

Gian Bendinelli
McCarthy & Stone
Southern House
Embankment Way
Ringwood
Hampshire
BH24 1EU

Date: 7th June 2016
Reference: R6295-1 Rev 0

Dear Gian,

Re: Proposed Sub-Station, Hayling Billy site, Hayling Island – Noise Assessment

Please see a summary below of the likely noise impact associated with the proposed transformer sub-station at the McCarthy and Stone development at Hayling Island.

1.0 INTRODUCTION

- 1.1 24 Acoustics Ltd has been instructed by McCarthy and Stone, to undertake an assessment of noise levels arising from the proposed sub-station at the new McCarthy and Stone development, Hayling Island.
- 1.2 Potential concerns regarding noise from the transformer have been raised by neighbouring residents.
- 1.3 All noise levels in this report are presented in dB relative to 20 μ Pa.

2.0 SITE DESCRIPTION, BACKGROUND AND PROPOSED OPERATION

- 2.1 The proposed transformer is to be housed in a GRP enclosure. The transformer will be located on the site boundary with St Mary's Road.
- 2.2 The nearest residential property is located to the north and is approximately 5m from the acoustic centre of the proposed transformer enclosure.
- 2.3 Figure 1 shows the site location.

3.0 NOISE MEASUREMENTS

- 3.1 Noise emitted from older power transformers tends to be tonal in nature with larger units producing a characteristic hum. The principal component is at a frequency of 100 Hz with a strong harmonic at 200 Hz. The tonal character of the noise would normally attract a 5 dB penalty under BS 4142.
- 3.2 In order to assess the impact from the proposed transformer, 24 Acoustics Ltd has undertaken noise measurements on very similar units located at other McCarthy and Stone sites (Eastleigh and Shirley, Southampton). In both cases, the transformers were housed in a Glass Reinforced Plastic (GRP) enclosure.
- 3.3 Tests were undertaken with the transformers operational and under moderately heavy load (ie, taking into account the cold weather). The measured overall A weighted sound pressure level (which has been calculated using the dominant 100 Hz and 200 Hz 1/3 octave band component values) is shown in Table 1 below.

Location and Distance	1/3 Octave Sound Pressure Level (dB L _{eq})		dB L _{Aeq}
	100 Hz	200Hz	
Eastleigh - 3m from unit	38.7	36.6	21.3
Shirley - 0.5m from unit	48.2	45.4	30.1

Table 1: Summary of Measured Noise Levels

- 3.4 It is relevant to note that at both sites, noise from the transformer was difficult to perceive even when standing next to the unit.
- 3.5 On the basis of the above levels, it is considered that the noise level arising from the proposed transformer will be no more than 22 dBA at the nearest affected property. This value is substantially lower than the existing background noise level (typically 30 – 35 dB L_{A90} at night) and on this basis will have no adverse impact on amenity.

4.0 CONCLUSIONS

- 4.1 An assessment of the noise impact arising from the proposed power transformer at the proposed McCarthy and Stone development site at for the former Hayling Billy site.
- 4.2 The noise impact from the proposed transformer has been assessed at the nearest residential property and found highly unlikely to cause any adverse impact on amenity.

I trust the above is satisfactory. Should you have any further questions or require assistance, please do not hesitate to call.

Yours sincerely,

Steve Gosling BEng (Hons) MIOA MAES
Principal Consultant



Project:
McCarthy and Stone,
Hayling Island

Project:
Site Plan

DWG No: Figure 1

Scale: N.T.S.

Rev: 0

Date: June 2016

Drawn By: SG

Job No: R6295-1


24Acoustics
www.24acoustics.co.uk