Our ref 205816/ARW

Date 3 October 2008

Level 10 201 Kent Street
Sydney NSW 2000
Tel +61 2 9320 9320
Fax +61 2 9320 9321
alan.wilson@arup.com.au

www.arup.com

To Whom it may concern

Dear Sir/Madam

IKEA Tempe
BCA Fire Safety Capability Statement

This letter considers the fire safety design of IKEA Tempe, and specifically those aspects of the fire safety design that impact upon planning and hence DA issues for the building.

The development will be a mixed-use building incorporating the following features:

- A new IKEA retail store
- Located off Princes Highway in Tempe
- Class 6 Retail on Ground Level and Upper Ground Level
- Class 7a Car Parking on Lower Ground Level
- Rise in stories of 3
- Large isolated building due to the compartment size
- Interconnection with existing light industrial building on the side

The fire safety design of the building will generally satisfy the Performance Requirements of the Building Code of Australia (BCA) by complying with the Deemed-to- Satisfy (DTS) Provisions. However, there are some aspects of the design that are to be developed using performance based fire engineering to achieve compliance with the Performance Requirements of the BCA. The main aspects that affect the building layout are highlighted below.

Due to the compartment size associated with the building, it will be treated as a large isolated building under the definitions of the BCA, as such sprinkler protection, smoke control and perimeter access for the fire service (amongst other items) will be required.

It is intended to develop a fully fire engineered smoke management system within the building, this system will be designed and assessed, so that it can be demonstrated that the performance requirements of the BCA in relation to occupant egress (i.e. travel distances) are being met. The building will be divided into a number of separate smoke zones in order to provide conditions within the building which allow occupants to escape before the onset of untenable conditions. This smoke management strategy will also provide a benefit in terms of fire fighting activities.

../2

Smoke exhaust will be required within the main retail areas of the development, however it is not considered necessary at this stage to provide dedicated smoke control to be provided either within the office areas of the building or the car park.

Fire engineering will be used to design this building to meet the Performance Requirements of the BCA. The key areas for which performance based solutions will be developed and the initial means with which they will be addressed are detailed below.

Issue	Non- compliance	Addressed
1.	Smoke reservoir zones exceed the prescriptive limits stated within the BCA	Fully engineered smoke management system with detailed assessment of the smoke movement and conditions within the space. This will be designed to maintain tenable conditions for an extended period of time to allow for safe egress and fire fighting.
2.	Some extended travel distances and non compliances relating to escape routes discharging within the building. Some possible reductions in exit width when peak occupancy is considered.	A Fire Engineering Assessment will be undertaken to compare the available safe egress time against the required safe egress time (utilising the smoke control assessment and occupant egress calculations). This will be designed to maintain tenable conditions for a period sufficient to allow occupants to evacuate, with appropriate safety factors.

At this stage of the design, most other fire safety aspects of the building appear to be DTS compliant. It is anticipated that there could be other non- compliances with the deemed to satisfy provisions of the BCA as the design further develops, however it is considered that there are no issues that would affect the building layout arising from fire safety and hence no impediments to the issuing of a development consent.

Yours sincerely

Alan Wilson
Senior Engineer