

RF EME CONCERNS AT THE ROYAL NORTH SHORE HOSPITAL REDEVELOPMENT SITE

Thiess Pty Ltd has requested Kordia to provide a formal statement on the implications of the tower at 217A Pacific Highway and other telecommunication facilities in terms of EMR, interference issues and microwave links at the proposed Royal North Shore Hospital Redevelopment (RNSH) site.

Introduction

The proposed development is for the construction of a new Acute Hospital, Community Health Facility, multi-level car park and associated works on land known as the 'Royal North Shore Hospital Redevelopment', (RNSH), and is to be administered as a Project Application under Part 3A of the Environmental Planning and Assessment Act 1979, (the Act). The Project is referred to as MP 08_0172.

In summary, the proposed scope of works includes:

- Acute Hospital building.
- Community Health Facility.
- Multi-level car park for 576 vehicles.
- Refurbishment/alterations to the Douglas Building.
- Pedestrian bridge linking new Hospital and Douglas Building.
- New roads associated with the development of the Acute Hospital building, Community Health Facility and car park.
- At grade parking and the temporary use of land for parking purposes during construction.
- Public Domain works including footpaths, lighting and street tree planting.
- Demolition of Building 10
- Landscaping and tree removal.

This Report has been prepared to address those matters related to EMR and interference issues and the assessment of MP 08_0172. Refer to 'Background' discussion below.

Background

Concept Plan

A Concept Plan Approval was issued by the Minister for Planning on 9 February 2007, (Major Project Application No. 06_0051), which gave concept approval for the following hospital related components:

- Subdivision of the site into a hospital precinct and other development precincts.
- A maximum floor area of 178,370m² across the development precincts (maximum FSR are prescribed for each precinct)
- Minimum and maximum FSR for the various components of the proposal including residential, employment generating uses, nurses accommodation etc.
- The conceptual road design.
- Urban design, landscaping, open space and heritage concepts.

- Maximum heights.
- Car parking provision to be in accordance with Willoughby Council DCP.
- Improved servicing of the site.
- Staged re-opening of Westbourne Street to through traffic.

Project Application Approval was given for demolition works and site preparatory works to ground level.

On 31 January 2008, the Concept Plan and Project Application Approval was modified in so far as amendments being to conditions related to agreements with public transport providers and with respect to the scheduling of a Traffic Management and Accessibility Plan (TMAP) (Conditions M9.1 and M10.1).

The Concept Plan and Project Application was further modified on 7 April 2008. The modification allowed for the erection temporary buildings and imposed relevant conditions.

Project Application

Further to the Concept Approval for the whole RNSH site, and along with it the identification of development precincts within the site, on 19 August 2008 a request was made to the Minister to declare the core medical precinct as "Critical Infrastructure Project", under Clause 6 of SEPP Major Projects 2005 (the SEPP), to permit the lodgement of a Project Application, under Part 3A of the Act.

The application was accompanied by a Preliminary Environmental Assessment, (PEA), for development within the core medical precinct and a request for any relevant Director-General's environmental assessment requirements (DGR's).

On 30 September 2008, the DGR's were issued by the NSW Department of Planning, under s.75F of the Act. The project has been declared a Major Project Application, (MP 08-0172).

EMR and Interference Issues

Previous THL Australia report

THL Australia (now Kordia) issued a report dated 29 June 2006, titled "Royal North Shore Hospital Redevelopment – Gore Hill Transmission site". The report included an investigation into the effects of the Royal North Shore Hospital expansion based on the illustrative Master Plan drawings supplied by Cox Richardson on behalf of Burns Bridge. The report covered the following topics:

- RF Field Calculation – EMR Analysis;
- EMI Analysis;
- Existing Microwave Link Analysis;
- Building 9 & 10 Development Options;
- Ghosting / Multipath Effects.

Design modifications

After the issue of the THL Australia report, Thiess Pty Ltd have updated the plans of the proposed development and has requested Kordia to provide a formal statement on the EMR and EMI implications of the new plans (provided by Thiess on the 20/10/2008) compared to the previous Master Plan drawings by Cox Richardson (dated 11/04/2006).

From the information provided by Thiess, and comparisons of the drawings, it is understood that four buildings have changed in size and height. Details of these changes are:

New building as shown on Thiess drawing	Old building as shown on Cox Master Plan	Commentary on change of building size
Multi storey carpark. RL102.6	Part of building 1. RL114	The new building appears to be similar in footprint and some 11m lower in height
Bridge. RL106.0	Part of building 1. RL114	The new building appears to be smaller in footprint and some 8m lower in height
Plantroom Roof Hospital. RL126.36	Part of building's 1A, 6, and 7. RL114, RL126 and RL167	The new building covers the footprint of 3 buildings and is generally similar in height. The section that replaces building 7 is significantly lower in height.
Plantroom Roof CHB. RL112.0	Part of building 6. RL113	The new building appears to be similar in footprint and height.

Impact on EMR and EMI of new RNSH development plan

In consideration of the generally slightly lower building heights of the new development proposal by Thiess at the Royal North Shore Hospital Development site, Kordia recommends that the existing THL report is still valid, and any conclusions and recommendations stated in that report are still current.

More specifically:

- Risk of loss of line of sight of microwave link's are expected to be similar (or slightly reduced) to those indicated in the THL report;
- the EMR impacts upon human health and safety are expected to be similar (or slightly reduced on rooftops) to those indicated in the THL report;
- Impacts of EMI upon electrical equipment and goods are expected to be similar to those indicated in the THL report;
- Potential Ghosting and multi-path impacts are expected to be similar (or slightly reduced) to those indicated in the THL report;



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