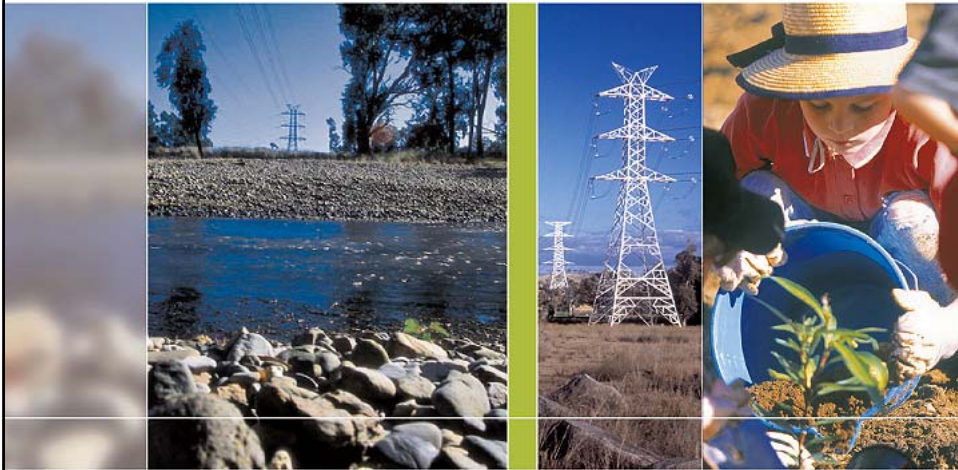


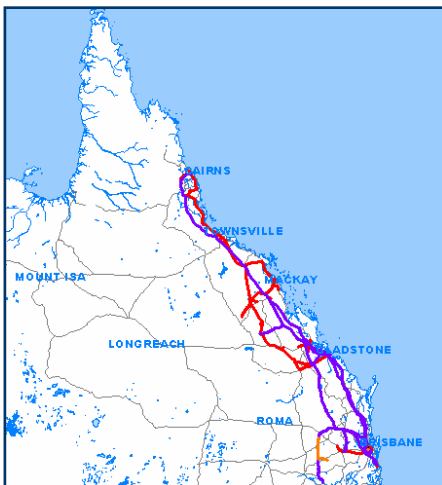
QUEENSLAND TRANSMISSION NETWORK TELCOMMUNICATION



Robert McIntyre
Operations, Strategies Development Manager
POWERLINK QLD
July 2006 Presentation to QestNet



Powerlink's Transmission Network



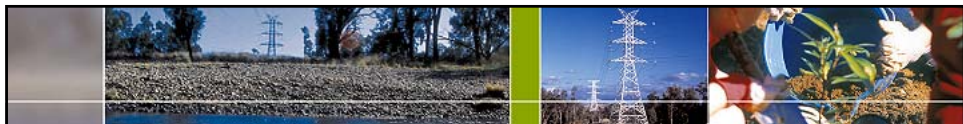
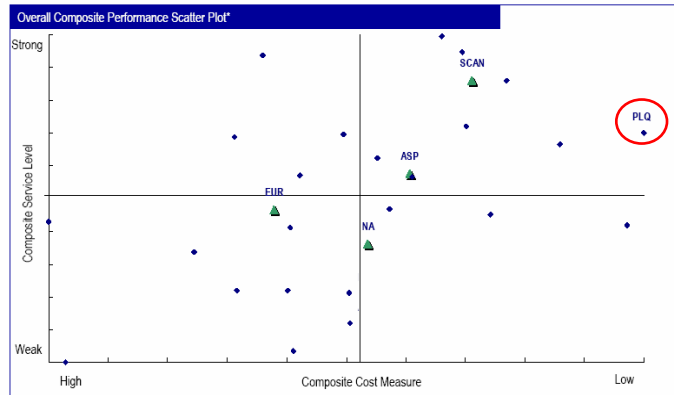
- Long High Voltage Electricity Network
 - Operates at 110kV to 330KV
 - 1700km in Qld From NSW to Cairns
 - Located within 200 to 300km the Coast.
 - Supplies Power to Energex, Ergon, Country Energy (in NSW) and some major customers
 - Provide System Operator Functions to NEMMCO





Benchmarks as “world’s best performer”

Overall Composite Benchmark – Weighted Average**



State-Wide Control Centre

- Latest Energy Management System
- And Network Management system
- Network monitoring & switching
- Manages System Security with NEMMCO
- Co-ordinates response to transmission outages
- Co-ordinates response to telecommunications outages

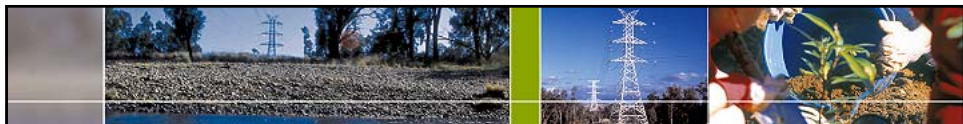
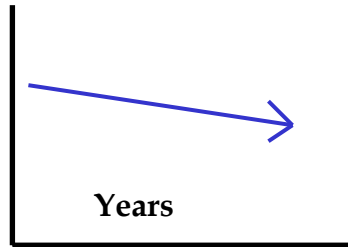




Controlling Operating Costs and Performance

- Regulatory environment provides drivers to reduce costs and increase network performance
- Powerlink has taken an innovative approach to implement remote monitoring of transmission substations for input to condition monitoring regimes and for remote fault diagnosis
- This strategy reduces operation and maintenance costs, increases reliability and shortens outage times to customers by reducing response times to faults.

Ratio of
O&M cost
per Asset
Value



Using New Technology

- Powerlink has a growing international reputation for applying new technology
New technology is an enabler
- There are potential rewards from being an “early adopter of new technology and innovation”
- Reliable telecommunications network is needed to underpin the application of new technology





Environmental Management



Avoiding Impacts of Access
Tracks for tower maintenance



Relocatable Capacitor Banks



Relocate when market
needs change





- Powerlink has been performing Live Line work Since 1982.
- Powerlink in 2001 was the first transmission company in Australia to implement Live Substation Maintenance Work
- This eliminates the need to take critical plant out of service, thereby avoiding adverse impacts on the Market and Security
- These are the only live substation teams working outside of France.



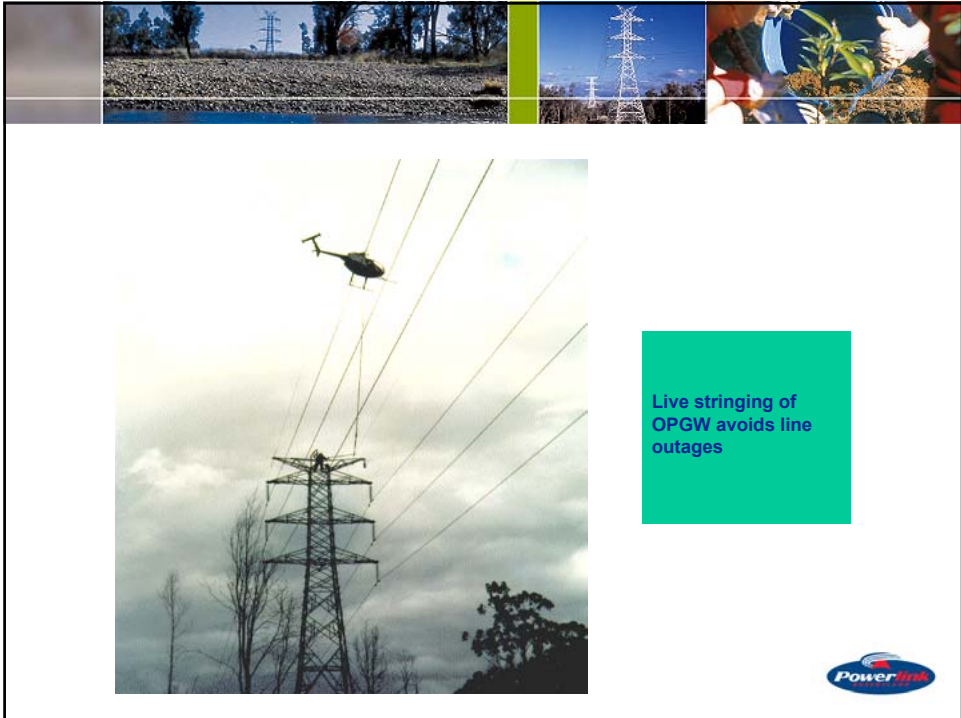


Insulating Tower - Bare Hand Work



Bare Hand Work





Investment in the Queensland Transmission Grid – the importance of maintaining reliability

“I would like to acknowledge and congratulate Powerlink for your commitment to ensuring more reliable and quality electricity supply throughout South-East Queensland”

“If the Refinery experiences power failure, even for a short period, we experience an unplanned shutdown which can affect the plant for a considerable period of time”

*“investment in energy infrastructure ... has helped **ensure reliable electricity supply** to business customers including Caltex”*

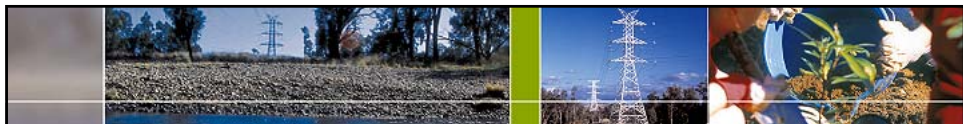
Caltex Refinery Manager - 5 March 2004

Powerlink



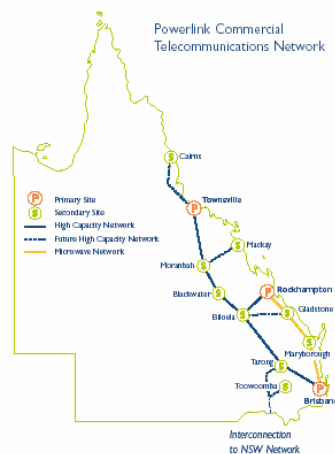
Commercialisation of Powerlink's Telecommunications Services

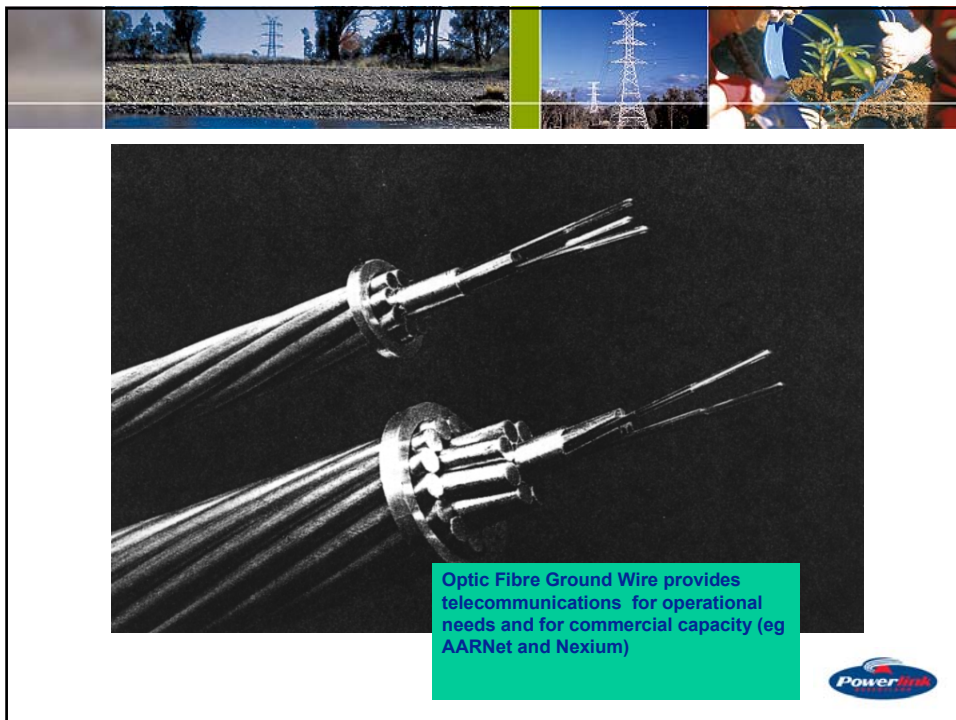
- Powerlink is not proposing to become a Telecommunications Carrier.
- Powerlink is proposing to use its exemption under Section 49 of the Telecommunications Act. Powerlink will only provide services that fit within this Section of the Act



Commercial Telecommunications Network

- Powerlink has approximately 2000km's of optical fibre (OPGW) installed for Operational needs.
- Powerlink fibre network interconnects with TransGrid's network in NSW
- The majority of Powerlink's optical fibre backbone has been equipped to make commercial capacity available to Carriers





Optic Fibre Ground Wire provides telecommunications for operational needs and for commercial capacity (eg AARNet and Nexium)




Basis of Business

- Need to align Telecoms business with Powerlink core competencies as a TNSP:
 - Expertise in providing bulk point-to-point transmission services rather than widespread distribution
 - Small number of customers (bulk, wholesale business)
 - Limited retail experience or access to content
- Need to have positive community benefits
 - Environmentally friendly
- Non Regulated Telecommunications
 - Investment proposals are outside of the AER Regulatory Test and must be commercially viable





Avoiding line outages to repair
earth wires lines



Infrastructure Rental

- **Dark Fibre Leasing**
 - Currently not favoured as it is not aligned with Powerlink's core model for transmission services
- **Tower Co-location**
 - Approximately 28,000 Transmission Towers
 - Approximately 80 Communication Towers
 - Mobile Bases and Data Communications
- Carriers with Mobile Phone Base Station on Powerlink's High Voltage Power Transmission Towers are.
 - Vodafone
 - Optus
 - Telstra





First in Australia

**Vodafone's Mobile Phone Base
Station on High Voltage
Transmission Tower at Kuraby**



Vodafone- Hinchinbrook site in Wet Tropics





Services

- Utilising surplus capacity within their telecommunications network, Powerlink provides bulk telecommunications services in its service area to AARNet, a telecommunications carrier that supports Australian tertiary education institutions.
- Telecommunications Capacity
 - 10 Gigabit network between Brisbane, Rockhampton and Townsville commissioned late 2003
 - Equipped with Marconi MSH64c ,MSH63 and SMA Series 4, managed service at the optical level.
 - Service offered Point to Point capacity STM1, STM4, STM16.
 - Powerlink currently services to AARNet (2.5 Gb), Nexium and other Carriers.



Network Reach

- Powerlink fibre network connects Powerlink substations
- These are near to, but not exactly in, the major regional cities
- Need to connect to fibre distribution networks, which service each city
- Ergon and Powerlink Relationship
 - Powerlink can access Ergon's tails for interconnection to a Carrier POP
 - Powerlink will supply the data transmission services on it's 10 Giga bit Network for Ergon's (Nexium) Bundled Services Offering.
- Powerlink is working closely with Queensland Rail to investigate opportunities to extend the reach of the network and provide diversity, with the aim of minimising impacts of outages .
- Powerlink and Queensland Rail are currently evaluating an Registration of Interest (ROI) for a 32 wavelength network.
 - This may provide an opportunity for increased capacity for the Queensland Regional Universities through cooperation with AARNet.





Thank you

