

## MOSH Industry Dust Bowtie Analysis

### Coal – Respirable Coal Dust (Underground)

#### Short Version of Threats and Controls

<b>Hazard name:</b>	Respirable Coal Dust
<b>Top event:</b>	Liberation of Respirable Coal Dust
<b>Affects:</b>	Health
<b>Description:</b>	Coal dust generated by various mining activities, which may contain crystalline silica

### Threats

Friction / Abrasive cutting, drilling, raise bore	
<b>Controls</b>	<ul style="list-style-type: none"> <li>Vacuum suction dust extractor on drill rig (Roofbolters)</li> <li>Wet Drilling</li> </ul>
Coal Cutting	
<b>Controls</b>	<ul style="list-style-type: none"> <li>CM Water Sprays (Col 518)</li> <li>Scrubber System on CM</li> <li>Cutter Drum Picks</li> </ul>

Loading and tipping coal	
<b>Controls</b>	<ul style="list-style-type: none"> <li>• Foam Dust Suppression (Dust Stop)</li> <li>• CBAT-SLP</li> <li>• Feeder breaker Water Spray</li> </ul>
Transportation & Travelling (Underground Roadways)	
<b>Controls</b>	<ul style="list-style-type: none"> <li>• Watering Down (Dust Suppression)</li> <li>• Travelling Speed Management</li> </ul>
Coal Conveyance (Conveyor Belt)	
<b>Controls</b>	<ul style="list-style-type: none"> <li>• Return Belt Water Sprays</li> <li>• CBAT-SLP</li> <li>• Transfer Point Water Sprays</li> <li>• Coal Dust Coating (Surfactant/Additives) – surface</li> </ul>
Coal Transfer (Transfer points)	
<b>Controls</b>	<ul style="list-style-type: none"> <li>• Transfer Point Water Sprays</li> <li>• CBAT-SLP</li> </ul>
Maintenance activities (cleaning)	
Blasting	
<b>Controls</b>	<ul style="list-style-type: none"> <li>• Waterblast</li> </ul>
<ul style="list-style-type: none"> <li>• Stone dusting</li> </ul>	

## Consequences

Dust Inhalation - Acute Exposure	
<b>Controls</b>	<ul style="list-style-type: none"> <li>• Travelling Speed Management</li> <li>• Cabin Integrity</li> <li>• Windsock Indicator</li> <li>• Operator/passenger enclosed cabins</li> <li>• Canopy Air Curtain Technology/Practice</li> <li>• Job Rotation</li> <li>• Dust Mask (PPE)</li> <li>• Respirators (PPE)</li> <li>• Real Time Dust Monitoring</li> <li>• Ventilation Control Systems</li> </ul>
Dust Inhalation -Chronic Exposure	
<b>Controls</b>	<ul style="list-style-type: none"> <li>• Operator/passenger enclosed cabins</li> <li>• Windsock Indicator</li> <li>• Cabin Integrity</li> <li>• Personal Dust Monitoring</li> <li>• Periodic Medical Screening - Lung Function Tests</li> <li>• Real Time Dust Monitoring</li> <li>• Canopy Air Curtain Technology/Practice</li> <li>• Multi license system - Job Rotation</li> <li>• Job Re-Classification - The transfer of employees from high-risk areas</li> <li>• Ventilation Control Systems</li> </ul>
Business Continuity Disruptions	
<b>Controls</b>	<ul style="list-style-type: none"> <li>• Occupational Health Monitoring Programme</li> <li>• Business Continuity Training</li> </ul>

## Stakeholder Relations

<b>Controls</b>	<ul style="list-style-type: none"><li>• Stakeholder Management Plan</li></ul>
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