02							534	589	605	635	577	480
2027-03								588	605	736	639	577
2027-04									605	736	718	658
2027-05										736	718	727
2027-06											718	727
2027-07												727

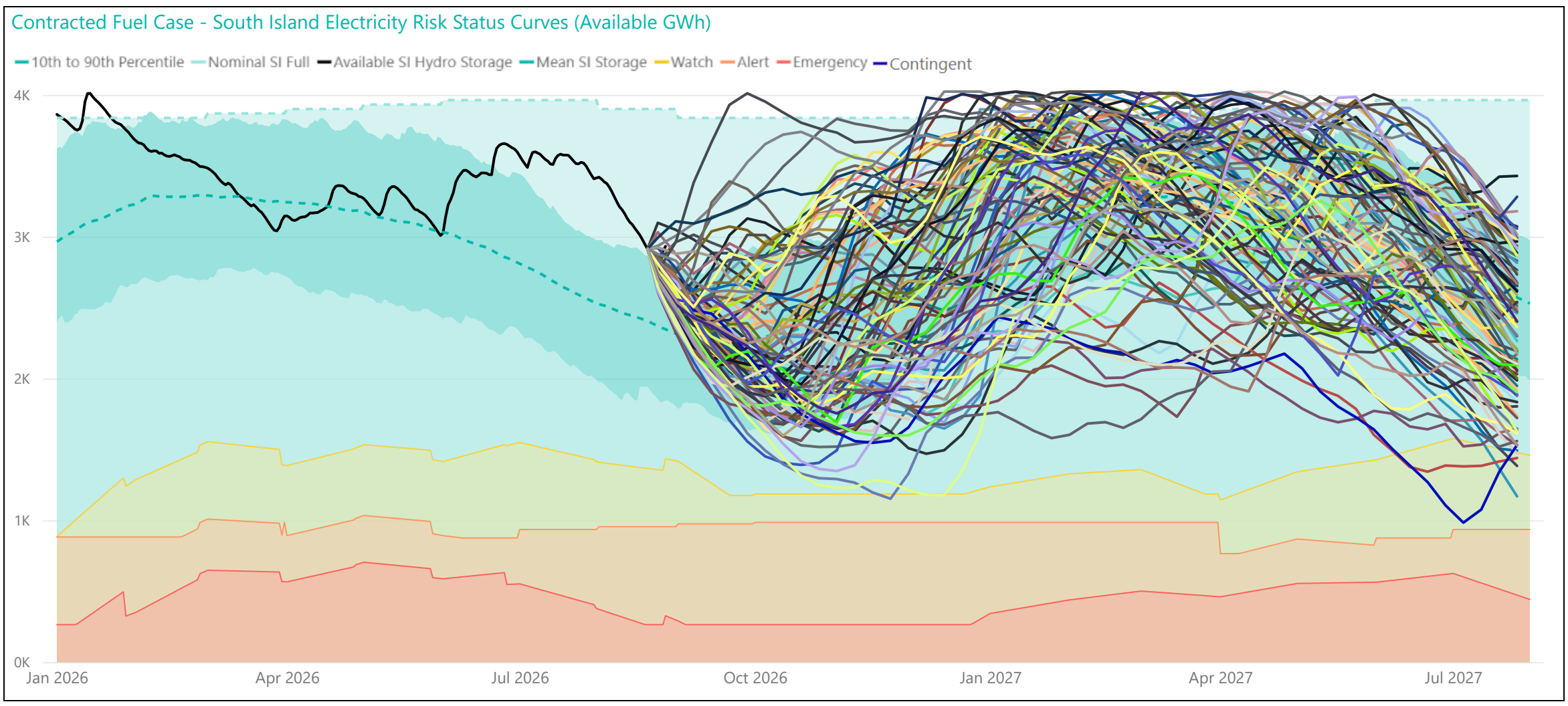
Contracted Fuel Case - Simulated Storage Trajectories

The August Contracted Fuel SST update is shown below. The hydro storage starting date is 20 August.

8 SSTs cross the New Zealand Watch curve in 2027. 2 SSTs cross the South Island Watch curve in 2026 and 7 cross the South Island Watch curve in 2027.

Fewer SSTs cross the risk curves than in the previous Contracted Fuel Case update due to the much stronger starting hydro storage position, which is a result of recent high hydro inflows. More SSTs cross the Watch curve than in the Fuel Capability Case because this case only reflects the actual contracted position at this point in time. Because commercial fuel agreements typically only extend for the near term, this highlights the gap to physical capability and reinforces that contracted positions require continuous updating to provide ongoing security of supply cover.





Contracted Fuel Case - Changes in the Electricity Risk Curves from Fuel Capability Case

The changes to the Watch, Alert, and Emergency curves under the Contracted Fuel Case compared to the Fuel Capability Case are detailed below.

Current levels of thermal storage (gas and coal) remain healthy. This is reflected in the Contracted Fuel Case with most of the system thermal generation capability being deliverable in 2026. Additional thermal fuel contracting in 2026 can increase thermal contribution and reduce the New Zealand risk curves in 2026 by up to 130 GWh or 22 Rankine days and South Island risk curves by up to 85 GWh or 15 Rankine days.

In 2027, there is a larger gap between the risk curves based on the Contracted Fuel Case versus the Fuel Capability Case. This is up to 430 GWh or 75 Rankine days for the New Zealand Watch curve and up to 240 GWh or 42 Rankine days for the South Island Emergency curve. This increase reflects the diminished ability of current fuel stockpiles and lighter firm contracted thermal fuel volumes further into the future to sustain a strong thermal generation response under future low inflow scenarios, relative to the physical thermal generation capability modelled in the Fuel Capability Case.

As discussed above, this also reflects a larger pool of physically available energy in 2027 that has not yet been commercially secured. The increase of the curves into 2027 reflects the market's tendency toward contracting closer to need, where participants finalise firm fuel contracts closer to the period of actual consumption.