EARBA STORAGE

A GILKES ENERGY COMPANY

Earba Pumped Storage Hydro Scheme

EIA Report

Appendix 18.4: Draft Construction Noise & Vibration Management Plan (CNVMP)

February 2024

Quality Information

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Revision History

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Appendix 18.4 Draft Construction Noise and Vibration Management Plan (CNVMP).

4.1.1 The best available construction methods shall be employed at all times, having regards to the principles of BPM to minimise noise and vibration impacts during the construction of the Proposed Development.

4.1.2 With regard to construction activities, agreement on operational hours and working methods will be sought from THC to minimise noise effects at NSRs.

4.1.3 Working hours will be subject to agreement between the Contractor and THC. In addition, adherence to working hours will be contractually implemented within any subsequent enforcement to be regulated by THC via planning conditions and also via the CNVMP.

4.1.4 Based on the construction assumptions presented within the assessment section, the results from the construction predictions show that for the majority of the receptors the effects will be negligible. Without mitigation, moderate to major adverse effects at NSR4, 5 and 6 are anticipated due to the proposed works related to upgrade of access roads or construction of access roads

4.1.5 These works would be carried out along the proposed access routes and road surfacing activities would also take place on proposed access routes.

4.1.6 Therefore, identified impacts are expected to be temporary and localised due to the linear nature of these activities.

4.1.7 Noise levels will be lower as the construction works move further from receptor. Irrespective of this, to mitigate the noise emissions from construction of access tracks, use of Site boundary (i.,e bunding) or activity boundary acoustic barriers to screen neighbouring receptors is proposed along the proposed temporary access track, and works compound 1 and NSR 4 and 5.

4.1.8 The use of Site boundary or activity boundary temporary noise barriers can reduce construction noise levels by around 10dB if line of sight from the plant to the receptor is blocked.

4.1.9 Similarly earth bunding or embankment is anticipated to break line of sight between the receptor and those works at the closest approach, thereby reducing noise levels by around 10dB.

4.1.10 BS 5228 gives detailed advice on methods of minimising nuisance from construction noise. This can take the form of reducing source noise levels, control of noise spread and, in areas of very high noise levels, insulation at receptors. It is likely to be a requirement of any construction contract that any constructors at the Site comply with the recommendations in BS 5228.

4.1.11 Where possible, alternative piling methods (such as rotary bored piling) are generally preferable to impact piling, due to their reduced noise and vibration emissions.

4.1.12 The contractor will consider all possible piling methods when determining the most appropriate method for construction of the Proposed Development and select low noise and vibration methods where feasible.

4.1.13 Mitigation measures to achieve BPM (as required by the Control of Pollution Act 1974) may include the following provisions:

- ensure all processes are in place to minimise noise before works begin and should ensure BPM are being achieved throughout the construction programme;
- the appropriate use of plant with respect to minimising noise emissions and regular maintenance. All vehicles and mechanical plant used for the purpose of the works would be fitted with effective exhaust silencers and would be maintained in good efficient working order;
- ensure that modern plant is used, complying with the latest EC noise emission requirements;
- selection of inherently quiet plant where appropriate. Use of electrical items of plant instead of diesel plant; especially in sensitive locations. All major compressors should be 'sound-reduced' models fitted with properly lined and sealed acoustic covers which would be kept closed whenever the machines are in use and all ancillary pneumatic percussive tools would be fitted with mufflers or silencers of the type recommended by the manufacturers;
- machines in intermittent use would be shut down in the intervening periods between work or throttled down to a minimum;
- all ancillary plant such as generators, compressors and pumps would be positioned so as to cause minimum noise disturbance. If necessary, acoustic barriers or enclosures will be provided;
- loading / unloading sites should be located away from residential properties and shielded from those properties where practicable;
- arrange the site operations and vehicle routes to minimise the need for reversing movements, and to take advantage of rises in natural terrain to screen NSRs;
- no employees, subcontractors and persons employed on the Development Site should cause unnecessary noise from their activities e.g. excessive 'revving' of vehicle engines, music from radios, shouting and general behaviour etc. All staff inductions at the Site should include information on minimising noise and reminding them to be considerate of the nearby residents;
- where possible, the hours of noisy operations should be planned considering the effects of noise upon nearby NSR, taking into account the duration of work and the potential consequence of any lengthening of periods of noisy work;
- where possible, the items of plant should be located furthest from the nearby NSR buildings or in locations where acoustic screening is provided by site cabins, buildings, or barriers. Plant known to emit noise strongly in one direction should, when possible, be orientated so that the noise is directed away from the nearest NSR;

- materials should be lowered whenever practicable and not dropped. Any chutes and skips should be lined with sound attenuating material to reduce effect noise; and
- care should be taken when loading / unloading vehicles and dismantling scaffold.

4.1.14 The appointed Contractor will identify potential effects of works noise and vibration once precise working methods (including underground works) and required plant have been confirmed, and in turn appropriate mitigation measures will be implemented.

4.1.15 The Construction Environment Management Plan (CEMP) and Construction Traffic Management Plan (CTMP) will be prepared in accordance with good practice and relevant British Standards.

4.1.16 These will help to minimise effects of construction works and will include consideration of the construction phasing of the Proposed Development. The proposed construction of appropriately located earth / excavated material bunds during the early phase of the construction programme will help to increase the acoustic screening of construction noise.

4.1.17 In order to verify the predictions which have been performed and identify actual levels at nearby receptors, measurements of vibration are recommended at nearby receptors at the start of the proposed piling and tunnelling activities.

4.1.18 In the very unlikely event that these levels are found to exceed the limits agreed with THC, the contractor may be required to identify alternative methods of working which generate less vibration and/or restrict working hours for these activities.

4.1.19 As mentioned above consultation and communication with the local community will be covered in the overarching CEMP and undertaken throughout the construction period.

4.1.20 This will serve to publicise the works schedule, giving warning to residents and climbers regarding periods when higher levels of noise or blasting may occur during specific operations, and providing them with lines of communication where complaints can be addressed.

4.1.21 Dissemination of such information is likely to encourage the community to be more tolerant of any disturbance considering the perceived long-term benefits of the Proposed Development.