

Case: 'Industry Noise 05092022'

Hazard: Noise

Hazard name:	Noise
BowTie Group:	New BowTie Group
Top event:	Emission of noise levels equal to and above 85dBA
Affects:	<NULL> <No Value Assigned>
Description:	The objective of the bowtie will be the occupational health on the operation.
Build complete:	No

Risk assessments

<No Risk Assessments made.>

Threats

Threat	
	<p>Barrier - Accountable »Activity - Responsible</p>
	<ul style="list-style-type: none"> • Machinery emitting noise equal to or above 85dB(A) <ul style="list-style-type: none"> • Procurement of Quiet Equipment - Engineering Department Procurement of Equipment, in accordance with the IBMQI Policy/Standard <ul style="list-style-type: none"> »Audits 01 Audit schedule and protocol - Supply Chain Establishment of audit schedules and protocols centred around buy quiet principles »Rev02 Equipment Noise Verification - <No Value Assigned> 3rd Party Noise reports available for equipment procured and verified during scheduled periodic audits conducted • Equipment Noise Verification - Supply Chain Provision of appropriate 3rd Party Noise report issued prior to procuring <ul style="list-style-type: none"> »Audits 01 Audit schedule and protocol - Supply Chain Establishment of audit schedules and protocols centred around buy quiet principles • Rejection of equipment not complying with Procurement standards (Buy Quiet) - Supply Chain Rejecting of delivered equipment not complying to IBMQI Standards (Buy Quiet & Noise Emission standards) <ul style="list-style-type: none"> »Audits 01 Audit schedule and protocol - Supply Chain Establishment of audit schedules and protocols centred around buy quiet principles • Silencing of Equipment (compressors, rock drills, air hoists etc) - Engineering Department Designing and installation of appropriate equipment silencers (to ensure that the equipment utilized comply with the IBMQI Policy/ Standard/ Requirements) Consider the Target setting process flow as an escalation factor for the appropriate silencing controls (Design & installation)

Industry Noise 05092022 Single Hazard: 'Noise'

	<p>»OEM Eng01 OEM Engagement process - Operations OEM Engagement process defined and implemented for the operation. OEM's for high risk critical noise equipment consulted as part of the equipment silencing process</p>
	<ul style="list-style-type: none"> Shielding / Enclosure (surface areas - incl compressor houses, fridge plants) - Engineering Department Installation of shields around noise sources and / or enclosure of noise sources to prevent the propagation of the noise emission to other areas »Rev01 Review Hygiene reports - Operations Confirmation of measurements conducted within the workplace assessing the effectiveness of the control measures implemented
	<ul style="list-style-type: none"> Routine equipment noise emission level monitoring
	<ul style="list-style-type: none"> Machinery Planned Maintenance Maintain to purchase standard and design specifications
	<p>• Mining/ Production/ Operational Activities (Continuous & Impact Noises from Production Processes)</p>
	<ul style="list-style-type: none"> Real-time monitoring of noise levels on fixed mechanical equipment
	<ul style="list-style-type: none"> Routine equipment noise emission level monitoring
	<ul style="list-style-type: none"> Silencing of Equipment (compressors, rock drills, air hoists etc) - Engineering Department Designing and installation of appropriate equipment silencers (to ensure that the equipment utilized comply with the IBMQI Policy/ Standard/ Requirements) <p>Consider the Target setting process flow as an escalation factor for the appropriate silencing controls (Design & installation)</p> <ul style="list-style-type: none"> »Rev01 Review Hygiene reports - Operations Confirmation of measurements conducted within the workplace assessing the effectiveness of the control measures implemented »OEM Eng01 OEM Engagement process - Operations OEM Engagement process defined and implemented for the operation. OEM's for high risk critical noise equipment consulted as part of the equipment silencing process
	<ul style="list-style-type: none"> Shielding / Enclosure of equipment - Engineering Department Installation of shields around noise sources and / or enclosure of noise sources / employees to prevent the propagation of the noise emission to other areas »Rev01 Review Hygiene reports - Operations Confirmation of measurements conducted within the workplace assessing the effectiveness of the control measures implemented
	<ul style="list-style-type: none"> Damping Installation of sound absorbent material.
	<ul style="list-style-type: none"> Machinery Planned Maintenance Maintain to purchase standard and design specifications
	<p>• Maintenance Activities - Instant loud noises (impact tools)</p>
	<ul style="list-style-type: none"> Shielding / Enclosure of maintenance areas or bays - Engineering Department Installation of shields around maintenance areas or bays and / or enclosure of maintenance areas or bays to prevent the propagation of the noise emission to other areas »Rev01 Review Hygiene reports - Operations Confirmation of measurements conducted within the workplace assessing the effectiveness of the control measures implemented
	<p>• Instant loud noises</p>
	<ul style="list-style-type: none"> Shielding of the shooting range / cubicle
	<ul style="list-style-type: none"> Silencers on firearms
	<p>• Audio communications systems</p>
	<ul style="list-style-type: none"> Audio level control
	<ul style="list-style-type: none"> Education & Awareness Campaigns - Operations

Consequences

Consequence	
	<p>Barrier - Accountable »Activity - Responsible</p>
	Escalation Factor
• Noise induced hearing loss	
	<ul style="list-style-type: none"> • Appropriate use of Hearing Protection Devices (PPE) - Operations The provision of appropriate Hearing Protection Devices (HPD's) for use by employees to protect their hearing. This includes the provision and the selection of appropriate Hearing Protection Devices (Custom Moulded HPD's, Re-usable HPD's and Disposable HPD's), by making use of recognised tools/processes (e.g. HPD_TAS_TOOL). <ul style="list-style-type: none"> »Train Training of Employees - Operations Employees to be trained on the appropriate use of HPD's »Select Selection of appropriate HPD's for Employees - Ventilation and Occupational Hygiene Selection of the appropriate HPD's for use by employees, based on a recognised system/tool/practice (e.g. HPD_TAS_TOOL) »Zone Noise Zone Demarcation & Signage - Operations Installation of Noise Zone Demarcation with the area noise emission levels recorded on the Noise Zone Demarcation signs.
	• Personal noise exposure monitoring programme
	• Medical surveillance programme
	• Esc. Secondary health condition
	• Noise Zoning
	<ul style="list-style-type: none"> • Removing of person from the noisy environment - Operations Removal of personnel from the noisy environment for a period of time during the execution of certain activities. <ul style="list-style-type: none"> »Conduct Conducting of a hearing loss investigation - Operations Conducting of work[workplace investigation to identify the root cause for the damage in hearing
	<ul style="list-style-type: none"> • Work scheduling - Operations <ul style="list-style-type: none"> »Train Training of Employees - Operations Employees to be trained on the appropriate use of HPD's »Rev01 Review Hygiene reports - Operations Confirmation of measurements conducted within the workplace assessing the effectiveness of the control measures implemented
	• Remote operations / technology
• Inability to hear mobile equipment and warning signals	
	<ul style="list-style-type: none"> • Sensory indicators - Operations Install visual indicators/ alarms to convey safety related hazards information to employees <ul style="list-style-type: none"> »Train Training of Employees - Operations Employees to be trained on the appropriate use of HPD's »Install 01 Installation of visual Indicators/ Alarms - Operations Visual indicators/ alarms defined in an operational procedure and installed in appropriate working areas
	<ul style="list-style-type: none"> • Appropriately selected Hearing Protection Devices (PPE) - Ventilation and Occupational Hygiene The provision of appropriate Hearing Protection Devices (HPD's) for use by employees to avoid safety warning signals not being audible (over-protection). This includes the provision and the selection of appropriate Hearing Protection Devices (Custom Moulded HPD's, Re-usable HPD's and Disposable HPD's), by making use of recognised tools/processes (e.g. HPD_TAS_TOOL). <ul style="list-style-type: none"> »Select Selection of appropriate HPD's for Employees - Ventilation and Occupational Hygiene Selection of the appropriate HPD's for use by employees, based on a recognised system/tool/practice (e.g. HPD_TAS_TOOL)

	»Train Training of Employees - Operations Employees to be trained on the appropriate use of HPD's
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