

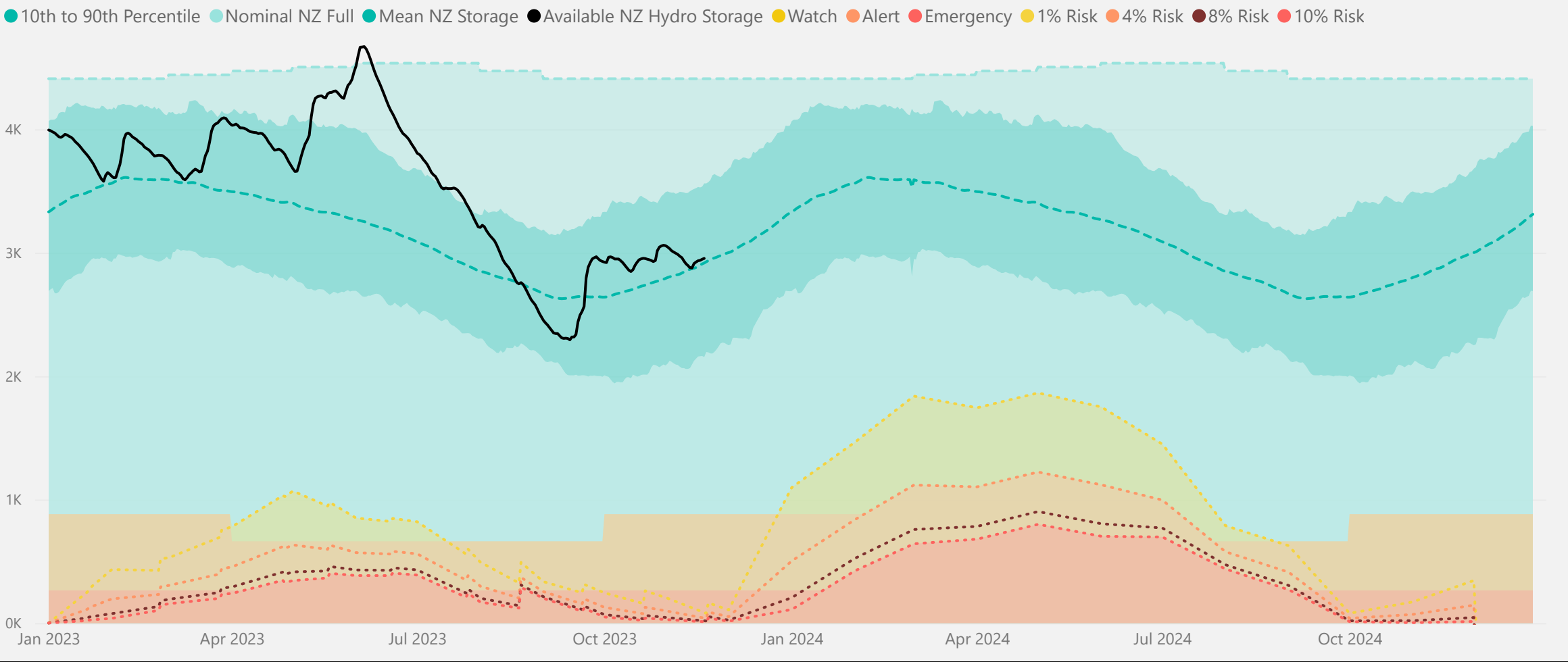
Additional Rankine Scenario - Electricity Risk Curves

With the commissioning delay of Tauhara B and increase to risk curves, we have run an extra scenario which looks at the possibility of an additional Huntly Rankine unit available (i.e three Rankine units operating instead of two) during Jun-Aug of winter 2024. Current coal stockpile and imports indicate that this change would be unconstrained by coal supply.

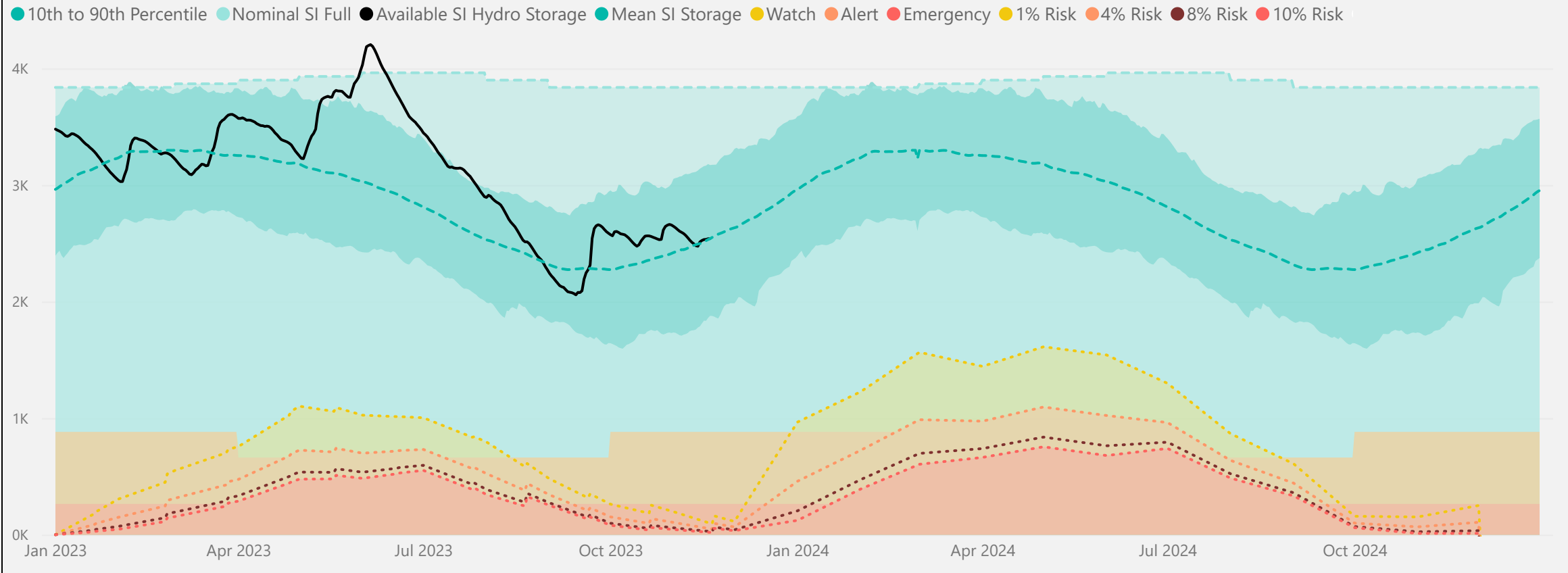
The November 2023 ERC Additional Rankine Scenario is shown below. Having the extra available capacity with another Rankine unit in the winter months of 2024 allows for better conservation of stored hydro energy, bringing down the Watch curve by about 500 GWh at the beginning of 2024, and 380 GWh at its peak in May.

Note that this is separate to the Gas Reallocation scenario which we have also run this month (both of these scenarios combined would decrease curves more significantly).

Scenario - New Zealand Energy Risk Status Curves (Available GWh)



Scenario - South Island Energy Risk Status Curves (Available GWh)



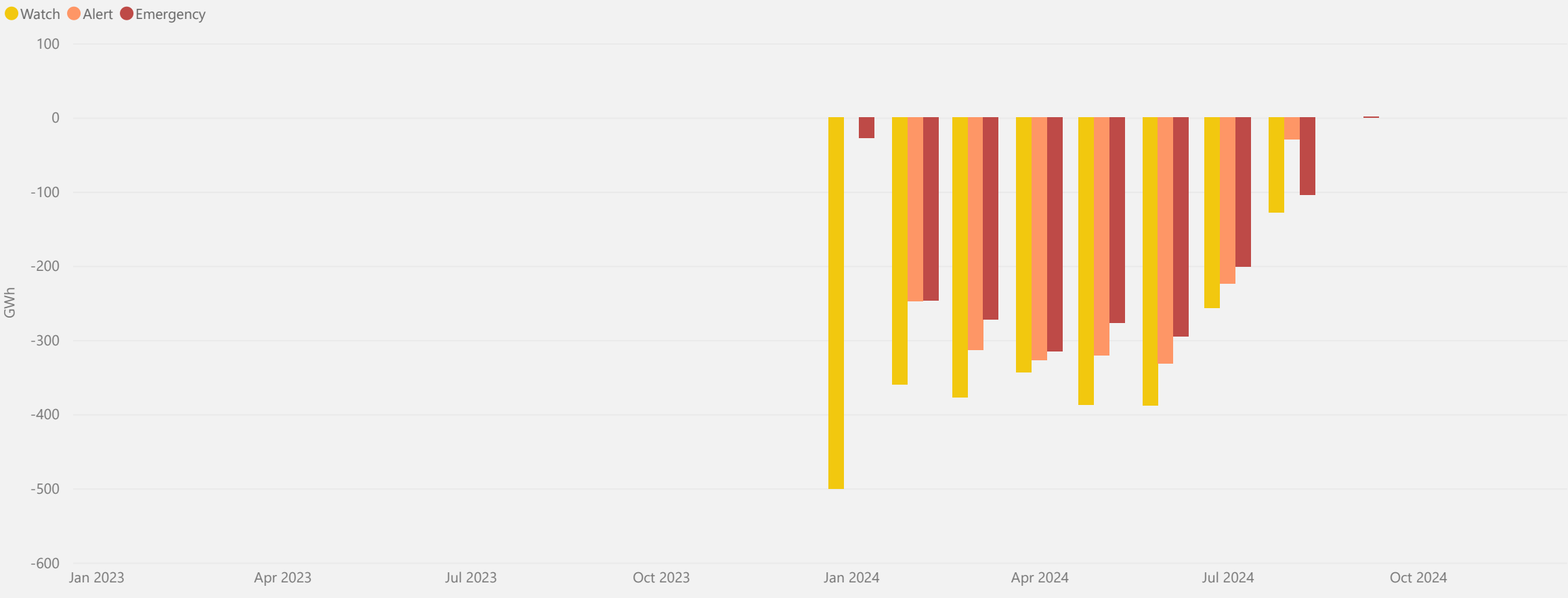


Scenario - Changes in the Electricity Risk Curves from the Base Case

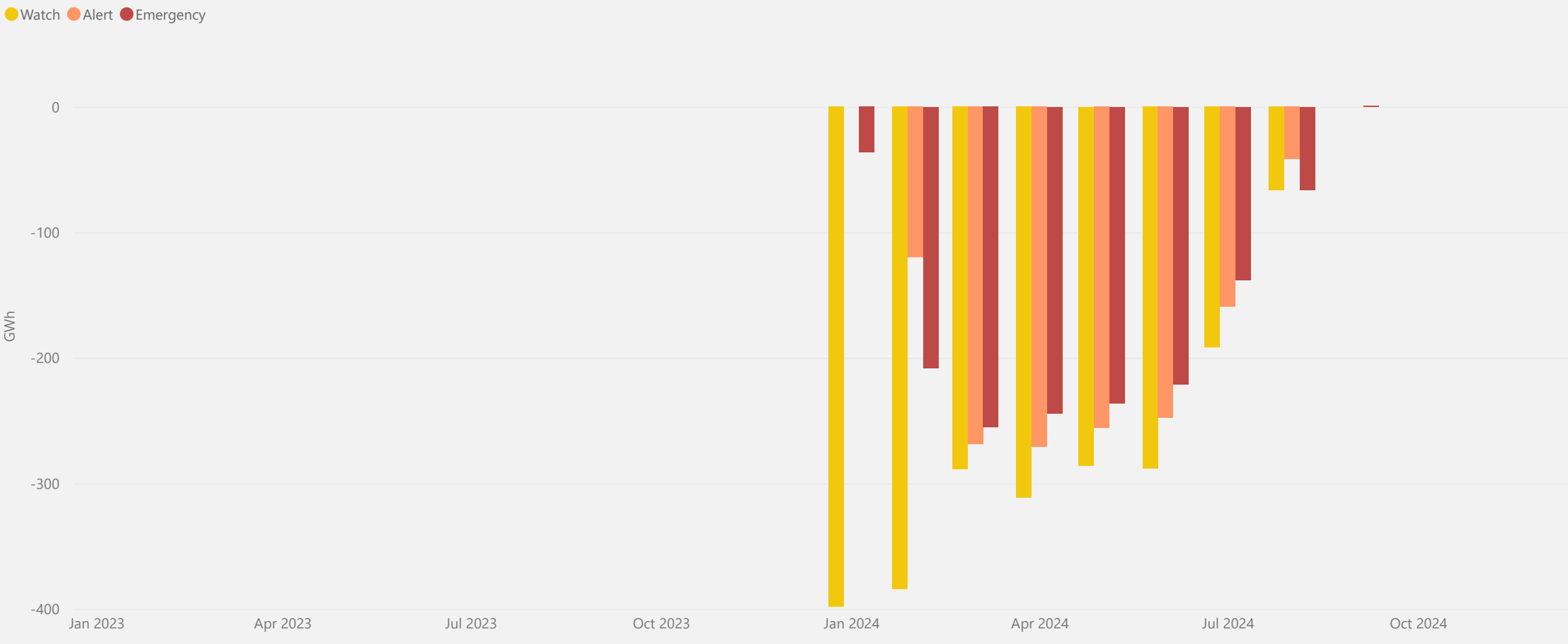
The changes to the scenario Watch/Alert/Emergency curves compared to the base case are shown below.

The decrease in these curves is solely the result of the increase in energy able to be generated via the additional Rankine unit modelled for winter 2024. The additional Rankine could replace energy that was otherwise using up hydro storage, bringing the curves down by up to 500 GWh over summer, and almost 400 GWh in autumn and winter

Scenario - Change in New Zealand Electricity Risk Curves



Scenario - Change in South Island Electricity Risk Curves

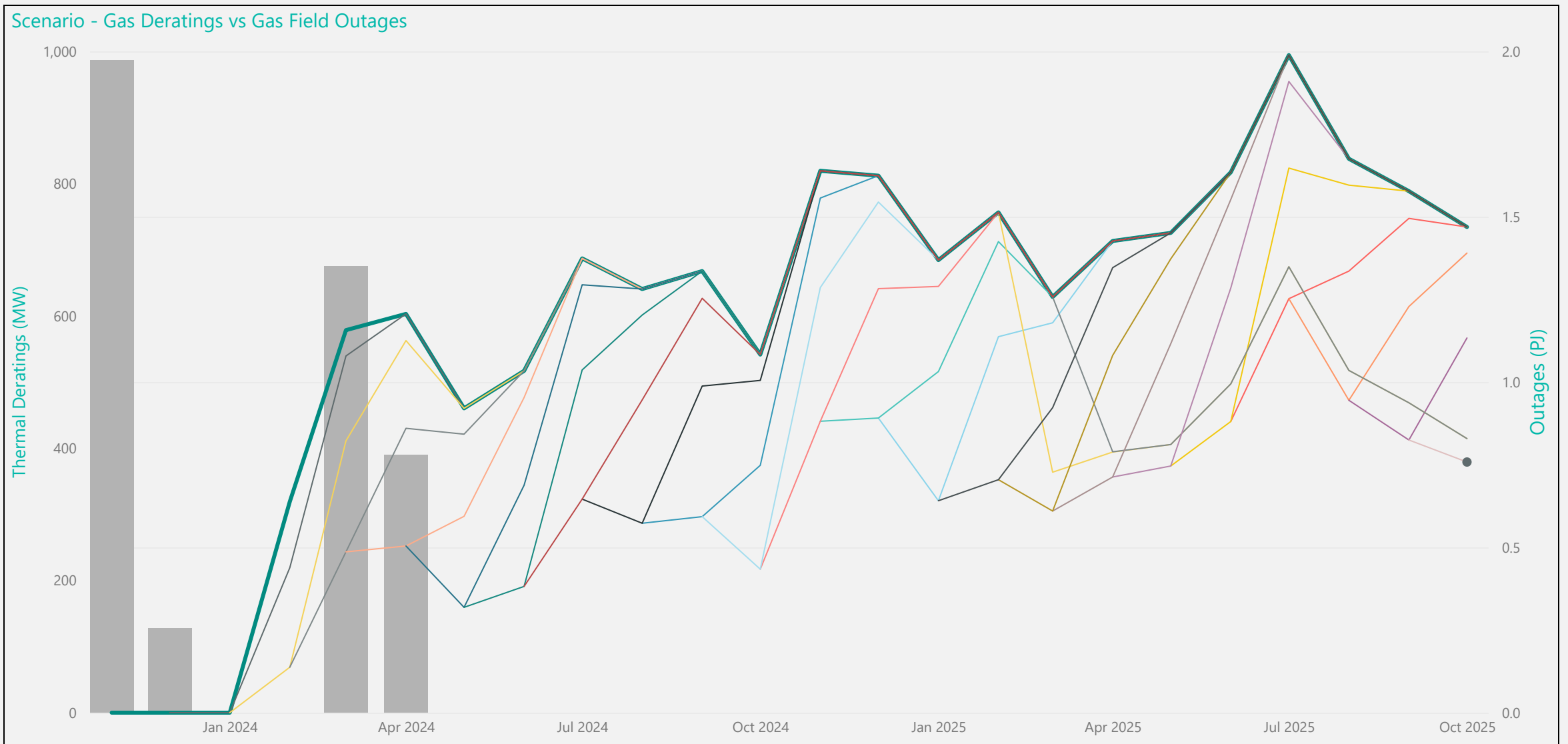




Scenario - Thermal Deratings

The thermal deratings and key considerations for the November 2023 ERC Additional Rankine scenario are below:

- As coal stockpile and imports are sufficient to run the additional Rankine unconstrained, the thermal deratings for this scenario are the same as the base case.

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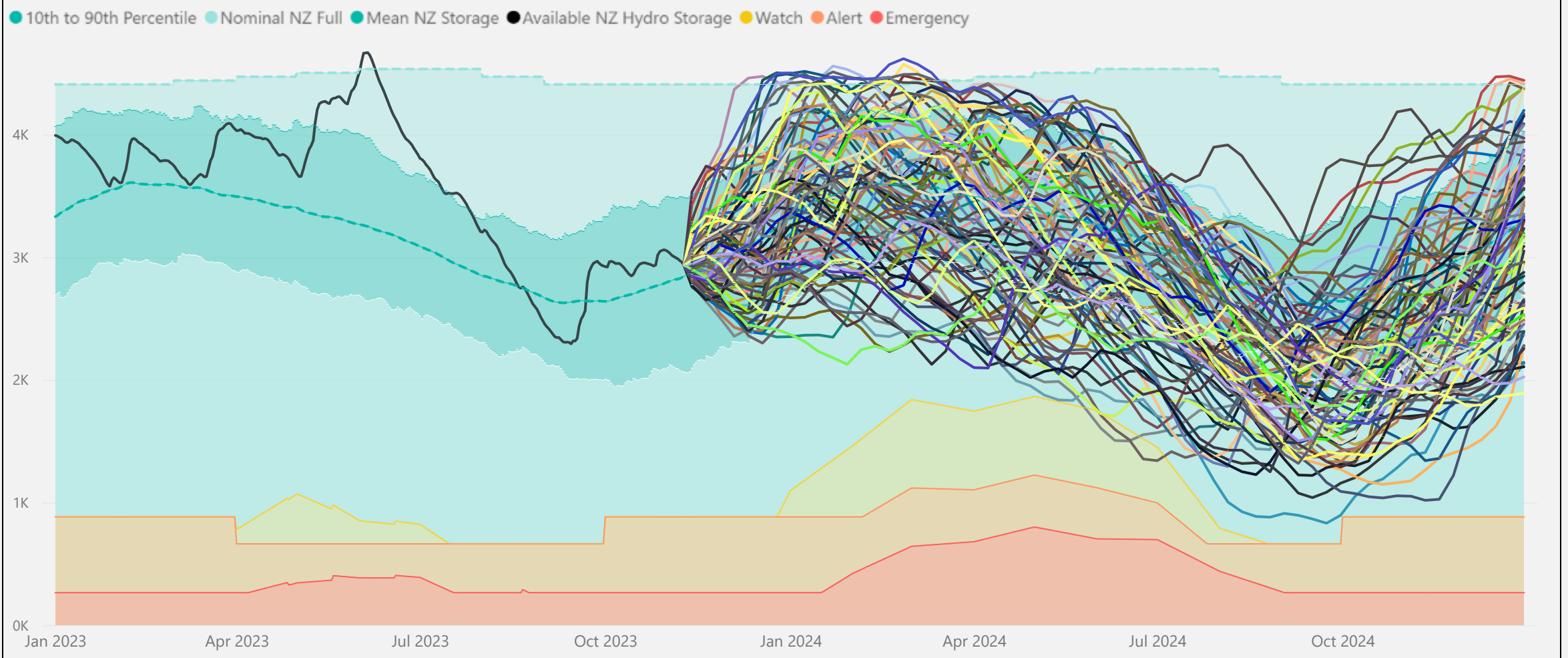


Scenario - Simulated Storage Trajectories

The SSTs for the November 2023 Additional Rankine scenario are shown below

- Only three of the 89 SSTs would cross the New Zealand watch curve under this scenario. None cross Alert or Emergency.
- Two SSTs cross the South Island Watch curve

Scenario - New Zealand Electricity Risk Status Curves (Available GWh)



Scenario - South Island Electricity Risk Status Curves (Available GWh)

