Minzone

The basic methodology used in the Minzone analysis is to set all thermal plant as baseload, such that it runs before all hydro, then dispatch run-of-river hydro, and then use storage to meet demand where required. A model run is undertaken from the start of each month, with that run resulting in an estimate of the minimum amount of storage required at the beginning of each run to ensure all demand is met for the next 12 months given the potential variability in inflows.

For a brief discussion on the use of a New Zealand or South Island minzone refer "New Zealand or South Island Minzone?"

- Actual minzone 27 August 2008 pdf [33 KB]

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New Zealand or South Island Storage Trajectories?

New Zealand or South Island Storage Trajectories?

New Zealand or South Island Minzone?

The minzone storage level at any point in time is established by:

- simulating supply and demand with all available thermal generation operating ahead of discretionary hydro storage releases; and
- identifying the minimum storage level required, at any point in time, so that future supply can meet demand should the lowest historical inflow sequence re-occur from that point in time.

The minzone can be national or regional, depending on circumstances, and can change during the year. For example, if surplus supply in the North Island cannot be transferred to the South Island to conserve South Island storage, a South Island minzone will exist.

Whether a national or South Island minzone exists is established by identifying and comparing minimum national and minimum South Island storage levels from the simulations of supply and demand for each historic inflow sequence. If at any point in time, the simulated minimum national storage requirement is less that the minimum South Island requirement, a South Island minzone will exist, that is in the simulation, with all thermals operating to conserve hydro storage releases, simulated North Island storage will increase if transmission constraints prevent some North Island supply being transferred to the South Island.

To date the national, New Zealand, minzone has been higher and therefore the defining minzone, as can be seen on the 2006 Minzone and Storage chart.

Looking forward, with the anticipated demand growth in the South Island and addition of new generation in the North Island, the simulated South Island minzone is higher than the national minzone and therefore becomes the defining minzone.

New Zealand or South Island Storage Trajectories?

While the New Zealand minzone has been higher than the South Island minzone it has been appropriate to compare projections of New Zealand storage with the New Zealand minzone.

With the South Island minzone becoming the higher it is appropriate to compare projections of South Island storage with the South Island minzone.

The updated storage projections are projections of South Island storage.

Previous note on derivation of storage trajectories

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