WHITEHORSE MINING INITIATIVE

ENVIRONMENT ISSUE GROUP

FINAL REPORT

October 1994

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INTRODUCTION

In September 1992, at the *49th Annual Mines Ministers Conference* in Whitehorse, Yukon, the Mining Association of Canada (MAC), on behalf of its member companies, as well as provincial and territorial mining associations/chambers, presented a brief reviewing the serious challenges facing the minerals and metals industry in Canada.

Recognizing the need for the mining industry "to earn the trust of Canadians and to prove that it can operate in an environmentally sensitive and sustainable fashion", the MAC proposed the launch of a multi-stakeholder process to develop a common vision and strategic plan that would take the metals and minerals sector into the next century.

The proposal was endorsed by the Mines Ministers, and on March 30, 1993, the Whitehorse Mining Initiative (WMI) was launched at the annual Prospectors and Developers Association of Canada Convention. Other stakeholders who had been identified and who had agreed to participate include: federal, provincial and territorial governments; business, including the banking community; Aboriginal groups; environmentalists; and labour. The immediate objective was to design a consultative process to address key issues affecting both the industry and the other stakeholders.

The objective of the WMI is to move toward a socially, economically and environmentally sustainable and prosperous mining industry, underpinned by political and community consensus.

The WMI is spearheaded by a Leadership Council composed of government ministers and senior executives and officials from each of the sectors. The Leadership Council is coordinated and supported by a Working Group, also composed of representatives from each of the participating sectors, although at the senior working level. Third, four Issue Groups were formed to address the four main issue areas identified as being important to the mining industry. Finally, a Secretariat was created to provide an overall coordinating and support role for all of these bodies.

The four Issue Groups were created to address the following topics:

- land access
- environmental management and regulations
- finance and taxation
- workplace/workforce/community.

The Environment Issue Group (EIG) first met in August 1993. At that meeting, the EIG members discussed the issues related to mining and the environment, and developed a work plan to address these issues. The Group divided into three subgroups, each of which focused on a particular stage of the mining life-cycle: assessment, operations and closure. In addition, some members also sat on a secondary subgroup that considered the issues surrounding the pre-

exploration stage of mining. The pre-exploration subgroup primarily concentrated on identifying what issues should be addressed. It then met with the Land Access Issue Group to deal with common concerns.

The Issue Group did the bulk of its work in the subgroups, with five face-to-face Issue Group meetings over eight months. At those meetings, each subgroup would table a status report and the Group, as a whole, would provide feedback and comments. It was during these meetings that the EIG noted several "themes" common to the subgroups. With that in mind, the Issue Group consolidated the subgroup reports into six "chapters" reflecting the three stages in the life-cycle of a mine -- Environmental Review Processes, Operations, Closure - as well as the three cross-cutting themes common to those stages -- Public Involvement, Overlap and Duplication, Information/Use of Science. The issues, objectives, and recommendations identified by the pre-exploration subgroup were harmonized with the Land Access Issue Group.

The final three meetings of the Issue Group were held by teleconference, where the members completed their report, reaching consensus in July 1994.

Each member of the Environment Issue Group took part in writing this report. It is a confirmation of their commitment to the multi-stakeholder process and is a product derived from a consensus among the members of the Group -- a majority of them having agreed on a majority of its content. The views expressed in this report, however, do not necessarily reflect current federal, provincial or territorial policies nor imply any formal engagement on the members' part. Instead, the report is a blueprint that should help guide mining promoters, governments and all other stakeholders concerned with mining development in the accomplishment of their respective responsibilities.

CHAPTER 1

ENVIRONMENTAL REVIEW PROCESSES

1. Principles and Objectives

PRINCIPLES

Continuing economic activity, including mining, is predicated on preservation of a healthy environment.

Land- use planning, environmental assessment and environmental effects monitoring should be conducted on an ecosystem basis.

The maintenance of healthy ecosystems, while allowing for economic activity, must be the central objective in land-use planning, environmental assessment, and planning for mine operations and closure.

Environmental assessment is the principal tool for identifying local and cumulative environmental impacts and required mitigative and remedial measures.

A good environmental assessment is credible, cost effective, timely and recognizes the interest of all stakeholders

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OBJECTIVES

1. To ensure that project-specific environmental assessments are conducted in the broader context of:

    a) an integrated land-use planning process; and

    b) government policies and programs that have themselves been subject to environmental assessment/evaluation.

2. To ensure that specific projects and cumulative adverse effects do not impact negatively on the ecological integrity of Canada's protected area networks

3. To have environmental assessment processes which:

   a) are formally structured, balanced and fair;

   b) operate within a suitable framework that allows for a public audit regarding accountability;

   c) are credible (i.e. honest, inclusive, transparent, consistent, predictable, logical, efficient and timely);

   d) have a scope that is ecologically relevant and decided upon early in the process and in consultation with the public; and

   e) put the burden of proof on the proponent to show that a project will be ecologically, financially and socially responsible.

4. To ensure that intervener funding provided by the proponent is available to the public according to clearly established criteria and mechanisms.

5. To ensure that each new mining project (including the exploration phase if potential impacts warrant) is subject to a single form of environmental assessment by a designated single lead agency.[1]

6. To recognize the rights and interests of Aboriginal communities.

7. To ensure that the information required for decision making is available.

[1] The designated single lead agency would be an aboriginal, provincial, territorial or federal agency or department of government, decided upon on a case-by-case basis. Beyond the initial screening, any specific environmental assessment would be coordinated by the designated single lead agency, and this agency would have clear decision-making authority regarding process. The objective is to have a "one window" approach to an Environmental Assessment process; therefore, the designated single lead agency would coordinate and direct matters of process on behalf of all governments involved in the assessment. This responsibility would also include the preparation of a final report that would consolidate the various recommendations developed during the environmental assessment process. For additional information regarding single lead agency, see Appendix 2.

2. Background and Issues

General Background

In the past, decision making dominated by economic arguments and lack of foresight has resulted in forms of widespread environmental degradation (for example, urban sprawl, deforestation, etc.). There is concern among environmentalists and members of the scientific community that the healthy functioning of the planet, often referred to as ecological integrity, is now in danger from adverse human activities.

Environmental review processes, including formal Environmental Assessment, mine development reviews, and other evaluations, should provide wise planning which reduces or prevents adverse impacts on the environment. However, these processes are often focal points for conflict over ethical, land-use and conservation issues which cannot be resolved through a specific project assessment and which therefore reappear time and again. This could be avoided if mechanisms (for instance, a network of protected areas and land-use planning) were in place to protect ecological integrity and to deal with issues of cumulative impacts from all forms of development in a responsible and timely manner.

Canada lacks social, environmental and economic policy frameworks reflecting the objectives of all jurisdictions. Clearly stated mining development policies would provide a context for environmental assessment so that proponents could reasonably predict the outcome of the process before making irrevocable legal or substantial economic commitments. Such policies should be subject to a public review of their potential environmental impacts and this, in turn, would require the development of appropriate and effective methodology.

Environmental assessment was institutionalized in the early 1970s in response to public pressure to force development proponents to move environmental considerations from the sidelines to the centre of project planning processes. Early assessments were often narrowly defined in terms of conservation and pollution control. Today there is no universally applicable process. Most would agree that environmental assessment is a process of determining, communicating and addressing the most significant consequences of development activities on the land. Beyond this, interpretations vary with respect to its nature, role and scope. Local needs, culture and knowledge influence the nature, form and character of environmental assessment.

Over the last twenty years, we have witnessed the evolution of diverse environmental policies and legislative frameworks within every major jurisdiction in Canada. The processes have generally become more transparent and accessible. There is emerging recognition of "interest groups" and Aboriginal peoples as legitimate participants. Still, however, the spirit and intent of assessment are not always embraced in a consistent manner.

Fairness, Commitment and Accountability

The environmental assessment process can be a major contributor to the evolution and approval of an environmentally and socially responsible mine development project. To capture this opportunity the process must be carefully designed and executed. In particular, it is imperative the process be perceived by all stakeholders to be fair, open, honest and accountable.

Environmental assessment processes are evolving towards this ideal. An aspect which continues to cause friction and dissatisfaction is that of public involvement - who will participate, when they will participate, the nature of their influence on the outcome, and the timing and extent of resources available to them. There is a need to clarify the rules regarding involvement by particular stakeholders, communities, and the public more generally.

Often, prospective participants in environmental assessment processes are not given adequate notice to prepare for effective participation and are not provided adequate funding or timely assurance of funding to pay for that preparation and participation. In many jurisdictions, there is little certainty as to who should provide funding, what is the basis of funding, and on the limits to the amounts to be provided.

While some proponents demonstrate that they have internally considered and examined the environment as an integral part of their development plan, it is important that all proponents and governments view environmental assessment as an essential component at the earliest stages of planning for development. Governments often seem to lack commitment to environmental assessment, seeing it more as a hurdle than a helpful tool. There have been conflicts of interest in government departments where the same department or official assumes multiple roles including prosecutor, judge, and jury. It may be unclear who has the ultimate authority to implement an environmental assessment decision, and the process appears to be prone to political interference.

Proponents are often unclear about what type of environmental assessment process will be required for their project and how the process will be triggered. Proponents also feel there are too few limits on how much an environmental assessment will cost them, how long an environmental assessment will take, and how much information the proponent must gather; in other words, the process is long, complex, expensive, and often inefficient.

Aboriginal Participation

Aboriginal communities in Canada[2] are distinct cultural communities with unique Aboriginal, treaty and land rights based on original and historic use and occupancy which are rarely, if ever,

[2] In considering the recommendations and objectives throughout this document, all must recognize the diversity of Aboriginal communities and assume Aboriginal peoples' governments will alter the text to meet individual values, traditions, priorities, and existing decision-making processes in their community.

adequately taken into account by a proponent, environmental review panel or government. The federal and provincial environmental assessment and review processes should be designed to address or evaluate the multitude of impacts from a proposed development which could fall upon an Aboriginal community and which are inherently different from those which might affect non-Aboriginal people.

Aboriginal communities' aspirations and objectives regarding the environmental assessment process are: to ensure that each Aboriginal community has at its disposal the means to improve the quality of life for its people; to ensure that Aboriginal and treaty rights to land and resources remains intact by attesting the fiduciary responsibilities of the Government of Canada; and, to ensure that utilization of natural resources remains within the principles of Aboriginal concepts of sustainable use.

Aboriginal and treaty rights are constitutionally protected by Section 35 of the *Constitution Act (1982)* which has been given meaning and full text by the Supreme Court of Canada in the cases of *Sparrow* and *Sioui* among others. Therefore, the federal government cannot and must not give approval to projects that may affect the rights protected by Section 35. The federal government has the responsibility to act in a fiduciary capacity and to intervene on behalf of Aboriginal peoples in other jurisdictions to ensure Aboriginal and treaty rights are protected. This provision must be explicitly recognized and adhered to in legislation, policies and programs. Aboriginal peoples must be able to collaborate meaningfully at all levels of the environmental assessment process.

Access to Information

Access to information is another problematic issue. Presently, data may not be available because of the lack of communication by the data-base managers, a shortage in resources for data management, deliberate withholding of information by data-base holders or through the improper use of data. In addition, access to government scientists and their services may be limited or restricted.

Feedback Loops

Considering the expense of environmental assessment, it is logical to derive the maximum possible benefit and learn from past experience. Currently, monitoring of predicted impacts after an environmental assessment is completed is not always adequate. Environmental assessments (including mineral development reviews and other processes) must be improved so that, from concept to completion, the process includes continuous monitoring, feedback and revisiting of goals and policies.

Conclusions

Aboriginal communities, the public, governments and project proponents have all questioned the fairness and effectiveness of past and current environmental assessment processes. Aboriginal

communities feel their interests are ignored. The public feels the process is too prone to political influence and lacks transparency, accountability and commitment from government. Proponents believe the environmental assessment process is unclear, costs too much, takes too long and requires proponents to collect too much information because of a poorly defined or undetermined scope.

Environmental assessment deals simultaneously with living and non-living resources, and with different social, economic, and cultural needs and aspirations. The process must be flexible and creative, reshaping development into directions that are sustainable. By examining the failings of past and present processes, we can identify paths to a better future.

3. Recommendations

1. Where they have not already done so, governments should design mineral development policies. These policies should be developed in consultation with the mining industry, non-government organizations (NGOs) and other interested parties. These policies should be subject to regular review and should reflect the international environmental agreements that Canada has signed and ratified.

2. Where this has not already been done, environmental assessment processes should apply to government policies and programs that have significant environmental implications.[3]

3. Listing(s) of project proposals undergoing environmental assessment and subsequent environmental assessment screening decisions should be published at regular intervals.

4. The geographical parameters of ecological systems should be recognized when identifying the study area, study parameters and the principal stakeholders in an environmental assessment. Where they exist, regional land-use planning bodies should be included in the exercise that sets the scope of an environmental assessment, including the identification of stakeholders, for a project within their region.

5. Proponents should carefully plan their public involvement

[3] These evaluations should include, but not be limited to, consideration of mineral policy in light of past and present rates of extraction; international agreements; the pros and cons of infrastructure development; opportunities for value-added processing within the country; opportunities for the reuse or recycling of minerals already in circulation; potential replacement of minerals with other substances; legitimacy of end-uses; and not just in light of current and future market demand for minerals.

mechanisms and processes as early as possible to reduce the potential for undue delays in environmental assessment.

6. In recognition of the value of environmental assessment to society, government policies which state that administrative cost for environmental assessments will not be recovered from the proponent should be encouraged and supported. In formal environmental evaluations where intervenor funding[4] is agreed to, the funding should be provided by the proponent according to specified criteria developed in collaboration with stakeholders.

7. Beyond the initial screening, any specific environmental assessment process should be managed by an agreed-upon designated single lead agency with clear criteria and decision-making authority regarding process. When involved, environmental review panels should be the sole arbiters in an environmental assessment process, subject to review only at the relevant cabinet level and with full public disclosure of the basis for any modifications of panel recommendations.

8. When an environmental assessment process requires the setting up of a panel, that panel will be made up of respected, experienced, and appropriately qualified individuals supported by reasonable funding and staff.

9. Designated single lead agency status for environmental evaluation processes should be transferred, in whole or in part, to Aboriginal communities where appropriate. These environmental assessment processes should be established so that Aboriginal communities' interests and treaties are explicitly incorporated and respected. There should be flexibility in environmental assessment processes so that they can be made consistent with the values, traditions, priorities and decision-making processes of individual communities as well as with national standards for environmental assessment. Elders and community representatives should be part

[4] Funding is limited; however, it should be reasonable and consistent with the magnitude of the proposed development and its potential impacts. The agency responsible for distributing intervener funding (this could be the designated lead agency or an independent third party) for any environmental assessment should have professional, experienced staff who can facilitate the setting of funding criteria, deliver intervener funding fairly and efficiently and maintain records thereof. Although local bio-region inhabitants are the primary stakeholders requiring intervener funding, the funding provided to such local organisations should encompass the costs of accessing outside advice and expertise as required to achieve a fair and balanced process.

of all planning sessions and should be invited to tour operations and project sites.

10. Aboriginal communities should establish environmental councils to educate and to promote environmentally responsible practices and to provide input into proposed and existing governmental regulatory and legislative initiatives.

11. The designated single lead agency of an environmental assessment process must ensure that balanced information is made available to all interested parties and that participants in an environmental assessment process have the fullest access possible to pertinent research and other information resources at a reasonable cost (i.e. to cover copying, distribution, etc.).

12. Government scientists and other specialists should, to the fullest extent possible, be able to provide expert information without efforts by governments to curtail their participation.

13. Follow-up on environmental assessment predictions and commitments should be monitored by multi-stakeholder public liaison committees[5] (PLC) and regional land-use planning bodies where they exist. Results of environmental-effects monitoring should be made public and compared with the predictions made in the environmental assessment so that, when needed, recommendations for improvement of future projects can be made.

14. Energy efficiency and the reduction/recycling/recovering of water, industrial chemicals, and other resources should be considered in the environmental assessment process.

[5] For additional information regarding multi-stakeholder public liaison committee, see Appendix 1.

CHAPTER 2

OPERATIONS

1. Principles and Objectives

PRINCIPLE

The minimization of environmental impacts during mine operations is best accomplished through cooperative efforts among governments, industry and other stakeholders.

OBJECTIVES

1. To conduct comprehensive environmental effects monitoring at all mine sites.

2. To prevent pollution through development of technology and programs that eliminate or reduce contaminant releases.

3. To develop and deliver effective environmental standards and control measures in an open, efficient, transparent and inclusive manner.

4. To approach sustainability through maximizing the recycling of resources.

5. To promote proactive approaches by industry in managing environmental concerns.

2. Background and Issues

Each stage of the mining life-cycle has a different impact on the environment. During the operation stage there are two areas that need careful consideration: monitoring the impact that the mine is having on the environment; and setting acceptable standards/controls.

Effluent monitoring at the point of discharge is needed to characterize pollutant releases and to assess compliance of mining facilities with government regulations, guidelines, licences and/or operating permits. All provinces and the federal government require effluent monitoring, but

there are significant variations with respect to which contaminants are monitored and how extensively monitoring is done. While considerable information on effluent quality and compliance is available, data from environmental-effects monitoring has been more limited, and only some of this information is available on a common data base.

Traditionally, monitoring has focused on the quantity and quality of liquid effluent and air emissions; however not as much has been done to monitor changes in environmental media (including aquatic sediments, groundwater and soil) and living organisms at the individual, population and ecosystem level. Presently, there may be limited understanding of the combined impact of various emissions, effluent and chemical contaminants on the surrounding biota - hence the importance of cumulative effects monitoring.

Ideally, environmental-effects monitoring should satisfy several objectives:

- verification of compliance with environmental standards;
- validation of predictive models and confirmation of environmental assessment; and
- assessment of the adequacy of pollution prevention and control systems in protecting ecosystem health, with particular regard to key environmental indicators.

The quality of monitoring data is also an issue. Programs and protocols for sampling and analytical procedures are necessary to ensure data quality. Environmental assessment is based on data collected on the state of the ecosystem prior to the mine operation, predictions of potential impacts, and on the effectiveness of proposed mitigative measures. Predictions may be based on predictive models or experiences at other sites. Baseline data collection should be sufficiently comprehensive to allow for changes to be detected by subsequent monitoring.

Environmental standards/control measures, including regulatory limits, non-regulatory guidelines, objectives, criteria, codes of practice, voluntary agreements and economic instruments are important tools to prevent pollution and minimize contaminant releases. Each stakeholder group has an obligation to help minimize environmental impacts during a mine operation.

The industry is acknowledging its role in setting guidelines. An example of a proactive approach is the Environmental Policy of the Mining Association of Canada (MAC), which has been endorsed by its member companies. MAC is preparing detailed management guidelines to support and elaborate the principles of the Policy. Once the Environmental Policy and guidelines are in place, all member companies of MAC, as a condition of the membership, will be expected to follow the Policy and adhere to the guidelines as tailored on a site-specific basis. Such an approach is probably unique among mining associations anywhere in the world or among business associations in Canada. The only system in Canada which approaches the MAC is the Canadian Chemical Producers Association whose member companies self-audit against a series of environment-management protocols.

All stakeholders agree that where a sound scientific assessment of ecological effects indicates a need, harmonized control requirements should be based on the best technology that is commercially proven and economically affordable by the sector. Site-specific standards should be used as a mechanism to provide enhanced environmental protection where appropriate. Monitoring results should be considered when setting both national baseline and site-specific standards.

3. Recommendations

1. A comprehensive and consistent system for environmental-effects monitoring of mine operations should be developed to:

    a) determine environmental effects arising from mine operations, including cumulative effects;

    b) validate and confirm predictive models and environmental assessment; and

    c) assess the adequacy of pollution prevention and control systems in protecting ecosystem health, with particular regard to key environmental indicators.

2. Governments should work with industry and other stakeholders to standardize monitoring programs and protocols and to improve the quality of data.[6]

3. Industry should work towards the elimination of contaminant releases through sound environmental planning, process design, modernization and continuous improvement.

4. New mill and mine operations should meet valid air and water quality objectives.

5. Control measures should be established taking into account environmental health, ecological effects, technology, costs and competitiveness.

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[6] Monitoring should: be targeted and cost effective; include a program to ensure the accuracy and precision of data; be conducted with a frequency that is reduced when environmental objectives are consistently met; track potentially significant mine-related effects; and be based chiefly on self-monitoring with adequate verification by regulatory agencies. Examples of areas where quality of monitoring may require standardization and improvement: comparative monitoring of control areas; conducting of monitoring in mixing zones; and monitoring the accumulation of contaminants and the cumulative effects on ecosystems over time.

6. More stringent, site-specific standards should be established where the need can be justified taking into account such things as traditional knowledge, scientific environmental assessment, predictive modelling or environmental-effects monitoring.

7. Governments should recognize, support and encourage proactive industry action to address environmental concerns.

8. During its operations, industry should seek to use energy efficiently, striving to reduce/reuse/recycle/recover water, industrial chemicals, and other resources. Government, industry, and non-government organizations (NGOs) should give priority to maximizing the recycling of minerals.

CHAPTER 3

CLOSURE

1. Principles and Objectives

Principle

Planning and developing an environmentally responsible mine operation include the development and execution of a closure and reclamation plan so that, at closure, the mine site is returned to a self-sustaining and diverse ecosystem that is compatible with a healthy environment and with human activities.

OBJECTIVES

1. To ensure that comprehensive and standardized reclamation plans that return all mine sites to self-sustaining ecosystems are developed, adequately financed, implemented and monitored within all jurisdictions across Canada.

2. To develop techniques through interdisciplinary research that minimize or prevent impacts and that return disturbed sites to self-sustaining ecosystems.

2. Background and Issues

Mining is an intensive type of land use with potential for environmental impact over a limited area. More surface disturbance occurs if the mine is a surface operation than if it is an underground mine. Depending on the mineralogy, the disturbed area may be a source of acid mine drainage (AMD), considered by the mining industry to be its most serious environmental problem.

When closure occurs, it should address both environmental and safety aspects. Restoring the site for another use, such as recreation or wildlife habitat, usually dictates certain aesthetic considerations, but even if there is no specific use in mind, a good closure plan should include aesthetic parameters.

Basically there are five issues that must be examined when planning to close a mine: objective of mine reclamation; planning for reclamation; financial assurances regarding mine reclamation; standards for closure; and obligations after a mine has closed.

Objective of Mine Reclamation

Mine reclamation is an ongoing program designed to restore to an acceptable state the physical, chemical and biological quality or potential of air, land and water regimes disturbed by mining. The objective of mine reclamation is to prevent or minimize adverse long-term environmental impacts, and to create a self-sustaining ecosystem as near as practicable to what existed before the mining activity. Reclamation is a continuous series of activities, and begins with pre-planning and conducting environmental baseline studies prior to the project's design and construction. It ends with the achievement of long-term site stability and the establishment of a self-sustaining ecosystem. Sometimes continuing treatment and monitoring may be required.

Planning

Planning for mine closure began with efforts by companies to stabilize tailing and waste rock, usually by establishing a self-sustaining vegetative cover. During the 1980s, it became common practice for mine operators to prepare plans for closure detailing how drainage would be contained and, if necessary, treated; how the surface disturbance would be minimized; and how any special problems would be addressed. This work has progressed to the stage that a comprehensive set of guidelines for closure and reclamation have been prepared by the Mining Association of Canada for use by its members.

Several government agencies have also prepared standards for reclamation plans and closure and others are moving to establish similar requirements. One of the main requirements of a reclamation plan is that it is updated and reviewed regularly.

To meet legal requirements and public expectations, a reclamation plan should take into consideration, where relevant:

- the development and application of sound, technical, economic and scientific knowledge regarding the site and surrounding conditions;
- the identification of any environmental liabilities associated with past practices or activities;
- long-term stability and security of tailings areas, rock dumps, mine workings and other engineered structures;
- potential for and prevention of leaching and transport of contaminants from the tailing area, rock dumps, precipitates and residues, mine workings and landfill areas, and provision for long-term treatment as required;
- design of passive structures to safely accommodate storm events;

- dismantling and proper disposal of facilities and removal of refuse, debris and hazardous materials;

- rehabilitation of disturbed areas, including surface and ground-water regimes, in a progressive manner to the greatest practicable extent;

- rehabilitation of disturbed areas, including surface and ground-water regimes, to a self-sustaining ecosystem;

- establishment of monitoring programs to confirm the effectiveness of reclamation and to identify any long-term environmental impacts and to verify continued performance after closure; and

- The provision of financial assurance to meet current and long-term obligations.

Ideally, for new mines, reclamation plans should be prepared as part of the feasibility study and should be reviewed and approved as part of the project approval process. Once a mine is in production, the reclamation plans should be regularly reviewed and updated to reflect new reclamation requirements, completed reclamation activities, monitoring results, new technology and inflation. The financial assurance required for reclamation purposes should be adjusted accordingly with each plan revision.

Financial Assurance[7]

The financial health and future prosperity of the industry require timely resolution of the issues of reclamation liability and tax treatment of financial assurance. The public demands that financial security must be available to ensure that clean-up of new or existing mines will not be at public expense. Both the form and amount of financial assurance required and the implementation mechanism vary. An irrevocable letter of credit, a bond issued by an insurer or a pledge of corporate assets may be acceptable or a company may be required to make cash payments directly to a government or into a trust or other reclamation fund. Requirements to provide satisfactory financial assurances may be implemented as conditions of a site-specific environmental assessment decision or permit or through a statute or regulation of general application. Mines that closed down decades ago, and for which there is no owner-of-record, present a different problem. Some discharge AMD while others have tailings dams or other structures requiring remedial work. The question of who is to pay for such work -- existing companies, any previous owners that can be identified, lenders or the public -- remains to be resolved.

The CICA Handbook recognizes the need to consider reclamation expenses in measuring and reporting net income to shareholders, potential investors, stock exchanges, securities

[7] For additional information regarding financial assurance, please see Appendix 3.

commissions and other stakeholders. Technical requirements and expected cost are established using an engineering approach and are reasonably certain in both timing and amount. Estimated expenses are charged against current income and accrued as a liability, whether or not reclamation expenses are actually incurred in the current accounting period. Reclamation plans and cost estimates are reviewed routinely and in response to major changes in the mining plan, and reclamation provisions are adjusted if necessary. This approach is consistent with the matching principle of accounting which requires revenues to be matched with the associated expenses whether such expenses were incurred in a prior or current accounting period or will be incurred in the subsequent accounting period.

Deductibility of such expenses and treatment of interest or other investment income earned by a trust or other reclamation fund affect the bases used to calculate income tax, mineral royalties and allowances. The minor administrative or legal expenses to secure a letter of credit, bond or other pledge are deductible, but most other reclamation expenses are deductible only in the year that reclamation is actually performed, although the company may be required by law and by generally accepted accounting principles to recognize the expense and make substantial cash contributions to a government or into a trust or other reclamation fund. The federal budget of February 1994 and some provincial initiatives have acknowledged this inequity, indicating intentions to amend income tax and other legislation to provide greater certainty concerning deductibility of certain reclamation charges. Industry's belief is that interest or other investment income earned within a reclamation fund must be included in income but that a corresponding deduction may be allowed for recontribution of such income to the reclamation fund.

Standards

Current site rehabilitation standards focus on effective covers and long term stability of dams, dumps and other structures. Insufficient attention is being directed to the establishment of sustainable ecosystems as a long term goal. At the same time, a workable framework for dealing with open pits or alternate land uses has not been developed. The issue of developing guidelines or standards for planning and close-out purposes needs to be addressed.

Obligations

Once the requirements of a reclamation plan have been met and a mine has been closed out, no process exists that would enable the property to be returned to the Crown. Under current legislation, mining companies are responsible for such properties in perpetuity. Usually this is administratively and economically inefficient -- especially when companies go out of business in Canada. Criteria need to be established to enable closed-out sites to be returned to the Crown on an equitable and cost-efficient basis to both government and industry while ensuring long-term protection of the environment.

3. Recommendations

1. Where they do not already exist, requirements should be established governing the development, implementation and monitoring of closure plans, including the provision of financial assurance to cover the costs of the plan (i.e. reclamation, maintenance, long-term treatment and monitoring).

2. A schedule for the provision of financial assurance should be part of all reclamation plans. For new mines, the amount provided should be consistent with the degree of disturbance at any given time. Existing and abandoned operations should meet financial obligations within a time-frame determined on a case-by-case basis.

3. Government and industry should be jointly responsible for financing or developing mechanisms for financing the reclamation of orphaned mine sites.

4. Financial assurance should be deductible, for tax purposes, as a cost of doing business.

5. Site-specific reclamation standards should be established based on the following:

    a) reclamation shall return a mine site to a self-sustaining ecosystem that is as close as practicable to its original state prior to the mining activity;

    b) where a return to the original state is not possible, or other desirable uses have been identified, government should make its decision in collaboration with a PLC or, in the absence of such a committee, in collaboration with the appropriate local stakeholders.

6. Governments should create a mechanism for the return of title of the closed-out mine sites to the Crown based on the following requirements:

    a) the obligations of the reclamation plan, as noted under planning, have been completed;

    b) it has been verified that the long-term obligations of the plan can be met on a continuing basis;

c) adequate funding has been provided to cover post-close-out monitoring and maintenance and, where necessary, long-term treatment; and

d) instruments, such as risk-based financial assurance vehicles,[8] have been established to ensure that additional funds can be accessed if the company is not able to fund required work in excess of the site-specific financial assurance.

[8] A complete return of title and liability to the Crown would only be offered in cases where the level of risk can be reasonably determined. In such cases payments, based on insurance principles and related to the risk of each case, could be made to a fund. The provision of a risk-based financial assurance fund would enable the Crown to meet any site-specific expenses after the return of title.

CHAPTER 4

PUBLIC INVOLVEMENT

1. Principles and Objectives

PRINCIPLE

More effective approaches to environmental management can be developed, and the public trust in mining enhanced, when the public and other stakeholders are fully informed and participate in decision-making related to the public interest in all stages of mining.

OBJECTIVES

1. To ensure that the public and Aboriginal communities have the opportunity to participate in the processes, ensuring that all stakeholders' interests are given appropriate consideration.

2. To ensure that the public and other stakeholders have access to the information and the resources required to participate meaningfully and responsibly in all stages of the life of a mine, from land-use planning to post-closure monitoring.

3. To ensure that governments, industry and interest groups share in both the responsibility and the accountability for ensuring that international treaties are negotiated with the fullest possible input and that subsequent obligations are met.

2. Background and Issues

It is generally agreed that, in principle, public involvement in mining-related decision-making and management processes is an important factor in enhancing the legitimacy of the industry in Canada, in developing public trust in the ability and desire of mining companies to conduct their business in an environmentally responsible manner, and in improving the quality of the decisions being made regarding environmental management. In the best-case scenario, public involvement

should take place throughout the mining life-cycle, from the earliest decisions on land-use planning, to the final close-out and long-term environmental monitoring of a mine site. The nature and extent of that public involvement differ depending upon which stage of the mining life-cycle is being considered.

After the environmental assessment process for a mine has been completed, opportunities for public scrutiny of day-to-day operations are generally limited. Local residents want assurance that a mine is meeting all applicable environmental requirements. Public confidence would be enhanced if such information was to be reviewed by informed citizens. This would be a natural task for the multi-stakeholder public liaison committee (PLC).

There is another arena, other than the three stages of a mine, where there is insufficient public involvement: the international stage.

Some stakeholders feel that the federal government has signed international agreements without adequate consultation with the correct stakeholders, incurring obligations which are not always in the best interest of the country or the environment. There is a need to create national baseline standards and enter into international agreements that provide consistent policies for dealing with environmental concerns within the Canadian mining industry.

For example, to meet Canada's obligations under the *United Nations Framework Convention on Climate Change*, special consideration must be given to coal production for domestic thermal generation because of the implications for the build-up of CO_2 in the atmosphere.

Another type of public involvement that is often neglected is employee involvement. Employees are well placed to monitor the environmental performance of their employers and have a responsibility to first inform their employer about potential or actual environmental problems. However, this potentially valuable role is restricted because employees who report environmental infractions to authorities are not necessarily protected from any reprisals by their employers.

Some of the concerns surrounding public involvement are common to the industry, government and the public. Others are specific to one sector or the other. Some important points are:

- Industry worries about processes going on without end, with no decisions reached.
- Industry and government have difficulty determining who the public is; that is, who is a legitimate participant.
- Industry is concerned about overlapping government processes already in place.
- All sectors are aware that trust between sectors is necessary, and that past events have not led to that trust being built.
- All sectors realize that processes should be open, fair and accountable.

- All sectors are concerned that public processes do not always have the support of the political system or senior management while realizing that support is necessary for the success of the process.

- All sectors have concerns about participant funding. Industry is concerned about the total cost and who will provide the funding, governments are worried that they will be responsible for costs, while the environmental sector sees the current lack of funding as preventing effective participation. If participant funding is to become available, the questions of who is eligible and what expenses are legitimate must be answered.

- The environmental sector requires assurance that participating in public processes will lead to real influence in the decision-making process.

- Both industry and the environmental sector have concerns about the scope of discussions within a process. Industry would frequently like to confine discussions to the impact of their specific operation or proposal. The environmental sector would often like to see discussions consider a broader context, such as cumulative impacts, global implications, alternatives, need for a project.

- The environmental sector is concerned about a balance of representation in public processes.

- The environmental sector would like to see local and traditional (including native) knowledge and wisdom recognized, even though it is not always scientifically proven.

- The environmental sector would like to see a commitment to consensus building and cooperative decision making from other sectors involved in public processes.

- The environmental sector sees a need for accurate, credible, timely information to be available to everyone involved in a process.

- The environmental sector sees a need for meetings to be scheduled and held at locations and at times where it is possible for the public to participate.

3. Recommendations

1. Whenever there is sufficient public interest, individual mining companies should form a PLC as early in the project feasibility evaluation stage as practical, with the objective of ensuring that all decisions related to environmental matters of demonstrated concern are made in an open, timely, objective and thorough manner. Once created, and if the mine goes into operation, the Committee would evolve over the life of the mine until it is "closed out" to the satisfaction of the Committee and/or the government.

2. The mining industry, together with governments, Aboriginal communities, Labour, and competent and relevant non-government organizations (NGOs), should develop guidelines regarding the membership, financing, structure, operation, code of conduct, and functions of the PLC.

3. Information distributed to the public should be provided in a timely and coordinated manner, and when a response is requested, adequate time should be provided.

4. The determination of "adequate public notice" should take into account local conditions and mechanisms for public involvement and include flexible and innovative means to directly involve remote communities in decision making around developments that will affect them.

5. In the event that a PLC has not been established or issues of public concern are not being adequately addressed, the designated lead government agency should take the necessary steps, including the possibility of establishing a PLC reporting to the lead government agency, to seek adequate public input for its decision-making process.

6. "Whistle-blower" protection should be introduced to protect employees who report, in good faith, suspected environmental infractions to government authorities. This protection should be provided through collective agreements, legislation or other mechanisms.

7. Where there is sufficient public interest regarding existing, dormant, orphaned and abandoned mine-sites, when reclamation planning activities are initiated, a PLC should be formed by the party responsible for reclaiming the site.

8. The federal government, which has sole authority for international treaty negotiations, should strive to ensure the fullest possible intergovernmental, industry, and non-government interest group consultations (input) and participation in international treaty negotiations, and subsequent compliance verification.

9. Where applicable, governments are encouraged to provide the necessary financial assistance to NGOs to enable them to participate responsibly in decision-making processes.

CHAPTER 5

INFORMATION/USE OF SCIENCE

1. Principles and Objectives

PRINCIPLE

For sound environmental decisions to be made during the life-cycle of a mine, all stakeholders need access to high-quality, relevant, and unbiased information.

The absence of scientific certainty is not adequate justification for failing to take action to protect the environment where risk of adverse impacts to the ecosystem clearly exist.

OBJECTIVES

1. To broaden and improve the information base on the environmental effects of mining and to make that information accessible to all stakeholders.

2. To ensure that all environmental information is accurate, unbiased and developed in a manner consistent with professional standards and scientific methods.

3. To provide practical tools for bringing traditional knowledge systems and expertise to bear on environmental assessments.

4. To promote and augment research on the environmental impact of mining and ways to minimize those impacts.

5. To ensure that decisions involving potentially serious adverse impacts on ecosystems are made cautiously, based on the best available information but recognizing the limitations of science.

2. Background and Issues

Science is an important tool in determining the environmental impacts of mining activities. Other sources -- such as Aboriginal and non-Aboriginal traditional knowledge -- that could offer significant insights not available through modern, empirical, science-based research methods and analyses, have received little attention. All sources of information need to be supported and developed to provide a solid foundation for decision making. This section considers how this can be achieved.

To be effective, preplanning, environmental assessment and environmental-effects monitoring must be performed based on reliable information, collected and interpreted by qualified and credible professionals. The field of "environmental consulting" is a wide-ranging discipline. It is currently unregulated and operates without professional standards. This has led to some situations where the validity of a particular consultant's data and interpretation prepared for one interest group or government department is questioned by consultants of another party. As a result many studies are duplicated, causing a waste of scarce resources and erosion of public trust.

Research and scientific information also plays a key role in ensuring that closure management practices meet the needs of protecting the environment both in the short and long term. The central concern of the mining industry today is the potential environmental impacts associated with acid mine drainage. Concerted efforts are being made by industry in cooperation with federal and provincial mines departments and ministries to address that concern. Continued research and scientific efforts, however, require substantial financial resources; without continued financial support, a solution may not be found.

Data is only as good as the methods used to collect and analyze it. Standards are needed to ensure that data collection design and methods result in data that is useful and that subsequent data analyses are performed using appropriate methods.

The goals are to:

- establish and make available to stakeholders database(s) of sound information, collected using appropriate methods by qualified professionals;
- use this data-base network to develop national standards and policies for development, including standards for emissions and discharges;
- establish a mechanism for determining the acceptability of data and deciding who may collect and interpret it; and
- increase research.

3. Recommendations

1. Governments should strive to establish, standardize and integrate as necessary, protocols and programs for orderly data collection and analysis.

2. Governments should strive to establish, standardize, and integrate as necessary, data-base networks accessible to all stakeholders giving priority to the orderly accumulation of Canadian baseline and monitoring information.

3. Governments, learning institutions and industry should collaborate to develop and deliver education and training programs that focus on multi-disciplinary environmental assessment and monitoring skills.

4. In order to ensure that environmental assessment and monitoring is unbiased, industry, government and NGOs should encourage:

    a) establishing a register of qualified scientists and other professionals not already covered by a legally binding code of ethics, who are competent to perform in whole or in part, environmental assessments and environmental monitoring;

    b) developing a voluntary code of conduct for the above group;

    c) the above group to set up a self-regulating professional association or to integrate with existing professional organizations; and

    d) peer review when there is demonstrated concern related to the validity of the methodology or analysis.

5. Industry and governments should increase their support for ecological research and development, particularly with respect to baseline data gathering, environmental-effects monitoring, and cumulative-effects impact to provide for better and more cost-efficient planning.

6. In order to help Aboriginal peoples and proponents with the environmental assessment process and to ensure a more comprehensive consideration of local and bio-regional issues, Aboriginal communities should take the lead role in establishing centres of excellence for indigenous knowledge to provide access

to the community and to the regional knowledge base by collecting and cataloguing relevant information.

7. In support of planning, assessments, and monitoring, proponents should seek out and make use of Aboriginal and other traditional knowledge.

8. Recognizng the importance of cumulative impacts upon natural systems, industry should cooperate fully in efforts to research, monitor and constrain cumulative impacts.

9. When a substance or activity is suspected, by weight of scientific or traditional evidence, of posing a significant threat to the environment but no conclusive scientific agreement on the extent of the potential damage exists, caution should be exercised by disallowing the substance or activity or through the use of alternatives or effective mitigation.

10. Governments and industry should promote the development of an interdisciplinary network for technical research with respect to land restoration and ecosystem renewal, in cooperation with other industries, with the possibility of establishing a research centre in the future.

11. All governments and industry should extend financial support to the Mine Environment Neutral Drainage research program beyond the year 1997.

CHAPTER 6

OVERLAP AND DUPLICATION

1. Principles and Objectives

PRINCIPLES

For the effective protection of the environment and to achieve greater efficiency in regulating the mining industry, it is necessary to eliminate -- recognizing the need for checks and balances -- overlap and duplication.

Land-use planning and environmental assessment should be approached from an ecosystem perspective.

OBJECTIVES

1. To improve efficiency and cost effectiveness.

2. To modify existing planning, evaluation and monitoring processes to allow for planning on an ecosystem basis.

2. Background and Issues

The federal government, provinces and territories each have their own environmental department with powers to regulate releases, and each government has other departments whose primary interests may be resource development, parks, wildlife management, or other matters. Each province retains the right to set more stringent standards than those set by the federal government. Lack of harmonization at the federal and provincial/territorial levelscauses serious problems, including: conflicting regulations; different reporting requirements; and poor communication between regulators.

It is not easy to reduce duplication unless one level of government drops out of the picture unilaterally. Attempts at a solution in the past have taken two forms: delegation of administrative responsibilities by one level of government to another, and intergovernmental coordination of overlapping activities. In the absence of coordination, the potential for regulatory conflict between the two levels of government increases.

Overlap in Environmental Assessment

The federal government and the provinces/territories have established environmental assessment processes designed to meet the requirements of their respective jurisdictions and responsibilities. Multiple environmental assessments cause duplication of effort, uncertainty in the process and additional cost and frustrations to the proponents. It is also more difficult for the public to obtain the necessary information pertaining to a project. Consultation among Environment Ministers has taken place to harmonize the various processes using administrative agreements. These agreements will set out the principles and protocols for cooperation on environmental assessments and will include such topics as project screening, joint assessments, time frames, etc. They will also provide, for the provinces/territories, clear mandates for managing their natural resources.

Still, no formal mechanisms have been established between Canada and the individual provinces/territories and among neighbouring provinces/territories to ensure that only one environmental assessment process is carried out and that only one decision is made for any particular project. As a result, most assessments are often based on jurisdictional boundaries instead of ecological boundaries.

Overlap in Environmental Regulation

Both levels of government and various ministries and departments within each level of government have responsibilities for the review and regulation of mine development, operating and closure plans. While informal arrangements have been established in certain individual situations to enable these processes to proceed in a reasonable fashion, no formal mechanisms (except in the Yukon) are available to ensure that the complexity, duplication, delay and uncertainty resulting from shared government responsibilities are minimized.

Differences in regulatory policies and standards across the country are not necessarily bad. Overlapping government programs can introduce an element of competition and facilitate program evaluation for operational efficiencies. The negative consequence of this arrangement is that divided jurisdictions and diversity of standards can increase compliance costs, create uncertainty and make it more difficult to operate across provincial boundaries.

Facilitation[9]

Even with the development of policies and agreements, conflicts are likely to occur. Presently, not all governments have a mechanism for facilitation to ensure that all departments and agencies contribute to decision making in a constructive and timely manner.
There is a particular need for a facilitator at the federal level because of the multiplicity of departments and agencies involved. Some provinces have introduced the "single window"

[9] For additional information regarding facilitation please see Appendix 4.

concept, which is positive, but more leverage is also needed for individual situations when a coordinated and effective effort has not been achieved.

3. Recommendations

1. Governments should cooperate to ensure that land-use planning and environmental assessments are conducted on the basis of ecosystems rather than jurisdictional boundaries.

2. As an urgent priority, administrative agreements should be concluded to allow for a single environmental assessment process to be performed for any specific project in order to improve efficiency and cost effectiveness.

3. A designated lead agency should administer and enforce regulations. Equivalency or administrative agreements should be concluded. Governments delegating responsibility remain legally accountable to ensure that equivalency or administrative agreements are implemented. Governments reserve the right to independently intervene to deal with non-compliance of regulatory requirements.

4. The federal government should provide leadership in developing scientific knowledge and establishing national baseline standards in collaboration with other jurisdictions and interested stakeholders.

5. Federal and provincial governments should ensure that the Canadian Council of Ministers of Environment (CCME) process provides adequate opportunity for input from, and consultation with, mining-sector stakeholders.

6. All governments should reduce, with the goal of eliminating, duplication and overlap within and between their departments and agencies.

7. Each level of government should establish the legislation or policy required to enable the appointment of a facilitator to ensure that shared government responsibilities for all stages of mining are discharged in a coordinated and effective manner.

APPENDIX 1

PUBLIC INPUT AND THE MULTI-STAKEHOLDER PUBLIC LIAISON COMMITTEE

In response to public concern, governments are encouraging, and in some cases requiring, individual companies to discuss their plans and the environmental results of their activities -- from exploration, through development and operation, to closure--in an open and forthright manner. Depending on the situation this has been done by:

a) Providing the information through open houses, news releases, etc.

b) Providing the information and requesting feedback.

c) Forming a multi-stakeholder public liaison committee (PLC). The following principles could be used in developing guidelines for the PLC:

i) All parties recognize that consensus among the participants on the PLC should be the ultimate goal. In the case of consensus not being reached, the PLC would forward its findings, including full discussions of dissenting viewpoints, to the eventual decision-making body. The decision-maker(s) would thus have a clear understanding of the situation and the different options presented, upon which to make a final decision.

ii) All parties must have a clear understanding of the process, including:

- how the public is to be involved;
- the purpose of the process;
- who the final decision-maker(s) is/are, and that the decision will be communicated to the PLC and the general public, complete with reasons for the decision;
- the consequences of not reaching consensus (see principle i); and
- the appeal mechanisms available.

iii) All parties should be involved in the process as soon as possible and should participate in process design, including:

- setting the terms of reference;
- determining the scope of discussion; and
- determining participant funding, if it is necessary, and, if so, what expenses will be covered, as well as the source of the funding.

iv) Membership in the PLC should be determined on a case-by-case basis and would vary depending on the stage of the life-cycle. Government agency interest will vary with the specific situation. Those agencies with responsibilities or interest

shall either have direct representation on the PLC or shall agree to the manner in which their responsibilities are discharged by the PLC. Provincial or federal agencies should coordinate their requirements and time-frames. The company should be represented by at least one senior management representative. The employees should be represented by at least one representative. The community should be represented by local government, local business groups, Aboriginal and environmental concerns, at a minimum. There should also be an opportunity to allow provincially-based public interest groups to be involved, either as direct members of the PLC, or as a resource for local members. In addition, the meetings of the PLC should be open to the general public, including anyone wishing either to observe or participate in a specific meeting, thus ensuring that the process remain open and transparent.

v) A pool of interested members of provincial, environmental, labour, and Aboriginal organizations, from which to draw participants for PLC associated with mines not near a community, should be formed.

vi) Accurate, credible, and timely information must be equally available to all participants.

vii) Training in interest-based consensus negotiation should be widely available to all participants.

viii) The assessment of the initial proposal (either the reclamation/closure proposal or the development proposal, including the reclamation plans) should take place within a pre-determined time-frame. The time-frame will include adequate time for all participants to assess thoroughly the proposal, and allow for the gathering of further information or research before recommendations are made to the decision-making body.

APPENDIX 2

OVERLAP AND DUPLICATION

Where a mining proposal, development, operation, closure or reclamation involves various jurisdictions, a designated lead agency should be established. The designated lead agency would function according to a set of agreed standards. Where this involves environmental assessments, the *Canadian Environmental Assessment Act* (*CEAA*) and other environmental assessment legislation should be amended accordingly, as required.

a) Process coordination:

A timely, efficient, agreed upon process should be coordinated through a designated single lead agency. To ensure that this is done efficiently, standards, regulations and a process design (i.e. reporting requirements, etc.) should be established among all jurisdictions. The process should be designed in a manner that reduces the associated cost to the public as well as the proponent.

b) Early notification:

The various jurisdictions should establish consultation and cooperation mechanisms to notify one another -- as early as possible -- of proposed projects. An agreed upon mechanism should be establish to determine which jurisdiction will assume the role of designated lead agency.

c) Roles of the agency:

The extent of involvement and the responsibility of the various jurisdictions will be agreed upon as early as possible. The designated single lead agency would be responsible for administering the process and ensuring that standards and regulations are met. The objective is to avoid overlap and duplication by ensuring that only one process is carried out and that one final report, consolidating all recommendations, is produced and provided to the appropriate decision-making body.

d) Time Limits:

Each jurisdiction will ensure that the agreed upon time requirements are met. In order to meet the objectives of efficiency and certainty, the jurisdictions will agree on time frames at the initial phase of the process.

e) Identified contact:

Each jurisdiction must identify a single point of contact through which all matters affecting the processes are coordinated and communicated. This contact would be the main contact for the "single environmental coordinator" of the designated lead agency.

f) Single environmental coordinator:

The designated lead agency will identify a single coordinator to act on behalf of all governments with the proponents and other parties. This coordinator would be the central spokesperson/contact point for matters/questions/information regarding the overall process.

APPENDIX 3

FINANCIAL ASSURANCE

There are a number of points to consider when reviewing the context for financing of mine reclamation activities:

a) Implementation mechanisms differ but provision of satisfactory financial assurance is required by most Canadian jurisdictions to ensure that new and existing mines are reclaimed by the owner upon closure.

b) In general, the objective is to ensure that adequate financial assurance is available to meet current environmental liabilities. For existing mines, transitional provisions may be required. Common elements include:

   i) The required financial assurance is based on an approved reclamation plan, based on sound engineering principles and cost estimates.

   ii) The provision of financial assurance is mandatory, with the form, timing and amount being determined by established legislative processes.

   iii) The reclamation plan identifies environmental disturbances associated with mine development and operation and both technical requirements and costs to meet defined reclamation objectives. The operator must carry out the approved work plan of site reclamation and ongoing treatment, where required**,** to mitigate the effects of past and current activities.

   iv) Following any transitional period for an existing mine, the additional financial assurances required in a given year is equal to the new reclamation obligations incurred during the year less expenditures to meet reclamation obligations associated with past activities.

c) Recognition of reclamation expense has a material effect on net income. The relevance of this issue for financial stewardship reporting purposes is recognized by the accounting profession. Generally accepted accounting principles and practise require companies to use the accrual basis of accounting to match revenues with the associated expenses. Financial auditors assess the accounting principles used and significant estimates made by management. Generally accepted accounting practice is to apply guidelines published in the CICA Handbook which requires that "... removal and site restoration cost should be estimated and charged to income over the same period...as property, plant and equipment is amortized." In practice, reclamation cost are charged to income over the remaining mine life and a provision for site closure and restoration, consisting of accrued reclamation charges less actual expenditures to date, is reported as a liability.

d) The relevance of this issue in computing income for tax purposes has not been fully recognized. Tax legislation requires companies to use the accrual basis of accounting, but revenues are not necessarily recognized at the same time as the associated expenses as the deductibility of an outlay, expense or reserve is restricted. Technical amendments are required to respond to new demands on the industry by shareholders, potential investors, stock exchanges, securities commissions, government regulators, other taxpayers and the public. Companies are required to estimate and disclose reclamation costs, provide satisfactory financial assurance and complete approved reclamation programs. Recognition of the associated expenses is deferred for tax purposes although such expenses are incurred for the purpose of gaining or producing income and are reasonably certain in both timing and amount. Taxable income during operations is materially overstated and reclamation expenses may also be restricted in future by limitations on carry back losses if the company does not have other sources of income when reclamation work is conducted.

APPENDIX 4

FACILITATION

a) Appointment:

Ideally, this position would be an appointment by the Prime Minister or provincial premiers, so that enough leverage can be brought to bear on the various government departments and ministries involved. The objective is to ensure timely action on the part of all parties involved. The appointment of a facilitator for individual cases would be on request, based on the need being justified by the proponent and the PLC.

b) Role and Responsibility:

The facilitator would be responsible for ensuring that all sections within their level of government contribute to the decision-making exercise in a constructive manner. The facilitator would also be accountable for the integrity of the consultation process and so should not have a stake in the outcome of the process. His/her role will be to encourage a decision being made in the most effective and efficient manner possible.

APPENDIX 5

GLOSSARY

Definitions

Orphan:	An operator of record for the site no longer exists, the company having surrendered its charter or gone bankrupt. The mineral rights have reverted to the Crown.
Abandoned:	The site is inactive, but an operator of record (not necessarily the last operator) can be identified.
Dormant:	The site is not presently in production but is being maintained with the expectation that production will be resumed at some future date. An operator of record is responsible for the maintenance and eventual closure of the site.
Active:	The site is still producing and an operator of record is responsible for activities, including closure.
New:	The mine is being developed for production, with a closure plan as part of the development plan.
Closure:	The cessation of operations: the act of taking a mine or processing facility out of production, either temporarily or permanently. Permanent closure occurs when the ore body is exhausted, or when, for other reasons, management judges that the mine cannot be operated economically or safely at any time in the foreseeable future.
Rehabilitation:	A sub-category of reclamation: the on-the-ground activities involved in remediation of disturbed land and restoration of appropriate water regimes.
Ecosystem Health:	Preserving the dynamic ecological interactions and feedback mechanisms that exist among individual species and the physical environment.

APPENDIX 6

STATEMENT BY THE ENVIRONMENTAL NON-GOVERNMENT SECTOR REPRESENTATIVES OF THE WHITEHORSE MINING INITIATIVE ENVIRONMENT ISSUE GROUP

At the final meeting of the Environmental Issue Group of the Whitehorse Mining Initiative, it was agreed that representatives from each sector could develop a statement on the process, including an assessment of its strengths and shortcomings, and submit this to the Secretariat for it to be appended to the report of the Environment Issue Group. As environmentalists, we have greatly appreciated the opportunity the Whitehorse Mining Initiative (WMI) has given us to put forward our points of view and to hear the views of others regarding mining in Canada. We believe that the process has produced many important recommendations for the industry, for those who regulate it and for all other stakeholders who participated. These recommendations, if accepted and acted upon, will help reduce the impact of mining and, in some cases, will cause significant changes in the way our governments and the mining industry itself operate. We see the WMI as a critical first step in a process of continuous change the Canadian mining industry will face over the next several decades, and we trust that representatives of environmental organizations will continue to be involved in any follow-up to the WMI.

We in the environmental community believe that Earth's ecosystems and the ecosphere as a whole can accommodate only so much human activity and that humans must learn to live within the constraints imposed by the ecosphere's resilience and sustainability. While mining is only one of many activities which impact on the Earth's well-being, it does add to the cumulative impacts humans are having on species loss, air and water quality and reductions of the natural habitat. We therefore believe that, as a next step, the mining industry and its stakeholders must begin to address some fundamental questions, such as:

- what levels of human consumption of metals and minerals are ecologically sustainable;

- how much of what is produced by the mining industry is essential to the satisfying of real human needs and is it acceptable to allow a mining project to go ahead simply because the project's impacts have been minimized;

- does the industry have a responsibility to place limits on itself;

- what role should the industry play in educating the public about ecologically-sustainable levels of production and consumption of metals and minerals; and

- what role should the Canadian mining industry play in attempting to devise environmental, labour and other standards which are similar world-wide?

These questions and their answers have implications beyond the mining industry. Therefore, after the mining industry and its stakeholders have discussed these questions, we see the need for a forum, or fora, where other sectors can interact in an attempt to bring human activities and developments within the limits of our ecological means.

In the long-run, significant changes to the industry are inevitable. It is merely common sense for us to begin to develop a vision of the future that accommodates these changes, and to voluntarily introduce the required changes now, rather than having them painfully forced on the industry and other stakeholders at a later date. It is our firm belief that those involved in the industry should take advantage of opportunities for change now in order to realize some lasting economic and ecological benefits in the future.

In conclusion, we believe the WMI has been an important process in developing relationships between industry stakeholder sectors, in making significant recommendations in the way the industry, governments and other stakeholders operate, and in setting the stage for future discussions on the fundamental issues which can lead to a mining industry that is ecologically, economically and socially sustainable.

APPENDIX 7

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