

Department of Planning
GPO Box 39
SYDNEY NSW 2001

Your ref: MP 08_0116 MOD 1

Attention: Ben Eveleigh

**RE: Environmental Assessment for the Modification to Potts Hill – Stage 2 Project
Application (MP 08_0116 Mod 1)**

Thank you for the opportunity to comment on this proposal. The Public Health Unit has reviewed the documents and would like to comment on the Electromagnetic fields (EMF) generated by the proposed relocation of a section of 132 KV power line in Cooper Road, Birrong.

EMF – health effects

The health effects of EMF has been extensively studied in recent years and current scientific opinion is well summarized in the Environmental Health Criteria (EHC) document no. 238 Extremely low frequency fields (ELF) published by the World Health Organization in 2007. Health effects can be classified as acute or chronic:

a) Acute effects

The above document states that *“Acute biological effects have been established for exposure to ELF electric and magnetic fields in the frequency range up to 100 kHz that may have adverse consequences on health. Therefore, exposure limits are needed.”* ARPANSA issued a Draft Standard on *“Exposure Limits for Electric and Magnetic Fields (0Hz to 3kHz)”* for public comment. This Draft Standard proposes a 24-hour magnetic field exposure limit for the general public of 1000 mG and is designed to protect against established biological effects.

b) Chronic effects

The International Agency for Research on Cancer classifies ELF magnetic fields as a possible human carcinogen. The following is a key extract from the EHC document;

Page 11 of the WHO EHC document states; *“There is scientific evidence suggesting that every day, chronic low-intensity (above 0.3–0.4 μ T) power-frequency magnetic field exposure poses a health risk and this is based on epidemiological studies demonstrating a consistent pattern of increased risk for childhood leukaemia. Uncertainties in the hazard assessment include the role that control selection bias and exposure misclassification might have on the observed relationship between magnetic fields and childhood leukaemia. In addition, virtually all of the laboratory evidence and the mechanistic evidence fail to support a relationship between low-level ELF magnetic*

fields and changes in biological function or disease status. Thus, on balance, the evidence is not strong enough to be considered causal, but sufficiently strong to remain a concern."

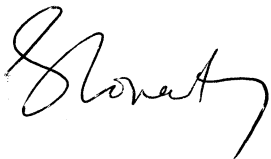
As the evidence for a causal relationship is limited, the WHO therefore does not recommend exposure limits based upon epidemiological evidence but does consider some precautionary measures are warranted.

EMF – exposures – at proposed relocated section of 132 KV power line in Cooper Road, Birrong

For the Project - *Proposed Relocation of Small Section of 132 KV Power Line in Cooper Road, Birrong NSW*, the following report entitled *Computer Modelling and Calculation of Magnetic Field Emission from Existing and relocated Feeders* was prepared by Magshield Products (Aust.) International dated 4 March 2011. This report provides a detailed assessment of EMFs exposures likely to occur as a result of the project. The Public Health Unit notes an increase in magnetic field emissions to the affected properties. This increase is predicted to go from 0.2-0.3 mG measured at 5m from the front boundary, to between 4.4-5.6 mG. This is a significant increase to the existing exposure. Both the NSW Government and NSW Health advocate a policy of prudent avoidance and this policy has not been demonstrated in this current proposal.

In summary, the EA predicts that sensitive residential receptors will be exposed to a substantial increase in EMF exposure above currently existing levels if the relocation goes ahead as currently designed. It is recommended that the design of the project incorporate all reasonable and feasible measures with the objective of reducing this predicted increase over background levels or that the relocation is reconsidered.

I trust these comments are of assistance. Should you require and further clarification, please don't hesitate to contact Mr John Birkett at the Unit on telephone (02) 9515 9420.



Dr Stephen Conaty
A/ Director Public Health Unit

Date: 7 July 2011