DOC16/606405-03

Department of Planning and Environment
(Attention: Sally Munk)
GPO BOX 39
SYDNEY NSW 2001

Dear Sir/ Madam

Notice of Exhibition
Southern Highlands Shooting Complex (MP 06_0232 MOD 5)

I am writing in reply to your request dated 30 November 2016 to provide comment on the proposed Modification 5 for the Southern Highlands Shooting Complex.

The Environment Protection Authority (EPA) has reviewed the modification request and supporting documentation and has attached comments (**Attachment A**) for your consideration. These comments relate to the following key issues:

- EPA regulation
- Noise
- Contaminated Land Management
- Water Quality
- General

If you have questions regarding the above, please phone me on (02) 4224 4100.

Yours sincerely

31/01/17

PETER BLOEM
Manager Regional Operations Illawarra
Environment Protection Authority

Attachment A

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ATTACHMENT A

1. EPA REGULATION

The Section 75W report states the Southern Highlands Regional Shooting Complex (the Complex) is an activity carried out by the Office of Sport, a NSW State Agency. The EPA is the Appropriate Regulatory Authority for premises occupied by or activities carried on by the State or a public authority under the *Protection of the Environment Operations Act* 1997 (POEO Act).

While the activity is not a scheduled activity that requires licensing under the POEO Act, Office of Sport has a responsibility to ensure all activities undertaken at the site comply with the requirements of the POEO Act and its associated regulations at all times. This includes, but is not necessarily be limited to, the following:

- Prevent pollution of waters
- Prevent land pollution
- Ensure activities are not carried out in an environmentally unsatisfactory manner
- Ensure the EPA is notified of any pollution incidents that may cause or threaten material harm to the environment. Any notification must be reported to Environment Line on 131555.

The EPA can issue notices (including clean up and prevention notices) or take other regulatory action under the POEO Act if pollution concerns arise from this activity.

The EPA Compliance Policy summarises the EPA's general approach to compliance and enforcement. This policy can be accessed at the EPA website at the following address: http://www.epa.nsw.gov.au/legislation/130251epacompl.htm

2. NOISE

<u>Noise Guideline</u>
The EPA advises that the guideline at Appendix A 'Target Shooting Ranges: Application Note for Assessing Noise Compliance' (the Application Note) is more than 30 years old. It refers to shooting ranges and may not have been intended to cover a shooting complex like the Southern Highlands Regional Shooting Complex (the Complex). A shooting range operated at the site before the Complex was built and the Application Note does not explicitly provide information for this situation.

<u>Noise limit</u>
The proposed change to an arithmetic average limit is consistent with the Application Note. The monitoring reports provided with the Section 75W report, and previous EPA monitoring, indicate that the Complex will comply with the proposed limit of an arithmetic average of L_{Zpeak} 75 dB. The EPA supports the proposed noise limit change to an arithmetic average of L_{Zpeak} 75 dB. Feasible and reasonable noise mitigation measures appear to have already been installed at the Complex.

<u>Days and times of use</u>
For a new range with a shooting noise level of 75 dB, the Application Note suggests that daytime (10am to 5pm) shooting should be allowed four days a week, with no night time shooting allowed except in special events. The Section 75W report stated that the applicant accepts the Complex should be treated as a new range.

The Section 75W report refers to the Application Note when proposing changes to conditions restricting hours and days of use. Section 6.2 of the Section 75W report appears to seek to state the number of shooting days, and allowed hours, in a management plan that will be developed after the approval and will be based on future monitoring results. The EPA suggests this approach is not appropriate for the following reasons:

- It gives no certainty to the community, or users, about the days when the Complex will operate.
- As currently drafted, it does not give the community opportunity to be involved in the process which will set times of use, or design the management plan; and

- It may be difficult for Department of Planning and Environment (DPE) to confirm or enforce compliance with the approval, requiring reference to past monitoring reports and the management plan in order to demonstrate whether times of use are allowed.

The EPA would support either of the following two options:

- An approval based on a shooting noise level of 75 dB, limiting daytime shooting to four days a week and prohibiting night time shooting except during an approved special event, or
- If the applicant believes they can meet a lower noise limit and that the Complex should be allowed to operate more often, they could apply to modify the approval based on that lower limit. Any such application would need to be supported by appropriate monitoring data to demonstrate the proposed limit will be met, for example a monitoring report from each season of the past year.

Whichever option is adopted, any approval should define a week as either any consecutive seven days, or a specific seven day period such as Sunday to Saturday inclusive.

There appears to be inconsistencies that need to be resolved between proposed Conditions A11a, A11c and the requirements for the Operational Environmental Management Plan (OEMP) under amended Condition D2(c):

- A11a states that a report will be prepared each year for 3 years by an independent auditor to demonstrate compliance with the approval, except noise limits.
- A11c states that the review referred to in A11a be undertaken by a suitably qualified person against all conditions of approval during its operation and include an operational compliance assessment in accordance with the Application Note and recommend appropriate hours of use.
- D2 (c) states compliance monitoring results for the shooting complex will be posted within 7 days on a website and submitted to the DPE and to Council to allow for public access to this information.

<u>Special Events</u>

The Section 75W report suggests adding to Condition A7 of the approval that for special events, the EPA may consider an extension of the times on both nights in one weekend (an "event"), provided events occur no more than three times a year. This is consistent with the Application Note.

The Section 75W report suggests changing Condition A10 of the approval to allow up to 12 special events, including three on public holidays, to be held each year, as long as a schedule is provided to DPE. Condition A10 already allows approval conditions to be varied for special events subject to a management plan approved by DPE.

The Application Note does not specify whether shooting should be allowed on public holidays. However, DPE may decide that it is appropriate to allow shooting on public holidays only during special events, or to require appropriate public notification of any planned shooting on public holidays.

The EPA suggests that it would be better to have one approval pathway for special events, and to have that pathway explained in one concise condition. One way to achieve this would be to leave Condition A7 as it is, and change Condition A10 to read:

Up to 12 special events may be held at the shooting complex each year. The Secretary may vary the requirements of this approval for special events, imposing any varied or additional conditions for those events, provided:

- *The Secretary consults with stakeholders on the conditions to apply to each special event.*
- *No more than three special events occur on public holidays in one year.*
- *No more than three special events a year involve shooting outside the hours in Conditions A6 and A7.*
- *Shooting outside the hours in Conditions A6 and A7 only occurs on Saturdays and Sundays.*

<u>Complaint Hotline</u>
The Section 75W report states that during community consultation participants asked for a phone "hotline to report noise breaches to stop shooting". The report states that the applicant will prepare a Noise Management Plan to include regular noise monitoring and "direct responses from residents". It is unclear what "direct responses from residents" refers to. The report also states that complaints "can be directed to the EPA's hotline".

The EPA requests that the approval (if granted) requires the applicant to maintain and advertise a phone number and email address for the purpose of receiving and responding to any complaints from members of the public in relation to activities conducted at the premises. The applicant must notify the public of the complaints line details and the fact that it is a complaints line so that the impacted community knows how to make a complaint.

The applicant must also keep a legible record of all complaints made in relation to pollution arising from any activity at the premises. The record must include details of the following:

- the date and time of the complaint
- the method by which the complaint was made
- any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect
- the nature of the complaint
- the action taken by the applicant in relation to the complaint, including any follow-up contact with the complainant; and
- if no action was taken by the licensee, the reasons why no action was taken.

The record of a complaint must be kept for at least 4 years after the complaint was made. The record must be produced to any authorised officer of the EPA who asks to see them.

<u>Community Access to Information</u>
The existing project approval includes conditions that requires information to be posted by the applicant on websites. This includes the independent audit and compliance monitoring (noise) information for the complex. The Section 75W report makes reference to posting information on the Office of Sport website that relates to the modification project and its progress. There appears to be no mention of ensuring community access to regular environmental performance and compliance information on a website specified in the project approval.

3. CONTAMINATED LAND MANAGEMENT

<u>General</u>
The EPA advises it has not published guidelines specifically in relation to the management of contamination of land and waters at rifle/shooting ranges, however, guideline material is available from relevant organisations such as the USEPA and the National Shooting Sports Foundation, NSSF (USA). Particular reference is made to the USEPA *Best Management Practices for Lead at Outdoor Shooting Ranges* (June 2005).

Generic contaminated land guidance which would be applicable to the Complex include:

- Guidelines for Consultants Reporting on Contaminated Sites (NSW OEH, 2011)
- Guidelines for the NSW Site Auditor Scheme (2nd edition) (NSW DEC, 2006, pending revision)
- Guidelines for the Assessment and Management of Groundwater Contamination (NSW DEC, 2007)
- Guidelines on the Duty to Report Contamination under the Contaminated Land Management Act 1997 (NSW EPA, 2015)
- Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC and ARMCANZ, 2000)
- National Environment Protection (Assessment of Site Contamination) Measure 1999 (revised 2013)

Proposed Design Modifications to the 50 m and 500 m ranges

Section 6.1 of the Section 75W report appears to propose physical and design modifications to the 50 m and 500 m ranges. The EPA raise no objections to the proposed design modifications as they would serve to mitigate potential contaminant migration from the Complex to sensitive receptors. The EPA also notes that the same measures are not currently proposed for the 800 m range, however would encourage their implementation.

Proposed modification to Condition B3(g)

Section 6.4 in the Section 75W report appears to propose to modify Condition *B3(g) Soil, Water and Contamination* to remove the requirement for water quality sampling from Rocky Waterholes Creek.

The reasons given in the Section 75W report for removing the requirement for water quality sampling from Rocky Waterholes Creek are difficulties in access, the ephemeral nature of the creek, and health and safety considerations. The monitoring program in the SHRSC Water Cycle Management Plan (ErSed, 2016) includes example sampling plans which lists the sampling of waters and sediments from "creek waters off range (if available)". The EPA considers that surface water and/or sediment sampling from the tributaries of Rocky Waterholes Creek that run adjacent to the Complex are a useful indicator of potential site impacts and should be maintained if possible. Further discussions and/or site inspections should be considered to explore options (if any) associated with sampling in these areas. It should be noted that baseline sediment sampling was carried out in a tributary of Rocky Waterholes Creek by GHD in 2007.

The EPA does not object to being included as a regulatory authority under this condition.

Water Cycle Management Plan

Section 6.5 of the Section 75W report proposes modifications to the Statement of Commitments (Schedule 3 of the Development Approval), including a modification to *Water Catchment Hydrology and Water Management* to undertake a monitoring program detailed in the Water Cycle Management Plan 2016 prepared by ErSed Environmental. The modification is to allow for adoption of a revised soil and water management plan. The EPA does not object to the modification, however our comments on the revised Water Cycle Management Plan should be considered prior to approval.

The EPA offers the following advice regarding the Water Cycle Management Plan:

- Section 5.2 of the Management Plan indicates that a separate sampling plan would be prepared for each sampling event. It is also noted that the sampling plans presented in Appendix A of the Management Plan are identified as "examples" only. In any event, we recommend that any sampling plan should include a description of quality control protocols, and be prepared in consideration of Section 5.3 of Schedule B2 (Site Characterisation) of the Revised (2013) ASC NEPM. The sampling plan should also be submitted to EPA for review prior to implementation.
- Section 4.2.6 of the Management Plan describes projectile clean-up and remediation measures for contaminated soil from projectile fall zones and stop butts. The Management Plan also indicates that NSW Office of Sport will maintain records of the amount of projectiles fired, and that the regularity of projectile clean-up will depend on the level of activity at the Complex (But as a minimum, will occur annually). The EPA recommend that comparison of volumes of projectiles fired vs projectiles recovered should be undertaken to estimate volumes/mass potentially lost to the environment. This comparison should be included in annual monitoring reports to be submitted to the EPA, as per Section 5.5 of the Management Plan.
- It is recommended that the following items also be included in annual reporting to the EPA:
    - The observed condition of physical and administrative contamination mitigation measures (for example, fencing around sedimentation ponds, possible clogging of lime treatment pits and other drainage features, visibility of signage).
    - Details of soil treatment (for example, liming) and other environmental management strategies implemented during each reporting period (for example, desilting of sedimentation ponds, relining of stop butts, fencing repair, other engineering works).
- Table 3 in Section 5.2 of the Management Plan indicates that analysis for polycyclic aromatic hydrocarbons (PAH) would only be undertaken "*when suggested by external factors*". The EPA recommends that if clay target shooting occurs at the Complex, then PAH analysis should be

included (Clay targets are understood to be bound with tar or bitumen). It was not readily apparent from the documents reviewed whether clay target shooting occurs at the Complex.

- The following points regarding assessment criteria for soil, sediment and surface water proposed in the Management Plan should be considered by the proponent in the preparation of any future sampling plan:
  - Soil criteria are not applicable to sediment samples. Consideration should be given to the adoption of ANZECC (2000) interim sediment quality guidelines (ISQG).
  - If the adoption of recreational water quality guidelines is found to be applicable, consideration should be given to adopting the National Health and Medical Research Council (NHMRC) Guidelines for Managing Risks in Recreational Water (2008).
  - It is not readily apparent how site specific ecological investigation levels (EILs) for soils have been derived for the Management Plan. Clarification regarding the parameters used to derive the EILs (for example, soil pH, baseline concentrations, clay content) should be included in any future sampling plan prepared for the Complex.

4. WATER QUALITY

Sewage Treatment System

The *Soil and Water Management Plan* and the *Water Cycle Management Plan* indicate sewage will be treated on-site using amended soil treatment systems. Appendix E (*Hydrology, water management and contamination assessment*) of the Environmental Assessment for the original 2007 development application did not include effluent irrigation, but did state that a perimeter sub-surface drain and sump can be fitted to collect treated water for reuse or disposal. Appendix E included a characterisation of typical effluent quality from the proposed treatment system, indicating that effluent could have total nitrogen concentrations of up to 20 mg/L and ammonia concentrations of up to 5 mg/L, 80 and 385 times the ANZECC (2000) trigger values respectively (ANZECC [2000] upland river trigger values: total nitrogen = 0.25 mg/L; ammonia-N = 0.013 mg/L).

Given the sensitive nature of the receiving environment and the potential to pollute groundwater and any connected surface water systems it is important that treated effluent is carefully managed. The EPA recommends that the applicant consider measures to prevent discharges from the wastewater treatment systems, such as collection and irrigation of treated effluent. Consistent with this, it is recommended that an Irrigation Management Plan (IMP) is prepared for irrigation of treated effluent consistent with the practices and principles of the Environmental Guidelines, Use of Effluent by Irrigation (DEC, 2004), including details of:

- Wet-weather storage and irrigation scheduling to minimise the potential for pooling, percolation, and runoff of effluent.
- Monitoring of irrigation area soils to ensure the sustainability of effluent irrigation, including appropriate triggers and management actions in response to any identified exceedances of sustainability criteria.

Stormwater Management

The *Soil and Water Management Plan* and the *Water Cycle Management Plan* indicate that, during the operation phase, stormwater will be managed using sediment and erosion control measures. The proposed surface water monitoring program will allow the operator to identify and respond to the potential presence of pollutants (for example, lead) at non-trivial levels in controlled discharges or managed overflows from stormwater retention basins. However, it is unclear what specific management actions will be implemented in response to exceedances of assessment criteria. The EPA recommends that the proponent identifies management actions that will be taken to ensure appropriate discharge quality if the monitoring results indicate that captured stormwater contains pollutants at non-trivial levels.

The *Soil and Water Management Plan* states that stormwater captured in the sediment retention basins would be either discharged at the spillway or used for irrigation of range areas. Irrigation of range areas poses a lesser risk to waters than discharging to surface waters. The EPA recommends that wherever possible captured stormwater should be disposed of via irrigation rather than discharging to surface waters. This should form part of the recommended IMP.

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Surface Water Monitoring Program

There is the potential for captured stormwater to have elevated electrical conductivity due to lime, fertilisers, and contaminants, and elevated turbidity, due to erosion of exposed soils. The proposed surface water monitoring program does not include these parameters. Many fertilisers include nitrogen fractions other than ammonia (for example, nitrates and urea) so samples should be analysed for total nitrogen to detect contamination of stormwater with these. As phosphorus readily adsorbs to sediment, samples should be analysed for total phosphorus, in addition to filterable reactive phosphate, to detect contamination of stormwater. Further, several of the trigger values adopted as assessment criteria are incorrect or inappropriate. Specifically:

- The monitoring program adopts the ANZECC (2000) 95% species protection level trigger value for ammonia as a toxicant (0.9 mg/L). The ANZECC (2000) trigger value for ammonia as a chemical stressor (0.013 mg/L) is a more appropriate indicator of the risk to waters.
- The ANZECC (2000) trigger value for filterable reactive phosphate as a chemical stressor in slightly disturbed ecosystems is 0.015 mg/L (not 0.15 mg/L).
- As samples are proposed to be analysed for total arsenic and not arsenic species, the trigger value for arsenic-V (0.013 mg/L) is more appropriate than that for arsenic-III (0.024 mg/L).

In relation to the surface water monitoring program, it is recommended that:

- In addition to the proposed monitoring parameters, electrical conductivity, turbidity, total nitrogen and total phosphorus be included.
- The assessment criterion for ammonia should be derived with reference to the ANZECC (2000) trigger value for ammonia as a chemical stressor (0.013 mg/L).
- The ANZECC (2000) trigger value for filterable reactive phosphate should be cited as 0.015 mg/L.
- The assessment criterion for arsenic should be derived with reference to the ANZECC (2000) arsenic-V trigger value for protection of 95% of freshwater species (0.013 mg/L).
- The frequency and intensity of sampling and the analytes monitored can be adjusted commensurate with the residual risks following implementation of appropriate mitigation measures.

5. GENERAL

The existing project approval includes a requirement for regular independent audits. The original consent was issued in March 2010. The findings of these audits should be used to help inform the determination of this modification. This includes assessing the current level of compliance and any measures/actions to improve environmental performance.