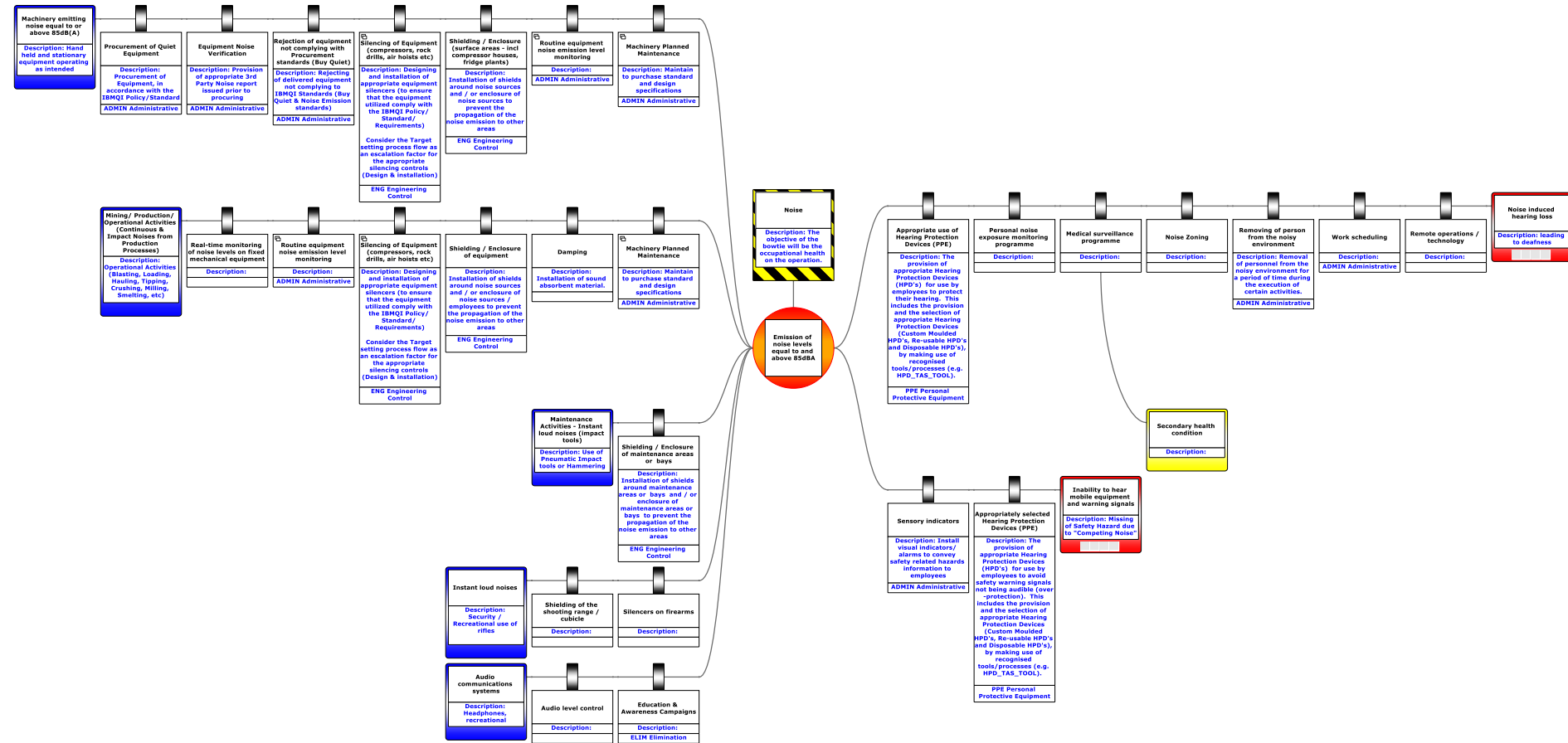


Case: 'Industry Noise 05092022'

Hazard: Noise



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.>

List of Threats and Consequences

Noise / Emission of noise levels equal to and above 85dBA**Threats:****Threat Category**

Machinery emitting noise equal to or above 85dB(A)	
Mining/ Production/ Operational Activities (Continuous & Impact Noises from Production Processes)	
Maintenance Activities - Instant loud noises (impact tools)	
Instant loud noises	
Audio communications systems	

Consequences:**Consequence Category**

Noise induced hearing loss	
Inability to hear mobile equipment and warning signals	

Threats

Threat		Additional Barriers – Add here	Description/Comments
	Barrier		
	• Machinery emitting noise equal to or above 85dB(A)		Hand held and stationary equipment operating as intended
	• Procurement of Quiet Equipment		Procurement of Equipment, in accordance with the IBMQI Policy/Standard
	• Equipment Noise Verification		Provision of appropriate 3rd Party Noise report issued prior to procuring
	• Rejection of equipment not complying with Procurement standards (Buy Quiet)		Rejecting of delivered equipment not complying to IBMQI Standards (Buy Quiet & Noise Emission standards)
	• Silencing of Equipment (compressors, rock drills, air hoists etc)		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)
	• Shielding / Enclosure (surface areas - incl compressor houses, fridge plants)		Installation of shields around noise sources and / or enclosure of noise sources to prevent the propagation of the noise emission to other areas
	• Routine equipment noise emission level monitoring		
	• Machinery Planned Maintenance		Maintain to purchase standard and design specifications

Industry Noise 05092022 Hazards

• Mining/ Production/ Operational Activities (Continuous & Impact Noises from Production Processes)		Operational Activities (Blasting, Loading, Hauling, Tipping, Crushing, Milling, Smelting, etc)
• Real-time monitoring of noise levels on fixed mechanical equipment		
• Routine equipment noise emission level monitoring		
• Silencing of Equipment (compressors, rock drills, air hoists etc)		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)
• Shielding / Enclosure of equipment		Installation of shields around noise sources and / or enclosure of noise sources / employees to prevent the propagation of the noise emission to other areas
• Damping		Installation of sound absorbent material.
• Machinery Planned Maintenance		Maintain to purchase standard and design specifications

Industry Noise 05092022 Hazards

• Maintenance Activities - Instant loud noises (impact tools)			Use of Pneumatic Impact tools or Hammering
	• Shielding / Enclosure of maintenance areas or bays		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
• Instant loud noises			Security / Recreational use of rifles
	• Shielding of the shooting range / cubicle		
	• Silencers on firearms		
• Audio communications systems			Headphones, recreational
	• Audio level control		
	• Education & Awareness Campaigns		

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Consequences

Consequence		Additional Barriers – Add here	Description/Comments
	Barrier		
	Escalation Factor		
	• Noise induced hearing loss		leading to deafness
	• Appropriate use of Hearing Protection Devices (PPE)		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).
	• Personal noise exposure monitoring programme		
	• Medical surveillance programme		
	• Esc. Secondary health condition		
	• Noise Zoning		
	• Removing of person from the noisy environment		Removal of personnel from the noisy environment for a period of time during the execution of certain activities.
	• Work scheduling		
	• Remote operations / technology		

• Inability to hear mobile equipment and warning signals			Missing of Safety Hazard due to "Competing Noise"
	• Sensory indicators		Install visual indicators/ alarms to convey safety related hazards information to employees
	• Appropriately selected Hearing Protection Devices (PPE)		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).