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Region	Africa Regional Office
Sector	Mining and other extractive (100%)
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Borrower(s)	GOVERNMENT REPUBLIC OF ZAMBIA
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1. Country and Sector Background

The Copper Industry in Zambia and its Privatization

Copper mining has been a significant economic activity in Zambia since the development of the first copper mines in late 1920's. By the time Zambia gained independence in 1964, copper mining was the backbone of the country's economy and a powerful force in shaping the Copperbelt Province where the mines are concentrated. Copper mining and processing of copper led to the establishment of urban centers that drew workers from rural areas with a promise of jobs and access to infrastructure, housing and a range of social services. Throughout the 1970's and 1980's, the copper industry was the second largest employer after the Government, and generated about 85 percent of foreign exchange earnings, 30 percent of Government revenues and 15 percent of GDP.

The Government of Zambia gained control of the copper mines in 1973. In 1982, it created the state-owned Zambia Consolidated Copper Mines (ZCCM). At about that time, the commodity boom ended and copper prices started

falling. Concurrently, external borrowing became more difficult and the proportion of the resources being generated by the copper industry going to the Government's budget increased. This was largely done at the expense of reinvestment in the copper industry itself. The lack of reinvestment led to declines in productivity and frequent production problems. It ultimately compromised ZCCM's financial sustainability. Lacking the resources to revitalize the copper industry, the Government decided in 1995 to initiate a process to privatize ZCCM assets. It was envisioned that privatization would increase the efficiency of the copper industry, attract foreign investment to Zambia and thus boost the development of the private sector. The mining and other operating assets of ZCCM were sold to private investors. ZCCM was transformed into an investment holding company, ZCCM-IH, which became a minority shareholder with a 10-20 percent share in the newly privatized mining, processing and power companies in the Copperbelt. Privatization was essentially completed in March 2000 with the conclusion of deals with: i) Konkola Copper Mines (KCM), involving Anglo American, the International Finance Corporation (IFC), and the Commonwealth Development Corporation (CDC), and ii) Mopani Copper Mines (MCM), involving Glencore International and First Quantum.

ZCCM's privatization was expected to mark a turning point in Zambia's economic reform, providing the basis for improved environmental management, economic stability and growth. However, these improvements may be compromised by Anglo American's decision in January, 2002 to withdraw financing from the Zambian copper industries, specifically from KCM and the Konkola Deep Mining Project (KDMP). Without investment in KDMP, the life of the mining industry will end within the next 10 years. KCM shareholders are currently considering all available options, including the sale, transfer of the assets on a going concern basis, or closure in a socially and environmentally responsible manner.

Environmental Issues Arising from Mining Activities

Prior to 1980, little attention was paid to the environmental impacts of mining activities in Zambia. Pollution and environmental degradation, and their impact on public health and ecosystem functions, were considered to be an acceptable trade-off given the economic benefits and jobs provided by mining. This changed, starting from the mid 1970s, as civil society and governments became increasingly aware of the need to mitigate the long-term environmental impacts of industrial activities, to maintain quality of life. However, the poor economic performance of the mining sector in Zambia in the 1980's and 1990's led to an increasingly inadequate handling of environmental issues arising from mining activities. As a result, a massive "environmental mortgage" accrued that needed to be addressed once the decision was taken to privatize mining assets (see Annexes 13 and 15 for further details).

The main environmental issues related to mining in the Copperbelt and in Kabwe are:

Air Pollution. The major environmental issue on the Copperbelt is air pollution. The copper smelters emit 300,000 to 700,000 tons per year of sulfur dioxide (SO_2) into the air. SO_2 can severely affect the health of neighboring populations (especially respiratory problems). Refurbishment of the Nkana smelter has not yet occurred and emissions remain at high levels. The Mufulira smelter is not currently equipped to capture any of its SO_2 emissions.

Soil Contamination. SO_2 emissions from the smelter convert to HSO_4 (sulfuric acid) and then impact soils and cause loss of vegetation

downwind of the smelter stack emissions. Dust particles containing copper, nitrous oxides and organic acids may also be in the emissions which may enter streams and affect aquatic fauna. Further soil contamination from mining operations, chemical and oil spills has also occurred. Soil from sites contaminated by oil laced with PCBs, by redundant chemicals or other hazardous waste (including radioactive waste and asbestos) must be properly removed and disposed of.

Water pollution. Runoff and leakage from existing waste rock dumps and tailings dams pollute streams flowing out of the mining licenses, causing widespread negative impacts downstream from the mines that extend as far as the Kafue River and affect wetlands and tributaries. The pollution has an impact on human health and ecological functions that is not fully determined. Lower water quality leads to increased water treatment costs. The pollution from the waste rock dumps and the tailings needs to be contained and the sites rehabilitated.

Catastrophic failure of tailing dams. Some tailing dams are close to human habitation and failure could cause extensive physical damage, ecological damage and even loss of life. Dams need to be stabilized and rehabilitated.

Privatization impacts on environment. Preparing ZCCM for privatization required a reduction of its work force. This contributed to increased unemployment in the Copperbelt, which in turn placed a greater burden on the local environment. Scavenging for timber, fuelwood, metal and construction materials has increased, leading to habitat destruction. Such vandalism is compromising the integrity of tailing dams and other structures and can result in more serious environmental damage, including the failure of dams.

Lead contamination. In addition to copper mining issues on the Copperbelt, ZCCM-IH has serious liabilities related to lead zinc mining in Kabwe. It is estimated tens of thousands of residents (including 9,000 children) may be affected by high lead levels in the soil, both from naturally occurring mineralization and the impact of the smelting and mining operations. Lead contamination is particular concerning for young children as it affects mental development and can cause serious health problems, including death in serious cases.

According to MENR (1995), the main environmental problems on the Copperbelt are deforestation, soil acidity, pollution, land dereliction, poor urban sanitation, unplanned urban development and noxious weeds arising from eutrophication of waterways by sewage effluent. The impact of pollution from mining activities is compounded by the fact that nearly ninety per cent of the population on the Copperbelt is urban. This has resulted in concentrated demand for natural resources, such as water, energy and food. Competing demands for water by industry and households is already constraining the sustainable use of water resources. Mining and other industrial activities have generated air, water and land pollution. Over dependence on charcoal fuel by urban households has been the main cause of deforestation on the Copperbelt.

Environmental Liabilities following Privatization

At the time of the privatization, ZCCM was burdened with a huge "environmental mortgage" accrued over 70 years of mining operations, which it could not address because it lacked the necessary resources. Nonetheless, ZCCM set up an Environmental Services Group in 1993, following a preliminary review of its environmental liabilities. In 1996-1997, it retained the services of Steffen, Robertson and Kirsten (SRK) to prepare Environmental Impact Statements (EIS) for each of its

twelve Mining License Areas (MLAs), to meet the health and safety requirements for the renewal of mining licenses. These EISs provided an environmental baseline during privatization negotiations, but they were never intended to provide a comprehensive overview of the environmental and social impacts of mining in the Copperbelt.

Not surprisingly, the appropriate handling of environmental liabilities was a key issue during the negotiations, most particularly in the case of KCM. In hindsight, the KCM deal was the driving force that shaped the debate regarding the handling of environmental liabilities following privatization, in the following manner. Given the extent and seriousness of environmental and public health impacts documented in the EISs, the KCM Consortium was unwilling to accept any legal responsibility for historical environmental liabilities, most notably downstream impacts on populations and ecosystem functions. As a consequence, GRZ and ZCCM-IH agreed to retain the historical liabilities associated with assets purchased by KCM, and to implement adequate mitigation measures to address them. Most importantly, GRZ and ZCCM-IH remain responsible for potential future third party liability claims arising from past environmental damage. In addition, ZCCM-IH retained all liabilities for defunct assets excluded from the KCM purchase. Lastly, KCM obtained from GRZ a 15 year period of stability during which regulatory dispositions cannot be modified.

IFC's involvement created the obligation for KCM to meet IFC's environmental management guidelines. In response, KCM prepared a pair of Interim Environmental Management Plans (IEMP), one each for KCM and ZCCM-IH. These IEMPs identified the actions to bring mining and processing into compliance with applicable standards. Most importantly, the IEMP for ZCCM-IH created the obligation for ZCCM-IH to urgently address a list of issues, including: i) the rehabilitation of the Nkana smelter, ii) the demolition of the high-grade leach plant in Nchanga, iii) the clean up of the sites acquired by KCM, iv) the preparation of a final EMP. Moreover, ZCCM-IH had before privatization agreed to resettle affected populations in anticipation of the Konkola Deep Mine Project.

The longer term environmental liabilities not addressed by these IEMPs will be tackled in the final Environmental Management Plans (EMPs), one each for KCM and ZCCM-IH. KCM's final EMP was completed in the second quarter of 2001 and approved by the Environmental Council of Zambia (Zambia's environmental protection agency) in August 2001. The final EMP for ZCCM-IH is under preparation with funding provided by a PHRD grant. Similarly to the IEMPs, the pair of final EMPs must be complementary documents that clarify the division of responsibility for addressing environmental liabilities between KCM and ZCCM-IH.

The usual practice with EMPs is that they indicate how an investor will comply with established environmental standards. In the case of the KCM privatization, there is a strong presumption by the investor that environmental concessions regarding the applicability of regulatory dispositions were made at the time of privatization and that these concessions are now confirmed in their EMP. KCM assumes it is protected from lawsuits if pollution levels of ongoing mining operations remain within the targets set in the EMP, even if its mining operations exceed national standards. Since the statutes establishing these standards remain in effect, the consequence of these concessions is to transfer part of the liability for future pollution flows back to ZCCM-IH or to GRZ. It is thus critical for ZCCM-IH and GRZ to limit the nature and the extent of the concessions sought by KCM in its EMP.

The KCM privatization set a precedent for handling environmental and

social issues that has now been transposed to the other privatization deals. Each investment group (there are currently nine, including KCM) is expected to prepare an EMP to address its environmental liabilities and obligations. In counterpart, ZCCM-IH will prepare an EMP indicating how it will address the liabilities excluded by the investor. Suitable investor and counterpart EMPs will be prepared for each investment package, ensuring that all environmental issues are addressed and that the division of responsibilities between the investor and ZCCM-IH is clearly defined. Furthermore, the investor and counterpart EMPs will be based on consultations between each investor and ZCCM-IH, and will be reviewed and approved by the relevant regulatory bodies.

The set of Investor and Counterpart EMPs will provide a good basis for addressing environmental issues at the mining sites. However, they will not provide an adequate understanding of the impact of mining activities on public health and ecosystem functions downstream from mining operations, or provide an adequate basis for setting mitigation priorities. This will require additional work beyond the scope of the site specific Investor and Counterpart EMPs, or the original Environmental Impact Statements for MLAs that provided the original baseline.

Regulatory Framework for Environmental Management in the Mining Sector

The extent of the environmental liabilities and obligations incumbent on investors and ZCCM-IH/GRZ is determined by the Environmental Protection and Pollution Control Act (EPPCA) of 1990 and the Environmental Impact Assessment Regulations (EIAR) of 1997, the Mines and Minerals Act of 1995 and the Mines and Minerals Environmental Regulations of 1997.

The EPCCA establishes the Environmental Council of Zambia (ECZ) as the national body responsible for enforcing environmental regulations and coordinating sectoral government agencies involved in environmental management in their sectors. These responsibilities are managed by ECZ's Technical Secretariat, which effectively constitutes Zambia's Environmental Protection Agency (EPA). The EPPCA also sets environmental quality standards and makes the polluter responsible for meeting them. Thus under the EPPCA, all effluents and emissions from mining operations are regulated through a system of permits, licenses and fines. Dumps, including overburden dumps and tailings dams, are similarly regulated.

The Environmental Impact Assessment Regulations require that an Environmental Impact Assessment (EIA) be prepared for all investments that have a major impact on the environment. The identification and implementation of adequate environmental mitigation measures is also regulated by the EIAR.

The Mines and Minerals Act and the Mines and Minerals Environmental Regulations (1997) address the environmental, health and safety aspects of the mining licenses delivered by the Mines and Minerals Development Department. They regulate environmental protection and pollution control in the areas where prospecting, exploration and mining operations are being carried out. They also require that any licensed mining operator closing down a mining facility must first decommission the site to a level where it does not pose any danger to public safety and health. The body mandated with monitoring and enforcing compliance with the Mines and Minerals Environmental Regulations is the Mines Safety Department (MSD) within the Ministry of Mines and Minerals Development (MMMD).

The regulation of the environmental impacts of the mining sector also involves other sectors, each with its own regulatory instruments: water affairs, tourism, transport, radiation protection, health, energy, national heritage conservation, local government and land. These bodies

are responsible for sectoral regulations and constitute Delegated Authorizing Agencies (DAAs) under the EPPCA. ECZ defers to these agencies on specific technical issues, but retains the role of overall coordination of their respective contributions. For example, MSD is the DAA for issues arising from mining licenses. Close coordination between ECZ and the all DDAs regarding mining activities, is crucial given the complex cross-sectoral nature of their environmental impacts.

The capacity of ECZ and of DAAs such as MSD to implement environmental regulations in the mining sector is very weak. As a result: i) identification and monitoring of environmental risks resulting from mining activities is often inadequate, ii) in many instances, the appropriate permits and licenses are not issued, iii) existing regulations are seldom enforced, iv) revenue from licenses, permits and fines for mining pollution are only partially collected. Moreover, the regulatory dispositions for the mining sector are currently so weak that they do not deter polluters. The revenue that can be collected from polluters given the current fee rate only covers part of the cost of the skeleton staff presently assigned to pollution control, which is woefully insufficient for the task. The exemption by certain investors from the payment of environmental fees further undermines the financial sustainability and performance of the regulatory bodies. The poor handling of environmental and social safeguards in the mining sector has already led to the lead poisoning crisis in Kabwe, the demolition of community buildings in Kansanshi and the stripping of mining assets by an investor in Luanshya. Furthermore, due to poor maintenance and sometimes poor design, there is a risk of several major tailings leakages over the next 5 years, unless preventive measures are taken.

Because of the weakness of its regulatory bodies, GRZ will play from a weak hand when reviewing, negotiating or monitoring the implementation of Investor EMPs for the mining sector. Poorly negotiated EMPs are equivalent to handing out pollution credits, thus further shifting the environmental and social costs of pollution from the investors to GRZ. Poor public disclosure of EMPs can lead to misunderstandings or social conflict. Poor monitoring and enforcement will inevitably result in lax implementation of agreements. Without a dramatic increase in the capacity of ECZ and the DAAs to effectively control pollution, the mining sector's "environmental mortgage" will continue to accrue. This would be a worst case scenario.

The ongoing Environmental Support Program (ESP) funded by IDA is already helping ECZ increase its capacity to fulfill its regulatory role. The ESP was launched in 1998 to support the Ministry of Environment and Natural resources (now Tourism, Environment and Natural Resources) in implementing the environmental priorities defined by the NEAP. In 2001, ESP was restructured to provide direct support to ECZ for improving enforcement and compliance with national environmental safeguards. The ESP is set to close in 2003, but the Copperbelt Environment Project will continue to support the ECZ capacity building effort started under ESP.

ECZ is also currently supported by NORAD through the Industrial Pollution Prevention Programme (IPPP). The main objective of the program is the decrease of industrial pollution in Zambia by: i) strengthening of the ECZ Pollution Control Division, and ii) support of the Cleaner Production (CP) at the Zambia Association of Chambers of Commerce and Industry (ZACCI). The IPPP is set to close in 2003.

The Canadian International Development Agency (CIDA) is financing the Environmental Management in the Mining Sector Project (EMMS). The initial

project was "to strengthen the technical and managerial capacity of MSD and other key mining sector institutions to execute statutory mandates to regulate, monitor, enforce and/or implement appropriate environmental management practices in the mining sector." However, during the course of its implementation EMMS is focusing exclusively on technical capacity building within MSD as well as on its financial sustainability. It does not include the resources necessary to monitor the compliance performance of the mining industry, nor to enforce existing regulations. Furthermore, it does not include significant support to ECZ, nor to any of the other DAAs concerned by mining activities. The World Bank and CIDA have agreed to co-ordinate their respective activities to ensure complementarity until closure of EMMS in 2003.

The Impact of Anglo-American's Pull out from KCM

Following the announcement by Anglo-American of its decision to pull-out from KCM and thus cease its involvement in copper mining in Zambia, the GRZ and the World Bank Group agreed that the uncertainty regarding the future operations of KCM does not change the importance or timing of the CEP, since: i) new investors are less likely to consider investing unless historical liabilities are adequately addressed; ii) in the event of a pull out by investors, funds will be necessary to implement the closure plans of affected mines; iii) ZCCM-IH and GRZ must continue managing the environmental liabilities associated with the assets purchased by KCM, regardless of the situation with KCM; iv) the CEP covers environmental issues that are not tied specifically to KCM, but still require urgent attention to avoid catastrophic failures; and v) significant awareness of environmental issues has been raised during project preparation, and there is now strong stakeholder support for environmental mitigation of mining impacts.

2. Objectives

The development objectives of the CEP are to assist Zambia to: i) address environmental liabilities associated with the mining sector, following the privatization of the mining assets, and ii) improve future compliance of the mining sector with environmental and social regulations.

These objectives will be pursued by two project components: i) establishing an environmental management facility (EMF) to finance the implementation of priority environmental and social measures required of ZCCM-IH and GRZ according to a Consolidated Environmental Management Plan (CEMP); and ii) strengthening the regulatory and institutional frameworks to improve compliance of the mining sector with environmental regulations and Environmental Management Plans (EMPs).

3. Rationale for Bank's Involvement

The Bank has been a major driving force behind the privatization of the copper mines and is thus in a unique position because of it. There was an understanding during negotiation discussions that the Bank would welcome a request by GRZ in mitigating environmental liabilities in order to help GRZ complete the privatization negotiations. The Bank's support is critical, both as a front-row source of funds but also to attract other donors.

The Bank has had a good understanding and relationship with ZCCM-IH, MSD and ECZ since the 1990s through a series of operations (ERIP, ERIPTA, Environmental Support Program, Public Sector Reform and Export Promotion Credit, and the Mines Township Services Project). As a result, the Bank is familiar with the issues faced by ZCCM-IH following privatization, as

well as the constraints confronting the institutions responsible for environmental compliance.
The Bank also has gained experience in similar situations in Bolivia and in Eastern Europe.

4. Description
The project will comprise two components:
Component 1 - The Environmental Management Facility (EMF). The EMF will help GRZ and ZCCM-IH address the environmental and social problems resulting from ZCCM's operations prior to privatization, as well as the permanent obligations of GRZ and ZCCM-IH under existing Zambian environmental laws and regulations following privatization. It does so by helping to define the environmental problems and by financing the costs of their mitigation. Since EMF funding is limited, the highest priority will be given to measures that address widespread public health problems or damage to ecological functions.
One of the first activities funded under the EMF will be the preparation of a Consolidated Environmental Management Plan (CEMP), which will identify priority issues to be financed through the EMF and provide criteria for the selection of sub-projects funded through the EMF. The CEMP will be a living document, developed in consultation with investors, to be reviewed and updated after two years. More broadly, it will provide a blueprint for handling environmental issues related to mining for the Copperbelt and for Kabwe over the next 25 years, within the broader context of environmental and social sustainability.
Component 2 - Strengthening of the Environmental Regulatory Framework. This component will assist the GRZ to ensure that historical and future environmental liabilities arising from mining activities are handled in compliance with national environmental and social safeguards. This will be achieved mainly by strengthening the capacity of ECZ and the delegated authorizing agencies such as MSD, to review EIAs, negotiate EMPs with investors and with ZCCM-IH, issue pollution permits, monitor compliance, and collect fees and fines. The project will also strengthen NGOs and relevant training institutions, such as the Copperbelt University, to increase national capacity to address environmental issues associated with the mining sector.

Environmental Management Facility (EMF)
Strengthening of Regulatory Framework

5. Financing
Total (US$m)
BORROWER $0.00
IBRD
IDA $40.00
Total Project Cost $55.77

6. Implementation
Institutional framework
Component 1, Environmental Management Facility
The Ministry of Finance and National Planning will finance environmental mitigation sub-projects related to mining activities from the portion of proceeds of the IDA credit titled Environmental Management Facility. The Minister of Finance will establish an EMF Steering Committee with a measure of autonomy to review the sub-projects to be funded by the EMF,

screen them for priority ranking, appraise them to ensure compliance with IDA safeguard policies, approve them for funding, and monitor their implementation.

The EMF Steering Committee may delegate some of its responsibility to a technical subcommittee to ensure effective and timely execution of its functions. The Steering Committee will also ensure that the program of activities funded by the EMF is consistent with EMF objectives and the policies approved by GRZ and ZCCM-IH and agreed with the donors, and provide policy guidance to those involved. It will be chaired by the Secretary to the Treasury, and comprise as members the Permanent Secretaries of the Ministries of Environment, Local Government, Mines and Minerals Development, Energy and Water Development, Health, the General Manager of ZCCM-IH, the Director of ECZ and a representative each from the Mine Workers Union of Zambia, the Chamber of Commerce and Industry, the Chamber of Mines and a prominent member of the universities and of non-governmental organizations or civil society.

The decisions of the EMF Steering Committee will take into account the views and interests of all stakeholders, including inhabitants of mine townships and other members of civil society on the Copperbelt, private sector investors in the mining industry. The EMF Steering Committee will authorize funding for a sub-project proposals developed on the basis of an application prepared by their respective sponsors. The proposal will fully justify disbursements against particular works or consultant services contracts designed for the mitigation or remediation of the environmental liabilities being addressed.

For the EMF Steering Committee to operate on a day-to-day basis, it will be served by a permanent secretariat called the EMF Secretariat. The Secretariat will have a Manager with qualifications and experience acceptable to IDA, assisted by an accountant and support staff (Program Assistant and Driver), with their operating offices in the Ministry of Finance and National Planning (MoFNP). The Manager and other staff from the EMF Secretariat will be supported by a technical assistance budget from the EMF.

Prior to project effectiveness, the MoFNP will enter into a five-year Subsidiary Agreement with ZCCM-IH acceptable to IDA, for the preparation and implementation and EMF sub-projects. The agreement will cover an on-lent part of the proceeds, to carry out sub-projects addressing its environmental liabilities, as well a grant part of the proceeds, to carry out sub-projects addressing GRZ environmental liabilities. GRZ and ZCCM-IH will establish a mechanism to determine their respective environmental liabilities and to address potential disagreements on the division of liabilities.

ZCCM Investments Holdings Plc is a Government owned limited liability company that is charged amongst other tasks, with the management of: i) the defunct assets that it has retained following privatization, ii) environmental obligations agreed with investors as part of privatization deals, iii) environmental liabilities arising from mining operations prior to privatization. ZCCM-IH is accountable to the Ministry of Mines and Minerals Development (MMMD) for its operations. ZCCM-IH has designated the Environmental Services Group within ZCCM-IH, which will be named the ZCCM-IH Environmental Coordination Unit (ZECU), to be responsible for the development of detailed sub-project proposals, their implementation and their procurement. The ZECU will consist of a Manager supported by adequately qualified and experienced staff in environmental management, finance and accounting, procurement, environmental law, communications and

community development. These functions are to be provided to the satisfaction of the EMF Steering Committee and of IDA. The sub-projects will be implemented through contractors supervised by ZECU. The ZECU has already managed CEP preparation and supervized the implementation of urgent mitigation measures funded through the Labor Retrenchment Program (LRP) surplus.

Component 2, Strengthening of the Environmental Regulatory Framework

The activities to strengthen the environmental regulatory framework in the mining sector will be executed by the Technical Secretariat of Environmental Council of Zambia (hereafter referred to as the Environmental Agency). The Agency is a semi-autonomous statutory body established by an Act of Parliament under the Environment Protection and Pollution Control Act of 1990 and governed by an independent Council. It is charged with ensuring, monitoring and enforcing compliance with Zambia's environmental regulations. The Agency will receive funds directly from the Ministry of Finance, under a sub-grant agreement.

In fulfilling its regulatory duties, the Environmental Agency will rely on the delegated authorizing agencies that are responsible for the various sectoral regulations that touch on relevant issues. The Environmental Agency will coordinate the contributions of these agencies through an Interagency Regulatory Committee, that will be established during project implementation. The delegated authorizing agency for issues related to mining licenses is the Mines Safety Department (MSD) within MMMD. The MSD will maintain its lead role in the implementation of the Environmental Management in the Mining Sector Project funded by CIDA, which focuses on environmental management issues linked to mining and exploration licenses. The Agency will ensure that mining activities are compliant with existing environmental regulations, and that the Environmental Management Plans (EMPs) of investors and the counterpart EMPs of ZCCM-IH are implemented as agreed.

Accounting, financial reporting and auditing arrangements

Financial Management will be the respective responsibility of the three institutions: the EMF Secretariat in Ministry of Finance and National Planning, and the ZECU for Component 1; and the Environmental Agency for Component 2.

EMF Secretariat

The EMF Secretariat will have the overall accountability responsibility for the EMF. It will be organized and staffed to provide efficient financial management, reporting and administration. Its tasks will include:

managing the transfer of EMF funds to ZCCM-IH, to prepare sub-project proposals for applications cleared by the EMF Steering Committee, and to implement the sub-project proposals approved by the EMF Steering Committee; these funds will include the cost of project implementation, as well as the preparation and implementation supervision costs incurred by ZCCM-IH;

monitoring the use of EMF funds by ZCCM-IH;

establishing accounts for the EMF;

installing appropriate accounting/budgetary and management information systems, capable of producing timely, understandable, relevant and reliable financial information that will enable management to plan,

implement, monitor and appraise overall progress towards the achievement of EMF objectives;
preparing annual budgets for the EMF;
producing financial statements on a quarterly and annual basis for the EMF Steering Committee and IDA;
preparing withdrawal applications from IDA and any other source of funding;
undertaking an annual audit by qualified external auditors acceptable to IDA.

The EMF Secretariat will ensure that these functions are not only acceptable to the Government, the World Bank and any other Cooperating Partners, but also are carried out on a day to day basis as prescribed in the Project Implementation Manual (PIM) throughout project implementation.

ZECU

The subsidiary agreement with ZCCM-IH requires that ZECU to provide personnel in accounting/financial management. ZECU is obliged to maintain accurate and systematic accounts in respect of funds that they receive from the EMF Secretariat to prepare and implement sub-projects, in accordance with internationally accepted accounting principles. ZECU will also maintain contract records, audit records, financial information, financial statements and accounting records. As part of the subsidiary agreement, ZECU will develop and implement a computerized system to monitor sub-project preparation and implementation expenditures. Both the EMF Secretariat and IDA shall have unrestricted access to these records and data. Provisions have been made to provide both the EMF Secretariat and IDA, or their authorized representative, to inspect or audit ZECU accounts, financial information, financial statements and technical information. ZECU will provide regular reports to the EMF Secretariat, as proposed in the Subsidiary Agreement. These may include, but are not limited to: monthly technical and financial reports, quarterly cost summary tables, quarterly unaudited accounts, annual technical and financial reports, annual work plans and proposed budgets, and annual audited accounts.

Environmental Agency

The grant agreement with the Environmental Agency requires that it provide personnel in accounting/financial management. The Agency will:
establish accounts for Component 2;
install an appropriate financial management system, capable of producing timely, understandable, relevant and reliable financial information that will enable management of the Agency to plan, implement, monitor and appraise the overall progress towards the achievement of CEP objectives;
prepare annual budgets for the Component 2;
produce financial statements on a quarterly and annual basis for ECZ Board, the Ministry of Finance and National Planning and IDA;
prepare withdrawal applications from IDA and any other source of funding, on the basis of SOEs;
undertake an annual audit by qualified external auditors acceptable to IDA.

The Environmental Agency will ensure that these functions are not only acceptable to the Government, the World Bank and any other Cooperating Partners, but also are carried out on a day to day basis as prescribed in the Project Implementation Manual (PIM) throughout project implementation.

Procurement

Procurement for the EMF will be delegated to ZECU for expenditures related to sub-project preparation and implementation. The EMF Secretariat will undertake procurement for its own expenditures. The Environmental Agency

will undertake procurement for Component 2.

Procurement of Consultant services. Consultant contracts will be awarded in accordance with the Guidelines for the Selection and Employment of Consultants by World bank Borrowers (January 1997, revised September 1997; Addendum effective January 1, 1999). Most consultant contracts will be awarded using the Quality and Cost based Selection (QCBS) procedures by evaluating the quality of the proposal before comparing the cost of the services to be provided. Short lists of consulting firms for contracts valued at less than USD100,000 may be comprised entirely of national firms if at least three qualified national firms are available at competitive costs.

Procurement of Goods and Works. All contracts will be awarded in accordance with Guidelines for Procurement of Goods and Services by World Bank Borrowers (January 1995; revised January 1996, August 1996, September 1997 and January 1999). Civil works would mostly comprise the rehabilitation of tailings dams, and the decontamination of polluted sites. Contracts for goods and civil works may be awarded on the basis of International Competitive Bidding (ICB) for contracts that are valued USD250,000 or above, or National Competitive Bidding (NCB) procedures for lesser sized contracts.

Monitoring and Evaluation

Component 1, Environmental management Facility

The EMF Secretariat will be held responsible for monitoring overall progress of the EMF against agreed performance indicators for the EMF specified in the Project's Design Summary Matrix (Annex 1), and the Project Implementation Manual, including the Environment and Resettlement Framework. In addition, the EMF Secretariat will be required to submit quarterly reports for IDA review summarizing the utilization of EMF funds and progress made by ZECU, including applications submitted, the preparation status of applications cleared by the EMF Steering Committee, the implementation status of sub-project proposals approved by the EMF Steering Committee, deviations if any from applications and sub-project proposals, problems and constraints and corrective measures being taken, and updated disbursement tables.

In implementing Monitoring and Evaluation, the EMF Secretariat will utilize a variety of activities to get feedback on progress and performance. These will include: i) monitoring reports by ZECU, ii) meetings with EMF stakeholders and target beneficiaries, iii) IDA supervision missions, iv) quarterly and annual financial reports, v) mid-term review of project implementation, vi) key performance indicators at dated implementation milestones, as provided in the Credit Agreement.

Component 2, Strengthening of the Environmental Regulatory Framework

The Council Secretary within the Environmental Agency will be responsible for monitoring the overall progress of Component 2 against agreed performance indicators for this component specified in the Project's Design Summary Matrix (Annex 1), and the Project Implementation Manual. The Council Secretary will be required to submit quarterly reports for IDA review summarizing the utilization of Component 2 funds, including the implementation status of the annual work program, problems and constraints and corrective measures being taken, and updated disbursement tables.

In implementing Monitoring and Evaluation of Component 2, the Council Secretary will utilize a variety of activities to get feedback on progress and performance. These will include: i) meetings of the Interagency Regulatory Committee, ii) visits of mining sites, including consultations with investors and mining pollution affected persons (MPAPs), iii) IDA

supervision missions, iv) quarterly and annual financial reports, v) mid-term review of project implementation, vi) key performance indicators at dated implementation milestones, as provided in the Credit Agreement.

7. Sustainability

From a development perspective, the proposed project will increase the long-term sustainability of environmentally sound and profitable mining operations in Zambia.

From an operational perspective, ZCCM-IH will in perpetuity be responsible for managing the environmental liabilities accrued during the years before privatization. Eventually, the scope of these liabilities will wane, but in the meantime ZCCM-IH must take measures to address them. The project will increase ZCCM-IH's longer-term capacity to address environmental issues, staring from the existing nucleus of core capacity that it has set up.

The CEP has been designed to address several potential risks to sustainability. A first risk to the long-term impact of the project is the willingness of ECZ and delegated authorizing agency to enforce existing regulations and the power conferred to enforcement agents. Rigorous enforcement would create a revenue stream that would ensure longer-term sustainability. Ultimately, this will depend on the willingness of GRZ to regulate the mining sector and the guaranteed job security for enforcement agents.

A second risk is that environmental liabilities mitigated through the EMF might reemerge following project completion, because routine minimal maintenance is not performed (for example at tailings dams), or because communities interfere with the sites (cutting down stabilizing vegetation for example). It is expected that the Environmental Management Facility established through the project will continue to attract funding after project completion. The CEP's emphasis on community involvement and education seeks to address the issue of community ownership and thus diminish the extent of vandalism, by promoting sustainable uses of rehabilitated sites. The involvement of local authorities and interest groups such as downstream users in discussions on long-term maintenance requirements will also target this issue.

A third risk is that some of the more critical sites fail because of delays in project implementation. The up-front funding of those most unstable sites should provide for faster project implementation.

Finally, the profitability of copper mining activities is another major risk to sustainable management of mining liabilities and obligations, as fewer resources might be available for environmental management if mining revenue is low.

8. Lessons learned from past operations in the country/sector

While environmental clean up projects are relatively new for the Bank, lessons have been drawn from the implementation of other projects in Zambia, most particularly projects focusing on the environment, and from the Bank's mine closure and reform activities in other countries. The Bank has also had considerable experience in mine closure and restructuring in Romania, Poland, Ukraine and Russia, and mining reform projects in Bolivia, Ghana, Peru, Argentina, Tanzania, as well as Zambia itself. Based on this experience, the following lessons have been drawn and have been incorporated into the design of this project.

The effectiveness and capacity of the implementing agency. ZCCM-IH will implement Component 1 (EMF) of the Project. ZCCM-IH is intimately

familiar with the major environmental issues to be addressed. The size of its management staff was drastically reduced following privatization, in line with the new company's role as an investment holding company. As a consequence, ZCCM-IH will need to strengthen its implementation capacity, including working with and educating communities on proper mine site use, and reviewing projects for compliance with World Bank safeguards. The EMF will not finance community projects that extend beyond its mandate to mitigate adverse social and environmental impacts of mining activities, such as income generating projects, but it can assist communities to prepare proposals for funding from other more specialized projects, such as ZamSIF.

The capacity of the regulatory agency. The experience of the World Bank shows the importance of separating the implementation of mitigation measures from regulatory functions, as is the case under the Project. It also confirms that successful management of environmental liabilities requires effective regulatory bodies. The Environmental Agency and the delegated authorizing agencies such as MSD are currently not capable of fully enforcing environmental regulations and ensuring compliance. In an effort to help GRZ address the management of the environmental implications of the mining sector, the Project will include a component to strengthen the Environmental Agency to fulfill its duties, and will collaborate closely with the Environmental Management in Mining Sector (EMMS) project funded by CIDA and with other potential donors. The EMMS project aims to strengthen the technical and managerial capacity of the Mines Safety Department of the Ministry of Mines and Minerals Development (MMMD), and to a lesser extent other key mining sector institutions in Zambia, to execute statutory mandates to regulate, monitor and enforce environmental management by mining companies in Zambia.

Complete environmental assessment and management plan. Mine closure and decommissioning activities typically involve three main concerns: (i) physical closure, (ii) environment and (iii) social issues. Physical closure is most often the easiest to define and plan. However, the environmental and social impacts of long term mining (particularly from past decades where environmental management was less rigorous or nonexistent) can be significant. The environmental and social impacts of the project were reviewed and discussed during preparation. Furthermore, the project includes the preparation of a Consolidated Environmental Management Plan that will address environmental issues in a comprehensive manner.

Selection of Priority Mitigation Measures. The Project will finance the costs of priority environmental mitigation measures that: i) are located in properties sold to investors under the condition that ZCCM-IH address certain environmental issues, ii) are outside properties but rest with ZCCM-IH, or iii) are incumbent on GRZ by default. The project will establish a system to identify the issues to be funded as a priority, with the highest priority given to those measures that address widespread health problems or environmental damage.

The approach adopted by the CEP is similar to that of the World Bank Project in Bolivia (Environment, Industry and Mining Project, 1995). This project used risk-based eligibility criteria tailored to the mining sector, with the impact on public health as its major criteria. Similarly, the USEPA Superfund uses a Hazard Ranking System (HRS) by which the threat to human health of a site can be assessed. The experience of these operations will be built into the design of the eligibility criteria for sub-projects. A first working set of criteria will be initially

applied to sub-projects, and made public. The final risk-based selection system will be formulated as part of the CEMP. The selection of sub-projects will also consider suitability in the context in Zambia, to reduce risk while maximizing the use of the limited funds available.
Social Impacts. The CEMP will test specific sites to assess the degree of risk from agricultural, fishing and other current or potential site uses. Sub-project design will include extensive consultations with the populations currently using the mine sites, as well as cost-benefit analyses to assess whether the costs of limiting site access, and therefore denying income sources to those currently using a site, outweigh the benefits of permitting controlled site use. ZCCM-IH will therefore minimize potentially negative social impacts by allowing site use as long as it does not endanger the site stability or human health and safety. Closed mine sites, if tested for safety, may provide areas for community gardens or other uses.
A general lack of community understanding of mine pollution issues other than sulfur dioxide (which is visible and has a strong odor) may be one of the factors contributing to weak monitoring in the sector. The CEMP and the sub-projects under EMF will include education and consultation of communities regarding nearby sites; it may also potentially involve organization and outreach to residents downstream of defunct mine sites to raise awareness of the importance of maintaining these sites in order to have continued access to river water.
It is important to note that the World Bank is funding a separate project, the Mine Township Services Project, to address the municipal social services aspects (water, sanitation, and solid waste management) of the ZCCM privatization.

9. Environment Aspects (including any public consultation)

Issues : The Project consists of a set of environmental and social mitigation measures in the context of the privatization process. Given the sensitivity of these issues and the likelihood of intense public scrutiny, the project was categorized as an A in regards of Environmental Assessment (EA) requirements. Thus, the project will require a full EA that must be disclosed prior to project appraisal. This activity is on the critical path as project appraisal is envisioned for January 2001.

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Note: This is information on an evolving project. Certain components may not be necessarily included in the final project.

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