



3 January 2013

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Attention:

Dear

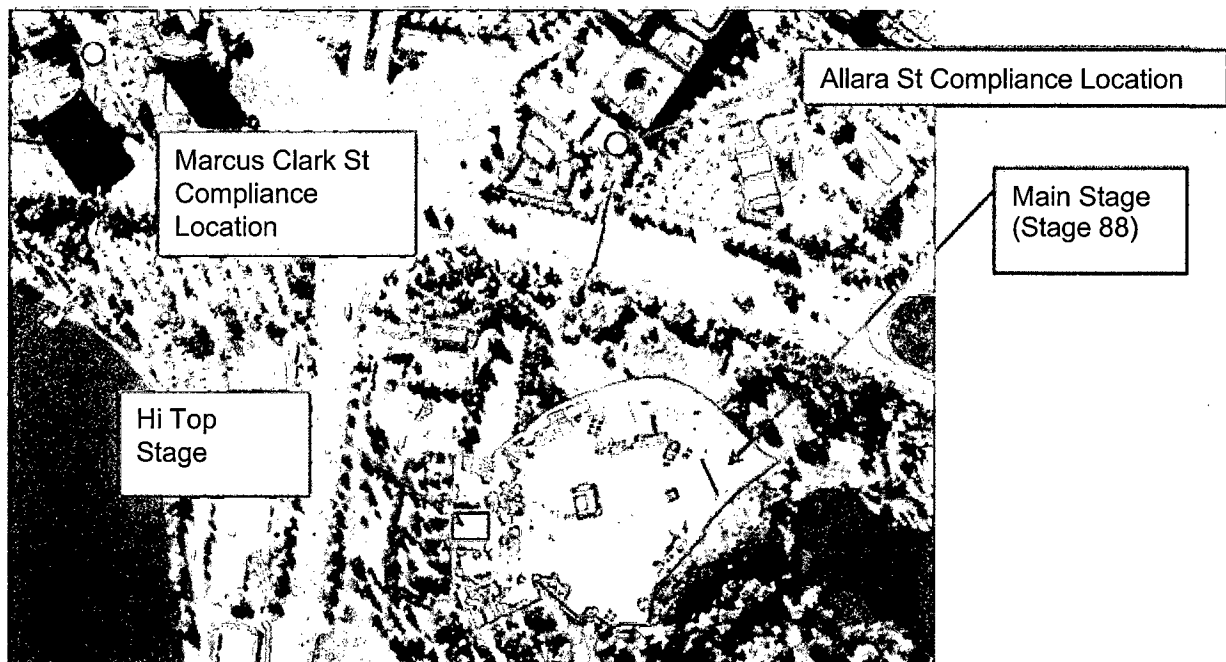
**Foreshore Festival 2012
Noise Compliance Monitoring Report**

1 Introduction

SLR Consulting (Australia) Pty Ltd (SLR Consulting) is pleased to present the results of noise measurements conducted during the Foreshore Music Festival on behalf of On site
noise measurements were conducted by Murray Neish from SLR Consulting.

The event moved this year from adjacent to Old Parliament House to Stage 88 in Commonwealth Park. A map of the site setup relative to the compliance locations is shown in **Figure 1**.

Figure 1 Site Map of Foreshore 2012



2 Environmental Noise Criteria

Noise conditions for the concert were covered under the Authorisation Number 0910. This document was dated 7 September 2012. The acoustic requirements of the authorisation are summarised below:

2.1 Compliance Locations

Two compliance locations were chosen by the Environment Protection Authority. These were:

- The northern end of the footbridge at Allara St
- The northern end of the footbridge at Marcus Clark St

Close ups of these locations are shown in **Figure 2** and **Figure 3**.

Figure 2 Allara St Compliance Location



Source: ACTMAPI

Figure 3 Marcus Clark St Compliance Location



Source: ACTMAPi

2.2 Noise Emissions

Noise levels at the two compliance locations must not exceed $LA_{10}(10 \text{ minute}) = 65 \text{ dBA}$ at compliance locations 1 and 2.

2.3 Hours of Operation

Outdoor concert events may only be conducted between the hours:

- 11:00 am to 11:00 pm on Saturday 24 November 2012.

Sound checks may be conducted for a maximum period of 60 minutes between the hours of 2:00 pm and 6:00 pm on Friday 23 November and a maximum of 60 minutes between 10:00 am and 12:00 pm on Saturday 24 November only.

3 Noise Monitoring Equipment

A combination of unattended and attended noise monitoring was used to provide detailed information of noise levels at the two compliance locations. The equipment listed in **Table 1** was used to monitor noise from the event.

Table 1 Noise Monitoring Equipment

Brand	Model & Description	Serial Number	Location
Rion	NA28 Sound Level Meter	01060054	Both locations
ARL	316 Noise Data Logger	16-306-044	Allara Street
ARL	316 Noise Data Logger	16-203-526	Marcus Clark Street

All equipment was calibrated before and after measurements using a Rion NC-74 calibrator (Serial Number 34873142). No significant calibration drift was recorded for any of the instrumentation used.

4 Methodology

4.1 Initial Setup

SLR Consulting attended the site on Friday 23 November to gain familiarity with the site layout and the location of the sound systems. The noise loggers at both compliance locations were set up in order to capture typical ambient background noise levels in the unit and record noise levels due to any sound checks.

4.2 Sound Checks

Sound checks began at 11 am on Saturday 24 November. It was anticipated that if noise levels at Allara Street were at acceptable levels, then noise levels at Marcus Clark Street would also be acceptable. Therefore SLR Consulting remained at Allara Street for the duration of the sound checks and the first performances, in order to establish suitable levels for each Stage. SLR Consulting was in regular contact with the event audio manager. SLR Consulting advised when the L10 levels were between 60 and 62 dBA. Amplification settings were noted for the main stage and the Hi Top stage.

4.3 Concert Noise Monitoring

Noise levels were initially monitored at the Allara Street compliance location. After a few performances, attended noise measurements were taken at Marcus Clark St. Noise from the concert was audible at this location, however the main sources of noise was from traffic along Parkes Way and activities at a nearby local café. The majority of attended monitoring was therefore at Allara Street. SLR Consulting attended the Marcus Clark Street location several times over the course of the event to observe and record the noise levels the local acoustic environment.

Noise levels at Allara Street were consistently within the compliance limit during the afternoon and early evening. Later in the event, some live bands were on the main stage. SLR Consulting maintained radio contact with to advise when the noise level was approaching or slightly exceeding the compliance limit and if in our opinion, the noise level needed to be adjusted. The event finished promptly at 11 pm.

5 Results

5.1 Attended Monitoring

Noise levels and notes from the attended monitoring at the two compliance locations are provided in **Table 3**. **Weather conditions at Allara Street were generally calm with occasional light wind gusts of not more than 3m/s generally from the south east. Winds were stronger at Marcus Clark Street with gusts of 5-6 m/s during one of the afternoon measurements. The temperature range was mid to high 20's throughout the event.**

Table 2 and Table 3. Weather conditions at Allara Street were generally calm with occasional light wind gusts of not more than 3m/s generally from the south east. Winds were stronger at Marcus Clark Street with gusts of 5-6 m/s during one of the afternoon measurements. The temperature range was mid to high 20's throughout the event.

Table 2 Attended Monitoring Results – Allara Street¹

Start time	LA10	LA90	Comments
10:45	58	48	Road traffic noise 55 dBA, sound checks briefly up to 60 dBA
11:00	58	49	Most noise generated by passers-by and traffic noise
11:30	59	51	Highest levels due to people noise from patrons arriving at the event.
11:38	62	53	Concert noise level dominated by people noise in the vicinity of

Start time	LA10	LA90	Comments
			compliance location
11:40	63	54	Concert noise level dominated by people noise in the vicinity of compliance location
12:30	63	55	Measurement position further across from footbridge to minimise the effect of local noise from patrons
12:54	61	54	Noise level mainly due to people in area, music noise 54-58 dBA
14:15	62	53	Music noise 58-60 dBA
14:20	62	53	
14:40	63	54	
14:48	65	55	Sporadic people movements, noise level mainly due to music
14:51	63	54	
15:20	65	55	
17:10	62	55	
17:20	64	55	Noise from both stages apparent
17:45	64	55	Amplification level adjusted down during this period
18:10	62	55	Main stage L10 59dBA, both stages 62dBA
20:05	64	57	
20:50	63	57	
21:00	64	57	
21:11	64	57	Spot measurements taken frequently during the evening period. Mostly not recorded. SLR Consulting maintained regular contact with event management who promptly made adjustments when these were requested.
21:21	61	58	
21:40	65	59	
21:56	66	58	
22:52	64	58	

Note 1: Duration of measurements (especially late in the evening) were short-term for the purpose of confirming levels, so there is no direct correspondence with logger data from the same period

Table 3 Attended Monitoring Results – Marcus Clarke Street

Start time	LA10	LA90	Comments
13:05	69	58	Local noise from musical performance in or near adjacent café, bass noise audible towards the centre of the footbridge
15:35	58	56	Winds gusting to 5-6m/s from the north. Bass noise from the concert intermittently audible. Main noise was traffic movements and regenerated noise due to the wind.
19:02	57	53	Steady noise from Capital Tower plant enclosure (next to carpark) appeared to be controlling the noise level. This subjective assessment is supported by the closeness of the L10 and L90 noise levels. Light winds from the east at 1-1.5m/s concert noise was faintly audible, but not controlling the L10 noise level

5.2 Unattended Logging results

Graphs of the unattended noise monitoring are presented in **Appendix A**. The attended and unattended data is further analysed in **Section 6**.

6 Discussion

6.1 Marcus Clark Street Results

SLR Consulting found from measurements early in the afternoon that concert noise at this location was likely to be well within the required compliance limit of $L_{10}(10 \text{ min}) = 65 \text{ dBA}$. Therefore only a few checks were made at this location during the event. Noise in this area was controlled by local activities at a nearby café, traffic noise, and later in the day as traffic noise decreased, plant noise from the Capital Tower enclosure adjacent to the car park became more noticeable. Concert noise was audible during most visits, but was not loud enough to influence the measured L_{10} noise levels.

6.2 Allara Street Results

Noise logging and attended measurements commenced nearby the north side of the footbridge at Allara Street. This location was identical to the location used for unattended noise logging of the previous David Guetta event in May 2012. During the evening portion of the Foreshore event, logging and attended measurements were moved to nearby the flagpole at the adjacent Werriwa defence facility. This location was practically the same distance from the event, and subject to less noise from pedestrian traffic and vehicle movements in the vicinity of the foot bridge. From the unattended noise logging data, it can be seen that there was only one performance where the noise exceeded the $L_{10} 65 \text{ dBA}$ criterion. This was at 9:40 pm. SLR Consulting in coordination with [redacted] took action to reduce the noise level, the result of which can also be seen from the graph. The music played during this time had a strong vocal component, which was more variable in volume than some of the previous artists in the program.

7 Conclusion

SLR Consulting conducted noise monitoring of the Foreshore Music Festival at Commonwealth Park. Noise measurements were conducted in the two compliance locations as part of the requirements of EPA Authorisation Number 0910. Based upon the noise measurements conducted, and taking into account that the compliance goal is $LA_{10}(10 \text{ minute}) 65 \text{ dBA}$ at the compliance locations, we conclude the following:

Noise emitted from the festival only occurred during the allowable timeframes provided in EPA Authorisation Number 0910.

Based on our attended measurements and logging the entire event (including sound checks) was within the compliance limit at the Marcus Clark Street compliance location.

The entire sound check period and the majority of the music program were within the 65 dBA compliance limit at the Allara Street compliance location. One significant exceedance of the criterion was recorded at 9:40 pm. The event management acted on advice from SLR Consulting and brought the level back down during the subsequent monitoring periods.

We trust this information meets your current requirements. If you have any questions I can be contacted on 6287 0800.

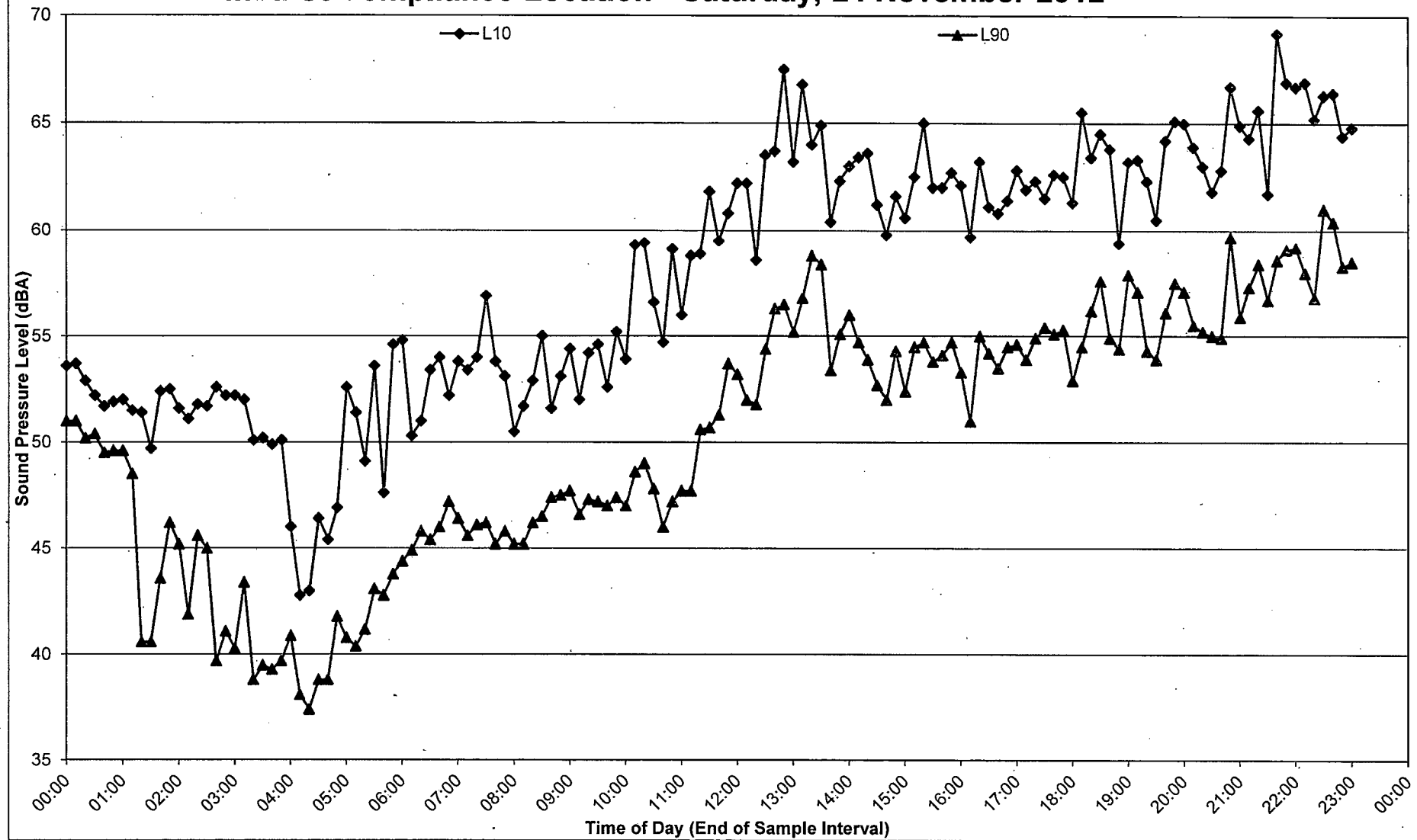
Sincerely,

[redacted]
MURRAY NEISH
Senior Acoustic Consultant

APPENDIX A – Noise Logger Data

Statistical Ambient Noise Levels

Allara St Compliance Location - Saturday, 24 November 2012



Statistical Ambient Noise Levels

Marcus Clarke St Compliance Location - Saturday, 24 November 2012

