



**Port and Rail Operations
– Noise –
Environmental Management Plan**

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Port and Rail Operations Noise Environmental Management Plan

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1. INTRODUCTION

1.1 PROJECT OVERVIEW

Fortescue Metals Group Limited (Fortescue) has commenced operation of the Pilbara Iron Ore and Infrastructure Project (the Project), which consists of several iron ore mines and associated rail and port infrastructure in the Pilbara region of Western Australia. The primary environmental approvals for the project have been obtained in four stages:

- Stage A consisting of an iron ore export facility at Port Hedland and a north-south railway from the central Pilbara to Port Hedland (approved under Ministerial Statement 690);
- Stage B consisting of two iron ore mines in the Eastern Pilbara (Christmas Creek and Mindy Mindy) and an east-west spur rail line connecting to the Stage A railway (approved under Ministerial Statement 707);
- Cloudbreak iron ore mine west of the Christmas Creek area (approved under Ministerial Statement 721 and Commonwealth Assessment EPBC 2005/2205); and
- Port facility upgrade of the Third Berth at Anderson point, Port Hedland: Dredging and Wharf Construction (approved under Ministerial Statement 771).

The Cloudbreak and Christmas Creek mine sites are located on the southern slopes of the Chichester Ranges, collectively the two mine sites are referred to as the Chichester Operations.

During the initial stages of operation, mining is proposed for the Cloudbreak and Christmas Creek areas, with ore hauled by truck from Christmas Creek to the ore processing facility at Cloudbreak. Ore from Cloudbreak and Christmas Creek will be transported by train along the approved north-south (Stage A) and east-west (Stage B) railways to Port Hedland.

Proposed extensions of the rail line to the south and to the east will be considered in future expansions.

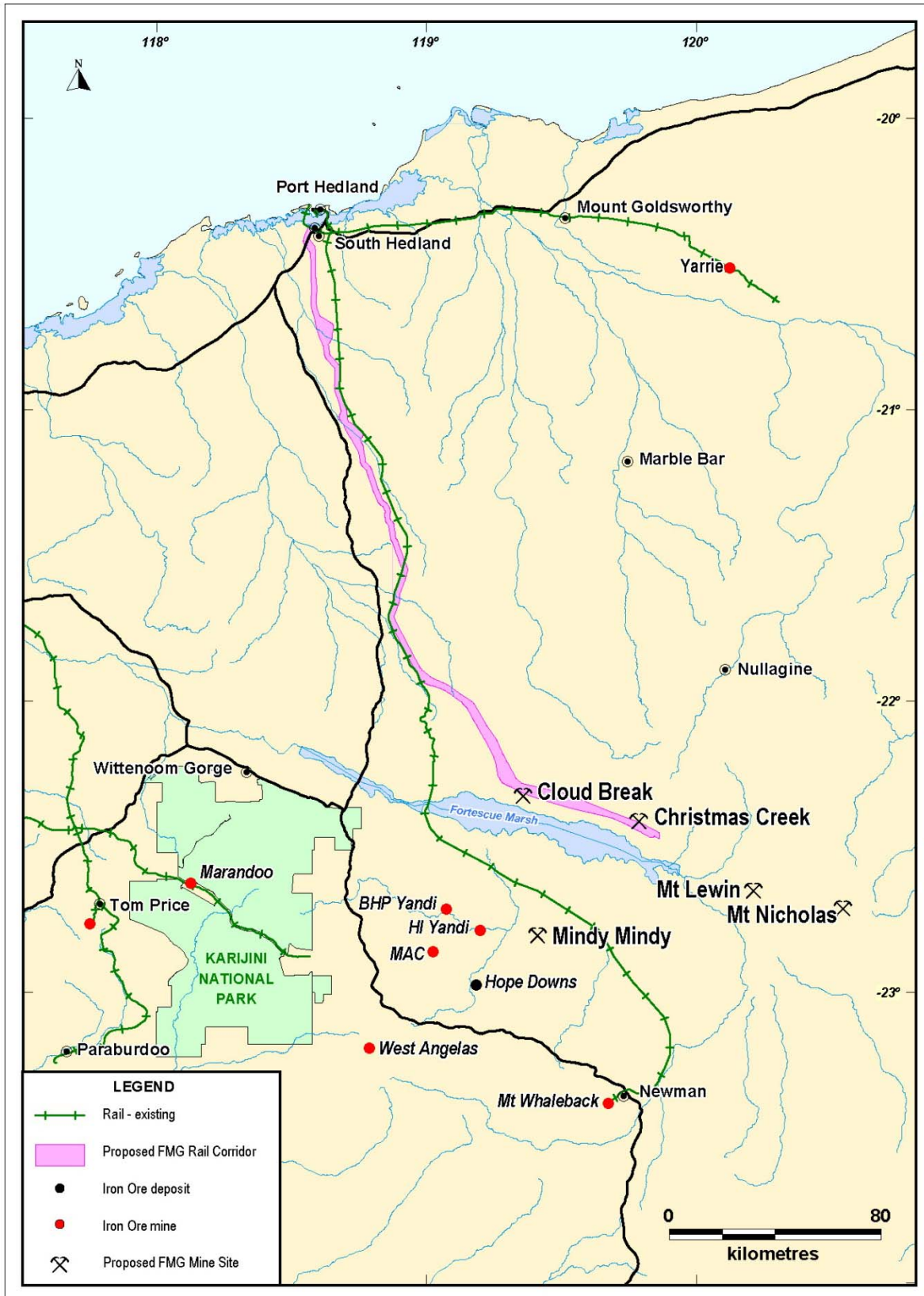
The existing infrastructure at Fortescue's Herb Elliott Port provides for train unloading, stacking, reclaiming and ship loading of iron ore via a conveyor system. Expansion of the port facility to include an additional fourth berth and increased reclaiming capacity is proposed to handle increased ore production from the Chichester Operations.

1.2 PURPOSE OF THIS PLAN

The purpose of this Plan is to outline the assessment methodology and management of noise impacts associated with the operation of the proposed Fortescue port and rail projects to 120 Mtpa.

The objectives of this Plan are to:

- Ensure that noise levels for Fortescue's port and rail projects comply with statutory requirements and acceptable (and appropriate) standards; and
- Minimise noise impacts to noise sensitive premises.



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Figure 1: Fortescue's Pilbara Iron Ore and Infrastructure Project

Port and Rail Operations Noise Environmental Management Plan

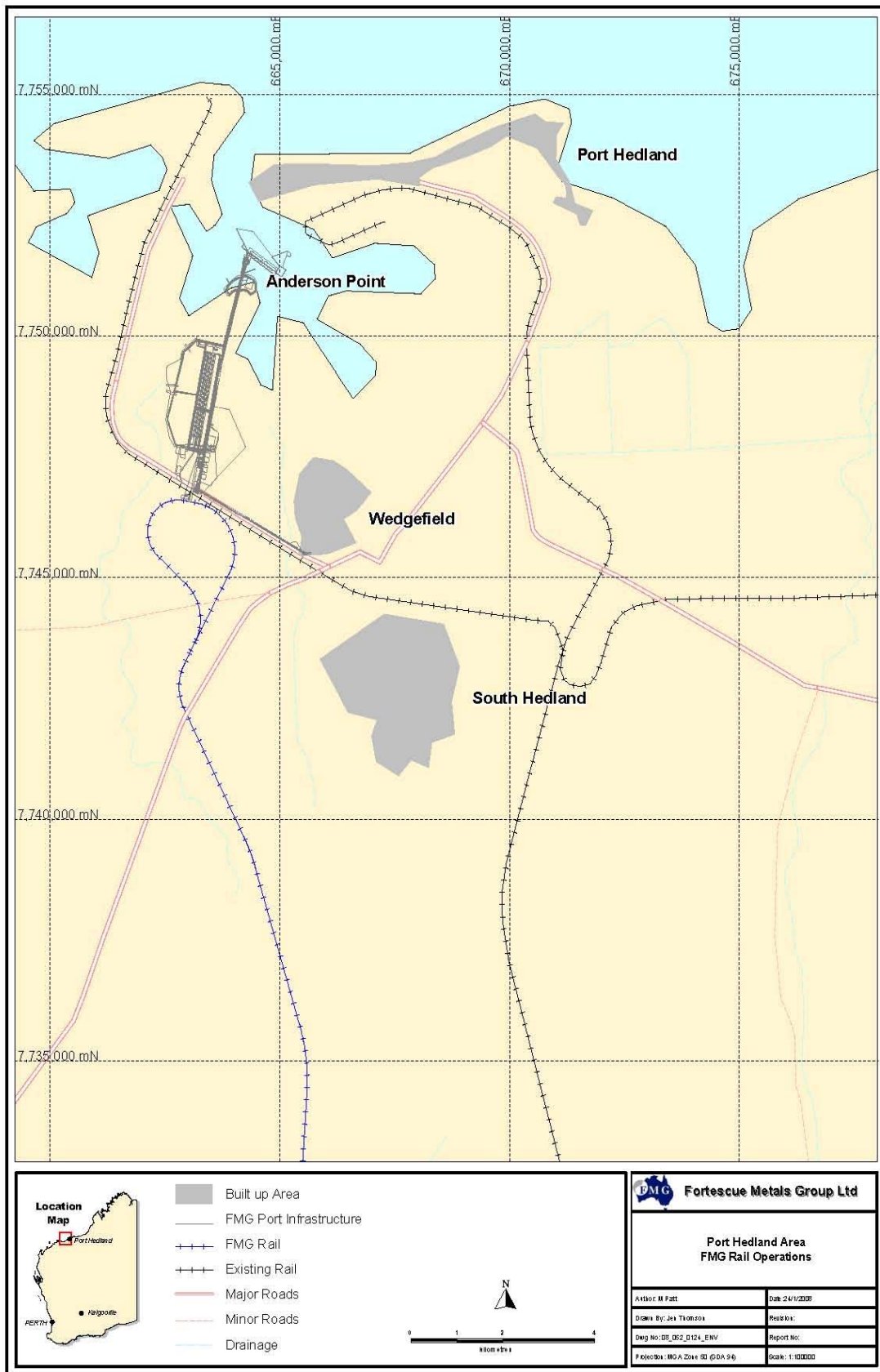


Figure 2: Fortescue Rail and Port – Port Hedland Area

1.3 SCOPE

The scope of this Plan is to:

- Identify significant noise sources,
- Determine noise emission levels and the nearest noise sensitive premises,
- Port
 - a) Establish compliance with *Environmental Protection (Noise) Regulations 1997*,
 - b) Identify and implement (as far as practicable) noise management measures required to achieve compliance with Regulations,
- Rail - Establish compliance with Ministerial Statement 690 Commitment 18 (2),
- Identify required monitoring and reporting, and
- Provide for community consultation and a complaints process.

1.4 CONSULTATION

Fortescue has undertaken an extensive stakeholder consultation program whereby landowners, regulators and other relevant parties have been consulted with regard to investigation and design of Fortescue's port and rail projects.

Fortescue will continue to implement the *Pilbara Iron Ore and Infrastructure Project, Stakeholder Consultation Strategy (July 2006) I-CO-RP-001*, which guides the community consultation process, to assist in identifying stakeholders, developing individual stakeholder consultation plans and to manage issues that might arise with Stakeholders from the development of the project. The strategy is applicable to all areas of construction and operation of the port, rail and mines.

An earlier version of this plan was reviewed by the Town of Port Hedland prior to the submission of the earlier plan for initial approval by the Department of Environment and Conservation (DEC).

1.5 MANAGEMENT PLAN REQUIREMENTS

This Plan has been specifically prepared to meet the requirements of Commitment 18 of Ministerial Statement 690, as described in Table 1.

Table 1: Commitment 18, Ministerial Statement 690

Action	Location in this Plan
The proponent shall not conduct port or rail operations other than in accordance with an Operations Noise Management Plan prepared to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority. The Operations Noise Management Plan shall address noise emissions from the port and rail operations associated with the proposal and set out measures for:	
1. achieving compliance with the <i>Environmental Protection (Noise) Regulations 1997</i> for port operations;	Sections 4, 6 and 7
2. achieving compliance with sound levels of $35\text{dB}_{\text{L}_{\text{Aeq},1 \text{ hour}}}$ and $45\text{dB}_{\text{L}_{\text{Amax}}}$ when determined within indoor sleeping areas, and $40\text{dB}_{\text{L}_{\text{Aeq},1 \text{ hour}}}$ and $50\text{dB}_{\text{L}_{\text{Amax}}}$, when determined within indoor living areas of dwellings on affected noise-sensitive premises, for rail operations;	Section 4.
3. identification of noise-sensitive premises affected by noise emissions from either port or rail operations;	Sections 2 and 4
4. identification of noise management measures to minimise disturbances to dwellings on affected noise-sensitive premises;	Section 4
5. implementation of noise management measures as far as practicable;	Section 4
6. noise monitoring and reporting; and	Section 4
7. a community consultation and complaints process.	Section 8

1.6 APPLICABLE LEGISLATION

Fortescue and its alliance partners will comply with all Commonwealth and State legislation that applies to the noise and vibration management aspects of the development and operation of the Pilbara Iron Ore and Infrastructure Project. Noise legislation relevant to port and rail activities and its applicability are outlined in Table 2.

Table 2: Relevant Legislation and its Application

Legislation	Application
<i>Environmental Protection Act 1986</i>	State environmental impact assessment and Ministerial approval process.
<i>Wildlife Conservation Act 1950</i>	State process that assesses the conservation significance of flora and fauna and forms the framework for significant species protection.
<i>Environment Protection and Biodiversity Conservation Act 1999</i>	Assesses the conservation significance of flora and fauna species and forms the framework for significant species protection at the federal level.
<i>Aboriginal Heritage Act 1972</i>	Protection of Aboriginal heritage values.
<i>Rights In Water and Irrigation Act 1914</i>	Assigns the right of users to extract water, and provides guidance on sustainable use objectives.
<i>Water and Rivers Commission Act 1995</i>	Outlines the roles and responsibilities of the Water and Rivers Commission.

Other relevant guidelines:

- *AS2436: 1981 Guideline to Noise Control on Construction, Maintenance and Demolition Sites.*
- *AS1055:1997 Acoustics- Description and Measurement of Environmental Noise.*
- *Guideline: Noise Control in Mines (2005), DOCEP, WA.*

1.7 OTHER RELEVANT DOCUMENTS

This Plan is to be read in conjunction with the following:

- Fortescue Metals Group, *Pilbara Iron Ore and Infrastructure Project, Stage A Port and North-South Railway*, Public Environmental Review (September 2004).
- Ministerial Statement 690, *Pilbara Iron Ore & Infrastructure Project: Port & North-South Railway (Stage A)*.
- *Pilbara Iron Ore & Infrastructure Project: Construction Environmental Noise Management Plan*, 206-51-EN-RP-1555 (13 October 2006).

2. NOISE LEVEL CRITERIA

2.1 PORT NOISE CRITERIA

Environmental noise impacts resulting from the proposed port facility, to other premises in the near vicinity, are addressed through the *Environmental Protection Act 1986*, with the prescribed standards detailed in the *Environmental Protection (Noise) Regulations 1997* (the Regulations).

The Regulations are based on allowable noise levels determined by a combination of a base noise level and an Influencing Factor, which is added to the base level. The result is termed the “assigned level”. The assigned level changes depending on the time of the day that the noise event occurs and the percentage of time the noise is present in a given time period. Other factors that determine the allowable noise level are the presence of annoying noise characteristics (tonality, impulsiveness and modulation) and the current noise environment, in particular, whether the assigned levels are already being exceeded as a result of another noise source.

From the acoustic assessment undertaken for this project (Lloyd George Acoustics 2009) the allowable night-time noise level at key noise sensitive premises, taking into consideration the above factors, are as follows:

Port Hedland – Esplanade Hotel	44 dB
Port Hedland - McKay Street	37 dB
Port Hedland - Crowe Street	33 dB
Wedgefield – Caretakers Residences only	65 dB
South Hedland – Parker Street (Lawson)	35 dB
White Hills Estate	35 dB

2.2 RAILWAY NOISE CRITERIA

Road and rail transportation noise impacts are excluded from the Regulations and controlled through policy or guidance documents developed by various agencies. The Environmental Protection Authority (EPA) may prescribe allowable noise levels from transportation sources, however on a project-by-project basis.

For the existing Fortescue railway operations, Ministerial Statement 690 Commitment 18 states that *‘The Operations Noise Management Plan shall address noise emissions from the port and rail operations associated with the proposal and set out measures for:’*

18(2) – achieving compliance with sound levels of $35\text{dBL}_{\text{Aeq},1\text{hour}}$ and $45\text{dBL}_{\text{Amax}}$ when determined within indoor sleeping areas, and $40\text{dBL}_{\text{Aeq},1\text{hour}}$ and $50\text{dBL}_{\text{Amax}}$, when determined within indoor living areas of dwellings on affected noise-sensitive premises, for rail operations’.

It is believed that these are the most relevant criteria for this project.

3. ACTIVITIES RESULTING IN POTENTIAL NOISE IMPACTS

Fortescue's port facility is located on the south-western side of Port Hedland Harbour. From the acoustic assessment undertaken for this project (Lloyd George Acoustics 2009) the following activities result in potential noise impacts;

The main port noise emitters are:

- Load out conveyors
- Shiploader conveyor.

As the railway passes through remote areas, noise is not expected to be a significant issue along the majority of its length. However, where the railway passes close to White Hills Estate and Indee Station homestead, noise management may need to be considered.

4. NOISE CONTROL MEASURES

'The Environmental Protection Authority (EPA's) objective is to ensure that the FMG emission is at a level that is consistent with a future scenario where the BHPBIO noise emission has been substantially reduced to a level that is much closer to the assigned level. Accordingly, it is considered reasonable for FMG to work towards the fully compliant noise level over a period of time'. Ministerial Statement 690.

In line with the above EPA objective, this management plan identifies noise control strategies, to work towards compliance with the Regulations. If non-compliance is found, Fortescue will implement noise management measures as practicable (See Sections 4.5 and 4.6).

Key objectives supported by management actions, performance indicators and monitoring required to achieve compliance are outlined in Table 3. The specific environmental objectives and proposed management measures are detailed below in Sections 4.1 to 4.6.

Table 3: Outline of Approach to Management of Environmental Noise

Item	Content
Objective	Achieve, maintain and monitor compliance with <i>Environmental Protection (Noise) Regulations 1997 and Ministerial Statement 690.</i>
Management Actions	Relevant noise monitoring and reporting: Identification of noise management measures to achieve compliance. Identification of noise management measures to maintain compliance. Implementation of noise management measures, as far as practicable.
Performance Indicators	Qualitative or quantitative measures to determine if the objective is met.
Monitoring	To ensure compliance (QA) or to determine source and extent of exceedence.
Reporting	Nature, timing and responsibility for reporting.
Corrective Action	Action to be taken if monitoring indicates objective is not being met.
Term	Two years from approval date.
Responsibility	Delegation/nomination of responsibilities for overseeing management plan operation.

4.1 EDUCATION AND TRAINING

Table 4 outlines the approach Fortescue will take towards ensuring employees and contractors are aware of their obligations.

Table 4: Management Strategies for Noise Awareness and Training

Objective/Target	To ensure that personnel are aware of their responsibilities in reference to noise management.
Management Actions	<p>Include and deliver an awareness of noise issues in site inductions for all site personnel.</p> <p>Undertake toolbox training sessions on environmental noise at least annually.</p> <p>Train an appropriate person to undertake noise monitoring.</p>
Performance Indicators	Proportion of personnel that have received noise awareness training (%).
Monitoring	Regular internal auditing of training requirements and registers.
Reporting	A summary of education and training undertaken by Fortescue will be provided in the Annual Environmental Report.
Corrective Action	Where internal audits demonstrate that appropriate training and education has not been undertaken, additional targeted training programmes will be undertaken.
Term	From 2009 and for the life of the project.
Responsibility	<p>Site Environmental Superintendent</p> <p>Port General Manager</p> <p>Rail General Manager</p> <p>Site Environmental Personnel</p>

4.2 SOURCING EQUIPMENT

Table 5 outlines the approach Fortescue will take towards ensuring noise emissions are considered when plant and equipment are being acquired.

Table 5: Sourcing Equipment for the Port and Rail

Objective/Target	<p>Ensure that noise and vibration impacts emanating from operation of Fortescue's port and rail comply with the statutory requirements and appropriate standards.</p> <p>Minimise the impact to sensitive premises.</p>
Management Actions	Purchasing guidelines/contracts have been implemented to ensure that all relevant federal and state legislation is complied with.
Performance Indicators	Evidence of the implementation of purchasing guidelines in practice.
Monitoring	Auditing of the use of the guidelines.
Reporting	The status of the purchasing guidelines will be reported in the Annual Environmental Report.
Corrective Action	Instances where purchasing guidelines have not been followed will be reported as an incident and investigated accordingly.
Term	From commissioning and for the life of the project.
Responsibility	<p>Procurement Manager</p> <p>Site Environmental Superintendent</p> <p>Site Environmental Personnel</p>

4.3 EQUIPMENT MAINTENANCE AND AUDITING

Table 6 outlines Fortescue’s approach to equipment maintenance and auditing with a view to minimising noise emissions.

Table 6: Management Strategies for Equipment Maintenance and Auditing

Objective/Target	Ensure that all plant, machinery and rail infrastructure undergo regular maintenance checks to ensure that acceptable/expected noise emissions are met to achieve compliance with <i>Environmental Protection (Noise) Regulations 1999</i> and Ministerial Statement 690.
Management Actions	<p>All machinery and plant used on site will be maintained and serviced as per maintenance program;</p> <p>The mobile equipment fleet will be regularly serviced to maintain the efficiency of equipment and prevent increases in emitted noise levels;</p> <p>Regular maintenance of the conveyor belt drives and rollers to reduce emitted noise levels;</p> <p>Regular assessment of machinery covers and insulation will be made to ensure they are appropriately installed and in good condition;</p> <p>Periodic noise checks at critical equipment that could result in non compliance;</p> <p>Undertake annual noise monitoring; and</p> <p>Inclusion of triggers (Section 4.5)</p>
Performance Indicators	<p>Maintenance records.</p> <p>Monitoring results.</p> <p>Noise complaints received (n).</p>
Monitoring	<p>Noise monitoring will be conducted in accordance with Section 4.5.</p> <p>Noise complaints received will be managed as per Section 8 of this plan.</p>
Reporting	<p>A summary of monitoring results in the Annual Environmental Report.</p> <p>A summary of complaints in the Annual Environmental Report.</p>
Corrective Action	Should a noise complaint correlate with use of particular noise generating equipment, monitoring of the noise emissions from the specific equipment and remedial action will be undertaken as detailed in Section 4.6 of this management plan.
Term	From commissioning and for the life of the project.
Responsibility	<p>Site Environmental Superintendent</p> <p>Port General Manager</p> <p>Rail General Manager</p> <p>Manager Community Development</p>

4.4 SCHEDULING OF OPERATIONS

Table 7 outlines Fortescue’s approach to scheduling operations to ensure that noisy activities, to the extent possible, take place during weekdays only.

Table 7: Management Strategies for Operations Scheduling

Objective/Target	Ensure that noise and vibration impacts emanating from operation of Fortescue’s port and rail comply with <i>Environmental Protection (Noise) Regulations 1999</i> and <i>Ministerial Statement 690</i> .
Management Actions	Wherever practicable, specific noise generating activities will be scheduled to occur during the day-time and not on weekends or public holidays. In the event that noisy activities are likely, notice shall be given in advance to surrounding local residents as required. Undertake noise monitoring for specific noise generating activities.
Performance Indicators	Monitoring results. Noise complaints received (n).
Monitoring	Noise monitoring will be conducted in accordance with Section 4.5. Noise complaints received will be managed as per Section 8 of this plan.
Reporting	A summary of noise monitoring results will be provided in the Annual Environmental Report. A summary of complaints will be provided in the Annual Environmental Report.
Corrective Action	Suspension and/or rescheduling of the activity to weekdays where practicable.
Term	From commissioning and for the life of the project.
Responsibility	Site Environmental Superintendent Port General Manager Rail General Manager Manager Community Development

4.5 ANNUAL NOISE MONITORING AND REPORTING

Table 8 outlines Fortescue’s annual noise monitoring and reporting strategy to monitor compliance with the Regulations and Ministerial Statement 690. Table 8 covers both internal and external noise monitoring.

Table 8: Management Strategies for Annual Compliance Monitoring and Reporting

Objective/Target	Monitor noise emissions annually to ensure compliance with <i>Environmental Protection (Noise) Regulations 1999</i> and <i>Ministerial Statement 690</i> .
Management Actions - external	<p>Noise emissions from Fortescue’s port and rail facilities will be monitored on an annual basis by an appropriately qualified person.</p> <p>Noise monitoring for the rail will involve assessment of noise emissions at White Hills Estate and Indee Station during the passing of Fortescue’s train.</p> <p>Monitoring for Fortescue’s port facility will be undertaken in close vicinity to the facility and extrapolated out to previously assessed noise sensitive receptors.</p> <p>Monitoring equipment utilised will be in accordance with Schedule 4 of the Regulations.</p> <p>Monitoring plan will consider weather conditions, periodic source checks and noise complaints.</p> <p>Trigger levels from the plant to be adopted: conveyor measured at 10m = 68dB(A) and conveyor drive (not shielded from Port Hedland) = 80dB(A).</p>
Management Actions - internal	<p>Select several representative houses and monitor inside, preferably the bedroom, when the trains are active.</p> <p>Monitor with the windows shut.</p>
Performance Indicators	<p>Monitoring results.</p> <p>Noise complaints (n).</p>
Monitoring	<p>As above.</p> <p>Where background levels mask noise, we will measure closer and extrapolate (in accordance with the Regulations).</p>
Reporting	<p>A summary of noise monitoring results will be provided in the Annual Environmental Report.</p> <p>The results of noise monitoring will also be supplied to the Town of Port Hedland.</p>

<p>Corrective Action</p>	<p>Preventative action includes regular machinery maintenance and testing, investigation of noise complaints, education and training of personnel and purchasing guidelines.</p> <p>Where monitoring indicates exceedance of the noise regulations at noise sensitive locations, the following actions may be implemented:</p> <p>Conduct source specific noise monitoring;</p> <p>Where specific equipment is identified to be exceeding the applicable noise criteria for that machine, it will be repaired and/or removed and replaced as required;</p> <p>Where it is not practicable to remove and replace offending machinery, noise minimisation options (such as noise barriers and operational timing) will be considered if monitoring indicates they are likely to be effective;</p> <p>For internal noise exceedance, actions can include double glazing and air condition the house so windows can be kept shut; and</p> <p>Investigate and trial noise minimisation measures and monitor noise sensitive areas to ensure compliance.</p>
<p>Term</p>	<p>Within 6 months of commissioning and annually thereafter for the life of the project.</p>
<p>Responsibility</p>	<p>Site Environmental Superintendent Port General Manager Rail General Manager Site Environmental Personnel Manager Community Development</p>

4.6 CONTINGENCY PLAN

Table 9 outlines Fortescue’s contingency plan to achieve compliance at areas in exceedance of the Regulations and Ministerial Statement 690.

Table 9: Management Strategies for Contingency Plan

Objective/Target	Achieve compliance with <i>Environmental Protection (Noise) Regulations 1997</i> and Ministerial Statement 690.
Management Actions	<p>Identify any new plant that may be causing the exceedance.</p> <p>Noise emissions at identified exceedance location to undergo specific monitoring by an appropriate person.</p> <p>Investigations to be undertaken to determine cause of noise exceedance.</p> <p>Investigation of noise minimisation measures that can be undertaken if deemed necessary include:</p> <ul style="list-style-type: none"> • Machine and balance spindles ; • Greater diameter spindles; • Slower conveyor speed; • Selection of quieter conveyor drives or enclosure of drives; • Shiploader drives to be relocated at low level and enclosed where practicable; and • Noise barriers, operational timing.
Performance Indicators	<p>Monitoring results showing that emissions are in compliance with legislative requirements.</p> <p>Noise complaints (n).</p>
Monitoring	See Section 4.5.
Reporting	<p>A summary of noise monitoring results will be provided in the Annual Environmental Report.</p> <p>The results of noise monitoring will also be supplied to the Town of Port Hedland.</p> <p>If exceedance discovered through a noise complaint, follow the response detailed in Section 8 and include in summary of noise complaints in Annual Environmental Report.</p>
Corrective Action	See Section 4.5.
Term	Within six months of commissioning (Crowe Street), and, when exceedance identified until compliance achieved.

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Responsibility	Site Environmental Superintendent Port General Manager Rail General Manager Site Environmental Personnel
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5. CONSOLIDATED MANAGEMENT ACTIONS

Table 10 shows a summary of the management actions outlined in Section 4.

Table 10: Consolidated Management Actions

Item	Management Action
Education and Training	<p>Include and deliver an awareness of noise issues in site inductions for all site personnel.</p> <p>Undertake toolbox training sessions on environmental noise at least annually.</p> <p>Train an appropriate person to undertake noise monitoring.</p>
Sourcing Equipment	<p>Purchasing guidelines/contracts have been implemented to ensure that all relevant federal and state legislation is complied with.</p>
Equipment Maintenance and Auditing	<p>All machinery and plant used on site will be maintained and serviced as per maintenance program;</p> <p>The mobile equipment fleet will be regularly serviced to maintain the efficiency of equipment and prevent increases in emitted noise levels;</p> <p>Regular maintenance of the conveyor belt drives and rollers to reduce emitted noise levels;</p> <p>Regular assessment of machinery covers and insulation will be made to ensure they are appropriately installed and in good condition;</p> <p>Periodic noise checks at critical equipment that could result in non compliance;</p> <p>Undertake annual noise monitoring; and</p> <p>Inclusion of triggers (Section 4.5)</p>
Scheduling of Operations	<p>Wherever practicable, specific noise generating activities will be scheduled to occur during the day-time and not on weekends or public holidays.</p> <p>In the event that noisy activities are likely, notice shall be given in advance to surrounding local residents as required.</p> <p>Undertake noise monitoring for specific noise generating activities.</p>

Item	Management Action
<p>Annual Noise Monitoring and Reporting</p>	<p>Noise emissions from Fortescue's port and rail facilities will be monitored on an annual basis by an appropriately qualified person.</p> <p>Noise monitoring for the rail will involve assessment of noise emissions at White Hills Estate and Indee Station during the passing of Fortescue's train.</p> <p>Monitoring for Fortescue's port facility will be undertaken in close vicinity to the facility and extrapolated out to previously assessed noise sensitive receptors.</p> <p>Monitoring equipment utilised will be in accordance with Schedule 4 of the Regulations.</p> <p>Monitoring plan will consider weather conditions, periodic source checks and noise complaints.</p> <p>Trigger levels from the plant to be adopted: conveyor measured at 10m = 68dB(A) and conveyor drive (not shielded from Port Hedland) = 80dB(A).</p>
<p>Contingency Plan</p>	<p>Identify any new plant that may be causing the exceedance.</p> <p>Noise emissions at identified exceedance location to undergo specific monitoring by an appropriate person.</p> <p>Investigations to be undertaken to determine cause of noise exceedance.</p> <p>Investigation of noise minimisation measures that can be undertaken if deemed necessary include:</p> <ul style="list-style-type: none"> • Machine and balance spindles; • Greater diameter spindles; • Slower conveyor speed; • Selection of quieter conveyor drives or enclosure of drives; • Shiploader drives to be relocated at low level and enclosed where practicable; and • Noise barriers, operational timing.

6. CONTINGENCY PLANS

The process identified in Section 4.6 will come into effect for:

- the location of Crowe Street, which is predicted to be in exceedance of the noise regulations at night time by 14 dB(A);
- the location of White Hills Estate and Indee Station homestead, which are predicted to be impacted on by the railway;
- any area that is shown to exceed the noise regulations through the annual monitoring programme; and
- any area shown to exceed the noise regulations as a result of investigations initiated by a noise complaint.

7. IDENTIFICATION OF NEW NOISE PROCEDURE

The following procedure will enable the identification of new or unforeseen noise emissions:

- Conduct noise emission checks on all new machinery/processes implemented;
- Random equipment checks;
- Complaints investigation process, and
- Annual noise monitoring programme

8. COMPLAINT RESPONSE PROCEDURE

Should a complaint be received during the operation of the Project, the complaint will be investigated with the following procedure and outcomes documented:

- Noise complaints are to be directed to Fortescue's Community Office in Port Hedland – 9158 5801.
- The nature of the noise complaint will be determined and, in particular, whether it is attributable to Fortescue's operations and, if so, is a result of typical or modified work activities or the use of specific or additional equipment or unusual weather conditions.
- The identified equipment in use at the time of the complaint will be subjected to additional noise source monitoring if this is necessary to verify the complaint.
- If all equipment is compliant, consideration will be given to a change in work practices to reduce further noise impact where practicable.
- If necessary, Fortescue will implement process identified in Section 4.6 to achieve compliance with the Regulations if they have been exceeded.
- The complainant will be notified of the progress of the investigation or the outcome of the investigation where possible, within 7 days.
- Complaints and progress or the results of investigations are to be provided to the Town of Port Hedland within 7 days of receipt of a complaint.

9. AUDITING AND REVIEW

The Plan has been developed by Fortescue and incorporates the work of specialist acoustical consultants (Lloyd George Acoustics). Minor changes to the Plan are to be made as required to meet the requirements of the Project and to comply with all relevant legislation. Major revisions (and the first version of this plan) are to be submitted to the DEC and Town of Port Hedland for comment.

The Plan is to be reviewed every two years or as the project scope changes. Upon review the document will be revised where appropriate and the revision status will be recorded as directed by the Fortescue Document control procedure. The review will incorporate any new investigations, information, new techniques and advice from regulatory bodies.

At the end of each reporting year, noise monitoring results and valid complaints will be reviewed. Strategies and targets to reduce noise emissions will be formulated and reported in the Annual Environmental Report.

10. REFERENCES

Department of State Development (2010) *Port Hedland Air Quality and Noise Management Plan, The Port Hedland Dust Management Taskforce Report*, March 2010.

Environ (2004). *Public Environmental Review: Pilbara Iron Ore and Infrastructure Project: Stage A Port and North-South Railway*. Report prepared for Fortescue Metals Group Limited, September 2004.

Lloyd George Acoustics (2009), *FMG Port and Rail Facility Port Hedland Rort and Rail Expansion*, Report to Fortescue Metals Group, July 2009.