

Towards the Development of an Environmental, Health and Safety (EHS) Screening Audit Framework for the Electrolytic Manganese Products Industry

Introduction

- Greg Beyers
- Southern Africa
 - Various industries including Manganese
- Suriname (South America)
 - “No” laws / High Biodiversity
- Environment, Health and Safety is a lifestyle



Why EHS Audit?

- Safe, healthy productive workers
- Reduce likelihood & severity of injuries & illness
- Cleaner Production
- Avoid/mitigate negative environmental impacts of Manganese, Lead, Chromium, Selenium
- Industry standards
- The community and world is watching...

Auditing

- **Purpose**
 - Evaluate performance against criteria
- **Benefits**
 - Ensure and prove compliance
 - Management practices are improved
 - Liabilities are reduced
- **Types**
 - General (Audit criteria)
 - Systems (Environmental Management Systems)

The Audit...

‘General & Facility Information’

- Starting point – Site & Process inspection is essential to assess conditions and working procedures
- Knowledge of industry needed to assess risk and impacts
- Systematic verification process
- Management performance
 - Efficiency
 - Effectiveness

The Audit...

‘Environmental Risk & Impact’

- Efficient use of resources, reduce & prevent pollution & enhance biodiversity protection
- Legal compliance might not reduce risk
- Highlight inadequacies in the use of raw materials and energy leading to major cost saving opportunities
- Professional judgement to assess likelihood of impacts
- Towards closure (Site or Facility)

The Audit...

'Key Environmental Aspects'

- Water (Ground, surface, effluent)
- Air quality (Emissions, dust)
- Soil (Vegetation indicator)
- Hazardous materials (Procedures)
- Waste handling (Transport / disposal)
 - Solid and Liquid waste streams

The Audit... 'Health & Safety'

- Awareness, competence & behaviour
- Identify hazards - reduce risk
- Workers active involvement
- Incident reporting / records
- Response to crisis & emergency situations
- Promote health & safety of workers and the host community

The Audit...

‘Sampling & Monitoring’

- Life cycle analysis – identification of stages where there are risks or impacts
 - Inputs... pathway... outputs...
- Sampling & testing of an area is a specialist skill but procedures are available
- Should be Comprehensive and Independent
- Basis for continual improvement



Concluding Remarks

- Sustainable development
- Implementation
 - Encourage compliance through cooperation
- Plan – Do – Check – Act
 - Continual feedback
 - Dynamic document
- Discussion / Questions