

SOCIAL AMENITY MANAGEMENT Noise Management Plan

Objective	<p>To:</p> <ul style="list-style-type: none"> • Ensure that statutory requirements and corporate standards are met; • Manage the operations in a way that minimises noise impacts to environment and neighbours, and limits interference to mining production; • Review monitoring results against model predictions and modify activities to ensure limits are not exceeded; and • Keep the local community and regulators informed of activities where required and to respond quickly and effectively to issues and complaints. 												
Scope	<p>HVO Environmental Protection Licence boundary, including:</p> <ul style="list-style-type: none"> • Operating Pits • Rehabilitation Areas • CPPs • Loading Points 												
Key Environmental Issues	<p>Noise impacts as a result of construction, operational, and rehabilitation activities that may affect:</p> <ul style="list-style-type: none"> • Communities (Warkworth, Maison Dieu, Jerrys Plains, Bulga); • Residences within zone of affectation; and • Residences beyond zone of affectation. <p>In addition, management of:</p> <ul style="list-style-type: none"> • Tonal noise (containing a prominent frequency and characterised by a definite pitch); • Low frequency noise (containing major components within the low frequency range 20-250 Hz); and • Adverse weather conditions (winds > 3 m/s and temperature inversions > 3 °C/100m). 												
Performance Criteria	<p><i>Noise Criteria</i></p> <table border="1" data-bbox="443 1368 1425 1592"> <thead> <tr> <th></th> <th>Day/Evening/Night L_{Aeq} (15 minute) dB(A)</th> <th>Night L₁ (1 minute) dB(A)</th> </tr> </thead> <tbody> <tr> <td>Impact Assessment Criteria</td> <td>35-40</td> <td>46</td> </tr> <tr> <td>Acquisition Criteria</td> <td>41-43</td> <td></td> </tr> <tr> <td>Maximum Equipment Sound Power Level</td> <td>118</td> <td></td> </tr> </tbody> </table> <p>Daytime is between 7.00 am and 6.00 pm and night time is between 10.00 pm and 7.00 am.</p>		Day/Evening/Night L _{Aeq} (15 minute) dB(A)	Night L ₁ (1 minute) dB(A)	Impact Assessment Criteria	35-40	46	Acquisition Criteria	41-43		Maximum Equipment Sound Power Level	118	
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<p>Control Measures</p>	<p><i>Standard Conditions (24 hour mining operations; construction operations during daylight hours)</i></p> <ul style="list-style-type: none"> Plant, machinery and haul roads will be maintained in good condition; Environmental inductions will ensure employee awareness of sensitive locations, operating hours and equipment in relation to noise generation; Regular communication and feedback opportunities with local residents; Notification to local residents prior to unusual activities; and Noise emission levels will be considered in awarding all contracts and purchasing new equipment. <p><i>Adverse Conditions</i></p> <p>Should adverse meteorological conditions exist, the following options will be considered to mitigate off-site, private property impacts:</p> <ul style="list-style-type: none"> Review of the elevation of mining and dumping and, where possible, relocate equipment to lower elevations, until more suitable conditions return; Amended working hours; Temporary cessation of work within an area or from a particularly noisy piece of equipment; and Construction of a temporary or long-term noise mitigation bund to shield the mining operation.
<p>Monitoring and Inspection</p>	<p><i>Monitoring (set out in the Operations Noise Monitoring Manual):</i></p> <ul style="list-style-type: none"> Attended monitoring - quarterly Non-attended noise monitoring (real-time) – continuous Tonal and low frequency noise monitoring <p><i>Model Validation</i></p> <ul style="list-style-type: none"> Every 2 years comparing monitoring data to modelling predictions.
<p>Incident Management</p>	<p><i>Incident Reporting</i></p> <p>Incident reporting as per CNA Environmental Procedure <i>Incident Management and Reporting</i> (EP1.8).</p> <p><i>Complaints Management</i></p> <p>Complaints management as per CNA Environmental Procedure <i>Communications</i> (EP1.9).</p> <p><i>Incident Response – Exceedance or Complaint</i></p> <p>Investigate event and identify equipment locations, timing and climatic conditions to determine if additional management measures are required.</p>
<p>Performance Reporting</p>	<p>Reporting in Annual Environmental Management Report of:</p> <ul style="list-style-type: none"> Monitoring results Complaints Performance against implementation of control measures.

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<p>Definitions</p>	<p><i>Adverse Weather</i> - Wind speeds in excess of 3 m/s (at 10 m above ground level); and/or temperature inversion conditions in excess of 3°C/100m, and wind speeds in excess of 2 m/s (at 10 m above ground level).</p> <p><i>dB(A)</i> - Noise is measured in units called decibels (dB). There are several scales for describing noise, the most common being the 'Aweighted' scale. This attempts to closely approximate the frequency response of the human ear.</p> <p><i>L_{Aeq}</i> - The summation of noise over a selected period of time. It is the energy average noise from a source, and is the equivalent continuous sound pressure level over a given period.</p> <p><i>Low Frequency Noise</i> – Noise containing major components within the low frequency range 20-250 Hz.</p> <p><i>Sound Power Level</i> - This is a measure of the total power radiated by a source. The sound power of a source is a fundamental property of the source and is independent of the surrounding environment.</p> <p><i>Temperature Inversion</i> - A meteorological condition where atmospheric temperature increases with altitude.</p> <p><i>Tonal Noise</i> - noise containing a prominent frequency and characterised by a definite pitch.</p> <p><i>Pitch</i> - The frequency of a sound as heard by the ear.</p>
<p>Key Documents</p>	<p><i>Development Consents</i> DA 450-10-2003 – Conditions 4.7 to 4.10.</p> <p><i>Licences</i> EPL 640.</p> <p><i>EMS Documents</i> RT Environment Standard <i>Noise and Vibration Control</i> (V1.0); CNA Environmental Standard <i>Noise and Vibration Management</i> (ES9); CNA Environmental Procedure <i>Noise</i> (EP9.1); CNA Environmental Procedure <i>Communications</i> (EP1.9); and CNA Environmental Procedure <i>Incident Management and Reporting</i> (EP1.8).</p> <p><i>Forms</i> CNA Ground Disturbance Permit; and CNA Environmental Risk Assessment Checklist.</p>