July 2025 Energy Security Outlook

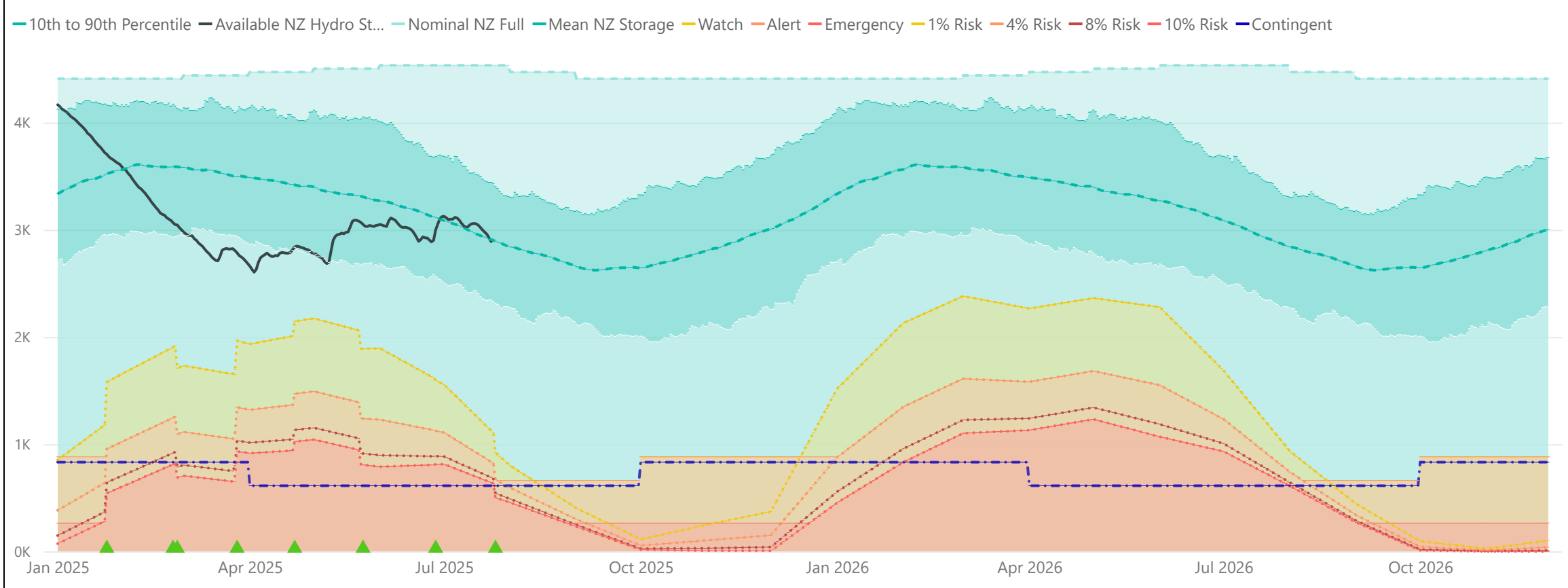
Friday, 25 July 2025

- The national controlled hydro storage position has slightly improved since last month's update and now sits at 98% of the historic mean as of 24 July.
- The Electricity Risk Curves (ERCs) for August 2025 and throughout 2026 have dropped relative to the June update. This is due to an increase to coal stockpile forecasts, gas storage and forecast gas production.
- No Simulated Storage Trajectories (SSTs) cross the Watch curve in 2025. Five 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 ahead of winter 2025 to reduce hydro storage risk has been effective in limiting the impact of ongoing below mean storage levels in the South Island. Looking ahead to winter 2026, the risk to electricity supply can be decreased through hydro storage management and ensuring there is 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. This lowers the ERC Watch curve by up to 623 GWh and results in no SSTs crossing the ERCs.

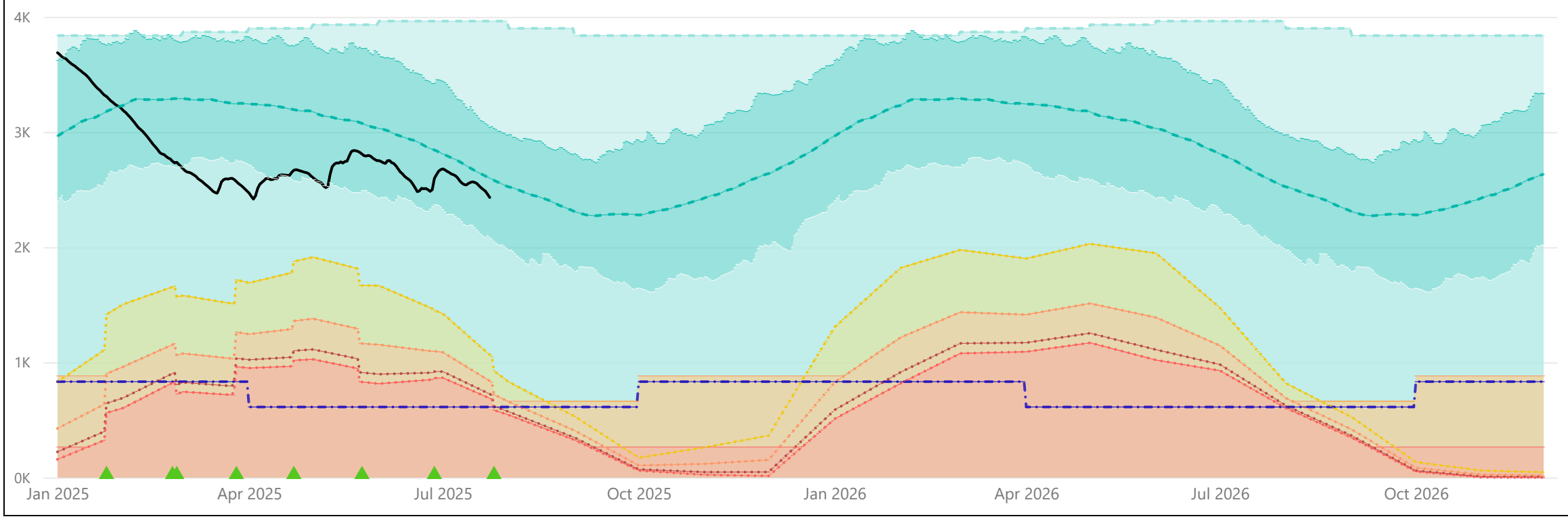
Base Case - Electricity Risk Curves (ERCs) Updates and Assumptions

- An increase to the forecast gas production over the ERC horizon and gas storage levels at Ahuroa.
- An increase in firm coal imports and 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 10 July. The current hydro storage level is as of 24 July.

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

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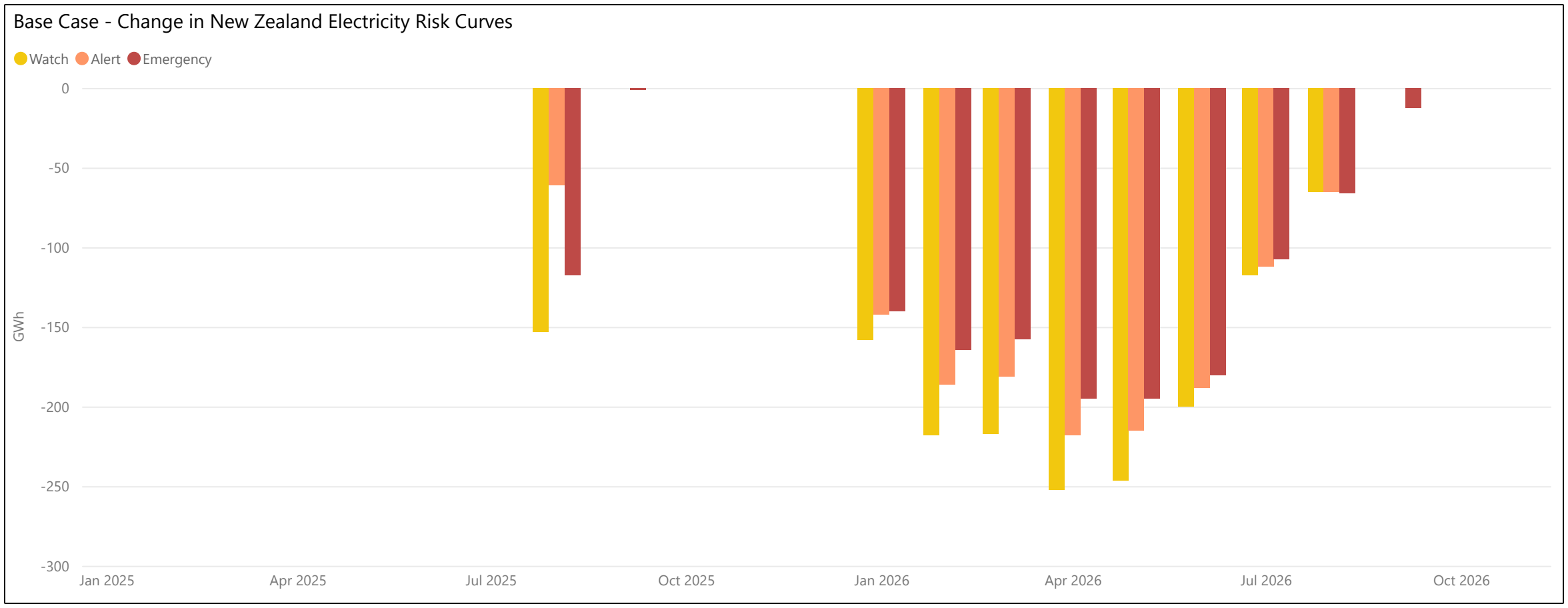
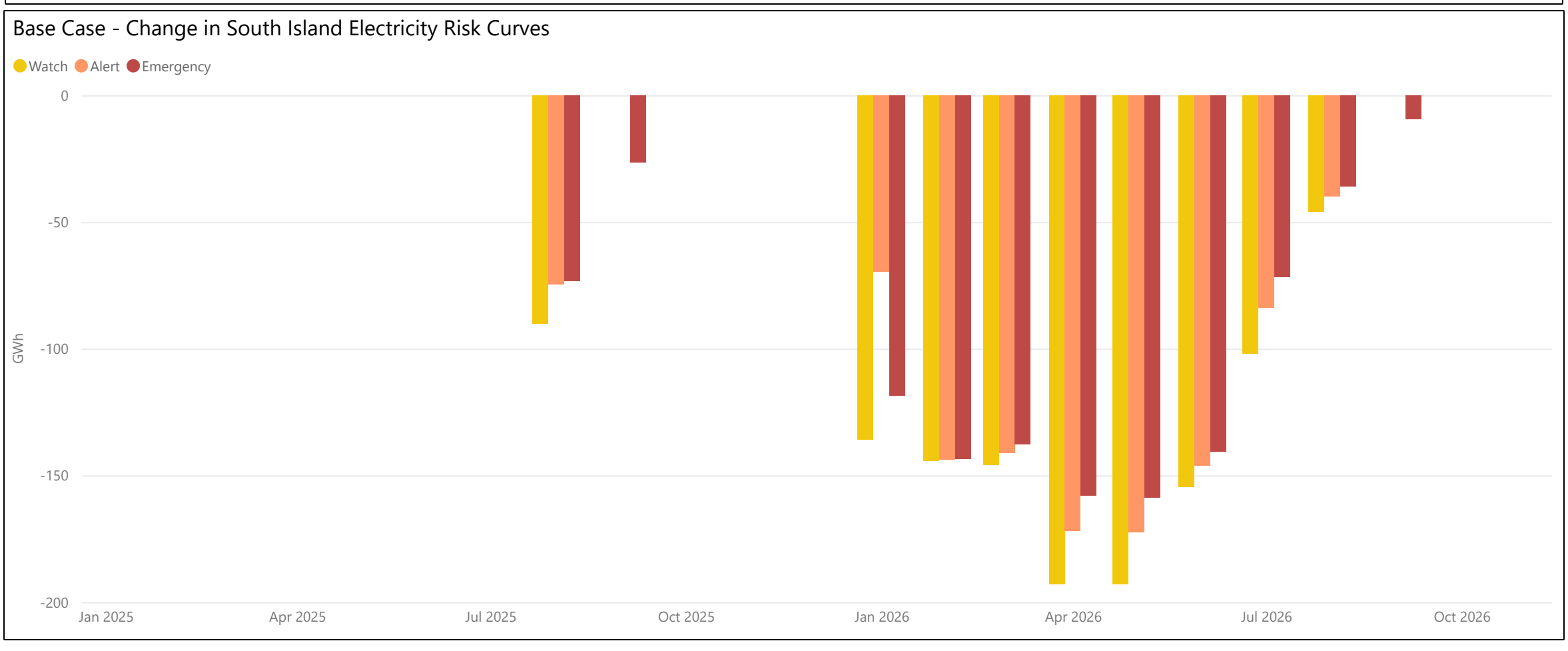
The changes to the Watch/Alert/Emergency curves compared to the last update are shown below.

The most significant change in this update to the ERCs is the increase to modelled thermal generation capability as a result of increased gas production forecasts, increased gas storage level and a higher coal stockpile compared to the June ESO. The result of this is a net reduction in hydro storage drawdown relative to the last update. There is little change to the ERCs from September to December 2025 as this is the period when the ERCs are set by the Alert and Emergency floors.

The New Zealand Watch curve decreased by up to 250 GWh (in April 2026), while the Emergency curve decreased by up to 200 GWh (also in April 2026). The South Island Watch curve decreased by up to 190 GWh while the Emergency curve decreased by up to 160 GWh (both in May 2026).





Base Case - Thermal Deratings

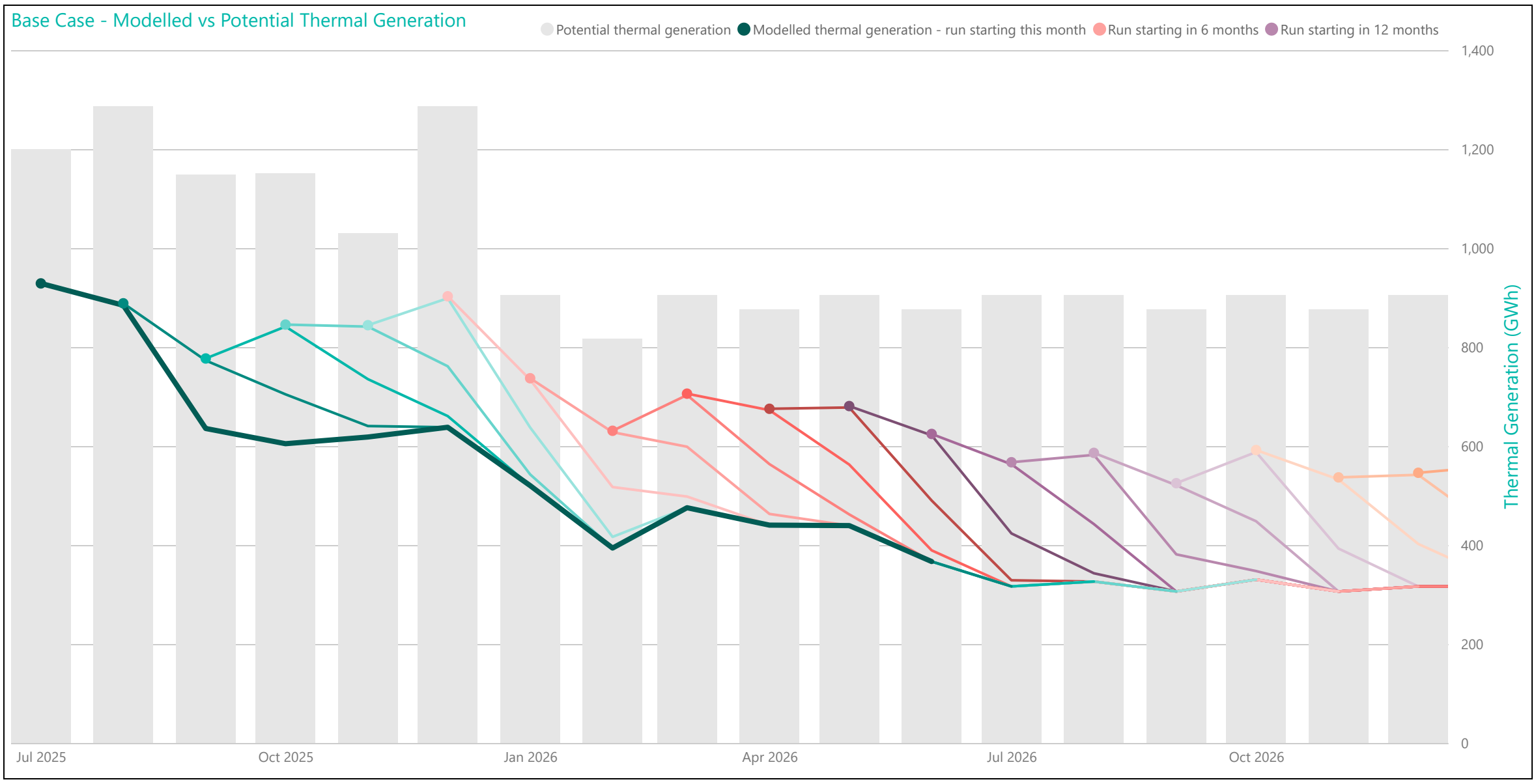
Friday, 25 July 2025

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

- Higher thermal generation capability in this update is enabled by an increase in thermal fuel availability; through increases in stored gas and coal and forecast gas production.
- Note that these deratings 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, and focus shifts to winter 2026.
- Modelled gas storage levels have increased to 5.2 PJ as of the beginning of July 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 ~2.5 months, or one Rankine for ~7 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	2025-07	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
2025-07	929	884	635	605	618	638	520	394	475	440	439	367						
2025-08		888	773	704	640	638	520	394	475	440	439	367	316					
2025-09			777	841	735	661	520	394	475	440	439	367	316	326				
2025-10				845	841	761	543	394	475	440	439	367	316	326	306			
2025-11					844	899	638	416	475	440	439	367	316	326	306	330		
2025-12						903	734	517	498	440	439	367	316	326	306	330	306	
2026-01							737	628	599	463	439	367	316	326	306	330	306	316
2026-02								631	703	563	462	367	316	326	306	330	306	316
2026-03									706	672	563	389	316	326	306	330	306	316
2026-04										675	678	490	329	326	306	330	306	316
2026-05											681	622	423	343	306	330	306	316
2026-06												624	563	442	306	330	306	316
2026-07													567	582	381	347	306	316
2026-08														586	521	448	306	316
2026-09															525	588	393	316
2026-10																592	533	402
2026-11																	537	542
2026-12																		546

Base Case - Simulated Storage Trajectories (SSTs)

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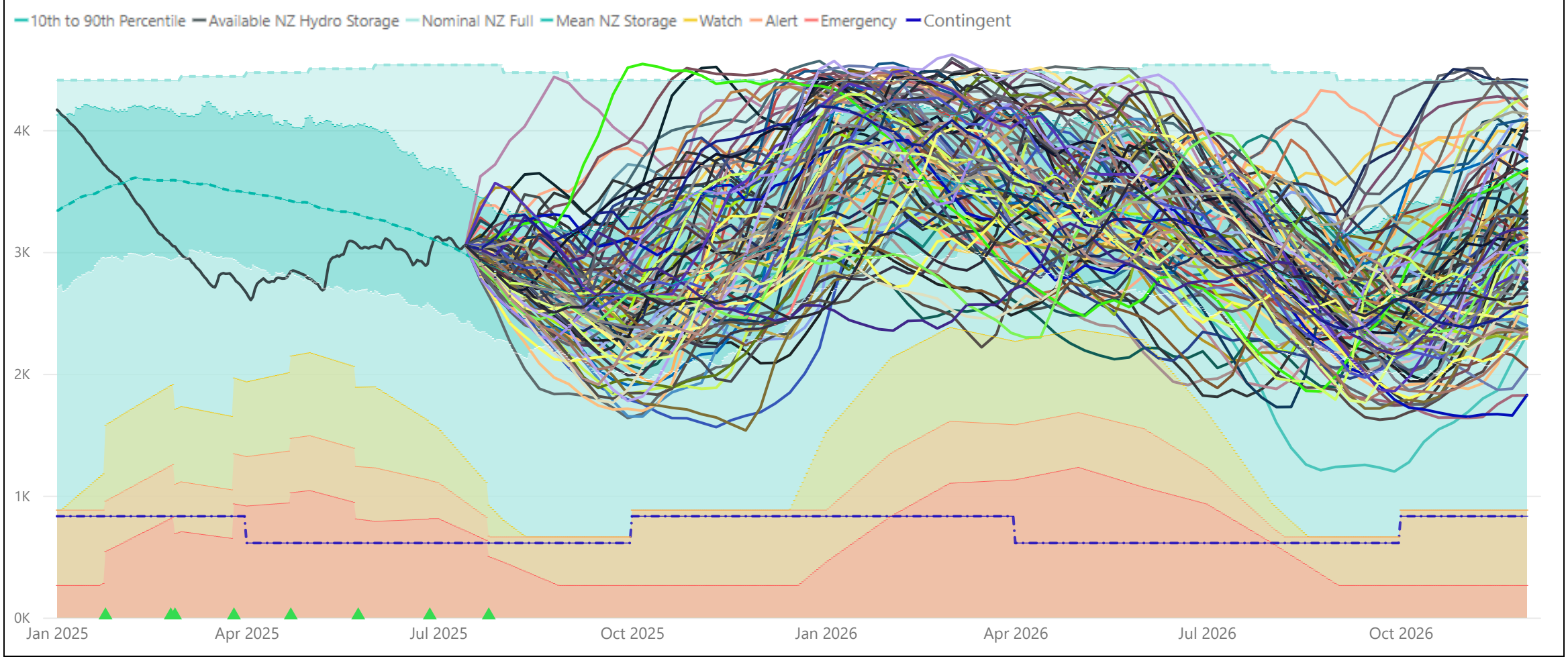
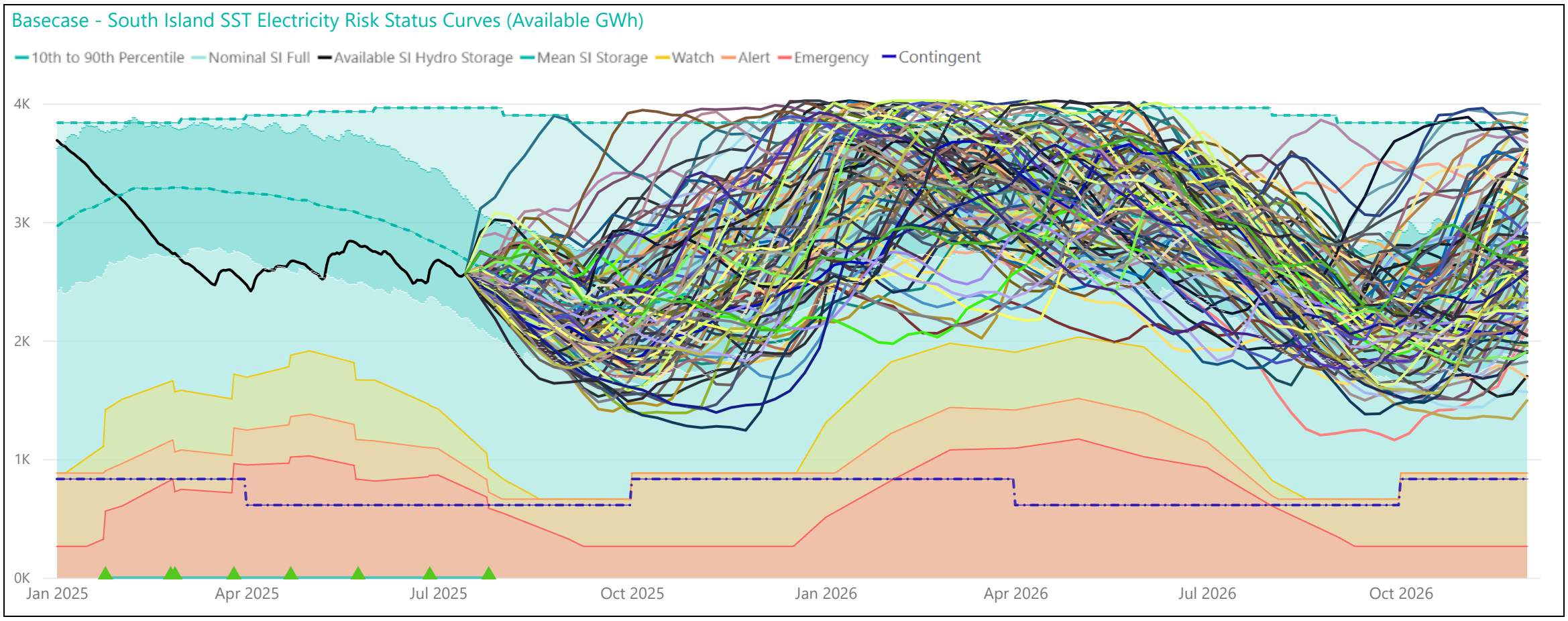
The July SST update is shown below:

- No SSTs cross the NZ Watch status curve in 2025. Five 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. None 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)

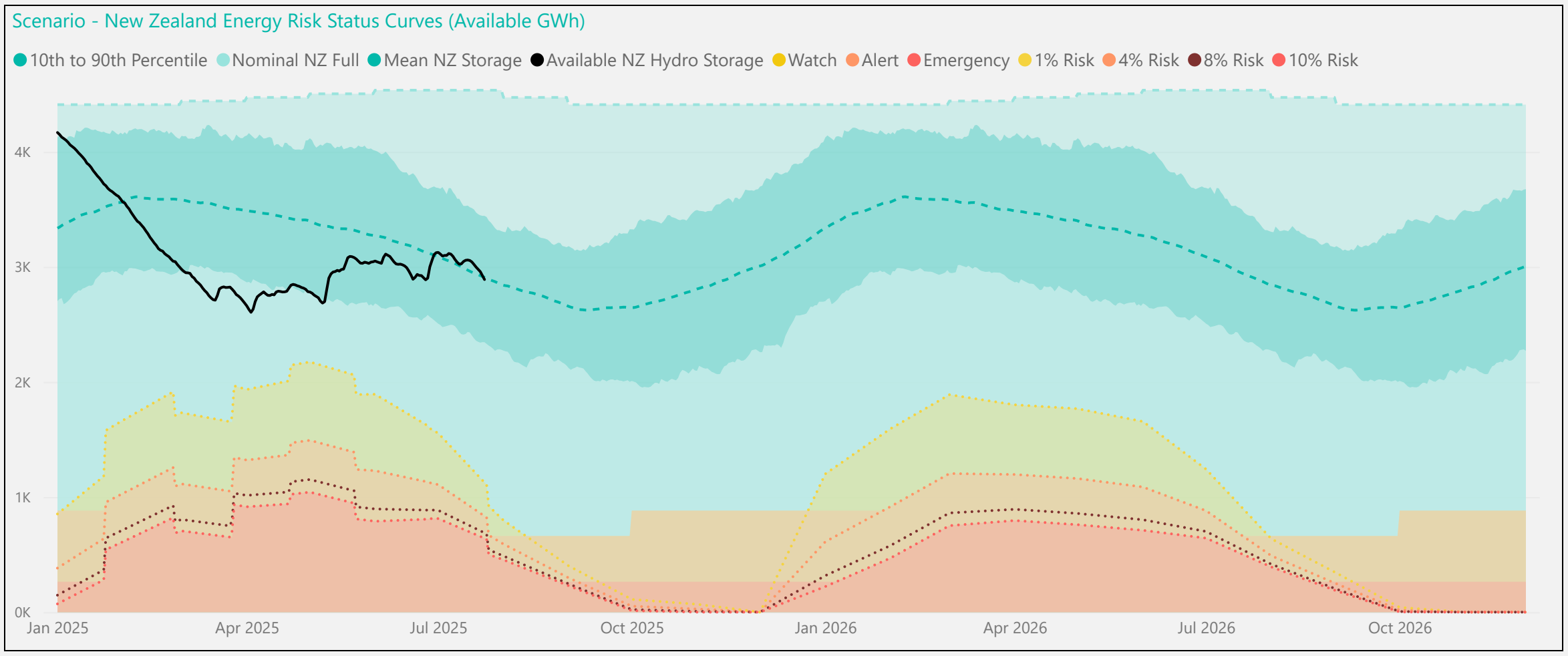


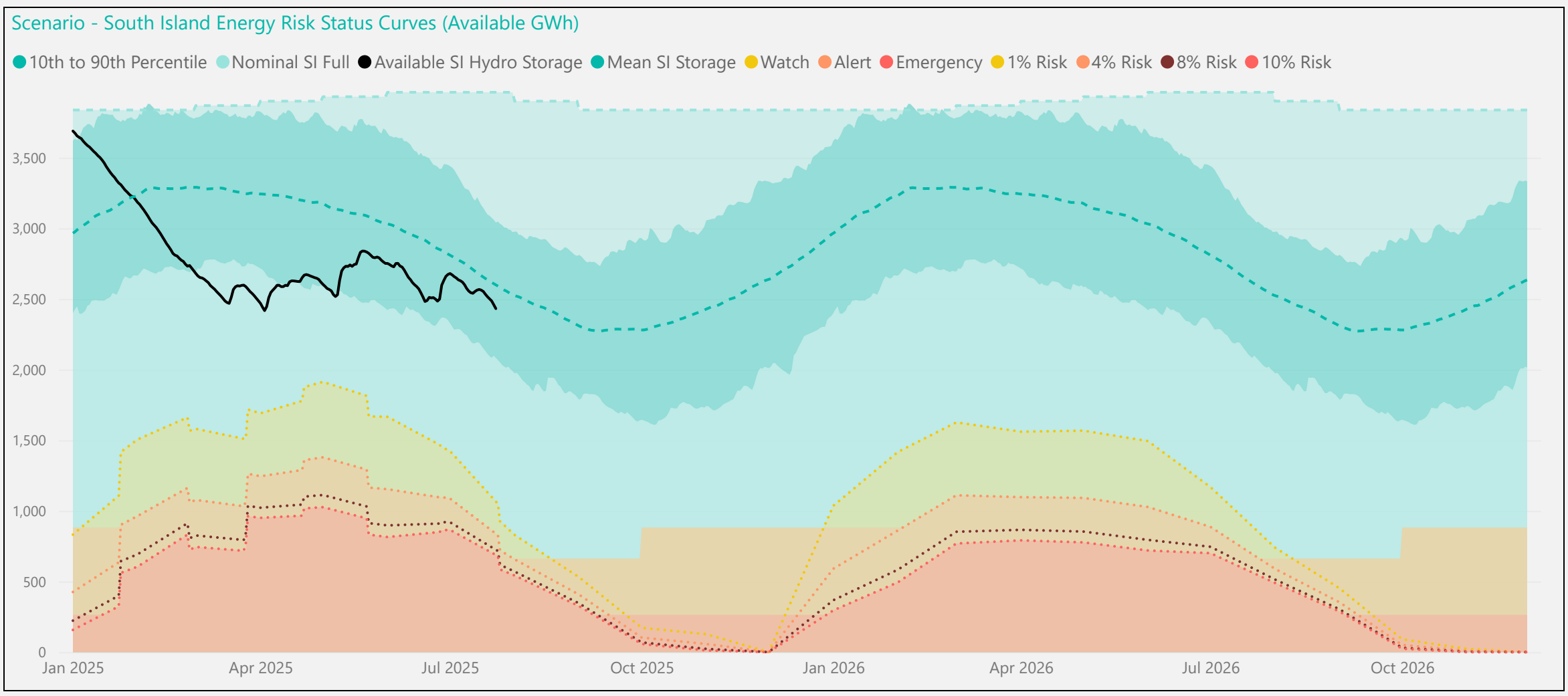
July 2025 Rankine Remains Scenario - Electricity Risk Curves

Our base case Electricity Risk Curves (ERCs) for July 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 623 GWh in June 2026 and results in no SSTs crossing the Watch curve in 2026, whereas five SSTs crossed it under the base case.

We note Genesis announced in June that a non-binding term sheet had been signed detailing a proposal to support Rankine capacity staying in the market out to 2035.

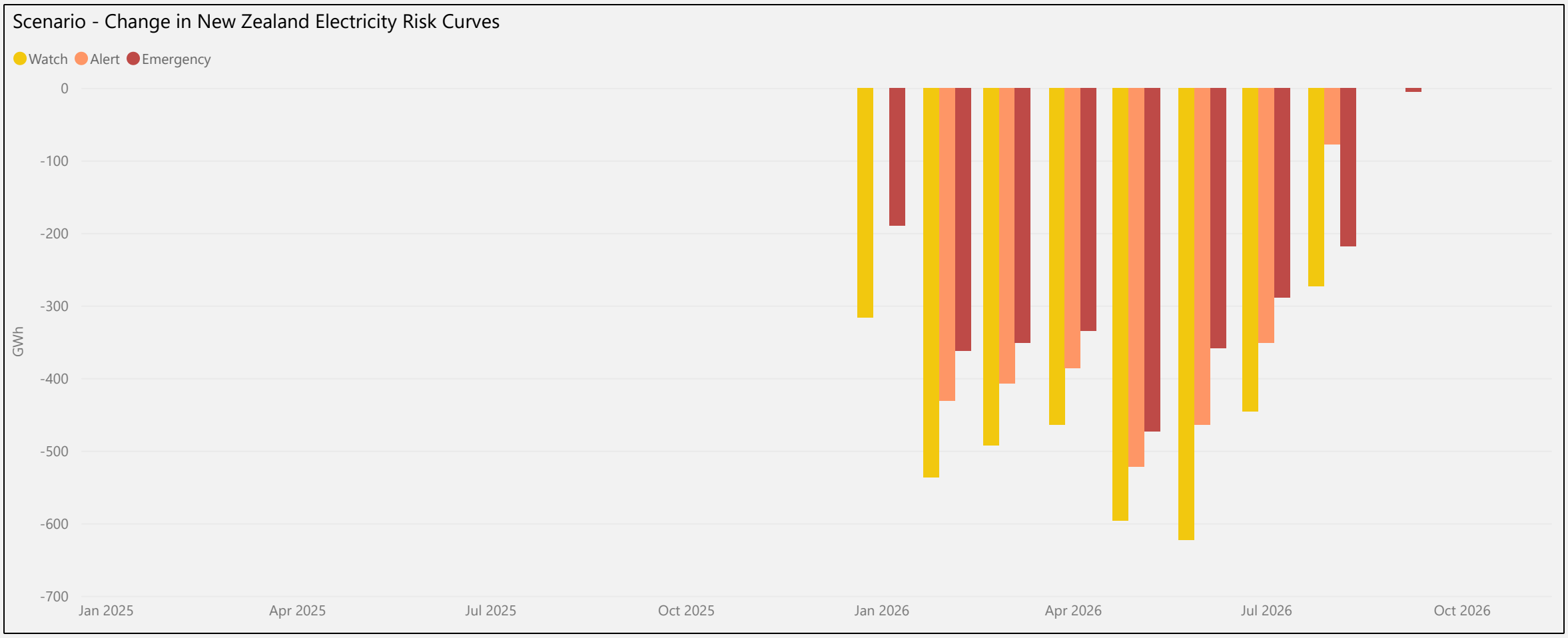
The July 2025 ERCs Scenario is shown below.

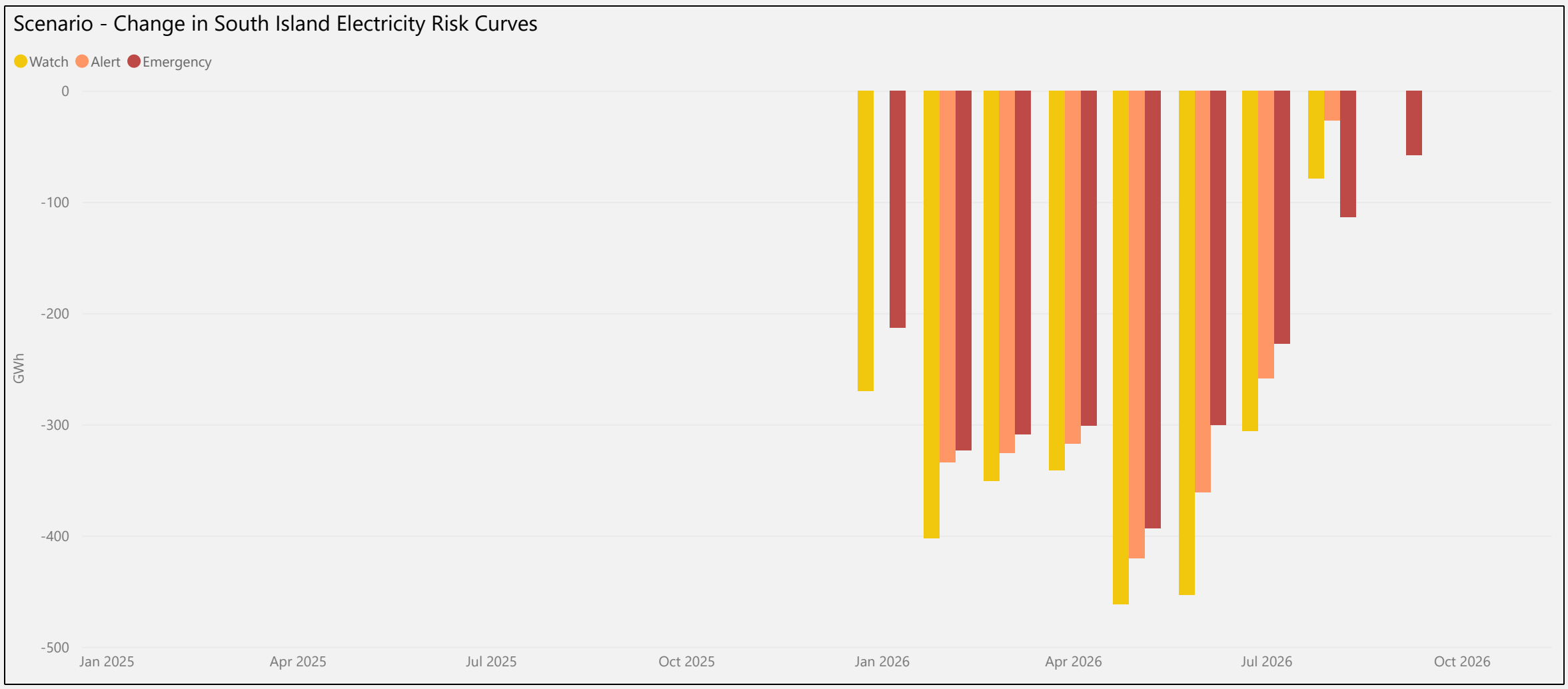




Scenario - Changes in the Electricity Risk Curves from the Base Case

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)

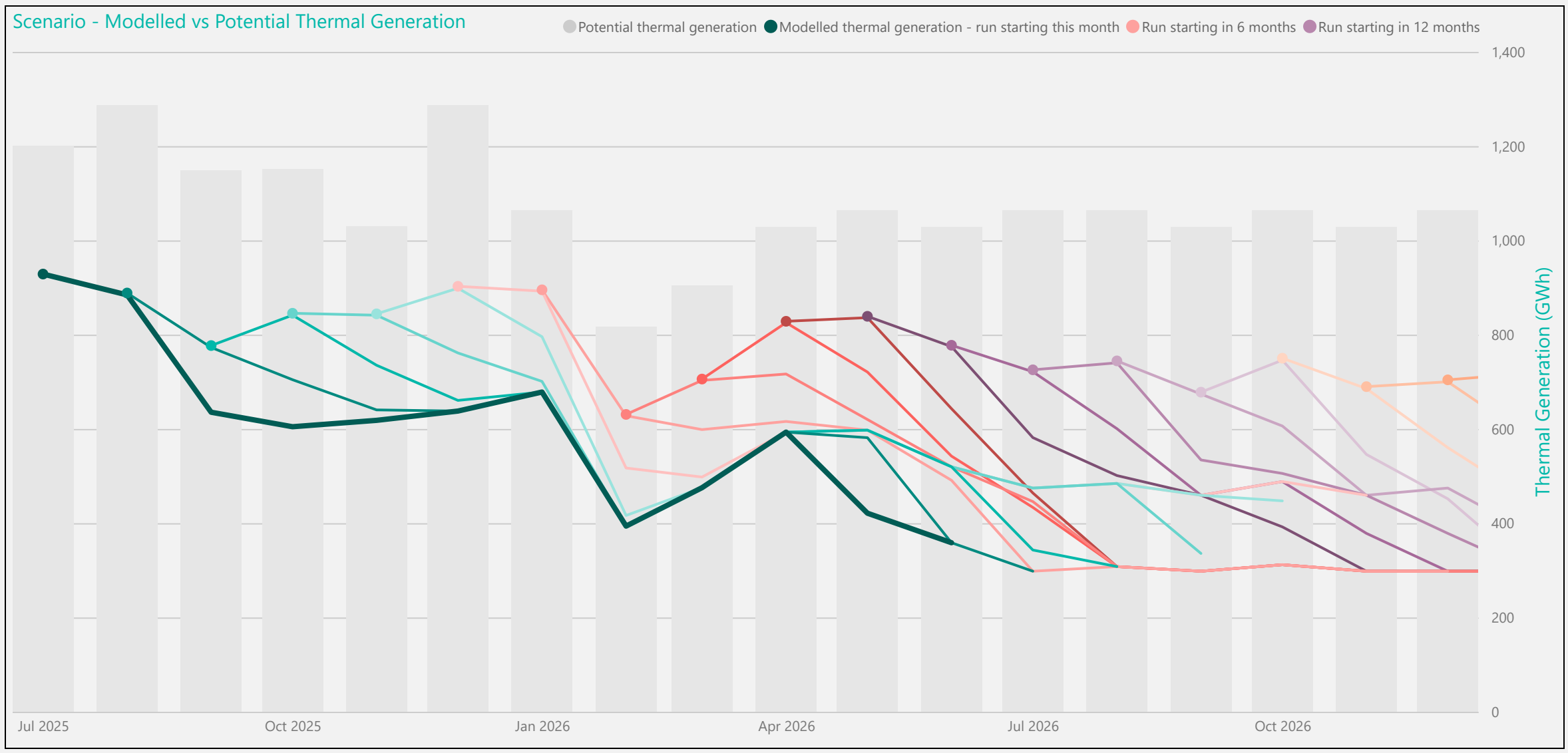




Scenario - Thermal Deratings

The thermal deratings and key considerations for the July 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

	2025-07	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
2025-07	929	884	635	605	618	638	678	394	475	593	421	359						
2025-08		888	773	704	640	638	678	394	475	593	581	359	298					
2025-09			777	841	735	661	678	394	475	593	597	520	343	308				
2025-10				845	841	761	701	394	475	593	597	520	475	484	336			
2025-11					844	899	796	416	475	593	597	520	475	484	459	447		
2025-12						903	892	517	498	593	597	520	475	484	459	488	459	
2026-01							895	628	599	616	597	491	298	308	298	312	298	298
2026-02								631	703	717	620	520	446	308	298	312	298	298
2026-03									706	826	721	542	434	308	298	312	298	298
2026-04										828	836	643	464	308	298	312	298	298
2026-05											839	775	582	501	459	392	298	298
2026-06												778	721	601	459	488	378	298
2026-07													725	740	534	506	459	378
2026-08														744	674	606	459	475
2026-09															678	746	546	452
2026-10																750	686	560
2026-11																	690	700
2026-12																		704

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.