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Mr Les Egerton
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Dear Les,

NOISE ASSESSMENT FOR THE PROPOSED CHRISTMAS CREEK WATER MANAGEMENT SCHEME

Background

The proposed Christmas Creek Water Management Scheme requires the operation of 60 submersible pumps, which would be powered using 60 mobile generator sets. Following a review of the Creek Water Management Scheme Environmental Review document by the Environmental Protection Authority (EPA), the EPA requested that Fortescue consider noise from the proposal at the mine tenement boundaries. This report has been prepared following an assessment of the noise from the proposed generator sets and comparison against the *Environmental Protection (Noise) Regulations 1997*.

Criteria

Environmental noise in Western Australia is governed by the *Environmental Protection Act 1986*, through the *Environmental Protection (Noise) Regulations 1997* (the Regulations).

Regulation 7 defines the prescribed standard for noise emissions as follows:

"7. (1) Noise emitted from any premises or public place when received at other premises –

(a) Must not cause or *significantly contribute to*, a level of noise which exceeds the assigned level in respect of noise received at premises of that kind; and

(b) Must be free of –

i. Tonality;

ii. Impulsiveness; and

iii. Modulation".

A "…noise emission is taken to significantly contribute to a level of noise if the noise emission exceeds a value which is 5dB below the assigned level…"

The baseline assigned levels (prescribed standards) are specified in Regulation 8 and are shown below in *Table 1.*

Table 1 – Baseline Assigned Noise Levels

Premises Receiving Noise	Time Of Day	Assigned Level (dB)		
		L_{A10}	L_{A1}	L_{Amax}
Noise Sensitive[1]	0700 to 1900 hours Monday to Saturday (Day)	45 + influencing factor	55 + influencing factor	65 + influencing factor
	0900 to 1900 hours Sunday and public holidays (Sunday)	40 + influencing factor	50 + influencing factor	65 + influencing factor
	1900 to 2200 hours all days (Evening)	40 + influencing factor	50 + influencing factor	55 + influencing factor
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and public holidays (Night)	35 + influencing factor	45 + influencing factor	55 + influencing factor
Noise Sensitive[2]	All hours	60	75	80
Commercial	All hours	60	75	80
Industrial	All hours	65	80	90

1. Applies within 15 m of a building associated with a noise sensitive use, as defined in Schedule 1, Part C.
2. Applies at a noise sensitive premises greater than 15 m from a building associated with a noise sensitive use.

As there are no buildings associated with a noise sensitive use within 15 m of the Fortescue mining lease tenement boundary, then assuming the worst-case that the noise from the generator sets would *significantly contribute to* a level of noise which exceeds the assigned level (although this is extremely unlikely), a noise level of L_{A10} 55 dB would need to be met to ensure compliance with the Regulations.

Noise Predictions

The noise levels from the generator sets have been predicted using the computer program SoundPLAN 7.0. This is an internationally used noise-modelling program and is accepted by the Department of Environment & Conservation (DEC).

The predictions are based on the CONCAWE methodology. The CONCAWE methodology has been used as it explicitly deals with the influence of wind and the stability of the atmosphere.

The sound power level for the proposed generator sets, as provided by the manufacturer, is L_W 96 dB(A) for each set. For the purposes of the assessment we have assumed the worst-case scenario of the 60 generator sets being operated simultaneously.

In addition to the above we have assumed the worst-case meteorological conditions of the wind blowing from the generator sets towards the tenement boundaries.

Results

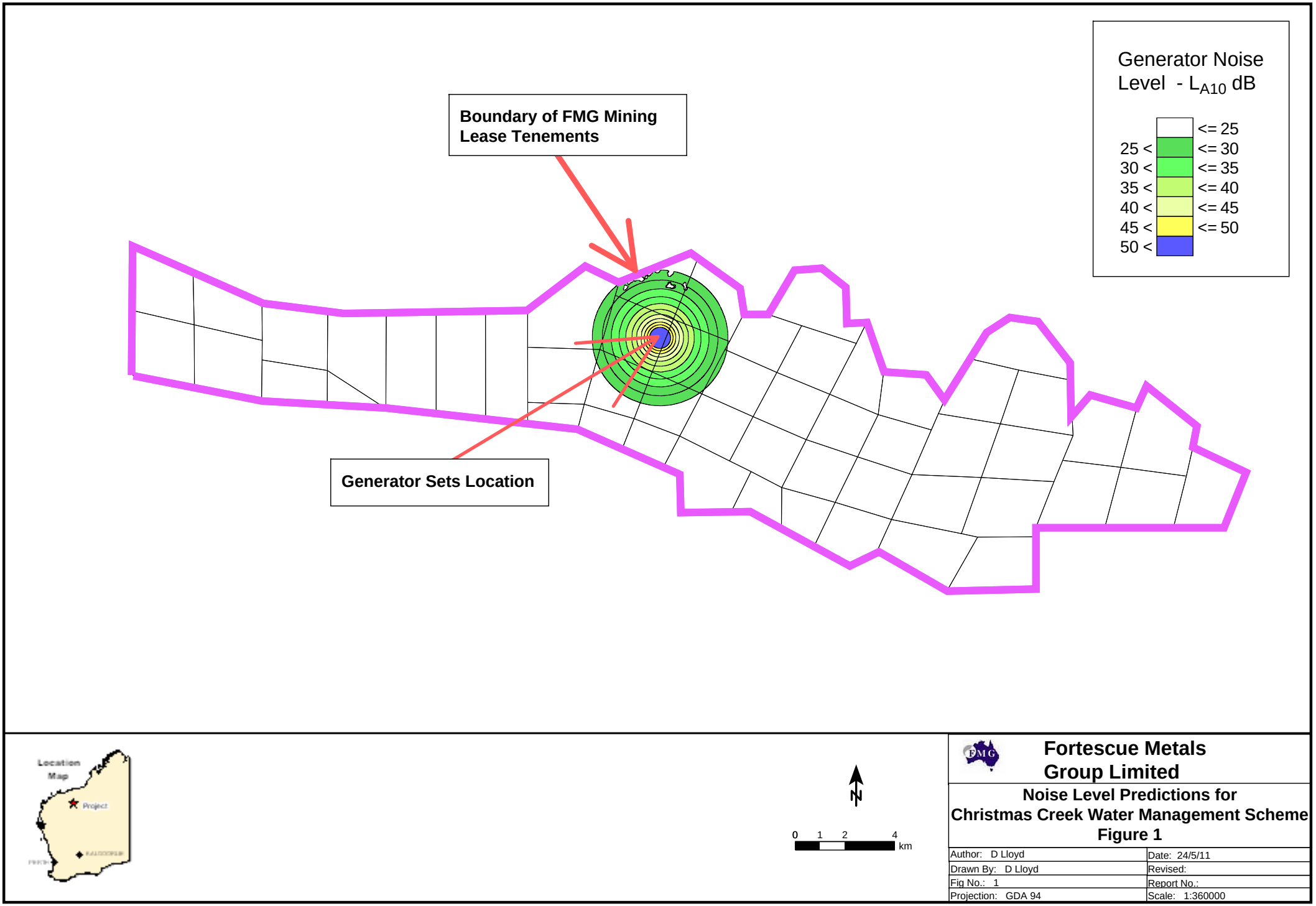
The results of the noise level predictions are presented in *Figure 1*. It can be seen that the predicted noise level, assuming all 60 generator sets are operating, is L_{A10} 25 dB. This is 30 dB below the allowable noise levels under the Regulations.

Conclusion

The noise levels resulting from the proposed Christmas Creek Water Management Scheme mobile generator sets are predicted to comply with the Regulations at the mine tenement boundaries.

Regards,

Daniel Lloyd



Fortescue Metals Group Limited

Noise Level Predictions for Christmas Creek Water Management Scheme
Figure 1

Author: D Lloyd	Date: 24/5/11
Drawn By: D Lloyd	Revised:
Fig No.: 1	Report No.:
Projection: GDA 94	Scale: 1:360000