

CHAIN VALLEY COLLIERY- SUBSIDENCE MANAGEMENT TRIGGER ACTION RESPONSE PLAN (TARP) SUBSIDENCE MANAGEMENT NORTHERN MINING DOMAIN S2 - S4

		DETAILED PERFORMANCE INDICATORS	MONITORING REQUIREMENTS	CONTAINMENT / REMEDIATION MEASURES	ADAPTIVE MANAGEMENT MEASURES	CONTINGENCY PLANS
Triggers	SUBSIDENCE PARAMETERS (Input Variable Validation)	Normal Constrained Zone thickness (as per Strata2 Report CHV-006-Rev2) exceeds "12T + 10m" by at least 10m (refer to EP Table 10)	Miniwall supervisors to record extraction height each shift			
		Trigger Level 1 Constrained Zone thickness exceeds "12T + 10m" by <10m (refer to EP Table 10)	Mine Surveyor to confirm weekly that the average extraction height is ≤ 3.5m			Review mine plan and extraction height capabilities. Adjust extraction areas accordingly
		Trigger Level 2 Constrained Zone thickness is <12T (refer to EP Table 10)		Cease extraction and review	Reduce extraction height where feasible	Conduct risk assessment Review mine plan, including extraction height, geological mapping and panel geometry to confirm that sub-critical behaviour still applies
	SUBSIDENCE PARAMETERS (Bathymetric Survey)	Normal Subsidence ≤ 300mm	As per SM Program			
		Trigger Level 1 Subsidence > 300mm to ≤ 500mm	6 monthly surveys until subsidence stabilises, then as per SM Program		Update subsidence predictions based on monitoring data Identify controlling mechanisms Review potential change in impact on natural and built features & update management plans if reqd	Review ability to limit further increases based on understood mechanisms
		Trigger Level 2 Subsidence >500m to ≤780mm	6 monthly until subsidence stabilises then as per SM Program	Review if increase likely to create impact at foreshore/seagrass or exceed final subsidence prediction Notify DPIE and RR Notify OEH, affected landholders or infrastructure owner	Implement further controls as applicable from review Update subsidence predictions based on monitoring data Update impact assessment on natural and built features	Review mine plan including panel width, pillar widths, extraction height and panel length in consultation with DPIE and RR Review and update Extraction Plan
	SUBSIDENCE PARAMETERS (Foreshore Survey over minimum of 2 adjacent pegs)	Normal <20mm recorded movement	Monitoring as per SM Program			
		Trigger Level 1 <20mm recorded movement with slow (3-5mm/month) creep	Validate increase with additional monthly survey/s then as per SM program		Update subsidence predictions based on monitoring data Identify controlling mechanisms Review potential change in impact on natural and built features & update management plans if reqd	
		Trigger Level 2 >20mm recorded movement (associated with mining)	Implement Ecological Monitoring program for HWMSB exceedance Increase frequency of subsidence parameter monitoring to until rates stabilises. Then as per SM program	Cease extraction in panel in question until review conducted in consultation with DPIE and DRE Notify DPIE and RR Notify OEH, affected landholders or infrastructure owner	Investigate cause of exceedance (ie validate impact due to FAS extraction or not). Update subsidence predictions based on monitoring data Update impact assessment on natural and built features	Provide offsets for any ecological communities or threatened species in the HWMSB if impacts detected Review mine plan including panel width, pillar widths, extraction height in consultation with DPIE and RR Review and update Extraction Plan
	BUILT FEATURES	Normal No damage requiring remediation	Monitoring as per Subsidence Monitoring Program RSM routine monitoring navigation markers			
		Trigger Level 1 Subsidence parameters exceeded such that Fassifern workings indicated to have potential impact on foreshore Private bore capacity reduced	Monitoring as per BFMP (Built Feature Management Plan)	Review navigational marker freeboard and notify NSW Transport if impacted Notify DPIE and RR Notify potentially affected landholders or infrastructure owner. Provide temporary water if required		Develop BFMP in conjunction with owner for built features surrounding potential impact area
		Trigger Level 2 Impact to built feature	Monitoring as per BFMP	Cease extraction in panel in question until review conducted in consultation with DPIE and RR Assist owner with information to aid in MSB claim in accord with BFMP	Update impact assessment based on observed damage	Review mine plan including panel width, pillar widths in consultation with DP&E and DRE Review and update Extraction Plan

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		DETAILED PERFORMANCE INDICATORS	MONITORING REQUIREMENTS	CONTAINMENT / REMEDIATION MEASURES	ADAPTIVE MANAGEMENT MEASURES	CONTINGENCY PLANS
Triggers	PUBLIC SAFETY (Foreshore area and steep slopes)	Normal No impact	Monitoring as per SM Program and Public Safety MP Increase visual inspection to fortnightly about N4 until satisfied no change in public risk			
		Trigger Level 1 Subsidence parameters exceeded such that Fassifern workings indicated to have potential impact on foreshore	Increase visual inspection of foreshore to daily until public safety risk quantified as low Inspect foreshore in vicinity of steep slopes and retaining walls for signs of movement ASAP. Implement TARP as required.		Review potential of flooding and drainage impacts about foreshore or stability concerns at steep slopes/ retaining walls. Undertake risk assessments as to such	
		Trigger Level 2 Area around foreshore becomes unstable / shows signs of mining induced impact Flooding or drainage impacts considered likely as result of Fassifern extraction	Visual inspections frequency to be commensurate with level of risk (ie increase until controls put in place) Inspect foreshore in vicinity of other steep slopes and retaining walls for signs of movement ASAP. Implement TARP as required.	Cease extraction in panel in question until review conducted in consultation with DP&E and DRE Immediately implement temporary safety controls (barricades and signage available from mine site). Arrange for assistance and stay at site if immediate risk to public exists Inform ECO as to result of inspection Geotechnical Engineer to inspect area ASAP. Notify Council and NSW Transport Notify OEH, DPIE and RR	Implement longer term safety controls	Foreshore stabilisation of unsafe areas in consultation with LMCC/CC Council and RR Flooding and drainage rectification works in consultation with infrastructure owner
	BENTHIC COMMUNITIES	Normal ANOVA/ANOSIM >5%	Monitoring as per Benthic MP			
		Trigger Level 1 ANOVA/ANOSIM level is approaching 5%	Liaise with monitoring consultant & undertake internal review to determine if impacts are related to mining Arrange a peer review of the monitoring results and statistical analysis			
		Trigger Level 2 ANOVA/ANOSIM <5%	Undertake follow up monitoring at affected sites to obtain confirmation of impacts. Incident Report to be completed and distributed to relevant agencies	Notify DPIE-Fisheries, LMCC and DPIE	Consult with relevant authorities about monitoring and management controls	Consult with relevant authorities to identify if offsets are required and how these are to be implemented.
	SEAGRASS	Normal Negligible impact	Monitoring as per Seagrass MP			
		Trigger Level 1 Approaching 20% decline in condition Approaching 20mm of additional mine induced subsidence within mapped seagrass	Liaise with monitoring consultant & undertake internal review to determine if impacts are related to mining		Review if variation is within broader background variation range for the site.	
		Trigger Level 2 >20% decline in conditions from year baseline survey >150mm of additional mine induced subsidence at survey location	Incident Report to be completed and distributed to relevant agencies	Notify DPIE-Fisheries, LMCC and DPIE	Consult with relevant authorities about monitoring and management controls	Consult with relevant authorities to identify if offsets are required and how these are to be implemented.
	WATER INFLOW	Ongoing monitoring of water inflows and site water management through operational Water Management and Monitoring TARP process				
Responsibilities	Environment Compliance Officer	Coordinate and undertake all environmental monitoring as outlined in TARP Implement TARP actions in consultation with regulatory agencies as/if required Notify the relevant Government agencies and other affected parties of exceedance of performance measures Coordinate Subsidence Review as a part of Annual Environmental Reporting Arrange for subsidence prediction and impact updates as required Update Extraction Plan as required Audit public safety controls regularly				
	Mine Surveyor	Coordinate subsidence monitoring as outlined in TARP Review subsidence monitoring results against TARP triggers Inform relevant stakeholders as to subsidence monitoring trends and exceedances				
	Mine Manager	Ensure adequate financial and personnel resources are made available for implementation of this plan Review and approve required mine plan changes				