

Transportation Noise Assessment

Cumulative Noise Impact from FMG, BHPIO & HDMS Railways to Noise Sensitive Receivers

Prepared For

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Lloyd Acoustics

PO Box 717

HILLARYS WA 6923

Phone: 08 9300 4188

Fax: 08 9300 4199

Email: info@lloydacoustics.com.au

Lloyd
Acoustics




Member of the Association of Australian Acoustical Consultants – (AAAC)

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Supplementary Report

Approved for Issue:	Daniel Lloyd 
Position:	Project Director
Date:	22 December 20044

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1 INTRODUCTION

This report is supplementary to the assessment of the rail noise impacts detailed in the Lloyd Acoustics' report *Pilbara Iron Ore and Infrastructure Project Stage A - Port and North-South Railway (September 2004)*, prepared for Fortescue Metals Group (FMG) as part of the Public Environmental Review (PER) documentation.

The assessment prepared for the PER did not include the proposed Hope Downs Management Services (HDMS) railway, as it was considered unlikely that the railway would be constructed in addition to the existing BHP Iron Ore (BHPIO) railway and the proposed FMG railway. However, following a request by the Department of Environment to include all three railways, the HDMS has been included and the overall impacts assessed to noise sensitive receivers adjacent to the railway corridors.

2 NOISE PREDICTION VARIABLES

From information regarding BHPIO operations, nine trains a day operate from Port Hedland to the mine sites. For the purpose of this assessment, 10 movements were assumed for the HDMS and FMG railway. The assumptions that were used in the rail noise assessment are as follows:

Table 1 Assumptions Used in Noise Level Predictions

Parameter	Value
Locomotive maximum noise level at 30m	89 dB(A)
Wagons maximum noise level at 30m	78 dB(A)
Train Speed	40 km/h
Height of Locomotive	4 metres above rail head
Train Length	3200 metres
Number of Train Movements/8 hours	3.33

3 RESULTS

The results of the noise assessment are provided in *Table 2* and have been compared against the *preliminary draft EPA Guidance for Road and Rail Transportation Noise*. It should be noted that *Section 5.3.2* of the preliminary draft EPA Guidance document puts forward an allowable noise level increase, based on the rating of the noise level prior to the proposal. For locations where the existing Noise Amenity Ratings are all N0 (the lowest possible), the allowable noise level increase is the greater of 4 dB or the highest range of N0, being 40 dB $L_{Aeq,8hour}$.

Table 2 Comparison Between the Predicted Rail Noise Levels and the Preliminary Draft EPA Guidance Note

Location	Existing Predicted Noise Level from BHPIO Trains	Allowable Increase Under the Guidance Note	Total Future Predicted Noise Level Excluding HDMS	Total Future Predicted Noise Level Including HDMS
Port Hedland	45 (N1)	3	45 dB(A)	45 dB(A)
Wedgefield	44 (N1)	3	47 dB(A)	48 dB(A)
South Hedland	42 (N1)	3	44 dB(A)	46 dB(A)
White Hills	42 (N1)	3	46 dB(A)	49 dB(A)
Boodarie Station	33 (N0)	7	37 dB(A)	39 dB(A)
Pipingarra Station	40 (N0)	4	41 dB(A)	42 dB(A)
Wallareenya Station	35 (N0)	5	37 dB(A)	38 dB(A)
Indee Station	39 (N0)	4	45 dB(A)	47 dB(A)
Kagan Station	22 (N0)	18	25 dB(A)	25 dB(A)
Abydos Station	55 (N3)	0.5	55 dB(A)	56 dB(A)
Hillside Outcamp*	27 (N0)	13	31 dB(A)	31 dB(A)
Mulga Downs Outcamp*	41 (N1)	4	44 dB(A)	47 dB(A)
Marrillana Station	47 (N2)	1.5	49 dB(A)	50 dB(A)

 Indicates where the preliminary draft EPA criteria is exceeded

* Indicated that premises is not a permanent residence

4 DISCUSSION

The predicted $L_{Aeq(8\text{ hour})}$ noise levels from the combined existing BHPIO and the proposed FMG and HDMS railways are shown to exceed the *preliminary draft EPA Guidance for Road and Rail Transportation Noise* at a number of locations along the railway alignment. When compared to the transportation noise criteria of $L_{Aeq(8\text{ hour})}$ 55 dB, used by the DoE for similar proposals in Port Hedland, it can be seen that this criterion is only exceeded at Abydos Station. However, the criterion at this location is already exceeded by the BHPIO railway ($L_{Aeq(8\text{ hour})}$ 55.4 dB) and the predicted increase in noise levels is less than 1 dB. Stuff.