

11 February 2022

BORG Manufacturing  
Oberon NSW 2787  
Attention: Victor Bendevski

Dear Victor,

**Regarding:** Request for Additional Information – SSD 7016 MOD 4

## *1 INTRODUCTION*

This letter provides additional information in response to enquiries made by the Environment Protection Authority (EPA) regarding application to modify SSD 7016 (MOD 4) for Borg Panels operating in Oberon, NSW.

It should be noted that Global Acoustics has prepared noise impact assessments (NIA) for the Environment Impact Statement (EIS) associated with initial development consent for the project, as well as subsequent modifications to the consent, with the following report references:

- 15341\_R03 – NIA prepared as part of the EIS for initial development consent for the project;
- 17496\_L01 – NIA prepared for MOD 1 of the development consent, pertaining to design changes and extension of a proposed noise bund;
- 18090\_L02 – NIA prepared for MOD 2 of the development consent, pertaining to installation of a gas turbine and pipeline for electricity generation and cancellation of the proposed noise bund;
- 20103\_L01 – NIA prepared for MOD 3 of the development consent, pertaining to further design changes and addition of new material handling plant; and
- 21179\_L02 – NIA prepared for MOD 4 of the development consent, pertaining to further design changes and relocating the existing mechanical workshop to the new hardstand area.

Additional information and definitions of terminology that may be used in this document are provided in the reports referenced above.

Section 3 of the EPA's Request for Additional Information (RFI) pertains to noise and is reproduced below.

### 3. NOISE

Modification 4 is for the construction of a mechanical workshop and include truck wash and increased traffic. Additional works are proposed both outside and within the enclosed spaces on site and as you have identified in the request form, **the noise impact assessment (NIA) predicts that there will be no changes in the noise levels** at the receivers despite these modifications. The NIA also identifies that at several receiver locations, the **predicted noise level is either at or very close to the noise limits in the consent for MOD 3 (and licence)**. Note that the noise limits set out in the conditions of approval (for MOD 3) are consistent with the noise limits in EPL 3035.

**Further information is required to establish how the predicted noise levels at the receiver was calculated.**

- **An analysis of the contribution the MOD 4 activities to the overall noise emission from the site is required.** If there is no change in noise level as a result of the activities associated with MOD4 (as set out in the NIA), then the contribution from the MOD 4 should be significantly below those that have already been approved. If this is not the case, the NIA should note which aspects of the development have reduced noise output to allow for the additional noise contribution from MOD 4.
- **A noise contour map for the current operations as approved under MOD 3 and a comparison with those proposed for MOD 4 should be provided.** This will enable us to compare and contrast the extent of the noise impact from each portion of the development.
- **The NIA must include an assessment of annoying characteristics as per Fact Sheet C of the Noise Policy for Industry (NPfI, EPA, 2017).** This assessment should include an assessment of low frequency noise from the site. This is a crucial aspect of the assessment as any penalties that are applied as a result of this assessment is likely to result in a non-compliance given that the predicted noise levels are at or very close to the licence limits. An explanatory note on the application on Fact Sheet C for low frequency noise is contained within page 22 of this document.
- Given that the previous noise limits for MOD were framed prior to the introduction of the NPfI, attention should also be given to the NPfI Transitional Arrangements to ensure that all provisions in that document are contained within the MOD 4 report.

## 2 RESPONSE TO RFI

### 2.1 Analysis of Contribution of MOD 4 Activities

Over the course of the project, the total site sound power modelled for all noise sources on site has been between 131-132  $L_{WA}$ , increasing approximately 0.3 dB from the EIS to MOD 4 noise model. In relation to a total site sound power of 131  $L_{WA}$ , the **additional noise sources associated with MOD 4 represent an extremely small increase in total site sound power of approximately 0.13 dB.**

Predicted noise levels at receivers have increased and decreased over the course of the project. However, these fluctuations have been more related to site design changes, addition/removal of shielding, enclosure of noise sources, addition of a few significant items of plant (e.g. gas turbine and material handling plant), and rounding of results.

Reporting practices for predictive noise modelling stipulate that results to be rounded to the nearest integer to account for uncertainty. Increases and decreases in predicted noise levels for Borg Panels are often due to rounding of much smaller contributions and reductions causing predicted noise levels to “tick over” to the

next integer. To illustrate this, a history of predicted noise levels for the EIS and each MOD have been provided in Table 2.1, including relative change (to one decimal place) compared to the previous noise model iteration.

*Table 2.1: WORST-CASE OPERATIONAL NOISE  $L_{Aeq}$  PREDICTIONS, NIGHT PERIOD ONLY<sup>1</sup>*

Receiver	EIS Prediction	MOD 1 Prediction (Change)	MOD 2 Prediction (Change)	MOD 3 Prediction (Change)	MOD 4 Prediction (Change)	Total Change
R1	38	38 (-0.1)	37 (-0.5)	37 (-0.4)	37 (+0.2)	-0.8
R2	41	42 (+0.9)	41 (-0.4)	41 (0.0)	41 (+0.2)	+0.7
R3	43	44 (+0.6)	43 (-0.4)	43 (-0.6)	43 (+0.2)	-0.2
R4	40	40 (+0.4)	40 (0.0)	40 (-0.4)	40 (+0.1)	+0.1
R5	39	39 (+0.6)	39 (-0.2)	39 (-0.1)	39 (+0.5)	+0.8
R6	42	42 (+0.7)	42 (-0.5)	42 (0.0)	42 (+0.1)	+0.3
R7	40	40 (+0.7)	40 (-0.1)	40 (-0.1)	40 (+0.3)	+0.8
R8	41	42 (+1.3)	41 (-0.6)	42 (+0.1)	42 (+0.3)	+1.1
R9	45	45 (+0.8)	45 (-1.0)	45 (+0.7)	45 (0.0)	+0.5
R10	44	44 (+0.6)	44 (-0.4)	44 (-0.1)	44 (+0.2)	+0.2
R11 <sup>2</sup>	-	-	-	-	42	-
R12 <sup>2</sup>	-	-	-	-	41	-

Notes:

1. Predicted noise levels are reported to the nearest integer in accordance with industry best practice; and
2. Noise levels for this receiver were first predicted for MOD 4 NIA.

## 2.2 Noise Contour Maps

The noise model associated with the initial EIS prepared for the project was in accordance with the NSW “Industrial Noise Policy” (INP, 2000) which was the relevant policy at the time. The requirement for noise contour maps at 5 dB intervals was introduced for major projects in the NSW “Noise Policy for Industry” (NPfI, 2017) which superseded the INP in October 2017. Noise contour maps were not generated as the total change in predicted noise levels relative to the original EIS NIA (as shown in Table 2.1) was not considered significant enough to justify the additional costs associated with generation of noise contours.

With regard to the specific EPA query, the visual difference between MOD 3 and MOD 4 noise contour maps would likely be imperceptible due to the small differences in predicted noise levels compared to the 5 dB interval steps required by the NPfI.

## 2.3 Assessment of NPfI Modifying Factors

Global Acoustics has conducted attended compliance noise monitoring for Borg Panels since May 2018. In accordance with Item 8 of the “Implementation and transitional arrangement for the Noise Policy for Industry” (2017), modifying factors have been assessed as per NPfI Fact Sheet C during all environmental noise monitoring surveys undertaken for Borg Panels. From May 2018 to present, no modifying factors, (low-

frequency, tonality, or intermittency) have been applicable to measured noise levels from Borg Panels. Furthermore, Borg Panels has a strong history of compliance with noise limits as detailed in Section 2 of the MOD 4 NIA.

As previously discussed, the initial noise model prepared for Borg Panels was in accordance with the INP. Noise modelling prediction of modifying factors in accordance with NPfI Fact Sheet C, requires 1/3 octave-band sound power data which is typically not readily available or provided by manufacturers of mobile and fixed plant. (If any sound power data is provided, it is either a single number value or octave-band data, neither of which sufficient to predict modifying factors.)

In order to transition the Borg Panels noise model to include prediction of modifying factors in accordance with the NPfI, a comprehensive sound power testing campaign of all fixed and mobile plant on site would have to be undertaken. This was not considered reasonable for a site with a strong history of compliance and where modifying factors have already been assessed through attended noise monitoring since May 2018.

### 3 SUMMARY

A summary of responses to Section 3 (Noise) of the RFI issued by the EPA to Borg Panels:

- Additional noise sources associated with MOD 4 represent an extremely small increase in total site sound power of approximately 0.13 dB;
- Noise contour maps have not been generated at this time as the total change in predicted noise levels relative to the original EIS NIA was not considered significant enough to justify the additional costs associated with generation of noise contours. The visual difference between MOD 3 and MOD 4 noise contour maps would be barely perceivable due to the small differences in predicted noise levels of less than 1 dB compared to the 5 dB interval steps required by the NPfI;
- In order to transition the Borg Panels noise model to include prediction of modifying factors in accordance with the NPfI Fact Sheet C, a comprehensive sound power testing campaign of all fixed and mobile plant on site would have to be undertaken to measure 1/3 octave band data. This was not considered reasonable for a site with a strong history of compliance and where modifying factors have already been assessed through attended noise monitoring since May 2018; and
- In accordance with Item 8 of the *“Implementation and transitional arrangement for the Noise Policy for Industry”* (2017), modifying factors have been assessed as per NPfI Fact Sheet C during all environmental noise monitoring surveys undertaken for Borg Panels. From May 2018 to present, no modifying factors, (low-frequency, tonality, or intermittency) have been applicable to measured noise levels from Borg Panels. Furthermore, Borg Panels has a strong history of compliance with noise limits as detailed in Section 2 of the MOD 4 NIA.

I trust this information meets your requirements. If you have any questions or need further details please contact me.



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