-----Original Message-----
> From: Karey Harrison
> Sent: Friday, 16 May 2003 8:42
> To: 'electricity.group@accc.gov.au'
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'Ian.Macfarlane.MP@aph.gov.au'; 'website.enquiries@powerlink.com.au';
'gordon.bergey@ea.gov.au'; 'energy@treasury.qld.gov.au';
'K.McLoughlin@toowoomba.qld.gov.au'
> Subject: Proposed New Large Network Asset > -> Darling Downs Area
>
> Submission from: Dr Karey Harrison, Toowoomba Greens,
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1063
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> Introduction:
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> I refer to Powerlink's papers titled respectively 'Proposed new
large Network Asset - Darling Downs area' 31 March 2003 (hereafter
referred to as > '> PNA), and > '> Emerging tranmission Network
Limitations Darling Downs area> '> , 17 June 2002 (hereafter referred
to as > '> ENL> '>).
> An examination of these documents establishes that Powerlink has
not met the ACCC> '> s Regulatory Test and Chapter 5 of the National
Electricity Code that require Powerlink > '> to consider local
generation, DSM, inter-regional and network options on an equal
footing> '> (ENL, p16, emphasis added). This regulatory text
requires that the options to address network limitations be assessed
against > '> scenarios taking account of:
> - the existing system;
> - future network developments;
> - variations in load growth;
> - committed generation and demand side
developments;
> - potential generation and demand side developments
(PNA, p17)
> Powerlink claims that Option A, (new transmission line between
Milmerran and Middle Ridge, and augmentation of transmission line
between Middle Ridge and Greenbank) is the least cost solution.
Powerlink> '> s documents, however, show that they have only taken
into account > '> demand management programs in place or foreseen by
distributors> '> (ENL, p7), not potential demand management programs
with the capacity to reduce future load sufficiently to render
unnecessary the proposed new and upgraded transmission lines.
> I will show below that there are demand management options not
considered by Powerlink with the capacity to reduce load sufficiently
to avoid the necessity for these proposed lines and upgrades, at a
lower net cost.
> Emerging Transmission Limitations:
> The Queensland Greens acknowledge that existing and currently
planned demand side management programs are insufficient to meet the
forecast increases in demand due to the increasing rate of
installation of > '> electricity-hungry products, particularly air-
conditioning> '> (Mr Gordon Jardine, Powerlink, Chronicle, 30/4/03).
We suggest, however, that there are additional demand management
initiatives that could be introduced that would avoid the need for
this > '> New Network Asset> '> ..
> While some of the demand management programs we are suggesting
below would take 3 to 5 years to complete (not the > '> extremely
long time> '> , claimed by Powerlink> '> s Chief Executive, Mr
Jardine), there are demand management options that can be implemented

immediately to deal with the need to provide automatic load reduction in the event of a supply contingency (ENL, p16).
> Demand Management Options:
> 1) Premium Air-conditioner tariff
> a) The increasing installation of air-conditioners is imposing significant costs on both the electricity supply system and on the global climate system. Given the high marginal cost to the system of air-conditioners, it would be appropriate to signal this cost to consumers through a significantly higher tariff.
> b) If new air-conditioners were connected on a separate tariff, as hot-water systems are, it would also be possible to make the connection of air-conditioners conditional on customers agreeing in advance that in the event of fault or supply contingency, supply would be switched automatically from air-conditioners to more essential services.
> c) > It would not be unreasonable to impose a higher tariff on the above average electricity consumption of existing customers with air-co> nditioning. If this were higher than the tariff imposed on those who connect air-conditioners on a separate tariff, it would encourage existing customers to have their air-conditioners re-connected on a separate tariff, subject to the above load-switching arrangements.
> Despite the forecast increase in installation and use of air-conditioners, air-conditioning is still the preserve of a minority of households. These three measures would help ensure that a cost imposed on the system by a minority was not passed on to all participants, but was born primarily by those who imposed the cost. It would also make the alternatives to air-conditioning discussed below more attractive to households.
> Combined, these three measures would ensure the short-term reliability of supply.
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> 2) Installation of Insulation and Solar-hot water heaters
> Existing incentives to install insulation and solar-hot water heaters are clearly insufficient to offset customers> '> short-term bias towards lower upfront costs at the expense of higher lifetime costs. The ACCC> '> s regulatory test, however, clearly requires Powerlink to evaluate the costs of options over a much longer time-period. (Powerlink stopped at a 20 year time frame, but only because that did not show any signs of reversing the cost balance between the options they considered when looked at over a shorter period (PNA, p23-4)).
> If Powerlink were to offer customers insulation and solar hot-water heaters at no upfront cost, to be repaid in customers> '> electricity bill, offset by the savings in electricity consumption, a major obstacle to the uptake of insulation and solar hot-water heaters would be overcome. The largest and quickest benefits in reduced consumption would result from Powerlink aggressively marketing these options particularly to high electricity users. This would be particularly persuasive to those customers contemplating or facing higher air-conditioning tariffs.
> According to the Government and Industry Greenhouse Office, insulation can save up to 45% on heating and cooling costs (www.greenhouse.gov.au <http://www.greenhouse.gov.au>). Insulation can eliminate the need for air-conditioning; reduce heat levels sufficiently to make low electricity consumption alternatives like fans sufficient; or reduce the size of air-conditioners needed and the extent of their use. Given that heating and cooling are the major contributors to the forecast increase in electricity demand, and that the proportion of houses insulated in South East Queensland is extremely low, insulation of existing houses has the capacity to significantly reduce demand.

> Solar hot-water heaters can reduce by 99.5% the 27% of household energy consumption used for hot water heating.
> The Solar hot-water and Insulation industries advised that they could gear up to install insulation and solar-hot water in 20,000 Toowoomba homes within five years. Another 15,000 homes could have insulation and solar hot-water heaters installed shortly thereafter. This could be done for the around the same upfront costs as Powerlink> '> s proposal, but with almost negligible future costs. On the other hand, consumers would continue to pay for the new and upgraded transmission lines in unnecessary electricity consumption long after the initial investment is repayed.
> The installation of insulation and solar hot-water heaters would be more than sufficient to avoid the need for the proposed New Network Asset. This program would also mean that in less than five years demand could be reduced sufficiently to avoid the need for (approved) load shedding in the case of supply contingencies.
> Demand Management Least Cost
> 1) The higher air-conditioning tariff would:
> i) reduce air-conditioning use;
> ii) encourage installation of insulation;
> iii) enable contingency load shedding; and,>
> at a small cost to a minority of customers, save the system as a whole in the short-term the need for a substantially more expensive option of new and upgraded transmission lines.
> 2) The Australian Building Codes Board (ABCB) report into > '> Energy Efficiency Measures> '> (December 2002) compared the costs and benefits of energy efficiency measures like insulation and solar-hot water heaters for new homes. They found that > '> positive financial returns are likely with any reasonable variations to underlying assumptions> '> (Ch7).
> The ABCB report acknowledged that while there are substantial savings to the system as a whole for adopting conservation measures, there may be costs for energy producers and distributors due to reductions in economies of scale with reduced demand (Ch4). However, as Powerlink> '> s PNA document acknowledges, the ACCC regulatory test requires that option chosen have the least > '> total net cost to all those who produce, distribute and consume electricity in the National Electricity Market> '> (PNA, p22).
> The ABCB report into energy efficiency points out that unless > '> existing housing stock is not retrofitted for energy efficiency, more dramatic effects [in lower energy consumption] will only be observed in the long term (Ch4).
> The Government and Industry Greenhouse Office describes insulation and solar hot-water as the least cost option for both new and existing houses.
> Demand management can meet greater energy requirements as Powerlink> '> s proposal for around the same investment, but at far lower future costs to consumers.
> The Queensland Greens propose that Powerlink be required to consider the retrofitting of existing housing with insulation and solar hot-water, and that the ACCC enforce this as the least cost option.
> While it is in Powerlink> '> s self-interest to ignore lower cost demand management options, this flouts the regulatory requirement that they do so.
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