



Oyu Tolgoi LLC

Health, Safety, Environment, Security, and Communities

Noise and Vibration Management Plan

Noise and Vibration Management Plan		
Effective Date: 2013.09.01	Document Number: OT-10-E00-PLN-0001-E	Version: 2.0

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1. INTRODUCTION

1.1 Purpose

The purpose of this Management Plan is to:

- define the scope of the Management Plan and set out applicable management interfaces;
- define roles and responsibilities;
- outline the applicable Project Standards relevant to this Management Plan;
- define Project commitments, operational procedures and guidance relevant to this Management Plan;
- define monitoring and reporting procedures, including Key Performance Indicators (KPIs);
- define training requirements; and
- Set out references for supporting materials and information.

1.2 Application

The requirements set out in this Management Plan apply to all OT activities.

1.3 Commencement

This Management Plan applies from 1st September 2013.

1.4 Authority and Management

The OT Executive Committee approved this Management Plan on 1st September 2013.

The OT General Manager Health, Safety, Environment, Security, and Communities (HSESC) is the custodian of this Management Plan. This Management Plan will be reviewed on a two year period to determine whether any changes or updates are required to the plan unless a more frequent update is required to reflect changing Project design or procedures. Any requests for changes to this Management Plan must be addressed to this person and will be subjected to the appropriate review and approval processes as outlined in the Management of Change (MOC) procedure.

2. SCOPE

2.1 Scope of this Management Plan

This Management Plan is applicable to the OT activities, including administration/corporate offices located off-site. It covers noise and vibration arising from exploration and operations, including mining, mineral processing, materials handling infrastructure, on-site and off-site transport, which may significantly impact on people, communities and the surrounding environment. Persons accommodated at OT are included as part of the local community. Occupational noise and vibration exposure is not covered by this Management Plan, but rather as part of Occupational hygiene monitoring, which comprises a monitoring plan with procedures on how the monitoring is to be undertaken. Where OT or OT operations are also responsible for ancillary activities (i.e., power generation) or off-site transport (i.e., air traffic, trucking), those activities are also under the scope of this Management Plan.

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2.2 Overlaps with Other Management Plans

This Management Plan is part of the overall suite of Operations Management Plans developed for the OT Project and as described in the Environmental and Social Management Plan (ESMP) Framework (OT-10-PLN-0001-E).

This Management Plan has overlaps and cross-linkages to a number of other Management Plans, including:

- the Transport Management Plan (OT-10-C3-PLN-0001-E), particularly in relation to noise from off-site vehicle movement;
- the Cultural Heritage Management Plan (RD-10-PLN-0002-E), particularly in relation to vibration in close proximity to archaeological and paleontological sites, and noise levels in close proximity to ethnographic sites;
- the Biodiversity Management Plan (OT-10-E16-PLN-0003-E), particularly in relation to noise levels and disturbance to wildlife outside the Mine Licence Area;
- the Land Disturbance Permit Procedure (OT-10-E14-PRC-0003-E), particularly in relation to communication of potential noise disturbance to relevant community members; and
- the Contractor Management Framework (OT-07-PLN-0001-E), particularly in relation to Contractors' compliance with the OT HSE management requirements.

3. ROLES AND RESPONSIBILITIES

3.1 Key Roles and Responsibilities for Management Plan Implementation

Principal roles and responsibilities for the implementation of this Plan are outlined below.

Table 1: Key Roles and Responsibilities

Role	Responsibilities
HSESC General Manager	<ul style="list-style-type: none"> • Ensuring that adequate resources are provided to allow implementation of noise and vibration monitoring, mitigation, research and development activities.
Manager Environment & Biodiversity	<ul style="list-style-type: none"> • Overall ownership and responsibility for submitting and implementing annual Environmental Protection Plan (EPP) and Environmental Monitoring Plan (EMP). • Overall ownership and responsibility for the development of Annual Environmental Reports (AER) that presents environmental, including ambient noise and vibration, achievements during the course of the year. • Ensuring appropriate resourcing. • Ensuring reported non-conformances with this Management plan (including non-implementation of required controls, standards exceedances, etc.) are discussed at authority levels for effective solutions.
HSESC Compliance team	<ul style="list-style-type: none"> • Monitor and communicate changes in National legislation relevant to noise and vibration
Environmental	<ul style="list-style-type: none"> • Ensuring that an annual EMP is developed and implemented for noise and

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Role	Responsibilities
Monitoring Team	<p>vibration, provide information to the relevant contractor and HSESC management on noise and vibration monitoring results and trends.</p> <ul style="list-style-type: none"> Developing noise and vibration sections of the AER that describe research, monitoring and impact mitigation activities for submission the Ministry of Environment, Green Development, and Tourism. Regular tracking of KPIs of this Management plan and circulating updates to the relevant stakeholders Attendance at routine meetings with local <i>soum</i> representatives, including herders, on noise and vibration related topics and issues.
Operational Department Managers	<ul style="list-style-type: none"> Ensure that relevant management controls are undertaken in accordance with this Management Plan and related Procedures. Ensure that department personnel are fully trained in noise and vibration management practices. Ensure incident investigations are undertaken and “action level” reported. Implement necessary corrective actions following up on Environmental notifications and/or reports on ambient air quality.
Workplace Supervisors / Superintendents	<ul style="list-style-type: none"> Conduct work area inspections to monitor relevant activities are in accordance with this Management Plan. Record and report noise and vibration data.
All employees and contractors	<ul style="list-style-type: none"> Report any activities which are causing unnecessary noise or vibration. Avoid performing activities which unnecessarily generate noise or vibration.
Training Department	<ul style="list-style-type: none"> Provide awareness training on noise and vibration generating activities.
Procurement Department	<ul style="list-style-type: none"> Ensure noise and vibration performance criteria for equipment and machinery considered during procurement processes. Verify all aircraft used at OT airport are certified by the Mongolian authorities to ensure compliance with CICA Annex. Ensure service contracts include requirements for implementation of the relevant noise and vibration control measures during the service.
Contractor Engagement Department	<ul style="list-style-type: none"> Monthly evaluation of Contractors’ performance on compliance and implementation of the noise and vibration controls measures indicated the Contractors’ HSE management plan (Monthly Contractors’ Scorecard meeting)
Infrastructure Department	<ul style="list-style-type: none"> Locating of noisy equipment away from sensitive receptors.
Open Pit Department	<ul style="list-style-type: none"> Minimise vibration from blasting activities.

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Role	Responsibilities
Social Performance Department	<ul style="list-style-type: none"> • Manage community concerns regarding noise and vibration. • Monitor and communicate noise and vibration complaints to ensure appropriate management.

4. PROJECT STANDARDS

Applicable Standards must be complied with for all Project activities (the “Project Standards”). Project Standards comprise:

- Mongolian National Standards;
- DEIA requirements;
- other commitments to and requirements of Mongolian Government authorities;
- lender standards and guidelines;
- Rio Tinto standards; and
- other industry guidelines with which OT has committed to comply.

4.1 Applicable Mongolian National Standards

The key Mongolian environmental quality standards applicable to noise and vibration are:

- MNS 4585:2007 *Mongolian National Air Quality Standards* – permissible ambient noise levels.
- MNS 17.5.1.21:1992 *External and Internal Noise of Motor Vehicles. Permissible Levels and Methods of Measurements.*
- Attachment II of Government Resolution 149 of 2006, *Unified Safety Regulations for Blasting Operations* – OT must comply with the requirements of this rule during its blasting operation in Mining Licence Area.

4.2 DEIA requirements

The EPP and EMP for the various DEIAs have been reviewed and the requirements incorporated into section *Table 2: Noise and Vibration Standards* and *Table 4: Key Performance Indicators – Noise and Vibration.*

4.3 Other Commitments to and Requirements of Mongolian Government Authorities

OT is required to have an internal permitting procedure for blasting by the Mongolian Government Authorities. Each blast permit is signed off by a Senior Mining Engineer and passed to the Blasting Superintendent to implement. This permit details the blast design, explosives, exclusion zones, and position of blast guards.

4.4 Applicable Lender standards and guidelines

The standards which OT will implement are those set by the International Finance Corporation (IFC) and by the European Bank for Reconstruction and Development (EBRD). These include:

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- IFC Performance Standards on Environmental and Social Sustainability (2006) (particularly PS1: *Social and Environmental Assessment and Management Systems* and PS3 *Pollution Prevention and Abatement*).
- IFC *Environmental, Health, and Safety General Guidelines* (April 2007).
- EBRD Performance Requirements (2008) (particularly PR1: *Environmental and Social Appraisal and Management*).

IFC Performance Standard PS3 includes noise and vibration within the definition of ‘pollution’ and *the IFC General EHS Guidelines* (2007) state that the preferred method for controlling noise from stationary sources is to implement noise control measures at source adopting the World Health Organization (WHO) Guidelines for Community Noise (1999) as guideline values. The IFC refers to WHO guidelines under IFC General EHS Guidelines 2007.

The EBRD’s Performance Requirement PR3 requires that projects be designed to comply with applicable EU environmental requirements. The EU Noise Directive (2000/14/EC) establishes a common EU framework for the assessment and management of exposure to environmental noise but does not establish specific environmental noise limits – leaving these to be determined by Member States. In the case of this Project the noise limits selected have been taken from Mongolian and international standards as presented in *Section 4.7*.

4.5 Applicable Rio Tinto standards

This is supported by Rio Tinto standard *B3 – Manual Handling and Vibration* (2015), which covers occupational noise and vibration exposure.

Other relevant Rio Tinto documents include:

- E12 - *Air Quality Protection Standard*
- E14 - *Land Disturbance Control and Rehabilitation Standard*

4.6 Other industry guidelines with which OT has committed to comply

Airport Noise (Convention on International Civil Aviation)

Annex 16 to the 1944 *Convention on International Civil Aviation* (CICA) deals with the protection of the environment from the effects of aircraft noise. Annex 16 was adopted in 1971 and addresses aircraft noise; human tolerance to aircraft noise; aircraft noise certification; criteria for establishment of aircraft noise abatement procedures; land use control; and ground run-up noise abatement procedures. All aircraft used at OT airports will be certified by the Mongolian authorities. Mongolia is a contracting state to the International Civil Aviation Organisation (ICAO). Noise impacts from OT-operated aircraft will therefore be limited through compliance with the provisions as set out within the CICA Annex.

Blasting Vibration

There are no Mongolian standards for vibration. The Project has adopted the following guidelines for blasting: Australian and New Zealand Environmental Council, *Technical basis for guidelines to minimise Annoyance Due to Blasting Overpressure and Ground Vibration*, 1990. This document specifies recommended comfort criteria for:

- airblast overpressure level – recommended limit of 115 dB(Lin Peak);
- ground vibration peak particle velocity - recommended limit of 5 mm/sec (peak particle velocity (ppv));

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- time of blasting – recommended restriction to 9:00am – 5:00pm Monday to Saturday; and
- frequency of blasting - should generally take place no more than once per day.

The restrictions on time and frequency of blasting do not apply where the effects of the blasting are not perceived at noise sensitive sites, or for major underground metalliferous mining operations.

4.7 Summary of Applicable Project Standards

A comparison of selected applicable standards for noise and vibration control is provided in *Table 2* below, together with the identification of the standards to be used in the OT Project (the Project Standards).

OT will comply with the more stringent of national standards, applicable lender standards and applicable Rio Tinto Standards, with the more stringent standards representing the Project Standards.

Table 2: Noise and Vibration Standards

Pollutant/ source	Receptor	Standard ² (dB(A)Leq 1 h) unless stated otherwise				Comments
		IFC ¹	WHO	Mongolian	Project (most stringent)	
Noise	Boundary fence	NA	NA	NA	75 dB(A)	OT has adopted a noise limit of 75 dB(A) at the boundary fence during normal operations
Noise (off site receptors)	Industrial/ Commercial (day and night time)	70	-	60	60 dB(A)	
	Residential (day time)	55	55	60	55 dB(A)	Mongolian standards stipulate a maximum day time environmental noise exposure of 60 dB(A). This includes worker accommodation areas.
	Residential (night time)	45	45	45	45 dB(A)	Mongolian standards stipulate a maximum night time environmental noise exposure of 45 dB(A). This includes worker accommodation areas.
Noise (airport)	Residential (day time)	-	-	-	65dB	The Federal Aviation Administration defines areas of 'significant noise exposure' as locations where noise meets or exceeds DNL 65 dB.
Vibration	Non workforce (blast related vibration)			None specified	See comment	There are no Mongolian standards for vibration. There are no requirements on frequency of measurements included in the ESIA and other applicable standards. There

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Pollutant/ source	Receptor	Standard ² (dB(A)Leq 1 h) unless stated otherwise				Comments
		IFC ¹	WHO	Mongolian	Project (most stringent)	
						have been no exceedances reported so far, meaning there is no need to calculate exceedance for 5% of the total number of blasts. No additional blast data required.
Vibration	Non workforce (vibration from sources other than blasting)					British Standard 6472 – Evaluation of Peak Particle velocity (PPV) vibration levels of 1.12 mm/sec at residential properties is generally considered acceptable within dwellings during the day time. Ref. NV6 - Applicable Standards, Policy and Guidance British Standard 5228 - Noise Control on Construction and Open Sites

Notes:

¹ IFC requires that the Project does not result in a maximum increase in background levels of 3 dB at the nearest receptor location off-site.

² The EU Noise Directive does not specify equivalent numeric threshold standards.

5. MANAGEMENT CONTROLS

5.1 General Approach to Noise and Vibration

The general intent of this management plan is to minimise noise and vibration impacts on the surrounding environment and communities. This includes impacts on biota, people, heritage aspects and surrounding land use. Control is accomplished through identifying noise and vibration sources, evaluating and prioritising the sources according to the significance of potential impacts and then taking effective measures to design and implement appropriate controls.

Table 3. All Key Contributors to External Noise and Vibration

#	Key contributors/ Activities	Location	Impact
A	Within Mine License Area		
1	Open pit, rock quarry and earthworks blasting and drilling activities		
	• Blasting	Open pit	Noise/Vibration
	• Drilling (drilling for blasting and exploration)	Open pit	Noise
	• Activities involving heavy mechanical equipment (HME) such as dumping, dozing, grading, etc.	Open pit	Noise
	• Haulage of materials	Open pit	Noise
2	Rock quarry operational activities		

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	<ul style="list-style-type: none"> • Activities involving HME such as dumping, dozing, etc. • Haulage of materials 	Waste rock dump Waste rock dump	Noise Noise
3	Operations of ore processing equipment		
	<ul style="list-style-type: none"> • Activities at primary crusher including dumping, crushing, and compressing • Haulage through conveyor • Activities at concentrator area including dumping, crushing, loading • Haulage of materials 	Primary crusher Conveyor Concentrator Concentrator	Noise Vibration Noise Noise Noise
4	Tailing storage activities involving HME		
	<ul style="list-style-type: none"> • Tailing storage activities involving HME 	Tailing storage facility	Noise
5	Waste management activities		
	<ul style="list-style-type: none"> • Waste incineration 	Incinerator	Noise
6	On-site transportation and vehicular use		
	<ul style="list-style-type: none"> • General operation of light and heavy vehicles across mine license area 	Across mine license area	Noise
7	Other potentially noisy activities		
	<ul style="list-style-type: none"> • Power generation using portable generators • Air conditioning and refrigeration at Dining halls 	Across mine license area Manlai camp	Noise Noise
B	Outside Mine License Area		
1	Airport operations activities		
	<ul style="list-style-type: none"> • Flights • Bird flight diverter • Passenger transportation • Power generation 	Airport Airport OT-Airport road Airport	Noise Noise Noise Noise
2	Haulage of various materials		
	<ul style="list-style-type: none"> • Haulage of concentrate to Gashuun Sukhait • Import of materials from Gashuun Sukhait and other destinations in Mongolia with trucks and tankers 	OT-GS road OT-GS road Other roads-OT road KhB-OT road	Noise
3	Maintenance of Gunii Hooloi borefield		
	<ul style="list-style-type: none"> • Power generation for water pumps • Pumping 	Gunii Hooloi	Noise
4	Bus transport of workers from Khanbogd	KhB-OT road	Noise

5.2 Implementation

Noise level management measures will be implemented by means of procedures that reflect the requirements of the Key Management Controls as described in *Table 3*.

This Management Plan is also supported by a number of procedures, which present more details on specific aspects of the day to day noise and vibration management activities at OT:

- the Blasting Standard Work Procedures related to guidance for safe blasting activities; and
- Noise Monitoring and Control Procedure (OT-10-E6-PRC-0001-E) related to methodologies, locations and frequencies for noise monitoring and associated noise management measures.

Controls related to the prevention or minimisation of nuisance from noise or vibration are provided in *Table 3* below.

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Table 3: Key Management Controls

ID	Applicability/ Activity	Control Description	Responsible Parties	Means of verification
NV01	Blasting activities	<p>The design and operations for blasting will be undertaken in accordance with the Blasting Standard Working Procedures.</p> <p>In addition to the content of the Standard Working Procedures, OT will also:</p> <ul style="list-style-type: none"> • Monitor blasts and revise blast design, as required. • Ensure the correct blasting ratio is obtained; the blasting ratio is a measure of the amount of work expected per unit volume of explosives i.e. tonnes/kg. • Control blasting using delayed sequences and which are previously simulated and tested as appropriate. • Split the explosives charge column into discrete charges fired on separate delays as appropriate. • Prepare blasting plans, optimised by using best techniques in the blasting pattern design and explained to any affected local communities, as appropriate. • Restrict blasts to favourable weather conditions (wind and temperature gradient) where practicable. <p><i>Information Note:</i> Based on studies set out in ESIA there are no sensitive receptors that will be affected by noise and vibration.</p>	<ul style="list-style-type: none"> • Open Pit Department 	<ul style="list-style-type: none"> • Auditing against blasting Standard Working Procedures • Vibration monitoring during selected blasts
NV02	On site Noise Control	<p>Noise levels on site from the operation of plant and equipment will be controlled in terms of the Noise Monitoring and Control Procedure OT-10-E6-PRC-0001-E.</p>	<ul style="list-style-type: none"> • HSESC Department • Operational Departments 	<ul style="list-style-type: none"> • Internal audits • Registered noise grievances

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ID	Applicability/ Activity	Control Description	Responsible Parties	Means of verification
			<ul style="list-style-type: none"> Contractors 	
NV03	Driving	Traffic noise levels will be controlled by the Transport Management Plan, which will include adherence to speed limits on and offsite.	<ul style="list-style-type: none"> HSESC Department Operational Departments Infrastructure Departments Logistics Departments (both Operations and Underground) Contractors 	<ul style="list-style-type: none"> GPS tracking of vehicles
NV04	Fauna and Flora Protection	Management of activities (which are considered likely to create intrusive noise levels at sensitive receptors in excess of Project Standards) including road traffic and noisy equipment to minimise potential disturbance to wildlife.	<ul style="list-style-type: none"> Operational Departments Environment Department 	<ul style="list-style-type: none"> Audits

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6. IMPLEMENTATION SCHEDULE

6.1 Review and Revision of this Management Plan

This Management Plan will be reviewed every two years or more frequently when operational or environmental conditions so dictate.

Any revisions to this Management Plan will be uploaded to the OT Portal to ensure that all OT staff have access to the latest version of this Management Plan.

Review and revision of this Management Plan is the responsibility of OT General Manager HSESC.

7. Monitoring

7.1 Overview of Monitoring Requirements

The Monitoring measures that are to be implemented during the operations phase to assess compliance with Project Standards (see *Section 4: Project Standards*) are described in the section.

In the event that monitoring identifies non-conformance(s) with Project Standards, these will be investigated and appropriate corrective actions identified (see Element 14 Non-conformance incident and action management of the OT HSECS MS).

7.2 Key Performance Indicators

OT will continue to evaluate noise management performance within and beyond the Mine Licence Area site boundary. KPIs to assess its noise and vibration management are presented in *Table 3*. Specific monitoring provisions are detailed in *Table 4* below.

Table 4: Key Performance Indicators – Noise and Vibration

ID	KPI	Target	Monitoring measure
NV-KPI 01	Noise and Vibration Incidents	Minimise and continued improvement in number of reported noise and vibration related incidents.	Number of reported noise and vibration related incidents per year
NV-KPI 02	Non-Compliance with Noise and Vibration Standards	Goal: 0 per year. Target maximum: 5 per year.	Number of measured non-compliances with Project noise and vibration standards that are not caused by natural weather conditions.
NV-KPI 03	Number of noise-related Community Complaints	Goal: 0 per year. Target Maximum: 5 per year.	Number of reported noise and vibration related community complaints per year (as recorded in the complaints and grievance management system).

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7.2.1 Key Monitoring Activities

The monitoring measures that are to be implemented during operations to ensure compliance with the Project Standards (see *Section 4.6*) are described in *Table 5*, below. In the event that any monitoring results identify exceedances of any Project Standards, these will be investigated and corrective actions identified (see the ESMP Framework OT-10-PLN-0001-E Document for further details).

The Project develops and implements an Annual Environmental Monitoring and Protection Plan to verify compliance with applicable Project Standards outlined in *Section 4.6*. Specific monitoring requirements are further detailed below.

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Table 5: Monitoring Measures – Noise and Vibration

ID	Topic/ Aspects	Parameters	Methods	Periodicity	Location
NVM1	Noise Level	Leq dB(A)	Calibrated noise meter B&K Mediator 2238	Quarterly	Various, including baseline monitoring stations, Airport, at mine site residential camps including Manlai and Oyut, OT-KB road and remaining section of OT-GS road
NVM2	Noise Spectrum	Noise Spectrum analysis	Noise spectrum meter – by specialist Consultant	Annually, including day and night readings	Various, including on-site and off-site sensitive receptor locations
NVM3	Blast Ground Vibration	Nm and seismogram	Seismogram – by specialist Consultant	Every three year, during blasts	Various, including on-site and off-site sensitive receptor locations
NVM4	Noise and Vibration Workplace Inspections	NA	Periodic inspections will be carried out by area leaders and HSESC personnel.	Daily	All main workplaces
NVM5	Noise level	dB(A)	Cirrus MK427 Noise Sensor	Continuous	Air quality monitoring network stations

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8. TRAINING

8.1 Overview

All necessary training is provided as part of induction training (to provide general awareness) and job-specific training as necessary.

8.2 Induction Training

All OT personnel are provided with general induction, site specific induction and a HSESC awareness training.

8.3 Job-Specific Training

All personnel working at OT will attend routine pre-start meetings which will include noise and vibration management as appropriate.

8.4 Other Training Requirements

All OT personnel responsible for significant noise-generating activities shall be provided with toolbox training that outlines the specific mitigation measures identified in *Table 3*.

Specialist training will be provided to operators of the blasting programme to minimise vibration. Machinery and heavy equipment operators who operate equipment in areas where there are sensitive receptors will be provided with training outlining the importance of noise control and available noise reduction measures.

General aspects of environmental management will be included in induction training to be provided to all employees.

9. AUDIT AND REPORTING

9.1 Internal Auditing

Period inspections are completed by operational area superintendents / supervisors and HSESC personnel covering HSESC aspects.

Any incidents identified during these inspections will be reported to the incident management system (Element 14).

Conformance will be monitored via annual internal audit program in accordance with Element 16 Performance Assessment and auditing. This will be undertaken to assess broad compliance with requirements of HSESC management system (including ESIA and management plans).

All incidents and non-conformances identified during these inspections are reported as per the requirements of the OT HSESC Management System as described in the Environmental ESMP Framework Document

9.2 External Auditing

Conformance with this plan will be subject to periodic assessment as part of the Rio Tinto HSE Business Conformance Audit programme and by Project Lenders.

9.3 Record keeping

Records of audits, inspections and incidents will be managed in accordance with Element 8 Documentation and Document Control and Element 15 Data and Records Management.

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Rio Tinto Business Solution shall be used to record Internal and External Audit findings and related actions and Incidents and related investigation and actions.

10. DOCUMENT CONTROL

File Name	OT-10-E00-PLN-0001-E-Noise and Vibration Operations Management Plan
Description	Noise and Vibration Operations Management Plan
Original Author(s)	Land and Monitoring team
Creation Date	2013.09.01
Approved By	Kerrie Edwards, GM HSESC
Approval Date	2013.09.01
Change Record Number	#

Risk Ranking	Assessment Date	Risk Assessor	Review Schedule	Next Review Date
Moderate	2013.09.01	Land and Monitoring team	2 Yearly	2019.11.20

Version	Revision Date	Author(s)	Approved By	Revision Notes
1.0	2013.09.01	Land and Monitoring team	Mark Slater, GM HSE	Approved version.
1.1	2013.11.23	Muunkhtsatsral.L	Mark Slater, GM HSE	Corrected number of documents and completed document control section.
1.2	2015.07.10	Tsetsegsuren. L Dennis H Mahoney D	Kerrie Edwards, GM HSESC	NOC 2015-10 Periodic review – updates include: alignment to changed Rio Tinto standards, Added necessary roles and responsibilities; additional key contributors to noise and vibration included and the list put into a table for better description of the associated activities;
2.0	2017.11.20	Tsetsegsuren. L	Erdenebayar Naran, Manager Environment	Periodic review. Updates include: added Contractor Management Framework (OT-07-PLN-0001-E) in the list of Overlapping Management Plans; added Contractor Engagement Department in Table 1 (Roles and Responsibilities); added relevant Departments and verification item for management control NV02 in Table 3 (Key Management Controls); changed monitoring frequency for Noise level monitoring (NVM1) to Quarterly and for Ground vibration monitoring (NVM3) to Every three years; updated the Noise monitoring locations and added continuous noise measurement as NVM5 at newly established air quality monitoring stations in Table 5 (Monitoring measures).