Dorothy Christian

Mr Warwick Anderson

General Manager

Network Regulation

Australian Energy Regulator

Dear Mr Anderson,

As an interested party/stakeholder I wish to submit my following letter regarding the AER Draft Decision and Powerlinks response to the Draft Decision.

Powerlink has been approached several times regarding Direct Current (DC) undergrounding for the Blackwall to Halys line which could then continue from Halys to Greenbank or other sites. The easement required to use DC underground is 8 metres to install and then only 6 metres for the operating easement. Farming, etc. can be carried out safely as long as it does not involve deep rooted crops. This is a system used worldwide and does not require the very large easements that the above ground AC line requires. Substations are not required as DC doesn’t need boosting over long distances and many other associated costs involved in above ground lines, such as towers, would also not be required. Dangerous weather conditions, bushfires and EMF would no longer be of concern which would also be a benefit to the consumer. All information regarding DC undergrounding is available from the ABB website. Please see the picture of a High Voltage Direct Current (HVDC) line underground (Attachment 1).

Powerlink state that the cost is up to 10 times more expensive to use underground DC cabling than aboveground lines, although they have not done an independent Australian feasibility study. Instead, the Blackwall to Springdale EIS shows a feasibility study for a Canadian AC underground line, which I feel is inadequate.

The costs of a DC underground line is now cheaper as some of the components are made here in Australia. The initial installation cost maybe higher but in terms of the most cost effective long term cost to the consumer, it will be less as the installation doesn’t require helicopters, large steel towers that will stand 60 to 80 metres tall (where does the steel come from?) and the line will have a longer lifespan. If upgrading is required it can be done at the convertor station at each end of the line. There are large costs involved to the consumer in the future for decommissioning an AC above ground line, but DC undergrounding is virtually a flick of switch at each end of the convertor station. These decommissioning and maintenance costs are not detailed in the EIS and therefore I feel the total cost of the above ground AC line, whether it be 500kv or 275kv, is not a true overall cost.

The technology for finding faults in an underground DC is now well advanced and can be detected within one to three metres of the fault.

During the consultation process I have spoken with Powerlink representatives regarding my concerns for my children’s, my husband’s and my own safety regarding health effects from the above ground line from Blackwall to Halys, as this line is in close proximity to our home. On two occasions we have approached Powerlink with our concerns and Powerlink advised us to apply for them to purchase our property, but they have declined on both occasions.

Both my husband and I have done many hours of research regarding health effects from lines this large erected so close to homes and we are very concerned and distressed. We have requested that Powerlink and the Minister for Mines and Water Utilities send us a letter guaranteeing that we will have no harmful health effects from this line (Attachment 2 ) and to date they have not or will not supply us with this guarantee.

In response to a letter we sent to Mr John Bradley, Director General (Attachment 3) Mr Bradley states:

*“The Queensland Government remains committed to ensuring that all Queenslanders are provided with peace of mind when it comes to their safety and that of their families. Please be assured that if there is any suggestion of danger, the Queensland Government will not hesitate to act.”*

Powerlink and the Minister for Energy and Water utilities state that they follow the guidance of ARPANSA who state:

1. *The IARC Classification and the WHO Health Risk Assessment states:*

*In 2002 the International Agency for Research on Cancer (IARC) reviewed all the available evidence in relation to ELF fields and cancer. Based on the “limited” association between ELF magnetic fields and childhood leukaemia found in epidemiologic studies and “inadequate” animal data, IARC classified ELF magnetic fields as a “possible human carcinogen”.*

1. *The evidence does not allow health authorities to decide whether there is a specific magnetic field level above which prolonged exposure is a hazard to human health.*

World health Organisation (Geneva 2011) state:

That there is more likely than not that there is a connection with EMF and childhood Leukaemia.

There have been many studies over the years but there is still no conclusive evidence to prove that there is no risk to the human body. I feel Prudent Avoidance for our safety should take precedence as there is a danger to my family.

Powerlink’s Environmental Policy

From a section of Powerlink’s environmental Policy states:

*“Recognising that environmental factors such as land use, public health and safety, noise and visual impact, protection of flora and fauna, environmentally hazardous material management and waste management are all aspects of our business.”*

I firmly do not agree that Powerlink are adhering to this policy or have considered other proven and safer technologies.

I feel that the EIS for the Springdale to Blackwall has a lot of inconsistencies, which Powerlink have been advised of. Powerlink stated the inconstancies were not adjusted before the EIS was sent for Ministerial designation.

Photographs that were used to show the surrounding areas of the easement did not give a true idea of the setting, as they mainly showed horse paddocks and treed roadsides; they did not show the many homes and neighbourhoods that boarder the easement. If one were to read the EIS and look at their photographs, one would get the impression that there were not many homes affected by these lines. This is not true.

I am also concerned that Powerlink have responded to you with information regarding 2 x 500kv lines together or talk about a 750kv line. This is something we have not been told. Is it within the Springdale to Blackwall line? I personally queried Powerlink as to if there would be more than 1 x 500kv line in the easement and they responded with no.

The consultation process on a whole, I feel, was inadequate and not forth coming with true information.

Thank you for your time

Sincerely,

Dorothy Christian.

Attachment 1: ABB Australia web address: [www.abbaustralia.com.au/hvdc](http://www.abbaustralia.com.au/hvdc)

Attachment 2: Copy of letter sent to Powerlink and the Minister for Energy.

Attachment 3: Copy of a letter sent to me from The Director General, Mr John Bradley.

Attachment 4: Print out from ARPANSA website regarding health risks.

[www.arpansa.gov.au/RadiationProtection/Factsheets/is\_electricity.cfm](http://www.arpansa.gov.au/RadiationProtection/Factsheets/is_electricity.cfm)

Attachment 5: Powerlinks Environmental policy: [www.powerlink.com.au](http://www.powerlink.com.au)