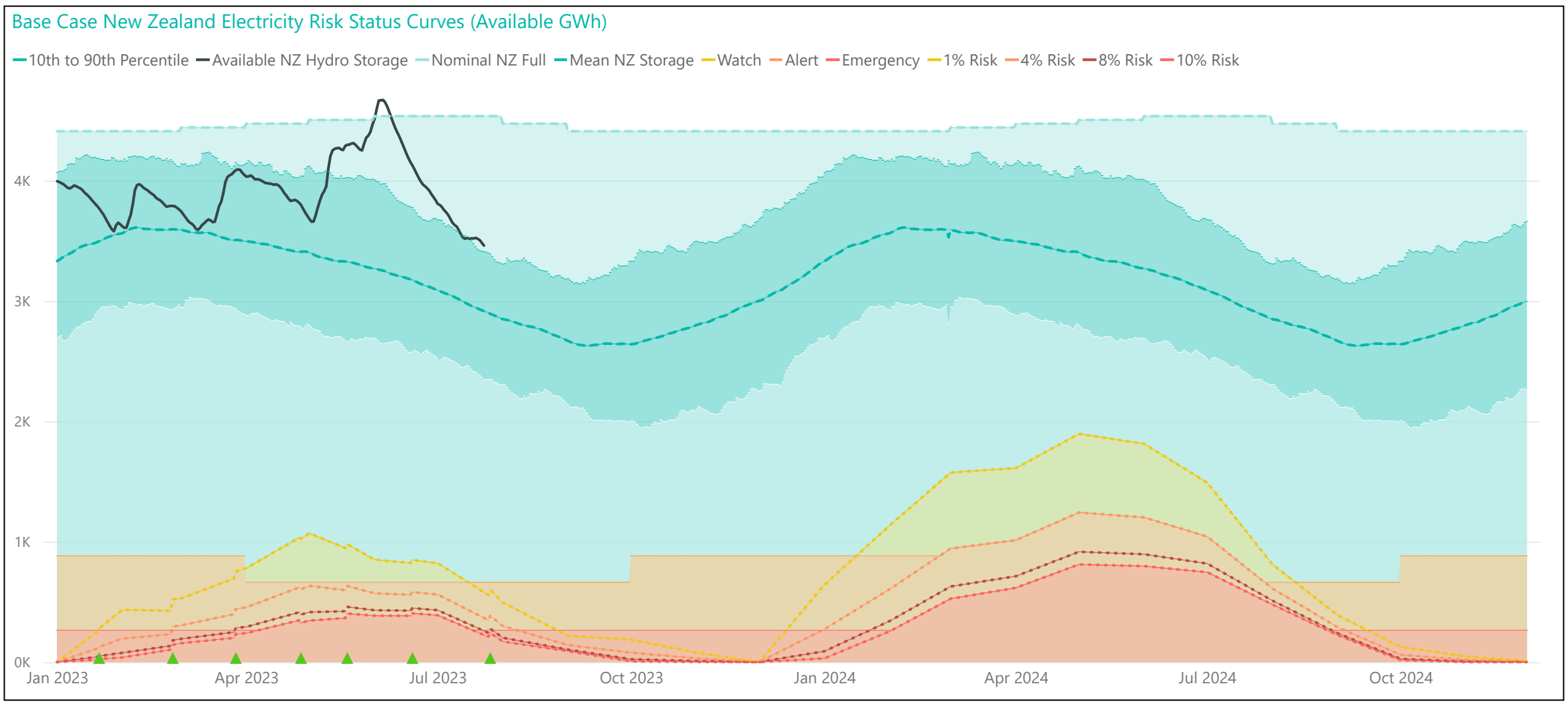
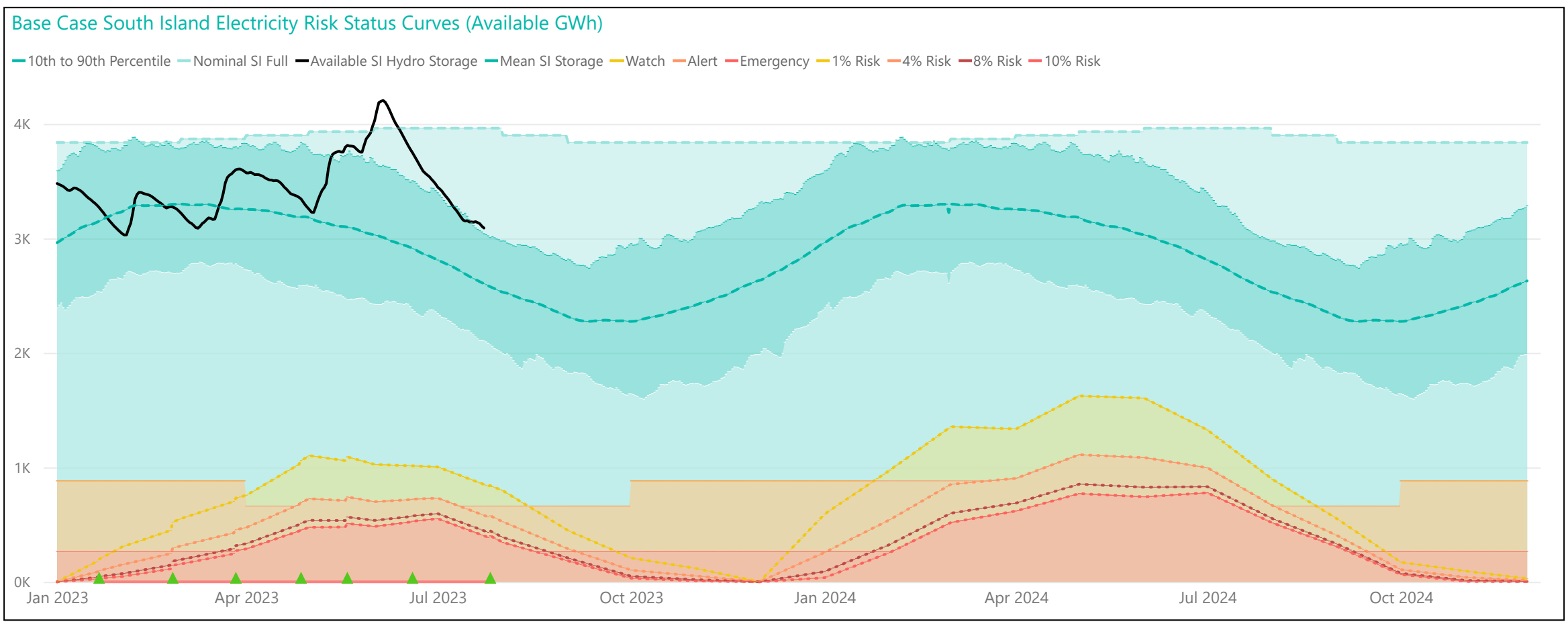
# Base Case - Electricity Risk Curves ERCs

Wednesday, 26 July 2023

The July 2023 ERC update was published on 27 July with the following updates:

- Updated planned generation outages. Outages were taken from POCP when Huntly unit 5 was expected to return to service at the end of July 2023.
- Updated gas production outages. The only change since last month is a small outage removed in March 2024.




Electricity Risk Curve Explanation:

Watch Curve - The maximum of the one percent risk curve and the floor and buffer
Alert Curve - The maximum of the four percent risk curve and the floor and buffer
Emergency Curve - The maximum of the 10 percent risk curve and the floor and buffer
Official Conservation Campaign Start - The Emergency Curve
Official Conservation Campaign Stop - The maximum of the eight percent risk curve and the floor and buffer

Triggers and actions of Watch/Alert/Emergency status are set only by the official base case curves (not scenario curves).

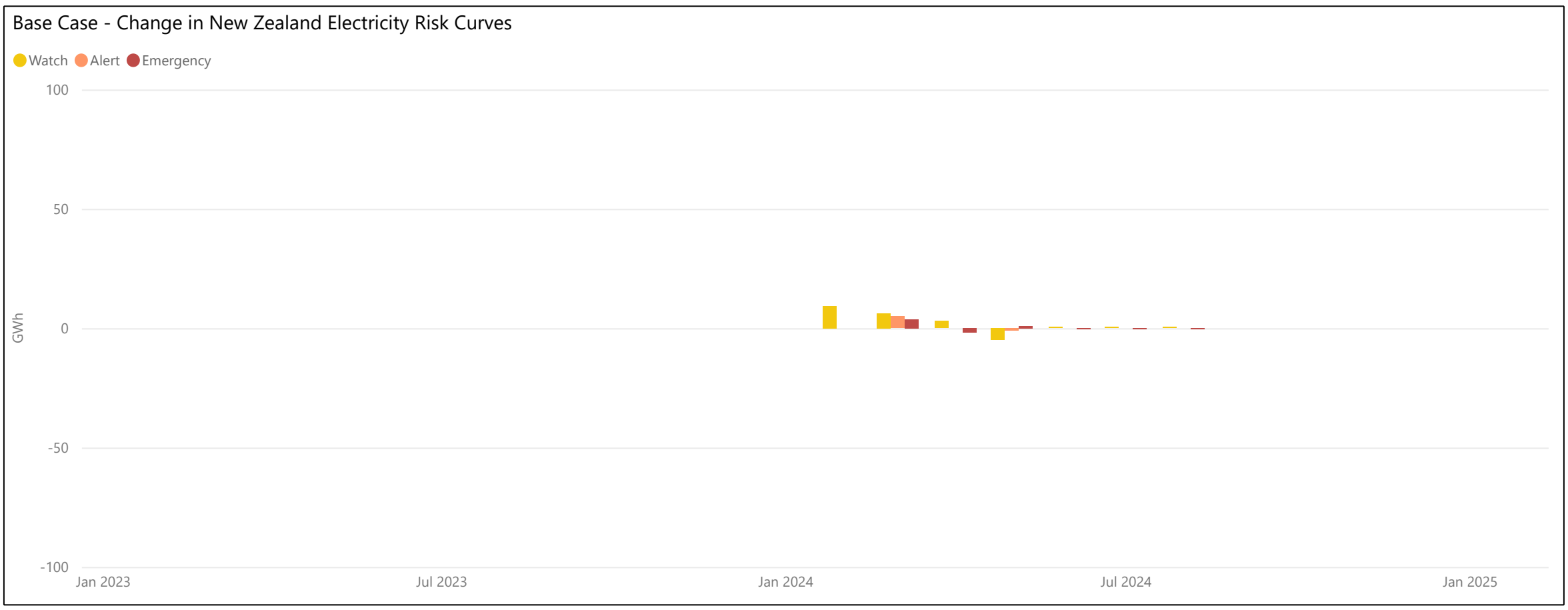
Note: The floor is equal to the amount of contingent hydro storage that is linked to the specific electricity risk curve, plus the amount of contingent hydro storage linked to electricity risk curves representing higher levels of risk of future shortage, if any. The buffer is 50 GWh.

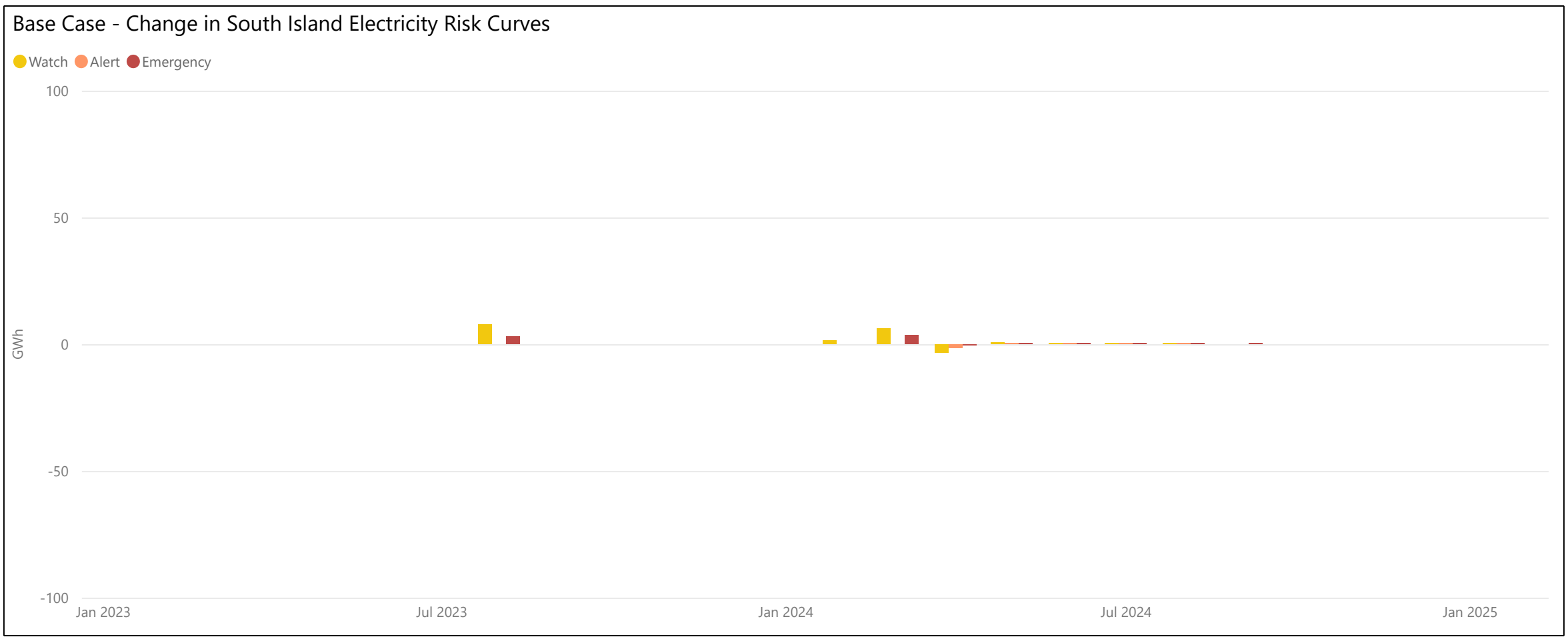
# Base Case - Changes in the Electricity Risk Curves From Previous Month

Wednesday, 26 July 2023

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

There is a minimal change in the curves this month. The small shifts that do appear in early 2024 can be attributed to shifting of generation outages and a gas production outage.



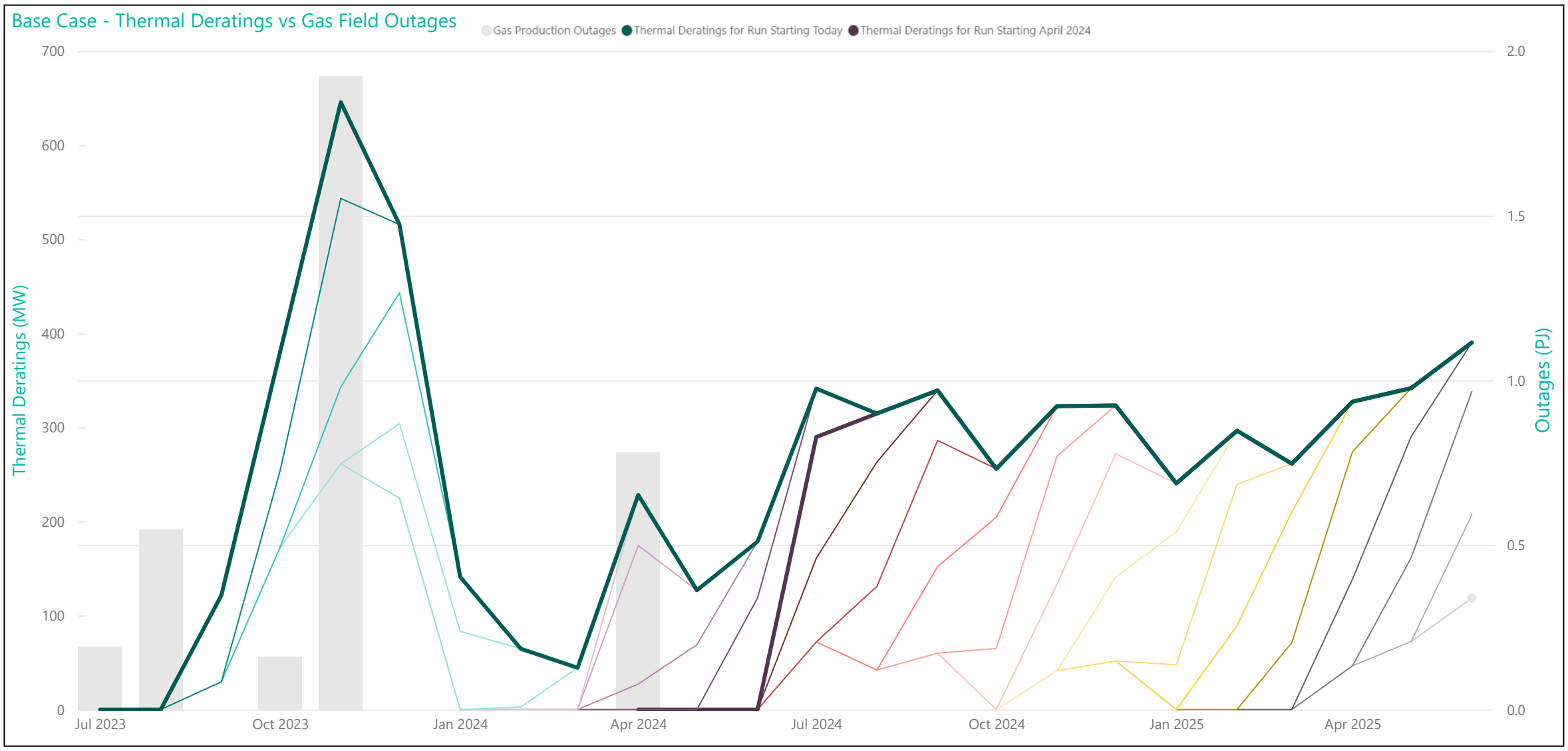
# Base Case - Thermal Deratings

Wednesday, 26 July 2023

The thermal deratings and key considerations for the July 2023 ERC update are below:

- There is still a high existing coal stockpile and high levels of gas storage.
- There are significant thermal deratings in November 2023 reflecting the large gas production outage, however this has minimal effect on the risk curves as inflows are historically much greater in summer. There are relatively high thermal deratings throughout most of 2024, however only after emergency gas storage has been depleted.
- In April 2024, for example, emergency gas storage drawdown could sustain thermal generation at or near maximum capacity for two to three months in the event of low hydrology. After this storage is depleted deratings increase to ~340 MW which is almost the capacity of TCC. Note that these deratings could change if gas production forecasts are updated or formal agreements around gas reallocation are made.
- As gas supply is constrained throughout most of 2024 (accounting for TCC decommissioning), having TCC remain would have minimal impact on the risk curves for 2024 as it could not be supplied for an extended period of time.

## Base Case - Thermal Deratings vs Gas Field Outages




## Thermal Deratings (MW) by Run Month

| Run Month | 2023-07 | 2023-08 | 2023-09 | 2023-10 | 2023-11 | 2023-12 | 2024-01 | 2024-02 | 2024-03 | 2024-04 | 2024-05 | 2024-06 | 2024-07 | 2024-08 | 2024-09 | 2024-10 | 2024-11 | 2024-12 | 2025-01 | 2025-02 | 2025-03 | 2025-04 | 2025-05 | 2025-06 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2023-07 | 0 | 0 | 121 | 380 | 646 | 516 | 141 | 65 | 44 | 228 | 127 | 179 | | | | | | | | | | | | |
| 2023-08 | | 0 | 29 | 254 | 543 | 516 | 141 | 65 | 44 | 228 | 127 | 179 | 341 | | | | | | | | | | | |
| 2023-09 | | | 29 | 173 | 343 | 443 | 141 | 65 | 44 | 228 | 127 | 179 | 341 | 315 | | | | | | | | | | |
| 2023-10 | | | | 173 | 261 | 304 | 83 | 65 | 44 | 228 | 127 | 179 | 341 | 315 | 339 | | | | | | | | | |
| 2023-11 | | | | | 261 | 225 | 0 | 3 | 44 | 228 | 127 | 179 | 341 | 315 | 339 | 256 | | | | | | | | |
| 2023-12 | | | | | | 225 | 0 | 0 | 0 | 228 | 127 | 179 | 341 | 315 | 339 | 256 | 322 | | | | | | | |
| 2024-01 | | | | | | | 0 | 0 | 0 | 174 | 127 | 179 | 341 | 315 | 339 | 256 | 322 | 323 | | | | | | |
| 2024-02 | | | | | | | | 0 | 0 | 27 | 69 | 179 | 341 | 315 | 339 | 256 | 322 | 323 | 240 | | | | | |
| 2024-03 | | | | | | | | | 0 | 0 | 0 | 119 | 341 | 315 | 339 | 256 | 322 | 323 | 240 | 296 | | | | |
| 2024-04 | | | | | | | | | | 0 | 0 | 0 | 290 | 315 | 339 | 256 | 322 | 323 | 240 | 296 | 261 | | | |
| 2024-05 | | | | | | | | | | | 0 | 0 | 161 | 263 | 339 | 256 | 322 | 323 | 240 | 296 | 261 | 327 | | |
| 2024-06 | | | | | | | | | | | | 0 | 72 | 131 | 286 | 256 | 322 | 323 | 240 | 296 | 261 | 327 | 342 | |
| 2024-07 | | | | | | | | | | | | | 72 | 42 | 152 | 204 | 322 | 323 | 240 | 296 | 261 | 327 | 342 | 390 |
| 2024-08 | | | | | | | | | | | | | | 42 | 60 | 65 | 269 | 323 | 240 | 296 | 261 | 327 | 342 | 390 |
| 2024-09 | | | | | | | | | | | | | | | 60 | 0 | 133 | 272 | 240 | 296 | 261 | 327 | 342 | 390 |
| 2024-10 | | | | | | | | | | | | | | | | 0 | 41 | 141 | 189 | 296 | 261 | 327 | 342 | 390 |
| 2024-11 | | | | | | | | | | | | | | | | | 41 | 52 | 48 | 239 | 261 | 327 | 342 | 390 |
| 2024-12 | | | | | | | | | | | | | | | | | | 52 | 0 | 89 | 210 | 327 | 342 | 390 |
| 2025-01 | | | | | | | | | | | | | | | | | | | 0 | 0 | 71 | 274 | 342 | 390 |
| 2025-02 | | | | | | | | | | | | | | | | | | | | 0 | 0 | 139 | 290 | 390 |
| 2025-03 | | | | | | | | | | | | | | | | | | | | | 0 | 47 | 161 | 338 |
| 2025-04 | | | | | | | | | | | | | | | | | | | | | | 47 | 72 | 207 |

# Base Case - Simulated Storage Trajectories (SSTs)

Wednesday, 26 July 2023

The July SST update is shown below:

- There is a relatively high starting storage value
- None of the SSTs cross below the Watch status curve