

Integrating Environmental Management Into Core Business Functions

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Abstract

In order to remain viable today, corporations must view the environment as a strategic issue, and integrate environmental management throughout the organization. Corporate programs that used to be based primarily on regulatory compliance now must emphasize strategic environmental management systems, and must integrate these environmental systems with basic business functions.

The mining industry today is global, and must have an organizational structure that can embrace different cultures, physical settings, and regulatory regimes. Sound environmental management practices are not different from good management principles. An effective environmental management system should be a complementary system to an organization's overall management framework, integrated and aligned with the existing management structure. Integrating environmental management into core business functions is just good business. An effective environmental management system is a critical component of a company's commitment to environmental, social and economic accountability.

This paper presents the elements of the Kinross Gold Corporation strategic environmental management system and discusses the integration of the environmental management system into the core business functions throughout the Company

Introduction

A company's environmental performance is directly related to stock performance. A survey of 21 minerals and metal companies by Innovest Strategic Value Advisors in 2001, found that the top environmental performers accumulated returns 60% higher than those with poor environmental performance. Total per share returns on equity and earnings growth was found to correlate positively with environmental leadership. In order to remain viable today, corporations must view the environment as a strategic issue, and integrate environmental management throughout the corporation.

Corporate programs that used to be based primarily on regulatory compliance now must emphasize strategic environmental management systems, and must integrate these environmental systems with core business functions. Kinross Gold Corporation has implemented an Environmental Management System (EMS) that is fully aligned with and integrated into the core business functions throughout the Company.

Kinross is a large North American based gold producer with annualized production estimated at approximately 1 million ounces of gold equivalent. The Company has operations in the United States, Canada, Russia, Zimbabwe and Chile. On June 10, 2002, Kinross Gold Corp., Echo Bay Mines Ltd. and TVX Gold Inc. agreed to combine in a three-way transaction. The combination, structured with Kinross as the acquiring concern, is expected to create the world's seventh-largest gold producer. Following completion of the merger, Kinross will produce about two million ounces of gold per year.

The mining industry today is global, and must have an organizational structure and management philosophy that can embrace many different cultures, physical settings, and regulatory regimes. Many companies have adopted principle-based management philosophies. Principle-based management models are not limited to specific practices or activities. According to Stephen Covey, internationally recognized speaker and author on management, a practice that works in one

circumstance will not necessarily work in another. While practices are specific, principles are deep fundamental truths that have universal application. Environmental management principles provide the framework within which an organization can pattern its environmental management practices.

The exact content of a particular EMS model is not as important as the principles it embodies. Principle-based management systems have the inherent flexibility necessary to make changes associated with evolving conditions. Sound environmental management practices are not different from good management principles. Similar to a principle-based management approach, a principle-based environmental management approach is both team-driven and oriented toward the improvement of environmental performance. An effective EMS should be a complementary system to an organization's overall management framework, integrated and aligned with the existing management structure.

Environmental Management System

The International Organization for Standardization (ISO) defines an EMS as "that part of the overall management system that includes organizational structure, planning activities, responsibilities, practices, processes, and resources for developing, implementing, achieving, reviewing and maintaining the environmental policy". Put more simply, an EMS is the framework and practices designed to help a company manage its environmental program and document and communicate its environmental performance.

The Kinross EMS is a principle-based system that follows the general framework of the ISO 14001 Environmental Management Guidelines. The Kinross EMS is straightforward in design and is an effective management tool for all types of business activities and operations. It is capable of implementation at all levels of the organization. The Kinross EMS is fully integrated into all core business functions throughout the company, and emphasizes

environmental responsibility and accountability at all organizational levels.

The main elements of the Kinross EMS include:

- Environmental Policy and Framework
- Assessment and Planning
- Implementation and Operation
- Measurement and Evaluation
- Reporting and Review
- Continuous Improvement

The general structure of the Kinross EMS is shown in Figure 1.

Environmental Policy and Framework

An environmental policy establishes the environmental principles for the company. The policy should clearly articulate senior management's commitment to comply with all relevant laws and regulations, including a commitment to continual improvement, and provide the framework for setting and reviewing environmental objectives and targets. The Environmental Policy must then be communicated to all employees. The commitment to sound environmental management must extend beyond the management level to all organizational levels.

Since its inception in 1993, Kinross has recognized that protecting the environment is an important and integral part of good mining practice. A strong commitment to sound environmental performance is expressed in the Kinross Environmental Policy. All employees at Kinross are required to read and then acknowledge that they will comply with the Environmental Policy as a condition of employment.

Kinross has gone one step further and has developed an Environmental Policy and Framework. The Environmental Policy and Framework not only contains the policy, but also includes the framework for implementation of the policy. The Kinross Environmental Policy and Framework provides the overarching structure for the EMS, and ensures a consistency of approach across the Company.

Assessment and Planning

In order to effectively implement its environmental policy, an organization must identify the environmental aspects of its activities and set corresponding environmental targets and objectives. Kinross identified the following significant aspects of its mining activities:

- Property acquisition
- Exploration
- Design, permitting and construction
- Mine operations
- Closure and reclamation

Standards, targets and objectives were developed for each of these aspects. These standards, targets and objectives form the basis of the Kinross environmental requirements, and are contained in the Environmental Policy and Framework.

The environmental standards are the minimum performance levels required in order to meet the company's objectives. The standards are intended to be concise, specific and measurable. Environmental targets are goals to accomplish in applying the environmental objectives. Environmental objectives have been established to address a particular environmental aspect. Kinross environmental objectives rely primarily on the application of best management practices.

A formalized system for risk identification and risk management should also be an integral part of the assessment and planning process. Kinross has implemented an Engineered Risk Assessment program to assess impacts from an engineered system failure of a mining aspect. The Assessment process incorporates both qualitative (descriptive) and quantitative (capable of assigning relative values and ranking) evaluations to provide an overall risk assessment. The methodology provides a rapid yet systematic assessment of the risks associated with engineered systems, and identifies those facilities and practices that, if they should fail, would have an impact on the environment. The methodology also includes the identification of

strategies for managing the risks. The risk is evaluated using the following equation:

$$\text{Risk} = (\text{Probability of Failure}) \times (\text{Consequence of failure})$$

Plans are then developed to effectively manage and ultimately reduce the risk of an engineered system failure from an identified mining aspect. Environmental risk assessments should be an integral part of business decisions at all levels of the company.

Implementation and Operation

Once targets and objectives are set they must be implemented. Employees must be aware of environmental issues relative to their facility and trained to conduct their job functions so that all environmental matters are properly addressed. The Environmental Policy and Framework establishes the environmental principles for the company and provides the overarching structure for the EMS. However, it does not provide the site-specific guidance for implementation of the EMS. Translating environmental principles into operational terms that can be applied is essential to the implementation of an effective EMS.

Kinross has developed a site-specific Environmental Management Plan (EMP) for each of its mining facilities. The EMP is a concise, single-source summary of environmental management requirements intended to provide guidance for site implementation of the Kinross Environmental Policy and Framework. The EMP summarizes the requirements of all environmental permits, plans and regulations for the site in one central document, and also addresses any site-specific environmental issues. The EMP contains the following site specific elements:

- environmental responsibilities by work area (mine, mill, maintenance, etc.);
- comprehensive list of permits, licenses and authorizations for the site;
- list and brief summary of specialized plans (spill response, emergence response, etc.);
- list of specific compliance requirements and compliance checklist;

- inspection, monitoring and reporting routines and checklists;
- procedure for environmental planning and review of projects;
- spill response procedures;
- waste management procedures;
- procedures for the management and transportation of hazardous materials;
- air and water quality management plans;
- wildlife and land use management plans;
- summary of reclamation and closure requirements;
- personnel training program; and
- program for continuous environmental improvement.

The EMP provides the basis for employee environmental training programs. Each employee is trained on the implementation of the EMP relative to his or her assigned task and specific work area. The document is intended to be a resource for all site personnel, since all personnel share in the responsibility for site environmental management. The EMP is also used for on-going compliance assurance and internal environmental compliance auditing.

Measurement and Evaluation

Companies should measure, monitor and evaluate their environmental performance on an ongoing basis, to assure that the environmental policy, standards, targets and objectives are being properly applied. A system of monitoring and measurement should be established for each operation that tracks environmental performance against established targets and objectives. Independent environmental compliance audits, which include an audit of the EMS, should be conducted regularly. Corrective action should be promptly taken to address any deficiencies.

Kinross measures and evaluates environmental performance utilizing the following processes:

- site monitoring;
- environmental compliance audits; and
- environmental performance measurement.

Monitoring is performed as outlined in the EMP prepared by each facility. It is conducted in

order to demonstrate compliance with the Kinross Environmental Policy and Framework requirements, and applicable laws, regulations and permits. When results obtained in the monitoring indicate exceptions to compliance, corrective action is taken immediately by the facility and reported to Kinross management.

Rigorous environmental compliance audits are conducted at each Kinross facility on a two-year frequency. The Environmental Compliance Auditing Program evaluates the effectiveness of the site's environmental programs, provides for an improved understanding and awareness of environmental issues and provides a mechanism for correcting deficiencies. Audit teams are comprised of environmental staff from Kinross facilities (other than the site being audited) and outside consultants with unique regulatory expertise specific to the facility being audited. Operations personnel from other Kinross facilities also participate as part of the audit team, which provides a training opportunity. The audit process follows an "exception" format, which evaluates exceptions to regulatory requirements, Kinross policies, and environmental best management practices. Following the audit, the facility is required to submit a corrective action plan to Kinross management and promptly address any exceptions identified.

Kinross has also implemented an Environmental Performance Index (EPI), which measures progress toward meeting the goals and objectives established in the EMS. The EPI quantifies environmental performance numerically which can then be compared to established targets for each site, and can be used to compare trends over time and to help identify training or other environmental support needs. Areas of measurement used to develop the index value are: actions of governmental agencies (e.g. Notices of Violation); permit excursions and reportable releases; the environmental audit program; and the location's environmental management systems. The system is weighted toward the management systems, with the belief that if effective management systems are in place good compliance will follow. The EPI is

an effective tool for continuous environmental improvement at each Kinross location.

Reporting and Review

In order for an EMS to remain effective it must be evaluated by management on a routine basis. The review should be documented. If inadequacies in any part of the system are identified, senior management should initiate the necessary changes.

In 1995, Kinross established an Environmental Committee of the Board of Directors. The Committee, which meets at least quarterly, was formed for the purpose of reviewing material environmental matters and reporting to the full Board.

Quarterly and annual environmental reports are submitted to the Environmental Committee, and company senior management. The reports summarize the following issues:

- material environmental matters;
- environmental compliance issues;
- the extent to which environmental targets have been met;
- status of environmental improvement projects; and
- reclamation and closure liability status.

The report recommends appropriate changes developed from an analysis of the above issues. The Environmental Committee in consultation with the Chief Executive Officer, the Chief Operating Officer and the Vice President of Environmental Affairs determine what changes may be necessary to the Kinross environmental management program. The Board then approves or modifies the Committee recommendations. The Chief Operating Officer and Vice President of Environmental Affairs implement any changes required by the Board of Directors.

Continuous Improvement

Continuous improvement refers to the process undertaken by mine operations to minimize waste, prevent pollution and enhance the mine

site environment. Kinross requires its operations to continually review environmental programs and technology in order to implement methods to further reduce the impacts from the mining activities. Full employee participation in identifying and implementing environmental enhancement projects is encouraged. Specifically, the Kinross Continuous Improvement Program requires that:

- all active mine operations have a Continuous Improvement Program;
- all departments at a mine property consider ways to minimize waste, prevent pollution or enhance the environment;
- all departments at the mine property meet at least twice a year to discuss environmental improvement projects; and
- the Continuous Improvement Program be included in the site Environmental Management Plan.

Conclusion

Environmental management should be fully aligned with existing management systems, and should establish an ethic or culture that makes environmental management an integral part of the way a company conducts its business. As environmental programs become more integrated with core operations, the primary “ownership” of these strategic environmental management programs should shift to line managers and staff outside the primary environmental function.

An effective EMS is a critical component of a company’s commitment to environmental, social and economic accountability. Integrating environmental management into core business functions is just good business.

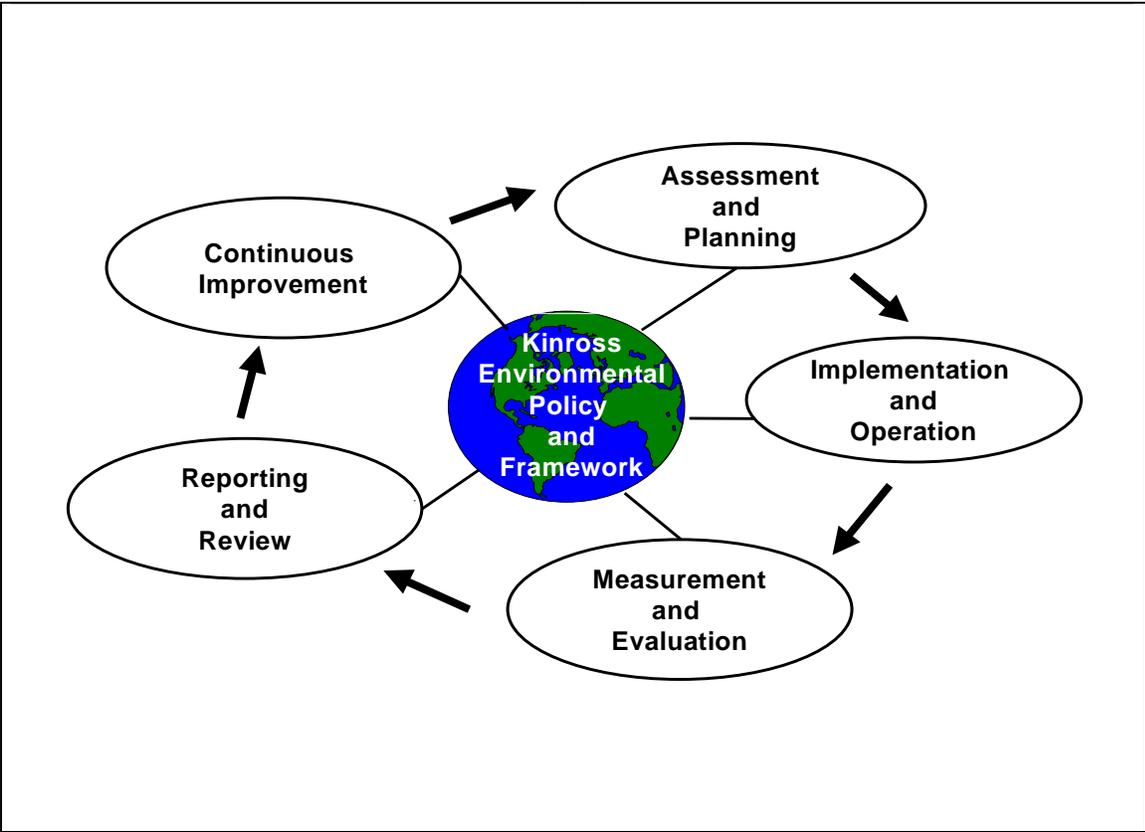


Figure 1. General Structure of Kinross Gold Corporation Environmental Management System