



# BEST PRACTICE ENVIRONMENTAL MANAGEMENT IN MINING

## ENVIRONMENTAL RISK MANAGEMENT

# Worksheet 1

## Summary Guide for Development and Implementation of an EMS

Element	Checklist	Completed?	Responsibility	Comments
Policy	Management commitment Prepare draft policy Circulate for comment at all levels Issue with management endorsement Distribute to all site employees			
Initial environmental review	Select audit group Carry out audit Use risk assessment to identify significant impacts Draft report Review draft report Prepare final report Management endorsement			
Regulations list	Identify legal requirements Prepare list of requirements Distribute list to relevant staff			
Set objectives and targets	Determine long-term objectives for the company Set environmental objectives Assign targets for meeting each objective, including <ul style="list-style-type: none"> <li>controlling significant impacts</li> <li>ensuring regulatory compliance</li> <li>reduce emissions</li> <li>reduce wastes</li> <li>reduce resource use</li> </ul>			
Environmental management plan	Develop strategies for achieving the objectives and targets Assign responsibilities Draw up summary tables			
Documentation	Identify information required If possible align with existing document systems Establish document control procedures			
Structure and responsibilities	Identify positions with potential to affect the environment Define responsibilities for each position Issue work descriptions			



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Procedures:-- operational	Identify activities with potential for environment impact Establish current procedures Review procedures and amend or supplement Familiarise personnel			
Procedures:-- planning	Identify future sources of pollution (both typical and abnormal) Assess effects on the environment and the community Formulate control strategies for each			
Procedures:-- emergency	Identify areas and operations where accidents may occur Formulate emergency procedures Assign emergency responsibilities Train all site personnel Practice emergency response			
Procedures:-- nonconformance	Develop non-conformance procedures Assign responsibility Management gives a clear message that non-conformance is unacceptable			
Monitoring:-- emissions	Formulate list of" <ul style="list-style-type: none"> <li>▪ sources of waste</li> <li>▪ parameters to be measures</li> <li>▪ sampling frequency</li> <li>▪ monitoring techniques</li> <li>▪ responsibility</li> </ul> Determine reporting structure			
Monitoring:-- performance	Lists parameters to review Set review period Assign responsibility Determine reporting structure			
Training:-- environmental awareness	Choose a trainer Set course content and structure Train site staff Establish induction courses Establish refresher courses			
Training:-- environmental specific	Identify specific training needs List training requirements for each site position Choose trainer Train relevant staff Establish induction courses Establish refresher courses			



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Communication: -- internal	Establish lines of communication for: <ul style="list-style-type: none"> <li>demonstrating management commitment</li> <li>raising awareness of environmental obligations</li> </ul> receiving and responding to employee concerns			
Communication: -- external	Identify interested parties Establish procedures for reporting to regulators Appoint a community contact person Establish a procedure for dealing with complaints Develop a community information system			
Environmental Manual	Compile EMS components Develop system for making sure all copies are kept up to date			
Integration	Management state requiring compliance with EMS Environmental awareness training Resolve conflicts between production and EMS Use or modify existing procedures Familiarise personnel with procedures Review EMS Environment and community liaison			
Maintaining EMS:-- internal review	Schedule reviews (at least annual) Discuss problems with staff Change processes Identify reporting problems			
Maintaining EMS:-- external review	External reviews Audit EMS Review and amend EMS Familiarise personnel with changes.			