



**Workshop on Environmental Mainstreaming and
Sustainable Development**

**ENVIRONMENTAL MANAGEMENT SYSTEM AT
DEBSWANA**

11 – 12th April ,2011

by Mmapula C. Keaikitse



Debswana Environmental Management Efforts or Activities are governed by the ISO 14001 Environmental Management System and is regularly audited by third party to ensure we remain compliant to standard

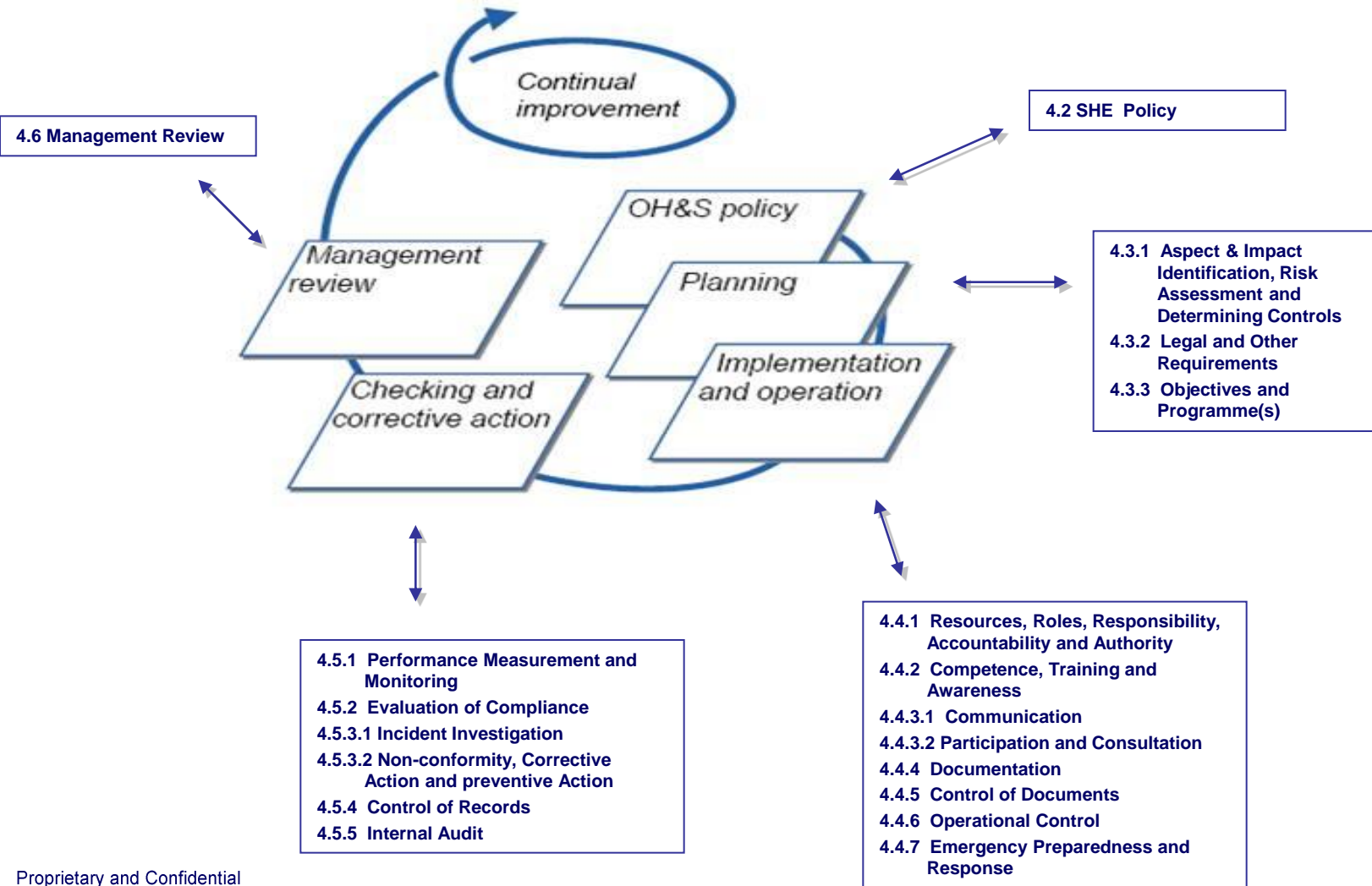


General Background

- 1992 / 1993** - Carried out Environmental Situational Assessment
- 1993 / 1994** - Debswana Implemented its first formal Environmental Management system based on British Stanadrd 7750
- 1996** - Adopted Environmental Management System based on ISO 14001
- 2000** - JWANENG attained certification in December
- 2001** - Orapa and Letlhakane Mines attained their certification in March



Requirements for an Environmental Management System





Policy and Commitment Stage

- Top Management Commitment
- Policy Development and commitment



Our commitment

The environmental guiding principles are to:

Continually improve our environmental management performance.

Comply with all applicable laws, regulations, and commitments.

Prevent pollution of the environment.

These principles are accomplished by:

Applying integrated environmental management procedures and assessments to minimise the impact of mining and associated activities on the environment.

Applying the principle of 3R's in the management of waste: Reduce, Re-use and Recycle.

Providing environmental education and training to all employees.

Pro-actively engaging with Government, communities and other stakeholders on matters related to the development of legislation and other environmental issues of mutual concern.

Encouraging the use of environmental management systems by suppliers and contractors and monitoring their performance.

Working towards the achievement of sustainable development.

Making public the company's environmental policy and initiatives.



PLANNING STAGE

HAZARD / ASPECT IDENTIFICATION & RISK / IMPACT ASSESSMENT

- Every activity undertaken by Debswana is screened to determine its impact on the environment and environmental management plans (EMP) developed
- EIA AND EMP conducted and monitored and tracked through our EMS
- Two of our major projects had EIA'S conducted for them before the EIA Act

LEGAL AND OTHER REQUIREMENTS

- A computerised legal register of all Botswana legislation on which has a bearing on the environment
- Closure trust fund set up

OBJECTIVES, TARGETS & MANAGEMENT PROGRAMS

- The impacts are prioritised and objectives , targets and management programs developed
- Debswana has developed electronic management system to follow up on progress



Electronic management System

- All our impacts, objectives, targets and emp's are managed in this tool
- Document control is managed electronically
- Monitoring



Electronic Management System



Pivot.Web V7

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SUMMARY

APPLICATIONS

- AMS**
Aids Management System (AMS16001)
- EMS**
Environmental Management System (ISO 14001)
- MSS**
Medical Surveillance System
- OHS**
Occupational Hygiene System
- Pivot.Client Web**
- SMS**
Safety Management System (OHSAS18001)

TOOLS

Pivot

Start | Debswana Pres... | Legal Register | Orapa EMS TRA... | http://www.d... | Pivot.Web V7 ... | Local intranet | 200% | 01:22 PM



Pivot.Web V7 - Windows Internet Explorer

http://debs-dbs-she-01/pivotv7/

File Edit View Favorites Tools Help

Pivot.Web V7

PIVOT WEB V7

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SUMMARY

Safety Management System (OHSAS18001)

TOOLS

- Audits / Inspections / Observations
- Control Panel
- Incident Management
- Pivot Action Manager
- Pivot Data Mining (Dataviewer)
- Report an incident ...
- Reports Portal

PIVOT

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Active Site: No Sites active
Last Update: 2010-04-13

**Username &
Password provided
by Legal
Administrator**



Username:

Password:

Login

Active Site: Debswana HO
Last Update: 2010-04-13



Legislation Types

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- Environmental Legislation
- General Legislation
- Health and Safety Legislation
- Health Legislation
- Labour Legislation
- Standards and Guidelines
- Treaties and Conventions

- Atmospheric Pollution (Declaration of 1979)
- Agricultural Regulations 39 of 1972 (BS)
- Agricultural Regulations
- 2 Definitions
- 16 Compliance
- Agrochemicals Act 18/99 - [BS]
- Arms and Ammunition Act 20 of 1979 -(BS)
- Atmospheric Pollution (Prevention) Act 18 of 1971- [BS]
- Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal
- Boreholes Act 62 Of 1956 -Chapter 34:02-(BS)
- BOS 93: 2004 Water quality - Waste water - Physical, microbiological and chemical requirements
- Clinical Waste Management - Code of Practice
- Constitution of Botswana
- Control of Smoking Act 32 of 1992 - [BS]
- Convention on International Trade in

Legislation

By management systems ISO 14001 or 18001

Searching by Aspects and Hazards

Business Units or Processes

Key Word



Navigating in the SHE Legal Register

There are four searching methods:

- Searching by Legislation
- Searching by Legal Group
- Searching by Aspects and Hazards
- Searching by Key Word



The development of SHE legal register

- assist the business to manage change in order to fulfil legal responsibilities.
- assist the business to achieve legal compliance resulting in identification and awareness of legal requirements and other requirements.
- raise assurance among the stakeholder about the ability of the business to manage legal risks within the business in line with requirements set by principles of ISO 14001 : 2004 and OHAS 1801 : 1999



Implementation and Planning

- **Resources, Roles, Responsibility, Accountability and Authority**
 - **Competence, Training and Awareness**
 - **Communication**
 - **Participation and Consultation**
 - ➔ **identification of our stakeholder**
 - **Documentation**
 - **Control of Documents**
 - **Operational Control**
 - ➔ **Development of operational procedure , e.g. Storage and Handling of Diesel and Treatment and spillages .**
- Emergency Preparedness and Response**
- ➔ **Develop Emergency plans and they are simulated from time to time to check preparedness to emergencies.**
 - **All this managed in the electronic management systems**



Checking and Corrective Action

MONITORING AND MEASUREMENT

- Environmental Dust monitoring**
- Water**
- Energy**

EVALUATION OF LEGAL COMPLIANCE

e.g. Compliance to drinking water standard.



Checking and Corrective Action

INCIDENTS, NCs, CORRECTIVE AND PREVENTATIVE ACTION

- Environmental incidents are logged in Pivot system**
- They are investigated and corrective action logged and actions tracked and progress monitored**

INTERNAL AUDIT

- internal audits planned to check conformance to management standard and performance against our set performance standard.**
- External audit by third party**



Management Review

Management Review

- These are held annually
- It's a review of our environmental performance and of the ems to ensure if its still applicable

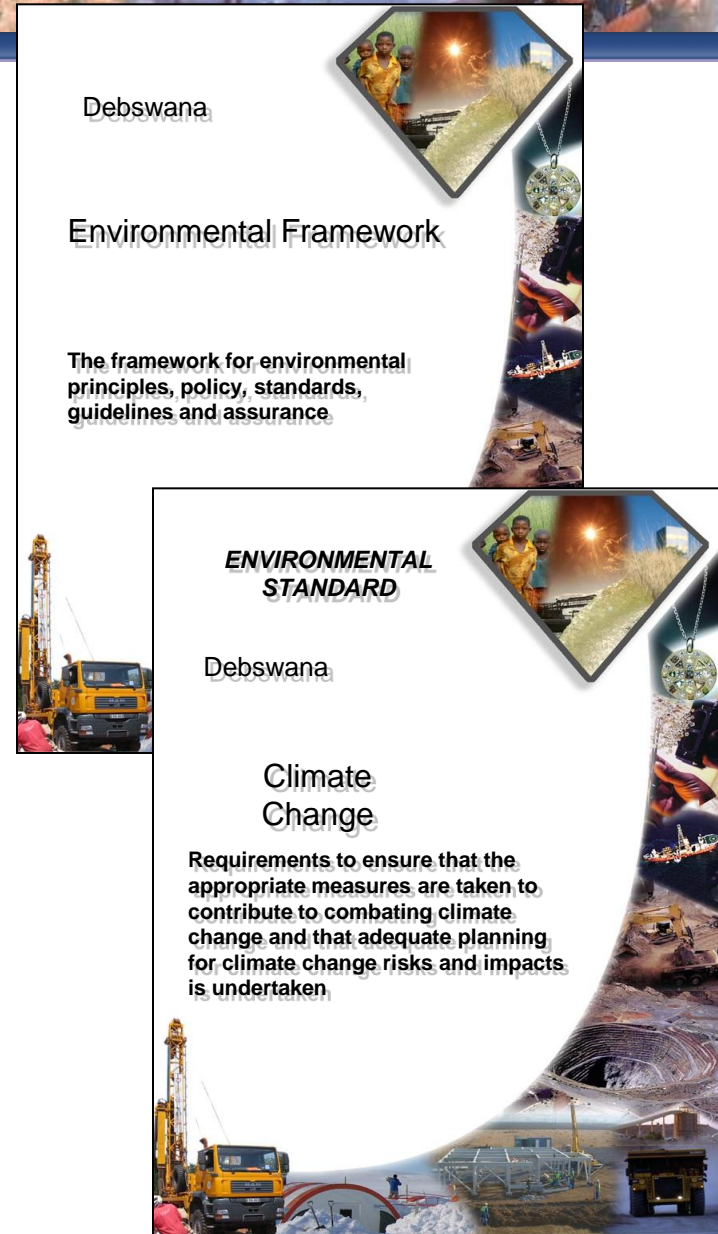
Debswana has developed environmental Standards which have been aligned to the

Framework:

Describes the hierarchy of documents from Policy, Standards to Guidelines / Toolkits and Assurance

Six standards:

- Lifecycle Planning
- Biodiversity
- Water
- Climate Change
- Pollution Prevention and Waste Management
- Environmental Reporting





Other Strategic Initiatives

Standard

We have developed additional Standards and Guidelines

Standard	Outcome
Lifecycle Planning	<ul style="list-style-type: none"> • Developed a Project and exploration guidelines • Implementation of the Social Impact Assessment Tool (SEAT) to incorporate into our Closure Plans
Biodiversity	<ul style="list-style-type: none"> • No exploration or mining takes place in World Heritage Sites • All rehabilitation that can be implemented concurrently with mining is complete • Both operations have private game parks, which provide recreation, environmental education and conservation. • Development of Biodiversity Action Plans
Water	<ul style="list-style-type: none"> • No water used unless demonstrably required • Water management Strategy Developed • Compliance to water standards
Climate Change	<ul style="list-style-type: none"> • Energy Strategy has just been developed and signed of by MD
Pollution Prevention & Waste Management	<ul style="list-style-type: none"> • Non-hazardous or lower hazard alternatives have replaced all high risk hazardous substances are managed with developed procedures • f operations manage effluents, wastes, emissions and hazardous substances to prevent pollution • Waste management plans developed
Environmental Reporting	<p>operations report on environmental indicators to track performance and compliance</p>



CHALLENGES

- Maintaining certification
- Management of contractors implementation of EMP'S from EIA carried out for projects and EIA process delays projects
- Responsibility of all



THANK YOU