

# Lower South Island Power System Reliability

Possible Interim Measure – Inter-trip

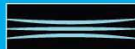
11 December 2008

TRANSPower



# Need for Interim Measures

- Increasing demand in coastal Southland putting limits on the operation of Manapouri and other generation
  - In summer Manapouri would have be able to operate at over 50% of maximum output to cover the loss of a key line
- Rio Tinto would like to increase Tiwai load by an additional 2% with a further 2% possible before 2012
- Unlikely any upgrades can be completed before 2011



# Proposed Interim Measure

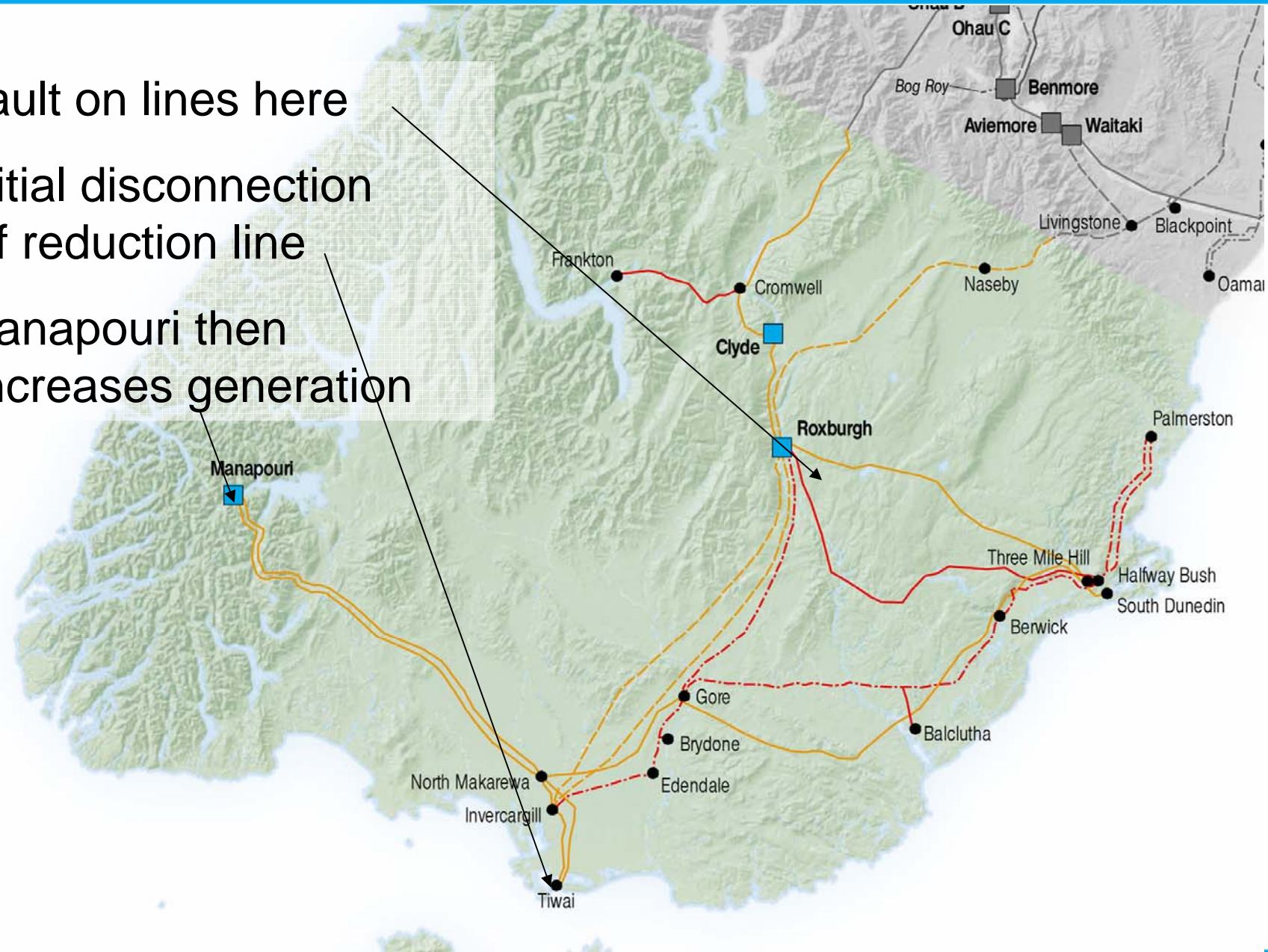
- Allow higher power transfer on transmission lines from Clyde/Roxburgh south to Invercargill
  - Whenever Southland generation not able to generate at high output by low inflows
- A fault on critical lines would automatically disconnect one Tiwai Reduction line for a short time
  - Generation at Manapouri would then be increased and reduction line reconnected after 15-30 minutes
  - Similar measure in place during Manapouri shutdowns for second tunnel 1999-2003



Fault on lines here

Initial disconnection  
of reduction line

Manapouri then  
increases generation



# Proposed Interim Measure

- Benefit is local generators will be able “stretch” out limited storage at times of low inflows
- Only an interim solution - permanent solution is outcome of LSI reliability work
- Transpower will discuss proposal further with affected parties

