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**OBERON NSW 2787**

**Attention:** Mr Ben Gawehn

11 May 2020



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**Atkins Acoustics and Associates Pty Ltd.**  
Consulting Acoustical & Vibration Engineers

**HIGHLAND PINE PRODUCTS**  
**ENVIRONMENTAL NOISE AUDIT**  
**APRIL/MAY 2020**

## 1.0 INTRODUCTION

*Atkins Acoustics* was retained by *Highland Pine Products Pty Ltd* to conduct an environmental noise audit for the Oberon plant.

This report presents results and findings of attended noise measurements conducted on Tuesday 21 April and Wednesday 6 May 2020. Inquiries prior to the audits confirmed that HPP was fully operational during the day, evening and night audits.

The reference locations (*Attachment 1*) selected for noise monitoring are summarised in *Table 1*. Other industrial noise sources identified during the attended audit included activities associated with BORG

**Table 1. Noise Monitoring Locations**

Reference Measurement Location	Description
NM1	26 Cunynghame Street West
NM2	12 Herborn Street
NM3	Oorong (O'Connell Road)

## 2.0 NOISE CONDITIONS

HPP is the holder of Environmental Protection Licence No 11269 under the *Protection Operations Act 1997*. The licence authorises the carrying out 'Wood or timber milling or processing and 'Wood preservation' at Gate 3, Albion Street, Oberon. Noise conditions referenced on the Licence are summarised in *Table 2* together with noise limits referenced in Development Approval DA 403-11-00.

**Table 2. Assessment Noise Limits**

Reference	Assessment Location	Sound Pressure Levels L <sub>Aeq 15min</sub> dB 20x10 <sup>-6</sup> Pa		
		Day (7.00am - 6.00pm)	Evening (6.00pm - 10.00pm)	Night (10.00pm- 7.00am)
EPL 11229	Oorong or any other noise sensitive location (such as residence/school along Herbourne or West Cunynghame Street	55	50	50
		Sound Pressure Levels L <sub>A10 15min</sub> dB 20x10 <sup>-6</sup> Pa		
DA 403-11-00	Residential areas within Oberon	46	41	36
	Residential areas adjacent to industrial areas or main roads	51	46	41
	Residences within industrial areas	56	51	46

**NOTES:**

1. To determine compliance with EPL, noise must be measured at or computed for, at 'Oorong' or any other noise sensitive locations (such as a residence/school along Herbon or West Cunyngham Street, Oberon).
2. A modifying factor correction must be applied for tonal, impulsive or intermittent noise in accordance with the 'Environmental Noise Management - NSW Industrial Noise Policy (January 2000)'.
3. The noise limits identified in the licence apply under all meteorological conditions except:
  - a) during rain and wind speeds (at 10m height) greater than 3m/sec; and
  - b) under 'non -significant weather conditions'

### 2.1 Modifying Factors

Notes referenced to the Environmental Protection Licence No 11269 refer to 'modifying factor' adjustments and are applied where the source noise contains characteristics such as tonality, impulsiveness, intermittency, irregularity or dominant low-frequency content.

### 2.2 Assessment Meteorological Conditions

Reference to reported weather analysis for Oberon (Heggie<sup>February 2006</sup>), the area is subject to Class F temperature inversions during nighttime hours, south-westerly nighttime winds during winter and spring and considered to be a feature of the area as they occur for 30% or more of the time.

### **3.0 INSTRUMENTATION**

The noise measurement instrumentation comprised a Svan 949 Sound and Vibration Analyser. The Svan meter was programmed to record and store 1/3 octave and statistical sound pressure levels. The reference calibration level of the meter was checked prior to and after the measurements with a Bruel & Kjaer Sound Level Calibrator Type 4230 and remained within  $\pm 1\text{dB(A)}$ . The instrument satisfies Class 1 performance requirements of AS IEC 61672.1 - 2004: Electro acoustics - Sound Level Meters - Sound Level Meters.

### **4.0 PREVAILING WEATHER CONDITIONS**

Prevailing weather conditions observed during the April day and evening audits varied with wind from the west-south-west ( $<3\text{m/sec}$ ) and temperatures between  $10\text{-}15^{\circ}\text{C}$ . The April night audit was cancelled due to wind speeds exceeding  $5\text{m/sec}$ . A follow-up night visit was conducted on 6<sup>th</sup> May 2020, during the noise audit a light wind from the north-west prevailed ( $<3\text{m/sec}$ ) and temperatures ranged between  $1\text{-}2^{\circ}\text{C}$ .

### **5.0 MEASUREMENT RESULT**

*Table 3* presents a summary of the measured ambient sound pressure levels, noise approval conditions, estimated noise contributions from HPP and noted observations.

Noise from HPP plant/equipment/activities identified during the audits included general industrial hum, Green Mill cyclone (product impact), onsite road trucks, fork lifts (open timber storage area), log feeder (impact loading and transfer) and timber impact (sorter/stacker and green mill building).

In terms of applying the *INP* modifying correction factors no HPP sources during the audits were identified that required tonal, low frequency, impulsive or intermittent adjustments.

**Table 3. Attended Statistical Noise Measurements**  
*dBA re: 20 x 10<sup>-6</sup> Pa*

Location	Measured Ambient Sound Pressure Levels 20 x 10 <sup>-6</sup> Pa					Assessment Goals	Estimated HPP Contribution	Comments
	L <sub>Aeq</sub>	L <sub>A90</sub>	L <sub>A50</sub>	L <sub>A10</sub>	L <sub>A1</sub>	L <sub>Aeq</sub>	L <sub>Aeq</sub>	
Daytime (1440 hours – 1555 hours) 21 April 2020								
Location M1	50.9	47.2	48.7	52.3	60.8	55	<45	HPP not audible; BORG Log impact and processing; Intermittent offsite trucks L <sub>Amax</sub> 48/9dBA and cars L <sub>Amax</sub> 50/5dBA; Birds.
Location M2	48.9	47.0	48.4	50.2	53.9	55	<45	HPP Log impact L <sub>Amax</sub> 52/7dBA; Intermittent offsite distant traffic L <sub>Amax</sub> 49/50dBA; Insects; Light breeze in trees
Location M3	51.8	41.5	47.2	55.7	61.3	55	<40	HPP not audible; Offsite trucks L <sub>Amax</sub> 62/3dBA and cars L <sub>Amax</sub> 54/9dBA; Insects; Breeze in tree
Evening (1835 hours – 2005 hours) 21 April 2020								
Location M1	46.6	44.6	45.9	47.7	52.3	50	<45	HPP and BORG controlled ambient L <sub>Aeq</sub> 46/7; HPP log impact, Offsite trucks L <sub>Amax</sub> 51/2, Offsite cars L <sub>Amax</sub> 46/8dBA.
Location M2	47.6	45.2	46.9	49.5	51.4	50	<45	HPP and BORG controlled ambient L <sub>Aeq</sub> 46/7; HPP log impact, Intermittent offsite distant traffic L <sub>Amax</sub> 49/50dBA; Insects
Location M3	40.1	37.7	46.5	48.8	51.7	50	<45	HPP log impact L <sub>Amax</sub> 40/5, Offsite trucks L <sub>Amax</sub> 60/5, Offsite cars L <sub>Amax</sub> 53/60BA
Night (2215 hours – 2355 hours) 6 May 2020								
Location M1	51.8	50.8	51.7	52.6	53.8	50	<46	HPP and BORG controlled ambient L <sub>Aeq</sub> 51/2.
Location M2	50.5	49.9	50.1	52.1	53.9	50	<48	HPP and BORG controlled ambient L <sub>Aeq</sub> 50/1. HPP Timber impact (timber green mill, sorter/stacker and log feeder) L <sub>Amax</sub> 49/53; Offsite trucks L <sub>Amax</sub> 54/5.
Location M3	41.7	39.3	40.8	43.9	47.1	50	<40	HPP general noise HPP log feeder impact L <sub>Amax</sub> 42/5; Onsite mobile plant L <sub>Amax</sub> 44/5; Green mill building impact noise L <sub>Amax</sub> 40/2; Insects

NOTES: \* Includes +2dB correction for low frequency noise (NPfl Table C.1)  
 \*\* Includes +5dB correction for low frequency noise (NPfl Table C.1)

## 6.0 DISCUSSION

*Table 3* presents the results and findings from attended environmental noise audits conducted for HPP Oberon on Tuesday 21 April and Wednesday 6 May 2020. Inquiries prior to the audit confirmed that HPP was fully operational during the day, evening and night audits. The reference locations (*Attachment 1*) selected for noise monitoring are summarised in *Table 1*.

HPP plant/equipment/activities identified during the audits included general industrial hum, Green Mill cyclone (product impact), onsite road trucks, fork lifts (open timber storage area), log feeder (impact loading and transfer) and timber impact (sorter/stacker and green mill buildings). Other industrial noise sources identified during the attended audit included activities associated with BORG

Prevailing weather conditions observed during the April day and evening audits varied with wind from the west-south-west (<3m/sec) and temperatures between 10-15°C. The April night audit was cancelled due to wind speeds exceeding 5m/sec. A follow-up night visit was conducted on 6<sup>th</sup> May 2020, during the noise audit a light wind from the north-west prevailed (<3m/sec) and temperatures ranged between 1-2°C.

Measurements during the audits confirmed that the HPP  $L_{Aeq, 15 \text{ min}}$  noise contributions to the ambient levels could not be measured directly for comparison with the Licence Conditions. In terms of applying the *INP* modifying correction factors no sources were identified that required tonal, low frequency, impulsive or intermittent adjustments. From the findings of the attended audits the results (*Table 3*) demonstrate compliance with the EPA Environmental Licence Noise Limits (*Table 1*).

**ATKINS ACOUSTICS & ASSOCIATES PTY LTD.**

A handwritten signature in black ink, consisting of a large, stylized initial 'A' followed by a series of loops and a long horizontal stroke.

## ATTACHMENT 1. REFERENCE MEASUREMENT LOCATIONS

