TRANSPOWER

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Questions and answers
Drought planning

Q. Why is Transpower speaking on behalf of the industry?
A. As New Zealand's independent System Operator, Transpower has a neutral and wide overview of the power system. The industry has requested that Transpower keep the public informed.

Q. What's the current situation with New Zealand's hydro lakes? How do they compare with last year?
A. The hydro lakes currently are very low for this time of year. They are currently lower than the same time last year. However, year-on-year comparisons are only part of the story - this year New Plymouth's thermal generation plant was forced to close unexpectedly, which means it will not be available this winter.

Q. How do the levels compare to the 1992 lake situation?
A. The current lake levels are higher than at the similar time in the 1992 situation. However, the industry has initiated planning 'just in case' the severe drought continues over the next few weeks, or we get a major plant failure, and action needs to be taken. Both of these events are unlikely.

Q. How does the industry feel about the current lake levels?
A. The industry is keeping a very close watch on the situation. We do feel that it is prudent to put some preparatory plans in place so that we can cover the 'what ifs' if they eventuate. However, this is purely a precautionary measure which is good industry practice at this time.

Q. What has caused this situation?
A. New Zealand has had a very dry summer this year and drought in both the North and South Island. This is the primary cause of the current low lake levels. However, there have been a number of major generating plants out of service (unexpected closure of New Plymouth, Stratford out for a scheduled mid-life maintenance, one Huntly unit out for maintenance, and Huntly sometimes constrained by river temperatures), which has resulted in a greater amount of hydro generation being used. The Stratford power station is currently being recommissioned and is now generating significant volumes of electricity for the market, while the Huntly unit is also being recommissioned.

Q. Is the South Island the only area affected?
A. No. The low lake issue affects both the North and South Island. Should a severe drought occur, we need to transfer energy to the South Island. However, in the event of a major drought continuing into early winter in the North Island, a low Lake Taupo causes capacity concerns.

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Q. What is the MINZONE?

A. According to the Electricity Commission's website, "the Minzone is an analytical tool that helps the electricity system planners understand the data about hydro storage levels. It is based on the record of 77 years of hydro inflows into the storage lakes and is intended to provide a 1 in 77 security of supply standard. That means, that in only one year out of 77 there would be a shortage that would require further action".

Q. With the hydro levels below the MINZONE, does that mean that there is not enough hydro generation?

No. Storage levels approaching, or at, the Minzone is an indication that the generating system needs careful management. When the storage is at or below the Minzone, all thermal plants need to be running as much as possible and all hydro generators needs to be conserving water to the maximum extent possible. This is already being done at present.

Q. What type of preparations is the industry undertaking to ensure demand is met this winter?

A. The industry has been in discussions for some time about the situation. There are a number of preparations that can be put in place so that if action is needed, it can be implemented quickly.

The initiatives are escalating and include:

- discussions with large users of electricity around demand side initiatives which is effectively a contract relationship where large users receive a financial incentive for reducing their electricity use, or running their own generation, at specified times.
- 'Buy back' schemes for commercial customers where they are requested to reduce their electricity usage, and if they decide to do so, receive payment.
- Later, this buy back scheme could be extended to all customers.
- An electricity savings program is also being looked at - however this is a last resort and would be the final step in the process should action need to be taken.

Q. Should the public be worried about their lights going out?

A. No. The industry is being prudent and making preparations now, so that should action be needed, there are appropriate plans in place to address any shortfall in hydro generation.

Q. Should we be starting to conserve our electricity usage now?

A. No more than usual – realistically we should all be prudent with energy on a daily basis. However, in terms of the current situation, an energy conservation campaign would be the last resort. There are many other measures like demand side initiatives that can be undertaken to reduce energy consumption before any public conservation campaign is needed.

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Q. How long before we would need to implement these initiatives?

A. If all other large generating plants stay in service, and it doesn't rain at all in the hydro catchment areas by the end of the month, then the first stage of preparations – demand side initiatives – would need to be implemented.
Any rain would defer this further.

If a large generating plant unexpectedly goes out of service, which is very rare, then we would need to start implementation of the first stage when that happened.

Q. Will diesel generators need to put in place to cover the winter?

A. No. Diesel generators are not a realistic and viable option. However, if large or small commercial customers have their own means of generation, then they could be paid to use this at specified times rather than electricity from the grid, under a demand side initiative.

Q. Are the low lakes a contributing factor towards the high spot prices that NZ has been experiencing for the last couple of months?

The low lake levels are a significant factor. However they are not the only one. One of the major generating plants in New Plymouth was unexpectedly forced to close last year, and another plant has been out of service for its scheduled annual maintenance cycle. This plant is now currently generating significant volumes of electricity as part of its recommissioning programme and will soon be fully back in service. Also, Pole 1 of the HVDC link was stood down last year which has also contributed.