

Increased Blast Vibration Limit Agreement

Land Owner	Name	HV Operations Pty Ltd as manager of the Hunter Valley Operations Joint Venture (which comprises Coal & Allied Operations Pty Ltd and Anotero Pty Limited)
	ABN	76 606 478 399
	Address	PO Box 315 Singleton NSW 2330
Development Consent	SSD 7142 – United Wambo Open Cut Coal Mine	
Development Consent Holder	Name	United Collieries Pty Limited
	ABN	67 001 990 209
	Address	PMB 13 Singleton NSW 2330
Property	100 High Rd, Warkworth, NSW 2330 being: Lot 1 in Deposited Plan 123374 Former Warkworth Public School, included in the Development Consent as “Other heritage items”	
Development Consent Requirement	SSD 7142, Part B, Condition B8 Blasting Criteria: <i>‘The Applicant must ensure that blasting on the site does not cause exceedances of the criteria at the locations shown in Table 2.’</i>	

Table 2: Blasting criteria

Location	Airblast overpressure (dB(Lin Peak))	Ground vibration (mm/s)	Allowable exceedance
Residence on privately-owned land	120	10	0%
	115	5	5% of the total number of blasts over a calendar year
St Phillips Church		5	0%
Wambo Homestead	120	5	0%
All other heritage items (beyond those predicted in the document/s listed in condition A2(c))	133	5	0%
Hunter Valley Gliding Club Warkworth Shooting Complex HVO infrastructure - occupied	133	25	0%
HVO surface infrastructure - unoccupied	133	100	0%
Transmission suspension towers Transmission tension towers		100 50	0%
Prescribed dams		50 (unless otherwise directed by the DSC)	0%
Public Roads Telecommunication infrastructure and cables		100	0%
All other public infrastructure		50 (or a limit determined by the structural design methodology in AS 2187.2 - 2006, or its latest version, or other alternative limit for public infrastructure, to the satisfaction of the Planning Secretary)	0%

SSD 7142, Part B, Condition B9 Blasting Criteria:

'The blasting criteria in Table 2 do not apply if the Applicant has a written agreement with the owner/s of the relevant residence or infrastructure to exceed the blasting criteria, and the Applicant has advised the Department in writing of the terms of this agreement.'

SSD 7142 Part A Condition A2 Terms of Consent:

'The development may only be carried out: ...

(c) generally in accordance with the EIS;...'

EIS Section 6.0 Environmental Assessment, Sub-Section 6.7.5.4 Historical Sites:

'In regard to the former Warkworth Public School, which is no longer a school and is owned by a mining company, blasts will be managed to meet 5 mm/s to negate the risk of vibration impacts except where agreed otherwise with the owner and/or based on a structural assessment that identifies an alternate acceptable vibration level.'

Agreement

Vibration in excess of the Development Consent Requirement described above may occur from time to time during the period in which blasting activities associated with the United Open Cut are being undertaken by the Development Consent Holder.

The Vibration Assessment dated 18 September 2020 and conducted by Acumen Engineers recommends maximum values for PPV from mine blasting at the Property of 15 mm/s for 95 % of blasts with maximum of 20 mm/s. Notwithstanding this recommendation, to limit the risk of any damage being incurred at the Property, the exposure of the Property to increased vibration levels by the Development Consent Holder will be done in a progressive manner.

Advancement to higher vibration levels will follow a review of blast impacts and will be based on monitoring of vibration levels at/near the Property (either the Land Owner's Warkworth blast monitor, the Development Consent Holder's BM02 monitor or a combination of these). Following a minimum of 2 blasts generating a particular vibration level, a structural assessment will be carried out by a specialist agreed with, and subject to access being permitted by, the Land Owner, to assess the structures response to the vibration level and verify a lack of structural damage. The costs of engaging the specialist to conduct the structural assessment will be the responsibility of the Development Consent Holder. Trigger levels for structural assessment and progression to higher vibration levels are:

- 5 mm/s – 10 mm/s PPV
- 10mm/s – 15 mm/s PPV

The Land Owner acknowledges and agrees that vibration as a result of blasting activities described above may exceed the blasting criteria contained in Development Consent SSD 7142 at the Former Warkworth Public School, being the Property which is the subject of this Agreement.

The Land Owner agrees that vibration levels in excess of the blasting criteria contained in the Development Consent may occur at the Property at the times blasting is permitted by the Development Consent, for the duration of the Term.

In order to stabilise existing defects at the Property, and to decrease the potential for these defects to be exacerbated by mine blast vibration effects, the following localised rectification works, as recommended by Acumen Engineers in Section 3.3 of their Dilapidation Survey dated 18 September 2020, will be undertaken by the Development Consent Holder prior to blast loading of greater than 5 mm/s PPV;

- Install timber framing within roof space at northern gable to brace the gable structure

- Install Helifix ties across the northeast corner of main walling and northeast corner of original lounge room masonry cracking and rake and repoint the cracking
- Install Helifix ties over eastern bedroom door and repoint cracking
- Repoint chimneys where required

The Development Consent Holder will procure a dilapidation report (with photographs) following the localised rectification works prior to lifting blast limits, and will procure a further dilapidation report annually. The Land Owner acknowledges the localised rectification works are valuable consideration for the consent and agreement granted by the Land Owner under this Agreement.

If any damage to the Property is observed during monitoring, a specialist structural engineer and/or materials conservator will be engaged to assess the damage. Any damage determined to be caused by the Development Consent Holder's blasting activity will be repaired at the Development Consent Holder's expense by approved specialists as soon as reasonably practicable, subject to access being permitted by the Land Owner. If repairs are not able to be made immediately, the Development Consent Holder will compensate the Land Owner for any loss associated with rent or relocation costs for any tenant permitted to use the Property by the Land Owner.

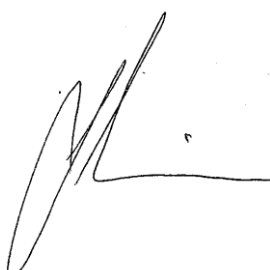
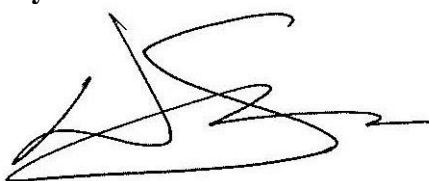
If the damage is deemed to be of a structural nature (i.e. non-cosmetic) the following shall occur:

- blasting to cease at the current design vibration range;
- should structural analysis determine that it is safe to do so, blasting shall continue at the previously proven lower levels of vibration until repairs and further structural mitigations are put in place as required;
- if investigations into the cause of the damage find that modifications to this Agreement are required, these modifications will be made in consultation with the Land Owner, and will be resubmitted to the Department of Planning, Industry and Environment.

The Land Owner consents to the Development Consent Holder providing this Agreement to NSW Department of Planning, Industry and Environment.

Term	For the duration of blasting activities in the United Open Cut or until this agreement is superseded or terminated by the parties.
-------------	--

EXECUTED as an agreement. Date: 3rd November 2021

EXECUTED by HV Operations Pty Ltd Authorised Officer 	EXECUTED by United Wambo OC Operations Pty Limited Authorised Officer 
General Manager – Tony Morris	Operations Manager - Nick Slater