



Standard 10

10 NOISE AND VIBRATION MANAGEMENT

10.1 STANDARD

The purpose of this Standard is to define the requirements for managing any adverse impacts of noise and vibration on site personnel and any relevant external stakeholders.

10.2 CRITERIA AND REQUIREMENTS

10.2.1 Regulatory Compliance

The management of noise and vibration at all sites shall be conducted in compliance with all relevant in-country regulatory requirements, licences and any other applicable requirements.

10.2.2 Determination of Noise and/or Vibration Sources

Each site shall monitor and determine if noise and/or vibration from site activities is having an adverse impact within or around the site.

Sources of ambient noise/vibration at sites may include, but not be limited to:

- heavy mobile equipment;
- power generation;
- fixed processing plant and equipment;
- transportation;
- blasting; and
- construction activities.

Environmental impacts of noise and vibration that require review and consideration at sites include:

- nuisance impacts on adjacent landowners, villages or local residents;
- impacts on wildlife; and
- background levels of noise/vibration (i.e., other sources in the area).

10.2.3 Noise and Vibration Management Plan

Sites that are:

- located close to local residents, villages, landowners or other external stakeholders; or
- have licence conditions specifying noise/vibration conditions or relevant limits,



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are required to develop, implement, communicate, adhere to and maintain a Noise and Vibration Management Plan for managing ambient noise and vibration. This Plan shall identify all major sources of noise/vibration generated at the site and define the applicable strategies, operational controls and management practices to reduce potential and existing noise and vibration impacts to acceptable levels.

10.2.4 Management of Noise and Vibration Sources

Where applicable, known adverse noise and vibration impacts from sites shall be effectively managed through the systematic identification of sources and impacts and completion of risk assessments.

Where adverse noise and vibration impacts have been identified and confirmed through monitoring within or around the site, these impacts shall be managed using one or more of the following control strategies:

- selection of low noise plant and equipment;
- acoustic enclosures around relevant noise emitting process plant equipment;
- for new projects, optimising mine layout to shield noise from external receptors;
- altering the blast drilling pattern and delay layout;
- blasting at times that suits local conditions and any community requests; and
- adopting effective community liaison programs.

10.2.5 Monitoring

Depending on location and risk profiles, sites shall develop and implement suitable monitoring and inspection/audit programs to verify that any noise and/or vibration abatement programs and emission controls are fully functional, operating properly and achieving the targeted performance, and that noise and vibration are not having an ongoing adverse or nuisance impact.

Noise and vibration monitoring shall be conducted by trained and competent personnel.

10.2.6 Calibration and Maintenance Schedule

Sites shall develop, implement and maintain planned calibration and maintenance schedules for any noise and vibration monitoring equipment. Records of equipment calibration and maintenance shall be retained.

10.2.7 Data Analysis and Management

Noise and vibration monitoring data shall be periodically reviewed inclusive of trend analysis, and the results communicated to site management.

10.3 TERMS AND DEFINITIONS

Relevant key terms and definitions that relate to B2Gold's Noise and Vibration Management Standard are provided below:

Environmental Impact: Any change to the environment whether adverse or beneficial, wholly or partially resulting from a site's activities.

Monitoring: The gathering, analysis (especially for trends) and interpretation of information for the assessment of performance.



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Examples of monitoring subjects are: occupational health and safety, air, soil and water quality, flora and fauna, reclamation, social aspects including complaints, operational dust, noise, vibration, property damage, community health, community investment, historical and cultural sites.

Monitoring may be continuous, short-term or long term and may be undertaken manually or automated.

Reclamation: The return of disturbed land to a physically and chemically stable, self-sustaining condition compatible with future land use objectives.

10.4 REFERENCE MATERIAL

Nil

10.5 DOCUMENT CONTROL

Revision	Approved	Date	Description
Final	Ken Jones	17 th August 2014	Original 2014 issue of the B2Gold Environmental and Biodiversity Performance Standards
Final	Ken Jones	24 th May 2018	2018 revision, update and issue of the original 2014 B2Gold Environmental and Biodiversity Performance Standards