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Project 2728
29 July 2010

Motorcycling NSW
Attention: Mr Daniel Gatt — Email: dgatt@motorcycling.com.au
General Manager
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HARRIS PARK NSW 2150 — Ph: 02 9635 5277
C/o- ECO Projects
Attention: Ms Kerrie Symonds — Email: ksymonds@ecoprojects.com.au

Dear Mr Gatt & Ms Symonds

PROPOSED MOTORCYCLE FACILITY – REDMAYNE RD HORSLEY PARK OPERATIONAL NOISE IMPACT ASSESSMENT – SUPPLEMENTARY ADVICE

1 INTRODUCTION

Acoustic Dynamics was previously engaged by Motorcycling NSW to prepare and provide an operational noise impact assessment of a proposed motorcycle facility at Redmayne Rd Horsley Park, NSW. Acoustic Dynamics' report 2728R001.RH.090725 dated 25 August 2009 detailed our noise impact assessment of site operations, as detailed within the report, including use of two types of motorcycles, including a:

1. "Typical 50cc Junior Motorcycle"; and
2. "Typical 80cc Junior Motorcycle".

Further to the information contained within our assessment report, Acoustic Dynamics understands alternate motorcycles are now proposed to be used at the subject site. In accordance with requests from Planning NSW, Acoustic Dynamics is subsequently engaged by Motorcycling NSW to prepare and provide supplementary advice regarding the use of two alternate types of motorcycles, including a:

1. "Typical 85cc Two-Stroke Motorcycle"; and
2. "Typical 150cc Four-Stroke Motorcycle".

This information within this letter is provided as a supplement to our acoustic assessment report dated 25 August 2009 and provides detail of noise emission associated with the operation of alternate motorcycles at the subject site.

2 PROCEDURES AND INSTRUMENTATION

Sound pressure measurements were carried out using a precision sound level meter conforming to the requirements of AS 1259-1990 "Sound Level Meters".

The survey instrumentation used during the studies is set out in **Table 2.1**.

Table 2.1 Noise Survey Instrumentation

Type	Serial Number	Instrument Description
2260	2413547	Brüel & Kjær Modular Precision Sound Level Meter
4189	2607949	Brüel & Kjær 12.5 mm Prepolarised Condenser Microphone
4231	2412578	Brüel & Kjær Calibrator
ARL-EL-316	16-207-012	ARL Type 1 Noise Logger

The reference levels were checked prior to and after the measurements and remained within acceptable limits.

The prevailing weather conditions during the measurements were generally calm and did not influence the noise measurements taken.

3 NOISE MEASUREMENTS

On Thursday 15 July 2010, Acoustic Dynamics conducted representative measurements of two alternate motorcycles proposed for use at the subject site.

A summary of the noise emission levels measured on 15 July 2010 is presented in **Table 3.1**.

Table 3.1 Motorcycle Noise Emission Levels Measured Under Load on 15 July 2010

Item Description	Descr.	Meas't Dist. [m]	SPL Noise Level [dB(A)] at Octave Band Centre Frequency [Hz]								
			63	125	250	500	1K	2K	4K	8K	O/A
Typical 85cc Two-Stroke Motorcycle	L_{Amax}	5m	39	59	74	72	77	77	74	75	83
Typical 150cc Four-Stroke Motorcycle	L_{Amax}	5m	58	69	68	73	74	74	72	65	80

4 DISCUSSION AND CONCLUSION

A summary of the source noise emission levels previously used in our detailed noise impact assessment is presented in **Table 4.1**.

Table 4.1 Junior Motorcycle Noise Emission Levels Used for Assessment

Item	Descr.	Meas't Dist. [m]	SPL Noise Level [dB(A)] at Octave Band Centre Frequency [Hz]								
			63	125	250	500	1K	2K	4K	8K	O/A
Typical 80cc Junior Motorcycle	L_{Amax}	5m	41	58	67	67	83	77	78	72	85
Typical 50cc Junior Motorcycle	L_{Amax}	5m	38	55	64	64	80	74	75	69	82

Further to our measurements of alternate motorcycles, review of the measured noise emission levels of alternate motorcycles proposed for use at the subject site detailed in **Table 3.1** above, and comparison of these with the noise emission source levels used in our assessment detailed in **Table 4.1** above, predicted noise emission will be lower than predicted within **Table 6.1.1** within our detailed noise impact assessment report.

Accordingly, Acoustic Dynamics has incorporated the revised noise emission levels into our modelling and calculations and provides a summary of resulting noise emission within **Table 4.2** below, to replace **Table 6.1.1** within our detailed noise impact assessment report.

Table 4.2 Predicted Noise Emission Levels (Revised) and Criteria

Loc. No.	Location	Predicted[1] L_{Aeq} Noise Emission Levels	Daytime Noise Criterion	Complies with Criterion?
1	Semi-rural/residential receiver - Redmayne Rd	57 dB(A)	55 dB(A)	**Yes[3]**
2	Semi-rural/residential receiver - Redmayne Rd	51 dB(A)	55 dB(A)	**Yes**
3	Semi-rural/residential receiver - Redmayne Rd	53 dB(A)	55 dB(A)	**Yes**
4	Spanish Gospel Chapel - Redmayne Rd	43 dB(A)	45 dB(A)[2]	**Yes**
5	Semi-rural/residential receiver - Wallgrove Rd	50 dB(A)	55 dB(A)	**Yes**
6	Semi-rural/residential receiver – Wallgrove Rd	44 dB(A)	55 dB(A)	**Yes**
7	Semi-rural/residential receiver – Chandos Rd	51 dB(A)	55 dB(A)	**Yes**
8	Semi-rural/residential receiver – Chandos Rd	50 dB(A)	55 dB(A)	**Yes**

Note: 1) Noise prediction calculations include a typical "worst case" scenario with ten (10) 85cc two-stroke motorcycles being ridden at the nearest proposed activity location within the facility to the subject receiver location with the incorporation of acoustic benefits obtained from the mitigation measures recommended in section 7 of our detailed report.

2) Internal noise criteria specified. Typical and outdoor to indoor correction of 10 dB is applied allowing for receiver windows to be open.

3) Marginal compliance is achieved as the human ear cannot easily distinguish sound level differences of up to 3 dB(A).

Assessment

Further our measurements of alternate motorcycles proposed for use on the subject site and revised modelling and calculations the following assessment is provided.

Following the implementation of the recommendations contained in section 7 of our detailed assessment report dated 25 August 2009, Acoustic Dynamics confirms our assessment that noise emission associated with the operation of the proposed junior motorcycle facility will comply with the relevant acoustic criteria, with the exception of a marginal exceedance (2 dB(A)) at one residential receiver location. Note should be made that such an exceedance can be considered *"acoustically insignificant"* as the human ear cannot easily distinguish sound level differences of up to 3 dB(A).

We trust that the above information meets with your present requirements and expectations. Please do not hesitate to contact us on 02 9908 1270 should you require more information.

Kind Regards
ACOUSTIC DYNAMICS

RICHARD HAYDON

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