

September 2026 Energy Security Outlook

▲ Wednesday, 30 September 2026

The Electricity Risk Curves are evaluated through two lenses:

- 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
- 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 133% of the historic mean with South Island storage at 142% (at 29 September), 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 [September-November Climate Outlook](#) is for "normal 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 the New Zealand or South Island risk curves in 2026. In 2027:

- one trajectory crosses the New Zealand Watch and Alert curves; and
- four trajectories cross the South Island Watch curve, including one that also crosses the South Island Alert curve.

There is little change to the 2026 risk curves compared with the previous update. The 2027 risk curves are lower, primarily because:

- more gas is allocated and available for electricity generation in a dry year following the [Methanex idling its New Zealand production](#); and
- additional generation is expected to be commissioned during 2027.

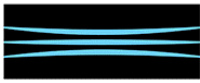
Together, these factors indicate a low risk of hydro storage depletion given the current storage levels and future market conditions where the market continues to supplement thermal fuel to manage extended periods of low hydro inflows.

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 all 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.

The contracted fuel case has come down in 2027 (relative to last month) with the [contracting of additional gas](#). There is still a gap between the Contracted Fuel Case and Fuel Capability Case (albeit smaller than last month). This difference is up to ~97 GWh or 17 Rankine days. There are some SSTs crossing the Watch Curve (5 for the New Zealand Watch curve and 9 for the South Island) and Alert curve (1 for the New Zealand Watch curve and 1 for the South Island).

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.

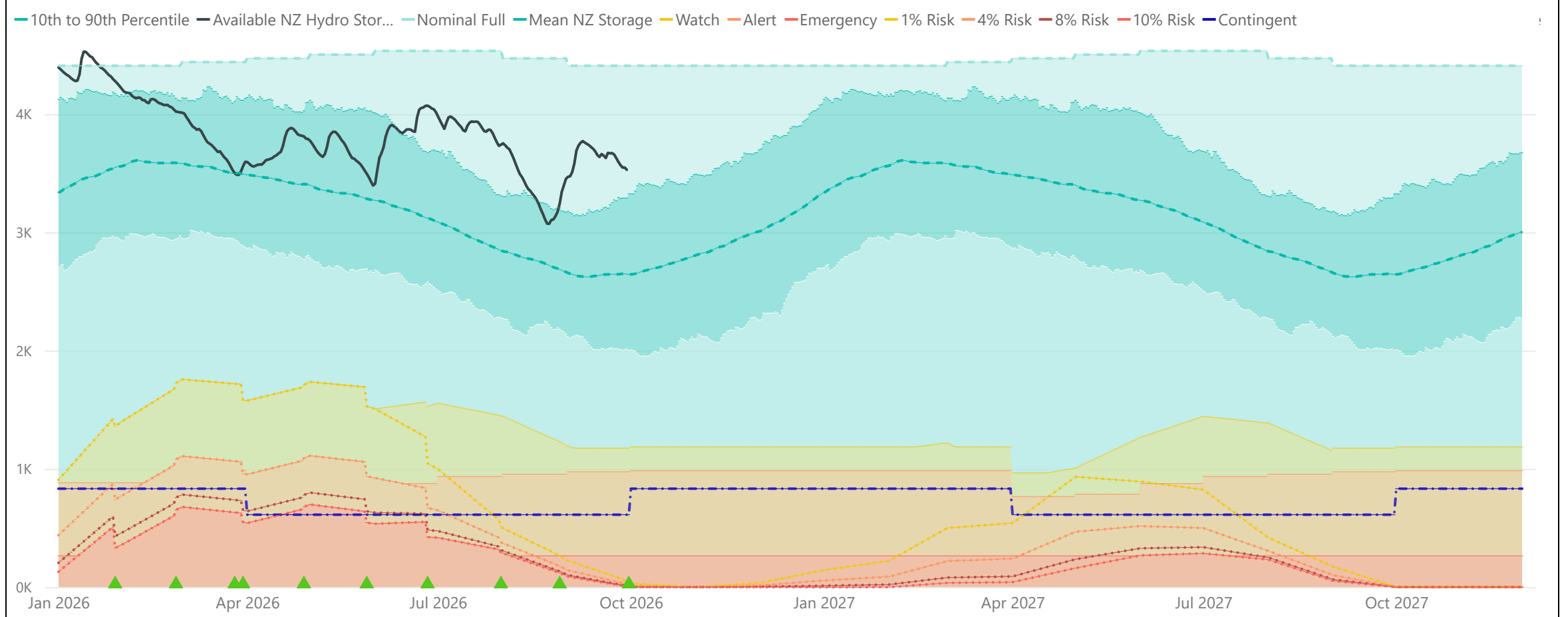


Fuel Capability Case - Electricity Risk Curves (ERCs) - Updates and Assumptions

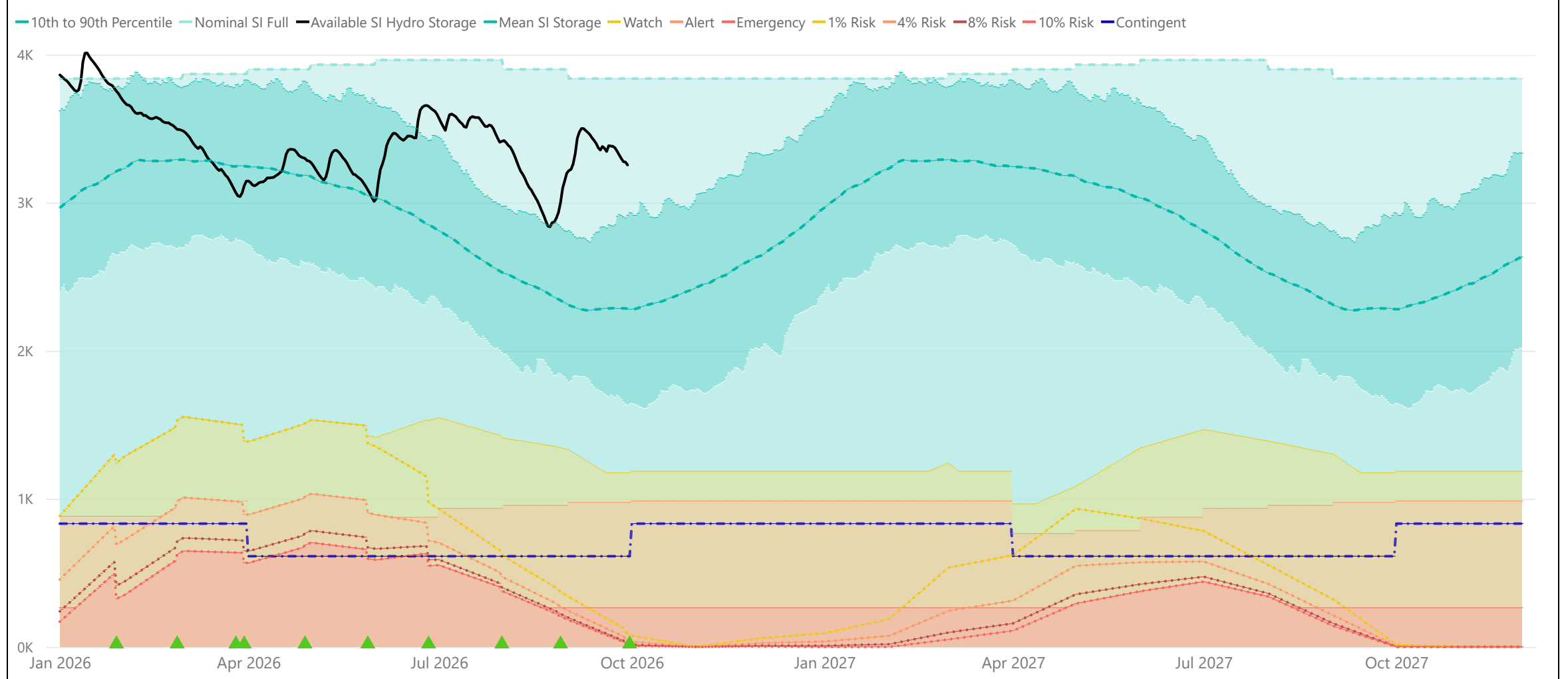
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- Input data prepared as of 16 September indicates (~16%) decreases in current Ahuroa Gas Storage (AGS) levels, while the current coal stockpile remains at a similar level and near its maximum level.
- The generation capability of the thermal fleet 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.

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



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



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 decreased by up to 137 GWh for the Watch curve in May 2027. The South Island ERCs have decreased by up to 88 GWh for the Emergency curve in May 2027.

These reductions in risk curves are primarily due to increased gas availability for electricity generation during a dry year in the first half of 2027, driven by the Methanex idling its NZ production.

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



Fuel Capability Case - Thermal Deratings

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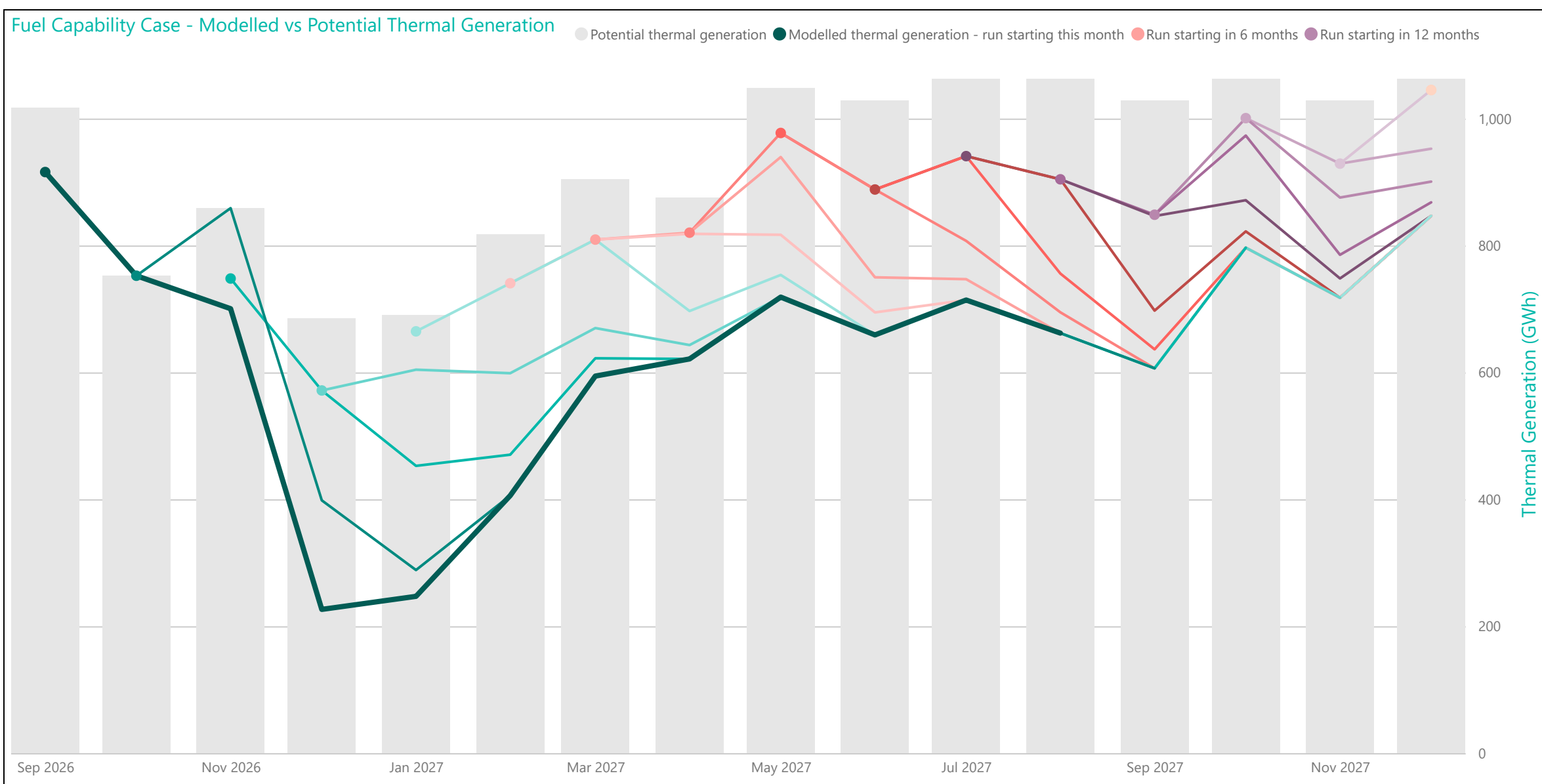
The thermal deratings and key considerations for the September 2026 ERCs update are below:

- Modelled thermal generation is higher than in the previous update due to increased gas availability for electricity generation during a dry year, particularly in 2027.
- Gas stored at AGS decreased to 5.2 PJ at the beginning of September. This could fuel a large combined-cycle gas plant at full output for ~3 months, ignoring gas drawdown constraints, or a peaker for ~8 months.
- The current coal stockpile can fuel three Rankines at full output for ~4 months, or one Rankine for ~13 months without further imports.

In the chart below, potential thermal generation represents the total capacity of available thermal units. Modelled thermal generation shows what those units could generate using the gas and coal available for electricity generation.

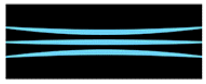
A separate model run begins each month, with its starting point shown by a dot. Each row on the table represents a separate run. Each run begins with the coal and gas available at that time, with modelled generation generally declining initially as stored fuel is used.

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 Thermal Generation (GWh) by Run Month

Run Month	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
2026-09	916	752	700	227	247	406	594	621	719	659	714	662				
2026-10		752	859	398	289	406	594	621	719	659	714	662	607			
2026-11			748	572	453	470	622	621	719	659	714	662	607	797		
2026-12				572	604	599	670	643	719	659	714	662	607	797	718	
2027-01					665	740	809	697	754	659	714	662	607	797	718	847
2027-02						740	809	818	817	695	714	662	607	797	718	847
2027-03							809	820	939	750	747	662	607	797	718	847
2027-04								820	977	888	807	695	607	797	718	847
2027-05									977	888	941	756	636	797	718	847
2027-06										888	941	904	697	822	718	847
2027-07											941	904	846	871	748	847
2027-08												904	848	973	785	868
2027-09													848	1001	876	901
2027-10														1001	929	952
2027-11															929	1045
2027-12																1045



Fuel Capability Case - Simulated Storage Trajectories (SSTs)

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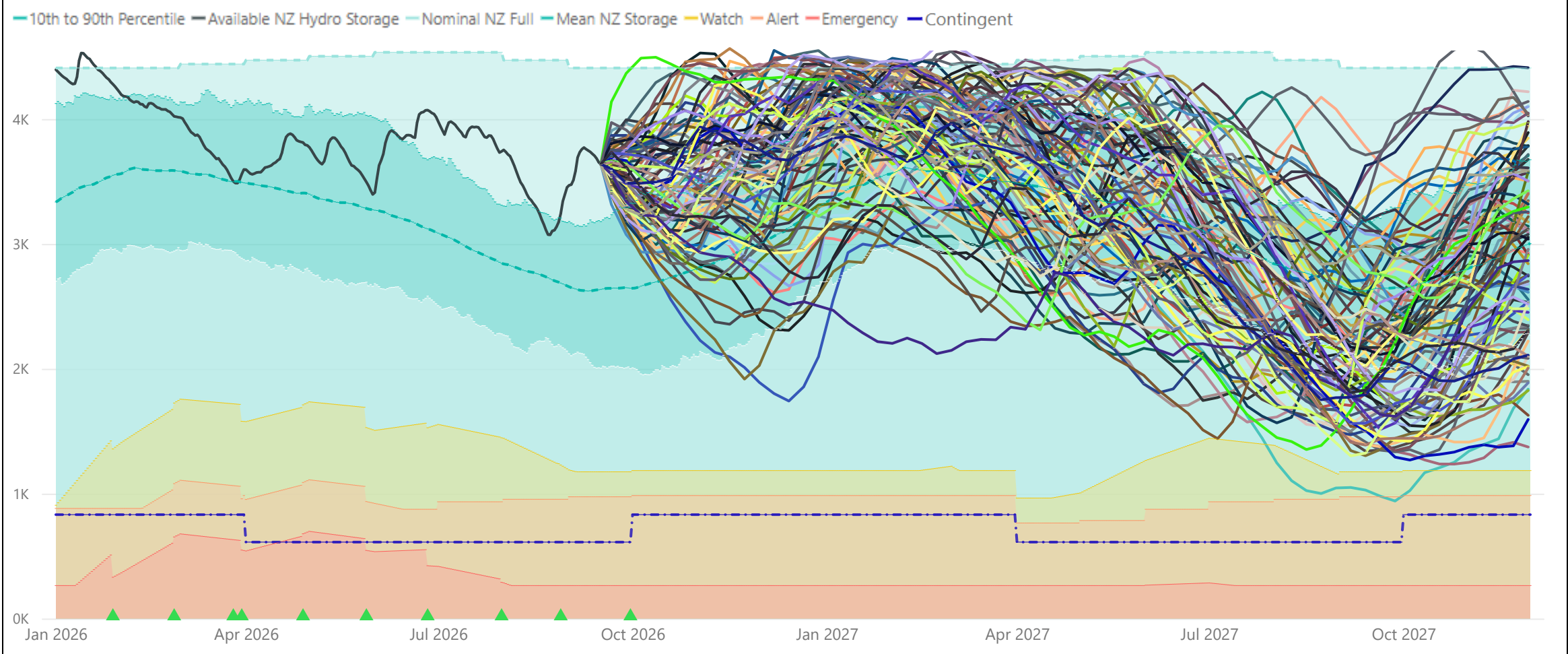
The September SST update is shown below. The hydro storage starting date is 16 September.

No SSTs cross any of the NZ or SI risk curves in 2026.

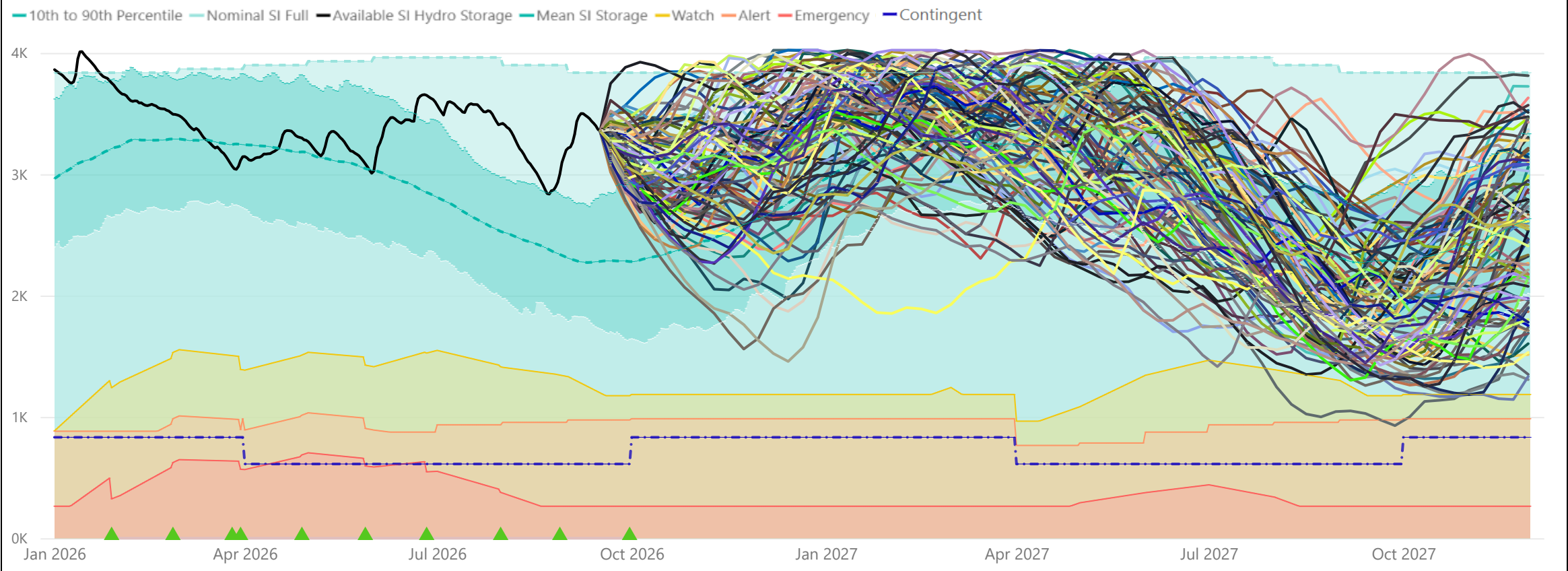
In 2027:

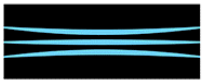
- 1 SST crosses the New Zealand Watch and Alert curves; and
- 4 SSTs cross the South Island Watch curve, including one that also crosses the South Island Alert curve.

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.

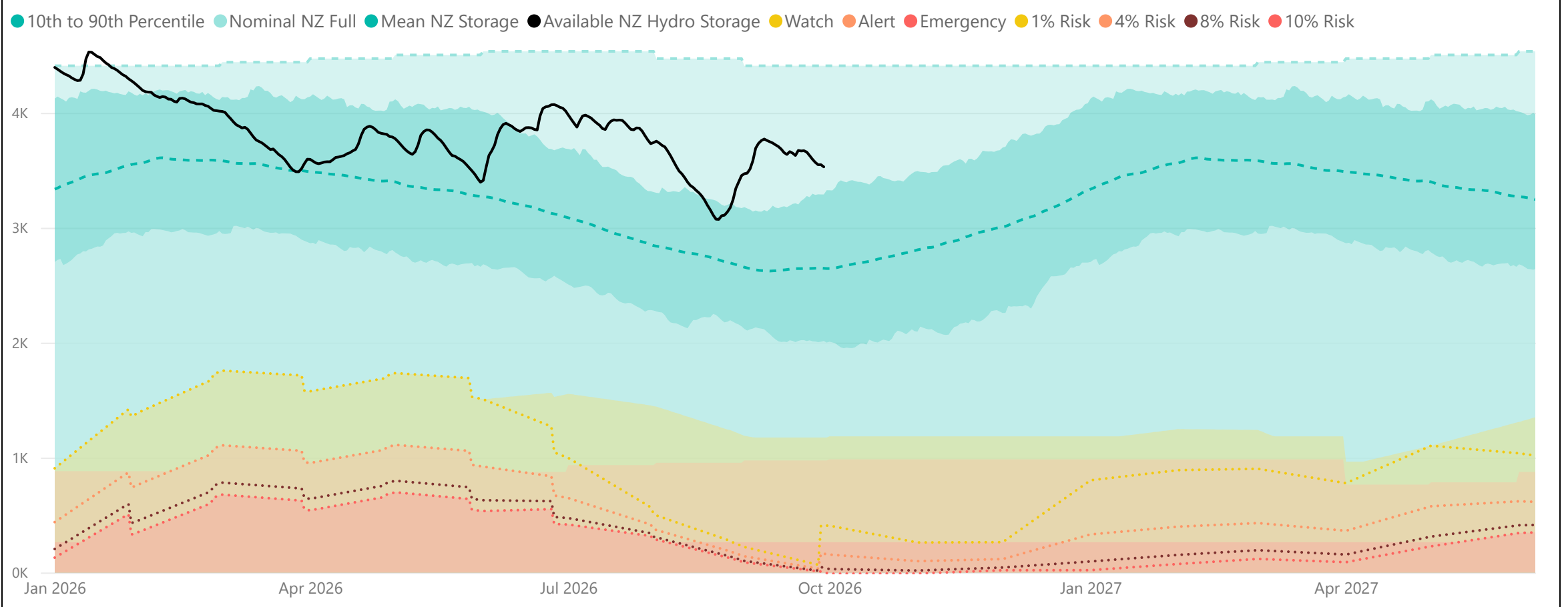
The risk curves are lower through the remainder of 2026 than in 2027. This reflects current thermal fuel stockpiles and contracts, which enable a stronger thermal response to low hydro inflows in 2026.

The risk curves are higher in 2027 because current firm contracts do not cover all thermal fuel that could be physically available. The gap between the Contracted Fuel and Fuel Capability risk curves represents physically available thermal energy that has not yet been commercially secured.

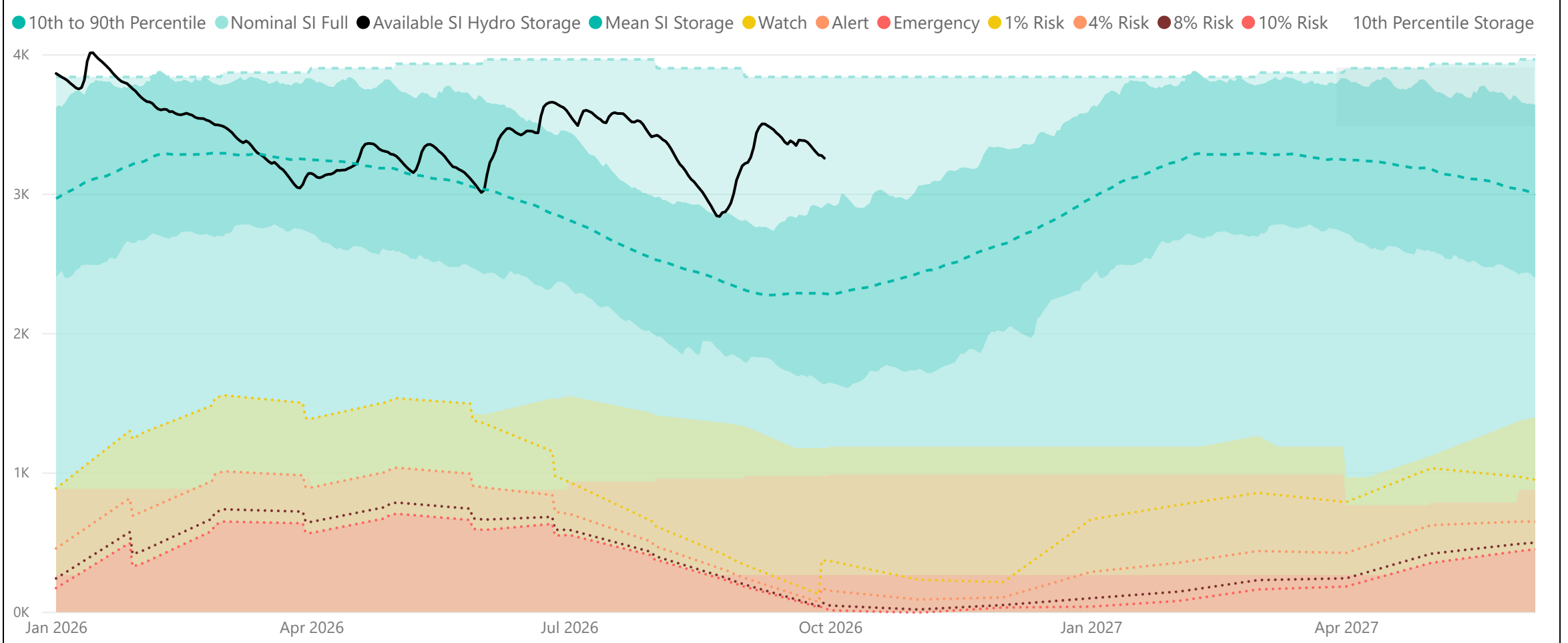
The 2026 and 2027 risk curves have decreased since the previous update. The main drivers are discussed on the next page.

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 - New Zealand Electricity Risk Status Curves (Available GWh)



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





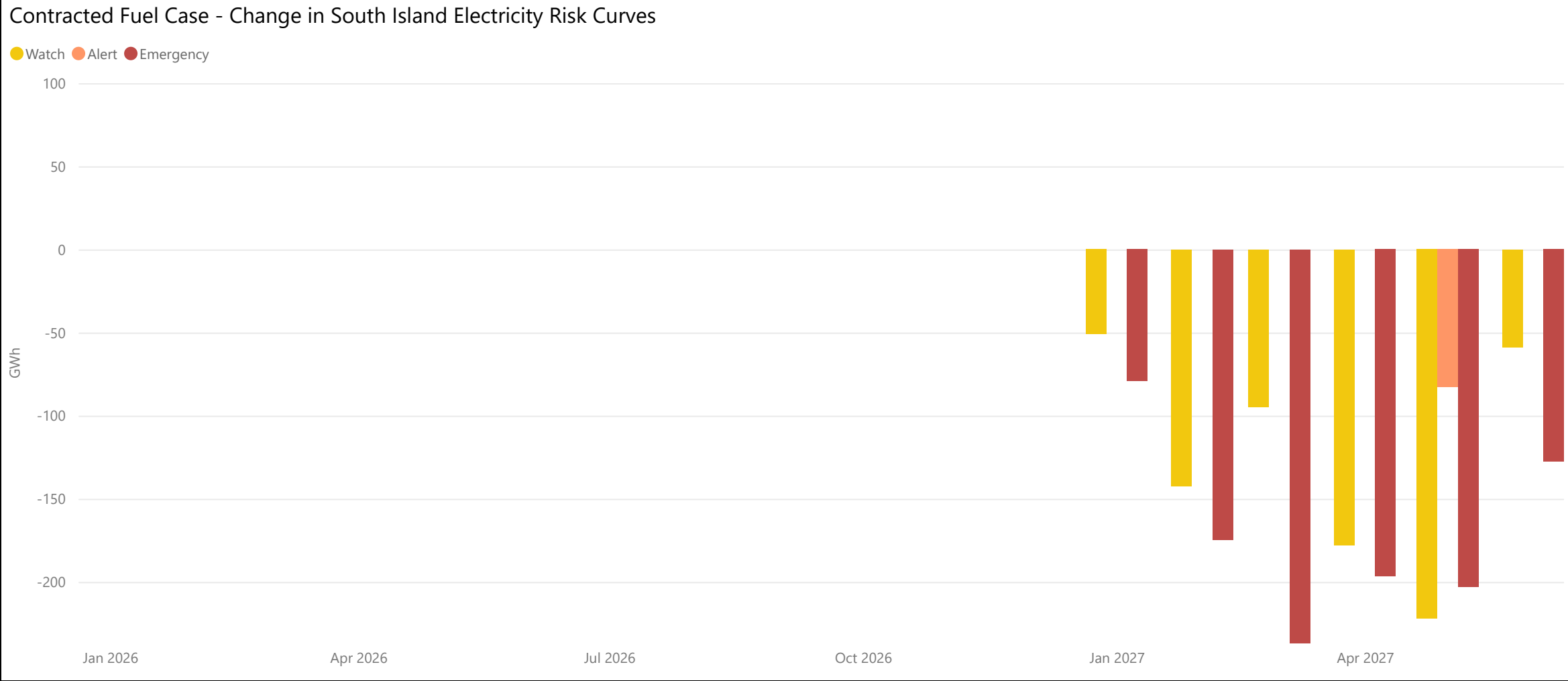
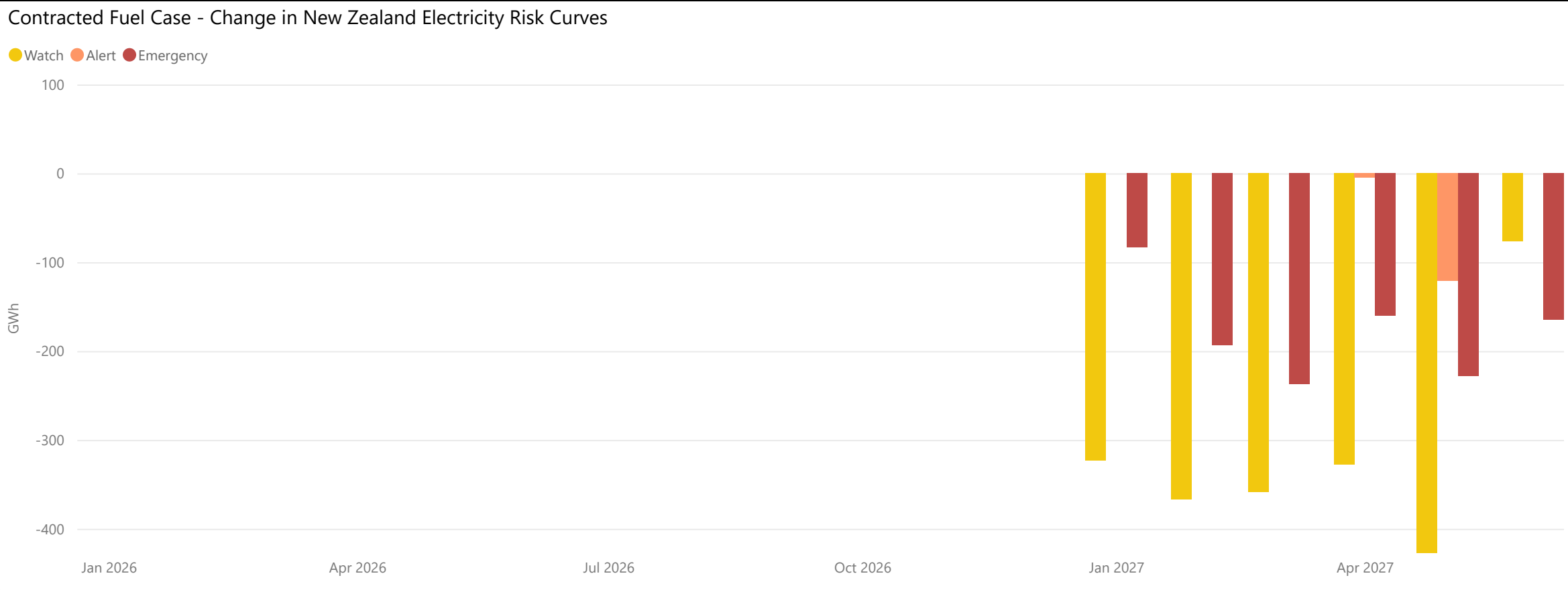
Contracted Fuel Case - Changes in the Electricity Risk Curves from Previous Update

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 427 GWh in May 2027, while the South Island Watch curve decreases by up to 237 GWh in March 2027.

The main factor reducing the risk curves is;

- Increased contracted gas volumes for 2027 compared with the previous update driven by [generators contracting additional gas](#).
- Additional generation expected to be commissioned in 2027 compared with the previous update.

These reductions are partly offset by delays to some generation commissioning dates.



Contracted Fuel Case - Thermal Deratings

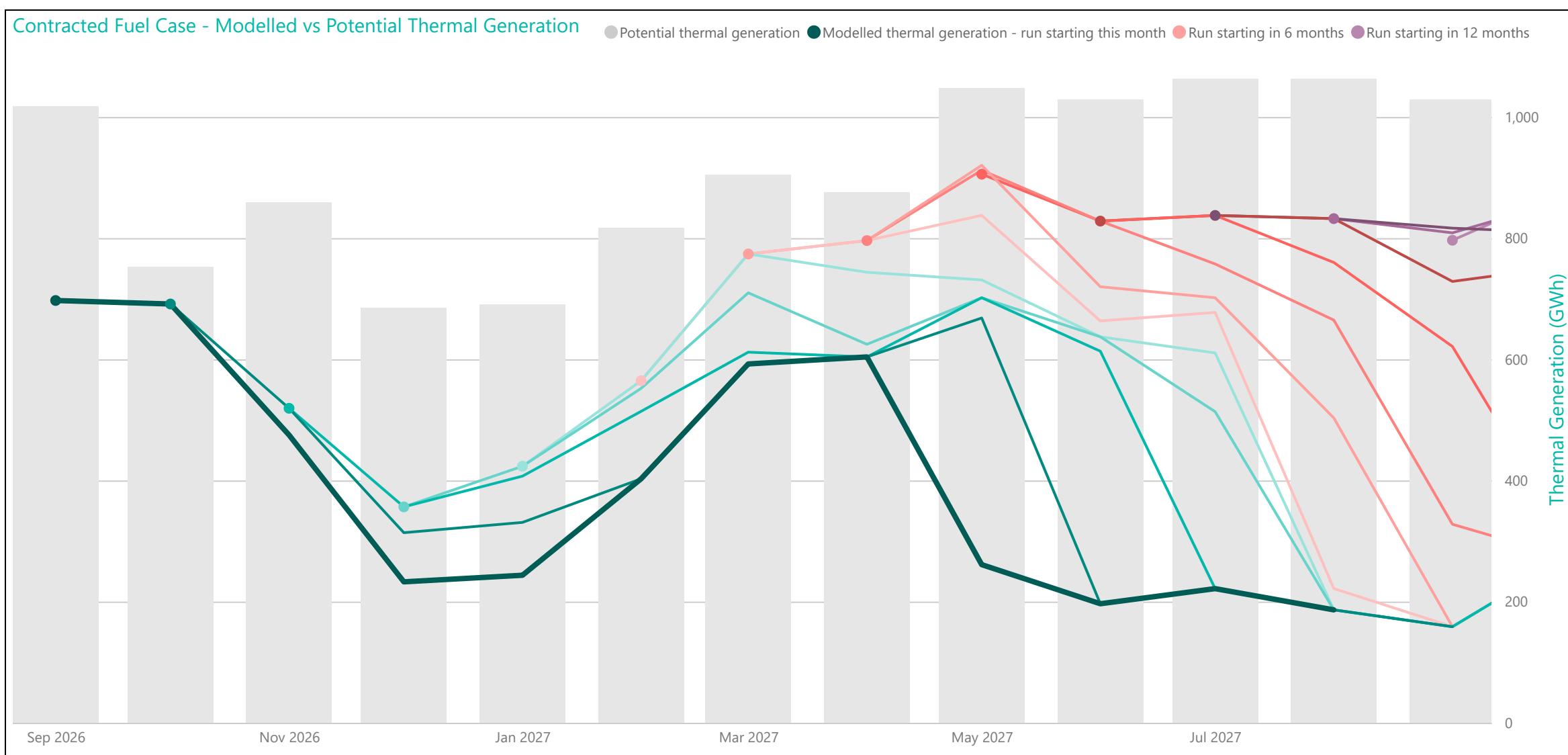
Thermal generation that relies on spot fuel purchases or non-binding industrial demand flexibility is fully derated in this case. Only fuel available under firm contracts is included.

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

In the chart below, potential thermal generation represents the total capacity of available units. Modelled thermal generation shows what those units could generate using the gas and coal available for electricity generation.

A separate model run begins each month, with its starting point shown by a dot. Each row in the table represents a separate run. Each run begins with the contracted coal and gas available at that time, with modelled generation generally declining initially as this fuel is used.

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

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Contracted Fuel Case - Simulated Storage Trajectories

The September Contracted Fuel SST update is shown below. The hydro storage starting date is 16 September.

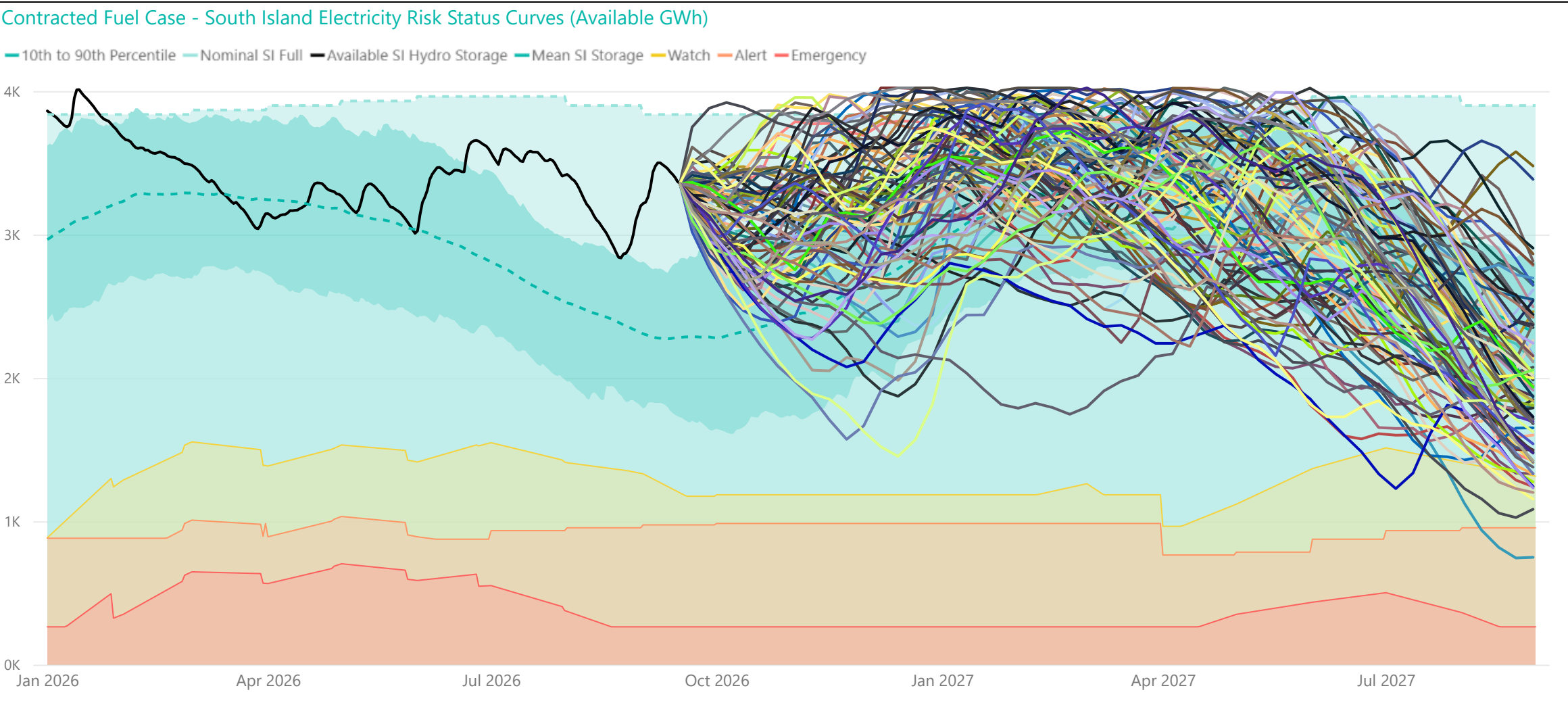
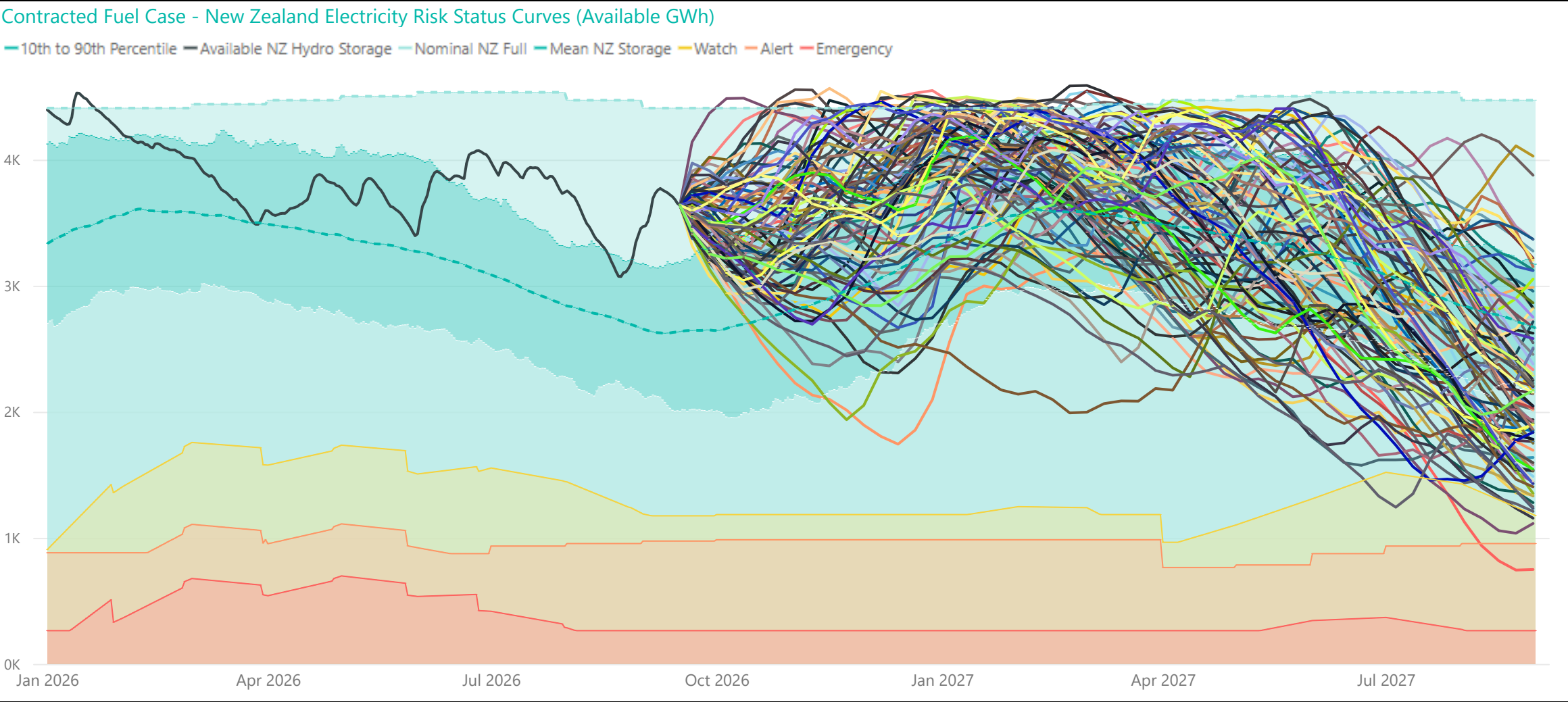
No SSTs cross any of the NZ or SI risk curves in 2026.

In 2027:

- 5 SSTs cross the New Zealand Watch curve, including one that also crosses the New Zealand Alert curve; and
- 9 SSTs cross the South Island Watch curve, including one that also crosses the South Island Alert curve.

Fewer SSTs cross the risk curves than in the previous Contracted Fuel Case update due to the much stronger starting hydro storage position[RN6.1], 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 charts below show the differences in the Watch, Alert and Emergency curves between the Contracted Fuel and Fuel Capability cases.

Current coal and gas storage levels remain healthy. Together with existing fuel contracts, this allows all available thermal generation capability to be delivered in 2026 under the Contracted Fuel Case.

The contracted fuel case has come down in 2027 (relative to last month) with the [contracting of additional gas](#). There is still a gap between the Contracted Fuel Case and Fuel Capability Case in 2027 (albeit smaller than last month). This difference is up to ~97 GWh or 17 Rankine days. There are some SSTs crossing the Watch Curve (5 for the New Zealand Watch curve and 9 for the South Island) and Alert curve (1 for the New Zealand Watch curve and 1 for the South Island).

This also reflects an albeit smaller 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.

