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Department of Planning, Industry and Environment
Returned via the Major Projects Portal

Attention: Mr Robert Hodgkins

18 March 2021

Dear Mr Hodgkins

**Planning Referral – Holcim (Australia) Pty Ltd
State Significant Development SSD 10417 – Request for additional information**

Thank you for the invitation from the Department of Planning, Industry and Environment (DPIE) sent to the Environment Protection Authority (EPA) on 9 February 2021 seeking comment on Holcim (Australia) Pty Ltd's (Proponent) Environmental Impact Statement for the Dubbo Quarry Continuation Project (SSD 10417).

The EPA has reviewed the Environmental Impact Statement titled "Dubbo Quarry Continuation Project. Environmental Impact Statement" prepared by EMM Consulting Pty Limited on behalf of the Proponent dated January 2021 (Report No: J180313 RP1) and accompanying attachments and understands that the Proposal relates to the following:

- Continued quarrying operations in the existing approved extraction footprint with a maximum extraction and processing rate of 500,000 tonnes per annum (tpa) consistent with current operations undertaken onsite;
- Development of two new resource extraction areas to the west and south of the existing approved extraction footprint (the WEA and SEA respectively) with a 500,000 tpa extraction rate;
- Installation of noise attenuation and visual amenity bunds around the perimeters of WEA and SEA, where possible;
- Modification of the existing water management infrastructure within the existing approved extraction footprint and construction of new water management infrastructure to service the WEA and SEA; and
- Construction of a new internal access road to connect with Sheraton Road, north of the existing access road and intersection with Sheraton Road (the 'proposed access road') and Construction of a new internal haul road to connect the existing site with the SEA (the 'southern haul road'), which will require construction of a crossing across Eulomogo Creek (the 'Eulomogo Creek crossing').

The Proposal would be subject to Environment Protection Licence 2212 (Licence) issued by the EPA under the *Protection of the Environment Operations Act 1997* (POEO Act) for the scheduled activities of land-based extractive activities and to be included crushing, grinding or separating activity.

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The EPA has reviewed the Environmental Impact Statement and accompanying attachments and request further information from the Proponent before providing DPIE with its final advice. This information is in relation to the Noise and Vibration Impact Assessment, the Air Quality Impact Assessment and surface water management generally.

The EPA's additional information requirements are provided at **Attachment A** to this letter.

If you have any questions regarding this matter, please contact Jenny Rushton on (02) 6883 5333 or by e-mail to central.west@epa.nsw.gov.au.

Yours sincerely

MATTHEW CORRADIN
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ATTACHMENT A: Further Information Required by the EPA

Noise

1. The EPA requests that the Proponent revises the Noise and Vibration Impact Assessment (NVIA) to account for changing noise impacts caused by stripping and bund construction and the potential impacts to sensitive receivers.

The NVIA predicts a number of significant impacts (2 dB to 18 dB above Project Noise Trigger Levels (PNTLs) from Table 5.1) to surrounding residences during topsoil stripping works in the Year 1 scenario, during which a noise mitigation bund will be formed around a portion of the WEA. A noise mitigation bund will be formed around most of the SEA in later years. These stripping works are anticipated to occur for a duration of approximately 4 weeks per year.

Typically, shorter term works to establish a noise mitigation bund around a site of this nature would be considered as construction works (limited to the standard hours of work set out in the Interim Construction Noise Guidelines (ICNG)) and would traditionally be carried out once as a separate phase prior to normal quarry production activities. In this approach, noise from the construction of the noise mitigation bund would be managed through the implementation of all feasible and reasonable measures, recognising their temporary duration and fundamentally different nature to production activities.

This is not the approach put forward in the NIVA with its proposed 'campaign' style progressive approach to stripping and bund establishment on a yearly basis. The predicted noise levels from these works are above those which the EPA would normally recommend license limits under the Noise Policy for Industry (NPI) for if carried out as part of normal quarry operations, despite their limited duration each year. The EPA's preference is that the noise mitigation bunds are fully completed during one defined construction period, not on a campaign basis.

The NVIA should be revised to account for this approach detailing the anticipated duration and timing of the noise mitigation bund construction phase, and any resulting noise impacts to sensitive receivers in the construction and subsequent operational scenarios. If the Proponent does not agree with this approach, the Proponent should clarify how many stripping and noise mitigation bund establishment 'campaign' iterations (each of approximately 4 weeks duration in a year) would be required to complete the proposed bunds for each of the WEA and SEA, the expected timeframe(s) for these bunds to be fully established, the changing noise impacts from stripping, bund establishment and other quarrying activities throughout these timeframes and inclusion of all noise mitigation measures that would be applied.

Comment for DPIE: The EPA recommends that DPIE consider whether the noise impacts from stripping and noise mitigation bund establishment activities on a yearly 'campaign' basis are acceptable in the context of the broader project's historical and future operations and the views of the surrounding community on the project to date.

2. The EPA requests that the Proponent clarify whether the NVIA includes the modifying factor adjustments in the predicted noise level tables where relevant.

The NVIA has identified at Sections 5.1.3(i) and 5.1.3(ii) that modifying factor adjustments for low frequency noise may apply to receiver R2 during both existing and future general daytime operations and to some receivers (R2, R5, R16, R19 and R22) during existing night-time (4am to 7am product dispatch) operations, which would result in predicted noise levels at those receivers being higher than those presented in Tables 5.3 and 5.4 respectively.

Residual noise impacts have also been identified at some receivers, in particular at the most affected residential property (R2) and negotiated agreements as per the Voluntary Land Acquisition and Mitigation Policy (VLAMP) may be necessary, depending on the outcomes of the any revised noise assessment above.

Air

3. The EPA requests that the Proponent revise the AQIA to:
 - a. include discussion and justification to support the land area sizes used to calculate emissions from all areas subject to wind erosion, including rehabilitated and partially rehabilitated areas; and
 - b. include adequate justification for all emission controls adopted in the assessment including controls applied for rehabilitation.

There are five residential properties within 1 km of the project area, with the closest residential property (R1) being approximately 215m from the boundary of the WEA. The meteorological data adopted from the BoM Dubbo Airport AWS shows that winds are predominately from the east and south. The seasonal wind data provided for the period 2017 to 2019 show strong easterly winds occur during summer periods. The Proposal proposes to move extraction areas closer to the nearest receptors and in line with the prevailing wind direction. It is noted that timeframes for mine staging are not discussed. However, Table B.3 (Scenario 3 emissions inventory) has headed columns that have Y15, suggesting a 15-year timeframe is estimated.

The EPA considers there is uncertainty regarding the approach used to estimate emissions from wind erosion for the Proposal, with the emissions from wind erosion likely underpredicted for the following reasons.

- a) The land areas used to calculate wind erosion have not been adequately justified

There are some noted uncertainties regarding the approach used to determine dust emissions from wind erosion for the Proposal. As such, ground level impacts from dust emissions may be underpredicted. The predominant source of the uncertainty relates to the size of the areas used to calculate emissions from wind erosion.

Most notably there is a significant decrease in the amount of area exposed to wind erosion between each of the modelled scenarios. The area used for calculation emissions from wind erosion for existing operations reduces from 8.6 ha to 1 ha (existing scenario to scenario 3). It is assumed that this reduction is due to rehabilitation. However, it is not known if 7.6 ha of rehabilitation is achievable over the estimated mine staging timeframe. Additionally, the levels of control applied for the rehabilitated and partially rehabilitated areas have not been discussed or adequately justified.

Further information about the method used to calculate emissions from the quarry areas, including rehabilitated areas, is required. The EPA considers, due to the proximity of the Proposal to nearby receptors, that a more conservative approach should be used to estimate wind erosion for the existing and proposed scenarios.

- b) The applied levels of emission controls are not adequately justified

Adequate justification for all applied levels of emission controls has not been provided. The EPA consider the levels of emissions control applied in the AQIA are unlikely to be practicably achievable or appropriate. Therefore, the approach used to predict impacts is considered less conservative and ground level impacts may be underpredicted. For example:

- Use of a 50% control factor has been applied for wind erosion of stockpiles/southern exposed areas for the existing scenario. The area is 5.6 ha. It seems unlikely that a 50% reduction in dust emissions from such a large area could be practicably achieved.
- Use of 30% control for use of a bund to prevent wind erosion from the WEA and SEA. It is noted from Table 5.5 of the AQIA that bunds are not currently adopted or proposed for implementation. Additionally, the EPA consider that the effectiveness of bunds to control emissions from wind erosion on large surface areas to be questionable.
- Use of a 30% for use of 'rehab bund' to control wind erosion of existing pit exposed area (Scenario 2). It is not understood how the 30% has been calculated as 'rehab bund' is not

defined. Additionally, it is not known if the level of control is practicably achievable, considering the area of the exposed pi is 5.4 ha.

- As per point A, the levels of control applied for the re-habilitated and partially rehabilitated areas have not been discussed or adequately justified.

4. The EPA requests that the Proponent revised the AQIA to:
 - a. Include adequate justification for the use of 75% control for hauling activities – noting the large area required to be covered and the use of only a single water cart.
 - b. Consider all reasonable and feasible options to minimise dust emissions from hauling activities for the life of the Project.

Hauling activities for Scenario 3 are identified as the most significant source of dust emissions for the Proposal. A 75% control factor has been applied to hauling activities due to application of water from a watering cart. It is noted there is only one water cart employed at the site, which has a 13,000 Litre capacity. It is not known if the expected level of control is practicably achievable considering the road coverage required under all scenarios.

Additionally, it is noted that emission controls are limited to dust suppression via application of water. As the Proposal is expected to extend the life of the quarry by 25 years, the EPA considers it reasonable to request that further mitigation measures and engineering controls be considered to reduce the emissions from hauling as far as practicably achievable, including but not limited to:

- Use of sealed or paved roads
- Use of conveyors
- Installation of permanent water sprinkler systems
- Use of polymer suppressants

5. The EPA requests that the Proponent provides justification to support the approach whereby line-volume sources have been used to model the emission sources from the neighbouring South Keswick Quarry.

The South Keswick Quarry is located immediately adjacent to the Proposals northern boundary. As such, emissions from the South Keswick Quarry were included in the cumulative modelling assessment. Particle emissions (TSP, PM10 and PM2.5) for the South Keswick Quarry have been estimated from an AQIA (Pacific Environment, 2016) which supported the development application for that Proposal.

Line-volume sources have been used to represent the various activities (extraction, processing, wind erosion and hauling) occurring at South Keswick Quarry. The line-volume sources have been distributed around the South Keswick Quarry according to the source locations provided in the AQIA (Pacific Environment, 2016).

The approach used to model emissions from the South Keswick quarry, as line-volume sources only, differs to the approach used for the Dubbo (Holcim) Quarry where a combination of line-volume and area sources were modelled.

6. The EPA requests that the AQIA be revised to include referenced footnotes 1 and 2 for Tables 6.4, 6.5 and 6.6.

Tables 6.4, 6.5 and 6.6 include footnotes 1 and 2 for columns 3 and 5 respectively ('PM10 - 6th Highest 24-hour' and 'PM2.5 - 3rd highest 24-hour'). The corresponding footnotes have not been included.

Water

7. The EPA requests that the Proponent assess and further consider all other available options to avoid discharges to Eulomogo Creek.

The Licence as currently in-force does not permit any discharges from the Premises which is a concern given that the EIS discusses reducing discharges to Eulomogo Creek thereby implying that discharges do in fact occur. Furthermore, the Surface Water Assessment indicates that a discharge will occur from the settling basin due to the dewatering of the quarry pits and discharges from sediment basins may also occur during rainfall. This was confirmed with the Proponent during a site visit to the Premises on 25 February 2021.

The Proponent cannot discharge to waters from the settling basin(s) or onsite sediment basin(s) (or other infrastructure) where there is likely to be or will be a change in the physical, chemical or biological indicators in the receiving water or where the discharge contains prescribed pollutants under the *Protection of the Environment (Operations) General Regulation 2009* unless authorised by the Licence. Furthermore, the Proponent should be endeavouring to separating “clean” run on water from quarrying activities as far as possible and utilise any captured water onsite for use onsite as process water and/or water for dust suppression etc (see comments in Air section above).

The EIS does not provide adequate information that demonstrates that all surface water management measures have been considered to reduce “dirty” water generation and does not demonstrate that all alternatives to a discharge to waters have been assessed with the EPA noting elevated pollutants in a range of samples.

Prior to permitting a lawful discharge to waters, the EPA is required to consider Section 45 of the POEO Act (prevent, control, abate or mitigate that pollution) and it is up to the Proponent to demonstrate that there is no alternative than to discharge to waters and that any discharge will include appropriate management mechanisms to limit the level of pollutants in the discharge.

8. Where a discharge to waters cannot be avoided, the Proponent must provide an assessment of appropriate concentration limits in the discharge, or volume limits if applicable, so as to meet the relevant water quality criteria and river flow objectives.

The EIS and the Surface Water Assessment do not appear to provide an assessment of the relevant concentration limits, or volume limits if applicable, that could be applied to any discharge that would be required to be authorised by the Licence. Such concentration and/or volume limits would also need to take into account any cumulative impacts and be generally consistent with similar industries in the immediate area.

Any discharge authorised by the Licence would be required to have concentration limits, volume limits where the volume may negatively alter the flow regime of the receiving waters, and monitoring requires. These factors need to be considered and explored by the Proponent.