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Road Safety Committee

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Road Safety Committee
Parliament House
Spring Street
East Melbourne VIC 3002

Dear Committee Members

Submission to the Road Safety Committee, Victoria
For the Inquiry into Improving Safety at Level Crossings

GHD is very pleased to respond to your invitation on this inquiry. GHD has been providing services to the railway industry for many years and is now respected as one of the leading railway consultants providing both technical, asset management, organisational and safety advice to all sectors of the industry in all states of Australia and around the world.

1.1 Background

To service our rail industry clients, GHD have employed highly qualified staff with significant experience in various aspects of the rail industry including level crossing assessment and design. Through the services GHD performs and from the experience our staff have acquired throughout their careers, we have a detailed knowledge of the design of level crossings along with the risk factors and causes of accidents at level crossings.

In Queensland we assisted Queensland Transport, Queensland Rail and the Department of Main Roads with the roll-out of the Level Crossing Improvement Program. This program was founded on the use of a Level Crossing Risk Scoring Matrix (RSM) tool to assess each level crossing and determine the most cost effective way to improve the safety.

Our staff also assisted in the promotion of the RSM tool throughout Australia. As a result of the efforts of Queensland Transport and the RSM team, the tool has been adopted as the basis for all level crossing risk assessment and for determining the required scope of level crossing safety upgrade works in both Australia and New Zealand. The RSM has undergone several enhancements over recent years through the cooperative efforts of the various state authorities. It is now known as the Australian Level Crossing Assessment Model (ALCAM).

At one stage there was a proposal to move the software and the associated level crossing database onto a web based platform, to be accessible to registered operatives. This has not been supported by some states and therefore has not proceeded. We understand that, at present, due to the origin of the various modifications there is no clear line of ownership to ALCAM.

The ALCAM software works interactively such that it can assist the user to understand which particular features of the level crossing contribute most to the risk of incidents at the level crossing.

Quoting from the NSW government web site:

(http://www.levelcrossings.nsw.gov.au/improving.htm)

ALCAM gives a computer analysis of the risk factors for each site and tests proposed treatments

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to see how the ALCAM score increases or decreases. This means that different scenarios can be run and assessed, so the model can score the optimum treatment. This means each safety dollar is spent where it can generate the greatest safety improvement. The factors include:

- *how well motorists can see trains;*
- *the existing protection at the crossing;*
- *the frequency of trains passing through the area;*
- *the number of tracks;*
- *the volume of road traffic over the crossing; and*
- *nearby road geometry; and*
- *potential for motorists to queue on the crossing.*

It is these features that make ALCAM a valuable and an essential tool in the design of level crossings.

1.2 Proposal

There are a large number of level crossing treatments being designed by competent and experienced railway consultants around Australia. Many of these designs are for railway owners/managers who are not mainstream operators and who do not have the technical competence to design level crossings. Generally they also do not have the experience with ALCAM to allow them to use it.

ALCAM is essential for the design of level crossing upgrades and new level crossings. Despite this the wider industry, and in particular design consultants, are not being given access to the software. The implication of not having access to ALCAM could be compared to a designer who is expected to design a bridge, but is prevented from having access to the Australian Bridge Design Standards.

If the rail industry and state governments are serious about improving level crossing safety then ALCAM should be made available to all experienced and competent railway design consultants who are involved in the design of level crossings.

The proper control of ALCAM use, such as training, version control and verification needs to be managed carefully to ensure competence and consistency of application. However, this can be managed using similar techniques to those applicable to other design standards and software based design and risk assessment tools.

We therefore seek the committee's support in allowing and promoting the distribution of the software to the wider industry and in particular to GHD who have the competent and experienced designers who have experience in the use of the RSM.

Yours faithfully
GHD Pty Ltd

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