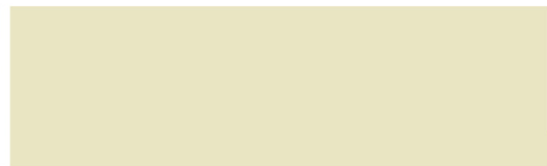
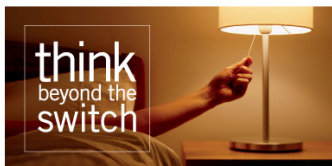
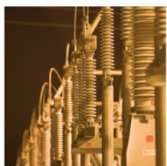
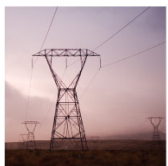


Transpower New Zealand

June 2007

TRANSPOWER



Otahuhu Substation Diversity Project



Otahuhu substation upgrade

- Proposal
 - Build physically separate 220 kV switchyards from existing facility
 - Underground 220 kV lines crossing existing switchyard
- Status
 - Approved
- Benefits
 - Strengthens the resilience of Otahuhu substation (key Auckland node) to high impact low probability events
 - Provides diversity to New Zealand's largest load centre - Auckland

North Island Grid Upgrade Proposal

North Island Transmission reinforcement (NZ \$683 m)



- Proposal:
 - New 190 km, 400 kV capable line into South Auckland from Central North Island. Final 9km underground
- Status
 - North Island Grid Upgrade Proposal receives Notice of Intention to Approve (January)
 - Notice of Requirement (NOR) lodged to all affected councils beginning formal RMA processes (May)
- Benefits
 - Provides long-term confidence in supply capacity to Auckland and the Upper North Island
 - Supports the significant geothermal projects of the Central North Island



North Auckland and Northland (NAaN) Project

- North Auckland and Northland (NAaN project)
 - Consultation process being agreed to with the Electricity Commission
 - Transpower has spent NZ \$50 million on preparatory work to install underground cables between Hobson St and Albany
 - Transpower/Vector negotiating use of tunnel
 - Transpower/Vector see need date as 2011-2013



Auckland Region

Other Potential Regional Projects	Indicative Timing
New 220 kV cables between Albany and Penrose	2013
New substation at Hobson St	2013
New 220 kV circuit between Pakuranga and Penrose	2011
Reconnect existing 110 kV circuit between Otahuhu and Pakuranga	2011
New or upgraded circuits between Mt Roskill, Mangere and Penrose	2013
New 70 MVA supply transformer at Mt Roskill	2013



Bus protection upgrade at Mt Roskill

350 Mvar of static reactive compensation at Otahuhu

New 220 kV bus structure at Otahuhu

Thermal upgrade of the 220 kV Otahuhu-Whakamaru 1 and 2 circuits

New switching station at Drury

50 Mvar capacitor at Bombay 110 kV substation

Grid Backbone Project

Regional Project

HVDC Replacement Project

Replacement of Pole 1 of Inter Island HVDC link

- Status

- Now agreed with Electricity Commission (EC) on a process for consulting on the HVDC Pole 1 replacement investigation project.
- Expecting to submit proposal to EC for approval in fourth quarter 07.
- Project cost likely to be several hundred million dollars.

