

Mr Peter McManus  
Department of Planning and Environment  
GPO BOX 39  
SYDNEY NSW 2001

Dear Mr McManus

## **SSD 8175 – WESTERN SYDNEY STADIUM (STAGE 2) - EIS**

I am writing to you in reply to your invitation to the EPA to provide a submission in respect of the project EIS.

The EPA understands that the application applies to the construction and operation of the stadium and related facilities with demolition of existing facilities being undertaken pursuant to a separate approval in respect of SSD 7534.

The EIS Executive Summary indicates that the stadium –

- (a) has a capacity of 30,000,
- (b) is proposed to be used for a “.. range of sporting events and entertainment events; ...”
- (c) incorporates a function centre (vaguely referred to in the Concept Plan as “... function/lounge offerings ...”.

The EPA requests that this submission be read in conjunction with its letters dated 22 August 2016 (EIS) and 11 October 2016 (RtS report) in respect of the Stadium Concept Plan; and the letter dated 21 January 2017 in respect of the draft SEARs for Stage 2.

The EPA emphasises that it does not review or endorse environmental management plans or the like for reasons of maintaining regulatory ‘arms length’. And, has not reviewed any environmental management plan forming part of or referred to in the EIS.

The EPA recommended that a detailed operational noise impact assessment be submitted with the EIS and notes that EIS Appendix S includes an ‘Operational Noise and Vibration Impact Assessment’. However, the EIS appears to propose that detailed operational noise impact assessment be deferred until –

- (a) a stadium operator has been appointed (EIS section 3.2), and

- (b) mechanical plant selection is completed (EIS section 5.13.1) – see also section 4.3 of 'Operational Noise and Vibration Impact Assessment').

Similarly, section 6.3 (Table 9) of the 'Operational Noise and Vibration Impact Assessment' proposes that the noise impact from pyrotechnic displays be assessed by separate application to the EPA for each event proposing aerial pyrotechnics. The EPA emphasises that the proposed application process for pyrotechnic displays is non-existent; pyrotechnic displays not being a scheduled activity.

The EIS is mute on whether the function rooms, Cumberland lounge and adjacent terraces are proposed to operate as a function centre during those occasions when major sporting and concert events are not scheduled.

The EPA expands on the above concerns and other environmental issues in Attachment A to this letter.

Should you require clarification of any of the above please contact John Goodwin on 9995 6838.

Yours sincerely



**MIKE SHARPIN**  
**Acting Manager, Metropolitan Infrastructure**  
**NSW Environment Protection Authority**

**Attachment A**

## ATTACHMENT A

### - ENVIRONMENT PROTECTION AUTHORITY COMMENTS -

#### WESTERN SYDNEY STADIUM STAGE 2 – CONSTRUCTION AND OPERATION

#### 1. General

The EPA considers that the project comprises two distinct phases (construction and operational) and has set out its comments on that basis.

#### 2. Construction phase

The EPA anticipates a range of environmental impacts during the construction phase of the development which should be comprehensively addressed in detail by the environmental assessment. And, notes the proximity of surrounding residences.

The EPA anticipates that demolition, site preparation, bulk earthworks, construction and construction-related activities will be undertaken in an environmentally responsible manner with particular emphasis on –

- certification of site remediation,
- compliance with recommended standard construction hours,
- waste management consistent with the hierarchy of re-use, recycle and then disposal as the last resort,
- 'special waste' management (i.e. asbestos),
- feasible and reasonable noise and vibration minimisation and mitigation,
- intra-day respite periods from high noise generating construction activities (including jack hammering, rock breaking, pile boring or driving, saw cutting and vibratory rolling),
- effective dust control and management, and
- effective erosion and sediment control.

##### 2.1 Site investigation and remediation

EIS Appendix U includes a Remedial Action Plan (RAP) which recommends that:

- additional site investigation to address data gaps identified in the RAP;
- the scope of the additional investigation be detailed in a sampling and analysis quality plan to be provided to the site auditor for review;
- further details of the proposed remediation and validation strategy be provided to the site auditor in a Works Plan and a Validation Sampling and Analysis Quality Plan (VSAQP) for review by the site auditor prior to remediation commencing;
- an asbestos management plan (AMP) be prepared and submitted to the site auditor for review; and
- a long term Environmental Management Plan (LTEMP) be prepared following remediation of the development site to document: the expected limitations on Site use; relevant environmental and health and safety processes and procedures; management processes, procedures and responsibilities to be adopted by future site users within the Site; and, include details on the location and extent of placed or residual asbestos contaminated fill materials, capping layers and marker barriers within the development site.

EIS Appendix U confirms that a site auditor accredited under the Contaminated Land Management Act reviewed the Remedial Action Plan prepared by Senversa for the development site and issued a Section B Site Audit Statement (SAS) dated 7 February 2017. The site auditor certifies the development site can be made suitable for park, recreational open space, playing field use if the site is remediated in accordance with “*Remedial Action Plan, Western Sydney Stadium Redevelopment*” prepared by Senversa Pty Ltd and dated 2 February 2017.

The SAS also indicates that a Section A site audit statement and accompanying site audit report (SAR) are to be prepared at the completion of remediation and validation certifying suitability for the proposed use, subject to compliance with a long-term environmental management plan.

## Recommendations

That the proponent be required to implement the recommendations of the Remedial Action Plan as conditioned by the accredited site auditor.

## Recommendations

The EPA recommends the proponent be required to obtain a Section A Site Audit Statement from the site auditor prior to commencement of construction to certify that the site has been made suitable for the proposed use.

## Recommendation

The proponent be required to satisfy the requirements of the Protection of the Environment Operations (Waste) Regulation 2014 with particular reference to Part 7 ‘asbestos wastes’.

**Note:** The EPA provides additional guidance material at its web-site

<http://www.environment.nsw.gov.au/waste/asbestos/index.htm>.

## Recommendation

The proponent be required to consult with Safework NSW concerning the handling of any asbestos waste that may be encountered during the course of the project.

## 2.2 Waste control and management (general)

The proponent should manage waste in accordance with the waste management hierarchy. The waste hierarchy, established under the Waste Avoidance and Resource Recovery Act 2001, is one that ensures that resource management options are considered against the following priorities:

**Avoidance** including action to reduce the amount of waste generated by households, industry and all levels of government

**Resource recovery** including reuse, recycling, reprocessing and energy recovery, consistent with the most efficient use of the recovered resources

**Disposal** including management of all disposal options in the most environmentally responsible manner.

All wastes generated during the project must be properly assessed, classified and managed in accordance with the EPA’s guidelines to ensure proper treatment, transport and disposal at a landfill legally able to accept those wastes.

The EPA further anticipates that, without proper site controls and management, mud and waste may be tracked off the site during the course of the project.

## Recommendation

The proponent be required to ensure that:

- (1) all waste generated during the project is assessed, classified and managed in accordance with the “*Waste Classification Guidelines Part 1: Classifying Waste*” (Department of Environment Climate Change and Water, December 2009);
- (2) the body of any vehicle or trailer, used to transport waste or excavation spoil from the premises, is covered before leaving the premises to prevent any spill or escape of any dust, waste, or spoil from the vehicle or trailer; and
- (3) mud, splatter, dust and other material likely to fall from or be cast off the wheels, underside or body of any vehicle, trailer or motorised plant leaving the site, is removed before the vehicle, trailer or motorised plant leaves the premises.

### 2.2.1 Waste control and management (concrete and concrete rinse water)

The EPA anticipates that during the course of the project concrete deliveries and pumping are likely to generate significant volumes of concrete waste and rinse water. The proponent should ensure that concrete waste and rinse water is not disposed of on the project site and instead that –

- (a) waste concrete is either returned in the agitator trucks to the supplier or directed to a dedicated watertight skip protected from the entry of precipitation, and
- (b) concrete rinse water is directed to a dedicated watertight skip protected from the entry of precipitation or a suitable water treatment plant.

## Recommendation

The proponent be required to ensure that concrete waste and rinse water are not disposed of on the development site.

### 2.3 Dust control and management

The EPA considers dust control and management to be an important air quality issue during demolition, site preparation, bulk earthworks and subsequent construction. For instance, demolition and bulk earthworks inevitably generate dust as a result of –

- (a) the breaking down of existing structures and structural elements,
- (b) excavation, processing and handling of excavation spoil,
- (b) wind action on demolition waste and excavation spoil stock piles, and
- (c) wind action on and plant movement across areas bare of vegetation or other cover.

## Recommendation

The proponent be required to:

- (a) minimise dust emissions on the site, and
- (b) prevent dust emissions from the site.

## 2.4 Erosion and sediment control

The Managing Urban Stormwater Soils and Construction, 4<sup>th</sup> Edition published by Landcom (the so-called 'Blue Book') provides guidance material for achieving effective erosion and sediment control on construction sites.

The EPA emphasises the importance of –

- (a) not commencing earthmoving or vegetation removal until appropriate erosion and sediment controls are in place, and
- (b) daily inspection of erosion and sediment controls which is fundamental to ensuring timely maintenance and repair of those controls.

## 2.5 Noise and vibration

The EPA notes the proximity of noise sensitive receivers including –

- residences,
- Our Lady of Mercy College,
- the Department of Education 'pop up' school to operate on the O'Connell Street public school (nee Kings School) site from mid-2017, and
- St Patricks Cathedral and presbytery.

The EPA considers that the project is likely to generate significant demolition, site preparation, bulk earthworks, construction and construction-related noise and vibration impacts on surrounding noise sensitive receivers.

The EPA provides the following guidance material for assessment of noise and vibration impacts -

- Interim Construction Noise Guideline (2009), and
- Assessing Vibration: a technical guideline (2006).

The proponent may download the above mentioned guidance material via the following link

<http://www.epa.nsw.gov.au/noise/>

### 2.5.1 *Recommended standard construction hours*

The EPA notes that EIS section 3.8 (p.42) proposes that construction hours on Saturdays not comply with the standard hours recommended in Table 1 to the Interim Construction Noise Guideline (ICNG) on the basis that the additional hours from 1.00 pm to 3.30 pm are "... are considered reasonable as they are consistent the approved construction hours for the adjoining O'Connell Street Public School. The EPA does not support the proposed departure from the standard construction hours and rejects the proposition that consent for a nearby (not adjoining) smaller scale project is any way adequate justification for such a departure.

The EPA emphasises that it does not consider productivity or efficiency to be adequate grounds to justify works outside standard hours.

## Recommendation

The proponent be required to ensure that site preparation, bulk earthworks, construction and construction-related work is undertaken only during standard construction hours, being:

- (a) 7.00 am to 6.00 pm Monday to Friday; and
  - (b) 8.00 am to 1.00 pm Saturdays,
- with no work on Sundays or public holidays.

### 2.5.2 Construction hours (respite periods)

The EPA considers it noteworthy that noise may be 'offensive noise' not only by reason of its level but also its nature, character, quality and the time at which it is made as well as any other circumstances, where that noise interferes with (or is likely to interfere with) the comfort or repose of a person who is outside the premises from which the noise is emitted.

The EPA anticipates that those site preparation, bulk earthworks, construction and construction-related activities generating noise with particularly annoying or intrusive characteristics (such as those identified as particularly annoying in section 4.5 of the Interim Construction Noise Guideline) would be subject to a regime of intra-day respite periods.

The EPA's advice concerning intra-day respite periods –

- highlights the types of construction activities that have been identified in the Guideline as being particularly annoying to surrounding noise sensitive receivers, especially residences,
- is based on patterns of community concern referred to the EPA as complaints about 'offensive noise' emitted from construction activities, and
- takes into account proven approaches over many years to the effective mitigation and management of noise and vibration impacts from public infrastructure projects.

The EPA emphasises that intra-day respite periods are not proposed to apply to those site preparation, construction and construction-related activities that do not generate noise with particularly annoying or intrusive characteristics

## Recommendation

The proponent be required to schedule intra-day 'respite periods' for site preparation, bulk earthworks, construction and construction-related activities identified in section 4.5 of the Interim Construction Noise Guideline as being particularly intrusive and annoying to noise sensitive receivers such that those intrusive and annoying activities –

- (a) are only undertaken after 8.00 am, and
- (b) are only undertaken over continuous periods not exceeding 3 hours with at least a 1 hour respite every three hours (where 'continuous' means any period during which there is less than an uninterrupted 60 minute respite between temporarily halting and recommencing any of those activities).

## Recommendation

The proponent be required to schedule required intra-day respite periods in close liaison with the principals of nearby schools.

### 2.5.2 *Reversing and movement alarms*

The EPA has identified the noise from 'beeper' type plant movement alarms to be particularly intrusive and is aware of feasible and reasonable alternatives. Transport for NSW, Barangaroo Delivery Authority/Lend Lease and Leighton Contractors (M2 Upgrade project) have undertaken safety risk assessments of alternatives to the traditional 'beeper' alarms. Each determined that adoption of 'quacker' type movement/reversing alarms instead of traditional beepers on all plant and vehicles would not only maintain a safe workplace but also deliver improved outcomes of reduced noise impacts on surrounding residents.

Interim Construction Noise Guideline Appendix C provides additional background material on this issue.

The proponent should commit to undertaking a safety risk assessment of construction activities to determine whether it is practicable to use audible movement alarms of a type that would minimise the noise impact on surrounding noise sensitive receivers, without compromising safety.

### 2.5.3 *Queuing and idling construction vehicles and vessels*

The EPA is aware from previous major infrastructure projects that community concerns are likely to arise from noise impacts associated with the early arrival and idling of construction vehicles (including concrete agitator trucks) at the development site and in the residential precincts surrounding that site.

## **Recommendation**

The proponent be required to ensure construction vehicles (including concrete agitator trucks) involved in demolition and site establishment activities do not arrive at the project site or in surrounding residential precincts outside approved construction hours.

## **3. Operational phase**

The project represents a significant long-term infrastructure investment with concomitantly long-term environmental impacts.

The EPA considers that environmental impacts that arise once the stadium and associated development commences operation can largely be averted by responsible environmental management practices, particularly with regard to:

- (a) feasible and reasonable noise avoidance, mitigation and management;
- (b) back-up generator associated underground petroleum storage system design, installation, documentation and use;
- (d) water sensitive urban design;
- (e) minimising on-site parking for private vehicles to encourage the use of public transport by event patrons; and
- (f) identifying and adopting practicable opportunities for energy efficiency and conservation.

### 3.1 Operational noise impacts

The EPA anticipates that the stadium may be used for outdoor concerts, festivals, cinematic and theatrical events and sporting events, which involve the use of sound amplification equipment as part of the activity. And, would expect the proponent to implement noise mitigation and management measures akin to those implemented at the Sydney Cricket Ground and other 'outdoor entertainment activity' venues.



EIS section 3.0 further indicates that the public domain surrounding the stadium (collectively the stadium precinct) will also be used and operated for a range of sporting and entertainment events. However, the Concept Plan and accompanying Technical Working Paper: Noise and Vibration do not appear to identify the proposed expansion of sporting and entertainment events into the public domain surrounding the stadium.

### *Noise impact assessment*

The EPA anticipates that nearby residences (including St Patricks Cathedral presbytery/residence and residential development approved on the corner of O'Connell Street and Victoria Road) will be severely affected by noise from major events at the Stadium.

The EPA notes the proximity of noise sensitive educational establishments, being Our Lady of Mercy College, a temporary (so-called 'pop up') school to operate from mid 2017 on the oval adjoining the O'Connell Street school (formerly the Kings school), and the O'Connell Street Public School due to open in 2018.

The EPA does not agree with the suggestion in final paragraph of section 6.2 (p. 21) to EIS Appendix S (Operational Noise and Vibration Impact Assessment) that non-residential sensitive receivers (i.e. local schools, child care centre, place of public worship) "... will not normally be impacted by concert and sporting event noise ..." on the assumption that those events are "... almost exclusively night-time or weekend events." The EPA notes that –

- (a) sound tests and rehearsals are almost exclusively day-time events (i.e. proposed from 10.00 am to 7.00 pm) which may coincide with and adversely impact activities at local schools and the nearby child care centre,
- (b) services are held daily at St Patricks Cathedral (including weekends and public holidays), and
- (c) it is government policy to encourage the community use of school facilities, outside normal school hours, including at night and on weekends.

### *Modelling and noise predictions*

The EPA acknowledges that whilst predicted operational noise contours are presented (developed using proprietary noise modelling software), EIS Appendix S does not include –

- (a) tabulated data using the various recommended A and C weighted noise descriptors required to facilitate proper evaluation of those predicted noise impacts,
- (b) details of predicted day-time noise impacts on non-residential noise sensitive land uses.

Figure 3 of the EIS Appendix S 'Operational Noise and Vibration Impact Assessment' appears to show a simple model of the stadium, with seating tiers represented by vertical barriers and no open space between tiers. However, EIS architectural drawings appear to show a stadium structure that is open behind the tiers, with various gaps between the lower and upper tiers. For example, the EPA notes what appears to be a gap along the whole eastern side of the stadium which side faces the most affected noise sensitive receivers.

The EPA considers it essential for assuring the accuracy of predicted operational noise levels that the proponent clearly demonstrate that the noise model is appropriately detailed, including the taking into account of any gaps between seating tiers.

The EPA considers that EIS predicted concert noise levels of  $L_{eq}$  78 dBA measured at the nearest residences are likely to generate complaints about 'offensive noise'. For example, the Edinburgh Napier University (ENU) report *NANR 292 Research Into Attitudes to Environmental Noise From Concerts* (2011) indicated a marked increase in the occurrence of annoyance when concert noise levels exceeded 70 dBA. The predicted concert noise level would be perceived as almost twice as loud as that identified in the ENU study.

EIS Appendix S assumes that noise criteria for events at the Sydney Football Stadium could be appropriately applied to major events at the proposed Stadium. The EPA expects instead that each proposal must be considered with regard to the particular circumstances of the case, albeit that some noise management measures applied by the EPA to other public entertainment venues may offer suitable guidance for management measures applied to Western Sydney Stadium.

EIS Appendix S does not appear to include –

- (a) tabulated data using the various recommended A and C weighted noise descriptors required to facilitate proper evaluation of those predicted noise impacts, and
- (b) details of predicted day-time noise impacts on non-residential noise sensitive land uses, including local schools, the nearby child care facility and the nearby place of public worship (St Patricks Cathedral).

The EIS is unclear whether all feasible and reasonable noise mitigation measures have been included in modelling for concert noise. For example, would placing the stage at the northern end of the stadium result in lower noise levels at the nearest residences?

The EIS is also unclear how the desired “sound pressure level between 95 and 105dB(A)  $L_{eq}$  across the seating area” was determined, and whether that is an appropriate noise level for a concert at the proposed Stadium, given that for instance:

- the Edinburgh Napier University report indicated that the best audience experience is gained with a mixing desk level of about  $L_{eq(15min)}$  95 dBA which is considered likely produce a noise level lower than 95 dBA when averaged over the seating area, and
- although the Edinburgh Napier report was based on a limited data set from concert goers in the UK, it indicates that the levels modelled in EIS Appendix S may be unreasonably high.

#### *Operation and use restrictions (other than noise level)*

The Protection of the Environment Operations Act defines ‘offensive noise’ as not only the level of the noise emitted but also its nature, character, quality and the time at which it is emitted.

The EPA is very concerned that EIS section 3.2 ‘*Stadium Operations and Use*’ appears to propose –

- an indicative outline rather than a definitive schedule of events
- an indicative rather than definitive hours of operation, and
- a further postponement of detailed noise impact assessment of that operation and use.

#### *Schedule of events*

EIS section 3.2.1 (p.33) states that EIS Table 4 “... outlines the anticipated number and frequency of events and activities at the stadium ...” and goes on to note that “... this event schedule will be developed further by Venues NSW in consultation with the event coordinator/stadium manager.

EIS Table 4 proposes an annual schedule limited to various football sporting events and up to 3 concerts. The EPA considers that the schedule of events in EIS Table 4 should only vary if approved pursuant to submission and determination of a separate application, supported by a detailed noise impact assessment.

### *Hours of operation*

EIS section 3.2.3 (p.34) that EIS Table 6 outlines the "... indicative hours of operation for the stadium ..." and goes on to note that "... these hours are indicative and will be confirmed and further developed in the noise management plan prepared by the Stadium operator."

The EPA is aware from long experience that noise emissions from outdoor entertainment events and associated sound tests and rehearsals at major venues such as the Sydney Cricket Ground are a source of significant and ongoing community concern.

### *Amplified sound curfew*

The EPA notes that the comparable Sydney Cricket Ground venue is subject to an amplified sound curfew of 10.30 pm for concerts. However, EIS Table 6 indicates an 11.30 pm curfew rather than 10.30pm.

The EPA does not support an amplified sound curfew later than 10.30 pm other than possibly for the purpose of New Year's Eve celebrations.

### *Sound tests and rehearsals*

EIS Table 6 proposes sound tests being permitted from 10.00 am to 7.00 pm. The EPA does not support unlimited periods of sound testing and rehearsal between 10.00 am to 7.00 pm and instead considers that those hours should only be approved as a 'time window' within which a sound test or rehearsal of limited duration (say 60 minutes) may be conducted on the day of each performance.

The EPA further anticipates that concerts would be limited to a single show per day and should that not be the case then a separate development application (supported by a detailed noise impact assessment) should be required for any additional show.

### *Function centre*

The EPA notes that the architectural plans indicate 2 function rooms either side of the adjoining the Cumberland Lounge and associated terraces. And, anticipates that the stadium operator would seek to expand use of those facilities as a function centre other than during major sporting and entertainment events.

The EPA does not support approval of the use of the proposed function rooms, Cumberland lounge associated terraces other than in conjunction with scheduled major sporting events. Instead, should the proponent intend to use those facilities as a function centre other than in conjunction with scheduled major sporting events, the proponent should be required to submit for determination a separate development application supported by a detailed noise impact assessment.

### *Mechanical plant and equipment*

EIS Appendix S omits predicted mechanical plant noise although  $L_{eq(15min)}$  noise levels are predicted for other operational noise sources like the loading dock and car park, but it is not clear whether the worst case  $L_{eq(15min)}$  operational noise levels would exceed the intrusiveness criteria.

Accordingly, the EPA does not support the open-ended approval of stadium (and surrounding public domain) operation and use currently being sought.

## **Recommendation**

That the annual number of each category of events be limited to those set out in the schedule in EIS Table 4.

## Recommendation

The proponent be required to -

- (1) undertake complete measurement of background noise levels in accordance with the EPA's previous advice; and
- (2) prepare and submit for assessment a detailed operational noise impact assessment that -
  - (i) is based on the rating background noise levels determined for each period (day, evening and night) for each of the noise sensitive land uses (including the proposed O'Connell Street public school) surrounding the stadium and in accordance with guidance material in Chapter 3 and Appendix B of the NSW Industrial Noise Policy,
  - (ii) adopts a definitive event schedule and hours of operation for each category of event,
  - (iii) evaluates the noise impacts for each category of event, including events involving pyrotechnic displays, using the noise descriptors (i.e.  $L_{Aeq,15minutes}$ ,  $L_{Ceq,15minutes}$ ,  $L_{Amax}$  and  $L_{Cmax\ noise}$ ) referred to in the EPA's previous advice,
  - (iv) evaluates mechanical plant and equipment noise (including the proposed chiller plant at the northern end of the stadium) reported against the relevant criteria in the New South Wales Industrial Noise Policy,
  - (v) is accompanied by tabulated predictions as well as noise contours for each assessment period (day, evening and night), and
  - (vi) is accompanied by details of proposed –
    - (a) feasible and reasonable noise mitigation and management measures for all event categories (including any associated sound tests, rehearsals and pyrotechnic displays), event set up and break down activities, in-house public address systems, in-house mechanical plant and equipment, and emergency evacuation drills/tests,
    - (b) categorisation of events held at the stadium and in the associated public domain on the basis type, frequency, crowd capacity, time of occurrence (including rehearsal and sound tests), and duration,
    - (c) noise monitoring during major events,
    - (d) community information and notification protocols and procedures for upcoming events (including details of letterbox drops as well as web site, social media, and mobile phone apps),
    - (e) noise complaint receipt, handling and response,
    - (f) noise limit compliance monitoring, and
    - (g) event noise impact review processes (for fine tuning event category noise limits, event category noise mitigation and management measures, event noise monitoring requirements, and community notification and complaint processing) based on measured noise impact and community complaint analysis required to be undertaken for initial events of each category held at the stadium precinct;
- (3) ensure that amplified sound, other than for emergency evacuation purposes, is not emitted from the stadium or the associated public domain after 10.30 pm;

- (4) ensure sound tests and rehearsals are limited to a period of not more than 60 minutes duration on the day of the event and that those tests and rehearsals are not carried out before 10.00 am or after 7.00 pm;
- (5) ensure that any pyrotechnic display –
  - (a) ceases not later than 11.00 pm, but
  - (b) (in the case of on New Years Day) commences at midnight and ceases not later than 12.30 am.
- (6) ensure that all mechanical plant and equipment are selected and operated, and the loading dock designed, built and operated so that, in combination, they do not exceed the project specific noise levels;
- (7) ensure that the stadium carparks and public domain surrounding the stadium are designed and built to incorporate all feasible and reasonable mitigation measures (such as noise mounds) to minimise operational noise impacts on nearby residences and other noise sensitive land uses;
- (8) ensure that forklifts and other plant and equipment used for setting up for or breaking down after any event are fitted with reversing/movement alarms use audible movement alarms of a type that would minimise the noise impact on surrounding noise sensitive receivers, without compromising safety; and
- (9) ensure that the function rooms, Cumberland lounge and associated terraces are not used other than in conjunction with scheduled major sporting and concert events.

### **Recommendation**

The proponent be required to undertake noise compliance monitoring in accordance with the New South Wales Industrial Noise Policy to confirm that noise impacts from each category of event held at the stadium and in the surrounding public domain do not exceed the relevant noise criteria

### **Recommendation**

The proponent be required to:

- (a) design waste collection areas to avoid or minimise the activation of vehicle reversing alarms during use of those facilities; and
- (b) restrict waste collection services and standby emergency generator testing activities to 'day-time' as defined in the NSW Industrial Noise Policy, January 2000.

### **3.2 Back-up Generator and Underground Petroleum Storage System**

The EIS architectural plans appear to indicate that the stadium is to be served by a back-up generator located in the south western corner on level 00.

The EPA is unclear whether the back-up generator would be fuelled from an Underground Petroleum Storage System (UPSS).

The proponent may only use a UPSS in accordance with the requirements of the Protection of the Environment Operations (Underground Petroleum Storage System) Regulation 2014. And, any such UPSS must be designed, installed and operated with regard to Guidelines issued by the EPA.

## **Recommendation**

The proponent be required to design, install, document and operate any underground petroleum storage system in accordance with the requirements of the Protection of the Environment Operations (Underground Petroleum Storage System) Regulation 2014

-----