

October 2026 Energy Security Outlook

▲ Friday, 30 October 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 124% of the historic mean with South Island storage at 131% (at 29 October), providing a strong energy storage position for the current winter. Earth Sciences NZ (formerly NIWA) [has confirmed](#) that very strong El Niño conditions have been reached. The [October-December 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 a high chance for very strong El Niño conditions to persist and its 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
- two 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. In 2027 the net effect of lower forecast gas availability, increased demand and additional wind generation results in a small increase in the risks curves in most months.

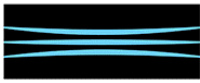
Together, these factors indicate a low risk of hydro storage depletion given the current storage levels and future market conditions where the market continues to supplement thermal fuel to manage extended periods of low hydro inflows.

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 risk curves have increased during the first half of 2027 due to lower contracted gas availability, before decreasing from June to August 2027 due to higher contracted gas availability.. There is still a gap between the Contracted Fuel Case and Fuel Capability Case which is up to ~110 GWh or 19 Rankine days. There are some SSTs crossing the Watch Curve (10 for the New Zealand Watch curve and 16 for the South Island) and Alert curve (2 for the New Zealand Watch curve and 2 for the South Island).

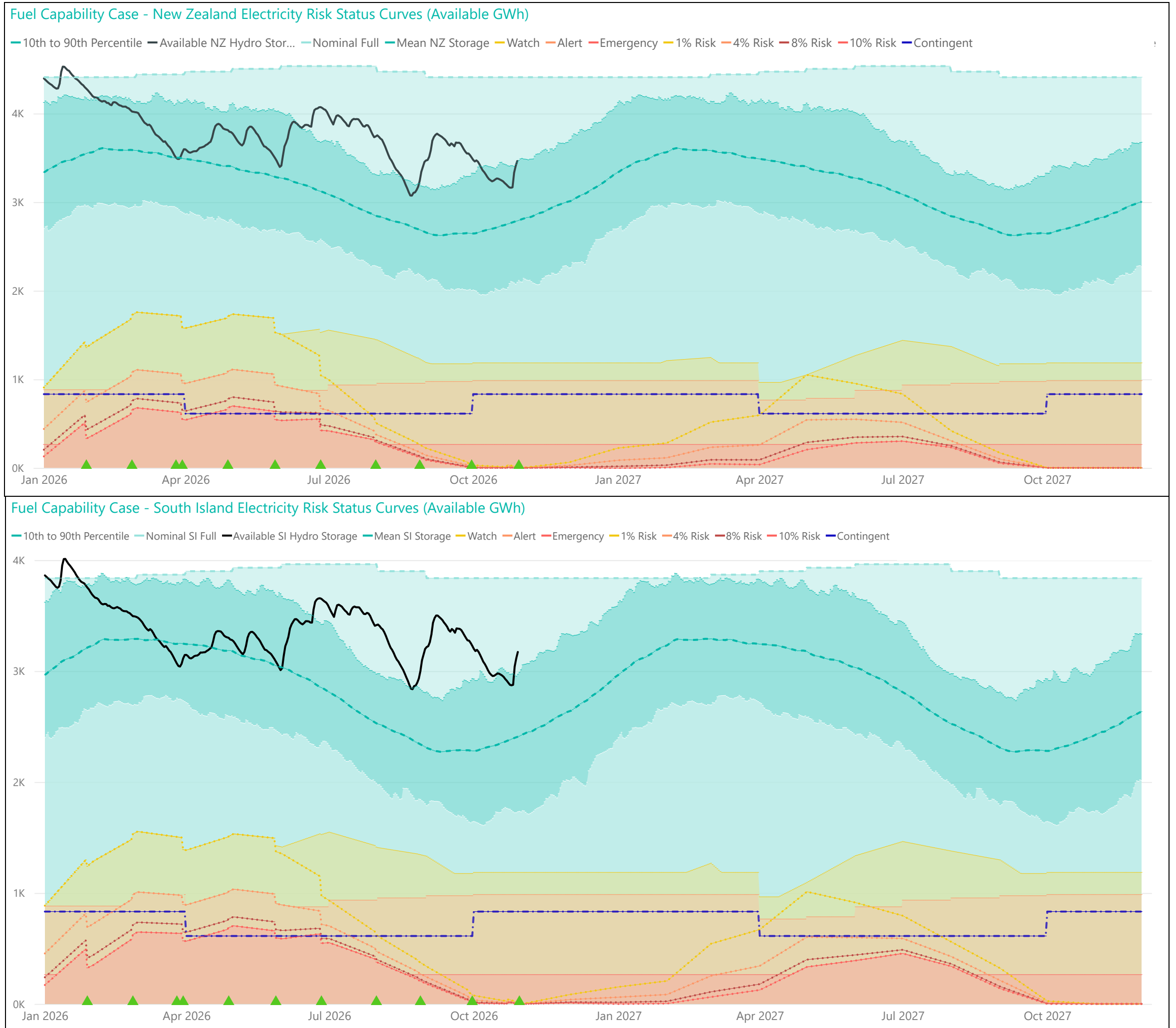
By restricting available energy strictly to currently secured contracts, this Contracted Fuel Case intentionally highlights the physical capacity that remains uncontracted, and the ability for additional contracting to reduce risks. This reinforces that contracted positions require continuous updating 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 October indicates (~14%) 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.



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 Watch curve has increased by up to 44 GWh in May 2027 and decreased by up to 17 GWh in August 2027. The smaller decrease in middle of 2027 (by up to 17 GWh or 3 Rankine days) is due to a reduction in the largest hydro storage decline in these months which is used to set the Watch curve.

The South Island Emergency curve has increased by up to 41 GWh in May 2027.

Changes are also influenced by shifts in project commissioning timing. While several projects have been delayed slightly over the past month, one additional wind farm is now expected to be commissioned in Q2-2028 compared with the previous update.



Fuel Capability Case - Thermal Deratings

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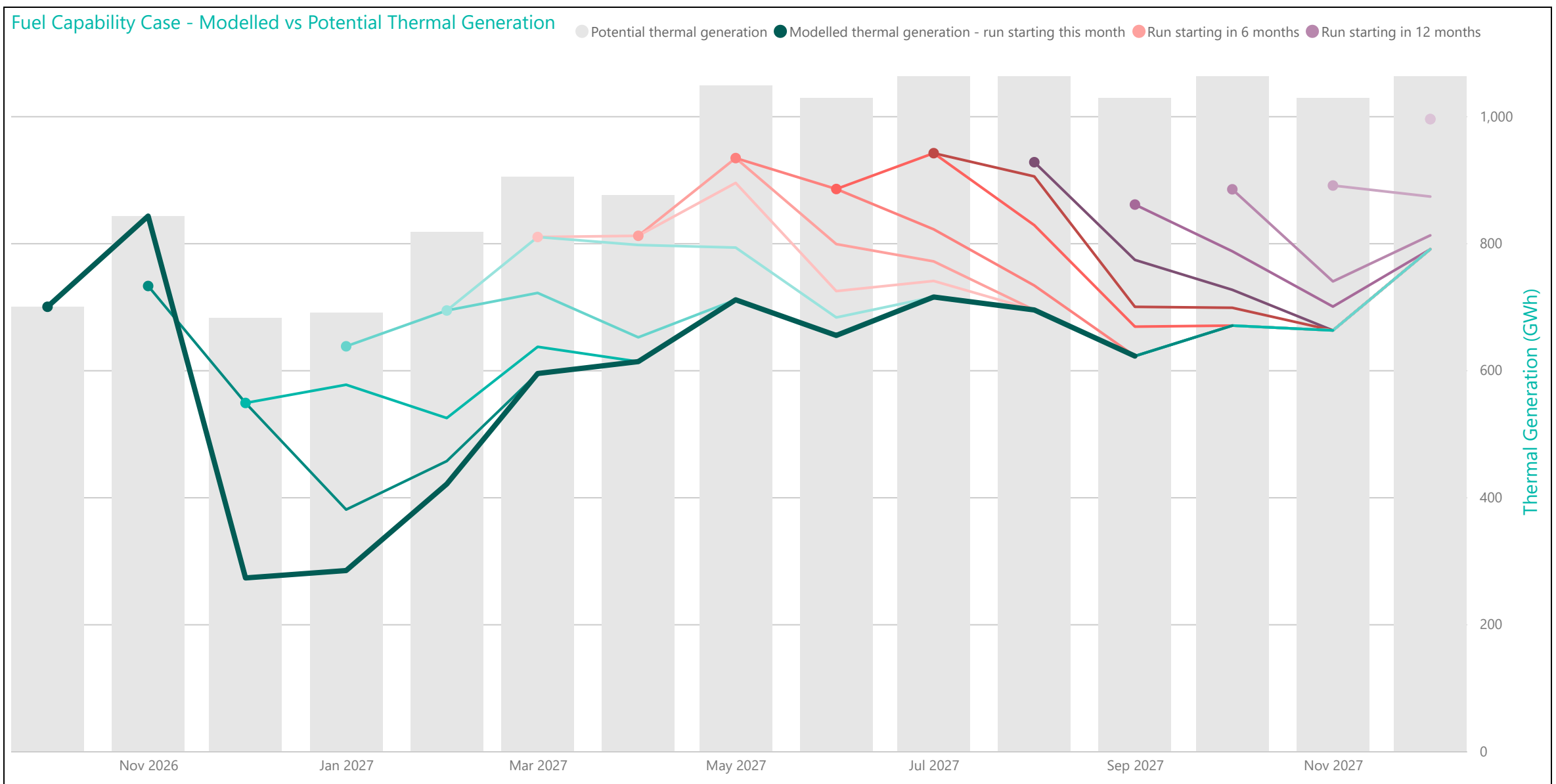
The thermal deratings and key considerations for the October 2026 ERCs update are below:

- Modelled thermal generation is slightly lower than in the previous update due to decreased gas availability for electricity generation during a dry year in first half of 2027.
- Gas stored at AGS decreased to 4.4 PJ at the beginning of October. This could fuel a large combined-cycle gas plant at full output for ~2 months, ignoring gas drawdown constraints, or a peaker for ~7 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.

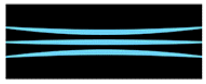
A separate model run begins each month, with its starting point shown by a dot. Each row on the table represents a separate run. Each run begins with the coal and gas available at that time, with modelled generation generally declining initially as stored fuel is used.

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

[illegible]



Fuel Capability Case - Simulated Storage Trajectories (SSTs)

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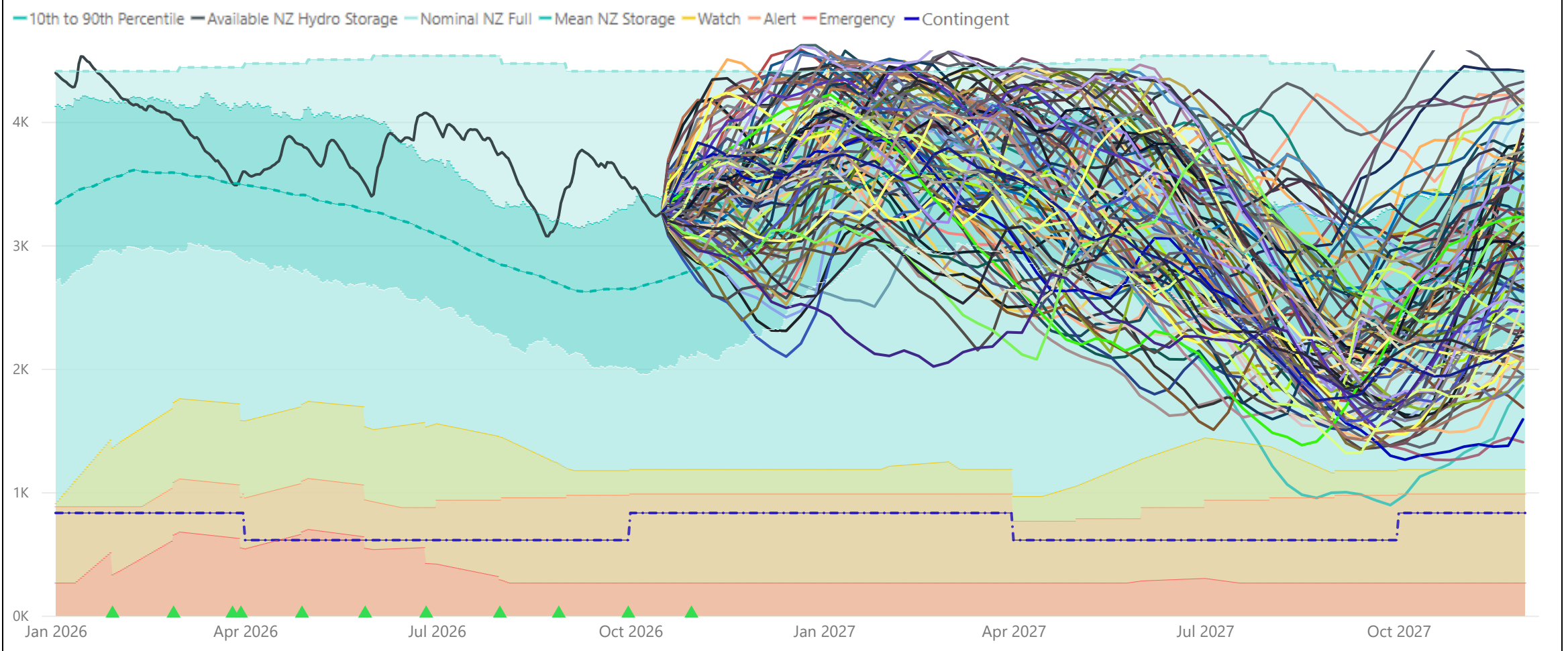
The October SST update is shown below. The hydro storage starting date is 16 October.

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

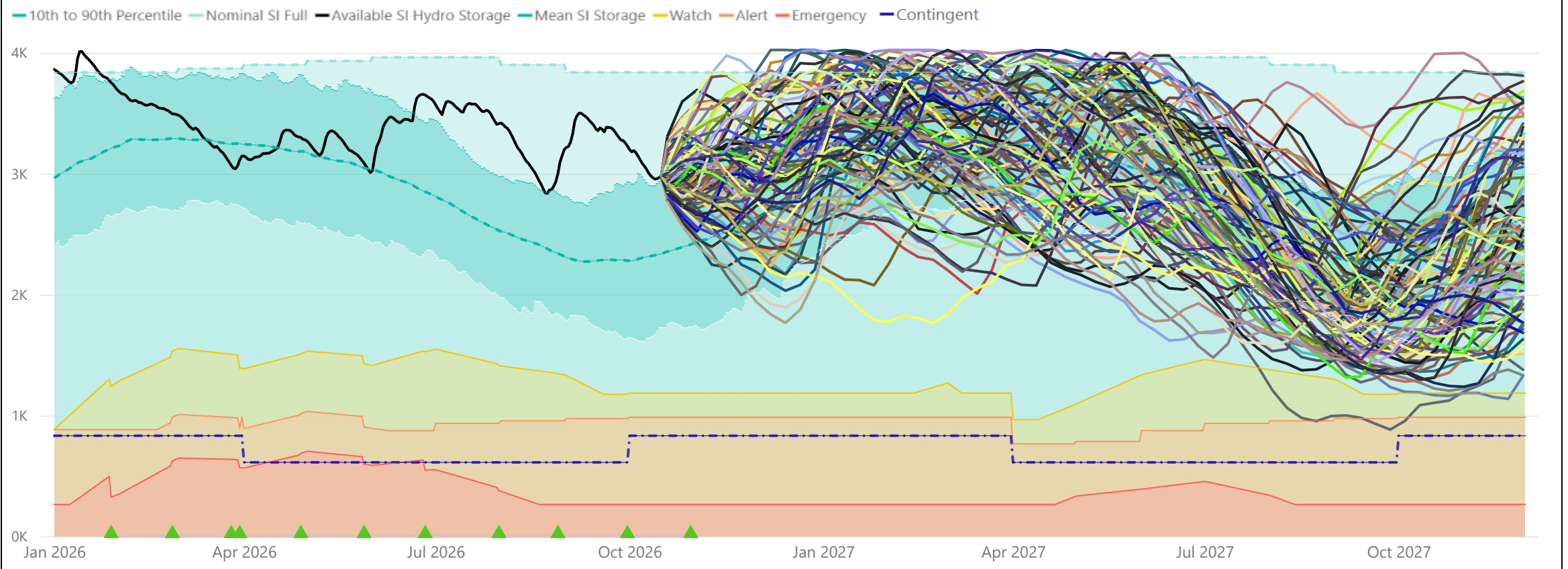
In 2027:

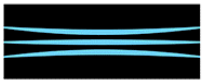
- 1 SST crosses the New Zealand Watch and Alert curves; and
- 2 SSTs cross the South Island Watch curve, including one that also crosses the South Island Alert curve.

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.

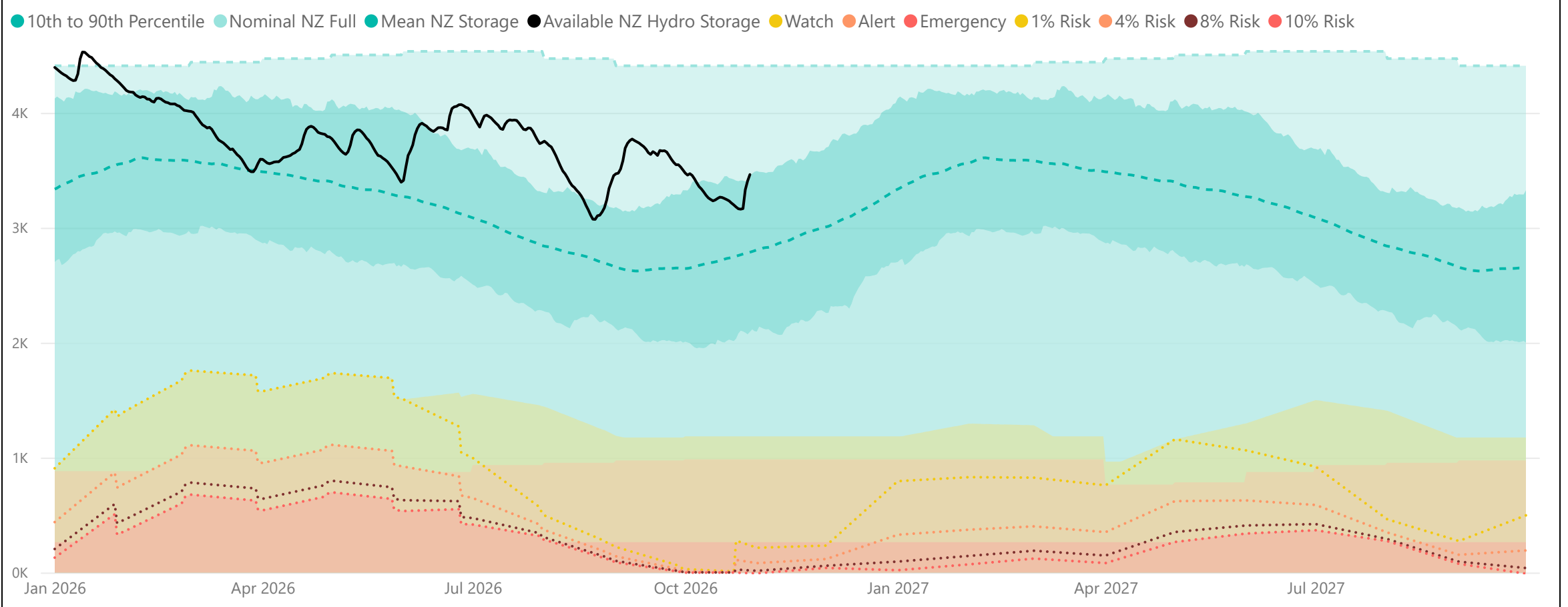
The risk curves are lower through the remainder of 2026 than in 2027. This reflects current thermal fuel stockpiles and contracts, which enable a stronger thermal response to low hydro inflows in 2026.

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.

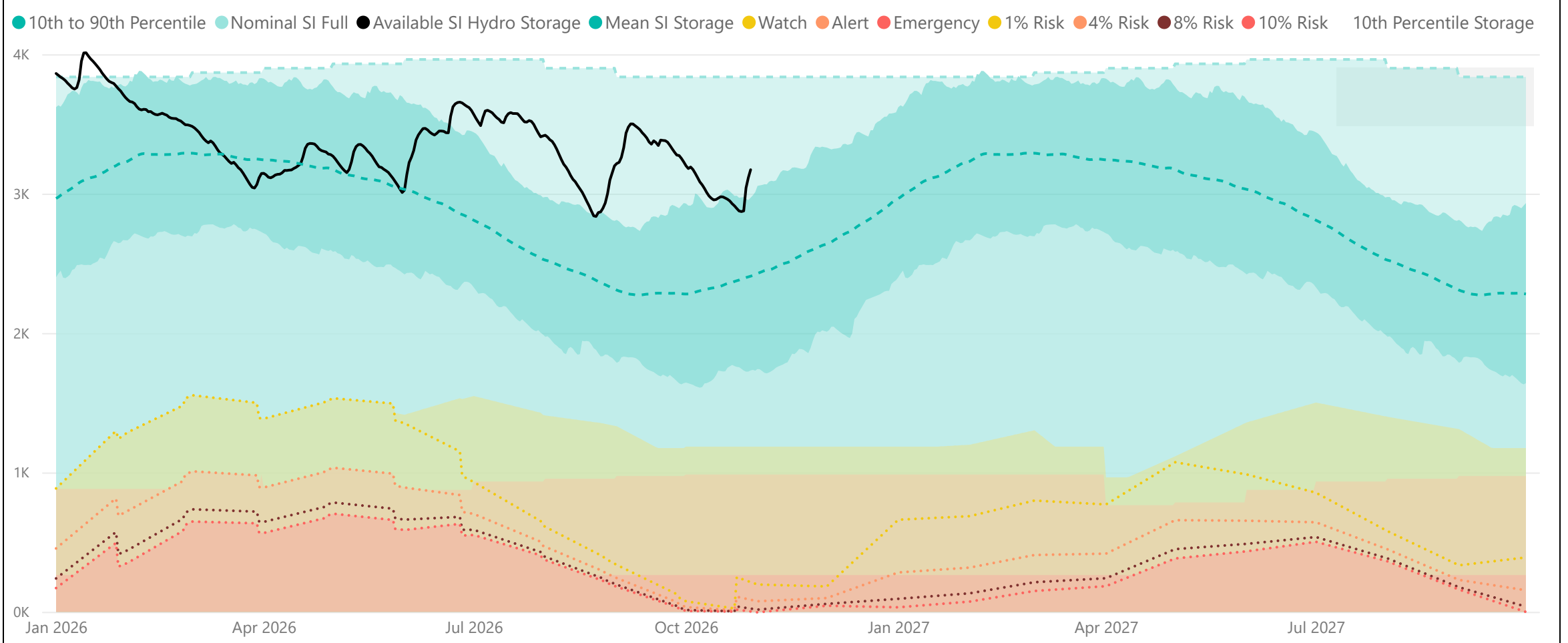
The 2027 risk curves have increased since the previous update. The main drivers are discussed on the next page.

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 changes to the Watch, Alert and Emergency curves compared with the last update are shown below.

The New Zealand Watch curve is higher during much of the first half of 2027 and lower from June to August. The largest increase is up to 55 GWh in May 2027, while the South Island Watch curve increases by up to 40 GWh in March 2027.

The higher Watch curves in the first half of 2027 reflect lower contracted gas availability for electricity generation during a dry year. Later in the year, higher contracted gas availability contributes to lower Watch curves.

Changes in generation commissioning dates also influence the risk curves. Delays to some projects are partly offset by additional generation expected to be commissioned in 2028 compared with the previous update.



Contracted Fuel Case - Thermal Deratings

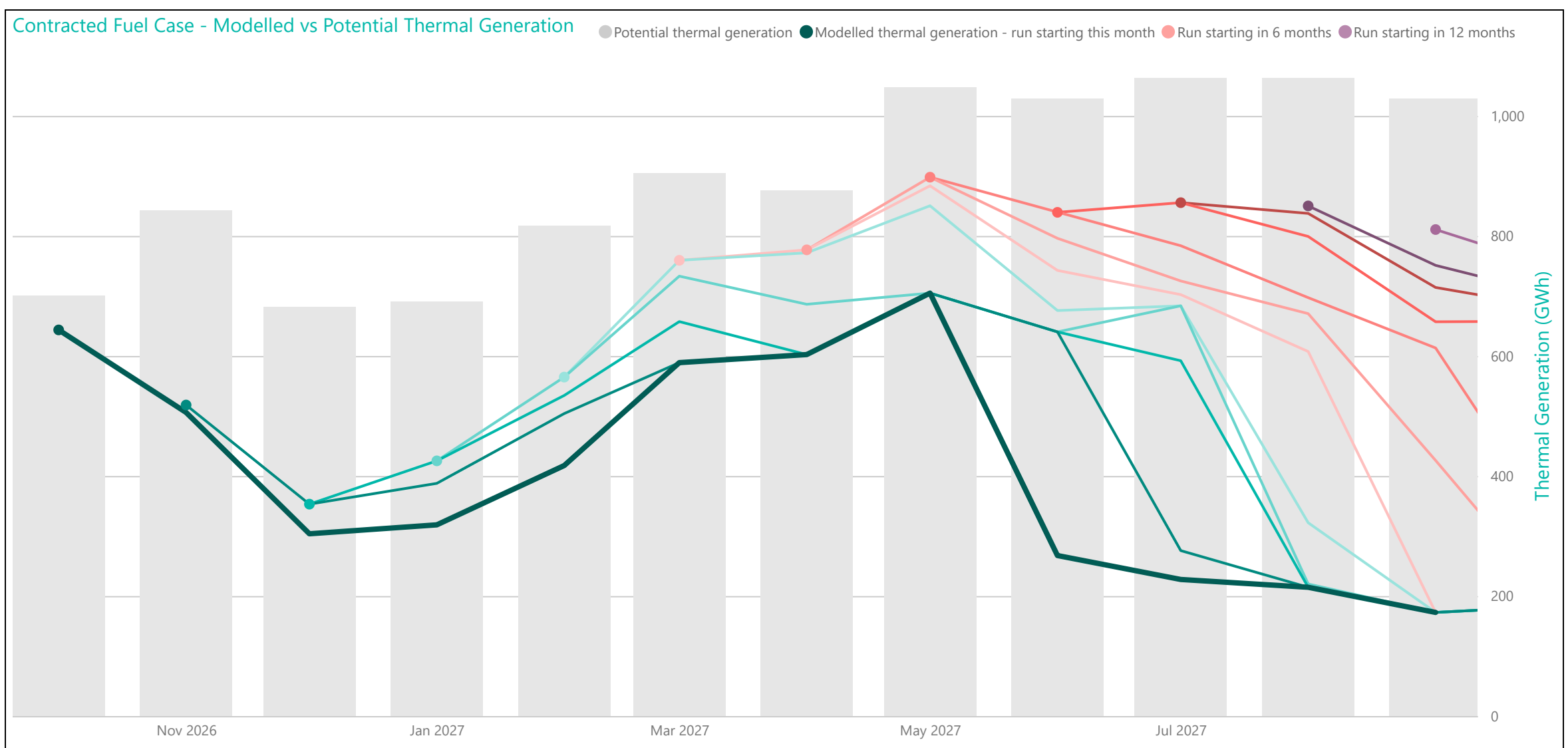
Thermal generation that relies on spot fuel purchases or non-binding industrial demand flexibility is fully derated in this case. Only fuel available under firm contracts is included.

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

[illegible]



Contracted Fuel Case - Simulated Storage Trajectories

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

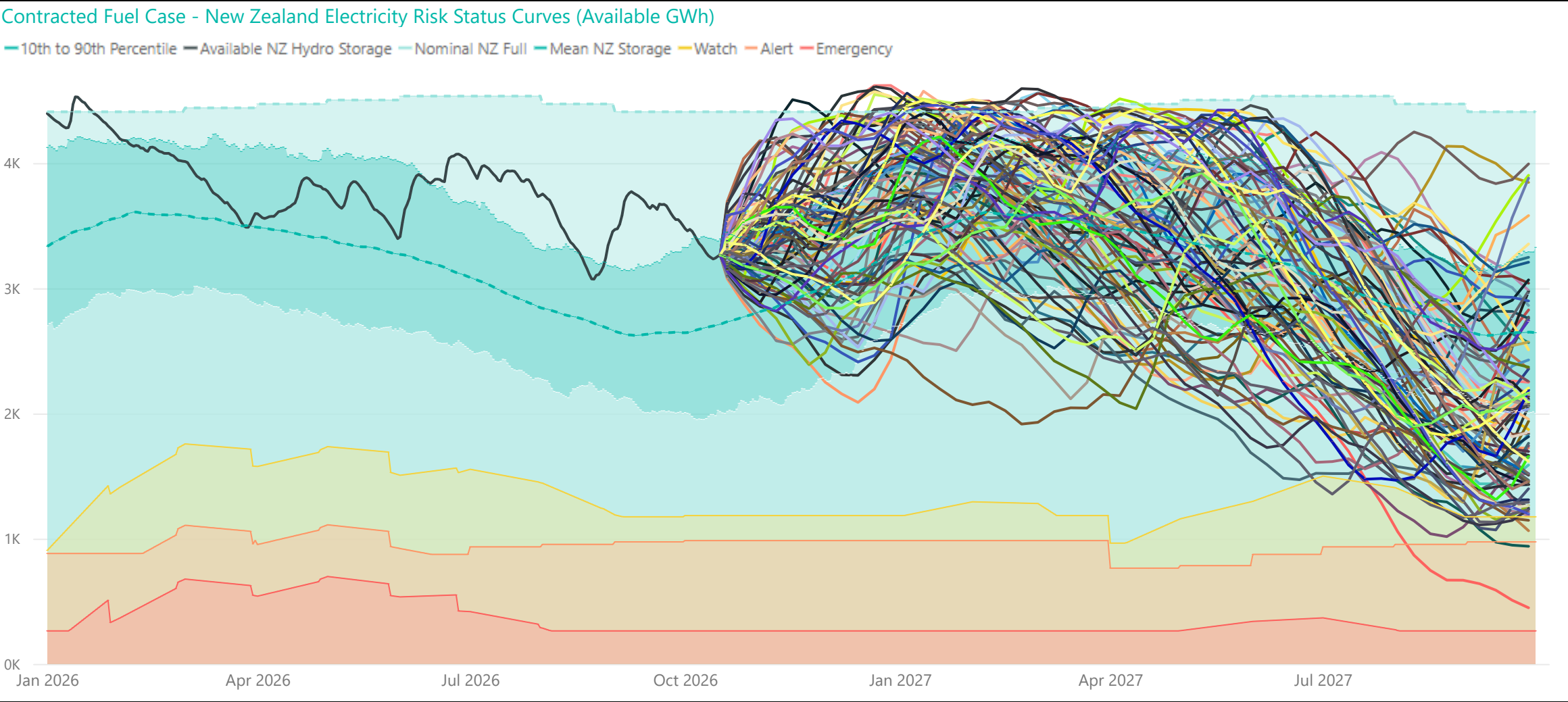
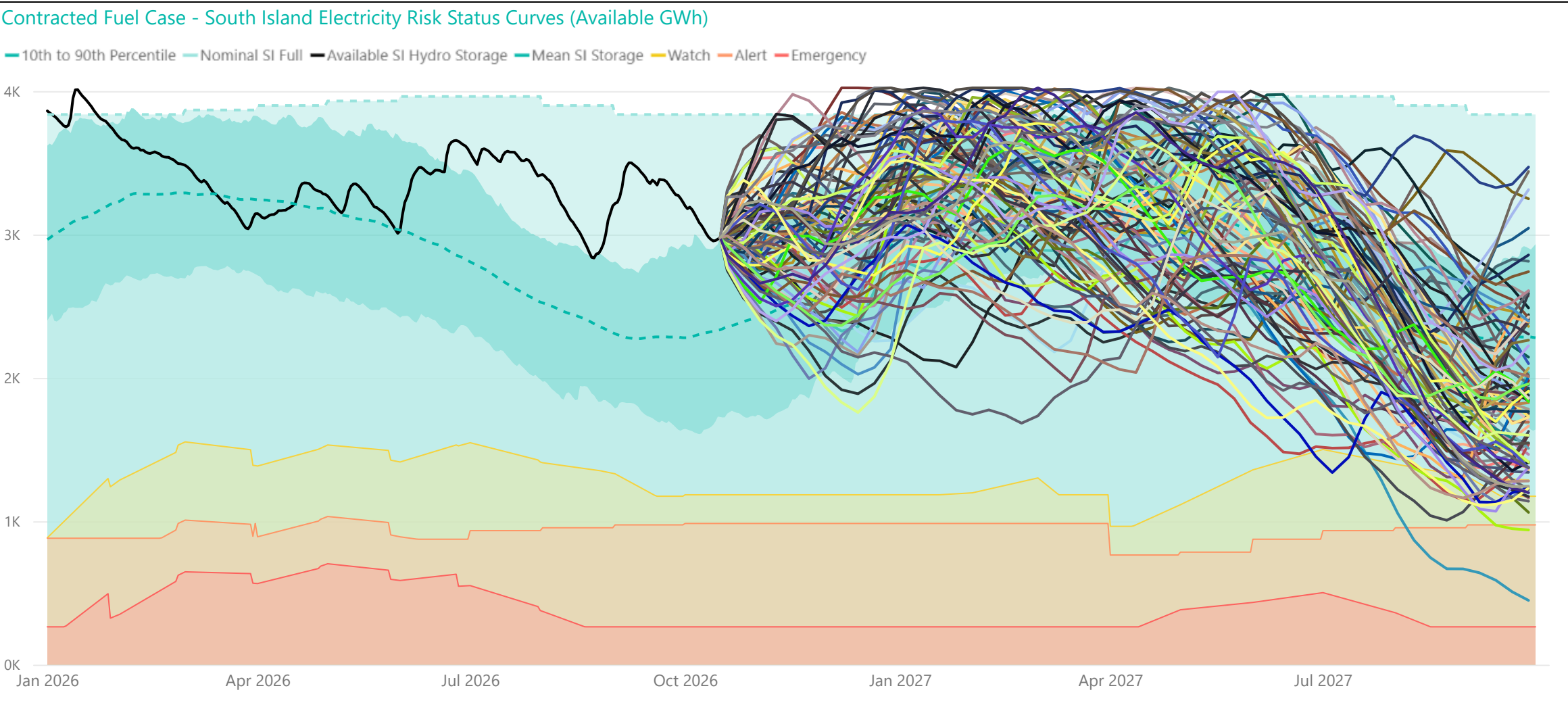
No SSTs cross any of the NZ or SI risk curves in 2026.

In 2027:

- 10 SSTs cross the New Zealand Watch curve, including two that also crosses the New Zealand Alert curve; and
- 16 SSTs cross the South Island Watch curve, including two that also crosses the South Island Alert curve.

More SSTs cross the risk curves than in the previous Contracted Fuel Case update, mainly because the higher Alert boundary, together with the Watch adder, raises the Watch curve in September 2027.

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.

Compared with the previous update, the gap between the Contracted Fuel Case and Fuel Capability Case risk curves has widened in early 2027, mainly because the Contracted Fuel Case Watch curve increased more in this update. The gap between the Contracted Fuel Case and Fuel Capability Case in this update is up to ~110 GWh or 19 Rankine days.

This also reflects the pool of physically available energy in 2027 that has not yet been commercially secured. The higher gap 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.

