June 2026 Energy Security Outlook

Friday, 26 June 2026

The Energy 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 strictly 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.

In addition, this month's update includes a Reduced Rankine Availability scenario. This scenario evaluates how the reduced availability of Huntly Rankine units impacts the risk curves under both the Fuel Capability and Contracted Fuel cases.

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.

Overall, there have been reductions to the risk curves for 2026 and 2027 due to a combination of:

- a modelling change to use the contracted gas volume if it's greater than the assumed physically available gas volume
- higher gas availability as a result of an increase in storage levels and slightly reduced gas production forecasts. These are unrelated to the global fuel shortage issue.
- partially offset by scheduled thermal outages later in 2026 and early 2027, and slightly later commissioning of new generation.

No Simulated Storage Trajectories (SSTs) cross any curve in 2026 or 2027. This indicates a low risk of hydro storage depletion under expected market response.

National controlled hydro storage position is currently 130% of the historic mean with South Island storage at 128% (at 24 June), providing a strong early winter position. The June-August Climate Outlook from Earth Sciences NZ (formerly NIWA) is for "normal or below" or "below" rainfall for most of the country with the exception of the western South Island. Earth Sciences NZ expects strong El Niño conditions towards the end of winter 2026 which could improve inflows into major SI catchments.

Industry's ongoing focus on hydro storage management and ensuring sufficient backup thermal fuels and capacity through winter continues to mitigate the potential for very high prices.

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, SSTs only cross the risk curves a limited number of times in 2026:

- Watch twice and Alert once for New Zealand, and Watch twice and Alert twice for the South Island.

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 ~209 GWh or ~36 Rankine days.

The gap between the Contracted Fuels and Fuel Capability Case risk curves becomes more pronounced in 2027 (diverging by up to ~950 GWh or ~165 Rankine days) and resulting in more SSTs crossing in 2027 (crossing Watch 14 times and Alert once for New Zealand, and crossing Watch 6 times 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.

Additional Scenario: Reduced Rankine Availability Case

This month update includes an additional scenario that reflects the Reduced Rankine Availability scenario in our 2026 Security of Supply Assessment (SOSA). This scenario assumes one Huntly Rankine unit is unavailable from winter 2026 and two units from winter 2027. The risk curves increase under this scenario, with modest impacts in 2026 and higher curves in 2027 (e.g. up to 256 GWh in 2026 for NZ Emergency curve and 1606 GWh in 2027 for NZ Watch curve).

For the Fuel Capability Case in this scenario, impacts remain limited in 2026, with no SSTs crossing risk curves. However, multiple SSTs cross the Watch curve in 2027 (NZ: 17; SI: 1), indicating increased medium-term risk under reduced thermal availability. Applying the Contracted Fuel Case to this scenario, results in higher risk curves, reflecting the impact of limiting thermal generation to currently contracted fuel (up to 298 GWh in 2026 for NZ Alert curve). Multiple SSTs cross the Watch curve in 2026 (NZ: 17; SI: 1), with more crossing in 2027 (NZ: 29; SI: 2).

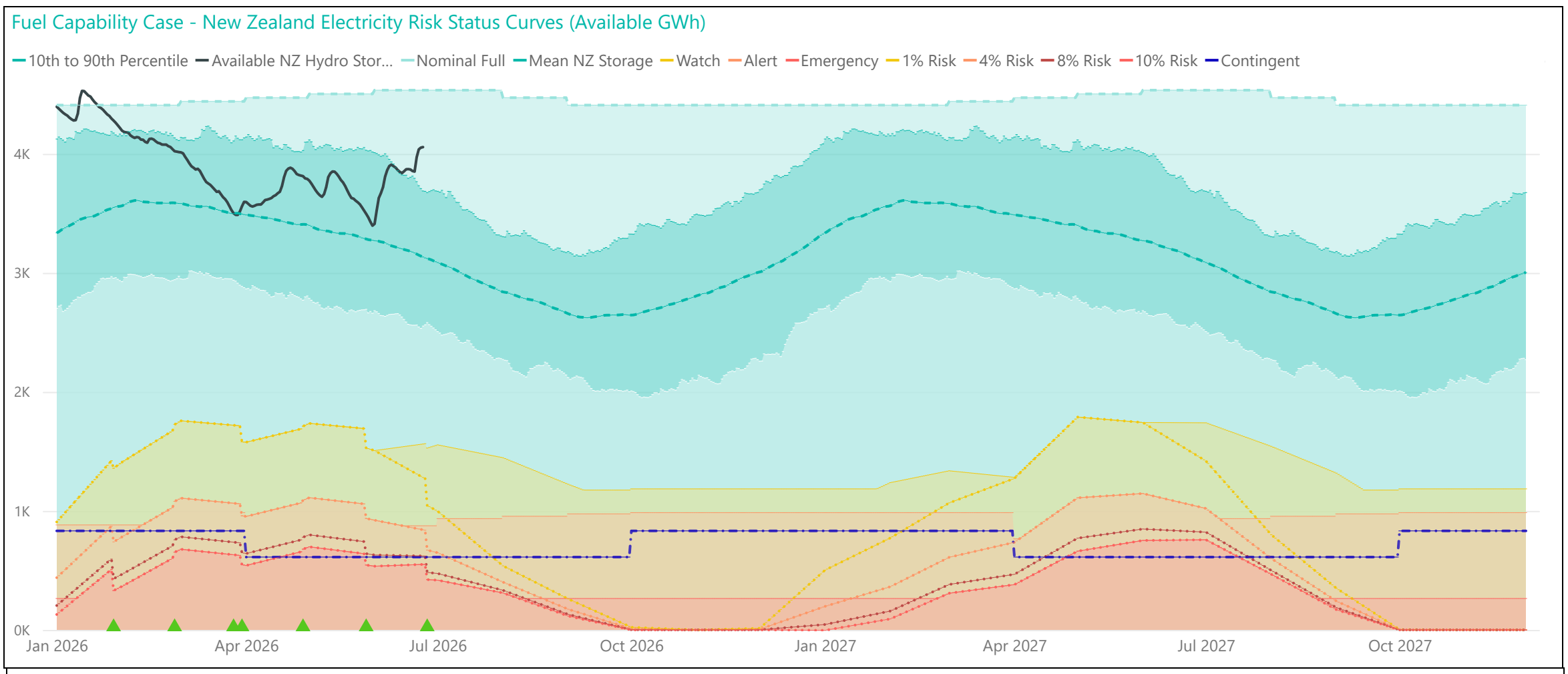
For this scenario, risk under the Contracted Fuel Case for this scenario diverges from the Fuel Capability Case, with higher Watch curves (up to ~1218 GWh or ~ 211 Rankine days), highlighting increased reliance on future fuel contracting. Impacts remain limited in 2026.

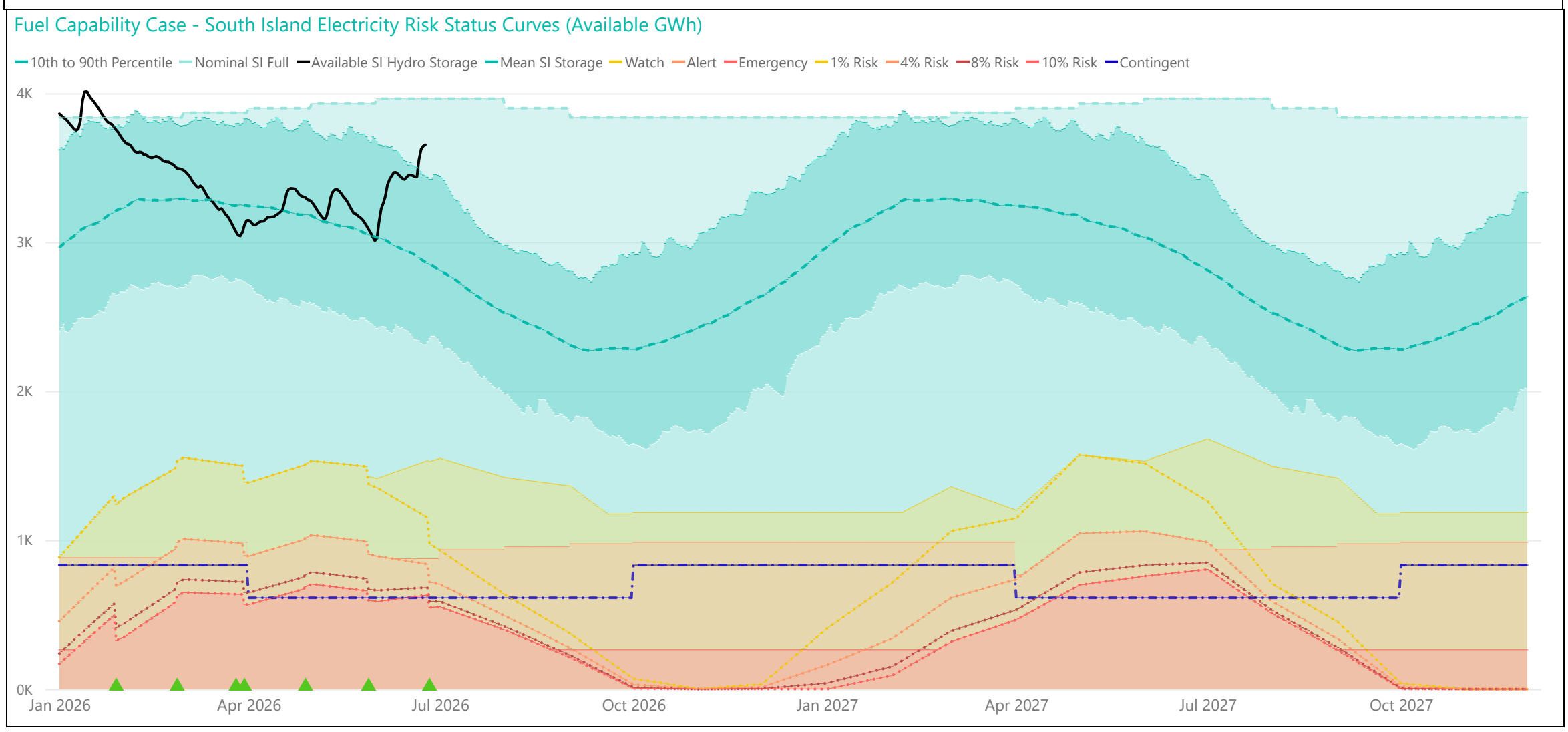
Reduced Rankine availability increases energy risk in both 2026 and 2027, with higher impacts in 2027 as two units become unavailable. This underscores the critical role of the Rankine units and fuel in maintaining energy security by supplementing for hydro storage during prolonged low inflow periods.

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

Friday, 26 June 2026

- Input data prepared as of 18 June indicates an increase in Ahuroa Gas Storage (AGS) levels and a slight increase in the starting coal stockpile.
- The generation capability of the thermal fleet is reduced for the 2026 outlook. 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

Friday, 26 June 2026

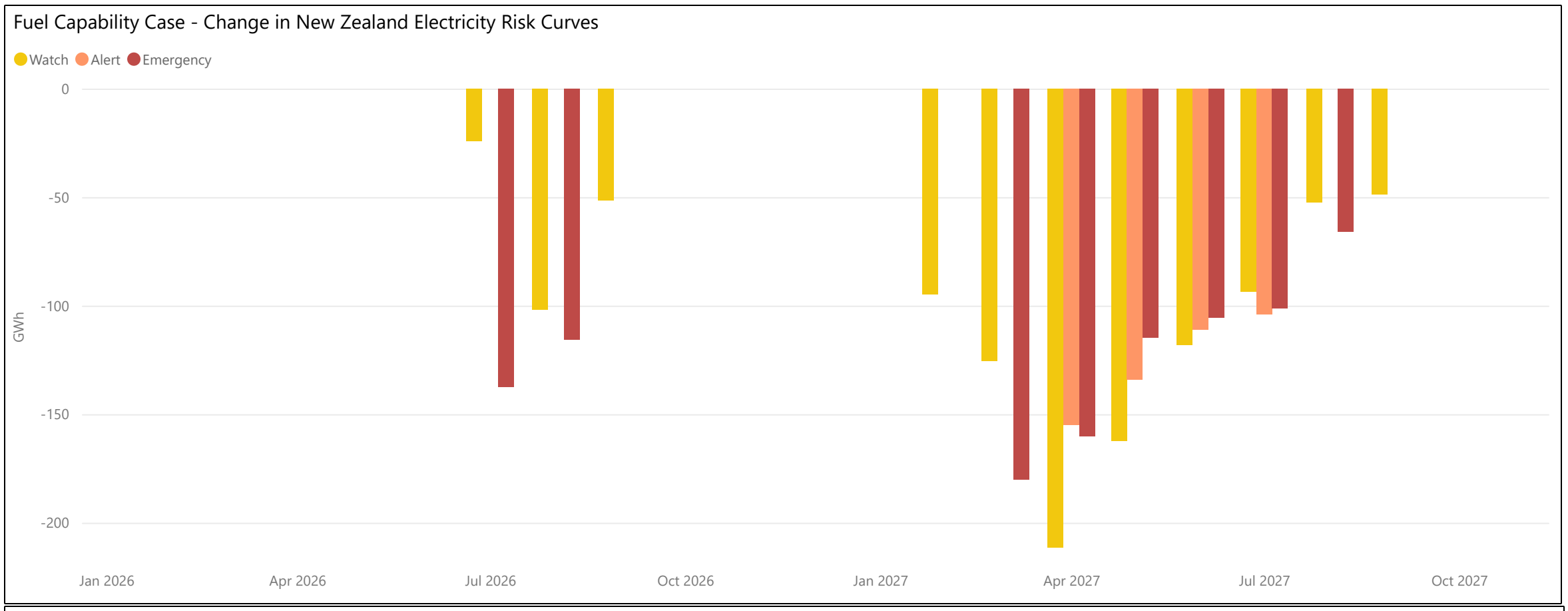
The changes to the Watch/Alert/Emergency curves compared to the last update are shown below.

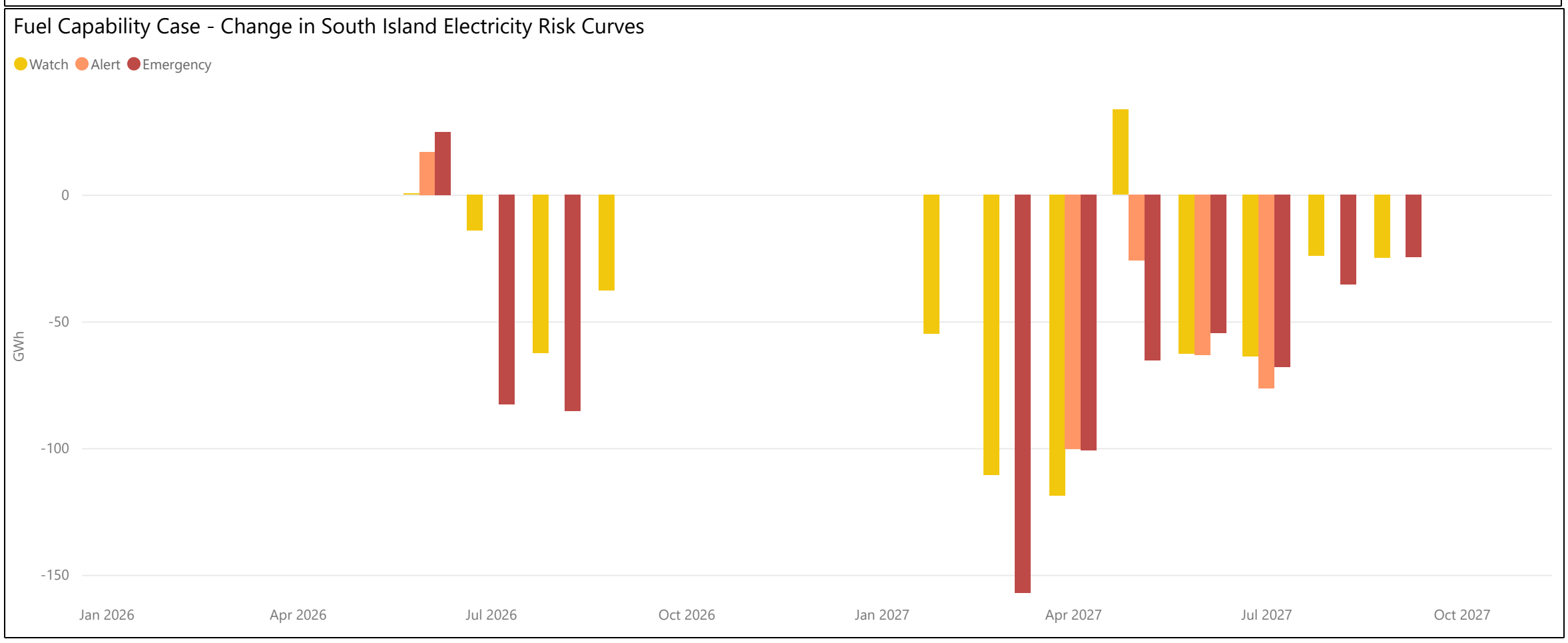
Reductions in the July 2026 (Watch/Emergency) and August 2026 (Watch and Emergency) curves are due to additional industrial gas demand response modelled under dry years, alongside updated physical gas availability limits.

Decreases in the 2026 curves (New Zealand Watch curve by up to 102 GWh, South Island by up to 62 GWh).

In 2027, decreases in the curves (New Zealand Watch curve by up to 211 GWh, South Island by up to 119 GWh).

Across both 2026 and 2027, changes are also influenced by shifts in commissioning project timing. In most cases projects have been pushed out slightly.





Fuel Capability Case - Thermal Deratings

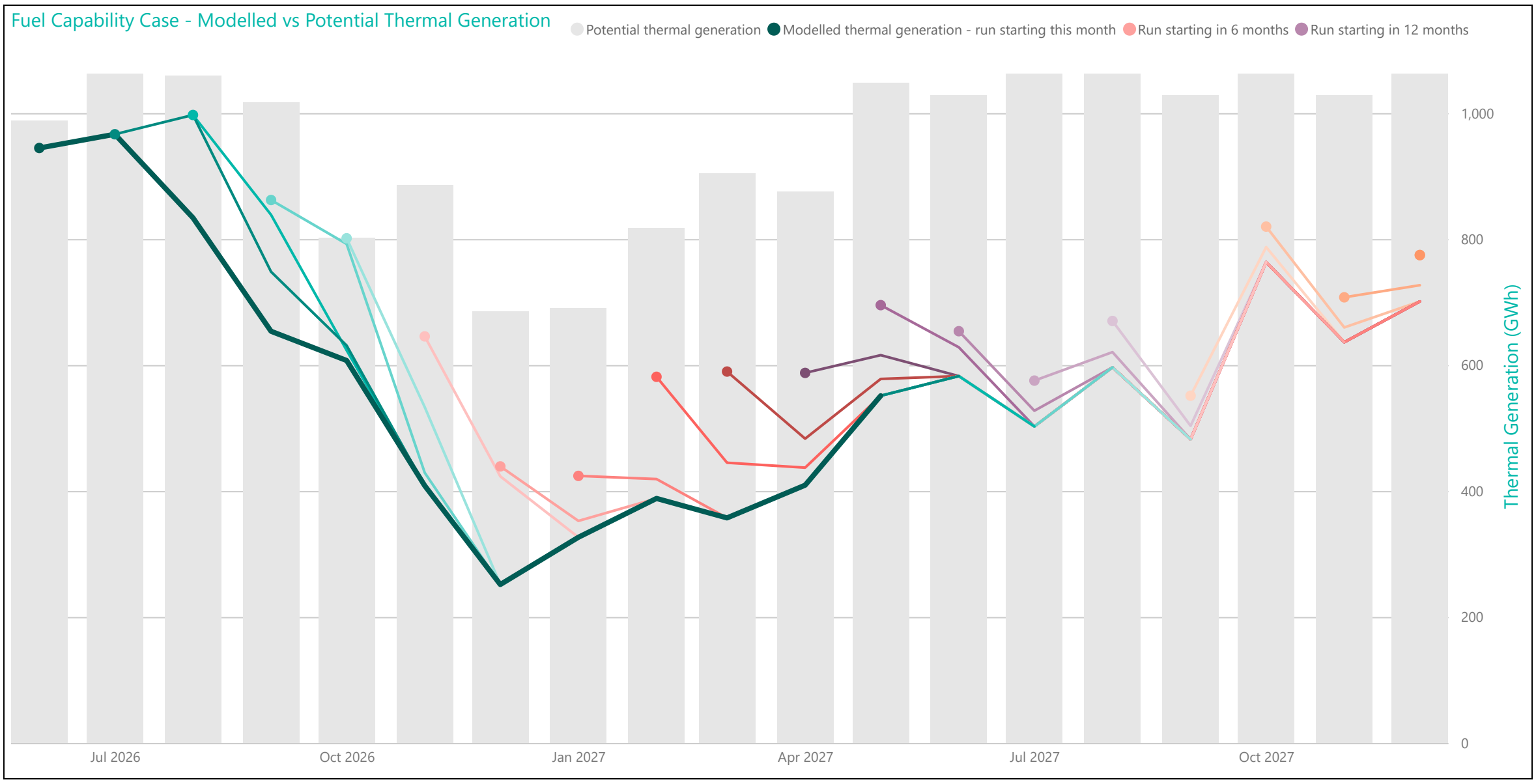
Friday, 26 June 2026

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

- Thermal generation capability is similar to last month's update but with a higher starting coal stockpile.
- Additional Industrial gas demand response under dry years.
- Gas storage levels at AGS have increased to 6.7 PJ as of the beginning of June and could fuel a large combined cycle gas plant at full output for ~3 months (ignoring draw down rates) or a peaker for ~11 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	2026-06	2026-07	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	2028-02	2028-03	2028-04	2028-05
2026-06	945	966	834	654	607	408	252	327	388	357	409	551											
2026-07		966	997	748	631	408	252	327	388	357	409	551	583										
2026-08			997	839	623	408	252	327	388	357	409	551	583	503									
2026-09				862	792	429	252	327	388	357	409	551	583	503	596								
2026-10					801	533	252	327	388	357	409	551	583	503	596	482							
2026-11						646	423	327	388	357	409	551	583	503	596	482	763						
2026-12							439	353	388	357	409	551	583	503	596	482	763	636					
2027-01								424	419	357	409	551	583	503	596	482	763	636	701				
2027-02									581	445	437	551	583	503	596	482	763	636	701				
2027-03										590	483	578	583	503	596	482	763	636	701	476			
2027-04											588	616	583	503	596	482	763	636	701	476	543		
2027-05												695	628	503	596	482	763	636	701	476	543	611	
2027-06													654	527	596	482	763	636	701	476	543	611	603
2027-07														575	621	482	763	636	701	476	543	611	603
2027-08															670	503	763	636	701	476	543	611	603
2027-09																551	787	636	701	476	543	611	603
2027-10																	820	660	701	476	543	611	603
2027-11																		708	727	476	543	611	603
2027-12																			775	476	543	611	603
2028-02																				545	570	611	603
2028-03																					616	635	603
2028-04																						802	679
2028-05																							849

Fuel Capability Case - Simulated Storage Trajectories (SSTs)

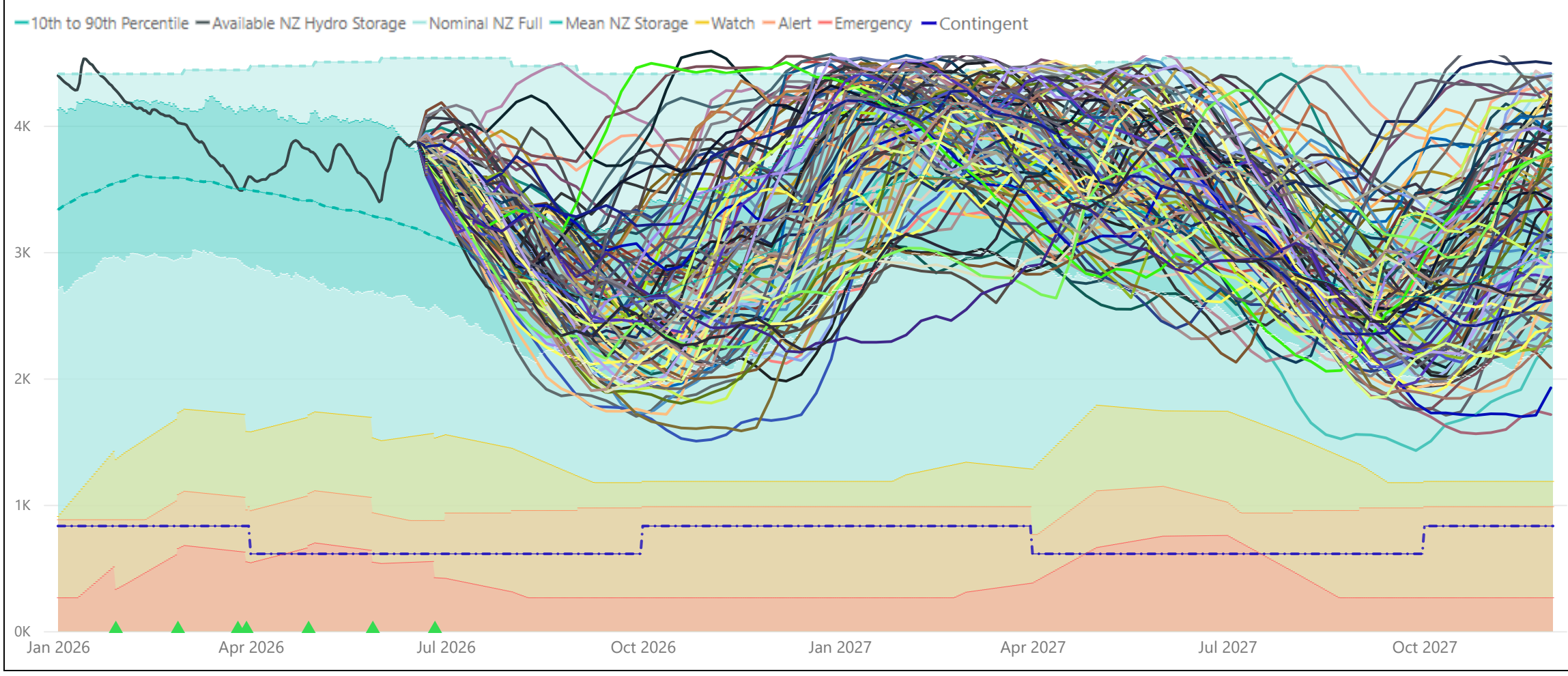
Friday, 26 June 2026

The June SST update is shown below which have a hydro storage starting date of 18 June.

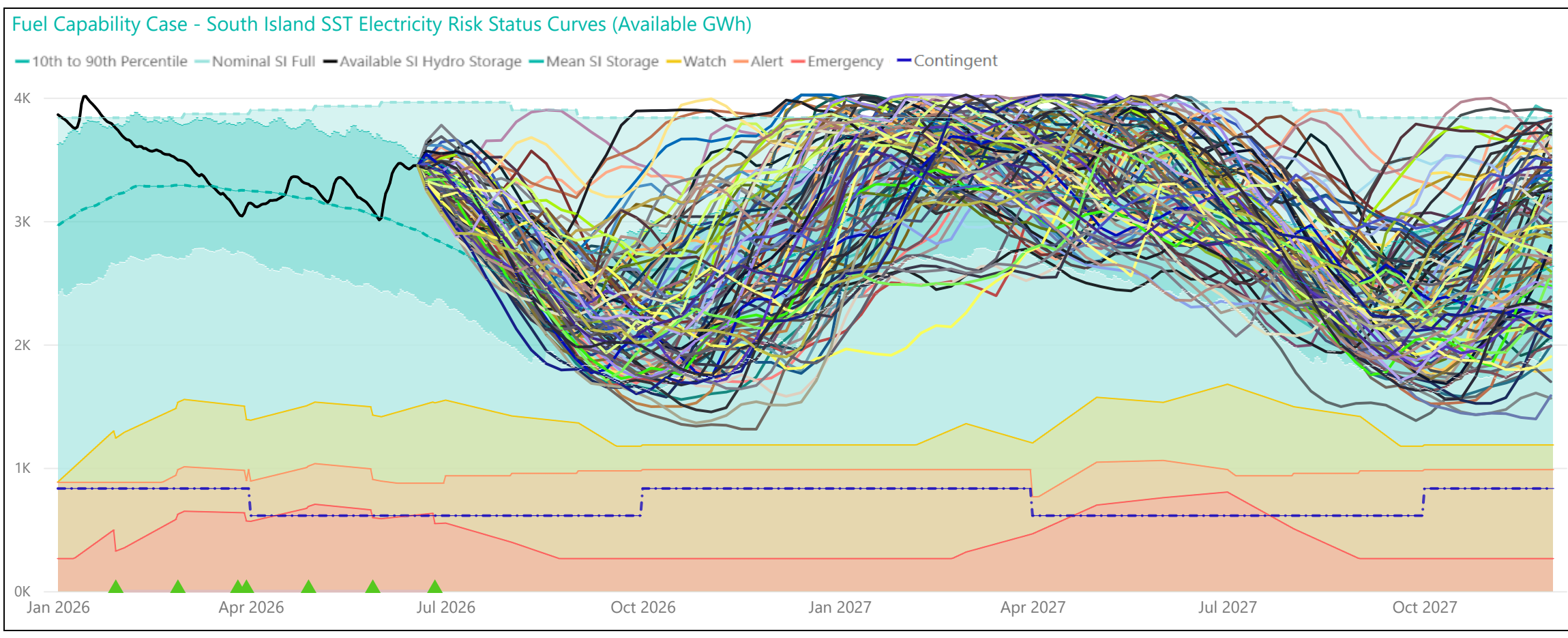
0 SST cross NZ watch curve in 2026 or 2027.

0 SST cross SI watch curve in 2026 or 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)



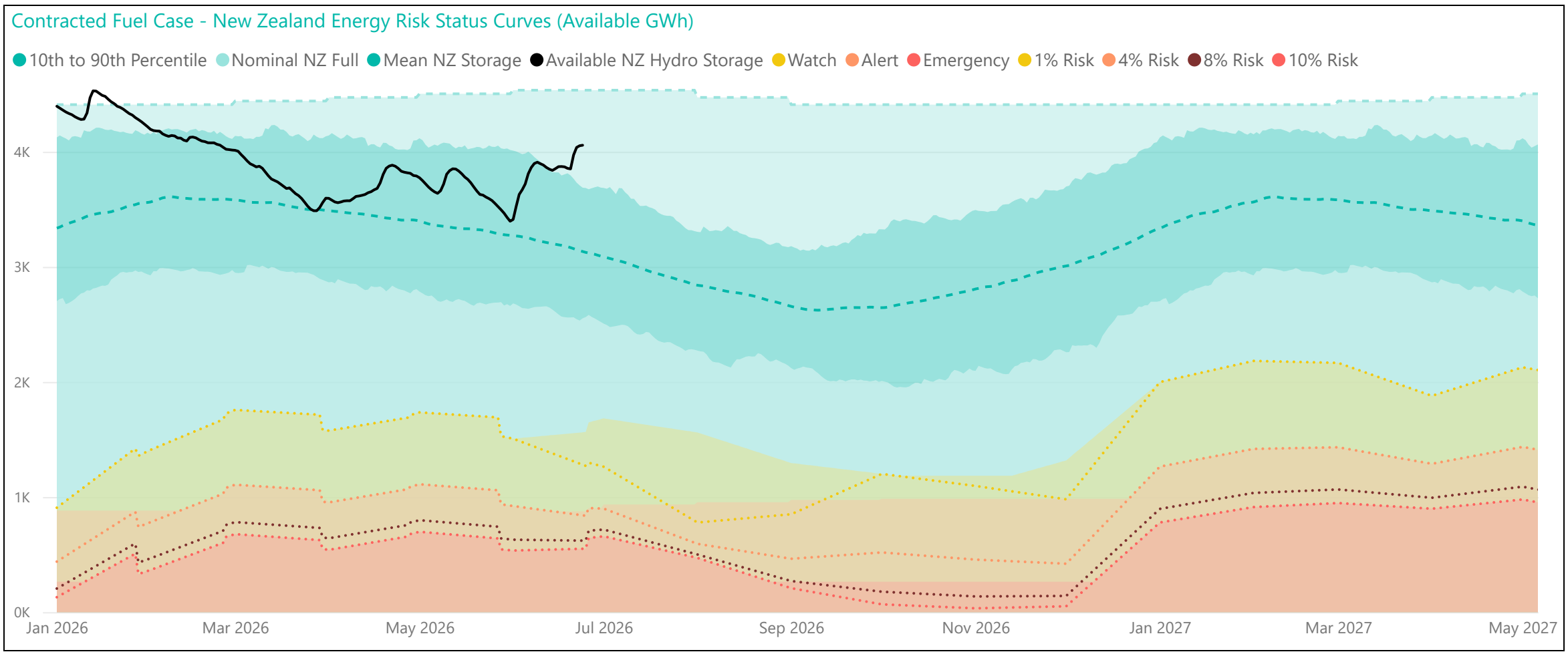
Contracted Fuels Case - Electricity Risk Curves

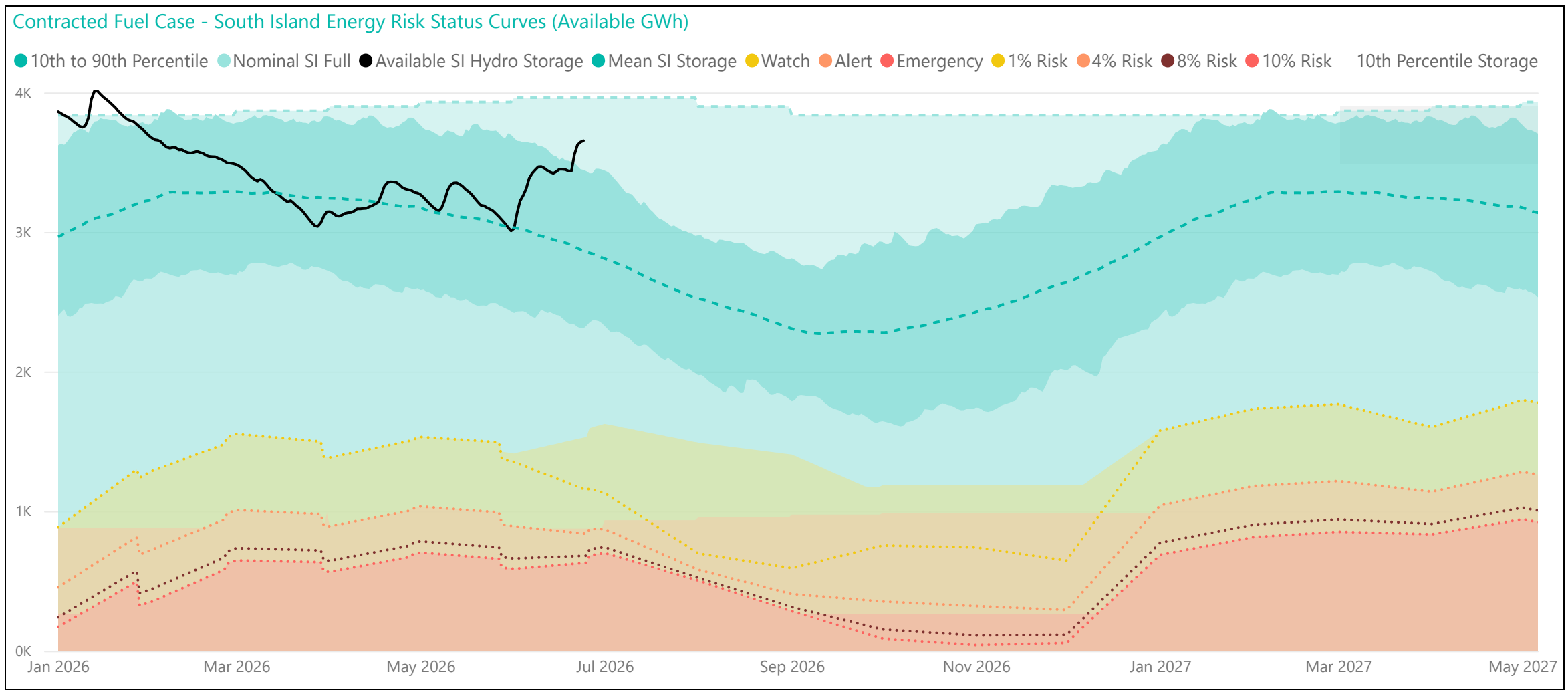
This case illustrates the shift in the Energy Risk Curves when constrained strictly to firm thermal fuel contracts, as implemented following the SOSFIP review.

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.

While the 2027 curves remain higher than the 2026 curves, they have reduced compared with the previous update, reflecting additional firm fuel contracting and updated fuel assumptions. The remaining 2027 gap to the Base Case reflects lower pool of physically available energy in 2027 that has not yet been commercially secured.

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.



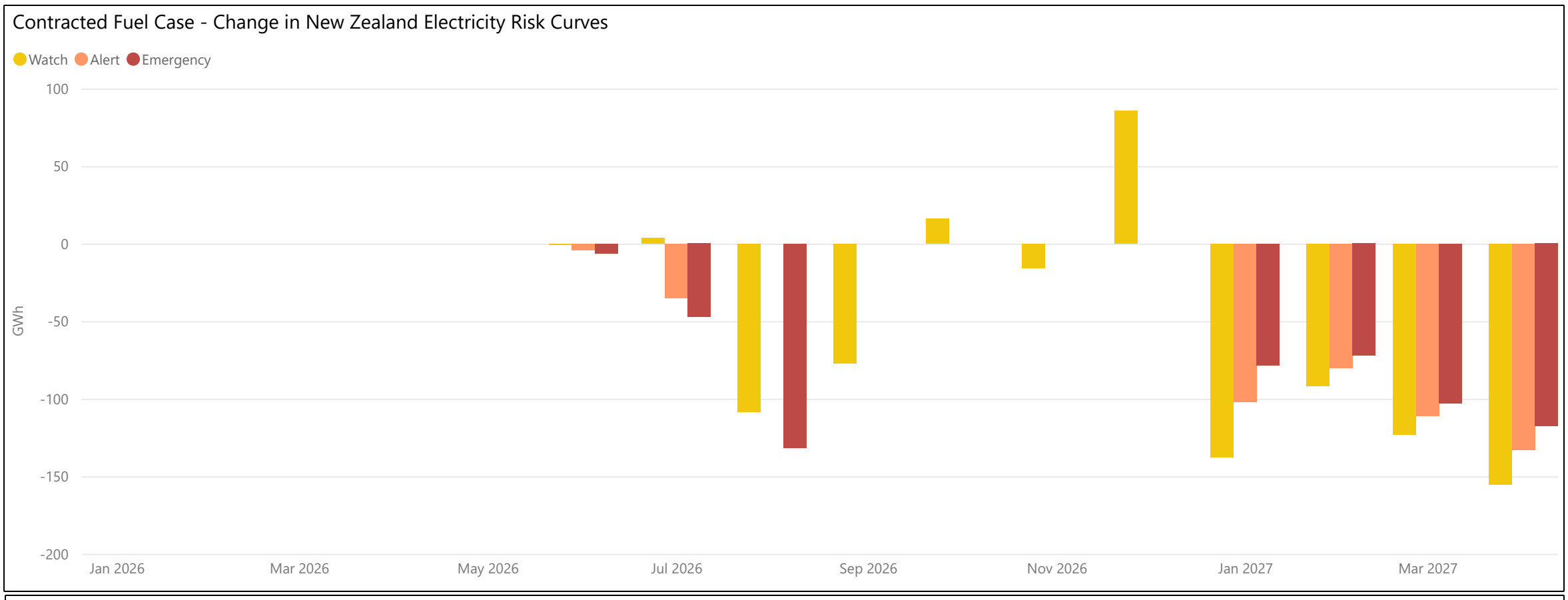


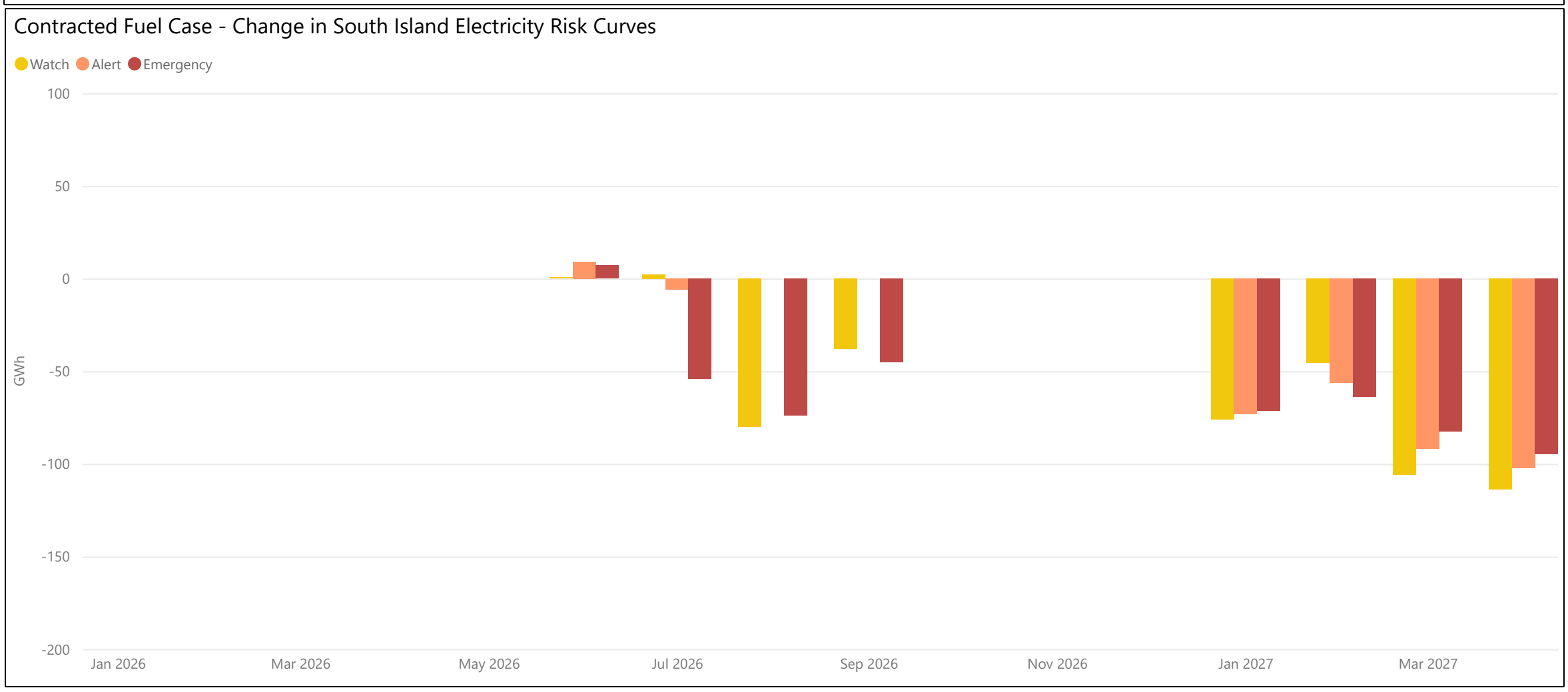
Contracted Fuel Case - Changes in the Electricity Risk Curves from Previous Update

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

Decreases in the 2026 curves (New Zealand Watch curve by up to 108 GWh, South Island by up to 80 GWh). This reflects positive market response, with participants procuring additional near-term thermal fuel contracts over the past month.

In 2027, decreases in the curves (New Zealand Watch curve by up to 155 GWh, South Island by up to 114 GWh), indicates the progressive firming of commercial fuel portfolios further into the forward horizon.



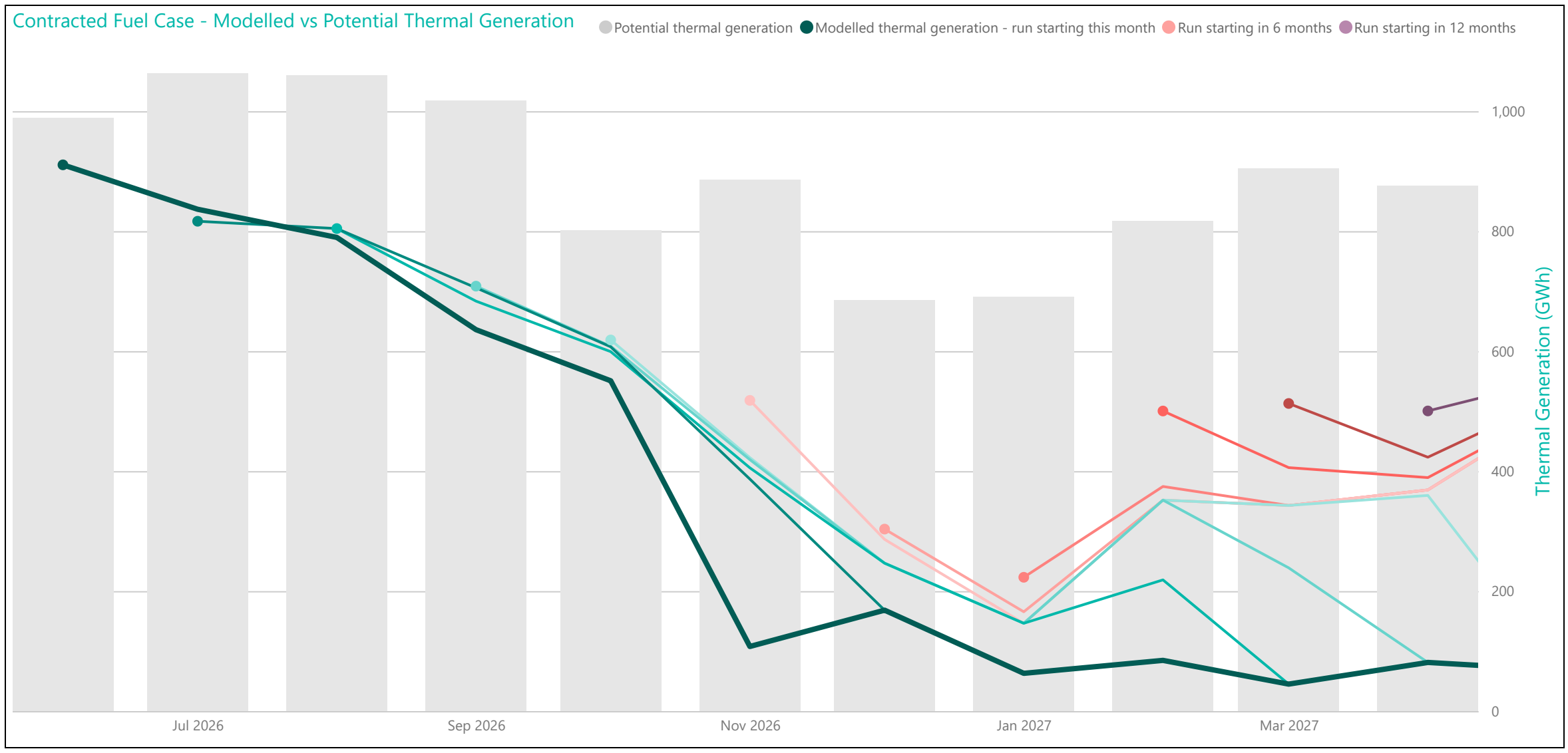


Contracted Fuel Case - Thermal Deratings

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 and AGS gas reported as available for electricity generation, but does not assume additional future coal 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	2026-06	2026-07	2026-08	2026-09	2026-10	2026-11	2026-12	2027-01	2027-02	2027-03	2027-04
2026-06	911	837	790	636	551	108	168	63	85	45	81
2026-07		817	804	706	607	387	168	63	85	45	81
2026-08			804	683	599	405	247	146	219	45	81
2026-09				708	608	419	247	146	352	239	81
2026-10					619	422	247	146	352	343	360
2026-11						518	286	146	352	343	369
2026-12							303	166	352	343	369
2027-01								223	374	343	369
2027-02									500	406	389
2027-03										513	423
2027-04											500

Contracted Fuel Case - Simulated Storage Trajectories

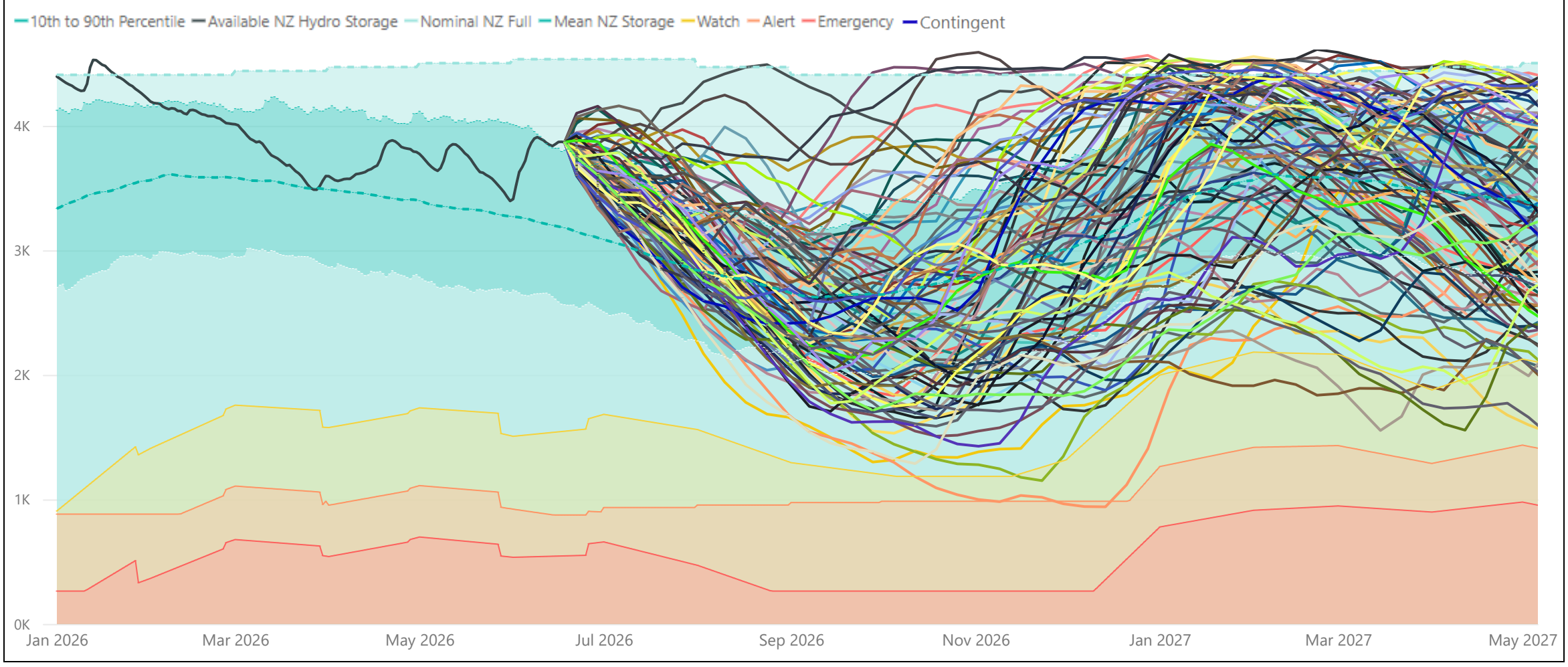
The June Contracted Fuel SST update is shown below which have a hydro storage starting date of 18 June.

2 SST cross watch and 1 SST cross alert in 2026 for NZ. 2 SST cross watch and 2 SST cross alert curve in 2026 for SI.

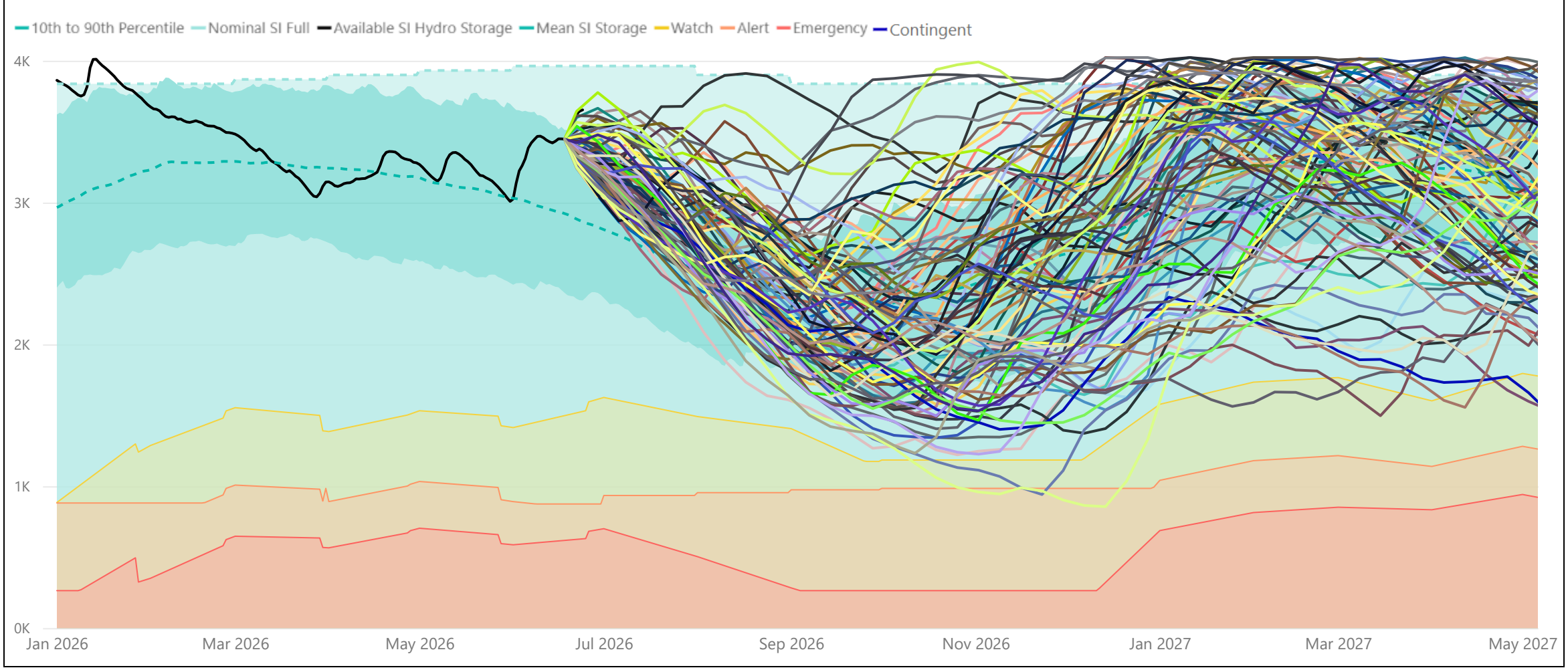
14 SST cross watch and 1 SST cross alert in 2027 for NZ. 6 SST cross watch in 2027 for SI.

A higher number of SSTs cross the Watch and Alert curves 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 - New Zealand Electricity Risk Status Curves (Available GWh)



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



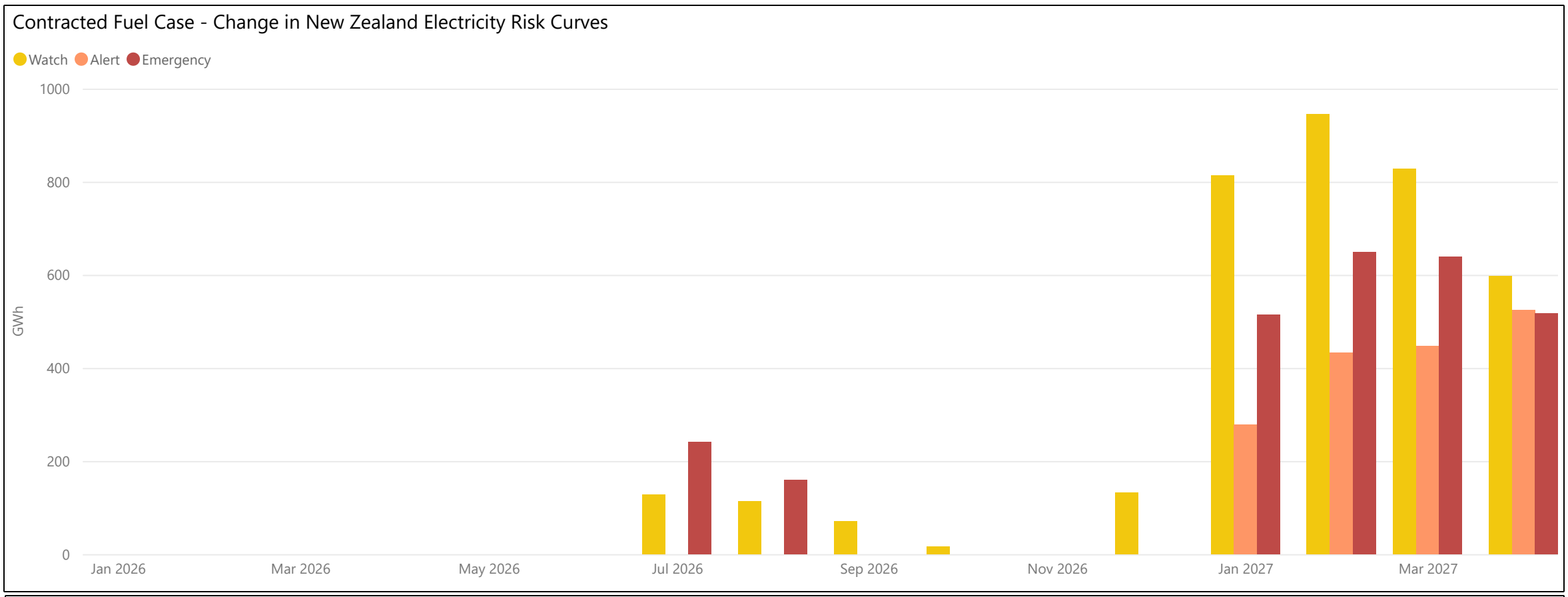
Contracted Fuel Case - Changes in the Electricity Risk Curves from Fuel Capability Case

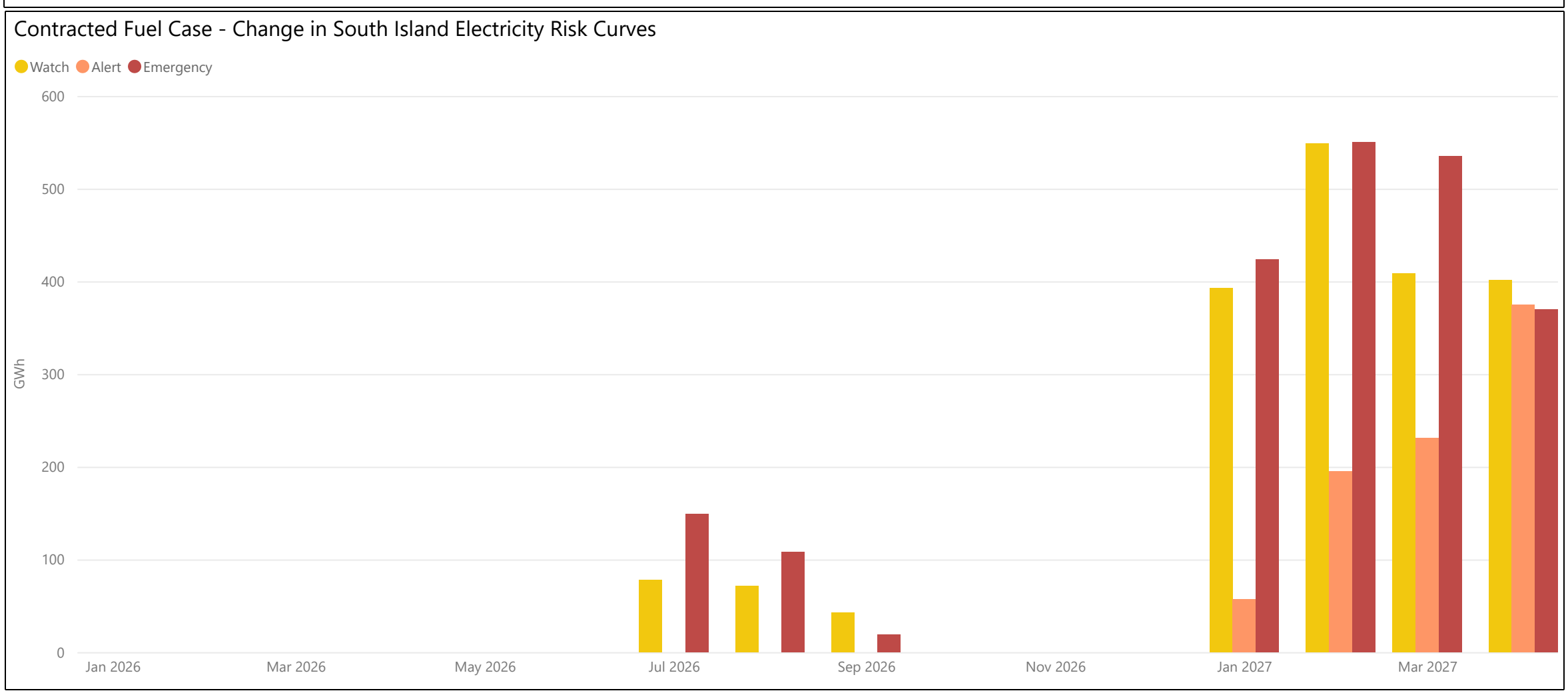
The changes to the Watch, Alert, and Emergency curves under the Contracted Fuel Case compared to the Fuel Capability Case are detailed below.

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 ~241 GWh or ~41 Rankine days and South Island risk curves by up to 113 GWh or ~20 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 945 GWh or ~164 Rankine days for the New Zealand Watch curve and 550 GWh or ~95 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.

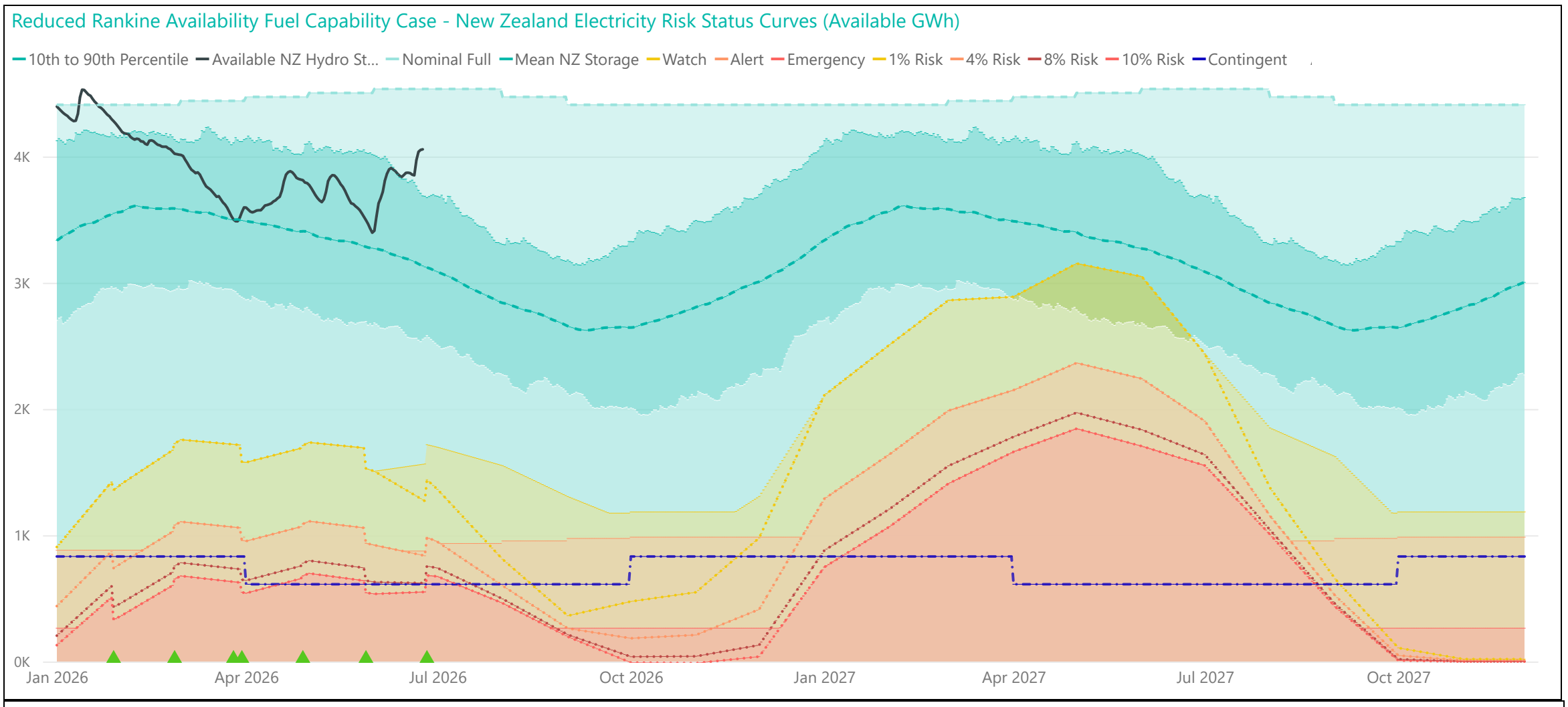


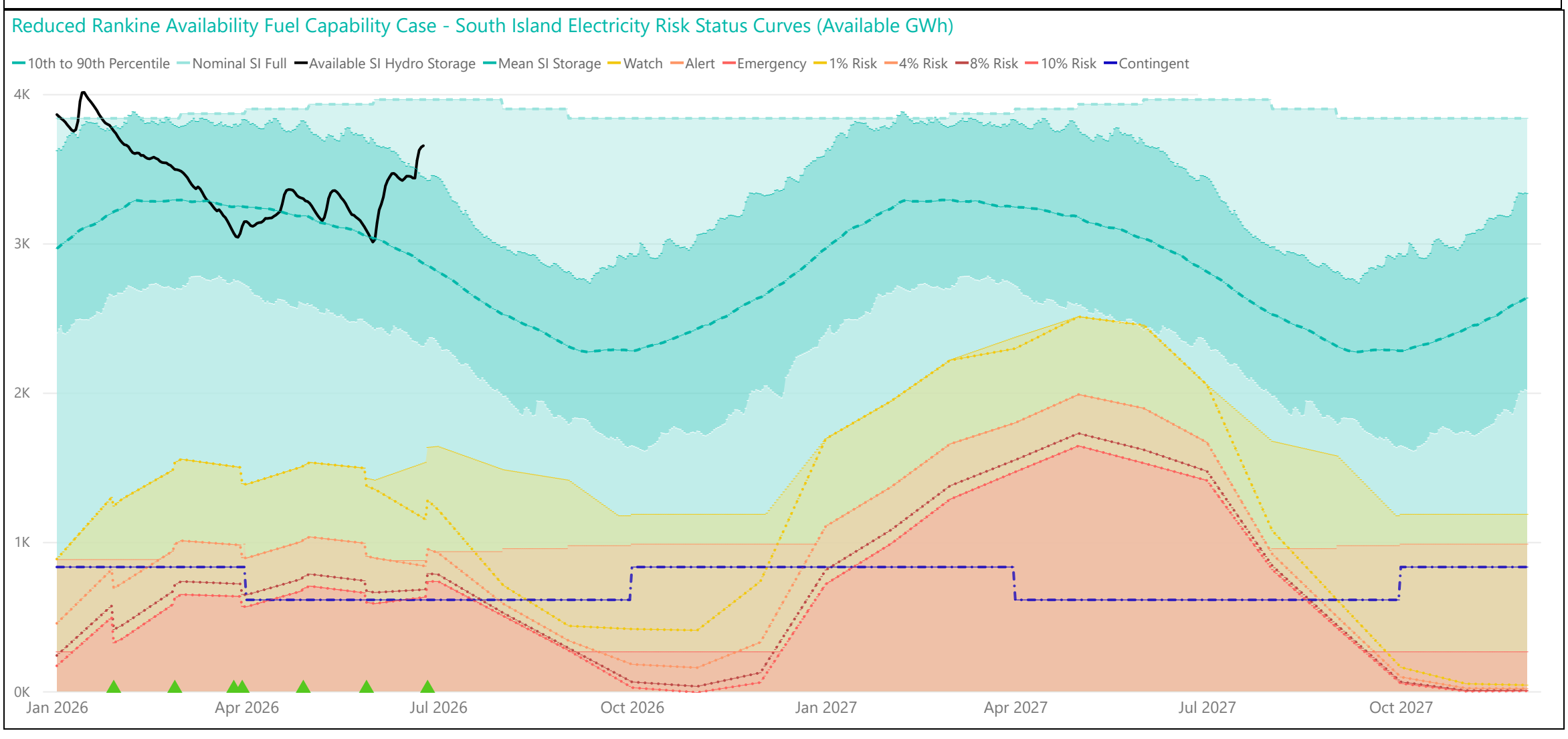


Reduced Rankine Availability Fuel Capability Case - Electricity Risk Curves (ERCs) - Updates and Assumptions

Friday, 26 June 2026

- This scenario uses the same inputs as the Fuel Capability Case, except for reduced Huntly Rankine availability.
- The generation capability of the thermal fleet is reduced for the 2026 and 2027 outlook. This is driven by scheduled Huntly outages Unit 5, and Unit 6, alongside removing 1 Rankine unit from start of winter 2026 and 2 Rankine units from start of winter 2027.
- The model incorporates updates to planned generator outages and upcoming new generation commissioning dates and retains permanent removal of TCC.





Reduced Rankine Availability Fuel Capability Case - Changes in the Electricity Risk Curves From Fuel Capability Case

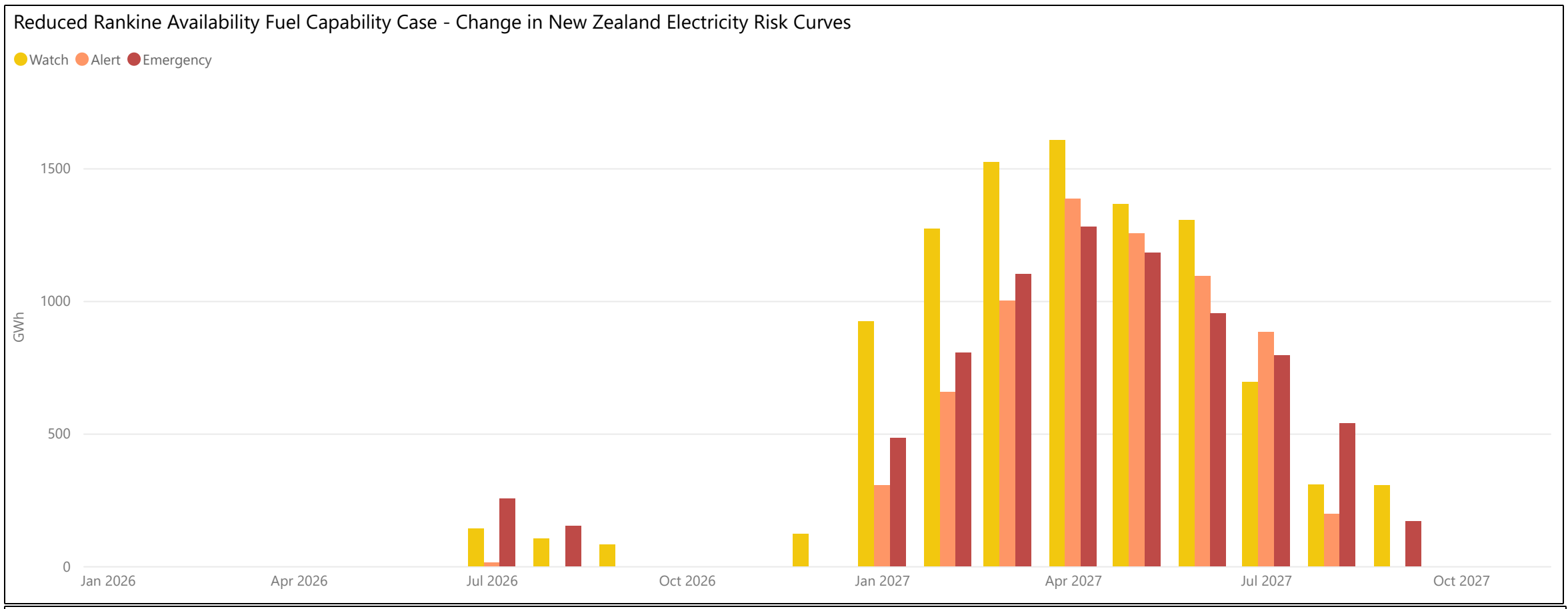
Friday, 26 June 2026

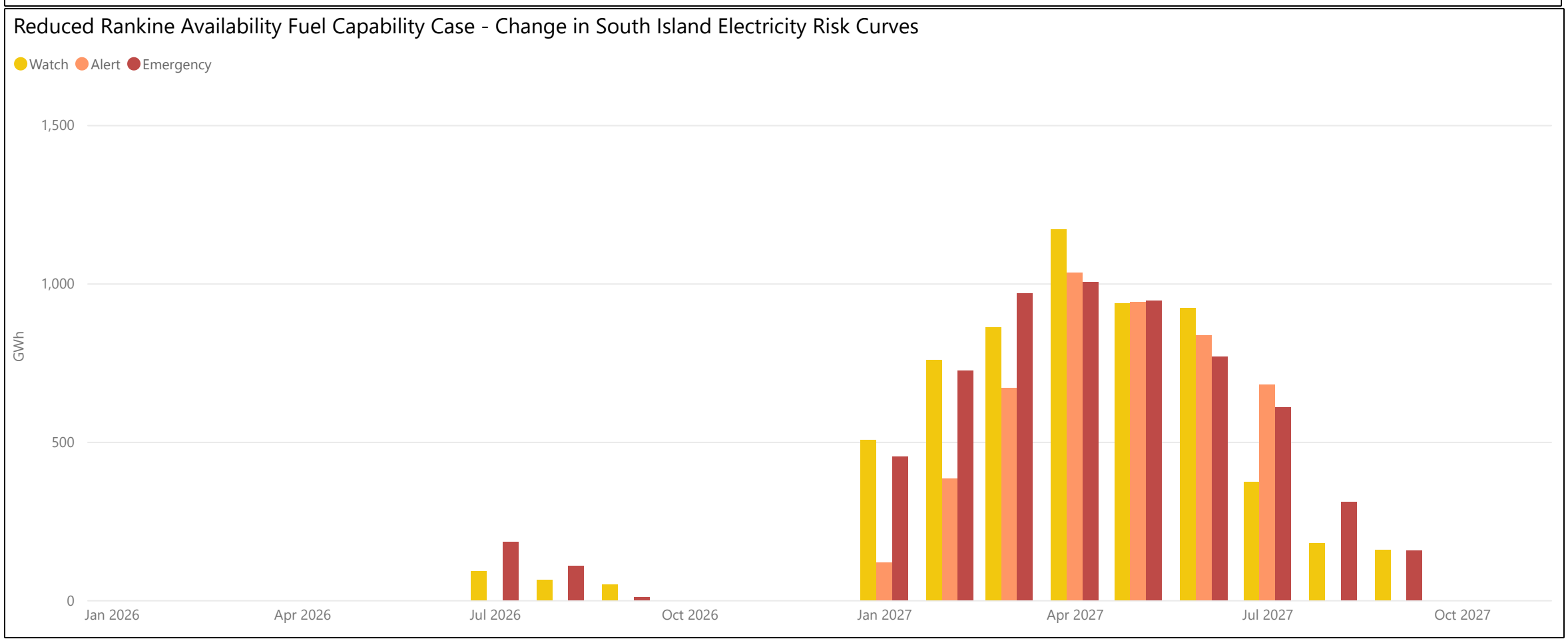
The changes to the Watch/Alert/Emergency curves compared to the Fuel Capability Case are shown below.

In 2026, the largest increase is in the Emergency curve: up to 256 GWh for New Zealand and 184 GWh for the South Island.

In 2027, the impact shifts more strongly to Watch curves, increasing by up to 1606 GWh for New Zealand and 1170 GWh for the South Island.

This highlights the importance of Rankine availability in maintaining energy security, particularly where hydro storage needs firm thermal support over sustained low inflow periods.





Reduced Rankine Availability Fuel Capability Case - Thermal Deratings

Friday, 26 June 2026

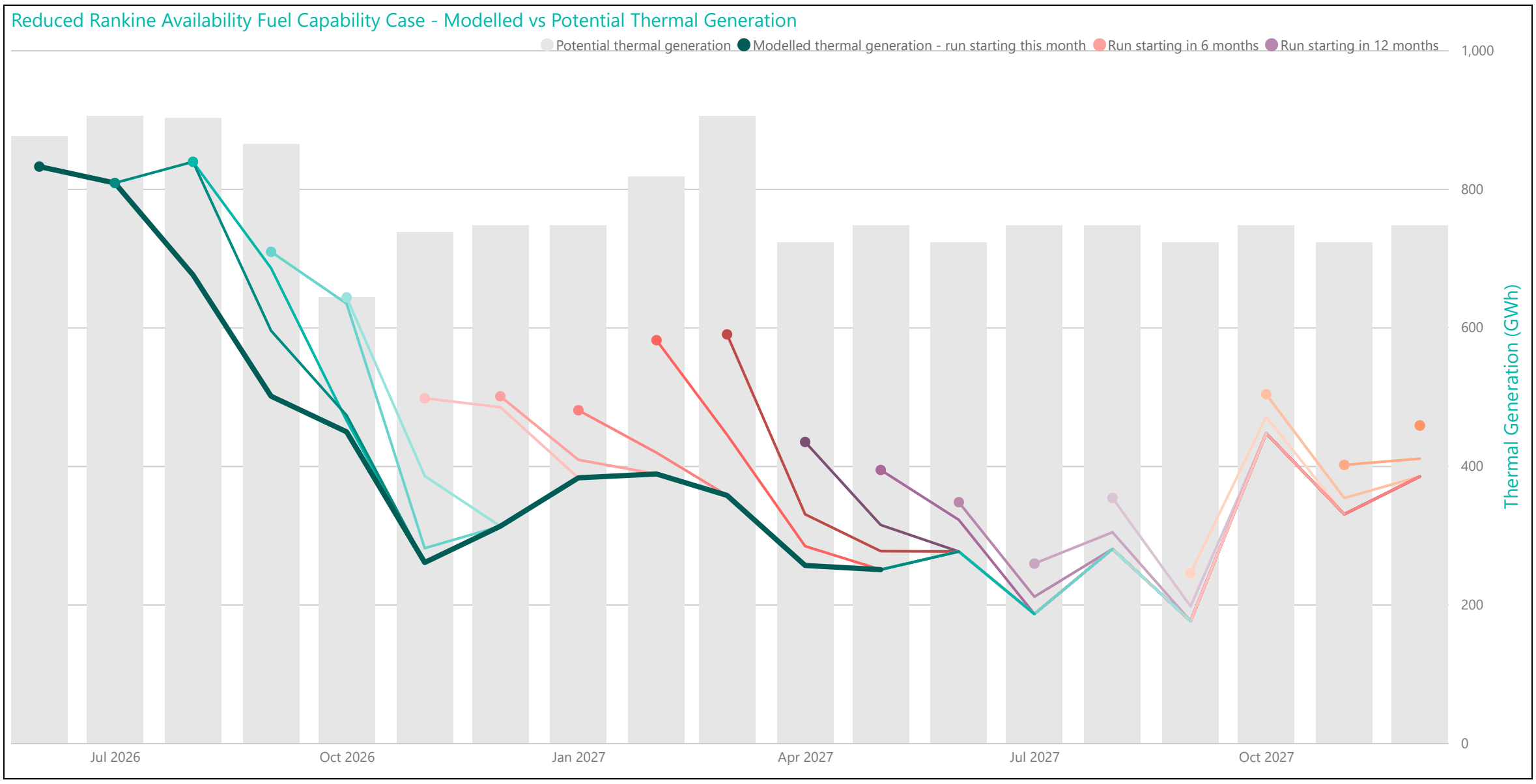
Potential thermal generation is lower than in the Fuel Capability Case because Rankine availability is reduced from winter 2026 and reduced further from winter 2027.

Modelled thermal generation remains constrained by available gas and coal, but the reduced Rankine fleet lowers the maximum thermal response available during dry-year conditions.

The impact is more visible in later run months, where reduced unit availability limits the ability to sustain high thermal output during prolonged low inflow sequences.

Whirinaki remains modelled separately and is limited to 60 GWh over a six-month period.

Reduced Rankine Availability Fuel Capability Case - Modelled vs Potential Thermal Generation



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

Run Month	2026-06	2026-07	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	2028-02	2028-03	2028-04	2028-05
2026-06	832	808	676	501	449	260	313	383	388	357	256	250											
2026-07		808	839	595	473	260	313	383	388	357	256	250	276										
2026-08			839	685	465	260	313	383	388	357	256	250	276	186									
2026-09				709	634	281	313	383	388	357	256	250	276	186	280								
2026-10					643	385	313	383	388	357	256	250	276	186	280	176							
2026-11						498	485	383	388	357	256	250	276	186	280	176	447						
2026-12							500	409	388	357	256	250	276	186	280	176	447	330					
2027-01								480	419	357	256	250	276	186	280	176	447	330	385				
2027-02									581	445	284	250	276	186	280	176	447	330	385				
2027-03										590	330	277	276	186	280	176	447	330	385	328			
2027-04											434	315	276	186	280	176	447	330	385	328	384		
2027-05												394	322	186	280	176	447	330	385	328	384	611	
2027-06													348	211	280	176	447	330	385	328	384	611	603
2027-07														259	304	176	447	330	385	328	384	611	603
2027-08															354	197	447	330	385	328	384	611	603
2027-09																245	471	330	385	328	384	611	603
2027-10																	503	354	385	328	384	611	603
2027-11																		401	410	328	384	611	603
2027-12																			458	328	384	611	603
2028-02																				397	412	611	603
2028-03																					458	635	603
2028-04																						802	679
2028-05																							849

Reduced Rankine Availability Fuel Capability Case - Simulated Storage Trajectories (SSTs)

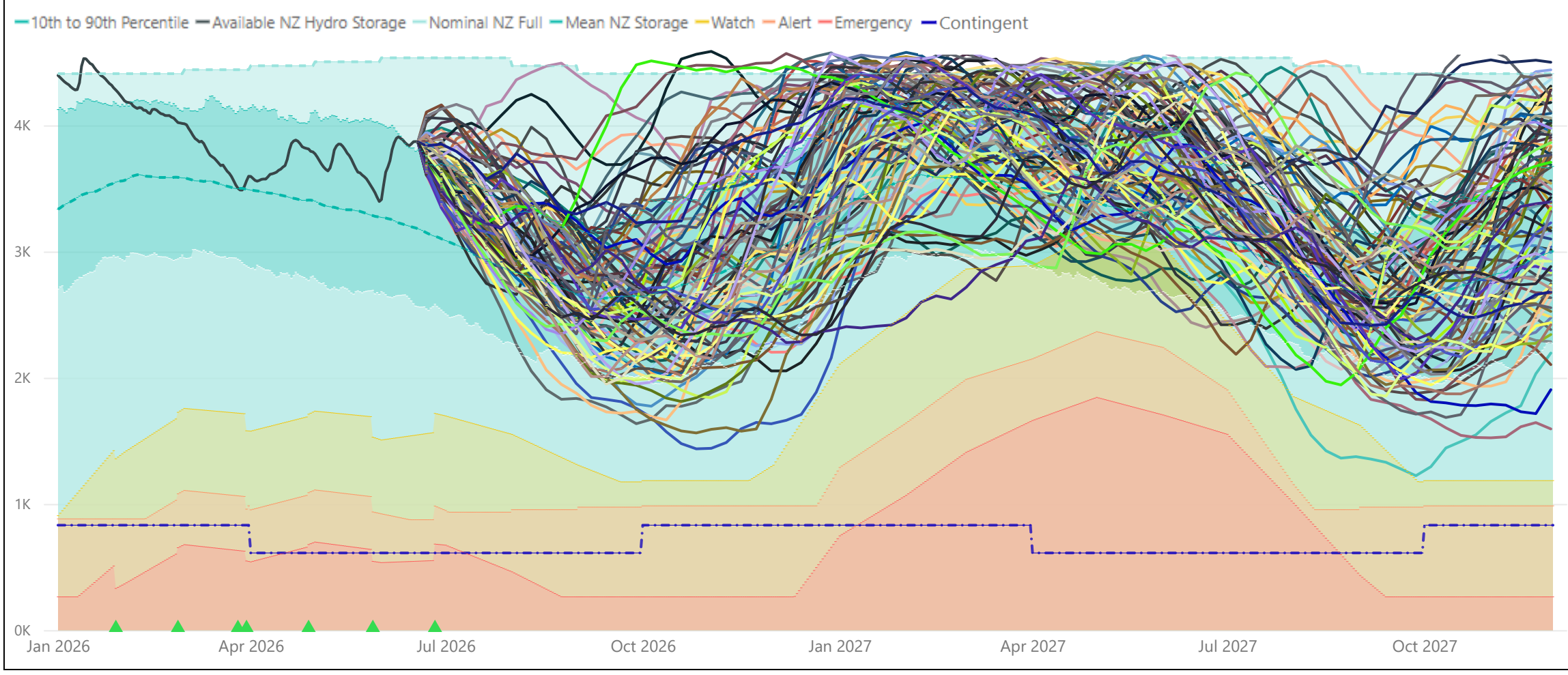
Friday, 26 June 2026

The June Reduced Rankine Availability Fuel Capability Case SST update is shown below which have a hydro storage starting date of 18 June.

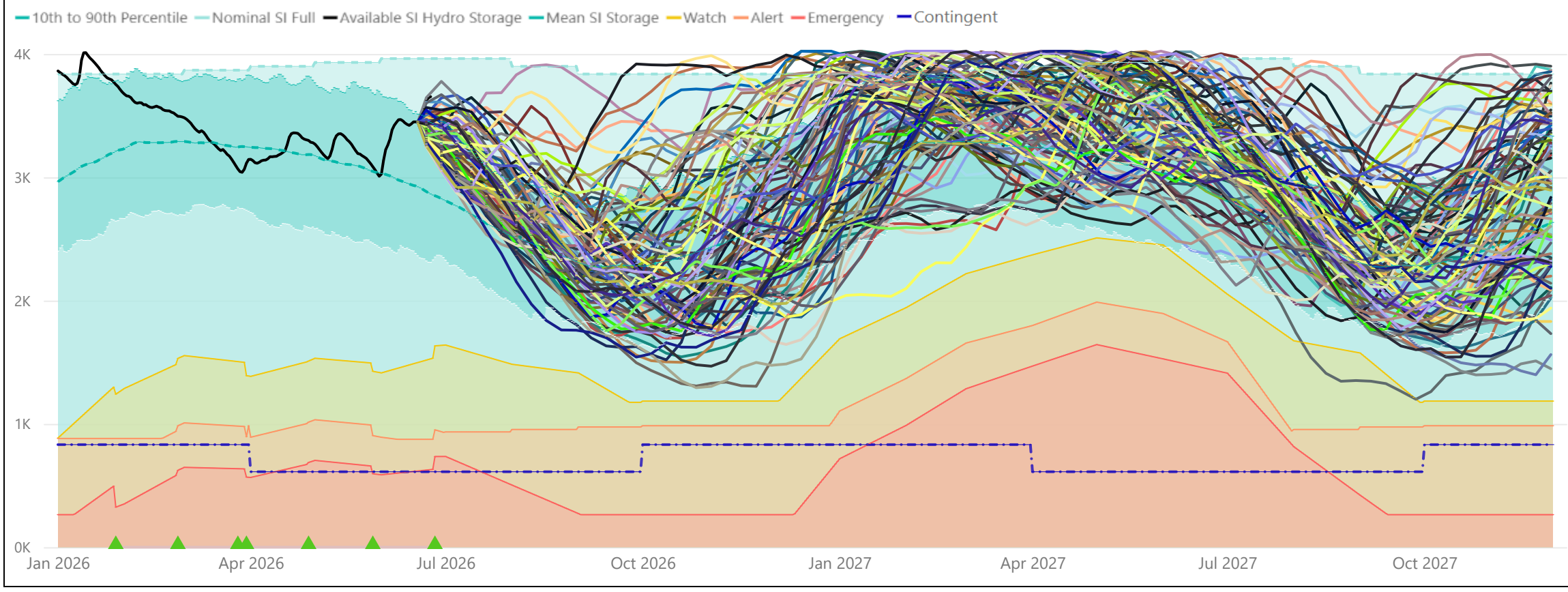
17 SST cross NZ watch curve in 2027.

1 SST cross SI watch curve in 2027.

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



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



Reduced Rankine Availability Contracted Case - Electricity Risk Curves

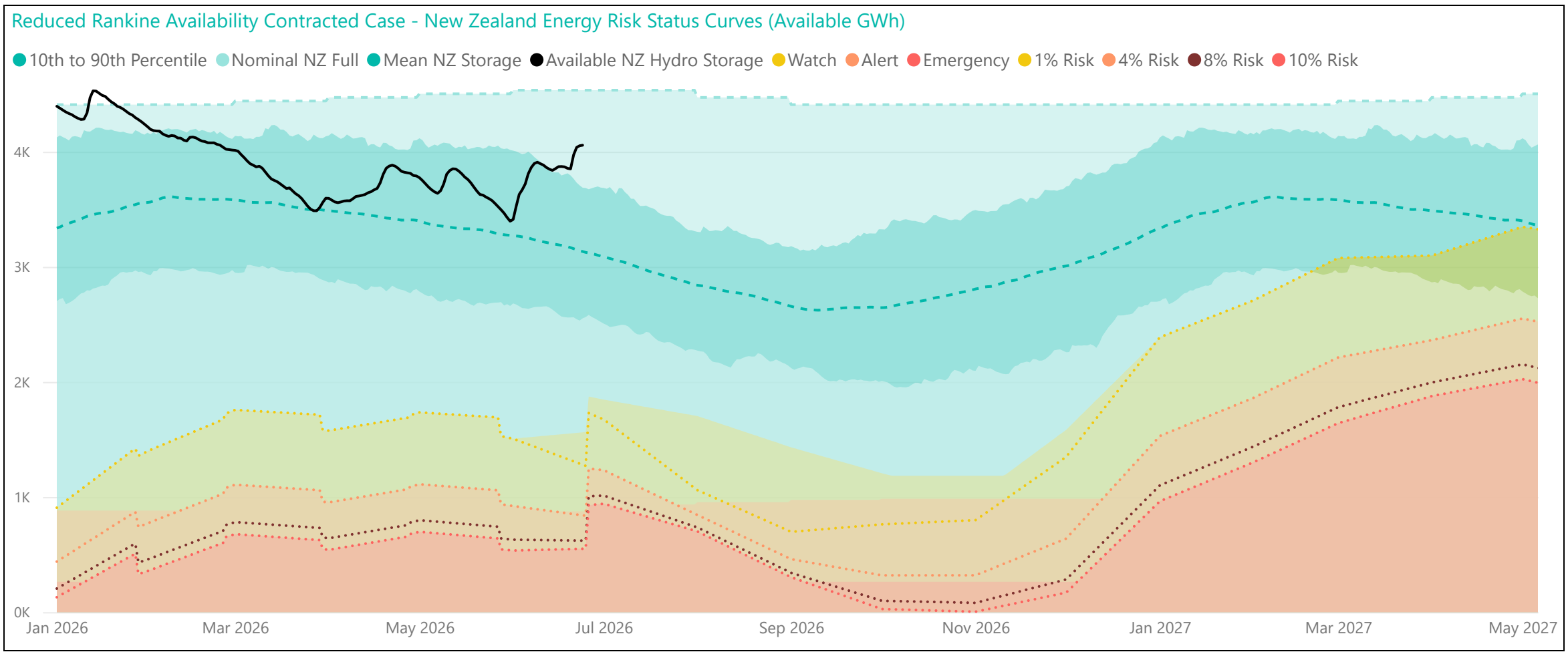
This case applies reduced Rankine availability to the Contracted Fuel Case, limiting thermal generation to both available Rankine units and currently secured fuel contracts.

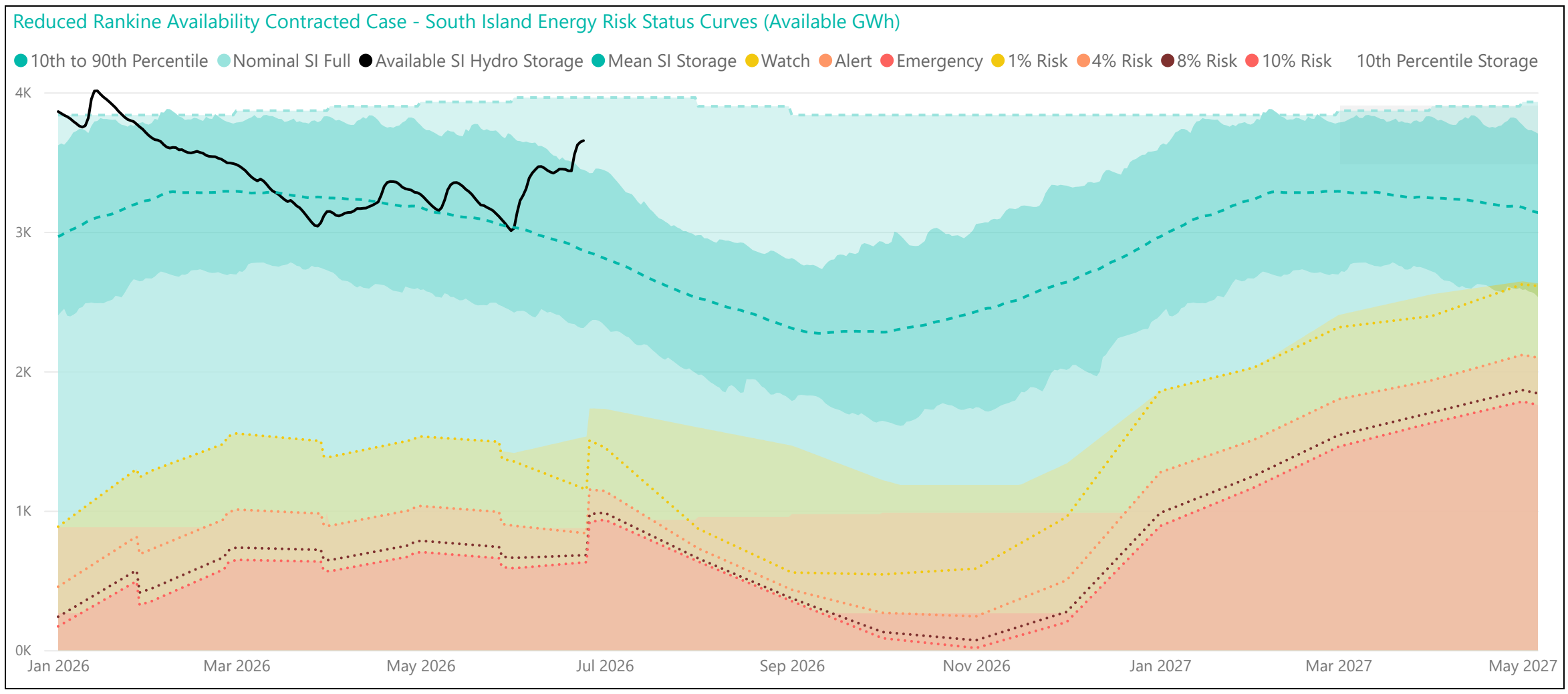
Risk remains lower in 2026 than in 2027, reflecting stronger near-term fuel cover and greater deliverability of thermal generation in the near term.

Risk curves increase more significantly in 2027, as two Rankine units are unavailable and firm contracted fuel volumes are lower further into the outlook period.

Compared with the Reduced Rankine Availability Physical Case, the Contracted Case shows the additional risk associated with fuel that may be physically available but is not yet commercially secured.

This scenario highlights the importance of both Rankine availability and forward fuel contracting in supporting hydro storage during sustained low inflow conditions.





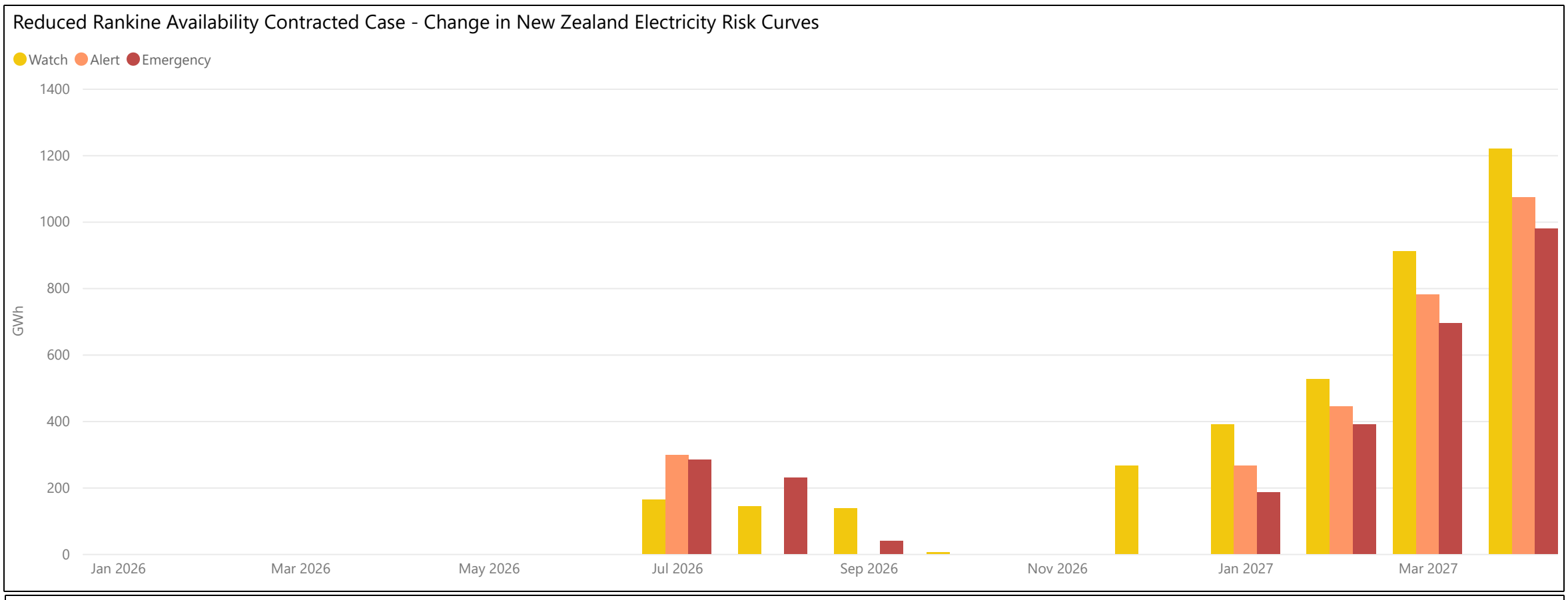
Reduced Rankine Availability Contracted Case - Changes in the Electricity Risk Curves from Contracted Fuel Case

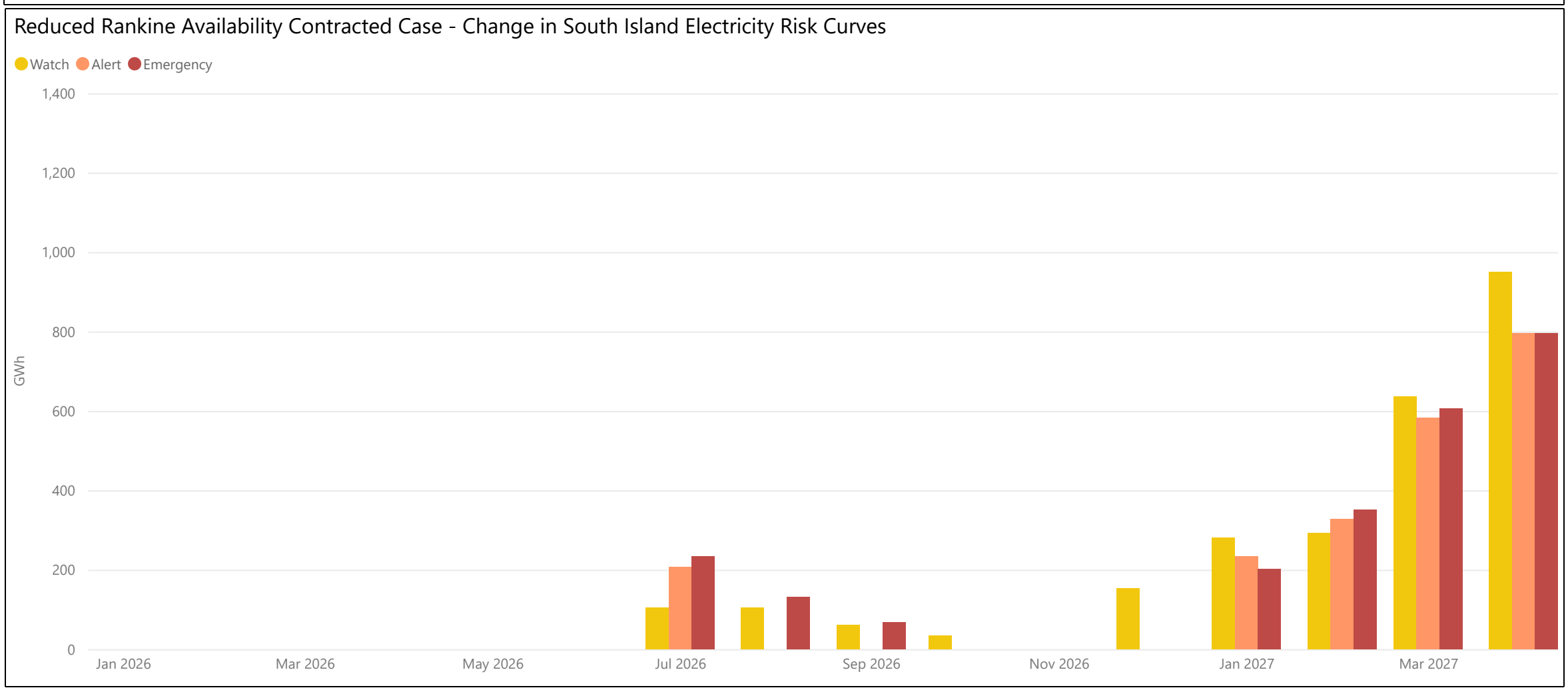
The changes to the Watch/Alert/Emergency curves compared to the Contracted Fuel Case are shown below.

In 2026, the largest increases are up to 298 GWh for the New Zealand Alert curve and 234 GWh for the South Island Emergency curve.

In 2027, the impact is larger, with Watch curves increasing by up to 1218 GWh for New Zealand and 950 GWh for the South Island.

The stronger 2027 impact reflects the combined effect of two unavailable Rankine units and lower firm forward fuel cover.





Reduced Rankine Availability Contracted Case - Thermal Deratings

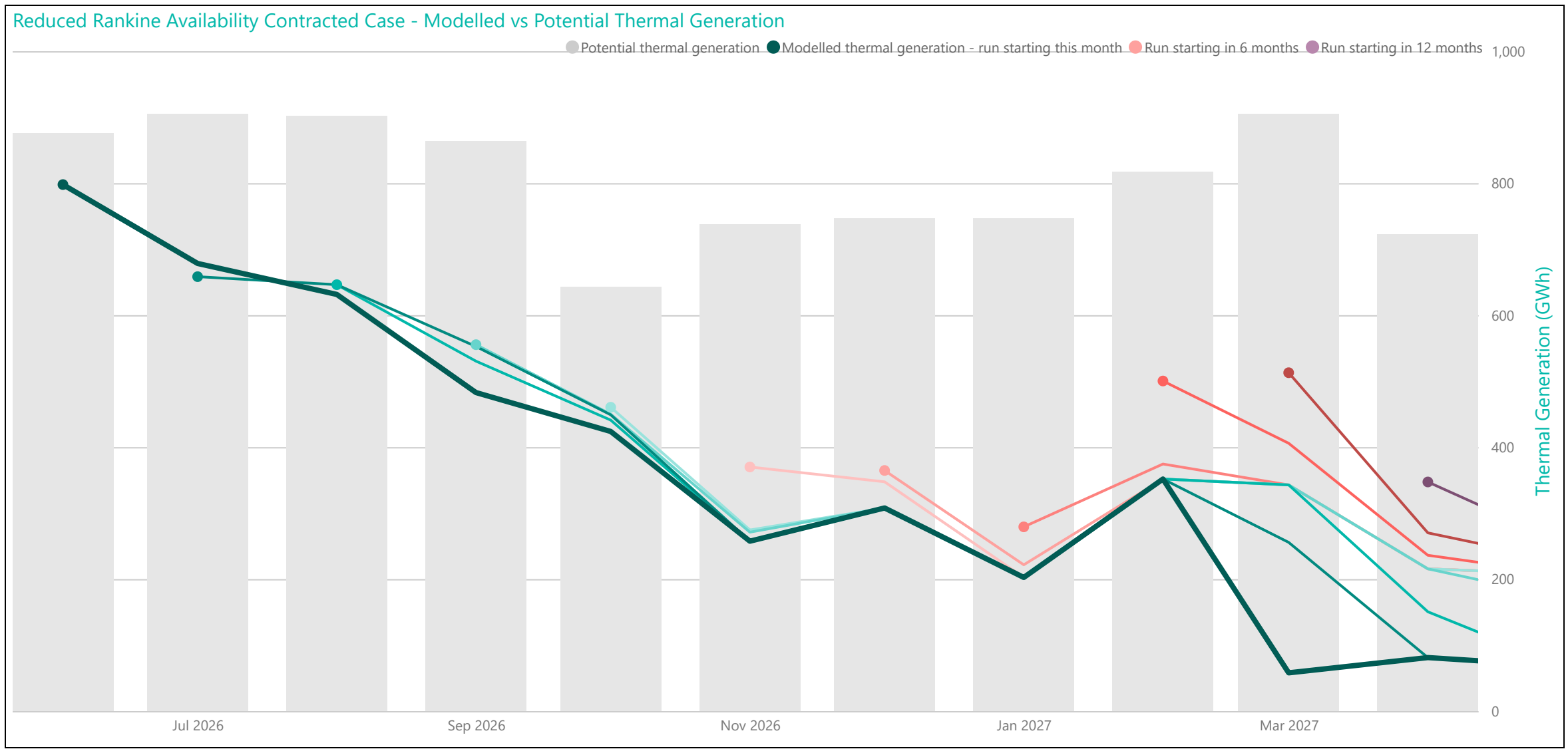
Thermal generation is capped by both reduced Rankine availability and currently secured fuel contracts.

Compared with the physical case, this reduces the modelled thermal response where fuel is not firmly contracted, even where physical fuel or plant capability may exist.

The effect is most material in later months, where forward contracted fuel cover is lower and two Rankine units are unavailable.

This creates a larger divergence between potential thermal generation and modelled thermal generation in 2027.

Reduced Rankine Availability Contracted Case - Modelled vs Potential Thermal Generation



Reduced Rankine Availability Contracted Case - Modelled Thermal Generation (GWh) by Run Month

Run Month	2026-06	2026-07	2026-08	2026-09	2026-10	2026-11	2026-12	2027-01	2027-02	2027-03	2027-04
2026-06	798	678	631	483	424	257	308	203	352	58	81
2026-07		658	646	553	449	257	308	203	352	256	81
2026-08			646	530	441	257	308	203	352	343	150
2026-09				555	450	271	308	203	352	343	216
2026-10					460	274	308	203	352	343	216
2026-11						370	347	203	352	343	216
2026-12							365	222	352	343	216
2027-01								279	374	343	216
2027-02									500	406	236
2027-03										513	270
2027-04											347

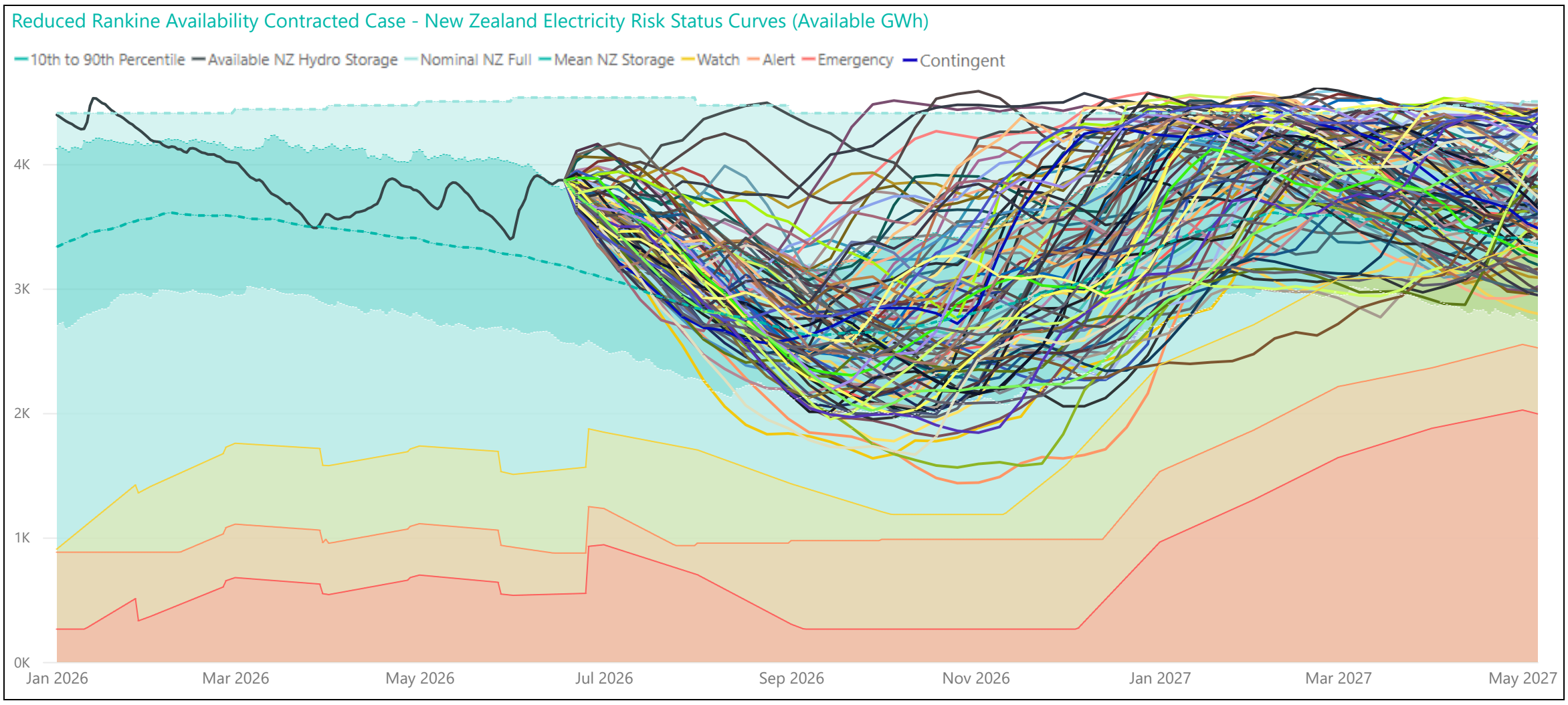
Reduced Rankine Availability Contracted Case - Simulated Storage Trajectories

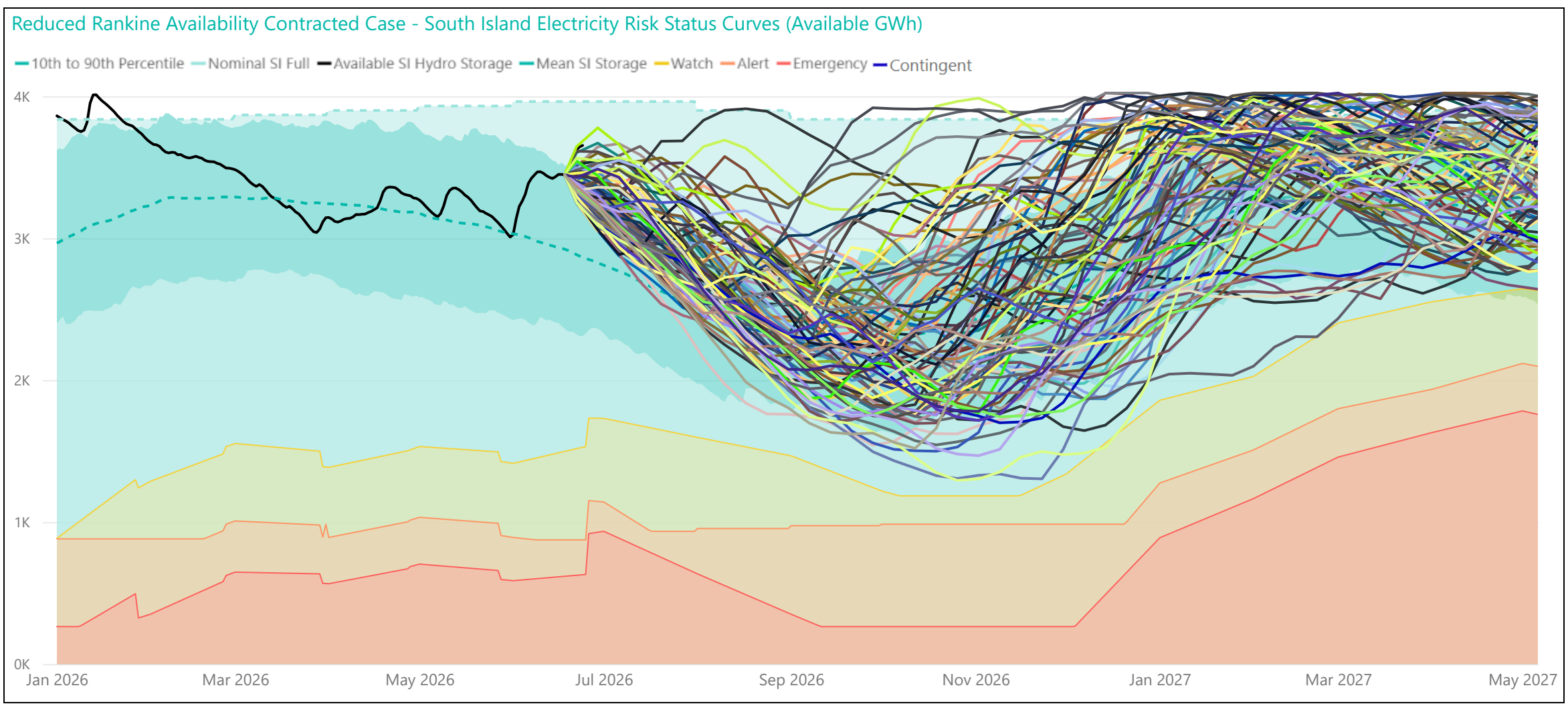
The June Reduced Rankine Availability Contracted SST update is shown below which have a hydro storage starting date of 18 June.

In 2026, SST intersections remain limited, with 1 New Zealand Watch intersection and 1 South Island Watch intersection.

In 2027, intersections increase with 29 New Zealand Watch intersections and 2 South Island Watch intersections.

This shows that reduced Rankine availability increases forward risk when combined with lower contracted fuel cover.





Reduced Rankine Avail. Contracted Case - Changes in the Electricity Risk Curves from Reduced Rankine Avail. Fuel Capability Case

Compared with the Reduced Rankine Fuel Capability Case, the Contracted Case shows higher risk curves where currently secured fuel is below physical thermal capability.

In 2026, most thermal generation remains deliverable under current fuel agreements. Additional thermal fuel contracting in 2026 can increase thermal contribution and reduce the New Zealand risk curves in 2026 by up to 290 GWh or ~50 Rankine days and South Island risk curves by up to 210 GWh or ~36 Rankine days.

In 2027, the difference between the contracted and fuel capability Reduced Rankine scenarios remains about the same. This is because, with less Rankine plant capacity available, the current coal stockpile can power the remaining Rankine/s for most or all of the 12-month horizon over which the risk for each month is assessed. This means the lack of contracted coal imports has much less influence than in the case with all three Rankines available, and these changes in the curves between the contracted and fuel capability Reduced Rankine cases are driven mostly by differences between contracted and physical gas availability rather than coal.