



every day

DELIVERING FOR QUEENSLAND





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MISSION

Powerlink Queensland is committed to delivering network and related services at world-class levels of safety, reliability and cost effectiveness.

VISION

To be the leading Transmission Network Service Provider in Australia, and one of the best in the world.

VALUES

Reasonable returns for our owners.
Value for money services to our customers.
The wellbeing of our employees.
Being a good corporate citizen and community recognition of this.
Fair, commercial and courteous dealings with our suppliers.



Every day we deliver transmission network services at world-class levels of safety, reliability and cost effectiveness.

Our every day work

Powerlink owns, operates, develops and maintains Queensland's world-class high voltage electricity transmission network, which transports electricity in bulk from power generators to the regional distribution networks which supply electricity customers. Powerlink also transports electricity directly to a small number of large industrial customers.

Powerlink's \$6 billion network extends 1,700 kilometres from north of Cairns to the New South Wales border. Our network is a connected part of the national electricity grid which underpins the National Electricity Market (NEM).

We operate our network in an efficient, secure and stable manner, and monitor and maintain network components to ensure high levels of reliability for electricity customers. As a result of these strategies, our network has benchmarked in the top quartile internationally in terms of network reliability and cost efficiency for more than a decade.

Powerlink is a Queensland Government Owned Corporation established in 1995 under the *Government Owned Corporations Act 1993*. We are a regulated monopoly business responsible for ensuring the transmission network reliably meets Queensland's electricity needs, anticipated future growth, and also meets our responsibilities in the NEM. The major proportion of our revenue is determined by an independent national economic regulator, the Australian Energy Regulator (AER). We also provide non-regulated services to customers including connecting new power generators and large industrial customers directly to the transmission network. Powerlink does not buy or sell electricity.



POWERLINK BY NUMBERS

More than
13,000 circuit kilometres
of high voltage transmission network

Transmission lines operating at
**110 kilovolts, 132 kilovolts,
275 kilovolts** and **330 kilovolts**

114 substations

Providing the backbone of the
electricity supply chain for more than
2 million electricity consumers
in Queensland

Transporting about
50,000 gigawatt hours
of energy per year

Connecting **23** customers to the grid,
including the distribution networks and large
industrial customers

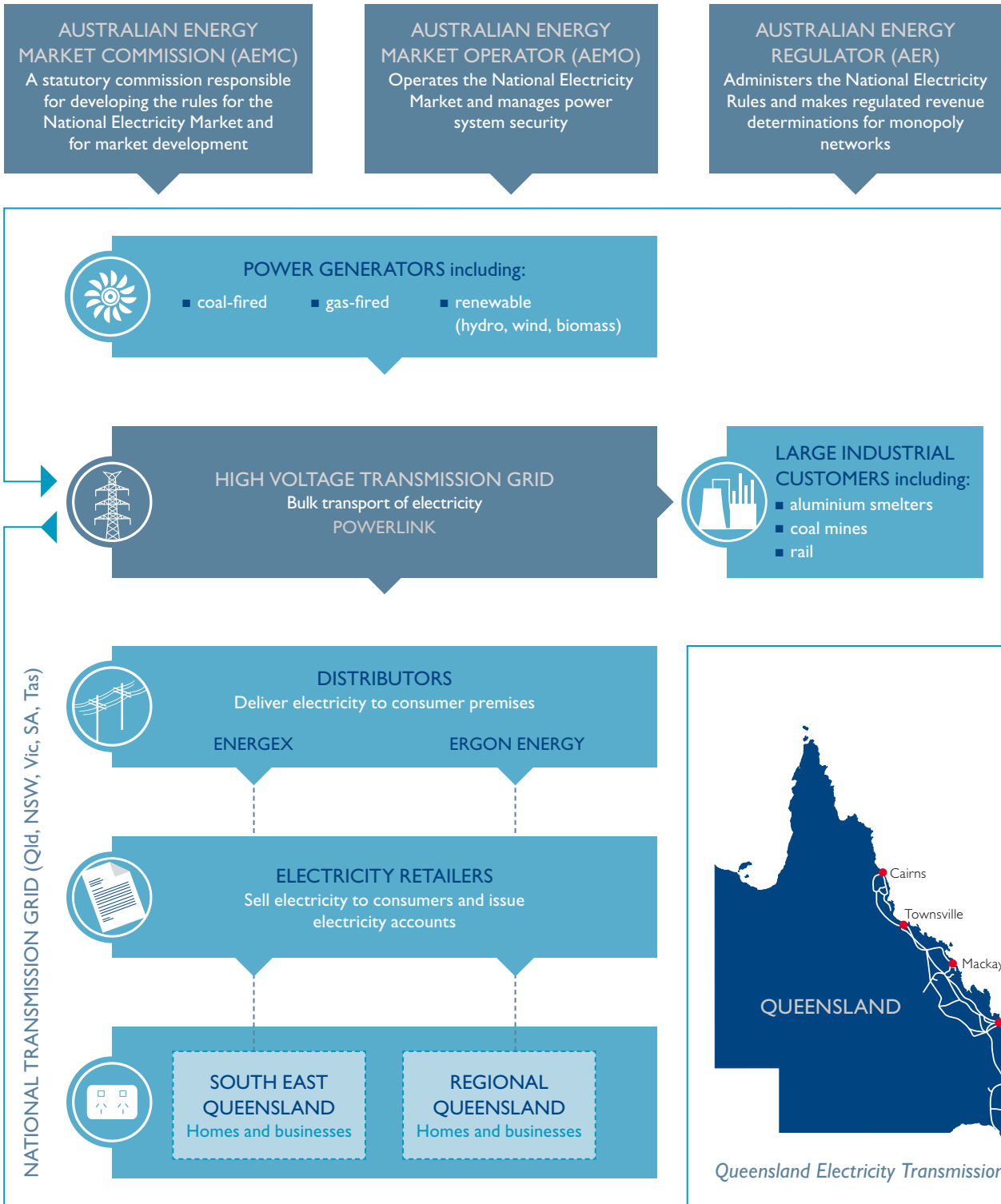
A workforce of more than
1,000 employees located at
6 work sites in Queensland

HIGHLIGHTS 2010/11

- In the 2010 calendar year, Powerlink exceeded the majority of transmission network performance targets set by the Australian Energy Regulator, and all new targets set under the Market Impacts of Transmission Congestion scheme. *(see page 14)*
- Powerlink submitted its Revenue Proposal for the 2013 to 2017 period to the Australian Energy Regulator as required under the National Electricity Rules, outlining the essential transmission infrastructure expenditure required. *(see page 16)*
- We invested \$475.2 million in capital works to ensure our transmission network continues to meet reliability standards as electricity demand increases, and to replace assets that have reached the end of their life. *(see page 28)*
- We completed major transmission developments in North and South Queensland, including the construction of a major new substation, two transmission lines, and replacement of aged equipment at two substations. *(see page 30)*
- We completed a new warehouse at Narangba to help deliver logistical efficiencies to support our ongoing capital works and maintenance programs. *(see page 20)*
- We reached agreement for five new customer connection projects that will connect major new electricity loads in Central and South West Queensland to our transmission network. *(see page 17)*
- We finalised two consultation processes under the National Electricity Rules which identified optimal solutions for emerging transmission network needs. The consultation processes addressed electricity transmission supply to Central Queensland and the Surat Basin north west area respectively. *(see page 30)*
- We released Powerlink's 2011 Annual Planning Report containing forecasts that energy consumption and peak demand in Queensland will continue to increase in the coming decade, in line with economic forecasts, and the State's peak electricity demand growth will remain the highest in the NEM. *(see page 18)*
- We effectively applied our suite of well-rehearsed corporate emergency response plans to manage the impact on our network of Tropical Cyclone Yasi and record flooding in Central and South East Queensland. *(see page 22)*
- We invested \$85.7 million in maintenance to ensure the continued high level of reliability and efficiency of our transmission network. *(see page 21)*
- We completed a major upgrade of the Energy Management System which manages the real-time monitoring and control of our transmission network, while maintaining network reliability throughout the system changeover. *(see page 21)*
- We continued to place priority on the safety, health and wellbeing of our people and progressed continuous improvements to ensure safety remains integrated in all aspects of our operations. *(see page 53)*
- We facilitated a contractor safety forum to reinforce safety as a key component of organisational culture. *(see page 26)*
- We adopted an asset-based approach to the development of Environmental Management Plans, which further encourages consistency in environmental management for the life of our assets. *(see page 38)*
- We improved our procedures to ensure that biosecurity is better integrated into our field work plans, to deliver more effective environmental outcomes. *(see page 40)*
- We continued to operate and support programs that fund proactive environmental works in specific regions near our current and planned assets. Through the Powerlink GreenWorks program, funding was announced for three new projects this year, and through the Community Environmental Program additional funding was announced, which may be applied to flood relief projects. *(see page 48)*
- We progressed action plans to further enhance our progressive corporate culture, including a consultative process to identify the workplace values that we aim to exhibit in our workplaces. *(see page 52)*

Queensland's power supply

Powerlink is among a number of organisations and corporations involved in electricity supply in Queensland. This diagram shows Powerlink's role within the broader structure.



Financial overview

This 2010/11 financial year was challenging for Powerlink Queensland with incidences of widespread flooding in the State and a Category 5 cyclone. Powerlink's transmission network withstood these events, experiencing relatively minor damage.

However the damage and disruption to industry, business and the community from these natural disasters resulted in significantly lower levels of energy transported across Powerlink's electricity transmission network.

Powerlink's property, plant and equipment at 30 June 2011 now exceeds \$6.0 billion, which represents a fivefold increase in fixed assets since the corporation was formed in January 1995.

Powerlink business performance

In 2010/11, Earnings Before Interest and Tax (EBIT), the key measure of Powerlink's profitability, was \$435.6 million. This represents an increase of approximately 16 per cent from last financial year. With approximately 90 per cent of Powerlink's revenue being regulated, the EBIT increase is primarily attributable to the provision of regulated transmission services in line the Australian Energy Regulator's (AER) regulatory determination, and the growth in Powerlink's network to meet the State's electricity demand.

Powerlink adopts controllable operating costs as a percentage of asset value to measure its cost efficiency. The 2010/11 result for this measure was 1.9 per cent, slightly above the target of 1.8 per cent for the year. This slightly higher result was solely attributable to the additional unplanned costs associated with the floods in Queensland and Cyclone Yasi rectification works.

Powerlink's transmission network performed very well during the devastating floods in Queensland and Cyclone Yasi, with relatively minor damage compared to other public infrastructure in the State, and only some interruptions to bulk electricity supply.

Capital investment

Capital expenditure in 2010/11 totalled \$475.2 million, slightly higher than 2009/10. During 2010/11 \$453 million of network assets were commissioned.

Investment in the transmission network is set to continue with more than \$700 million targeted for 2011/12 on a number of projects including the Yabulu South to Ingham, Western Downs to Halys, Gladstone Substation and Surat Basin network augmentation works.

Borrowings

Powerlink continues to maintain its investment grade credit rating on a standalone basis, with new funds borrowed through the Queensland Treasury Corporation.

A key focus for Powerlink is to ensure funds are available when required to meet business operating and capital expenditure requirements, and an efficient overall cost of funds.

New borrowings in 2010/11 to meet the business's capital investment requirements totalled \$230 million, with total debt now exceeding \$3.5 billion. With a Debt to Fixed Assets ratio of 58.8 per cent, this is consistent with the benchmark gearing for regulated electricity transmission businesses in Australia.

Dividends

Each year, the Powerlink Board considers the appropriate level of dividends to be made available from after tax profits. The level of dividend is determined after taking into account a range of relevant factors including future capital investment requirements, the target credit rating for the business, the returns shareholders expect, and the business plan financial forecasts.

Having taken these factors into consideration, the final level of 2010/11 dividends approved by the Powerlink Board was 80 per cent of After Tax Profit, excluding the Share of Net Profits/(Losses) of Associates. The 2010/11 dividend provided for is \$121.4 million.

Financial indicators summary

The following table summarises the key financial and non-financial indicators as incorporated in Powerlink's Statement of Corporate Intent (SCI), which is used to monitor and measure our performance.

	2008/09	2009/10	2010/11 Actual	2010/11 SCI Target
Key Business Performance Targets				
Financial				
Earnings Before Interest and Tax (EBIT)	\$355.9 M	\$374.7 M	\$435.6 M	\$417.2 M
Net Profit After Tax (NPAT)	\$121.9 M	\$128.6 M	\$157.2 M	\$122.8 M
Dividend Payout Ratio	80%	80%	80%	80%
Dividend Proposed/Paid	\$98.8 M	\$100.2 M	\$121.4 M	\$96.6 M
Return on Total Assets (ROA)	6.9%	6.5%	6.9%	6.7%
Return on Average Equity – Post Tax	6.8%	6.6%	7.4%	5.9%
Controllable Opex/Replacement Asset Value	1.8%	1.8%	1.9%	1.8%
Non-Financial				
Loss of Supply Events > 0.2 System Minutes ¹	2	2	0	5
Loss of Supply Events > 1.0 System Minute ¹	0	1	0	1
Lost Time Calculation (LTC)	0.1	0.04	0.07	3.0
Other Business Measures				
Financial				
Revenue Grid Services	\$633.6 M	\$692.8 M	\$771.4 M	
Total Revenue	\$682.8 M	\$735.0 M	\$824.1 M	
Operating Expenses	\$326.9 M	\$360.3 M	\$388.6 M	
Capital Works Expenditure	\$675.0 M	\$465.5 M	\$475.2 M	
Debt/Debt + Equity Ratio	62.1%	62.4%	61.8%	
Debt/Fixed Assets Ratio	58.2%	59.3%	58.8%	
Interest Cover – Earnings Before Interest, Tax, Depreciation and Amortisation (EBITDA) (times)	2.9	2.9	3.0	
Non-Financial				
Energy Flowing into the Grid (GWh)	49,104	49,593	48,020	
Energy Delivered to Transmission Customers (GWh)	47,303	47,825	46,216	
Peak Maximum Demand (MW) (as generated)	8,677	8,891	8,836	

¹ Calendar Year

Chairman's Review



Looking back on our achievements

This year has provided a fitting opportunity for reflection on the organisation's achievements, development and future plans.

Since its inception in 1995, Powerlink has been a dynamic organisation and has contributed significantly to Queensland's economic growth. Powerlink has a vision to be a leading transmission entity internationally, and implemented strategies to ensure that its vision has become, and remains, a reality. International benchmarking over the past decade has consistently shown that Powerlink owns and operates one of the most cost-efficient and reliable transmission networks in the world.

During the past 16 years, Powerlink's asset base has grown to \$6 billion – about five times its 1995 value. We have augmented the network in many areas across the State with major developments in North, Central, South and South East Queensland, and we are currently developing the network into the fast-growing South West region. We continue to invest in our transmission network and remain committed to reliably and efficiently meeting growing electricity demand.

A contributor to Powerlink's success is undoubtedly our enviable corporate culture, which helps us to attract and retain highly skilled and capable people. As our workforce has more than doubled since Powerlink's establishment, we have continued to invest in our people and to provide opportunities for professional and personal development in line with our business needs.

Our commitment to the communities and environments in which we operate has evolved into a strong suite of community-based programs, which see us working in partnership with local councils and community members to achieve shared goals and continuous improvement in our environmental strategies.

Financial performance

Powerlink's transmission network experienced relatively minor damage during the widespread flooding in the State and a major cyclone. Powerlink achieved its profitability target with an Earnings Before Interest and Tax result of \$435.6 million for the year, despite the unplanned rectification costs resulting from these major events.

Powerlink can deliver a solid dividend to our shareholders for the benefit of the State.

Recognition for Powerlink's performance

We have maintained our focus on operational and cost efficiency, consistent with our obligations and the service standards set by our regulator, the Australian Energy Regulator (AER). Our cost-efficient network development and operation means that Powerlink is able to reliably meet the needs for transmission supply at the lowest long-term cost to consumers.

Against the 2010 service standards set for Powerlink by the AER, Powerlink maintained its historically strong performance by exceeding the majority of targets set across all service standards. Powerlink also applied for its performance against the Market Impacts of Transmission Congestion (MITC) target to be measured, and exceeded the AER targets against this new measure in 2010.

Capital investment

Around \$2 billion of transmission investments are currently approved and under way to ensure that the network reliably meets Queensland's growing electricity demand. This program includes network augmentations, replacement of aged equipment, and customer connection projects.

I thank Powerlink's people for their dedication to their every day work, which enables Powerlink to deliver consistently high performance. Their commitment, focus and exceptional skills ensure that every challenge is addressed and every opportunity maximised.

In addition to the transmission network projects currently under construction, the Board has approved a number of significant network augmentations, including the first stage of Powerlink's 500 kilovolt network to service the South East Queensland corner, a new 275 kilovolt transmission line in Central Queensland, and the extension of our network to South West Queensland to meet the needs of the rapidly growing resource industry and service towns in the Surat Basin.

Community commitment

As our network grows, so does our contact with communities and stakeholders throughout the State. We have continued our strong commitment to community and environment programs which deliver positive and long-lasting benefits to communities in which we operate.

This year, we modified the Community Environmental Program to increase the overall funding pool available, and to enable community groups to submit applications for flood restoration projects in the Western Downs area. We look forward to enabling the successful applicants to deliver worthwhile benefits to these flood-affected communities.

It has been rewarding to witness the growing community presence of our well-established Powerlink GreenWorks program, which distributed funding for an additional three new environmental programs this year. The program has far-reaching benefits which are delivered through our relationships with a number of key community groups and partner councils.

Managing natural disasters

The 2010/11 year will be remembered for the series of natural disasters that swept across Queensland, causing devastation, but also revealing the strength of the community. The Powerlink Board is proud of the performance of our people during these emergencies, demonstrating their exceptional expertise and commitment. We are also pleased with the resilience of the transmission network, which contributed to the rapid return of bulk electricity supply.

It is pleasing to recognise that when managing its response to these complex and unpredictable incidents, Powerlink successfully maintained its environmental management processes, and its excellent working relationships with regulatory bodies, electricity industry organisations and other stakeholders.

Leadership strength

It was with considerable sadness that the Board accepted the resignation of its longstanding Chief Executive, Gordon Jardine, earlier this year. The Board expresses its sincere appreciation to Gordon for his outstanding contribution to Powerlink over the past 16 years. Gordon's leadership has helped establish Powerlink as a leading transmission network service provider, consistently one of the best in the world. It has always been a pleasure for the Board working with Gordon and our very best wishes go with him.

The Board was delighted to appoint Merryn York as Powerlink Chief Executive from July 2011. Merryn has extensive experience in the electricity industry, including within Powerlink, and brings her skills, experience and strategic vision to lead Powerlink into the next stage of its growth. The Board looks forward to working with Merryn as we guide Powerlink into a period of high economic growth in Queensland.

Thanking our people

I would like to thank my fellow Directors for their support and their contribution to Powerlink's success during the year. In particular, I wish to acknowledge Stuart Copeland who resigned from the Board in June 2011.

On behalf of the Board, I thank Powerlink's people for their dedication to their every day work, which enables Powerlink to deliver consistently high performance. Their commitment, focus and exceptional skills ensure that every challenge is addressed and every opportunity maximised.



Else Shepherd AM
Chairman

Chief Executive's Review



Reliability of supply during natural disasters

Queensland was widely affected by natural disasters during 2010/11, including floods in Central and South East Queensland and Tropical Cyclone Yasi in North Queensland. During these events, Powerlink's network proved resilient, delivering high performance despite being exposed to extreme rain, runoff and wild storms.

Up to 20 per cent of our assets were exposed to flood or cyclonic conditions, however only 0.03 per cent of our assets were seriously damaged. During the natural disaster events and immediate recovery period, 99.99 per cent of bulk electricity supplies were maintained via our transmission network. This performance endorses the strategies we have in place to develop, operate and maintain our transmission network.

In managing these extreme weather events, our people rose to the challenge, demonstrating innovation and commitment that confirms our confidence in their capabilities, specialist skills and knowledge.

Our people were supported by our corporate emergency response processes and systems that have been tested and refined in preparation for emergency events. Those processes involve close working relationships with Ergon Energy and ENERGEX, which enabled our organisations to support each other during the preparation for and management of the emergency events, to minimise impacts and restoration times.

Electricity demand growth

The impacts of natural disasters were evident in electricity consumption, as these events occurred over the period in which the State usually experiences peak energy use.

As a result the (weather corrected) summer peak demand of 8,350MW for 2010/11 did not reach the forecast level of 8,924MW, and was lower than the 2009/10 summer peak of 8,621MW.

However, looking forward, energy consumption in Queensland is forecast to continue to increase in the coming decade, consistent with the trend established over the past 10 years. The State's peak electricity demand growth is set to remain the highest in the National Electricity Market (NEM). The main drivers behind this increasing electricity demand will continue to be ongoing population growth, strong economic growth and the ramping up of the resources boom, already evident within the liquefied natural gas (LNG) and coal mining sectors. This growth will occur in an environment of transitioning to lower-emission electricity generation.

This year, we signed agreements for five new customer connections to our transmission network, and we continue to respond to a large number of enquiries from major industrial loads (particularly with interests in LNG and coal mining developments) wanting to connect to the transmission network. We are working with project proponents in key growth regions, including the Surat Basin in South West Queensland, the Bowen Basin in Central Queensland and Galilee Basin in Central West Queensland, to understand their electricity needs and to develop our network in a timely manner to meet those needs.

Augmenting the transmission network

During 2010/11, we maintained a substantial capital works program which delivered four major transmission developments, with a further seven transmission developments under way.

I have been privileged to lead Powerlink throughout the past 16 years, from just after the corporation's inception in 1995. I have thoroughly enjoyed working with Powerlink's people to plan, develop, operate and maintain this best-performing electricity transmission grid.

Major projects completed during the year included:

- replacement of aged equipment at Cairns Substation
- rebuilding and replacement of aged equipment at South Pine Substation
- construction of a new substation at Bowen North and construction of a new transmission line between Strathmore and Bowen North Substations
- construction of a new transmission line between Strathmore and Ross Substations.

Significantly, the commissioning of the transmission line between Strathmore and Ross Substations in late 2010 was the final stage of a major reinforcement between Central and North Queensland. The reinforcement increased the transfer capacity between those regions by more than 500 megawatts, equivalent to 30 per cent of the previous capacity, providing a significant benefit to current and future electricity customers in North Queensland.

Our program to replace the aged 132 kilovolt transmission network between Townsville and Cairns in North Queensland is now well advanced, with the segment between Ingham and Yabulu nearing completion, and the segment between Tully and Ingham to be completed by 2013/14. The completed replacement 132 kilovolt lines withstood the significant impacts of Tropical Cyclone Yasi.

During the next three years, we will expand our network into South West Queensland in response to the growing electricity demand from resource developments and associated service towns. The first stage of this development, our Western Downs to Halys project, will provide a gateway to the fast-growing Surat Basin.

Monitoring and replacing our network

We continue to invest in strategies to enhance our ability to monitor the condition of our assets. Our maintenance program remained on track during the year, despite the additional commitments created by the response to extreme weather events.

We maintain a strategic program which ensures we replace transmission assets at the end of their life cycle, ensuring the continued reliability of electricity supply to customers. Consistent with the age of our network assets, over the next five years we expect about 33 per cent of our capital expenditure will be directed to replacement of ageing assets.

Determining our future revenue

Powerlink's regulated revenue is reviewed and determined on a five-yearly cycle by the Australian Energy Regulator (AER). In May 2011, Powerlink submitted its 2013 to 2017 revenue proposal to the AER, outlining the essential transmission infrastructure required to support the State's economic and population growth, the resources industry, and the transition to lower emission generation. This proposal identifies both the new transmission network augmentations and the asset replacements required over that period.

Powerlink will engage proactively with the AER throughout this process, with the aim of ensuring that the Queensland electricity transmission grid – a vital part of the export infrastructure chain – can be developed and maintained in a timely manner to support the State's economic growth.

Our committed people

This year yielded high profile and dramatic weather events in Queensland, to which our people have responded with recognised competence and compassion towards those people badly impacted by floods and cyclone, including some of our own employees.

However, during their day-to-day work – out of the spotlight – our people continue to perform their duties with a high level of commitment. It is this dedication that plays a leading role in delivering excellent performance across the organisation. A strong sense of teamwork has also contributed to our ability to arrive at positive outcomes during challenging times.

I have been privileged to lead Powerlink throughout the past 16 years, from just after the corporation's inception in 1995. I have thoroughly enjoyed working with Powerlink's people to plan, develop, operate and maintain this best-performing electricity transmission grid.

I am confident that Powerlink is in good hands to meet the challenges arising from the State's future strong economic growth.



Gordon Jardine
Chief Executive

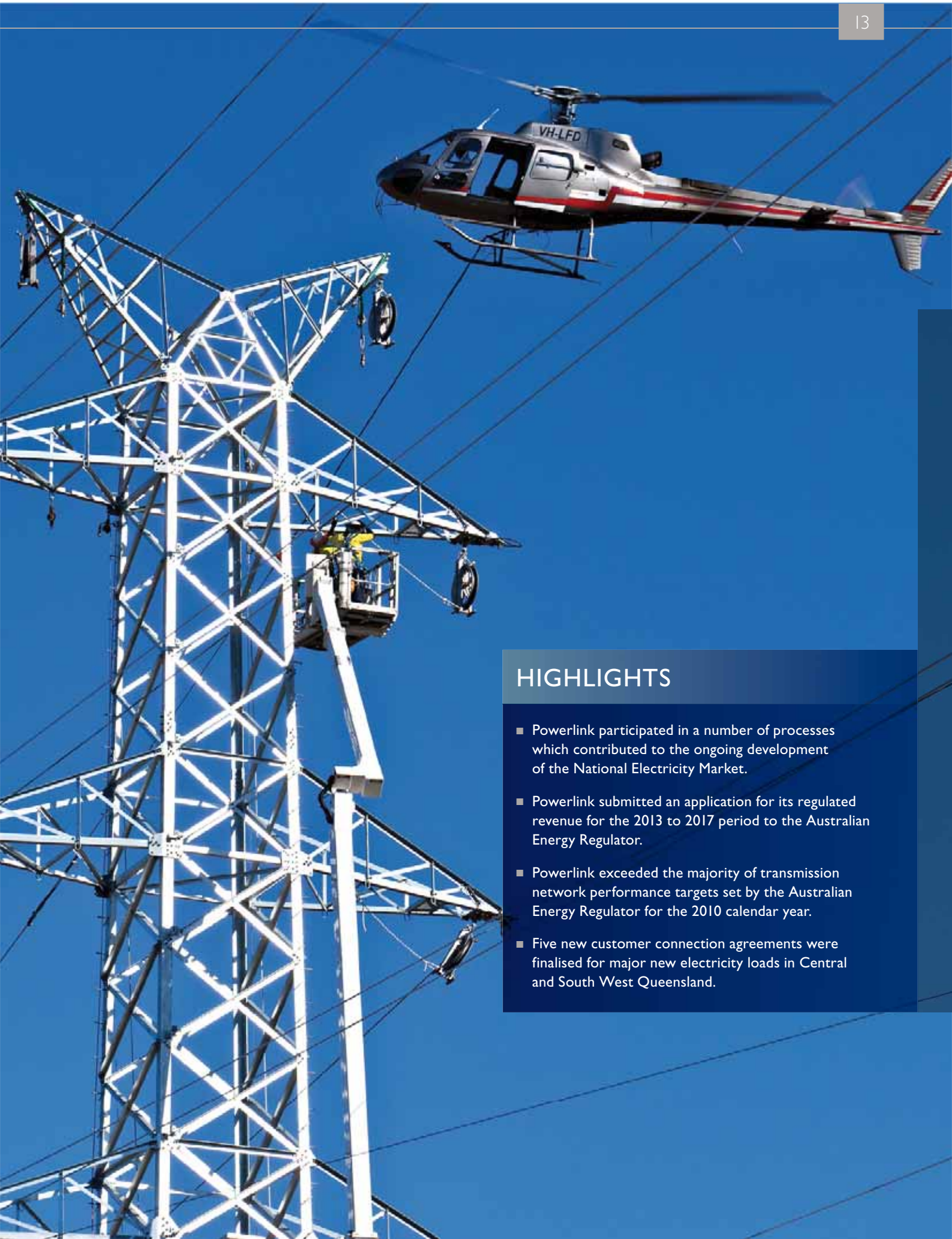
Every day we meet our obligations in the National Electricity Market to efficiently plan, develop, operate and maintain Queensland's high voltage transmission network.

Powerlink's role in the National Electricity Market

Powerlink is required to efficiently plan, develop, operate and maintain Queensland's high voltage transmission network, and provide National Electricity Market (NEM) participants with secure, open and non-discriminatory access to this network for the transport of electricity. Regardless of the source of generation, high voltage transmission lines are required to securely transport bulk electricity supply.

The Australian Energy Market Operator (AEMO) manages the operation of the NEM in accordance with the National Electricity Rules (the Rules). Under an operating agreement with AEMO, Powerlink performs several functions that assist in the secure operation of the Queensland power system.





HIGHLIGHTS

- Powerlink participated in a number of processes which contributed to the ongoing development of the National Electricity Market.
- Powerlink submitted an application for its regulated revenue for the 2013 to 2017 period to the Australian Energy Regulator.
- Powerlink exceeded the majority of transmission network performance targets set by the Australian Energy Regulator for the 2010 calendar year.
- Five new customer connection agreements were finalised for major new electricity loads in Central and South West Queensland.

Focusing on outage management to minimise market impacts

We carefully consider the impacts on the National Electricity Market (NEM) when planning and scheduling outages on Powerlink's network. Our strong performance in minimising those impacts during 2010, while maintaining reliability standards, has been recognised by the regulator.

The Australian Energy Regulator's new Market Impacts of Transmission Congestion (MITC) scheme was applied to Powerlink from 13 July 2010 and our performance will be measured annually on a calendar-year basis against established targets.

Manager Network Operations, Rick Santin, said Powerlink's performance in 2010 exceeded the AER target, which was determined based on our history over the previous five years.

"The MITC scheme and our new performance target has certainly heightened our awareness of market impacts. Strong performance against the target can only be achieved when people across the organisation are committed to minimising market impacts and seeking opportunities to improve our outage management," Rick said.

"In many ways, it is business as usual for outage planning because Powerlink was already actively minimising market impacts when planning and scheduling network outages on key parts of the transmission network, where the potential market impact was significant. But we have now further sharpened our focus on even the minor market impacts, because they also affect our ability to meet the regulator's targets.

"Our Outage Review Committee brings together specialist skills from across the business to consider upcoming network outages where a market impact is likely and consider different approaches to minimising those impacts. The committee also reviews the performance and management of previous outages, so we continue to learn from our experiences."

Maintenance Strategies Manager, Gary Edwards, said Powerlink would still need planned outages on the network from time to time to safely undertake important construction and maintenance activities. However, we are continuously improving planning and management strategies to minimise the market impact of those outages.

"Some of the methods we use to manage the impact of outages include fine-tuning the start and finish time of the work, and choosing days and time of year to avoid periods of peak usage of the transmission network," Gary said. "We use a variety of work methods including live line and live substation processes to undertake work to avoid or reduce the outage times.

"We also consider our crewing needs, which might mean having multiple teams working on a job to reduce outage duration, and having the right skills on hand for returning equipment to service quickly if necessary.

"Before beginning a job, we prepare contingency plans in case the unexpected occurs and because there are many external factors that can affect the way the network operates. Those contingency plans ensure we minimise the time to return the equipment to service."

Gary said collaboration across Powerlink to minimise the market impacts of outages was leading to better outcomes for customers and the NEM.

Planning for NEM development

As the Jurisdictional Planning Body for Queensland, Powerlink assesses the capability of the transmission network to meet forecast load growth, and works with equivalent bodies in other States and AEMO to assess the capability to transfer electricity within Queensland, and to and from other regions in the NEM.

Powerlink also contributes to the planning activities carried out by AEMO as the National Transmission Planner. In December 2010, AEMO published the first National Transmission Network Development Plan (NTNDP) which focuses on the strategic and long-term development of the national transmission network. Powerlink provided input to the NTNDP including advice on our plans for major augmentations to the network.



Manager Network Operations, Rick Santin and Maintenance Strategies Manager, Gary Edwards.

Where Powerlink identifies future electricity needs within Queensland, we consult with NEM participants and interested parties through a transparent process to identify potential non-network solutions and compare them with the network solutions Powerlink has identified. Information about consultation undertaken in 2010/11 is detailed on page 30 of this report.

As required by the Australian Energy Regulator (AER), Powerlink identifies and implements the solution that meets reliability standards at the lowest long-run

cost to customers. In August 2010, the AER promulgated the Regulatory Investment Test for Transmission (RIT-T) as the new mechanism under the Rules by which this process must be undertaken. The RIT-T replaced the AER Regulatory Test to provide a single economic assessment framework for transmission. The AER is a constituent part of the Australian Competition and Consumer Commission (ACCC), but operates as a separate legal entity with responsibility that includes economic regulation of electricity transmission.

Contributing to the future of the NEM

Powerlink is committed to furthering the National Electricity Market objective, which is to promote an efficient, reliable and safe electricity supply for the long-term interests of customers. Consistent with this commitment, we take an active role in initiatives to define and guide the future development of the NEM.

Powerlink is a participating member of Grid Australia, the organisation representing the owners of Australia's electricity transmission networks in the NEM, plus Western Australia. Powerlink's Chief Executive Gordon Jardine was the Chairman of Grid Australia in 2010/11.

Grid Australia identifies issues of interest to transmission network owners and advocates for practical solutions that are in their common interest and which further the National Electricity Market objective. Much of Powerlink's engagement in issues related to NEM development is therefore directed through Grid Australia.

In 2010/11, Powerlink participated, both directly and through Grid Australia, in a number of processes for NEM development, including:

- The Rule change proposal for Scale Efficient Network Extensions (SENE), relating to the introduction of a new framework for the efficient connection of clusters of new generation. This Rule change stems from the AEMC's *Review of Energy Market Frameworks in Light of Climate Change Policies*.
- The AEMC Transmission Frameworks Review, relating to the arrangements for the provision and use of electricity transmission services in the NEM, with a view to ensuring that the incentives for generation and network investment and operating decisions are effectively aligned to deliver overall efficient outcomes.
- The development of the AER RIT-T which replaced the Regulatory Test in 2010.

Powerlink is also a member of the Energy Networks Association (ENA), the national body representing gas and electricity transmission and distribution network businesses in Australia.

Regulated revenue and transmission pricing

Under the Rules, the AER is responsible for the economic regulation of the revenues received by Transmission Network Service Providers (TNSPs), including Powerlink.

The AER's Final Decision of June 2007 specified Powerlink's allowable regulated revenue for each financial year from 1 July 2007 to 30 June 2012. Powerlink is required to calculate transmission charges for our network customers using those allowable revenues, and in accordance with the methodology prescribed in the Rules. For a typical Queensland residential electricity consumer, the cost of Powerlink's high voltage electricity grid represents only about eight per cent of the total delivered cost of electricity.

In 2010/11, Powerlink's allowable regulated revenue was \$736 million. The regulatory framework is aimed at providing prudent and efficient allowances to enable Powerlink to maintain its network, renew ageing transmission assets, and augment the network to maintain network reliability standards, while meeting the State's forecast growth in electricity demand due to population growth and economic development.

Revenue reset process

In May 2011, Powerlink submitted its Revenue Proposal for the 2013 to 2017 period to the AER as required under the Rules.

Powerlink's Revenue Proposal outlines the essential transmission infrastructure expenditure required to underpin Queensland's major resources boom, ongoing population growth, and the transition to lower emission electricity generation, as well as expenditure required to replace assets reaching the end of their life cycle. In delivering these transmission services, Powerlink places high value on, and is recognised for, operating cost effectiveness.

In preparing its Revenue Proposal, Powerlink engaged with key stakeholders including AEMO, the Energy Users Association of Australia, and other key electricity customers.

Powerlink will receive its final Revenue Determination from the AER in April 2012. The final determination will also establish new network performance targets for Powerlink.

Network performance in 2010

The AER sets network performance targets for all TNSPs including Powerlink, which apply on a calendar-year basis. Powerlink's reliability targets include availability of transmission circuits, number of large and small loss of supply events, and the duration of forced network outages. These targets were determined in 2007 at the commencement of the current regulatory period.

The AER performance targets first applied to Powerlink in 2007, and in each calendar year the overall performance of Powerlink's network has exceeded those reliability targets.

From July 2010, Powerlink's performance against the Market Impacts of Transmission Congestion (MITC) target was also assessed, following an application by Powerlink. The AER introduced the MITC in 2008 and the target would not normally have applied to Powerlink until the next regulatory period. However, we opted to take on the performance measure from July 2010, demonstrating our willingness to be assessed against AER performance measures, and in recognition of Powerlink's existing and ongoing commitment to minimising impacts of transmission outages on the NEM. This MITC component measures the market impacts of planned and unplanned network outages. Powerlink exceeded the AER targets against the MITC measure in 2010.

Powerlink also maintained its historically strong network performance by exceeding the majority of the service standards targets set by the AER in 2011.

New network connections

Powerlink provides access to the transmission network under an open, non-discriminatory regime. The recent rebound experienced in the resources sector has been shadowed by a surge in enquiries from project proponents with an interest in connecting to Powerlink's transmission network. Interest has been particularly strong from proponents of coal, coal seam methane and liquid natural gas developments located in the Surat Basin and the Galilee Basin. Powerlink works closely with proponents of resource developments to provide the high voltage electricity supply required for these developing projects in a timely manner.

During 2010/11, Powerlink reached agreement for five new customer connection projects:

- connection to Powerlink's future Columboola Substation for APLNG (Asia Pacific Liquid Natural Gas joint venture between Origin Energy and ConocoPhillips) gas compression station in South West Queensland by 2013
- connection near Moranbah for Bowen Central Coal Management (joint venture between Vale and Aquila Resources) Eagle Downs coal mine in Central Queensland by 2012
- extension of an existing connection agreement with Burton Coal Pty Ltd for the Burton Downs mine near Moranbah in Central Queensland from late 2011
- connection to Powerlink's Lilyvale Substation for Hancock Coal Pty Ltd Alpha and Kevin's Corner coal mines in Central Queensland by 2014
- connection to Powerlink's future Wandoan South Substation for QGC (Queensland Gas Company – part of BG Group) – Woleebee Creek Connection in South West Queensland from 2013.

OUR FUTURE

In 2011/12 and beyond, Powerlink will:

- engage with the AER as part of its Revenue Determination for Powerlink for the five-year period commencing 1 July 2012
- report on Powerlink's performance against the AER network performance targets on an annual basis
- continue to actively participate in the AEMC Transmission Frameworks Review
- provide advice and connection services to proponents of new development projects in Queensland to support the State's economic growth.

Every day we ensure our network operates reliably and cost-effectively to support the growth and development of our State.

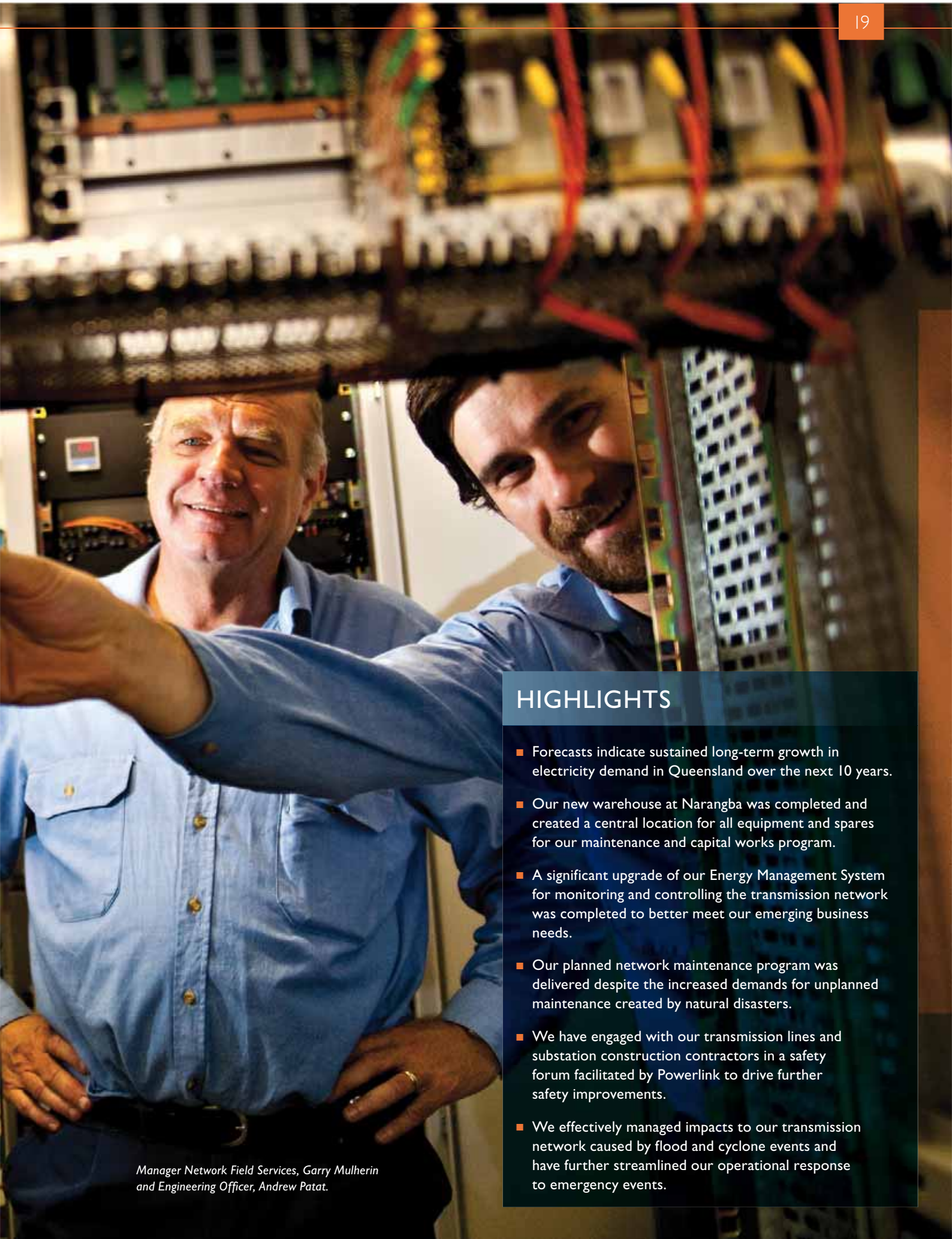
Meeting our network planning obligations

Powerlink's activities and operations are undertaken in compliance with the *Electricity Act (Queensland) 1994*, the National Electricity Rules (the Rules) and other relevant statutory requirements.

Transmission network planning and development are integral to Powerlink meeting its obligations. Under the Rules, Powerlink is required to publish its Annual Planning Report (APR) in June each year. The APR presents both historical and forecast future electricity demand and our plans to efficiently develop the transmission network to ensure continued reliability of the high voltage network in response to forecast demand growth.

Powerlink's 2011 APR was issued on 30 June 2011 to National Electricity Market (NEM) participants and other interested parties and is available on Powerlink's website.





HIGHLIGHTS

- Forecasts indicate sustained long-term growth in electricity demand in Queensland over the next 10 years.
- Our new warehouse at Narangba was completed and created a central location for all equipment and spares for our maintenance and capital works program.
- A significant upgrade of our Energy Management System for monitoring and controlling the transmission network was completed to better meet our emerging business needs.
- Our planned network maintenance program was delivered despite the increased demands for unplanned maintenance created by natural disasters.
- We have engaged with our transmission lines and substation construction contractors in a safety forum facilitated by Powerlink to drive further safety improvements.
- We effectively managed impacts to our transmission network caused by flood and cyclone events and have further streamlined our operational response to emergency events.

*Manager Network Field Services, Garry Mulherin
and Engineering Officer, Andrew Patat.*

Electricity demand forecasts

Record levels of investment in the resources sector in Queensland, and economic and population growth are expected to drive future increases in electricity demand.

Powerlink's forecasts, published in the 2011 APR, indicate sustained long-term growth in electricity demand in Queensland over the next 10 years. On average, summer peak electricity demand is forecast to increase at a rate of 4.3 per cent per year statewide, reflecting the emerging trends in the Queensland economy. This forecast recognises the emerging electricity requirements in the Surat Basin, arising from upstream processing facilities of liquefied natural gas (LNG) projects and the related growth of nearby service towns from 2012/13.

The summer peak demand (weather corrected) for 2010/11 (of 8,350MW) is lower than the 2009/10 (weather corrected) demand of 8,621MW as a result of lower than forecast economic growth and the natural disasters which occurred during the summer period, including extensive flooding and a major cyclone. At the time the summer peak demand occurred, the rebuilding following Cyclone Yasi was still occurring in North Queensland, and flood impacts were causing temporary halts or reductions in operations at many large coal mines and associated rail facilities, and reduced electricity demand from commercial, industrial and residential customers.

Energy consumption is expected to increase at a rate of 4.1 per cent per year statewide over the next 10 years, continuing the trend of energy consumption growing at a marginally slower rate than peak demand. The introduction and increased uptake of energy efficiency initiatives has also been factored into this energy forecast.

The key driver for augmentations to Powerlink's transmission network is the need to maintain reliability of electricity supply as the peak electricity demand grows. We are committed to continually reviewing and expanding Powerlink's transmission network in a timely and efficient manner to meet this growth.

Capital works program

Powerlink currently expects to invest approximately \$3.5 billion in capital works projects throughout Queensland over the next five years. In the five years from 2006/07, Powerlink has invested around \$3 billion in capital works to ensure our network continues to meet reliability standards as electricity demand continues to grow. Through our continued investment in Queensland, Powerlink supports the State's economic development.

Over the next five years to 2015/16, Powerlink expects to invest \$1.6 billion in augmenting the transmission network to meet forecast electricity demand, and \$1.4 billion in replacing assets nearing the end of their economic life. The capital works program also includes customer connection works and minor projects.

Supporting our capital works delivery

We take a strategic approach to allocating our resources and capabilities, which ensures we can continue to deliver our capital works program in the most efficient way.

Our new warehouse at Narangba, north of Brisbane, will help us to continue to deliver Powerlink's substantial capital works program. Completed in 2010/11, the warehouse has created a central location for equipment and spares. The improved warehouse facility has been complemented by changes to work processes, to ensure that our stores and materials continue to be managed efficiently and safely.

Climate change adaptation strategies

Powerlink's network assets are designed and constructed to operate in a range of environmental conditions. We are investigating the potential impacts of climate change on Powerlink's infrastructure and transmission network, including the impact on the ambient and extreme climate conditions which are incorporated into the design and operation of transmission lines and substation equipment. These investigations will help us develop adaptation strategies to ensure the continued resilience of the transmission network.



Our new warehouse at Narangba will allow us to access equipment and spares more efficiently.

Enhanced operation of the network

Powerlink oversees the real-time management of the transmission network 24 hours a day. In conjunction with the Australian Energy Market Operator (AEMO), our operations team ensures that the network is continually operated in a safe, secure and reliable manner. Our procedures and systems for operating the network are reviewed on an ongoing basis to ensure continued network reliability and efficiency.

This real-time monitoring and control of the network is managed by an Energy Management System (EMS). In 2010/11, a project to significantly upgrade the EMS was completed, delivering additional benefits to meet Powerlink's emerging business needs. In line with our focus on continuous improvement in the management of network outages, the EMS upgrade enables improved data analysis and more accurate assessment of the impact of planned outages. The upgrade also provides additional capacity and improved operator training capabilities. The implementation of the EMS upgrade was successfully managed, with no adverse impact on the reliability of the transmission network.

A number of other initiatives were progressed during the year with the aim of delivering improved monitoring and operation of the network, and to expand Powerlink's capacity to collect and analyse data on the performance of our network. To enhance our employees' access to key information, we also installed a secure wireless network across Powerlink buildings.

Maintaining an efficient network

In 2010/11, Powerlink invested \$85.7 million in the maintenance of the network to ensure the continued high level of reliability and efficiency expected by electricity consumers, in line with the targets set by the Australian Energy Regulator (AER).

In a year marked by natural disasters, including record floods and a Category 5 cyclone, there were increased demands for unplanned maintenance on our network to ensure it continued to meet the required standards for reliability and safety. Despite this additional workload, our planned maintenance program was delivered for 2010/11.

Managing network access and works to meet customer needs

At times, scheduled outages are required in order to safely undertake augmentation and maintenance of the network. We schedule these outages to minimise any associated impact on customer supply and the operation of the NEM. Powerlink notifies NEM participants of planned outages that may have a material impact on the operation of the NEM by publishing a 13-month outage plan, which is updated on a monthly basis.

We continued to enhance our capability to undertake live substation and live line work during the construction and maintenance of the network, which assists us to reduce the need for outages, and further minimise the impact on our customers and the NEM. During 2010/11, we developed a new live procedure for joining aluminium busbars within substations. The procedure has been implemented successfully during works at Tarong, Abermain and Millmerran Substations.

Responding to the Queensland floods

During December 2010 and January 2011 vast parts of the State were experiencing torrential rainfall and flooding. In South East Queensland during the week prior to 10 January 2011, torrential rainfall occurred, which escalated to a warning of impending flooding. On 10 January, flash flooding affected Toowoomba and the Lockyer Valley. Later that week the Bremer and Brisbane Rivers broke their banks. These events caused tragic loss of life and enormous damage to homes, businesses, infrastructure and the environment.

The flooding caused widespread devastation in South East Queensland. In contrast, the impact on Powerlink's high voltage transmission network was minimal, with less than 0.02 per cent of assets sustaining material damage.

Even with some impacted assets having to be taken out of service, Powerlink was able, for the most part, to maintain sufficient high voltage electricity supply, due to the lower than usual demand and our ability to use alternate transmission pathways. The interruptions to electricity supply from the flood effects on Powerlink's assets totalled less than 0.01 per cent of Queensland's total electricity usage for the period.

Emergency Manager during the flood event and Manager Operations, Ray Di Marco, said the response to the floods by Powerlink's work teams was exceptional and showed enormous commitment.

"Our people showed their ability to respond quickly to a fast-emerging situation, working together to come up with truly innovative solutions and using ingenuity to implement those solutions," Ray said.

"We managed our response in accordance with our established Corporate Emergency Response process, which incorporates the necessary interactions with other entities such as ENERGEX, Ergon Energy and State disaster coordination bodies."

Manager Network Field Services, Garry Mulherin, said teams were observant and alert to any signs of impact to the network. Helicopter patrols inspected the network during and after the flooding.

"While most of our network was not impacted, we found that the super-saturated ground and heavy run-off had caused landslips and erosion that collapsed one transmission tower and threatened others," Garry said.

"The Brisbane River flooding inundated one substation, requiring an innovative response to avoid interrupting supply to electricity customers."

Securing transmission towers

Manager Transmission Line Design, Trevor Jacobs, said the fast-moving nature of the situation was challenging and called for quick and effective assessments and short-term mitigation actions.

"Given the severity of this event, we are now able to use the learnings to refine the way we design our network to make it even more resilient," he said.

Trevor described the three major impacts experienced on Powerlink's transmission lines and towers.

"A 275 kilovolt lattice steel tower near Blackbutt collapsed due to a landslip, trapping conductors underneath the fallen tower. We designed a permanent replacement structure, sourced two concrete poles from ENERGEX and arranged for a steel cross arm to be fabricated within a week. Our field crews and Ergon Energy erected the structure despite impassable roads and boggy conditions which made it very hard to get heavy machinery to site. Within three weeks the final solution was in place and the line was re-energised.

"We also put into place actions to respond to a landslip that exposed part of the foundations for a 275 kilovolt tower near Mt England Substation. We installed lateral stays which were anchored into rock to help stabilise the tower against any movement. The site was difficult to access and the rock drilling was intensive, but the work was completed within a few days, without de-energising the transmission line.

"As the Brisbane River rose, it inundated a 275 kilovolt transmission line steel pole and eroded the nearby river bank at Karalee. We monitored the condition of the pole and installed stays on adjacent poles. With the help of the Water Police, we were able to monitor the depth and progression of the erosion, to confirm the structural integrity of the pole foundation. As soon as the water receded, we stabilised the river bank with rock and a suitable grass species."



The Rocklea Substation during flooding that affected Queensland earlier this year.

Protecting a substation

Secondary Systems Strategy Engineer, Neil Geddes, said rising floodwaters were monitored by cameras located inside Powerlink's Rocklea Substation, located in an area that was affected by Brisbane River flooding.

"While water in the substation yard wouldn't have presented an immediate problem, we could see that the water was likely to enter the substation control building where sensitive equipment is located," Neil said.

"We developed a plan to maintain electricity supply to customers in the longer term by reconfiguring the substation so that power would pass directly through it, like a continuation of the powerlines."

"The substation was islanded within the rising floodwaters, but with the help of the SES our people entered the site by boat in time to de-energise and protect critical equipment."

Neil said the process successfully avoided prolonged interruptions to electricity supply. The substation was de-energised to allow safe access for our technicians, which interrupted electricity supply to customers in Brisbane's south west suburbs for only three hours.

"Once the floodwaters receded we had a major clean-up job, and then reconnected and checked the equipment before returning the substation to its original configuration."

Restoring the network after Tropical Cyclone Yasi

Severe Tropical Cyclone Yasi, a Category 5 storm, crossed the Queensland coast near Mission Beach around midnight on 3 February 2011, then tracked westward across North Queensland. For almost 48 hours, Cyclone Yasi raged, forging a wide path of destruction across the State's north. At its most furious, the cyclone extensively damaged many buildings in the towns of Tully, Mission Beach and El Arish.

Despite the intensity of the cyclone, only 0.01 per cent of Powerlink's transmission towers were damaged and the interruption to customer electricity supply due to transmission faults was minimal.

Chief Operating Officer, Simon Bartlett, said the transmission network performed very well.

In preparation for the cyclone, Simon and Corporate Communications Manager, Michelle Palmer, relocated to Townsville to establish and maintain communication with stakeholders. A forward command post was also established in Cairns to liaise with the 'front line' team and Powerlink's emergency management team in Brisbane.

"Consistent with our emergency management procedures, we readied our resources including helicopters, emergency structures, field crews and equipment, and technical experts," Simon said.

"As it approached the coast, Cyclone Yasi was one of the most powerful cyclones on Queensland's records with wind gusts of up to 285 kilometres per hour. Given this ferocity and Yasi's size, we were prepared for the potential for significant damage to the transmission network, which fortunately did not occur.

"The teamwork, responsiveness and dedication of our people and our Ergon Energy colleagues was exceptional. They rose to the challenge of Yasi and proved that our confidence in their expertise and skills is well placed."

Simon said the first challenge after the cyclone was to evaluate the impact on the transmission network. With thick clouds, high winds and driving rain continuing, it was impossible for commercial helicopters to fly, but with the assistance of the Australian Defence Force Powerlink's people were able to fly the 400 kilometres of transmission line to inspect about 1,000 towers and pinpoint the problem areas.

"The inspection found two collapsed towers and other leaning towers on our 132 kilovolt network, vegetation on our transmission lines and snapped earthwires," Simon said. "We had also lost electricity supply to four 132 kilovolt substations. Fortunately our 275 kilovolt inland backbone network was unaffected.

"During the repairs to the network, we worked closely with affected landowners, Councils, the State Disaster Management Group, State Emergency Service (SES), Emergency Services and other stakeholders to share information and support efforts to restore the area.

Fault Management Specialist, Randall Jones, said the restoration effort followed an agreed plan of action that was reviewed and updated on a daily basis.

"Powerlink and Ergon Energy staff were united, working side by side on the ground in the affected areas and at the command centres in Brisbane and Cairns to deliver a response that was very effective," Randall said.

"Within two days we had restored bulk electricity supply to two substations. The boggy ground and continuing rain made it very difficult to access tower sites, but the two collapsed transmission towers were replaced within six days.

"Many of our transmission lines in the region were covered with vegetation blown around by the wild winds. Our teams worked very hard to remove that vegetation in the days following Yasi, all the while working in very challenging conditions."

Randall said that by 11 February, the transmission network was successfully restored, thanks to the tremendous effort by Powerlink and Ergon Energy staff.

Throughout both natural disasters, Powerlink participated in meetings and communications with the State Disaster Management bodies.





Powerlink's Chief Operating Officer, Simon Bartlett and Ergon Energy linesman, Luke Cook.

Telecommunications

Protection, control and monitoring of Powerlink's transmission network are facilitated by our high capacity and high availability telecommunications network. We began a program to improve the resilience and reliability of our telecommunications network through the replacement of obsolete Synchronous Digital Hierarchy (SDH) multiplex equipment. The installation of new SDH equipment delivers a platform for the new digital technologies emerging within the power industry.

Network security was also improved with the installation of Optical Fibre Ground Wire (OPGW) during the construction of high voltage transmission projects. Powerlink now operates two independent geographically diverse fibre optic paths between Brisbane and Townsville. Limited spare capacity on our telecommunications network is contracted to customers.



Quality Inspector, Dan Carter and Construction Manager, Aaron McGrath on site at the construction of Yabulu South to Ingham transmission line replacement project.

Procurement initiatives

To complement improvements made in recent years to the procurement process for provision of major transmission lines and substation design, construction and testing, Powerlink has implemented a new contractual arrangement for telecommunications construction and testing services. The new arrangement facilitates the tendering process by creating a more streamlined approach to contracting telecommunications services. This process improvement further helps Powerlink's business objectives.

Construction safety

Powerlink is demonstrating its safety values by engaging with our transmission lines and substation construction contractors to deliver safe outcomes on Powerlink projects.

A construction contractor safety forum was facilitated by Powerlink in 2010/11, which addressed safety challenges and safety as a component of organisational culture. The forum considered how further improvements can be driven by Powerlink and its major construction contractors.

This forum is planned to become an annual exercise, as a platform for shared learnings. Subsequent discussions have been held to share information and cooperatively enhance workplace health and safety.

Securing sites for infrastructure development

Prior to the construction of new transmission lines and substations, Powerlink undertakes a robust process which is approved under the *Sustainable Planning Act 2009* to secure easements and sites to accommodate the planned infrastructure. This year saw Powerlink managing a record number of easement and site acquisition processes throughout the State. This level of activity reflects the surge of economic development and expansion of the resources sector occurring in Queensland and the planned extension of our transmission network to meet the needs of the resources industry.

During 2010/11, we finalised easements and sites for the following planned projects:

- Yabulu South to Ingham transmission line
- Braemar to Kumbarilla Park transmission line
- Goonyella Riverside Substation.

Powerlink is undertaking processes to secure easements and sites to supply electricity to coal seam methane developments in the Surat Basin and proposed coal developments in the Galilee Basin. We are also well progressed in finalising the planning approvals for our planned future 500 kilovolt network needed to reinforce the transmission network in South East Queensland.

We remain committed to working closely with government and other stakeholders to ensure we meet our obligations and minimise the impacts of our developments.

Infrastructure security

During 2010/11, Powerlink enhanced its Security Policy, which details our commitment to the safety of our people and the public, the protection of our network as critical infrastructure, and the need to ensure business continuity. The new policy was developed to address emerging changes in the physical and cyber security requirements for our network. Consistent with this policy, Powerlink is undertaking a project to upgrade the security of its substation sites.

Powerlink continues as a participating member of the International Electricity Infrastructure Assurance (IEIA) Forum, which ensures we remain abreast of developments in infrastructure security, and that our security strategies reflect worldwide best practice. We also participate in the Energy Sector Group under the Commonwealth Government's Trusted Information Sharing Networks (TISN) and joined the new Emerging Security Issues Working Group, formed by the electricity industry in Australia.

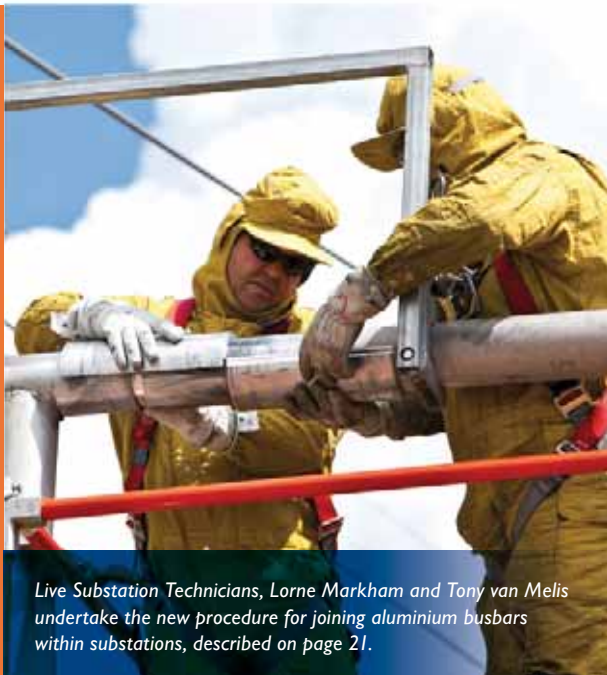
Corporate emergency response

During 2010/11, 99 per cent of Queensland was declared disaster-affected. Powerlink managed incidents associated with natural disaster events including heavy rainfall and flooding in Central

Queensland and then in South East Queensland, and Tropical Cyclone Yasi. Those incidents were effectively managed within our suite of corporate emergency response plans and with a high level of cooperation with ENERGEX, Ergon Energy and other external organisations including the State Disaster Management Group, the State Disaster Coordination Group and other emergency services. Please refer to page 22 for details of our response to the Queensland floods and Cyclone Yasi.

In addition to guiding our response to natural disasters, our corporate emergency response plans ensure we have the capability to quickly respond to any network or corporate emergency while maintaining our focus on providing a secure and reliable transmission service. The plans are reviewed regularly and this year we implemented strategies and internal processes to further streamline our operational response to network incidents. To ensure continued refinement and familiarity with the processes, we participated in a number of internal exercises, and the desktop exercise conducted annually in conjunction with AEMO.

Once again Powerlink maintained its annual summer readiness plans to manage risks to the network associated with seasonal high temperatures.



Live Substation Technicians, Lorne Markham and Tony van Melis undertake the new procedure for joining aluminium busbars within substations, described on page 21.

OUR FUTURE

In 2011/12 and beyond, Powerlink will:

- progress easement and site acquisition projects to accommodate planned infrastructure, with particular emphasis on supporting the investment surge in the resources industry
- establish new contractual arrangements for the procurement of services including concrete pole line construction and other minor or temporary transmission line works
- facilitate an annual contractor safety forum to drive further improvements to deliver safe outcomes on Powerlink projects
- progress our project to upgrade the security of our substation sites, consistent with our Security Policy.

Every day we are building new transmission lines and substations to meet the State's future electricity needs.

Network investment

In 2010/11, Powerlink undertook \$475.2 million in construction works across Queensland to ensure our network continues to meet the required reliability standards into the future, as demand for electricity grows.

Future network needs

Prior to construction of a new regulated transmission line or substation Powerlink is required to undertake the assessment process set out under the National Electricity Rules (the Rules). This includes applying the Australian Energy Regulator's (AER) Regulatory Investment Test for Transmission (RIT-T) for developments needed to increase the capacity of the transmission network.

Where our planning process identifies that the transmission network supplying a region is approaching its limits in the coming few years because of growing electricity demand, Powerlink notifies National Electricity Market (NEM) registered participants, the Australian Energy Market Operator (AEMO) and interested parties of the anticipated limitation. We seek information from those parties on feasible non-network solutions that might address the anticipated constraint and carry out analysis to determine feasible network solutions.



HIGHLIGHTS

- We finalised consultations for the supply of electricity to Central Queensland and the supply of electricity to the Surat Basin north west area.
- We commissioned four major transmission developments on schedule to maintain reliability of electricity supply to customers.
- At 30 June, seven major transmission developments were under construction in North, Central and South regions of Queensland. A further 10 major transmission developments were committed but not yet under construction.
- Powerlink and TransGrid began an update of our evaluation of a potential upgrade to the Queensland/ New South Wales Interconnector transmission line, in light of developments in the electricity market.
- We have significantly advanced the development of construction, design, safety and maintenance procedures for our planned 500 kilovolt network.

*Electrical Apprentice, Tony Halls and
Engineering Officer, Brenton Trevethan.*

Once we have undertaken this rigorous investigation, Powerlink applies the economic analysis specified in the AER's RIT-T and consults with NEM participants, AEMO and interested parties on feasible alternatives to identify the solution which meets the RIT-T economic criteria.

In 2010/11, we finalised consultations for the following identified needs:

Identified need	Solution identified
Supply to Central Queensland*	Construction of a new 275 kilovolt line between Calvale and Stanwell Substations.
Supply to the Surat Basin north west area*	Construction of 275 kilovolt Columboola to Wandoan South transmission line and 275 kilovolt Wandoan South Substation, and construction of 275 kilovolt Columboola to Western Downs transmission line and 275 kilovolt Columboola Substation.

*These consultations were carried out under the transition to RIT-T provisions prescribed in the National Electricity Rules, which required Powerlink to use the AER's Regulatory Test.

Major transmission developments completed in 2010/11

Project	Brief description	Project purpose	Milestones achieved
Region: North Queensland			
Cairns Substation	Replacement of aged equipment at Cairns Substation.	To ensure continued reliability of supply to Far North Queensland.	Commissioned summer 2010/11.
Strathmore to Bowen transmission line and Bowen North Substation	Construction of the new 132/66 kilovolt Bowen North Substation and a 132 kilovolt transmission line between Strathmore Substation and Bowen North Substation.	To ensure continued reliability of electricity supply to the growing Bowen region.	Commissioned summer 2010/11.
Strathmore to Ross transmission line	Construction of a 275 kilovolt transmission line between Strathmore and Ross Substations.	To ensure continued reliability of electricity supply and increase capacity to meet growing electricity demand in North and Far North Queensland.	Commissioned summer 2010/11.
Region: South Queensland			
South Pine Substation	Rebuilding and replacement of aged equipment at the existing 110 kilovolt South Pine Substation.	To ensure continued reliability of electricity supply and to meet growing electricity demand in north eastern Brisbane.	Commissioned summer 2010/11.

Major transmission developments under construction in 2010/11

Project	Brief description	Project purpose	Construction timetable
Region: North Queensland			
Yabulu South to Ingham replacement transmission line	Construction of a 132 kilovolt transmission line to replace an ageing line between Ingham and Yabulu Substations.	To ensure continued reliability of electricity supply to Far North Queensland.	Construction to be completed in 2011/12.
Region: Central Queensland			
Gin Gin Substation	Replacement of 275/132 kilovolt transformers and secondary systems at Gin Gin Substation.	To ensure continued reliability of electricity supply to the Wide Bay area.	Construction of transformers to be completed in 2011/12.
Gladstone Substation	Replacement of aged equipment at the Gladstone Substation at the new Calliope River site.	To ensure continued reliability of electricity supply to the Gladstone area.	Construction to be completed in 2013/14.
Region: South Queensland			
Belmont Substation	Replacement of 275/110 kilovolt transformers, and rebuilding and replacement of aged equipment at the 110 kilovolt Belmont Substation.	To ensure continued reliability of electricity supply to South East Queensland.	Construction to be completed in 2011/12.
Blackstone Substation	Replacement of aged equipment at the 110 kilovolt Swanbank A Substation at the new Blackstone Substation.	To ensure continued reliability of electricity supply to South East Queensland.	Construction to be completed in 2011/12.
Loganlea Substation	Installation of a new 110/33 transformer and replacement of aged equipment at the 110 kilovolt Loganlea Substation.	To ensure continued reliability of electricity supply to South East Queensland.	Construction to be completed in 2013/14.
Western Downs to Halys transmission line and Western Downs and Halys Substations	Construction of the new 275 kilovolt Western Downs and Halys Substations and a 275 kilovolt transmission line between Western Downs and Halys Substations.	To ensure continued reliability of electricity supply and increase capacity to meet growing electricity demand in South East Queensland.	Construction to be completed in 2012/13.

Extending our network into South West Queensland

The Western Downs Substation and Western Downs to Halys transmission line project will help to meet the forecast growth in electricity demand in Southern Queensland. The substation and transmission line will be the starting point for planned network extensions into the fast-developing Surat Basin, where future electricity demand is expected to match that of the entire Gold Coast.

Project Manager, Brian Parker, said construction of the 275 kilovolt Western Downs Substation began in late 2010 and was well progressed despite the challenge of persistent wet weather.

“The site has been designed to accommodate a 275 kilovolt substation, plus a future 500 kilovolt substation that will form part of Powerlink’s planned 500 kilovolt network,” Brian said.

“One of the innovations involved in this construction program has been the design and installation of steel poles instead of lattice towers as landing towers into the substation. These 24 metre poles are the tallest tubular steel poles located in any Powerlink substation. They were more efficient to install and better met our technical requirements for this project.

“A key challenge for the Western Downs Substation project is to work closely with our customers and national electricity market participants to minimise any potential impacts on the network caused by our construction works. In particular, we are working closely with Kogan Creek Power Station to manage their connection to the transmission network.”

Construction of the transmission line between the new Western Downs Substation and the future Halys substation near Kingaroy involves erection of 289 transmission towers and installation of 130 kilometres of high voltage line. The line includes one of the

longest single spans on Powerlink’s network, with a 900 metre segment of conductor between towers to cross a steep gully at Alice Creek.

About 80 per cent of the new transmission line will be located adjacent to an existing transmission line, with most of the necessary easements acquired many years in advance of the construction program.

Construction Manager, Eddie Con Foo, said the transmission line route traversed contrasting terrains and land uses, including agricultural land used for cropping and grazing, and the rugged Bunya Mountains.

“We are applying various construction methods to ensure we minimise the impact on each of these environments,” Eddie said. “That includes applying vegetation clearing techniques to suit the requirements of each area.

“Consistent with the project Environmental Management Plan and our Species Management Plan, we have had fauna spotters on site during vegetation management activities to catch and relocate any wildlife identified.

“Importantly, we are working closely with landowners to ensure we fit in with their farming operations. We really appreciate their cooperation and open communication.”

Planning a 500 kilovolt network

Powerlink is planning the future construction of a 500 kilovolt network to efficiently meet the growing long-term demand for electricity in South East Queensland. One 500 kilovolt transmission powerline is capable of carrying about the same amount of electricity as three 275 kilovolt powerlines, with a much smaller land use requirement.

The infrastructure will help to strategically link the Surat Basin, where major power generation developments are occurring and more are proposed, with the major electricity demand centre in South East Queensland. It will also help facilitate government climate change policies by providing connection opportunities for new large-scale renewable and lower-emission generation located away from population centres.



Construction Manager, Eddie Con Foo and Line Inspector, Lloyd Warr inspect progress on the Western Downs to Halys transmission line project.

Powerlink's proposed 500 kilovolt network is included in Queensland Government's *South East Queensland Infrastructure Plan and Program 2009–2026 (SEQIPP)*. As part of our commitment to long-term planning, Powerlink acquired strategic easements for the future 500 kilovolt network more than 15 years ago.

The plan for the 500 kilovolt network involves progressive development of the following sections of transmission lines between:

- Halys (near Kingaroy) to Blackwall (near Ipswich)
- Halys (near Kingaroy) to Greenbank (in Logan)
- the Surat Basin to Halys (near Kingaroy).

Major transmission developments committed but not yet under construction as at 30 June 2011

Project	Brief description	Project purpose	Construction timetable
Region: North Queensland			
Cardwell to Ingham replacement transmission line	Construction of a 132 kilovolt transmission line to replace an ageing line between Cardwell and Ingham Substations.	To ensure continued reliability of electricity supply to North Queensland.	Construction to be completed in 2012/13.
Tully to Cardwell replacement transmission line	Construction of a 132 kilovolt transmission line to replace an ageing line between Tully and Cardwell Substations.	To ensure continued reliability of electricity supply to North Queensland.	Construction to be completed in 2013/14.
Region: Central Queensland			
Bouldercombe Substation	Installation of a 275/132 kilovolt transformer and replacement of aged secondary systems equipment.	To ensure continued reliability of supply to Central and North Queensland.	Construction to be completed in 2013/2014.
Calvale to Stanwell transmission line	Construction of 275 kilovolt transmission line between Calvale and Stanwell Substations.	To ensure continued reliability of electricity supply and increase capacity to meet growing electricity demand in Central and North Queensland.	Construction to be completed in 2013/14.
Region: South Queensland			
Columboola to Wandoan South transmission line and Wandoan South Substation	Construction of a 275 kilovolt Wandoan South Substation, and a 275 kilovolt transmission line between Columboola and Wandoan South Substations.	To ensure continued reliability of electricity supply and increase capacity to meet growing electricity demand in the Surat Basin north west area.	Construction to be completed in 2012/13.
Columboola to Western Downs transmission line and Columboola Substation	Construction of a 275 kilovolt Columboola Substation and a 275 kilovolt transmission line between Columboola and Western Downs Substations.	To ensure continued reliability of electricity supply and increase capacity to meet growing electricity demand in the Surat Basin north west area.	Construction to be completed in 2013/14.
Halys to Blackwall transmission line	Construction of a 500 kilovolt transmission line, to be operated at 275 kilovolts, between Halys and Blackwall Substations.	To ensure continued reliability of electricity supply and increase capacity to meet growing electricity demand in South East Queensland.	Construction to be completed in 2014/15.
Richlands Substation	Replacement of aged equipment at the 110 kilovolt Richlands Substation.	To ensure continued reliability of electricity supply to South East Queensland.	Construction to be completed in 2012/13.
Blackstone Substation	Replacement of aged equipment at the 275 kilovolt Swanbank B Substation at the new Blackstone Substation.	To ensure continued reliability of electricity supply to South East Queensland.	Construction to be completed in 2013/14.
Bulli Creek Substation	Replacement of aged secondary systems equipment at Bulli Creek Substation.	To ensure continued reliability of electricity supply to South East Queensland.	Construction to be completed in 2013/14.

Preparing to construct the 500 kilovolt network

In preparing for the introduction of the 500 kilovolt network, Powerlink is advancing the development of construction, design, safety and maintenance procedures for the new infrastructure, ensuring it complies with relevant legislation and Powerlink's business processes.

Powerlink has designed a new suite of transmission towers for the new 500 kilovolt network which have progressed to detailed design, prototype and testing stage. This work will be complete in early 2012.

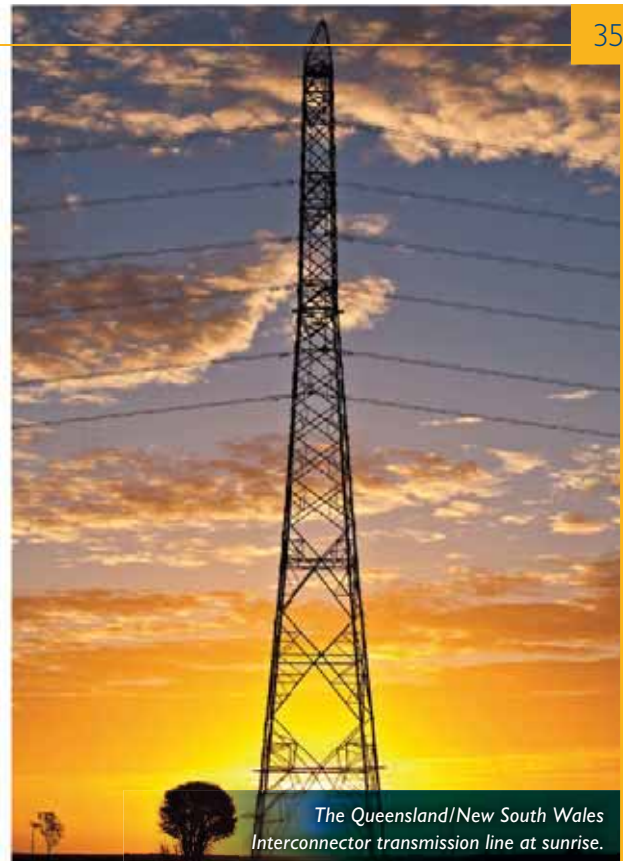
Investigating upgrades to the Queensland/New South Wales Interconnector transmission line

The Queensland/New South Wales Interconnector transmission line (QNI) was commissioned in 2001, physically connecting the Queensland transmission network with the interconnected transmission networks in the NEM. The QNI delivers benefits to the NEM by enabling the sharing of generation capability and the trade of electricity between Queensland and other States in the NEM.

In late 2008, Powerlink and TransGrid published a consultation report relating to the potential upgrade of QNI. The report detailed outcomes of comprehensive technical and economic assessment of technically feasible upgrade options analysed in accordance with the AER Regulatory Test. The outcome of the report indicated the optimal timing for the upgrade was 2015/16. Based on that timing, Powerlink and TransGrid considered it premature at that time to recommend an upgrade.

Since the publication of the 2008 report, a number of new developments have occurred, including new generation investments, expanded renewable energy targets, and the commencement of the AER's new RIT-T. In light of these developments, Powerlink and TransGrid have commenced further investigations to evaluate the economic viability and optimal timing of a potential upgrade to the QNI, based on the principles and methodology of the RIT-T.

Powerlink and TransGrid anticipate the outcomes of these further investigations will be completed in late 2011. The results of this economic analysis will determine whether an upgrade is progressed through the Rules process.



The Queensland/New South Wales Interconnector transmission line at sunrise.

OUR FUTURE

In 2011/12 and beyond, Powerlink will:

- publish the outcomes of the investigations by Powerlink and TransGrid to evaluate the economic viability and optimal timing of a potential upgrade to the QNI
- initiate consultation and the AER's RIT-T in relation to the following expected future transmission network supply limitations:
 - supply to the Bowen Basin coal mining area
 - supply to North Queensland
 - supply to the southern Brisbane area
- continue construction on transmission line projects including:
 - Yabulu South to Ingham replacement transmission line
 - Western Downs to Halys transmission line
 - Calvale to Stanwell transmission line
- continue construction on substation projects including:
 - Western Downs Substation
 - Halys Substation
 - replacement of aged equipment at the following substations: Belmont, Blackstone, Gin Gin, Gladstone, and Loganlea.

Every day we actively integrate environmental management into the way we plan and do our work.

Environmental Management System

Powerlink's Environmental Management System (EMS) ensures we approach our business activities in a way that responsibly manages impacts on the environment. Our EMS focuses our attention on key environmental aspects within Powerlink's business and provides a framework for ongoing monitoring and reporting against key performance indicators for each environmental aspect.

Powerlink's auditing strategy incorporates environmental audits on our field service providers, construction groups and contractors, as well as an annual Virginia-based waste audit. These audits are structured so as to ensure compliance with relevant legislative requirements as well as internal requirements. In some instances, for example in the area of biosecurity, our internal requirements exceed our statutory obligations.

In 2010/11 all scheduled environmental audits were undertaken, with the exception of one audit which was postponed until 2011/12 due to the impacts of flooding in Central Queensland. The outcomes of audits are evaluated against our key performance indicators and are reviewed by the Environment Steering Committee. This year we used a new corporate auditing tool, which has allowed us to better integrate our programs and in the future will improve audit scheduling and scoping and tracking of corrective actions.

HIGHLIGHTS

- We effectively integrated environmental management into our response to Tropical Cyclone Yasi and Queensland flood events.
- We developed strategies to address the requirements of two new State Government planning policies.
- We adopted an asset-based approach to Environmental Management Plans following a successful trial period.
- Powerlink submitted its annual report on energy and greenhouse gas emissions under the *National Greenhouse and Energy Reporting Act 2007*.
- We reduced the carbon dioxide emissions from our motor vehicle fleet by 17.9 per cent when compared to a baseline taken in June 2007.
- Regulatory approval of our Species Management Program has delivered operational benefits and ensures consistent management of wildlife interactions with our assets.
- Powerlink invested in two new research and development programs investigating wildlife behaviours near our transmission assets, building on our existing commitment to environmental research.

Integrating environmental management in emergency events

Despite the challenging conditions, we continued to integrate environmental management practices into our activities when responding to impacts on our transmission network associated with Tropical Cyclone Yasi and flooding in Central and South East Queensland during 2010/11.

During these events, Powerlink liaised with environmental regulators to ensure their support for our emergency works. Support was provided to field crews to ensure our environmental obligations were met and to expedite necessary communication to regulators and property owners.

We continue to assess the environmental impacts for longer-term restoration works, including repair to eroded access tracks and work with regulators to ensure those works are coordinated with the broader efforts under way.

New compliance measures

Two new State Government planning policies (SPPs) – one related to healthy waterways, the other to koala conservation – have included requirements for community infrastructure entities such as Powerlink. We assessed Powerlink's existing construction projects against the requirements of the *Healthy Waterways SPP* to highlight opportunities for improvement. This relates to the way erosion and sediment control measures are incorporated into the design, construction and maintenance phases of our assets. Our planned Halys Substation is the first project to incorporate these new requirements into the substation design.

We developed a Koala Conservation Strategy to meet the requirements of the *South East Queensland Koala Conservation SPP*. In accordance with the SPP, where specific projects have the potential to impact identified koala habitat areas, we have developed relevant Koala Habitat Management Plans and an offsetting practice. These measures are in addition to our normal comprehensive practice of minimising impacts in habitat areas.

Risk management review

We completed a review of the environmental risk assessment processes undertaken in our construction projects and identified opportunities to further enhance our risk management strategies. Using Powerlink's extensive experience in project construction as a foundation, we updated our processes to address emerging environmental issues and to deliver enhanced environmental performance.

Powerlink expects to realise benefits through improved communication throughout the project, enhanced inputs to the project design process, early identification and proactive management of environmental risk, and strengthened relationships with external stakeholders.

Enhanced monitoring strategies

Our field staff and contractors undertake construction and maintenance work in accordance with Environmental Management Plans (EMP) and Environmental Work Plans (EWP). We have reviewed the management of these plans within Powerlink and are working towards an improved approach to these established tools.

Our review found there was potential for multiple EMPs for a single transmission line easement or substation site. A trial undertaken in 2010/11 tested the implementation of single asset-based EMPs and found this delivered benefits by facilitating further consistency in our approach to environmental management. Under this approach each site or easement has only one EMP for the life of the asset, which incorporates the management strategies for the site and has the capability to be updated if required for future projects on that site.

As a result of the success of the trial, the asset-based EMP process will be applied to future Powerlink development sites. Powerlink expects this streamlined approach will deliver environmental and efficiency benefits.

Training and information

Powerlink provides environmental training and information to our people to ensure our activities are consistent with our Environmental Policy and Strategies. Specialist training courses are developed to meet specific needs within Powerlink and general environmental awareness is provided as part of the induction process.

In addition, we are working with industry partners to establish an environmental training framework for the electricity supply industry in Australia. Through our participation in the Energy Networks Association (ENA) working group, we are assisting in the development of national standard training modules which will enable consistency of training within the industry as well as recognition of training across organisations.



Powerlink constructs, maintains and operates high voltage transmission lines in a variety of environments. Our staff are encouraged to act sustainably during their every day work.

To reinforce and support the environmental training framework, an industry-wide handbook to address environmental management practices for use by staff during design, construction, operation and maintenance of energy systems is being developed in association with environmental rules for work activities.

We have continued to raise awareness of our environmental responsibilities through our annual celebration of World Environment Day in June. In 2011, employees were invited to participate in activities to raise awareness of environmental issues, including engagement with external environmental agencies and groups.

Powerlink played a key role in the organisation of the inaugural CIGRE National Environment Conference staged in mid 2011. CIGRE (International Council on Large Electric Systems) is an international organisation dedicated to the identification and the development of solutions to technical issues in the power supply sector. The conference provided delegates with exposure to international work in the field and an opportunity to collaborate on the collective work occurring in Australia, New Zealand and Papua New Guinea.

Greenhouse reporting

Powerlink reports annually on energy and greenhouse gas emissions under the Commonwealth Government's *National Greenhouse and Energy Reporting Act 2007* (the NGER Act). An external audit verified the accuracy of our 2010 report.

Our report included data on sulphur hexafluoride (SF₆), a greenhouse gas used in some high voltage switchgear. Powerlink captures high quality data on SF₆ emissions and has extensive leakage detection equipment and processes to ensure SF₆ losses are minimised.

During 2010/11, Powerlink worked cooperatively with other Transmission Network Service Providers (TNSPs) to develop a shared position on the methodology for reporting on the NGER Act.

While our 2010 report was Powerlink's second compulsory report under the NGER Act, Powerlink has reported on its greenhouse gas emissions on a voluntary basis since 1999, as a signatory to the Commonwealth Government's Greenhouse Challenge and Greenhouse Challenge Plus programs.

Greenhouse initiatives

Powerlink encourages our people to act sustainably during their every day business activities. Through our voluntary actions, we delivered approximately 1,000 tonnes of carbon dioxide emissions savings in 2010/11.

Energy use at our Virginia site has trended downward in the three years since 2008/09, when energy conservation initiatives such as installing energy-efficient lighting and asking staff to shut down computers at the end of the day were introduced. Petrol and water usage has also trended down, despite an increase in staff numbers.

Integrated planning delivers better weed management strategies

In consultation with Somerset Regional Council, Powerlink has developed a two-year plan to implement new actions to treat Parthenium weed near our South Pine to Tarong transmission line.

Environmental Strategist, Ben Saal, said Powerlink is very serious about its responsibility towards the management of weeds on its transmission line easements and substation sites, whether the land is owned by Powerlink or other parties.

“We recognise that after a transmission line or substation is built the environment surrounding our assets can change over time and our maintenance practices need to be responsive to those changes,” Ben said. “We have made changes to our processes to better integrate biosecurity issues into the way we plan our field work to help manage the impact of weeds.

“To manage weeds on or near our easements we rely on a number of inputs for weed mapping, including State Government and Council data, as well as our own internal mapping and data collected by our staff in the field.

“In an initiative to streamline our planning practices for maintenance work we’ve implemented a process that brings together the information from all these sources, so that we can clearly identify areas where there are weed infestations near our assets.

“We can then develop a weed management strategy for the asset and act effectively to deliver environmental benefits. In addition we’ve given our staff very good tools and information to help them identify weeds, so they can provide us with quality information.”

Network Field Services Environmental Consultant, Belinda Curtain, said the streamlined approach will work well to address an infestation of Parthenium weed near Kilcoy, adjacent to Powerlink’s South Pine to Tarong transmission line (Parthenium is a Class 2 declared plant under the *Land Protection (Pest and Stock Route Management) Act 2002*).

“We have been working closely with Somerset Regional Council to help manage Parthenium near our assets,” Belinda said.

“We will survey the area and then, in consultation with the affected landowners, we can implement our two-year treatment plan, which ensures six-weekly weed treatments of the easement and a buffer zone.

“We engaged Somerset Regional Council to undertake the treatments as we have confidence in their capability and commitment to weed management in their region.”

Somerset Regional Council Supervisor of Pest Management, Shane Lampard, said Council will undertake monthly spot spraying with the support of Powerlink, which will reduce the amount of available seed in the infested area.

“Powerlink’s support and actions make a significant difference to Council’s ability to manage Parthenium in the area – it helps us to help the landowners of affected properties,” Shane said.

Belinda said treatment was the first essential step. Beyond this, Powerlink has also re-evaluated the maintenance plans for the transmission line, to ensure we are not spreading Parthenium weed beyond the infested area, or reinfesting the treated area when we access the transmission line in the future.

“We have replanned our maintenance work in that area, placing greater priority on avoiding any non-essential access to the infested area,” Belinda said. “Using the weed survey data, we can plan access to the transmission line that will avoid the infested area and have put in place stringent vehicle washdown procedures for the properties.

“We are committed to weed management and to the environmental benefits of adopting this approach throughout our operations.”



Somerset Regional Council Supervisor of Pest Management, Shane Lampard; Environmental Strategist, Ben Saal and Network Field Services Environmental Consultant, Belinda Curtain inspect the progress of the plan to treat and manage Parthenium near our South Pine to Tarong transmission line.

Purchasing green power

On an ongoing basis, we seek to reduce the energy consumption within our operations. In 2010/11, Powerlink purchased 6,521 megawatt hours of green power, equivalent to about 70 per cent of the estimated annual energy usage for our Virginia office. Our green energy purchase equated to 5,803 tonnes of carbon dioxide equivalent reduction.

We purchased green power through Ecofund, which invests in environmental projects such as energy efficiency, methane-flaring, renewable energy and biodiversity forestry projects within Queensland.

Reducing travel emissions

A significant turnover of our motor vehicle fleet during 2010/11 provided an opportunity to reduce vehicle emissions, while ensuring the fleet continues to meet our growing business needs. Powerlink complies with the Queensland Government's

QFleet ClimateSmart Policy, and selects passenger and light commercial vehicles that meet or exceed the policy's minimum Green Vehicle Guide (GVG) Greenhouse Ratings.

By including greenhouse emissions along with safety and cost effectiveness as criteria in the selection of fit-for-purpose vehicles, Powerlink has reduced its vehicle carbon dioxide equivalent emissions by 17.9 per cent when compared to a baseline taken in June 2007.

We are cognisant that our capital works and maintenance programs dictate the need for heavy duty fit-for-purpose vehicles, which in many instances are only able to meet the minimum mandatory GVG Greenhouse Ratings as set in the ClimateSmart Policy.

Powerlink voluntarily offset 100 per cent of carbon dioxide equivalent emissions from our motor vehicle fleet and employee air travel for 2010/11 through Ecofund.

Recycling activities

Powerlink continued our well-established regime of recycling business-related waste including electronic equipment and larger waste items, particularly scrap metal and transformer oil.

The organisation's support for the recycling of business, construction and maintenance waste was reinforced to our people through an education and information campaign this year. Staff participation in recycling initiatives at our Virginia site is strong and regional office staff also participate extensively where local facilities for recycling exist.

In 2010/11, we reviewed our waste stream data from our Virginia site and implemented initiatives to improve our management of data relating to regulated waste.

Sustainable procurement

Powerlink is an active member of the Sustainable Procurement Energy Committee (SPEC), formed with Queensland energy companies to develop purchasing strategies that take into account the environmental sustainability of products and suppliers, as well as whole-of-life cost, product quality, and financial considerations. Through our involvement with SPEC, Powerlink is evaluating tools to make better informed procurement choices, consistent with the Queensland Government Chief Procurement Office guidelines.

Biosecurity

Under legislation, Powerlink has a duty to effectively manage and prevent the environmental impacts of weeds, pathogens and animal pests. To help ensure we comply with our duty of care our employees are equipped with resources, procedures and provided appropriate training. We also require our contractors to exercise the same duty of care.

During our construction and maintenance activities we are committed to working cooperatively with landowners to implement weed management strategies. Our people use portable information tools and supporting procedures to identify weeds, remove declared weeds, and prevent the spread of weeds through clothing, plant and vehicles.

In 2010/11, we assigned a greater focus on biosecurity when planning field work. By better integrating biosecurity into field based work plans, we reduced the risk of the spread of weeds, pathogens and animal pests and delivered improved environmental outcomes (see case study on page 40).

Wildlife management

From time to time, Powerlink encounters wildlife, primarily nesting birds, on our transmission assets. Wildlife interactions with our transmission assets have the potential to impact the wildlife and the reliability of the transmission network. In consultation with the Department of Environment and Resource Management (DERM) we established a Species Management Program which contains management strategies for the removal of wildlife from our infrastructure and was approved by DERM for a period of three years in 2010.

The program delivers efficiency benefits to Powerlink by enabling our people, in consultation with spotter catchers, to safely remove wildlife nests or eggs from our infrastructure and, where appropriate, place them with an approved wildlife carer. We also provide data on wildlife locations and behaviour to DERM which assists in monitoring wildlife conservation.

Environmental research

Powerlink is committed to the integration of land and environmental management principles and practices throughout our operation. This commitment extends to the funding of research that focuses on practical land and environmental management issues in a way that assists Powerlink to continually improve its performance in these areas.

Wildlife research

At times, wildlife interacts closely with Powerlink's infrastructure, in particular snakes and birds are periodically observed on our assets. Powerlink is currently undertaking a number of wildlife research projects to better understand these interactions and the impacts on the wildlife and the high voltage network.

Bird activity surveys

We have initiated long-term monitoring of bird activity and nesting habits on a number of targeted transmission lines throughout Queensland.

Snake interactions with towers

In 2010/11 we began a research project to investigate how and why snakes climb transmission towers and to develop a concept design of snake anti-climbing and bird anti-nesting devices.

Mahogany glider research

We continue our commitment to a research project investigating the movements of mahogany gliders through the landscape surrounding powerline easements and the gliders' interactions with structures. Following the impacts of Cyclone Yasi, we committed to additional research into the recovery of mahogany gliders in the affected region.

Bulimba Creek Oxbow aquatic research

Powerlink has committed to funding the continuation of a survey of aquatic organisms under way at the Bulimba Creek Oxbow, evaluating the ecological success of the rehabilitation activities in the area.

Erosion and sediment control research

Avoiding soil erosion across diverse environments ensures Powerlink helps to maintain healthy waterways, as well as ensuring our easements and tower sites remain stable and accessible. We are committed to research projects that will assist us to continually improve our methods of managing vegetation, and stabilising and rehabilitating our easements and sites.

Vegetation clearing methods

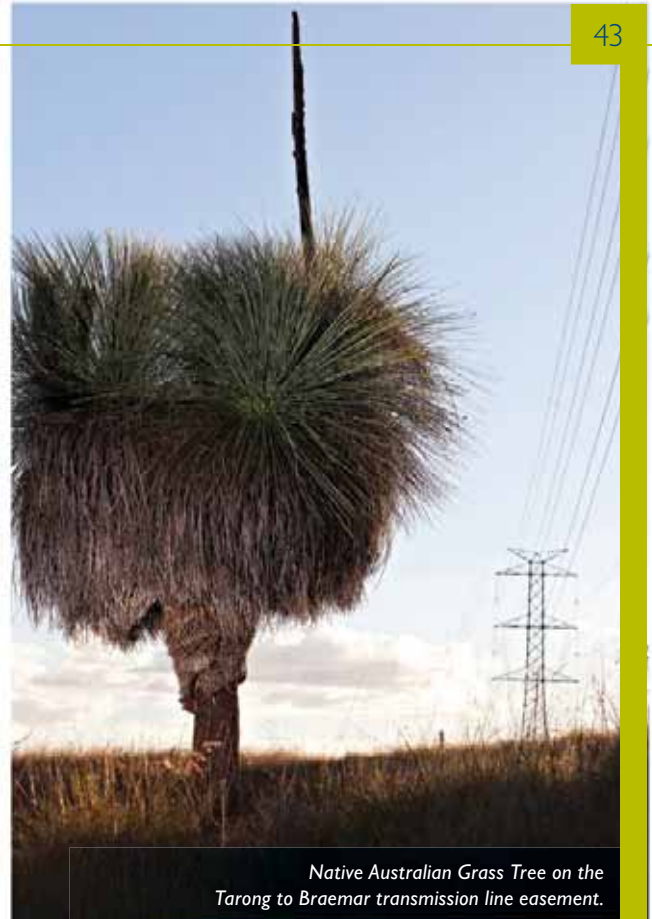
A three-year study assessed and compared the impacts of two vegetation clearing methods, by monitoring erosion and vegetation regeneration on the study easements. The outcome of this research better informs our vegetation management strategies for new transmission line projects.

Rehabilitating sodic soils

Powerlink is undertaking research to identify cost-effective methods of rehabilitating disturbed sodic soils. We will apply the outcomes of this research to planned network augmentations that will interact with sodic soils in the arid and semi-arid areas of Western Queensland.

Batter stabilisation

Powerlink is evaluating the effectiveness of various batter stabilisation methods at a Central Queensland substation site over a 12-month period (a batter is an artificially altered slope of soil created during preparation for Powerlink infrastructure). The results of this research will provide direction for future batter stabilisation actions.



Native Australian Grass Tree on the Tarong to Braemar transmission line easement.

OUR FUTURE

In 2011/12 and beyond, Powerlink will:

- undertake a scheduled review of our EMS to identify opportunities for improvement and ensure it continues to align with our future business activities
- continue to monitor the environmental impacts associated with emergency events which occurred during 2010/11
- apply an asset-based EMP approach to all new infrastructure development projects
- undertake a project to streamline the development of EWPs to deliver environmental and efficiency benefits
- continue to implement improvements to environmental auditing programs
- continue to work with industry partners to finalise and implement an environmental training framework and associated modules and publication of a field guide of environmental management practices
- identify further opportunities to improve our management of data relating to regulated waste from our Virginia site.

Every day we work together with Queenslanders, who live, work and play near our transmission assets.

Engaging with community stakeholders

The investigations and planning involved in developing our network to meet growing electricity demand has given Powerlink a presence in new locations in South West and Central Queensland during 2010/11. Across our statewide operations, we have an ongoing presence in 30 city and regional council areas.

We aim to foster and maintain cooperative, long-term relationships within those communities, with affected landowners, councils, interest groups and residents. Our community strategies are intended to return tangible and lasting benefits to locals, landowners and the environment.

When working with communities, we endeavour to share an understanding about the process and need for new transmission infrastructure. Before we can construct a new transmission line or substation, Powerlink follows a government-approved process under the *Sustainable Planning Act 2009*, which includes an Environmental Impact Assessment (EIA) and related community consultation. When planning new infrastructure, our objective is to meet our legislative and regulatory obligations, while minimising or mitigating environmental and social impacts.

HIGHLIGHTS

- We are building relationships with communities and Traditional Owner groups in South West and Central Queensland areas where we have a new presence.
- The Powerlink GreenWorks program funded three new projects to undertake proactive environmental work and enhance the visual amenity around our easements for future 500 kilovolt transmission lines.
- The Community Environmental Program was extended to provide additional funding for projects in the Western Downs area, including projects that address the impacts of the devastating floods of January 2011.
- We continue to advise landowners and asset operators to ensure their activities near or on our easements meet our requirements and maintain public safety.

*Network Property Project Manager,
Michael Brown undertakes community consultation.*

Building community capacity through Powerlink GreenWorks partnerships

A project supported by Powerlink GreenWorks aimed to restore the environmental and community values of Walter Zimmerman Park at Pine Mountain, but has delivered far more expansive benefits.

Powerlink GreenWorks is an environmental initiative delivered through a partnership between Powerlink, local government and community groups. The program aims to deliver positive, lasting, environmental outcomes and enhance visual amenity for communities near Powerlink's proposed 500 kilovolt transmission lines in Southern Queensland.

Powerlink GreenWorks Program Manager, Bronwyn Ford, said on-site works at Walter Zimmerman Park included preventing gully erosion, revegetating the area, constructing steps, fences and creek crossings, and installing educational interpretive signage.

Bronwyn said seven young people from BoysTown completed the works and undertook horticultural training through a collaboration between Powerlink GreenWorks, BoysTown, Ipswich City Council and the Queensland Green Army program administered by the Department of Employment, Economic Development and Innovation.

"The boys worked with fantastic dedication and spirit over a six-month period," Bronwyn said. "It was particularly challenging when the site was affected by torrential rain and local flooding, but they still delivered the project on time.

"The boys earned the praise of local community leaders, as well as new skills and qualifications.

"They can be very proud of the result of their work, which has greatly enhanced this community green space in a sustainable way. The rejuvenated park will be enjoyed by the community now and in the future."

BoysTown Chief Executive Officer, Tracy Adams, said the project had provided the young people involved with job preparation training, new skills and valuable work experience.

"The project funded in part by Powerlink GreenWorks at Walter Zimmerman Park gave participants valuable work experience and improved the biodiversity of the park and it also empowered them with invaluable life and work skills for the future," Tracy said.

"It is clear that as a result of the skills and experience gained through this project, participants will be better equipped to find continuing employment. In fact a number of them have already entered the workforce as a result."

Cultural Heritage

Powerlink is committed to proactively managing Cultural Heritage throughout the life of our assets. Our Cultural Heritage strategy is to avoid or minimise harm and meet our statutory requirements under the Queensland Government's *Aboriginal Cultural Heritage Act 2003* and *Queensland Heritage Act 1992*. Where Powerlink undertakes any major new transmission line or substation construction project, our usual approach involves the development and implementation of Cultural Heritage Management Plans (CHMP) with the relevant Aboriginal parties.

In developing and implementing CHMPs, we work with Traditional Owners and Cultural Heritage professionals with the aim of building and sustaining positive, long-term working relationships.

The number of easement and site acquisition projects active within Powerlink reached a record number in 2010/11, with planned network extensions in South West and Central Queensland. Our new presence in these areas has given us the opportunity to interact with Traditional Owner groups new to Powerlink, and share information about our organisation, activities and processes. This information sharing will help us work together to develop our relationship for current and future projects.

When building or maintaining our network, our strategy is to ensure we take all reasonable and practicable measures to avoid or minimise harm to all types of Cultural Heritage. CHMPs help us implement this strategy during our on-ground works.



Kieran Churchin and Hayden Caswell are two of the BoysTown participants who have gained valuable work experience through the Powerlink GreenWorks partnership to enhance Walter Zimmerman Park.

In some locations, Powerlink takes the opportunity to protect non-Indigenous Cultural Heritage in partnership with community groups. One example is the restoration of historic coke oven mounds discovered during works at our Abermain Substation. Over a number of years, Powerlink has worked in conjunction with North Ipswich Rotary and the Willis Haenke Foundation to continue to preserve and maintain this historic site.

Integrating communities and infrastructure

Under the *Sustainable Planning Act 2009*, Powerlink is a referral agency for Development Applications adjacent to existing transmission lines and easements. We offer planning advice, assistance and tools to

planning and development professionals, including mapping of transmission easements in local government planning schemes and easement co-use guidelines. We also respond to enquiries from landowners and asset operators with regards to their activities near or on our easements to ensure our requirements are met and to maintain public safety. During 2009/10, we addressed more than 400 applications for development and easement co-use.

Our Property Search Service can advise whether Powerlink has an interest on a nominated property or on an adjacent property, or if Powerlink is investigating a new route which may affect the property. During 2009/10, we responded to more than 8,500 property search enquiries.

Community and environment programs

Working in partnership with communities to deliver positive, long-term local outcomes gives Powerlink the opportunity to develop enduring relationships with community stakeholders.

Our community and environment programs are practical, community-based initiatives implemented in areas traversed by existing or future Powerlink transmission infrastructure. The programs, structured to operate over a number of years, deliver on-ground strategies to reduce the visual impact of new or existing transmission infrastructure, and provide environmental and community outcomes. Through our shared commitment to these programs, we aim to build lasting relationships with local government, communities and other key stakeholders.

Powerlink GreenWorks

As part of our commitment to long-term network planning and stakeholder relationships, we continue to deliver the Powerlink GreenWorks program in partnership with Ipswich City Council and Lockyer Valley, Somerset, Toowoomba and South Burnett Regional Councils. The focus of the five-year, \$1.6 million Powerlink GreenWorks program is to undertake proactive environmental work and enhance the visual amenity for communities in areas around existing easements for the future 500 kilovolt transmission lines in Southern Queensland.

Six high-level environmental projects were selected to receive first-round funding in 2009 and are now completed or under way. A further three projects were approved to receive second-round funding in October 2010. Those projects funded were initiatives to regenerate and enhance Walter Zimmerman Park in Pine Mountain, protect and enhance the condition of riparian zones and ecological communities in the South Burnett, and create a green space for recreational and educational use by the local community at Minden.

During the past year, the region-wide program has started to address some of Australia's largest and most common environmental problems including salinity, the infestation of weeds, and the health of our waterways. The program has engaged stakeholders such as local landowners, Partner Councils and Program Partners, including SEQ Catchments, BoysTown, Greening Australia, Landcare Queensland, and the Department of Environment and Resource Management (DERM).

Community Environmental Program

Now in its third year, the Community Environmental Program has already provided \$200,000 in funding for 15 projects that have delivered significant outcomes within the Western Downs and South Burnett Regional Council areas.

The program, a partnership between Powerlink and the Western Downs Regional Council, was extended in early 2011 to provide an additional \$300,000 funding for community projects that demonstrate real environmental and community benefits and address local matters of importance particularly following the devastating floods of January 2011. The closing date for applications was also extended by three months in an effort to assist with flood relief efforts.

This extension to the program demonstrates Powerlink's long-term commitment to the region and our genuine desire to work closely with and help facilitate positive outcomes for the communities in which we operate.

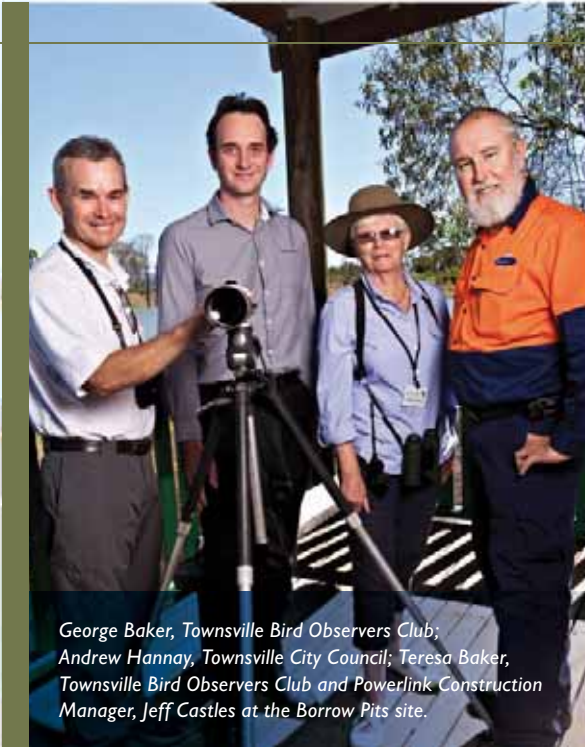
The program has already involved more than 140 volunteers contributing more than 765 volunteer hours and significantly more community involvement is anticipated with the funding of additional projects.

Learnscape Project

The Borrow Pits to Rowes Bay Learnscape Project was successfully finalised in July 2011, having developed and promoted two environmentally significant sites as recreational and learning spaces. The Borrow Pits site is located next to Powerlink's Ross Substation in Townsville.

The project is a Together Townsville partnership between Powerlink and the Townsville City Council which enhances public awareness and understanding of the environmental values of the Borrow Pits and links the sites to other significant sites such as the Rowes Bay Wetlands.

Powerlink has contributed to the construction of community infrastructure such as a walking track, an outdoor classroom, and revegetation of this natural environment and bird habitat. The site is now used for catchment eco tours, school excursions and other community events, and is well supported by bird observers.



George Baker, Townsville Bird Observers Club; Andrew Hannay, Townsville City Council; Teresa Baker, Townsville Bird Observers Club and Powerlink Construction Manager, Jeff Castles at the Borrow Pits site.

Support for community agencies

Powerlink provided financial support for the Salvation Army Christmas Appeal in 2010 to assist families throughout Queensland. Powerlink staff also supported the Christmas Appeal by participating in fundraising activities.

In response to the worst flooding in South East Queensland in decades during early 2011, Powerlink staff coordinated a response to provide material assistance to some of our staff members affected by the floods and raised \$25,000 for the Premier's Flood Appeal, a sum that was matched by Powerlink.

Community and industry sponsorships

Powerlink applies a sponsorship framework that supports the strategic sponsorship of activities in the areas of community, education, environmental and industry activities. It is our aim to support organisations and activities in regional and urban Queensland that align with our projects and our values of good corporate citizenship.

In 2010/11, Powerlink sponsored specific activities undertaken by groups including the Local Government Association of Queensland, Landcare Queensland, Queensland Planning Institute, Engineers Australia, Energy Users Association of Australia, Queensland Education Science and Technology Conference and the Salvation Army.

Electric and Magnetic Fields

Powerlink takes its advice about Electric and Magnetic Fields (EMF) from recognised health authorities in Australia and internationally.

EMFs are present wherever there is electricity, including in the home, office, at work sites, and around transmission lines.

While there is no scientifically proven causal link between EMF and adverse affects on human health, Powerlink follows the Energy Network Association's (ENA) EMF policy, which includes applying a 'prudent avoidance' approach when designing new electricity infrastructure. This involves seeking to locate powerline easements away from houses, schools and other buildings, where it is practical and cost effective to do so.

In 2010/11, Powerlink continued to provide information from recognised public health authorities about EMF to communities in the vicinity of high voltage transmission lines and easements. We also continued our practice of carrying out EMF readings at the request of landowners. EMF readings at the boundary of a typical Powerlink easement are generally similar to those people would come across in their daily activities at home or at work. EMF decreases rapidly with distance from the powerline. EMF is also comprehensively addressed in the Environmental Impact Assessment undertaken for any planned new Powerlink assets.

OUR FUTURE

In 2011/12 and beyond, Powerlink will:

- implement our **Community Benefits Program** in association with new transmission lines under construction including:
 - Yabulu South to Ingham
 - Western Downs to Halys.

Our well-established **Community Benefits Program** provides funding for community projects that support the establishment of facilities and services for communities near our new transmission lines.

- continue to work with our program partners to implement the **Powerlink GreenWorks** program as it enters its fourth year.
- disperse funding for projects in the **Western Downs** area applied for under the **Community Environmental Program**.

Every day we support our people as they undertake their work and provide opportunities for their leadership and skills development.

Our workforce

Powerlink's workforce numbers increased to just above 1,000 people in 2010/11. This slight increase was required to ensure we have the resources and capability to deliver Powerlink's growing capital works program. Our highly skilled people perform a wide spectrum of professional, technical, trade, specialist and administrative roles.

Many of our employees demonstrate a long-term commitment to the organisation, evidenced by our low employee turnover rate of just 6.3 per cent (excluding retirement) for 2010/11.

Many of Powerlink's employees are based at our head office at Virginia in Brisbane, including network field staff who work on our transmission assets throughout South East Queensland. During the year, we operated temporary construction site offices at Bowen, Dalby, Gracemere and Townsville to accommodate staff working on projects in regional Queensland. We also completed a new warehouse facility at Narangba, north of Brisbane, which will operate as a central location for our stores staff.



HIGHLIGHTS

- A consultative process involving our employees identified our workplace values that capture behaviours and attitudes we aim to exhibit while at work.
- Negotiations have commenced on our new Enterprise Agreement which will set the wages and conditions of employees for a period of up to four years.
- A review of our Trainee and Graduate Development Programs commenced and improvements have been identified in program structure, procedures and duration.
- We developed a new personal protective clothing range and successfully rolled out the adoption of this clothing in the workplace.

*Engineering Officer, Wayne Cathcart;
Network Field Services Environmental Consultant, Belinda Curtain;
Trade Technician, Ben McKay; Engineering Officer, Kerri Harvey
and Lines Inspector, Gary Stumer.*

Clothing update keeps staff cool and safe

By listening to the needs of our staff, an update of our personal protective clothing (PPC) has made Powerlink field workers safer, cooler and more comfortable, while preserving our unique Powerlink identity.

Safety and Health Advisor, Sue Sarlanis said Powerlink embarked on an initiative to update the PPC range as one component of the continuous improvement initiatives in safety.

“Powerlink policy requires our people to use a certain standard of PPC and equipment as part of the overall hazard management strategy, so we want their PPC to be cool and comfortable, highly visible, practically designed, and compliant with electricity industry standards,” Sue said.

“We wanted to ask the workforce what they liked and didn’t like, so that the clothing would meet their needs. Staff received lots of information throughout the year-long process, but the best way to get their input was for them to road-test the garments.”

Clothing packs from two suppliers were provided to 35 Powerlink field workers throughout Queensland. They wore the PPC at work for several weeks before providing detailed feedback.

Based on that feedback, the clothing designs were modified to make them more suited to Powerlink’s staff needs. Among the extensive feedback, many staff were keen to preserve the iconic Powerlink blue chambray work shirt, which has since been updated and re-released.

“Once we had identified a final range of clothing we went on the road to show our people throughout the State, giving them a chance to ask questions and try on the garments,” Sue said. “The PPC range has been really well received and so far about 300 staff have ordered the new gear.”

Live Substation Technician, Tony van Melis participated in the PPC trial and said the process was very useful for him and his colleagues.

“We had a chance to try the clothing in our unique work environment and our feedback was listened to,” Tony said.

“As an example, one of the shirts had great venting on the back but we found this got caught on equipment in the substation, so it was redesigned to ensure it was safer, but still had the cooling function.

“When you work in the sun, sometimes the extreme heat can really wear you down. So clothing that keeps you cooler can make life much easier and let us focus on the job at hand. Even the details like well-thought-out pockets and practical loops make a big difference.”

Organisational culture

To maintain the high employee retention rate, and ensure we continue to attract high-calibre people to join our workforce, Powerlink actively seeks opportunities to enhance our organisational culture. Our successful and progressive culture underpins our business performance.

During 2010/11 we progressed action plans to address opportunities for improvement identified through an organisation-wide culture survey undertaken in the previous year.

One of the key outcomes of these activities was the development of workplace values that are the behaviours and attitudes that employees aim to exhibit while at work. These internally focused values complement, but are distinct from, Powerlink’s externally focused corporate values.

A consultative process across the workforce distilled five Powerlink workplace values:

- safe
- cooperative
- respectful
- ethical
- proactive.

The process to embed and foster recognition of the workplace values is under way and includes referring to the workplace values in all employee performance agreements and inclusion in our 360 degree feedback process.



Safety and Health Advisor, Sue Sarlanis discusses the new protective clothing range with Construction Manager, Paul Henning and Oil Laboratory Supervisor, Cherie Gilbert.

Enterprise Agreement

Negotiations are under way on our new Enterprise Agreement (EA), which seeks to achieve the best outcomes for our business, our people, our customers, and the community. The new EA will set the wages and conditions of employees for a period of up to four years. The process for negotiating the EA is consistent with the *GOC Wages Policy 2010* and the requirements under the *Fair Work Act 2009*.

The current *Working at Powerlink 2008 Union Collective Agreement* covers almost 1,000 Powerlink employees and is due to expire on 20 November 2011. The current agreement will remain in place until a new EA covering employment conditions, entitlements and corporate productivity initiatives is reached.

Health and safety continuous improvement initiatives

Safety is a Powerlink workplace value, a core life value, and is integral to Powerlink's business. We are committed to a culture where employees consider safety as their first priority. The continuous improvement of our safety culture involves the integration of safety into all aspects of work.

Our comprehensive policies and procedures monitor and report on health and safety.

The Safety Steering Committee reports regularly to the Board's Audit and Compliance Committee and endorses programs to improve safety awareness and safe practices.

In anticipation of the introduction of the *National Work Health and Safety Act 2011*, based on the national model *Work Health and Safety Act* in January 2012, Powerlink is implementing a plan to ensure that our systems, policies and procedures will meet the requirements of the legislation, ensuring that we are compliant across our business activities.

Health and safety performance

Powerlink's Lost Time Injury Frequency Rate for 2010/11 was 2.06, which is below the electricity transmission average as reported in the Energy Networks Association report *Occupational Health and Safety Performance 2009/10* (October 2010).

Powerlink's Electrical Safety Management System is certified annually by an approved auditor, as required by the *Electrical Safety Act 2002*. This audit was completed in September 2010 and verified that our Electrical Safety Management System is effective and robust, and complies with the legislation.

The audit identified opportunities for improvement in relation to substation access and as a result we have instigated a review of the processes and equipment for entry to substations, to ensure the safety of our people and contractors.

Safety training

Our ongoing training program plays an important role in establishing and maintaining a culture of safety. Powerlink's safety training aligns with, and where possible exceeds, the National Competency Standards.

We continue to work with electricity supply industry partners to establish transferable, recognised competencies for workers throughout Australia.

Developing leaders and managers

As part of Powerlink's ongoing commitment to building the capability of our managers, we offer a management and leadership pathway which includes three levels of training: Managing Self and Teams for Performance; Management to Leadership; and the Senior Leadership Development Program.

During 2010/11 the Management to Leadership Program was revised and modelled on the successful Senior Leadership Development Program. It now provides participants with a tailored development plan over an extended period of time.

The Foundations of Management Series aims to provide all managers at Powerlink with confidence and capability to understand and apply Powerlink policies and procedures related to managing and developing employees. The program was introduced in early 2010 and four mandatory training modules were delivered in 2010/11.

Staff training and development programs

About 10 per cent of Powerlink's workforce participate in our Trainee and Graduate Development Programs which form an integral part of the strategy to ensure that we attract, develop and retain the knowledge, skills and abilities required into the future. We offer programs for Graduate Development Engineers, Development Engineering Officers, Administration Trainees, Apprentices and IT Graduates.

A review of each program was undertaken in 2010 to ensure the programs were achieving the best possible outcomes for Powerlink and the participants. The review provided a better understanding of the longer-term business needs for the programs and identified a range of process improvements in relation to the structure, procedures and duration of the programs.

We began implementing these process improvements during this year, in particular to the governance structures of the Apprentice, Graduate Development Engineers and Development Engineering Officer programs. The remaining improvement opportunities will be progressively implemented during next year.

Historically, all Powerlink apprentices were employed through group training schemes. The governance of our Apprentice Program was altered in July 2010 so that Powerlink employs all apprentices directly, which allows a more consistent approach to managing employees across our various development programs. Powerlink employs 32 Electrical Fitter Mechanic Apprentices, Communications and Control Apprentices and Lines Apprentices.

We encourage all our employees to develop their potential and prepare for roles in Powerlink's future business activities. All employees can access in-house professional and personal development workshops, and can apply for financial assistance for relevant tertiary courses.

Workforce management

New automated workflow processes have delivered efficiency gains and improved contact with employees. An automated employee census was undertaken in early 2011, providing Powerlink with more accurate and current employee data including personal and professional details. We are progressively implementing other automated processes, with a new starter workflow and automated leave approval processes introduced in 2010/11. Streamlining our human resource processes will provide continued support for Powerlink's current and future business activities.

Recruitment services

Powerlink's recruitment services ensure our workforce comprises the most skilled and suitable personnel to meet our future business needs. We apply a range of recruitment strategies to attract and employ high-calibre candidates.

A new panel of preferred suppliers for the sourcing of contingent and permanent staff has delivered improved levels of service and assisted in making our sourcing of resources more financially competitive.

Powerlink Excellence Awards

Powerlink's annual Excellence Awards are an opportunity to applaud those individuals and teams who have implemented innovative work practices or initiatives in the workplace. The event is also a celebration of the valued contribution of all our staff.

Awards are presented across distinct categories: Technical, Business, Safety, and Environment and Community. The 2010 Excellence Awards included a new category, Excellence in Leadership.

The 2010 Awards were well supported by our people and showcased a range of high-quality innovations. Nine silver and 13 highly commended awards were presented. A prestigious gold award was presented to a joint team from Powerlink and ENERGEX for an innovative project to streamline the systems and processes for exchanging information for network planning activities, resulting in better joint planning outcomes.

Health and wellbeing

Powerlink is committed to the health and wellbeing of our people, both while they are at work and away from work. We encourage our employees to participate in initiatives that promote good health and provide an on-site gymnasium at our Brisbane office.

In 2010/11, more than 40 per cent of employees voluntarily responded to our annual Flu Busters campaign, which offers free influenza immunisation to employees. Our annual Sun Safe campaign provides education on sun safe practices and offers voluntary skin screening to employees. More than 20 per cent of employees chose to access skin screening during the period.



Powerlink's Virginia office.

OUR FUTURE

In 2011/12 and beyond, Powerlink will:

- continue negotiations to reach a new Enterprise Agreement for Powerlink employees
- further embed our workplace values within our every day work practices and performance management processes
- automate additional people management processes to improve workflow and meet future business needs
- implement further process improvements across our range of Trainee and Graduate Development Programs to enhance the outcomes for employees and the organisation
- focus on leadership development including continuing to roll out the modules of our Foundations of Management Program for all Powerlink managers.

Every day corporate governance in Powerlink is managed through the policies and practices adopted by the Board of Directors.

Corporate Governance in Powerlink

Powerlink Queensland is a corporation established under the *Government Owned Corporation Act 1993 (GOC Act)* and is a registered public company under the *Corporations Act 2001*. The Board of Directors has the overall responsibility for corporate governance of the corporation.

Directors are appointed by the Government and report to the nominated shareholding Ministers of the Queensland Government. Powerlink's two shareholding Ministers are:

- Minister for Energy and Water Utilities
- Minister for Finance, Natural Resources and The Arts

The Queensland Government published its *Corporate Governance Guidelines for Government Owned Corporations (GOC)* in February 2009, which includes a *Code of Conduct and Conflicts of Interest Best Practice Guide for Government Owned Corporations (Guidelines)*.

The Guidelines outline the expectations of shareholding Ministers and describe a set of comprehensive high-quality corporate governance principles, and proper disclosure and reporting arrangements for all stakeholders, which are appropriate to Government Owned Corporations (GOCs). No revisions were made to the Guidelines that required changes to Powerlink's governance arrangements for 2010/11.





The Guidelines have been prepared with regard to the:

- Australian Stock Exchange (ASX) Corporate Governance Council's Corporate Governance Principles and Recommendations 2nd Edition (ASX Principles)
- Auditor-General's Report No. 2 2002/2003 – Review of Corporate Governance and Risk Management at Government Owned Corporations
- Auditor-General's Report No. 10 2002/2003 – Review of Management's Assessment of Fraud Control Risks and Associated Plans and Procedures
- Organisation for Economic Cooperation and Development (OECD) Principles of Corporate Governance
- Crime and Misconduct Commission (Queensland) and Independent Commission Against Corruption (New South Wales) – Managing Conflicts of Interest in the Public Sector – Guidelines and Toolkit.

Corporate governance in Powerlink is managed through the policies and practices adopted by the Board. The corporation commits to those governance policies and practices to ensure appropriate accountability and control systems are in place to achieve the business outcomes of the corporation and to encourage and enhance sustainable business performance. This section of the Annual Report outlines Powerlink's corporate governance arrangements and describes its reporting and disclosure practices.

The Board

The Powerlink Board is responsible for the overall corporate governance of the corporation and its subsidiary companies, setting the organisation's strategic direction articulated in Powerlink's Statement of Corporate Intent and Corporate Plan.

The Board has regard to the Guidelines in the overall scope and application of corporate governance within Powerlink. The Board sets goals for management and establishes the policies and operational framework for the corporation. It monitors performance of the corporation, its Chief Executive, senior management and staff through regular direct reporting and via established committees.

Details relating to Powerlink Directors, Board Committee composition, and meetings in 2010/11 are set out in the Directors' Report.

Corporate Governance Guidelines for GOCs – Queensland Government

Powerlink's corporate governance processes are consistent with *Corporate Governance Guidelines for Government Owned Corporations* issued by the Queensland Government. Powerlink's Corporate Governance arrangements in reference to the Guidelines are:

Principle 1: Foundations of management and oversight

The Board Charter is publicly available on Powerlink's website. The Charter, established by the Board, describes the Board's functions and responsibilities, which are to:

- set the corporation's values and standards of conduct
- provide leadership of the corporation within a framework of prudent and effective controls
- provide guidance and set the corporation's direction, and development of strategies and objectives
- set financial objectives and ensure that all necessary resources are available for the business to meet its objectives
- monitor implementation of strategies and performance
- inform shareholders of key issues, major developments and performance
- ensure an effective system for compliance and risk management is in place.

The Board and management work together to establish and maintain a legal and ethical environment and framework that ensures accountability.

The Powerlink Board undertook its annual evaluation of the performance of the Chief Executive against pre-agreed business and individual targets. The Chief Executive evaluated the performance of each senior executive against pre-agreed business and individual targets and submitted the outcomes of the evaluation to the Board for its consideration and approval.

The Board *Handbook* is a key resource identifying the major reference documents that are relevant and will assist the Powerlink Directors in undertaking their roles and responsibilities. The *Handbook* serves as both an induction and an ongoing reference guide for Directors, and is updated annually by the Company Secretary.

New Directors attend induction sessions which provide an overview of Powerlink's operations and policies, and information on the Board and Committee functions. The induction process assists the Directors to understand their roles and responsibilities.

Powerlink Corporate Governance Framework

Shareholding Ministers

Our Shareholders

Powerlink has two shareholders who hold the shares on behalf of the State of Queensland.

Our shareholding Ministers, as at 30 June 2011, were:

- The Honourable Rachel Nolan MP, Minister for Finance, Natural Resources and The Arts, holding 50 per cent of the A class voting shares and 100 per cent of the B class non-voting shares
- The Honourable Stephen Robertson MP, Minister for Energy and Water Utilities, holding 50 per cent of the A class voting shares

Powerlink Queensland Board

Key accountabilities of the Board

The Powerlink Board establishes the overall corporate governance of the corporation and its subsidiary companies, and is responsible for:

- setting the corporation's values and standards of conduct, and ensuring that these are observed
- providing leadership of the corporation within a framework of prudent and effective controls
- setting the corporation's direction, strategies and financial objectives and ensuring that all necessary resources are available for the business to meet its objectives
- approving the Statement of Corporate Intent
- monitoring financial outcomes and the integrity of reporting; in particular, approving annual budgets and longer-term strategic and business plans
- monitoring management's performance and implementation of strategy, and ensuring appropriate processes for risk assessment, management and internal controls are in place
- ensuring an effective system of corporate governance exists
- disclosing to shareholding Ministers relevant information on the operations, financial performance and financial position of the corporation and its subsidiaries
- providing of formal delegations of authority to the Chief Executive, management and other specified officers.

Membership and meetings

- All Directors, including the Chairman, are independent, non-executive Directors appointed by the Governor in Council in accordance with the GOC Act
- In 2010/11, Powerlink held 11 meetings of Directors. The attendance record of the Directors at meetings of the Board is presented in the Directors' Report section in the Annual Report.

Board Committees

Audit and Compliance

Key accountabilities

The Audit and Compliance Committee assists the Board in fulfilling its responsibilities in relation to:

- financial integrity
- laws, regulations and codes of conduct
- business risk management
- audit effectiveness.

Remuneration Committee

Key accountabilities

The Remuneration Committee assists the Board in fulfilling its employer responsibilities by recommending employee remuneration policies that will attract and retain a skilled and motivated workforce.

Chief Executive

Management Committees

Principle 2: Structure the Board to add value

At 30 June 2011, the Board comprised six independent non-executive Directors. All Directors are appointed by the Governor in Council in accordance with the GOC Act. One of Powerlink's Directors (Mr Stuart Copeland) resigned from the Board from 1 July 2011. Details of the skills and experience of each current Director are presented separately in the Corporate Governance section of this Annual Report. The Directors' Report includes a listing of the terms of office and appointment date for each Director.

In the event of Directors requiring independent professional advice, it is provided at the expense of Powerlink. All Directors, including the Chairman, continue to exercise independent judgement in the conduct of their responsibilities.

The Board continually assesses the ongoing independence of the Directors. All Directors are required to disclose any potential conflicts of interest at the commencement of each Board meeting. Any such conflicts are recorded in the minutes of the meeting.

All Directors, the names of whom are presented in the Directors' Report, are considered to be independent. No Directors are considered to have material supplier or customer relationships with the corporation. A predetermined specific materiality threshold has not been established by the Board. The Board's assessment of materiality is undertaken on a case-by-case basis taking into consideration the relevant facts and circumstances that may impact Director independence.

The Board annually reviews the individual and collective performance of the Directors and the Board, as a self-assessment by the Directors, to assure itself that it operates in accordance with the Board Charter and the discharge of its responsibilities. A key element in this evaluation is the consideration of the continuing education and professional development of Directors.

The Board also formally considers its information requirements on an annual basis to ensure it is receiving appropriate information to enable it to effectively carry out its responsibilities.

The Board undertook its annual review for 2010/11 and concluded that it is fulfilling its role with no obvious gaps in its performance, and that there was good interaction and relations with both shareholding Ministers and the Powerlink management.

A structured internal process has also been established to review and evaluate the performance of Board Committees. Each Board Committee submits an Annual Report of its activities to the Board.

Principle 3: Promote ethical and responsible decision-making

The Board has a Code of Conduct that guides Directors in carrying out their duties and responsibilities, sets out expected standards of behaviour, and includes policies relating to conflict of interest issues. A summary of this document is available on the Powerlink website.

The Board has developed a Share Trading Policy which is available on the Powerlink website. The primary purpose of this policy is to mitigate the risk of inappropriate trading of shares by Powerlink employees, managers and Directors.

Each Director has a responsibility to declare any related interests, which are appropriately recorded and assessed for materiality on a case-by-case basis. Where appropriate, the Director does not participate in the Board's consideration of the interests disclosed.

All Powerlink Directors and management are expected to act with integrity and strive at all times to enhance the reputation and performance of the corporation.

Principle 4: Safeguard integrity in financial reporting

The Board has established two Board Committees to assist in fulfilling its corporate governance responsibilities – the Powerlink Audit and Compliance Committee and the Powerlink Remuneration Committee.

These committees have documented mandates that are reviewed on a regular basis. The membership of both committees consists of non-executive Directors. Details of committee members in 2010/11, number of meetings during the year and attendance are presented in the Directors' Report.

Audit and Compliance Committee

Chairman Ken Howard

Members Christina Sutherland and Stuart Copeland¹

¹ Stuart Copeland resigned as a Powerlink Director at 30 June 2011.

The Powerlink Audit and Compliance Committee endorses the corporation's internal audit program and risk management profile, and provides a link between the corporation's auditors (internal and external) and the Board.

The Committee is responsible for considering the annual statutory financial statements for subsequent approval by the Board. The Chief Executive and Chief Financial Officer are required to provide an annual declaration that the financial statements represent a true and fair view, and are in accordance with accounting standards.

The Committee also assesses and reports on issues relating to financial integrity, corporate processes for compliance with laws and regulations, codes of conduct, business risk management and audit effectiveness.

Remuneration Committee

Chairman Walter Threlfall

Members Julie Beeby and Else Shepherd

The Remuneration Committee reviews and reports to the Board on remuneration policy and its application in relation to employee remuneration, recognition and reward, in order to attract and retain a skilled and motivated workforce.

Principle 5: Make timely and balanced disclosures

Powerlink has established processes to ensure it meets its disclosure and reporting obligations, including those to shareholding Ministers. Powerlink's reporting arrangements include the Powerlink Annual and (half yearly) Interim Reports, Forecast Report, regulatory reports, Powerlink website and other public disclosures.

Principle 6: Respect the rights of shareholders

The Powerlink Board has a communication strategy to promote effective communication with shareholding Ministers. The Board aims to ensure that shareholding Ministers are informed of all major developments affecting the corporation's state of affairs. This includes regular meetings with shareholding Ministers' representatives and departments, and information communicated formally through quarterly progress reports and the Annual Report.

Each year Powerlink prepares a Statement of Corporate Intent (SCI) and a five-year Corporate Plan, reflecting the outcomes of a comprehensive strategic and business planning process involving the Board and the Executive Leadership Team. Both documents are presented to shareholding Ministers.

Quarterly progress reports on the performance against the SCI are prepared by the Board for shareholding Ministers.

Principle 7: Recognise and manage risk

Risk assessment processes are inherent within Powerlink's business. Powerlink has an approved Risk Management Charter that provides an overall framework and structure for the management of risk within Powerlink. Management regularly reports to the Board on key business risks.

A Management Committee structure also operates in parallel with the Board Committees to address issues of workplace health and safety, environmental management, security, and corporate emergency response. Each of these committees submits reports to the Audit and Compliance Committee through the Chief Executive.

The Safety Steering Committee develops and directs Powerlink's workplace health and safety management practices, and also ensures that Powerlink complies with relevant workplace health and safety legislation.

The Environmental Steering Committee develops appropriate strategic responses to environmental issues, as well as ensuring compliance with Powerlink policies and relevant environmental legislation.

The Security Steering Committee provides guidance in the development and approval of the Powerlink Security Plan. The Committee reviews security incidents and considers necessary amendments to the plan in response to these events.

The Corporate Emergency Response Committee develops appropriate strategic responses to corporate emergencies and is responsible for maintaining corporate emergency management documentation.

The corporation's internal control framework is designed to provide reasonable assurance regarding the achievement of the corporation's objectives. Implicit within this framework is the prevention of fraud (including corruption). Powerlink has a range of strategies and approaches that provides an effective fraud control framework that is closely integrated with the corporation's enterprise information management systems.

Powerlink's Employee Code of Conduct aims to ensure that Powerlink employees perform their work cost effectively, efficiently, cooperatively, honestly, ethically and with respect and consideration for others.

Principle 8: Remunerate fairly and responsibly

Powerlink seeks to develop individuals to attain the skills and motivation necessary to excel in an environment of high achievement. High priority is given to selecting the best person for the job at all levels in the corporation and investing in that person's potential through further training and development.

The Powerlink Board has established a Remuneration Committee whose membership and responsibilities are presented above.

Powerlink's Remuneration Policy is designed to:

- attract and retain talented people with the skills to plan, develop, operate and maintain a large world-class electricity transmission network
- reward and provide incentives for exceeding the key business performance targets.

The Remuneration Policy provides for performance-based payments for all permanent employees, with the payments directly linked to the performance of the individual or small teams against pre-agreed performance targets and to the performance of the business.

The *Working at Powerlink 2008 Union Collective Agreement (EBA)* is due to expire in November 2011. The Agreement will continue in force after its nominal expiry date until such time as it is replaced or terminated by law.

The current EBA provides a mechanism for Powerlink and its employees to respond to changes in an environment of targets set by our owners and regulator. It has a focus to continue to develop Powerlink into a competitive and satisfying place to work. It recognises that the economic health of the company and the wellbeing of all employees depend upon the success of a shared commitment by all parties to this Agreement.

On the approval of its bargaining framework by the Government's Cabinet Budget Review Committee, Powerlink commenced negotiations on a new Enterprise Agreement (EA). Powerlink's negotiating framework is required to be consistent with the State Government's GOC Wages Policy. The new agreement is being negotiated under the *Fair Work Act 2009*. The Act provides an entitlement for each employee to nominate a bargaining representative to negotiate with their employer. An employee can nominate themselves to be their own bargaining representative.

Award employees may be eligible for performance-based payments that are delivered as gainsharing and performance pay. Gainsharing is a payment subject to Board approval. The gainsharing payment is made subject to the corporation's profitability target being exceeded and key organisation performance measures being achieved.

Performance pay is based on individual or small team performance targets, which are reviewed half yearly, and rated at the end of the annual performance cycle. The individual performance targets are aligned with the overall business targets of the corporation.

Managers and senior staff are employed on management contracts. Powerlink's remuneration policy for contract employees uses the concept of Total Fixed Remuneration (TFR), which includes employer superannuation contributions. In order to promote management focus, the policy provides for performance-based payments dependent on the performance against pre-agreed business and individual targets. The TFR level is reviewed annually based on consideration of economic and individual capability factors.

Following an extensive external exercise, the Powerlink Board recently concluded the recruitment of a new Chief Executive following the announcement of the retirement of the incumbent Chief Executive, Mr Gordon Jardine. Ms Merryn York commenced in the position of Chief Executive from 23 July 2011.

Shareholding Minister directions

There were no shareholding Minister directions in 2010/11.

Amendments to Statement of Corporate Intent

There were no amendments to the Powerlink 2010/11 Statement of Corporate Intent.

Corporate entertainment and hospitality

The *GOC Corporate Entertainment and Hospitality Guidelines* establishes reporting requirements for GOCs. Powerlink's corporate entertainment and hospitality expenditure for 2010/11 totalled \$115,304. The table below presents individual events above \$5,000.

Event	Date	Cost
Staff Recognition – Quarter Century Club	October 2010	\$11,506
Staff Recognition – Network Field Services	November 2010	\$12,900
Staff Recognition – Engineering and Projects	December 2010	\$15,537
Staff Recognition – Operations	December 2010	\$10,704

Board of Directors



BE (Hons Elec), FTSE, Hon FIEAust, CPEng, FAICD, Grad Dip Mus (QCM), A Mus A

Chairman of the Board *(Appointed 1994)*

Else Shepherd is one of only a handful of women to chair a large Australian corporation, the result of a successful engineering career in the sugar, telecommunications and electricity industries.

For her contribution to engineering, education and the electricity generating industry, Else was awarded a Member of the Order of Australia (AM) in 2003. She also received a Centenary Medal in 2003 for services to Australian society in the field of information technology.

She is a Fellow of the Australian Academy of Technological Sciences and Engineering and is an Honorary Fellow of Engineers Australia.

Else is currently the President of the National Council of the International Electrotechnical Commission and Member of the Brisbane City Works and Brisbane City Design Advisory Boards.

Else is a member of the Powerlink Board's Remuneration Committee.

BSc (Hons I), PhD (Physical Chemistry), MBA, GAICD

Board Member *(Appointed 2008)*

Julie has worked in the minerals and petroleum industries in Australia for 23 years and her career has included work for several major Australian and US resources companies. In 2010, she was appointed to the role of Chief Executive Officer of WestSide Corporation, an ASX-listed, Queensland-based coal seam gas company.

Julie commenced her career in mineral processing research and went on to develop her project and business skills through a succession of successful senior management positions in chemical plant, coal seam gas, explosives and mining areas.

Julie is currently the Chair of Zerogen Pty Ltd, a Queensland Resource Industry Ambassador and a member of the Queensland Exploration Council.

Julie is a member of the Powerlink Board's Remuneration Committee.

GAICD

Board Member

(Appointed 2009; Resigned June 2011)

Stuart is currently the Principal Manager, Government and Community, Office of External Relations, University of Southern Queensland.

Stuart served in the Queensland Parliament as Member for Cunningham from 2001 until 2009. During that time, he was Shadow Minister for a wide range of portfolios including Families and Disability Services, Education, Training, and the Arts, Health, Justice, and Attorney General. He also served as the Leader of Opposition Business.

He had extensive experience working in the Parliamentary Committee system as a member of various Budget Estimates Committees, the Parliamentary Criminal Justice Committee, the Parliamentary Crime and Misconduct Committee, and the Parliamentary Public Works Committee.

Prior to his election to Parliament, Stuart was Chief Executive Officer of the Royal Agricultural Society of Queensland. Stuart also spent a significant period working in the downstream petroleum industry, in areas as diverse as retail and commercial marketing, transport and logistics, production, and bulk shipping.



KEN HOWARD

CHRISTINA SUTHERLAND

WALTER THRELFALL

CFA, LLB, BEcon, JP, MSAA, GAICD

Board Member

(Appointed 2007)

Ken holds the senior positions of Responsible Executive (ASX) and Responsible Manager (Australian Financial Services Licence) for the Brisbane Dealing Room of RBS Morgans, Australia's largest retail stockbroking firm with its head office in Brisbane. Ken advises private clients on the full range of financial planning and investment matters with a particular focus on shares traded on the Australian Stock Exchange.

Prior to joining the Powerlink Board of Directors, Ken was a Director of ENERGEX Retail Pty Ltd.

Ken is a member of the Chartered Financial Analyst (CFA) Institute, the Australian Shareholders Association, the Stockbrokers Association of Australia and the Australian Institute of Company Directors. From 1991 to 1998 Ken was an Infantry Officer in the Australian Army Reserve.

Ken is the current Chairman of the Powerlink Board's Audit and Compliance Committee.

BLaw, MAIC

Board Member

(Appointed 2001)

Christina Sutherland is a solicitor of the Supreme Court of Queensland and the High Court of Australia. Admitted as a solicitor in 1989 after serving two years of articles, Christina has over 20 years' experience in providing legal advice/ services to many clients.

Christina has represented insurers, commercial clients and has acted for clients in employment and industrial matters. She has a strong interest in occupational health and safety matters.

Christina is currently a Director of Surf Life Saving Queensland and Legal Practitioner and Director of ICON Law.

Christina is a member of the Powerlink Board's Audit and Compliance Committee.

Board Member

(Appointed 1994)

Walter Threlfall has been an official of the Electrical Trades Union (ETU) of Australia – Queensland Branch since 1977. In 1983, he was elected Assistant State Secretary of the Electrical Trades Union (ETU) of Australia – Queensland Branch until his retirement in 2006. In these roles, Walter represented the interests of ETU members in Northern and Western Queensland.

Early in his career, Walter worked as an electrical fitter and mechanic in the steel manufacturing, electrical contracting and mining industries.

Walter is Chairman of the Townsville Regional Group Apprenticeship Scheme (TORGAS Inc.) and a Director of Energy Super which is a result of the merger of the Electricity Supply Industry Superannuation Scheme (ESI Super) and the Superannuation Plan for Electrical Contractors (SPEC Super).

He was the past Chairman of the Townsville TAFE Education Training Advisory Group and a member of the Barrier Reef Institute of TAFE Council. Walter was also a Director and Secretary of the Sugar Manufacturers of Australia Retirement Trust (SMART).

Walter is the current Chairman of the Powerlink Board's Remuneration Committee.

Executive Leadership Team



BE(Hons), BCom, MSc (Environmental), FAICD, FAIM, FATSE

Chief Executive

Since 1995, Gordon has held the position of Chief Executive of Powerlink Queensland. He is also the Chairman of Grid Australia, which represents Australia's electricity transmission network owners.

Gordon was awarded a Centenary Medal in 2003 for his contribution to the electricity industry.

Before joining Powerlink, Gordon held senior management positions at one of Australia's largest computer software companies, Mincom. During his 14 years with the company, he spent three years in the United States as President of its North American subsidiary, before being appointed Deputy Managing Director of Mincom in 1990.

Gordon is also the Chairman of ElectraNet SA, the South Australian electricity transmission utility of which Powerlink is a 41 per cent owner, and Deputy Chairman of the SEQ Water Grid Manager.

BE (Hons), BSc, FIE Aust, FAICD, FTSE CPEng, RPEQ

Chief Operating Officer

In his role as Chief Operating Officer, Simon is responsible for managing all aspects of Powerlink's transmission network to ensure that our transmission services meet Queensland's rapidly growing electricity needs reliably and cost effectively. This includes managing the network in a way that satisfies the expectations of our customers, the community, National Electricity Market participants, shareholding Ministers and regulatory bodies.

Simon is also Chairman of the Australian Power Institute, a Director of ElectraNet SA and CIGRE Australia (International Council on Large Electric Systems) and a member of Australian Energy Market Commission's Reliability Panel. He was presented with the National Professional Engineer of the Year award by Engineers Australia in 2009.

Simon has more than 38 years' experience in electricity generation and transmission, including roles in Australia and overseas in planning, design, operations and strategic asset management.

BEng, PhD, MBA, CEng, MIET

Manager Revenue Reset

Stewart is leading the project to develop Powerlink's revenue proposal for the period 2013 to 2017. The revenue reset process is a once-in-five-year exercise which sets over 90 per cent of Powerlink's revenue. The Australian Energy Regulator will publish Powerlink's regulatory determination on 30 April 2012.

Stewart has more than 15 years' experience in the electricity industry including management roles in operations, design, project delivery, and procurement.

Stewart is on a secondment from his Manager Procurement role.



MAURIE BRENNAN

CHRIS HAZZARD

RAY DI MARCO

BBus, MBA, CPA, FAICD

Chief Financial Officer

Maurie has provided strategic financial and commercial advice to public sector organisations in Queensland's electricity industry since 1979.

At Powerlink, Maurie manages all finance, tax, treasury, business planning and investment analysis, corporate services, internal audit, insurance, legal and risk services, and reporting to shareholding Ministers. In addition, Maurie is Powerlink's Company Secretary.

Maurie is a Director of ElectraNet SA, Chairman of the ElectraNet SA Audit and Compliance Committee, and a member of the ElectraNet SA Treasury Committee.

BE, Grad Bus Mgt, CEng, FIEAust, FAICD, RPEQ

Manager Procurement

As Manager Procurement, Chris has responsibility for setting contractual terms and conditions, sourcing suppliers, determining market strategies, and managing the supply chain and the commercial administration of supply arrangements for Powerlink's capital projects and operations.

Chris has more than 30 years' experience in the electricity industry, including management roles in asset management, operations, design, and project delivery.

BE(Hons), MBA

Manager Operations

In his role as Manager Operations, Ray leads Powerlink's Operations Business Unit, which delivers a range of specialist services including power system operations, asset monitoring, information technology, telecommunications, oil testing, and research and development to Powerlink and other Australian and international clients.

Prior to joining Powerlink, Ray held Chief Technology Officer and Executive Management roles in the utilities, gambling and markets sectors.

Executive Leadership Team



B App Sc, BBus, GCCM, GAICD

Manager Human Resources and Development

Julia has responsibility for the development and implementation of Powerlink's effective workplace and industrial relations, occupational health and safety, electrical safety, employee development, equal employment opportunity, technical and training coordination, organisational development, and employment systems and services.

Julia manages Powerlink's continuous improvement initiatives that ensure we have a workplace culture that is right for our people and for our business. She is also coordinating initiatives to ensure Powerlink has the right people and capabilities necessary to deliver our current and future business targets.

Prior to joining Powerlink in 2011, Julia held senior human resource management roles in fast moving consumer goods, financial services and infrastructure sectors.

BE, RPEQ

Manager Network Development

As Manager Network Development, Terry is responsible for planning Powerlink's future network investments and timely acquisition of transmission easements to meet future development needs.

Planning for future investments entails forecasting future network demand, analysing network capabilities into the future and recommending augmentation investment options to ensure continued reliable network performance.

Acquisition of easements and substation sites requires detailed assessment of route options, environmental, social, and cost impacts which in turn necessitate extensive consultation with property owners and other stakeholders.

With more than 35 years' experience in the Queensland electricity industry, Terry's career has included experience in strategic business development, asset management, network planning, regulatory affairs, customer management, substation design, and distribution network design.

BE

Manager Network Field Services

Garry manages Network Field Services work for Powerlink's transmission network in Southern Queensland, with the objectives of maximising system reliability and minimising outage restoration times at optimal cost.

Within the electricity transmission field, Garry has specialised in transmission and sub-transmission line design, and construction and project management. He has also led quality improvement projects in environmental processes, engineering design, project management and overall cost efficiency.

More than 30 years of experience in the electricity industry has provided Garry with a depth of experience in distribution and transmission networks, including management of key business areas and organisational change initiatives.



**BComms, MA, GCertBusAdmin,
MPRIA**

Manager Corporate Communications

As Manager Corporate Communications, Michelle is responsible for Powerlink's public relations policy and strategy, corporate communications, media liaison, government relations and internal communication.

The Corporate Communications Business Unit has responsibility for managing Powerlink's community and environment partnership initiatives.

Michelle has provided strategic communications counsel within the Queensland electricity industry for more than 12 years.

**BE, Assoc Dip Eng (Elec), FIEAust,
RPEQ**

Manager Engineering

Roland manages the Engineering Business Unit which is responsible for the delivery of capital works and refurbishment projects throughout Queensland. He is also responsible for leading the organisation's development, assessment, and implementation of new technologies to enhance transmission network operability, availability and performance.

Roland recently returned to Powerlink after more than 20 years with a global electrical technology company where he gained extensive experience in complete turnkey system integration of transmission systems, transmission and distribution product manufacture and development of new technologies. He has worked in Europe as well as South East Asia.

Roland has strong commercial and extensive project delivery experience. His engineering career has included experience in various aspects of electricity transmission.

**BE(Hons), MEngSc, Grad Cert ApplLaw,
FIEAust, RPEQ**

Manager Network Strategy and Performance

As Manager Network Strategy and Performance, Merryn's responsibilities include strategic business development and asset management to optimise the long-term return on Powerlink's investments in a way that meets the emerging expectations of our stakeholders, including our shareholders, customers, National Electricity Market participants, the Australian Energy Regulator, and the community.

With more than 20 years' experience in the Queensland electricity industry, Merryn's career includes experience in network planning, regulatory affairs, customer management, and strategic development of the transmission network.

Following the retirement of Chief Executive Gordon Jardine, Merryn was appointed as Chief Executive of Powerlink in July 2011.

Statistical summary

Transmission lines and underground cables

Added in 2010/11

Voltage	Transmission line		Underground cable		Location
	Route km	Circuit km	Route km	Circuit km	
330kV	0	0	0	0	
275kV	171	350	0	0	Strathmore to Ross
132kV	27	63	0	0	Strathmore to Bowen, Alligator Creek to Louisa Creek to Mackay Ports, Recovered Kareeya to Innisfail
110kV	0	0	0	0	
66kV*	0	0	0	0	
Total	198	413	0	0	

* Equal to or less than 66kV.

Circuit breakers

Added in 2010/11

Voltage	Circuit breakers	Location
	Total number	
330kV	0	
275kV	6	Ross, Strathmore, Braemar
132kV	5	Moura, Moranbah, Gladstone South, Kemmis
110kV	22	South Pine, Belmont, Rocklea, Blackstone
66kV*	0	
Total	33	

* Equal to or less than 66kV.

Substation/switching stations and transformers

Added in 2010/11

Voltage	Substations	Transformers		Location
	Total number	Total number	Total rating MVar	
330kV	0	0	0	
275kV	0	1	375	Belmont
132kV	1	1	100	Bowen North
110kV	1	0	0	Blackstone
Total	2	2	475	

Capacitor bank, shunt reactors and Static VAR Compensators

Added in 2010/11

Voltage	Capacitor banks		Reactors		SVCs		Location
	Total number	Total rating MVar	Total number	Total rating MVar	Total number	Total rating MVar	
330kV	0	0	0	0	0	0	
275kV	0	0	1	100	0	0	Ross
132kV	3	110	0	0	0	0	Moura, Kemmis, Gladstone South
110kV	1	63	0	0	0	0	South Pine
Total	4	173	1	100	0	0	

Substation/switching stations and communication sites As at 30 June 2011

Voltage	Substations	Cable transition sites	Communication sites
	Total number		
330kV	4	0	
275kV	34	1	
132kV	61	3	
110kV	15	5*	
Total	114	9	94

* At energised voltages.

Transformers As at 30 June 2011

Voltage	Transformer	
	Total number	Total rating MVA
330kV	5	4,975
275kV	68	18,005
132kV	86	5,949
110kV	27	2,110
Total	186	31,039

Circuit breakers As at 30 June 2011

Voltage	Circuit breakers
	Total number
330kV	28
275kV	418
132kV	424
110kV	287
66kV*	28
Total	1,185

* Equal to or less than 66kV.

Capacitor bank, shunt reactors and Static VAR Compensators As at 30 June 2011

Voltage	Capacitor banks		Reactors		SVCs	
	Total number	Total rating MVA	Total number	Total rating MVA	Total number	Total rating MVA
330kV	0	0	4	144	0	0
275kV	26	3,600	16	711	8	2,510
132kV	26	1,173	0	0	11	1,081
110kV	34	1,863	0	0	0	0
66kV*	5	96	5	114	0	0
Total	91	6,732	25	969	19	3,591

* Equal to or less than 66kV.

Five-year history of transmission lines and underground cables*

As at 30 June 2011

Voltage	2011		2010		2009		2008		2007	
	Route km	Circuit km	Route km	Circuit km	Route km	Circuit km	Route km	Circuit km	Route km	Circuit km
Transmission lines										
330kV	347	691	347	691	347	691	347	691	347	691
275kV	5,990	8,387	5,819	8,037	5,548	7,495	5,335	7,068	5,227	6,852
132kV	2,796	4,468	2,769	4,405	2,816	4,488	2,802	4,480	2,651	4,151
110kV	238	416	238	416	238	416	238	416	238	422
66kV [†]	1	1	1	1	1	1	1	1	1	1
Total lines	9,372	13,963	9,174	13,550	8,950	13,091	8,723	12,656	8,464	12,117
Underground cables										
275kV	10*	10	4	9	2	5	2	5	2	5
132kV	4	4	1	2	1	2	1	2	1	2
110kV	8	8	3	7	3	7	3	7	3	7
66kV [†]	1	1	1	1	1	1	1	1	1	1
Total cables	23	23	9	19	7	15	7	15	7	15
Total lines and cables	9,395	13,986	9,183	13,569	8,957	13,106	8,730	12,671	8,471	12,132

Note: all cables located inside substations are excluded.

* As constructed voltages.

† Equal to or less than 66kV.

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Glossary

ACCC	Australian Competition and Consumer Commission	LNG	Liquefied natural gas
AEMC	Australian Energy Market Commission	LTC	Lost Time Calculation
AEMO	Australian Energy Market Operator	MITC	Market Impacts of Transmission Congestion
AER	Australian Energy Regulator	NEM	National Electricity Market
APLNG	Australia Pacific Liquid Natural Gas	NGER Act	<i>National Greenhouse and Energy Reporting Act 2007</i>
APR	Annual Planning Report	NPAT	Net Profit After Tax
ASX	Australian Stock Exchange	NTNDP	National Transmission Network Development Plan
CHMP	Cultural Heritage Management Plan	Operating agreement	The Operating Agreement is the agreement between Powerlink and AEMO which establishes Powerlink as the System Operator under the National Electricity Rules. The Agreement defines the geographical areas for direct and indirect oversight for operational control. The Agreement also defines the extent to which AEMO's powers have been delegated to Powerlink
CIGRE	International Council on Large Electric Systems	OPGW	Optical fibre ground wire
Community and environment programs	Proactive, community-based projects that aim to build relationships with local government, communities and key stakeholders in strategic area traversed by existing or future Powerlink transmission infrastructure	PPC	Personal protective clothing
Debt to Fixed Assets	Debt/Fixed Assets	QGC	Queensland Gas Company
DERM	Department of Environment and Resource Management	QNI	Queensland/New South Wales Interconnector transmission line
EA	Enterprise Agreement	Regulatory Test	The Regulatory Test, promulgated by the AER under the National Electricity Rules, requires TNSPs to identify the solution that maximises the net benefit to the NEM when addressing emerging network limitations. From August 2010, the Regulatory Investment Test for Transmission (RIT-T) replaced the Regulatory Test for assessment of future electricity needs
EBA	Working at Powerlink 2008 Union Collective Agreement	RIT-T	Regulatory Investment Test for Transmission. From August 2010, the Regulatory Investment Test for Transmission (RIT-T), promulgated by the AER under the National Electricity Rules, replaced the Regulatory Test for assessment of future electricity needs
EBIT	Earnings Before Interest and Tax	Return on Assets	Earning before interest and tax and after abnormal (EBIT)/average total income
EBITDA	Earnings Before Interest, Tax, Depreciation and Amortisation	Return on Equity	Operating profit after income tax/average total equity
EMF	Electric and Magnetic Field	ROA	Return on Total Assets
EMP	Environmental Management Plan	The Rules	National Electricity Rules
EMS	Energy Management System	SCI	Statement of Corporate Intent
EMS	Environmental Management System	SDH	Synchronous Digital Hierarchy
ENA	Energy Networks Association	SENE	Scale Efficient Network Extensions
EWP	Environmental Work Plan		
GOC	Government Owned Corporation		
Grid	The high voltage electricity transmission network		
Grid Australia	The organisation that represents electricity transmission network owners		
GVG	Green Vehicle Guide		
IEIA	International Electricity Infrastructure Assurance		
Interest cover	EBIT/gross interest expense		

Glossary

SEQIPP	South East Queensland Infrastructure Plan and Program 2009–2026
SF₆	Sulphur hexafluoride gas
SPEC	Sustainable Procurement Energy Committee
SPP	State Planning Policy
Sponsorship	Involves a contribution by Powerlink to an organisation or activity that meets our sponsorship policy requirements
Summer peak electricity demand (weather corrected)	The peak power (in MW) delivered from Powerlink's network during summer. This demand is corrected to the appropriate standard reference temperatures for Queensland
TFR	Total Fixed Remuneration
TISN	Trusted Information Sharing Network
TNSP	Transmission Network Service Provider

Terms of Measurement

Gigawatt (GW)	One gigawatt = 1,000 megawatts or 1,000 million watts
Gigawatt hour (GWh)	One gigawatt hour = 1,000 megawatt hours or one million kilowatt hours
Kilovolt (kV)	One kilovolt = 1,000 volts A volt is a unit of potential or electrical pressure
Kilowatt (kW)	One kilowatt = 1,000 watts A watt is a unit of electrical power or the rate of doing work
Kilowatt hour (kWh)	The standard unit of energy representing consumption of electrical energy at the rate of one kilowatt
m	Million
Megawatt (MW)	One megawatt = 1,000 kilowatts or one million watts
Megawatt hour (MWh)	One megawatt hour = 1,000 kilowatt hours
System minute	One system minute = a measure of energy not supplied during transmission disturbances. One system minute is the amount of energy that would be transported during one minute at the system maximum demand

Powerlink Queensland Annual Report 2010/11

This Annual Report is presented to Powerlink's two shareholding Ministers, the Honourable Stephen Robertson MP, Queensland Minister for Energy and Water Utilities, and the Honourable Rachel Nolan MP, Minister for Finance, Natural Resources and The Arts.

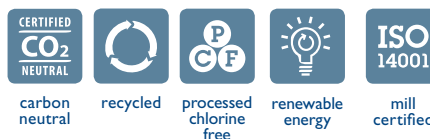
The report forms part of Powerlink's corporate governance processes and provides information about our operations, financial, environmental and social performance for the 2010/11 year. The report is also intended to give our stakeholders including community members, customers, suppliers, as well as those in the energy, commercial, and government sectors, an insight into our operations and our plans for the future.

This report has been prepared in accordance with the provisions of the *Government Owned Corporations Act 1993* (incorporating aspects of the *Financial Accountability Act 2009*) and *The Corporations Act 2001*, and is presented to the Legislative Assembly of Queensland.

Powerlink's Financial Report for 2010/11 is contained on a disc attached to the back cover of this report. Copies of this and previous Powerlink Annual Reports are accessible online at www.powerlink.com.au and further copies can be obtained from:

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*Powerlink Annual Report Cover:
Live Substation Technicians, Scott Zillman, Karl deKeyzer,
Lorne Markham, Tony van Melis and Mark Badrick on site
at Abermain Substation.*



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