



"MINING SAFETY" IN EUROPE:

PRELIMINARY REMARKS

27 March 2001

A preliminary response to the EC Communication on
"Safe operation of mining activities: a follow-up to recent mining accidents"
COM(2000) 664 final

1. Background

1.1 WWF welcomes the Communication on "mining safety" aiming at preventing mining spills and mining pollution in general. WWF has been working on this issue since the 1998 mine toxic spill from the Boliden mine "Los Frailes" in Aznalcóllar (Spain), which had disastrous environmental and socio-economic consequences for the Doñana wetland ecosystem and local communities. WWF, therefore, appreciates both the European Commission (EC) and the European Parliament's (EP) efforts to fill current gaps in EU environmental legislation, in order to ensure a high level of protection of human health and the environment - not only from pollution caused by heavy metal spills from tailings lagoons, but also from chronic pollution from tailings lagoons leakages, abandoned mining sites and quarries, and mining activities in general.

1.2 It is WWF's opinion that recent tailings dams failures in Europe¹ could have been predicted and possibly prevented, and that the poor EU regulatory framework on mining safety has contributed to their occurrence (where relevant). Thus, according to WWF's research², there is a need to a) Amend existing pieces of EU environmental legislation to prevent the negative impacts of mining activities, and b) Develop an actual piece of EU environmental legislation regulating all aspects of mining waste management, in particular the use of tailings lagoons. WWF, therefore, supports the legislative strategy put forward by the EC Communication - proposing such a combined approach - as the only way to minimise the risk of tailings dams failures and prevent day-to-day mining pollution in Europe.

2. An EU legislative strategy to improve mining safety in Europe in the context of the EC Communication

2.1 **Framework Directive on Waste**³ - WWF endorses the official EC position - as included in the current Communication as well as the Communication on "Promoting Sustainable Development in the EU non-energy extractive industry" - clarifying that this Directive **currently** applies to mining waste (e.g. waste resulting from prospecting, extraction, treatment and storage of mineral resources and the working of quarries). The clarification has been necessary in view of a confusing reference in Article 2 to the exclusion of mining waste from the scope of the directive "(...) where [it is] already covered by other [Community] legislation". However, there is no specific legislation on mining waste at the Community level, hence the Directive does in fact apply to waste from the extractive industry. Accordingly, "residues from raw material extraction and processing" (e.g. tailings) are included under the "waste categories" listed in Annex I to the Directive, and "surface impoundments" (e.g. tailings lagoons) are one of the waste "disposal operations" listed in Annex II.

¹ Boliden-Apirsa "Los Frailes" mine (Aznalcóllar, Spain), 25 April 1998; Aurul S.A "Baia Mare" mine, (Sasar, Romania), 30 January 2000; Remin mine (Baia Borsa, Romania), 10 March 2000; Imerys mine (Cornwall, UK), 5 April 2000; Boliden "Aitik" mine (Gällivare, Sweden), 9 September 2000.

² "Toxic waste storage sites in EU countries" Report, Institute for Environmental Studies, Vrije Universiteit Amsterdam, February 1999; and "Suggested Action at the European Union Level to Prevent Unregulated, Accidental Pollution From Metal Mining Activities", WWF, 19 April 1999, update 3 May 2000.

³ Council Directive 91/156/EEC, OJ no L 78, 26.3.1991.

2.1.1 The key point to make is that the Framework Directive on Waste requires in Article 4 that Member States dispose of “*waste without endangering human health and without using processes or methods which could harm the environment, and in particular without risk to water, air, soil and plants and animals, and without adversely affecting the countryside or places of special interest*”.

2.2 **Amendment of the Hazardous Waste List**⁴ - WWF welcomes the recent amendment of the "hazardous waste list", within the new single EU "waste list"⁵, to include certain types of mining waste (namely acid-generating tailings from processing of sulphide ore; other tailings containing dangerous substances; and other wastes containing dangerous substances from physical and chemical processing of metalliferous minerals) setting up stricter requirements for their management, including disposal.

2.3 **Amendment of the Seveso II Directive**⁶ - WWF supports the proposed extension of the scope of this Directive regulating major accident hazards to include mining activities (i.e. "*the activities of the extractive industries concerned with exploration for, and the exploitation of, minerals in mines and quarries and by means of boreholes*") currently specifically excluded as shown in Article 4(e). This inclusion will put in place a whole set of measures directed to prevent major tailings lagoons spills and limit their consequences, including emergency plans, information to and consultation of the public, land-use planning, inspections, and administrative co-operation. To be noted that the amended Directive needs to ensure that any emergency plans include an outline of possible short and long-term impacts and measures for the restoration of the affected environment.

2.3.1 A key point to make is that information on major accidents from mining installations is not readily available. However, once mining activities are included in the "Seveso Directive", the public will have more rights in terms of access to information as well as in terms of consultation. Thus, under this Directive, operators as well as public authorities have certain obligations to inform the public, not only on incidents/accidents but also on other operational aspects of the installations. Furthermore, this information has to be both passive (permanent availability of information) and active (pro-active, e.g. brochures etc).

2.4 **Amendment of the Landfill of Waste Directive**⁷ - WWF recognises that this Directive needs to be amended in order to solve its apparent contradictions with some current practices to store mining waste. Such an amendment should allow the storage of those types of mining waste that fall under its scope (i.e. hazardous and/or not inert) and add up to its existing provisions - some of them suitable to prevent some mining waste pollution, in particular of aquatic ecosystems.

2.4.1 Nevertheless, an amendment of the Landfill of Waste Directive will not tackle mining waste problems in Europe. Thus, on the one hand there is its limited scope and, on the other, a whole array of mining waste pollution problems that need to be addressed, which - in any case - go beyond the objectives of this Directive. WWF therefore recommends that the forthcoming Directive on Mining Waste Management is drafted in such a way that "compensates" and adds to the provisions of the Landfill of Waste Directive (see below).

2.5 **Amendment of the Directive concerning integrated pollution prevention and control (IPPC Directive)**⁸ - The IPPC Directive regulates the requirements for the operational permitting of industrial activities. It does not lay down specific Europe-wide environmental standards to be met, but sets out common principles describing what Best Available Technology (BAT) is and requires Member States to use it in order to establish emission controls. However, due to expected divergences in the possible interpretation of the meaning of BAT by the different Member States, the Information Exchange Forum (IEF) was established to draft so-called BREFS. (BAT reference documents). These are non-binding guidance documents to be interpreted by Member States, in the context of local environmental conditions, for the establishment of site-specific BAT.

⁴ Council Decision 94/904/EEC, establishing a list of hazardous waste pursuant to Article 4(1) of Council Directive 91/689/EEC on hazardous waste, OJ no L 356, 31.12.1994 and OJ no L 377, 31.12.1991 respectively.

⁵ Commission Decision of 16 January 2001 amending Decision 2000/532/EC as regards the list of wastes pursuant to Article 1(a) of Directive 75/442/EEC on waste and Article 1(4) of Directive 91/689/EEC on hazardous waste, OJ no L 47, 16.2.2001.

⁶ Council Directive 96/82/EC on the control of major-accident hazards involving dangerous substances, OJ no L 10, 14.1.1997.

⁷ Council Directive 1999/31/EC on the landfill of waste, OJ no L 182, 16.7.1999.

⁸ Council Directive 96/61/EC, OJ no L 257, 10.10.1996.

2.5.1 WWF endorses the analysis contained in the Communication regarding the unsuitability of this Directive to regulate all EU and EU-Accession sites where tailings lagoons are used (because they could either not be production sites, or not be producing crude metals, or be covered by the Landfill of Waste Directive instead). In addition, despite the fact that minerals processing - as installations for the production of non-ferrous crude metals - fall under the scope of the Directive, core extraction activities are not covered, since the IPPC Directive is only concerned with the environmental impact of certain **production** processes. It follows that the IPPC Directive will never be the solution to mining waste problems in Europe, in particular because one of the main problems that needs addressing is that of abandoned tailings lagoons, mines and quarries, i.e. not in production. These can only be dealt with by the forthcoming Directive on Mining Waste Management (see below).

2.5.2 Nevertheless, the EC should consider using the expertise on the development of BREFs held by the IEF, for any exchange of information on BAT on relevant ore processing activities that might be needed in relation to the forthcoming Directive on Mining Waste Management.

2.6 **Development of a Directive dealing specifically with the management of mining waste**, in particular the use of tailings lagoons. WWF welcomes the announcement of a proposal for a Directive on Mining Waste Management made in the EC's Communication on the 6th Environmental Action Programme and in the EC Work Plan for the year 2001.

2.6.1 WWF considers that a Directive on Mining Waste Management should include *inter alia* the following elements:

1. To ask Member States to identify and characterise active mining sites in their territories⁹, in order to have readily available and updated information allowing the assessment of their environmental¹⁰ and other risks. This information should add up to the ongoing inventory of mining sites, soon to be published by DG Environment as part of its study assessing the management of mining waste in the EU and EU-Accession countries.
2. To require immediate remediation and environmental rehabilitation measures in those active mining sites where the ongoing DG Environment inventory shows obvious environmental and/or other risks, on the basis of lack of environmental management measures, known chronic and acute pollution incidents etc. and/or vulnerable environments being threatened.

2.1 [Following the Report of the International Task Force for Assessing the Baia Mare Accident¹¹, the so-called Baia Mare Task Force (BMTF) Report] The Directive on should also:

- Act upon the inventory of mining waste store "hot spots" (risk sites) identified by the BMTF¹² and make available - as a matter of urgency - all possible assistance (beyond funding, which should nevertheless be facilitated through existing financial instruments for pre-Accession) to EU-Accession countries, so they can deal with this problem in an effective manner and prevent further Baia Mare/Baia Borsa-type spills.
3. [On the basis of a) An overview of current mining waste management practices and their possible environmental and socio-economic risks in each Member State, following the DG Environment study assessing the management of mining waste in the EU and EU-Accession countries; b) A comparison of the different waste management practices and others¹³; and c) The identification and/or definition of "best practices" to be applied in the EU]. The Directive should require that an assessment of a hierarchy of mining waste management

⁹ Considering *inter alia*: Active mining sites and associated waste stores, including location, quantification and nature of the mining waste produced, and name of the operating company; any environmental management measures directed to minimise the impacts of tailings lagoons and mining waste in general; provisions for environmental monitoring in association with tailings lagoons management; known chronic and acute pollution incidents caused by mining waste in general as well as spills and significant leakages from tailings lagoons and areas affected by such pollution; etc.

¹⁰ Taking into account, *inter alia*, the vulnerability of the receiving (wetland) environment.

¹¹ http://europa.eu.int/comm/environment/enlarg/bmtf_report.pdf

¹² Amounting to 21 in relation to mining activities in Romania, Hungary and Slovakia according to the "Regional Inventory of Potential Accidental Risks Spots in the Tisza catchment area of Romania, Hungary, Ukraine and Slovakia" prepared by the Permanent Secretariat of the ICPDR in cooperation with Zinke Environment Consulting for CEE, Vienna, August 2000.

¹³ Ensuring the use of the results from relevant projects financed by DG Research.

options - ranging from waste avoidance to different types of waste disposal - is carried out on each site for selection and the implementation of that/those with the lowest environmental risks. Furthermore, that surface waste disposal is reduced in as much as possible - for example through backfilling the waste into the mine void¹⁴.

4. To improve the safety of active tailings lagoons and prevent their impacts after operation, by making use of the above-mentioned information, via establishing minimum requirements regulating the siting, design, construction, operation/maintenance, monitoring and decommissioning of these lagoons. Minimum EU-wide standards for the siting, design and construction of tailings lagoons do not exist at the moment and are needed for the correct implementation of the Environmental Impact Assessment Directive with regard to mining activities - as a reference for assessing the environmental impact resulting from the location and method of tailings disposal from quarries, opencast mining etc. Regarding the operation of tailings lagoons, the Directive should require to use alternatives to the traditional slurry-like lagoons for metal tailings disposal, such as dry tailings disposal.

4.1 [Following the BMTF Report] The Directive on should also:

- Put forward measures to limit/eliminate the possible environmental impacts of cyanide use in mining at the EU and EU-Accession level, such as a prohibition of closed-circuit tailings lagoons where cyanide is used - unless equipped with adequate provision for emergency discharge and storage of excess water, and that cyanide and other hazardous process chemicals should be removed in the plant before the tailings are deposited in the tailings lagoons.
5. To put forward measures to minimise and prevent the environmental impact of "existing" abandoned mines and quarries. For example:
 - To ask Member States to identify and characterise them¹⁵, and be responsible for developing and implementing remediation measures (e.g. abatement of acid mine drainage);
 - To establish the right conditions so Community funding could be used for such remediation - through the Structural Funds or by setting up a specific financial instrument linked to this Directive on Mining Waste Management etc.
 6. To require that mine operators "plan for closure" in order to prevent the "creation" of further abandoned mines and quarries, including the development of a well thought-through and costed de-commissioning plan for new and existing mines with the owners funding a sinking fund to pay for it, which should be regularly updated during the life of the mine. The Directive should also put forward and require the implementation of criteria for "safe" mine closure phases beyond the decommissioning of tailings lagoons. Thus, no matter how careful the mine operators are during working, the real environmental impacts of the mine extend many times longer after closure than they ever did during working, reaching time scales of 1000s of years.

3. Next steps

3.1 WWF urges the European Commission:

1. To strengthen EU environmental legislation to improve the (environmental and human) safety of mining activities as indicated above.
2. To enforce the implementation of existing environmental Directives such as the **Water Framework Directive**¹⁶ and the **Habitats and Birds Directives**¹⁷, which aim not only at preventing further

¹⁴ **ONLY** if it can be guaranteed that this practice will not lead to increased groundwater pollution, following the "no-deterioration" of groundwater requirement of the Water Framework Directive (Article 4.1), which started to apply on 22 December 2000 coinciding with the entry into force of the Directive.

¹⁵ **Considering *inter alia*:** Abandoned mining sites and quarries including location, quantification and nature of the mining waste remaining in the area; abandoned tailings lagoons including location, quantification and nature of the "contained" waste both in the water (quality) and the sediment, and structural evaluation; etc. as well as any environmental aspects as listed in footnote 9

deterioration of the status of freshwater ecosystems in general and of certain habitats and species listed for protection at the EU level in particular respectively, but also to render them in a "good" conservation status.

3. To monitor and ensure the correct implementation of the "**Structural Funds**" **Regulation**¹⁶ and other sources of Community funding, given that some mining operations can be partially financed by them. Thus, this Regulation, for example, requests in Article 12 (compatibility) that "*Operations financed by the Funds (...) shall be in conformity with the provisions of the Treaty, with instruments adopted under it and with Community policies and actions, including (...) on environmental protection and improvement*". In addition, Article 38 (general provision for financial control) states that "*the Commission, after due verification, may suspend all or part of an interim payment if it finds that the expenditure concerned is linked to a serious irregularity which has not been corrected and that immediate action is needed*".
4. To include "mining activities involving the use of tailings lagoons" as "dangerous activities" under the forthcoming proposal for a **Directive on Environmental Liability**. Furthermore, the EU environmental liability regime has to allow for all those exercising control of the activity (operator or operators) to be made liable, and to be consistent with the Habitats Directive, in particular Articles 6 and 12¹⁷. Therefore, to cover all types of biodiversity damage regardless of whether the area where the damage occurs has a protected status or not.

3.2 WWF considers that, given that major mining companies operating in Europe are international and/or global businesses, **European mining companies should apply global standards** and operate following best environmental practices wherever they are. WWF, therefore, calls on the European Commission to try to ensure that any standards developed at EU level are transferred to mining activities elsewhere in the world, for instance that they are incorporated in any Community development assistance associated with mining.

3.3 WWF urges the European Parliament and the Council of Ministers to support the European Commission's speedy efforts to put in place a regulatory framework that can eventually provide a high level of protection of human health and the environment - not only from pollution caused by spills from tailings lagoons, but also from chronic pollution from tailings lagoons leakages, abandoned mining sites and quarries, and mining activities in general. Furthermore, to keep on working to ensure the implementation of existing legislation that can already contribute to this desired level of protection. This is particularly true of the Swedish Presidency, in view of its priorities regarding increased environmental protection in the EU and increased weight given to environmental protection in the EU-Accession process.

For more information:

EU regulatory framework

Eva Royo Gelabert, WWF European Policy Office, Tel +322 743 88 14, Fax +322 743 88 19, ERoyogela@wwfepo.org

Doñana/Aznalcóllar aspects

Guido Schmidt, WWF-Spain/ADENA, Tel +34 670 601 893, Fax +34-91 308 32 93, guido@airtel.net

EU-Accession and Baia Mare Task Force aspects

Phillip Weller, WWF-Danube/Carpathian Programme Office, Tel +43 1 488 17 257, Fax +43 1 488 17 276, Philip.Weller@wwf.at

¹⁶ Directive 200/60/EC of the European Parliament and the Council establishing a framework for Community action in the field of water policy, OJ no L 327, 22.12.2000

¹⁷ Council Directive 79/409/EEC on the conservation of wild birds, OJ no L 103, 25.4.1979, and Council Directive 92/43/EEC on the conservation of natural habitats and wild fauna and flora, OJ no L 206, 22.7.1992.

¹⁸ Council Regulation (EC) No 1260/99, OJ no L 161, 26.6.1999, laying down general provisions on the Structural Funds and all revisions.

¹⁹ Article 12 of the Habitats Directive provides protection to habitats and species (biodiversity) outside Natura 2000 sites. In addition, Article 6 of the Directive specifically asks to consider the effects of developments taking place outside a Natura 2000 site on the conservation objectives of the site.