August 2025 Energy Security Outlook

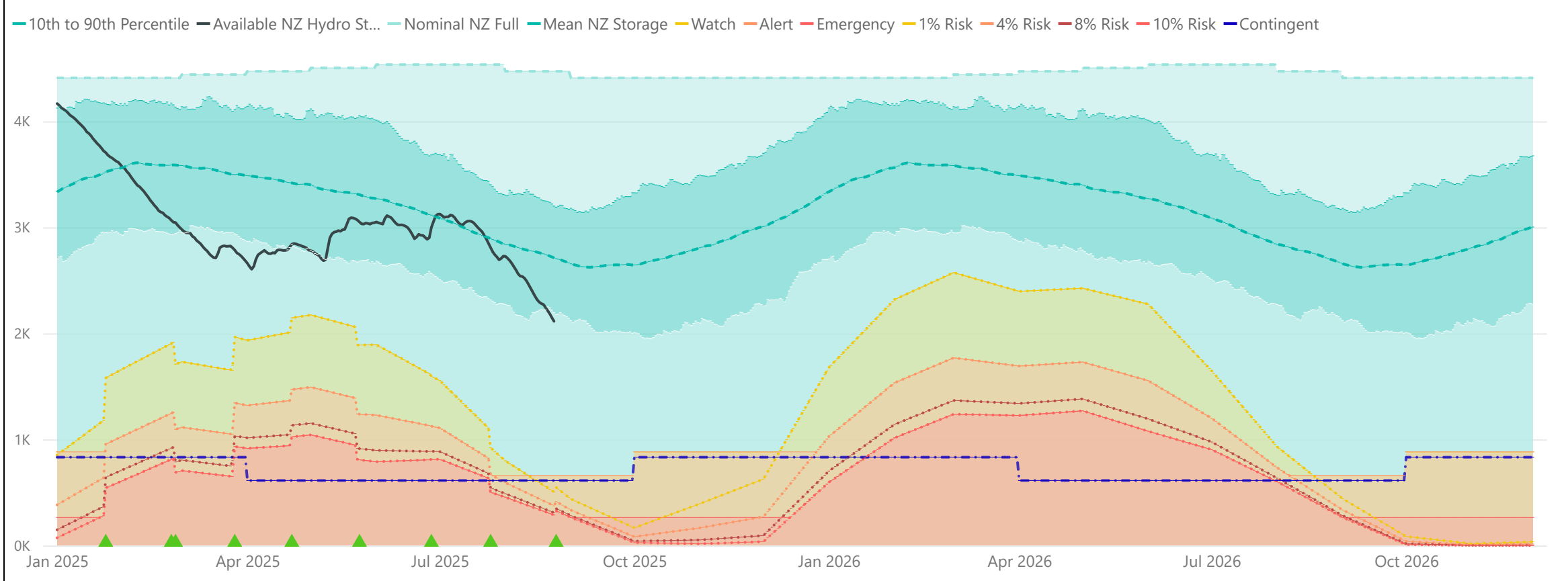
Monday, 25 August 2025

- The national controlled hydro storage position has declined rapidly since last month's update and sits at 77% of the historic mean at 25 August (down from 98% at 24 July). South Island storage is lower at 74%.
- The Electricity Risk Curves (ERCs) have lifted for the first half of 2026 relative to the July update, predominantly due to a decrease in the gas production forecast. There was little change to the risk curves for the remainder of 2025 when the curves are set by the Alert and Emergency floors reflecting energy held in contingent hydro storage.
- No Simulated Storage Trajectories (SSTs) cross the Watch curve in 2025. Eight of the 93 SSTs cross the Watch curve in January-July 2026. This assumes the third Rankine unit retires in January 2026 and the market supplements the existing coal stockpile at its maximum import capability to maintain increased thermal generation during low hydro inflows.
- The market response earlier in 2025 to reduce hydro storage risk continues to be effective in limiting the impact of a rapid decline in hydro storage levels in recent weeks. Looking ahead to winter 2026, the risk to electricity supply can be decreased through hydro storage management and ensuring sufficient backup thermal fuel and capacity to support increased thermal generation under extended periods of low inflows.
- In this month's scenario we look at the impact on the ERCs if the third Rankine unit were to remain available in 2026, which is currently awaiting Commerce Commission approval. This lowers the NZ Watch curve by up to 680 GWh and results in no SSTs crossing any ERCs.

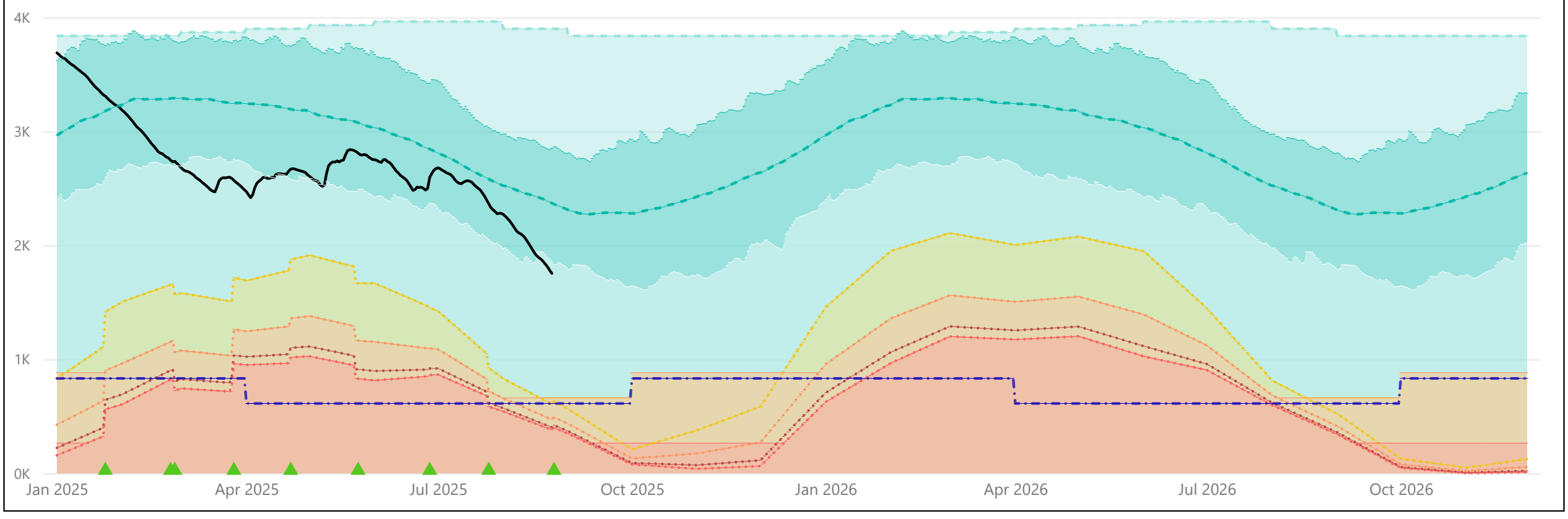
Base Case - Electricity Risk Curves (ERCs) Updates and Assumptions

- A decrease to the forecast gas production over the first half of 2026.
- A slight decrease in Ahuroa gas storage, and an increase to the current coal stockpile.
- TCC has been modelled with an estimate of remaining operating hours, based on information from Contact.
- Updates to planned generator outages and upcoming commissioning dates.
- Input data was prepared as of 12 August. The current hydro storage level is as of 25 August

Base Case New Zealand Electricity Risk Status Curves (Available GWh)



Base 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. The default buffer is 50 GWh.

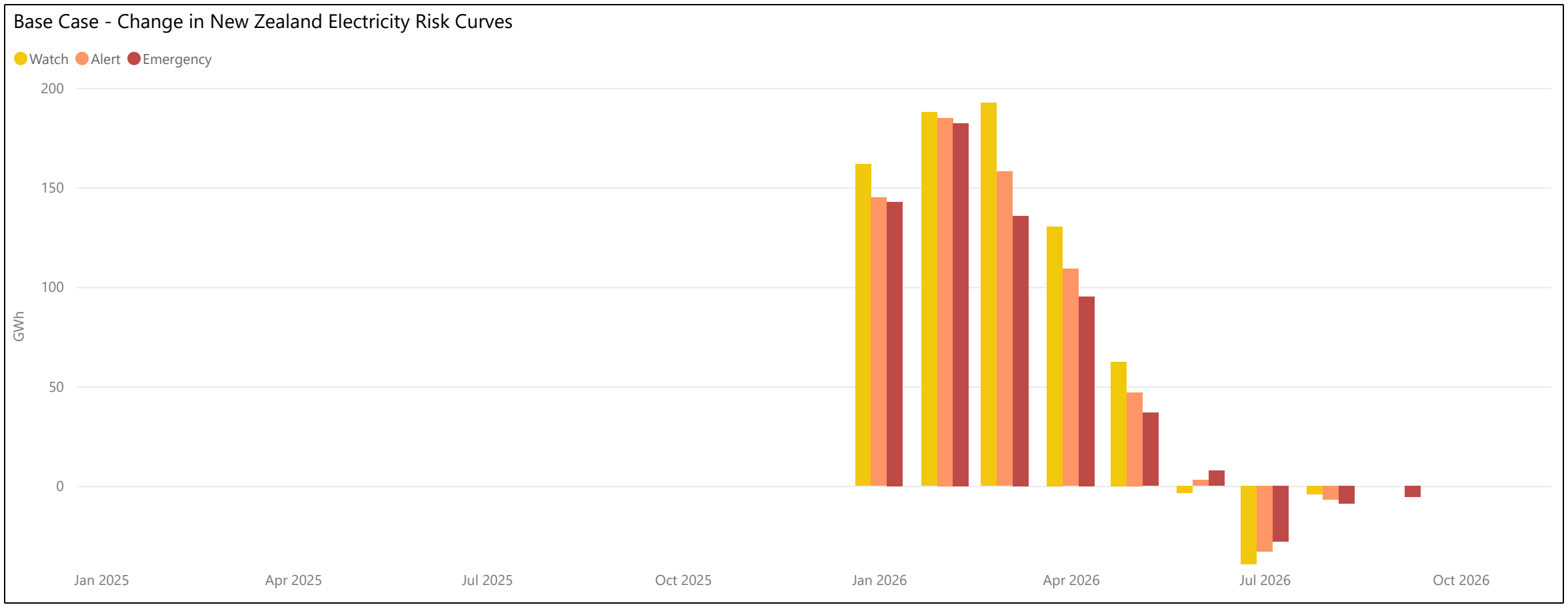
Base Case - Changes in the Electricity Risk Curves From Previous Update

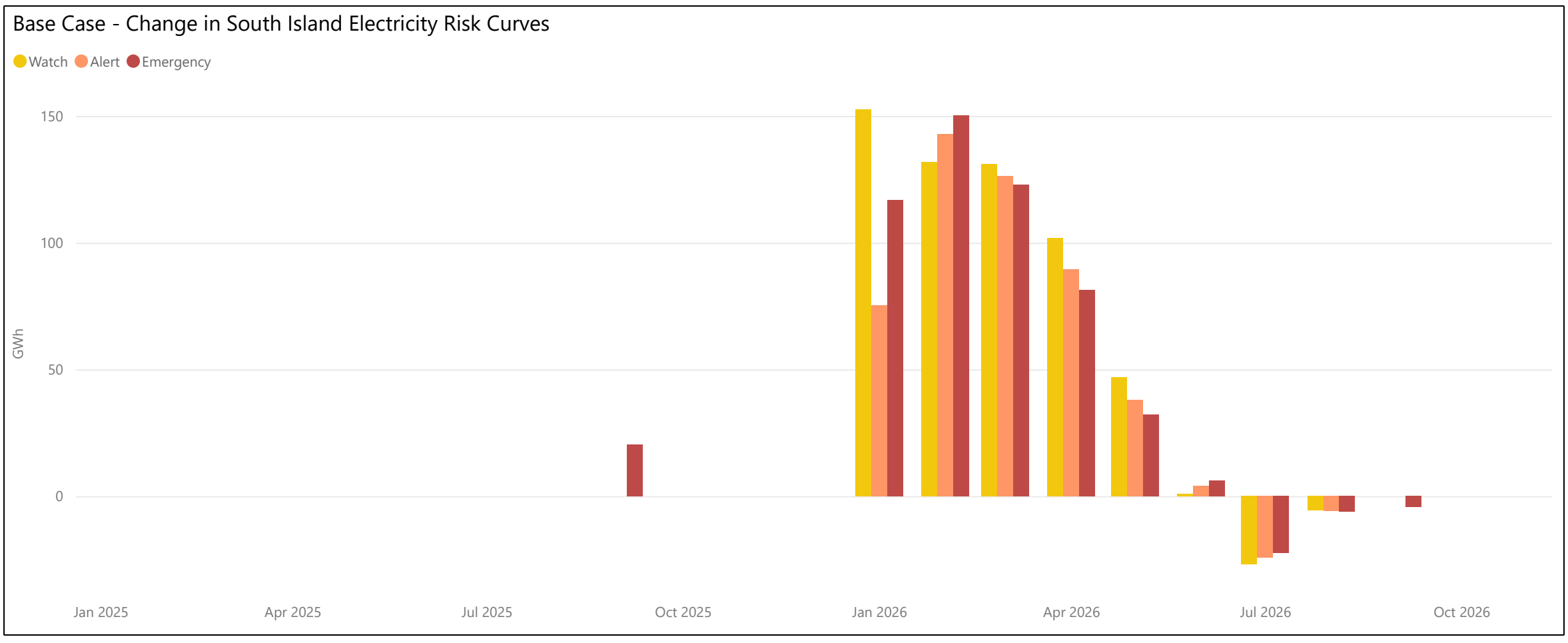
Monday, 25 August 2025

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

The most significant change in this update to the ERCs is the decrease in modelled thermal generation capability over the first half of 2026 as a result of decreased gas production forecasts. As a result, the ERCs have increased in the first half of 2026 as there is a net increase in hydro storage drawdown relative to the last update. There is a slight decrease in risk in the second half of 2026 due to some added generator commissioning. There is little change to the ERCs in the remainder of 2025 as this is the period when the ERCs are set by the Alert and Emergency floors.

The New Zealand Watch curve increased by up to 190 GWh (in March 2026), while the Emergency curve increased by up to 180 GWh (in February 2026). The South Island Watch curve increased by up to 150 GWh (in January 2026) while the Emergency curve increased by up to 150 GWh (in February 2026).





Base Case - Thermal Deratings

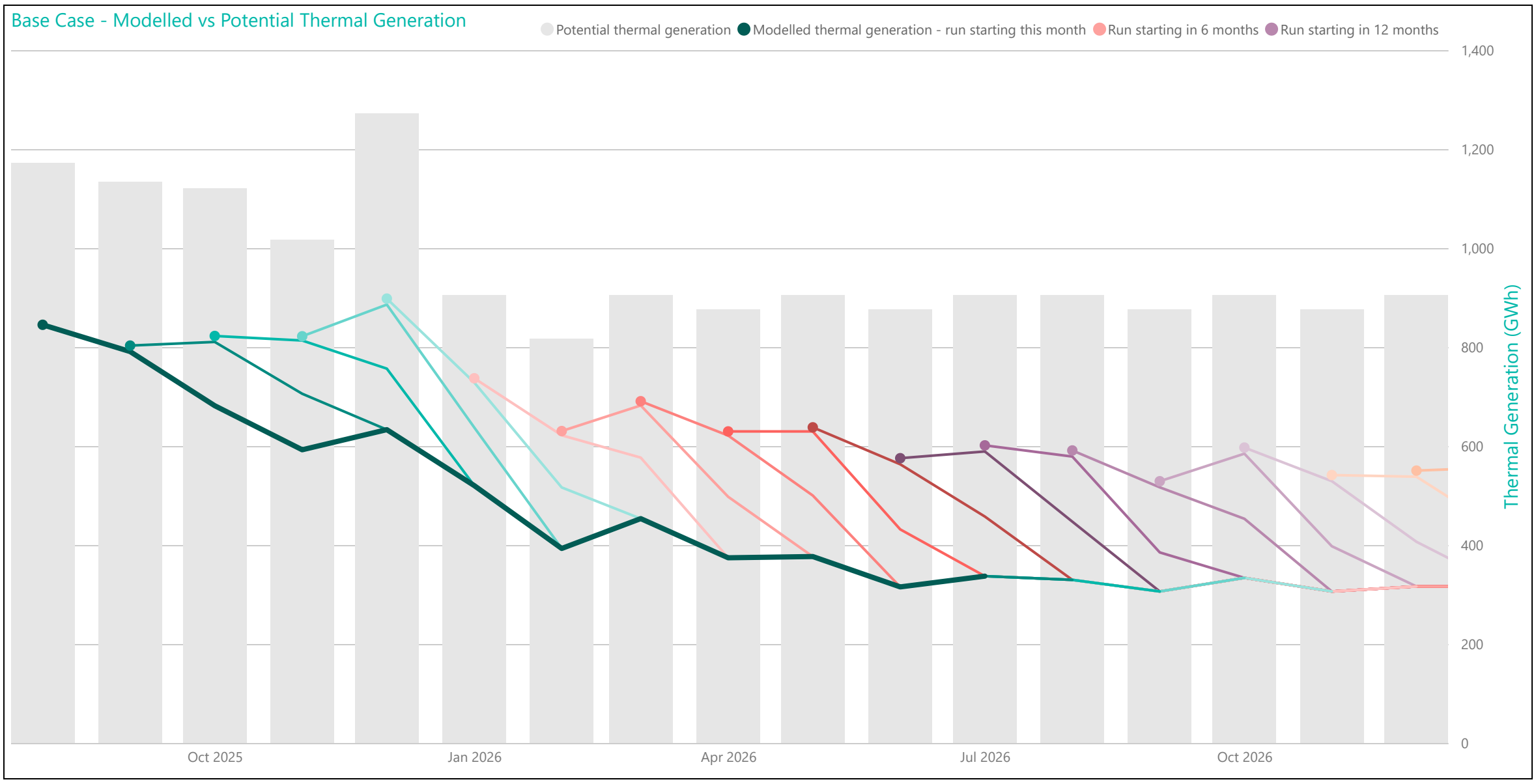
Monday, 25 August 2025

The thermal deratings and key considerations for the August 2025 ERCs update are below:

- Thermal generation capability decreased through the first half of next year in this update, due to a decrease in forecast gas production over this period.
- Note that the deratings on thermal generation would decrease if more coal or gas is made available for electricity generation than what has been modelled. The market has responded to risk by contracting more thermal fuels for 2025. Continued focus on fuel (both hydro and thermal) and asset availability is needed to reduce energy risk for the remainder of winter, and ahead of winter 2026.
- Modelled gas storage levels have decreased slightly to 5.1 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 ~8 months.
- The current coal stockpile can fuel three Rankines at full output for ~3 months, or one Rankine for ~9 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.

Base Case - Modelled vs Potential Thermal Generation



Modelled Thermal Generation (GWh) by Run Month

Run Month	2025-08	2025-09	2025-10	2025-11	2025-12	2026-01	2026-02	2026-03	2026-04	2026-05	2026-06	2026-07	2026-08	2026-09	2026-10	2026-11	2026-12
2025-08	845	791	682	592	633	520	393	453	374	377	315	337					
2025-09		803	810	706	633	520	393	453	374	377	315	337	330				
2025-10			822	813	756	520	393	453	374	377	315	337	330	306			
2025-11				822	886	637	393	453	374	377	315	337	330	306	334		
2025-12					898	728	516	453	374	377	315	337	330	306	334	306	
2026-01						737	622	577	374	377	315	337	330	306	334	306	316
2026-02							630	682	498	377	315	337	330	306	334	306	316
2026-03								691	621	500	315	337	330	306	334	306	316
2026-04									630	629	432	337	330	306	334	306	316
2026-05										638	563	458	330	306	334	306	316
2026-06											575	589	447	306	334	306	316
2026-07												601	579	385	334	306	316
2026-08													591	517	453	306	316
2026-09														529	585	398	316
2026-10															597	529	407
2026-11																541	538
2026-12																	550

Base Case - Simulated Storage Trajectories (SSTs)

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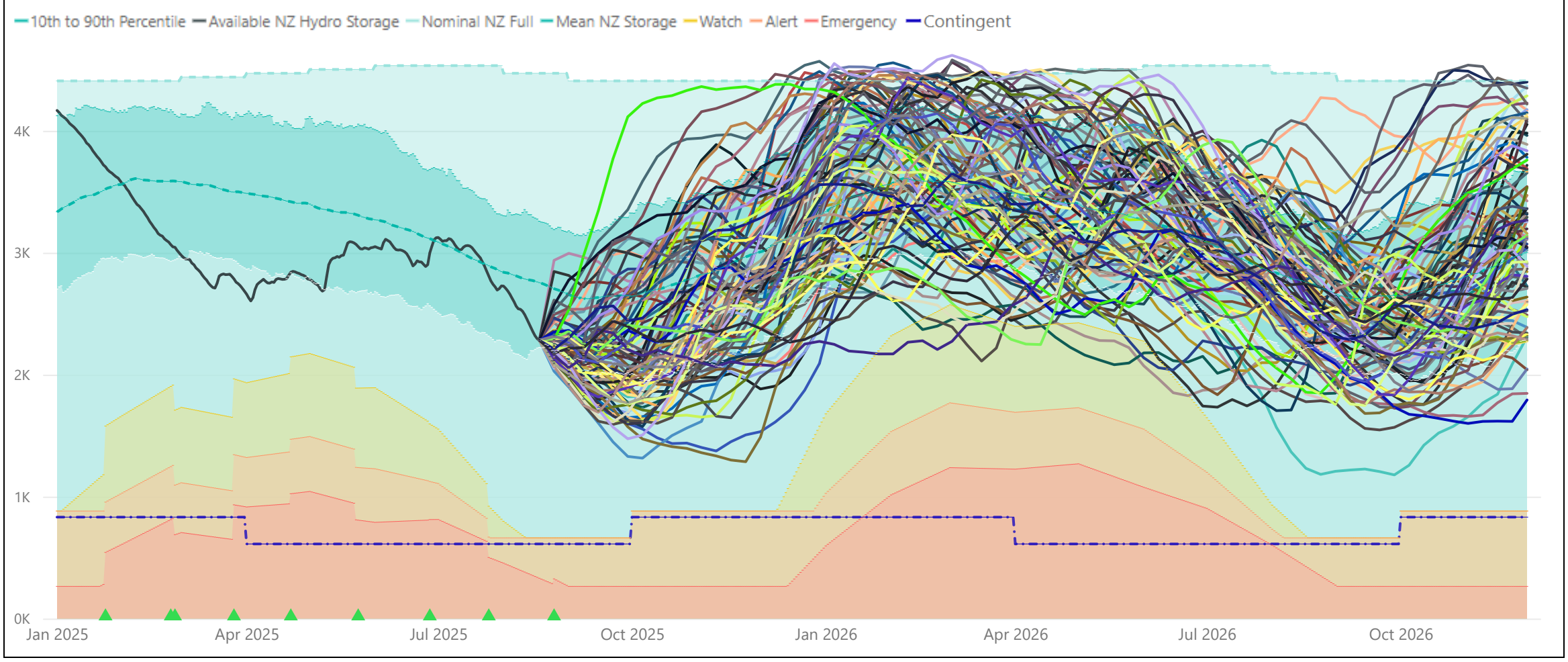
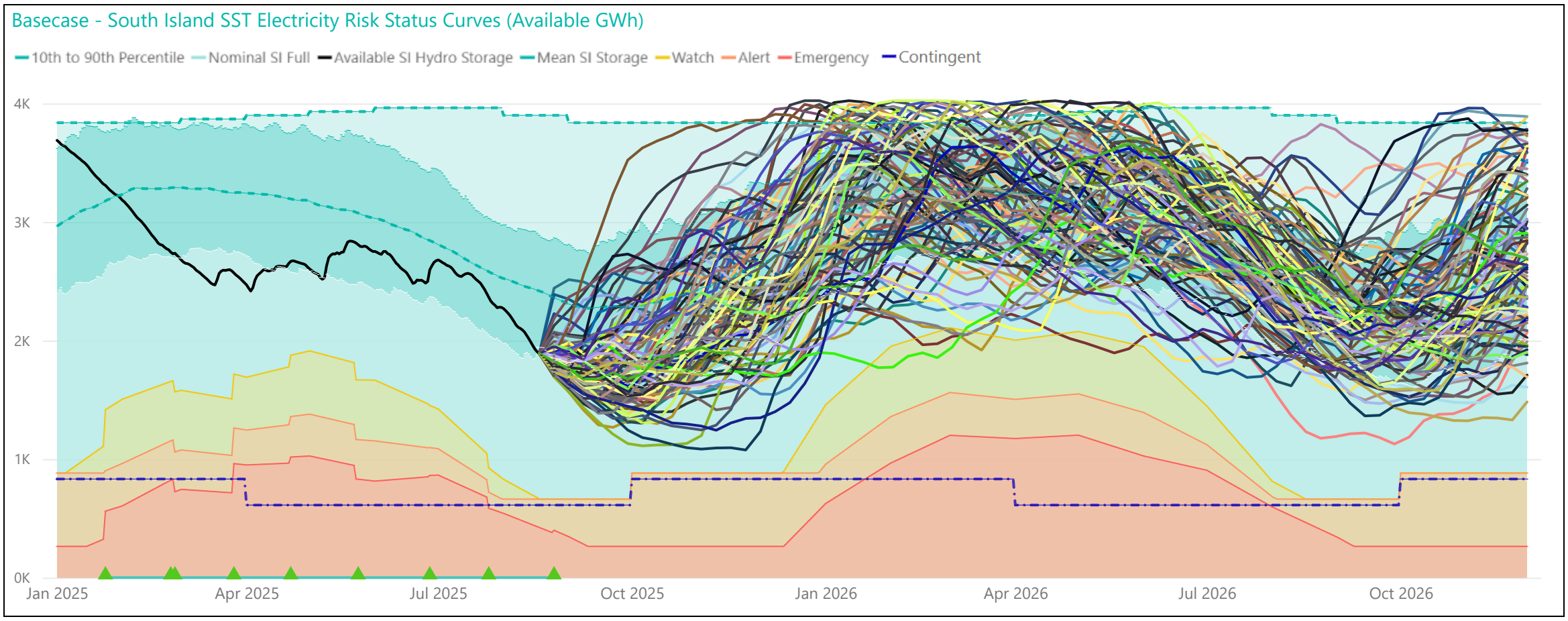
The August SST update is shown below:

- No SSTs cross the NZ Watch status curve in 2025. Eight of the 93 modelled SSTs cross the NZ Watch status curve in 2026.
- No SSTs cross the NZ Alert status curve in 2025 or 2026.
- No SSTs cross the South Island Watch status curve in 2025. Four of the SSTs cross the South Island Watch status curve in 2026.
- No SSTs cross the South Island Alert status curve in 2025 or 2026.

Basecase - New Zealand SST Electricity Risk Status Curves (Available GWh)



Basecase - South Island SST Electricity Risk Status Curves (Available GWh)

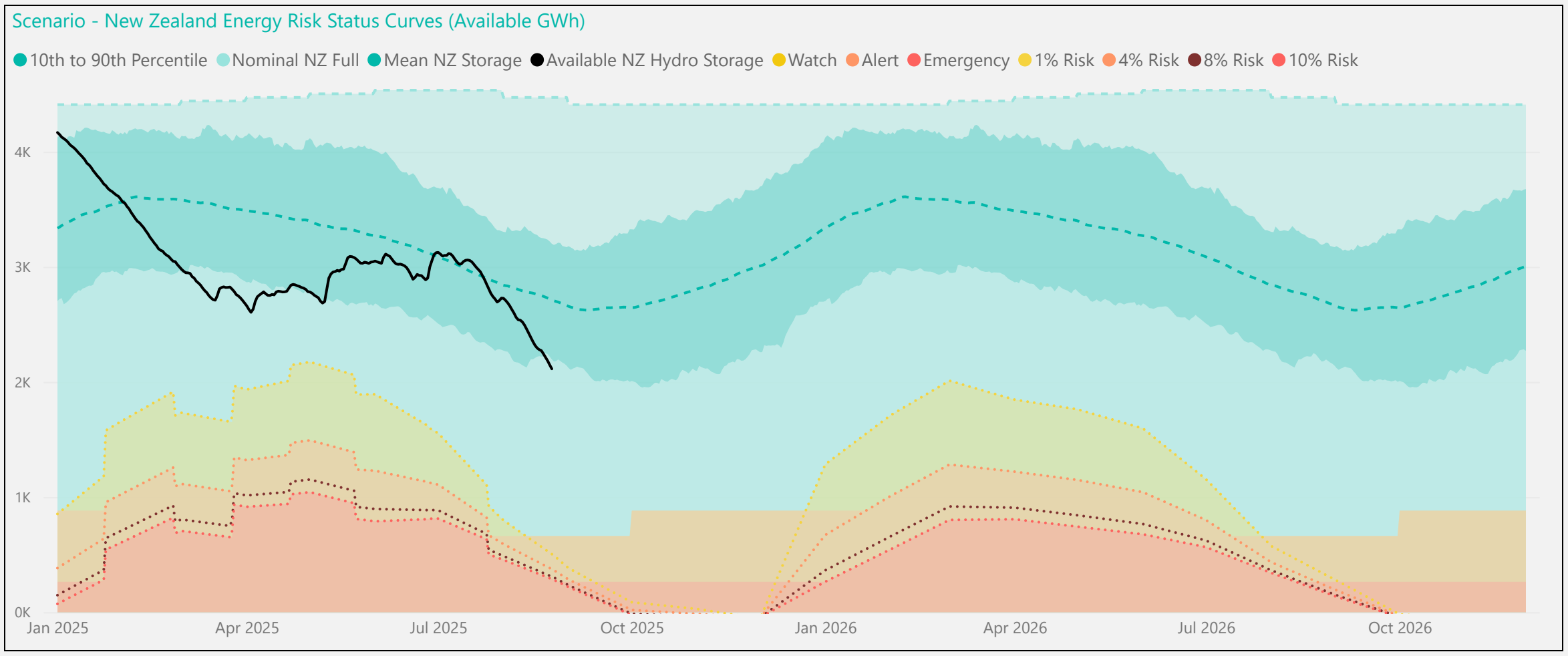


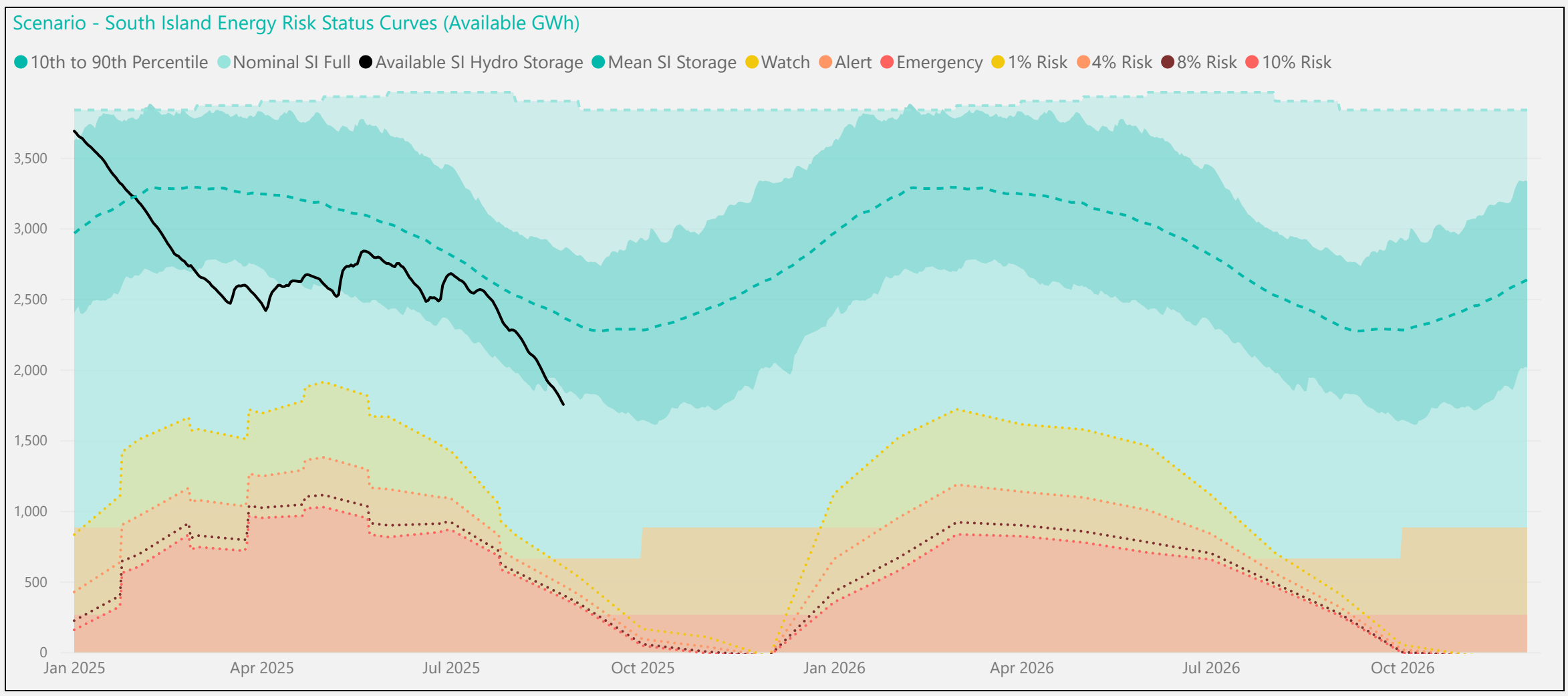
August 2025 Rankine Remains Scenario - Electricity Risk Curves

Our base case Electricity Risk Curves (ERCs) for August assume that a Rankine unit at Huntly will be retired in January as indicated in Genesis's FY25 Q3 Performance Report. This scenario examines the impact on ERCs (relative to the base case assumptions) if all three Rankine units were to remain available. This lowers the New Zealand Watch curve by up to 680 GWh in June 2026 and results in no SSTs crossing the Watch curve in 2026, where eight SSTs crossed it under the base case.

We note on 4 August Genesis announced that the major gentailers had signed an agreement to support national energy security through Huntly capacity, including the third Rankine unit. However this remains subject to Commerce Commission approval, so in the mean time our base case assumes the unit is planned for decommissioning.

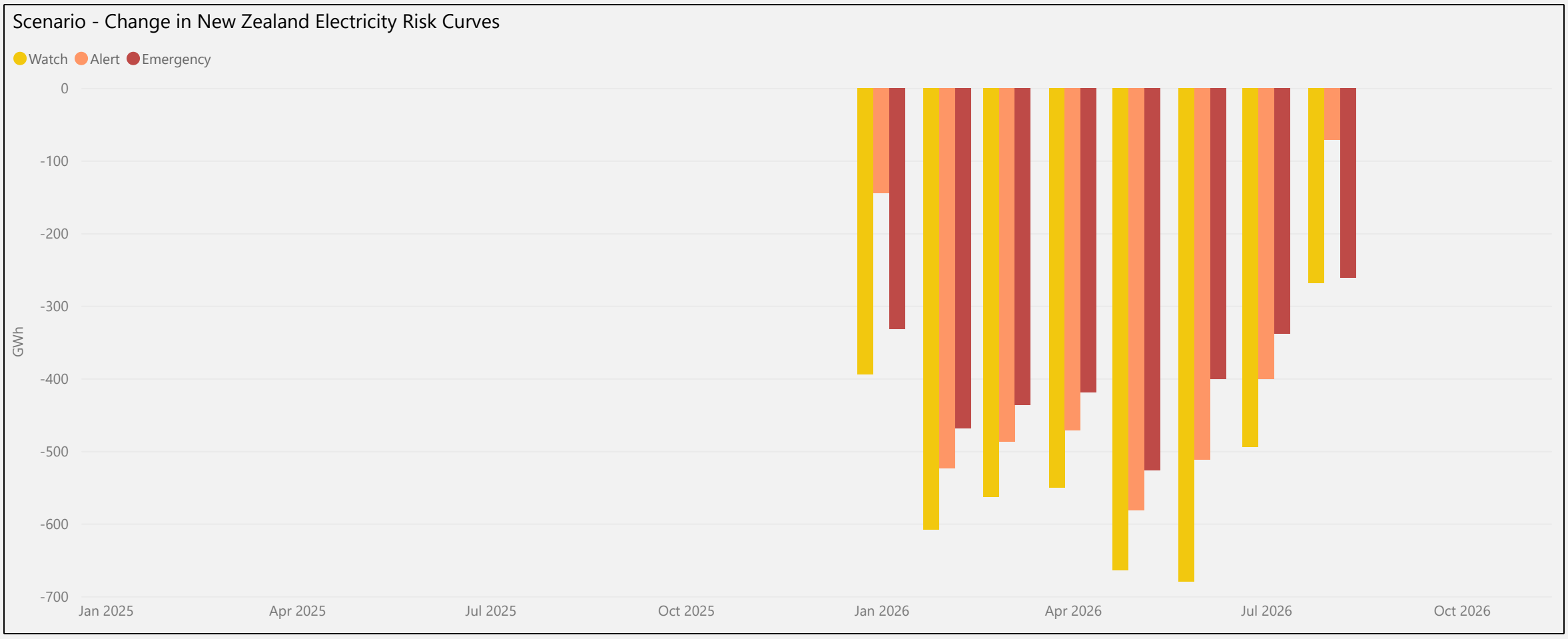
The August 2025 ERCs Scenario is shown below.

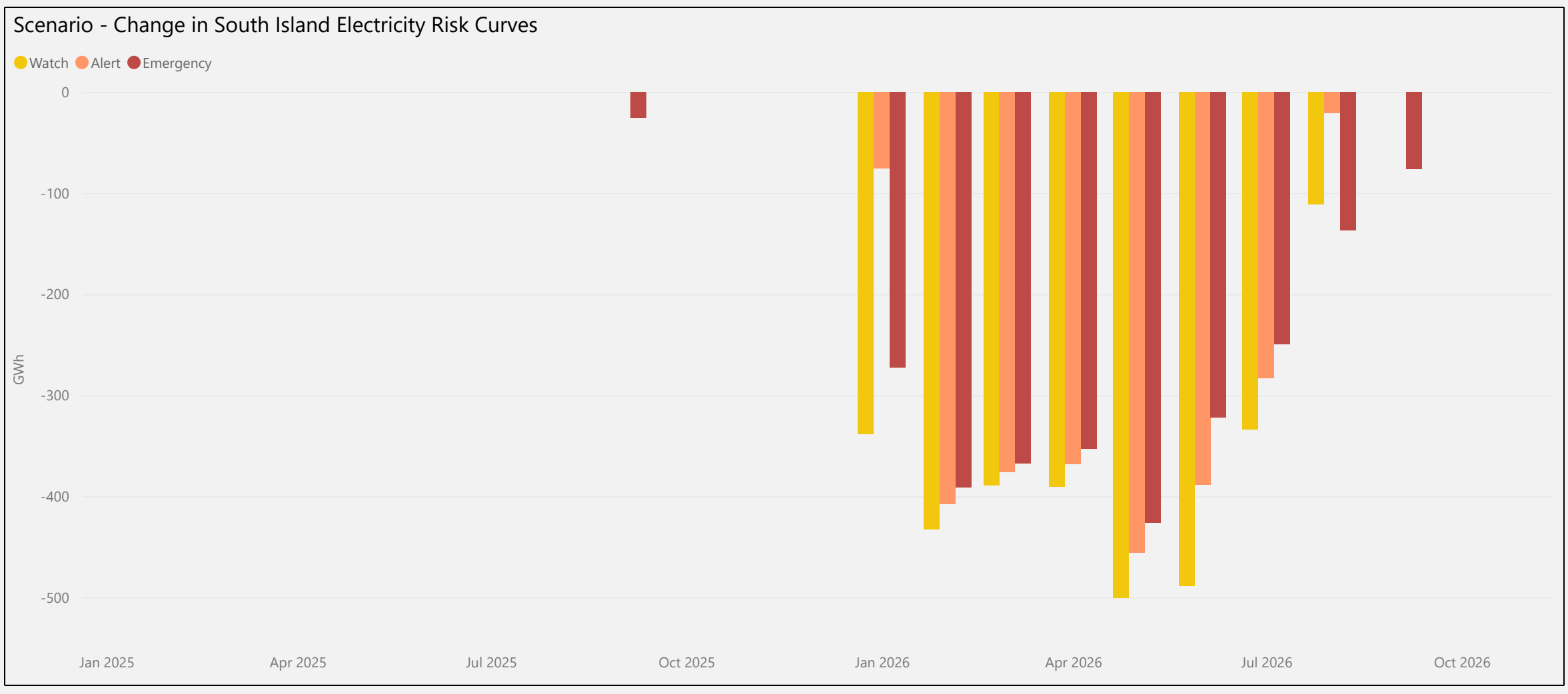




Scenario - Changes in the Electricity Risk Curves from the Base Case

The changes to the scenario Watch/Alert/Emergency curves compared to the base case are shown below. The decrease in the curves over 2026 is the result of all three Huntly Rankine units remaining available (versus one being retired in January 2026 in the base case)

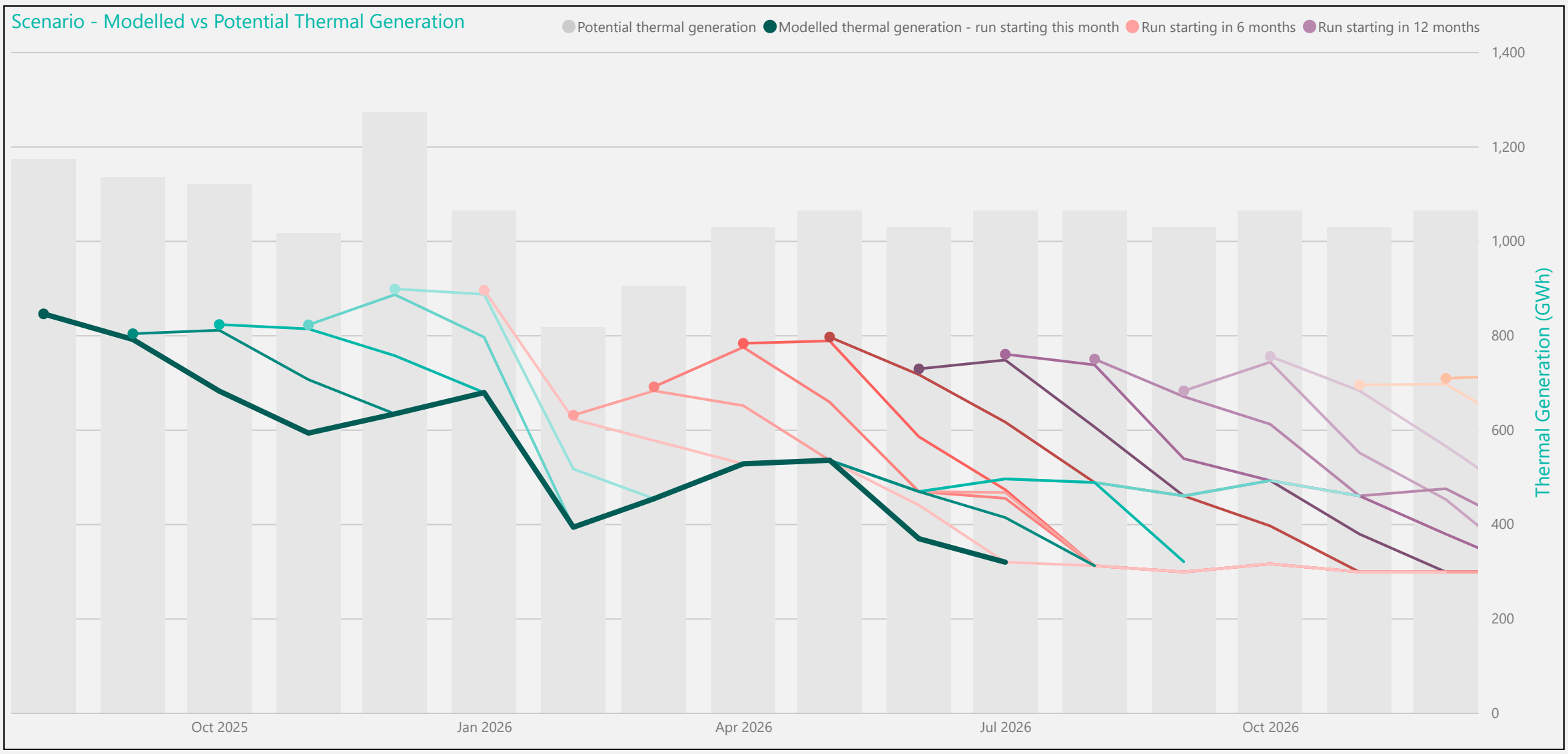




Scenario - Thermal Deratings

The thermal deratings and key considerations for the August 2025 Rankine Remains scenario are below.
Potential thermal generation in 2026 (grey bars) is significantly higher with all three Rankine units available. This results in increased generation in the early months of each run, which reduces risk. Because there is more thermal plant capacity available to burn through stockpiles, thermal generation in each run reaches a steady state more quickly in this scenario.

Scenario - Modelled vs Potential Thermal Generation



Modelled Thermal Generation (GWh) by Run Month

	2025-08	2025-09	2025-10	2025-11	2025-12	2026-01	2026-02	2026-03	2026-04	2026-05	2026-06	2026-07	2026-08	2026-09	2026-10	2026-11	2026-12
2025-08	845	791	682	592	633	678	393	453	527	535	369	319					
2025-09		803	810	706	633	678	393	453	527	535	468	413	311				
2025-10			822	813	756	678	393	453	527	535	468	495	488	320			
2025-11				822	886	796	393	453	527	535	468	495	488	459	492		
2025-12					898	887	516	453	527	535	468	495	488	459	492	459	
2026-01						895	622	577	527	535	440	319	311	298	315	298	298
2026-02							630	682	651	535	468	467	311	298	315	298	298
2026-03								691	774	658	468	454	311	298	315	298	298
2026-04									783	788	585	473	311	298	315	298	298
2026-05										796	716	616	488	459	396	298	298
2026-06											729	747	605	459	492	378	298
2026-07												760	737	538	492	459	378
2026-08													749	670	611	459	475
2026-09														682	743	551	452
2026-10															755	682	565
2026-11																694	696
2026-12																	709

Scenario - Simulated Storage Trajectories

The risk curves have decreased in the Rankine Remains scenario as this assumes the market has access to more thermal generation capacity. The decrease in risk curves results in no SSTs crossing any of the Watch, Alert or Emergency curves in 2025 or 2026.