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Dear Sir/Madam,

Netball Central – Site 107 Sydney Olympic Park Fire Engineering Design - Planning Application

This letter considers the fire safety design of the proposed Netball Central facility at Sydney Olympic Park, and specifically those aspects of the fire safety design that impact upon planning and hence Planning Application issues for the building.

The proposed building will be a high performance netball venue and also the office for Netball NSW. Five netball courts (single storey) will sit side-by-side, alongside Olympic Boulevard, and are known as the 'standard courts', with limited spectator seating. An additional single storey 'show court' located in the south western corner of the building will allow for more extensive spectator viewing of games and training. The courts are arranged around a four storey amenities/administration 'hub'. An external forecourt will be used for shared access to Netball Central and the adjacent Sports Centre (existing). The proposed building layout is fully described in the architectural plans by Scott Carver forming part of the Planning Application submission.

The fire safety design of the building will generally satisfy the Performance Requirements of the Building Code of Australia (BCA) 2012 by complying with the Deemed-to-Satisfy (DTS) Provisions. However, there are some aspects of the design that are 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.

The presence of six netball courts and the hub building results in a single fire compartment that exceeds the area and volume limitations of the DTS Provisions and the requirements for large isolated buildings are not met (no sprinklers or perimeter vehicular access). However, the use of the facility for netball corresponds to a very low fuel load and therefore large fires spreading throughout the compartment would not be expected. Note that Netball NSW has confirmed its acceptance of the limitations regarding the types of

activities allowed within the facility and a description of this is to be provided on the Fire Safety Schedule.

The standard courts and show courts are proposed to have LVL (Laminated Veneered Lumbar) portal frames, whilst the hub will be an independent concrete structure. A fire engineering Alternative Solution is proposed to justify the use of the LVL portal frames with nil Fire Resistance Level (FRL). This structure is considered to be similar to a number of theoretical DTS compliant buildings, which may have significantly greater fuel loads within.

A polycarbonate cladding is proposed for the façade of the courts, which does not strictly comply with the DTS Provisions for external wall linings. However, the proposed Lexan product performed very well under the AS1530.3 test, receiving the lowest possible score of 0 for the ignitability index, spread of flame index and heat evolved index. This corresponds to a very low risk of fire spread along the façade via the polycarbonate.

Egress from the building is provided by numerous exits located around the perimeter, with overall egress width meeting or exceeding the DTS Provisions. Some localised instances of extended travel distances occur from areas of the hub.

A circulation stair connects the four levels of the hub, however the DTS Provisions do allow this for an indoor sports stadium. As part of the fire engineering strategy, this stair is to be smoke separated from Levels 1 and 4 via a smoke lobby.

The design of the external forecourt is to allow for sufficient egress capacity for the existing Sports Centre through to Olympic Boulevard.

At this stage of the design, other fire safety aspects of the building appear to be DTS compliant. It is anticipated that other non-compliances with the DTS Provisions of the BCA may arise as the design develops, however it is considered that there are no issues that would affect the building layout arising from compliance with the fire safety Performance Requirements of BCA 2012 and therefore no impediment to the approval of the Planning Application.

Yours sincerely



Rob Fleury
Fire Engineer

cc Claire Matheson - Scott Carver
Josh Malin - Crown Projects
Felix Gamon - Arup

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