Analytical updates to final version of Security of Supply Annual Assessment
28 February 2018

Summary
Following stakeholder feedback, and the availability of an updated demand forecast, we have amended the 2018 Security of Supply Annual Assessment.

The main changes that have been incorporated into the final version are use of the latest demand forecast, inclusion of an existing generator that was incorrectly omitted (Ngawha), revision of generator capacity contributions, and revision of the frequency keeping and instantaneous reserves assumptions.

All of these changes have increased the security margins afforded by existing generation, deferring the forecast need for new generation by one to two years.

For details on these assumptions refer to the full report: 2018 Security of Supply Annual Assessment

Demand Forecast Update
The latest demand forecast is slightly lower, overall, than the one used in the draft version. Average forecast growth is 0.05% lower, now 1.14% over the 10 year assessment period, than the previous forecast. Counteracting this reduction slightly was actual demand in 2017 exceeding the 2016 forecast by 270 GWh, increasing the starting point for the lower demand growth.

Inclusion of Ngawha generation
A review of generation revealed the absence of Ngawha, a 26 MW geothermal generator. This has now been included.

Revision of generator capacity contribution
The capacity contributions of run-of-river hydro, cogeneration and geothermal generation assumed for the North Island winter capacity margin has been changed to the historic average contribution during peak periods rather than seeking to adopt a similar approach to that used to identify the contribution for wind. This has increased the capacity contribution assumed for each source of generation by up to 7%.

Revision of frequency keeping and instantaneous reserves assumptions
Due to various technological and regulatory changes over recent years, less instantaneous reserve and frequency keeping is needed than that required when the current security of supply margins were identified. Based on an analysis of the 2012 and 2013 dry spells, the Electricity Authority now estimate that thermal generation only need to be de-rated by 21MW at all times to reflect spinning reserve (16MW) and frequency keeping (5MW) requirements. Previously Huntly had been de-rated by 130MW overnight to reflect reserve (80MW) and frequency keeping (50MW) requirements. This is estimated to have increased available generation by some 211 GWh in the calculation of the Winter Energy Margins.