



COMMISSION OF THE EUROPEAN COMMUNITIES

Brussels, 2.6.2003
COM(2003) 319 final

2003/0107 (COD)

Proposal for a

DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

on the management of waste from the extractive industries

(presented by the Commission)

EXPLANATORY MEMORANDUM

1. POLICY CONSIDERATIONS

Waste from the extractive industries represents a large waste stream in the EU. It involves materials that must be removed to gain access to the mineral resource, such as topsoil, overburden and waste rock, as well as tailings remaining after minerals have been largely extracted from the ore. It is estimated that such waste amounts to about 29% of total waste generated in the EU each year, with an annual volume in excess of 400 million tonnes.¹

Some of these wastes are inert and hence not likely to represent a significant pollutant threat to the environment save for smothering of river beds and possible collapse if stored in large quantities. However, other fractions, in particular those generated by the non-ferrous metal mining industry, may contain large quantities of dangerous substances, such as heavy metals. Through the extraction and subsequent mineral processing, metals and metal compounds tend to become chemically more available, which can result in the generation of acid or alkaline drainage. Moreover, the management of tailings is an intrinsically risky activity, often involving residual processing chemicals and elevated levels of metals. In many cases tailings are stored on heaps or in large ponds, where they are retained by means of dams. The collapse of dams or heaps may have serious impacts on environment and human health and safety.² Examples of this are the accidents in Aberfan (Wales, 1966),³ Stava (Italy, 1985),⁴ Aznalcóllar (Spain, 1998),⁵ Baia Mare and Baia Borsa (Romania, 2000).⁶ Other likely significant impacts relate to the physical footprints of waste disposal facilities and resulting loss of land productivity, effects on ecosystems, dust and erosion.

These impacts can have lasting environmental and socio-economic consequences and be extremely difficult and costly to address through remedial measures. Wastes from the extractive industries have therefore to be properly managed in order to ensure in particular the long-term stability of disposal facilities and to prevent or minimise any water and soil pollution arising from acid or alkaline drainage and leaching of heavy metals.

These matters, namely stability and water and soil pollution, are already regulated in most Member States. However, the variety of controls, as well as the diversity of the extractive industry, ranging from very large facilities of multi-national companies to SMEs, call for minimum requirements to be put in place via Community rules. This should allow a level-playing field to be established in the area of management of waste produced by the extractive

¹ EEA at http://themes.eea.eu.int/Environmental_issues/waste/indicators/generation/index_html.

² It should be borne in mind that throughout the world tailings dams have failed at an average rate of 1.7 per year over the past 30 years (see A D M Penman, *Risk analyses of tailings dams constructions*, paper presented at the Seminar on "Safe Tailings Dams Constructions" held on 19-21 September 2001 in Gaellivare (Sweden), http://europa.eu.int/comm/environment/waste/mining_dams_seminar.pdf).

³ The worst ever accident in the UK happened because of the collapse of a heap of inert waste from a coal mine in the town of Aberfan (Wales) in 1966. It caused the death of 144 people, mainly children.

⁴ On 19 July 1985 in Stava (Trento, Italy), a fluorite tailings dam failed and released 200,000 m³ of inert tailings. This resulted in the killing of 268 people and the destruction of 62 buildings.

⁵ This accident involved the release into the Guadiamar river of 2 million m³ of tailings and 4 million m³ of water contaminated by heavy metals in an area close to the Doñana Natural Park in South Andalusia.

⁶ In Baia Mare a tailings pond burst led to approximately 100,000 m³ of waste water containing up to 120 tonnes of cyanide and heavy metals being released into the Lopus River, then travelling downstream into the Somes and Tisa rivers into Hungary before entering the Danube. In Baia Borsa 20,000 tonnes of tailings were released into the Novat River, a tributary of the Viseu and Tisa rivers.

industry, by specifying and improving requirements on the design, operation, closure and after-care of waste management facilities. This is particularly important in view of the prospective EU enlargement, given the number of extractive industrial locations in several Candidate Countries and the need to raise standards.

On the legal side,⁷ waste from extractive industries is subject to the general provisions of the Waste Framework Directive (75/442/EEC), as long as it is not covered by other specific Community legislation. The fact that Directive 75/442/EEC explicitly allows for an exclusion of this waste stream, and that it offers the possibility for specific rules on particular categories of waste, advocates in favour of a customised legal instrument on the management of waste from the extractive industries. More importantly, facilities for the disposal of waste from the extractive industries are also covered by the Landfill Directive (1999/31/EC). The latter contains provisions which are not always adapted to this waste stream (in particular, a ban on the disposal of liquid waste into landfills, a general ban on co-disposal of non-hazardous with hazardous waste, and a requirement to install a barrier and a liner under a landfill) and which, if applied in full, are likely to bring several extractive activities to a halt. In order to address this unacceptable situation, it is therefore necessary to create an appropriate legal framework that would exempt waste from the extractive industries from the provisions of the Landfill Directive and establish tailor-made rules.

This Proposal has its origins in a Communication issued by the Commission in October 2000 entitled "Safe operation of mining activities: a follow-up to recent mining accidents".⁸ The Communication was prompted by the above-mentioned recent mining accidents in Spain and Romania and identified the need for a review of Community environmental policy in relation to the management of mining and quarrying waste.

The Communication sets out three priority actions intended to improve the safety of mining waste management. These are: a) an amendment to the Seveso II Directive⁹ to bring the processing of mineral ores and mine waste management under the scope of the Directive; b) an initiative to promote a new Directive on the management of waste from the extractive industries (this Proposal); and c) the production of a best available techniques (BAT) Document covering the management of waste rock and tailings in mining activities. The approaches of the Communication were endorsed by the international Task Force established to assess the Baia Mare accident.¹⁰ The European Parliament's Resolution in 2001¹¹ also welcomed the Communication and strongly supported the need for a Directive on waste from the extractive industries.

This Proposal for a Directive on the management of waste from extractive industries aims to establish a specific legal framework in respect of this particular waste stream, with a view to complementing the other two priority actions. It contains certain provisions designed to honour the pledge made by the Commission at the time it adopted the Proposal¹² for an

⁷ These matters are set out in detail in section 5 of the Explanatory Memorandum.

⁸ COM(2000)664 final.

⁹ Council Directive 96/82/EC of 9 December 1996 on the control of major-accident hazards involving dangerous substances (OJ L 10, 14.1.1997, p. 13).

¹⁰ Report of the International Task Force for Assessing the Baia Mare Accident, December 2000.

¹¹ European Parliament resolution on the Commission communication on safe operation of mining activities: a follow-up to recent mining accidents, A5-0214/2001 of 19 June 2001.

¹² COM(2001)624 final.

amendment of the Seveso II Directive in December 2001 to include certain mining activities within the scope of the Directive.¹³

A document on best available techniques (BAT) for the management of waste rock and tailings is currently being prepared by the European IPPC Bureau in Seville, Spain, with the active participation of representatives of the Member States and the industry. It is expected to be completed by the end of 2003.¹⁴

2. OBJECTIVES AND MAIN ELEMENTS OF THE PROPOSAL

This Proposal seeks to set minimum requirements in order to improve the way in which waste from the extractive industries is managed by specifically addressing environmental and human health risks that may arise from the treatment and disposal phases of such waste. By encouraging waste recovery in particular, the Proposal aims to contribute to the conservation of resources in serving to reduce pressure on the exploitation of virgin natural materials. The promotion of recovery could also reduce overall environmental impact by lessening the need to open new mines.

The Proposal covers waste coming from all sectors of the extractive industry. However, its provisions are expected mainly to affect those sectors most likely to be the cause of significant environmental and health hazards or major accidents (such as metal mining, especially if it involves the use of dangerous substances). With a view to avoiding duplication and invoking proportional administrative requirements, it excludes from its scope waste which represents a low environmental risk, such as unpolluted soil and waste from the exploration of mineral resources, while inert waste is covered with a limited set of requirements. It also excludes waste which, although generated in the course of mineral extraction or treatment operations, is inappropriate to be managed under the provisions of this Proposal, such as food waste or waste from offshore operations.

The Proposal contains the objectives and the basic requirements for waste management in the main body of the text. Three annexes complete the legal provisions with technical requirements that can be adapted to scientific progress via comitology, taking into account the results of the BAT Document on the management of tailings and waste rock.

Specifically, the Proposal focuses on the following aspects:

- operational issues connected with waste management,
- prevention of soil and water pollution, and
- ensuring stability of waste management facilities (in particular tailings ponds).

¹³ The Explanatory Memorandum of the Seveso II amending Proposal states: “The Commission is aware of the fact that its Proposal might not cover tailings disposal facilities used in connection with mechanical processing operations, and that do not contain any other hazardous substances than those naturally present in the ground or subsoil, such as heavy metals. It proposes therefore to cover the safety aspects of such tailings disposal facilities through the initiative on the management of mining waste”.

¹⁴ For more information on the BAT Document, see <http://eippcb.jrc.es/pages/FActivities.htm>.

The Proposal contains:

- a range of conditions to be attached to operating permits: this is to allow for sufficient environmental and safety measures when authorising waste management facilities. The requirements laid down should strike an appropriate balance between, on the one hand, the amount of administrative burden falling on operators or competent authorities when applying for or delivering a comprehensive waste management permit and, on the other hand, the benefits arising in terms of environmental protection and accident prevention;
- a range of general obligations covering waste management: the purpose is to ensure that, prior to commencing extraction operations, an operator duly considers and accounts for the amount of waste that is going to be generated, its characteristics and best practice tools to deliver appropriate safe management of waste;
- the obligation to characterise waste before disposing of it or treating it: this is in order to ensure that waste management methods are tailored to the particular characteristics of the waste, in particular with a view to ensuring long-term stability of any heaps or ponds involving the permanent storage of large amounts of waste;
- measures to ensure the safety of waste management facilities: these provisions are similar to the relevant measures contained in the Seveso II Directive: major-accident prevention policy, safety management system, adequate information provision to the public. Such measures would apply to waste management facilities that present a high risk and are not going to be included in the scope of the revised Seveso II Directive;
- a requirement to draw up closure plans for waste management facilities: this is a key provision to ensure that closure operations form an integral part of the overall exploitation plan of the operator;
- an obligation to provide for an appropriate level of financial security: the aim of this provision is to reinforce the "polluter-pays" principle and ensure that sufficient funds are available to leave waste sites in a satisfactory state after closure, for example, in the event of the company going into administration, becoming insolvent or even engaging in asset-stripping practices (the so-called "walk away" practices). This is in line with a similar requirement in Article 8(a)(iv) of the Landfill Directive.

3. ENVIRONMENTAL PROBLEMS ADDRESSED IN THE PROPOSAL

3.1. Overview of waste generated by extractive operations

Extractive operations often generate large volumes of waste due to the normally high waste-to-product ratios. These wastes, which may be major sources of pollution, include topsoil, overburden, waste rock and tailings.

Topsoil is the upper layer of the ground and is usually stored on site and used for revegetation once the extraction has finished. Overburden and waste rock are the rock that extractive operations move during the process of accessing an ore or mineral body. They also include rock removed while sinking shafts, and accessing or exploiting the ore body and rock bedded with the ore. The size of the waste rock ranges from small particles to boulders. Waste rock can be used as backfill in previously excavated areas or transported off site and used in

construction project work. However, in practice most of the waste rock currently generated is deposited in piles near the mine site.

Tailings are the waste solids that remain after the mineral processing of ore carried out by a number of techniques. After the ore has been extracted from the mine, the first step in mineral processing is generally crushing and grinding. The fine ores are then concentrated to free the valuable mineral from the less valuable rock. Mineral processing includes physical and/or chemical separation techniques such as gravity concentration, magnetic separation, electrostatic separation, flotation, solvent extraction, electrowinning, leaching, precipitation, and amalgamation. Conventional mineral processing generates tailings, which either leave the mineral processing plant in the form of a slurry consisting of 15-60% solids or as coarse tailings (more or less dry). Coarse and fine tailings can be used to backfill mines. Most mine tailings are deposited in on-site impoundments, such as tailing ponds or heaps.

3.2. Environmental impacts associated with waste from extractive industries

The range of environmental impacts associated with waste management facilities includes issues related to land take, surface and groundwater quality, physical stability, dust and erosion, as well as terrestrial and aquatic habitat/ecosystem quality. The major issues amongst these, namely water pollution and stability, are described below.

3.2.1. Water pollution¹⁵

Water pollution may appear at different stages in the management of waste from the extractive industries. For example, failure to control discharges may cause spills and damage the surrounding environment. Moreover, rain and water resulting from the extraction process may create leachates when seeping through tailings (essentially in respect of tailings from ferrous and non-ferrous ores). The creation of leachates gives rise to sulphide oxidation and potential acid generation, production of soluble salts and heavy metal migration to the surrounding environment, as well as leaching of residual process chemicals in the tailings such as cyanides, acids, alkalis.

These can also result from seepage through and below impoundment walls, percolation to the subsoil and groundwater or overflow of the dam walls or spillways.

The most serious and pervasive environmental problem related to mining waste is acid drainage (AD). Acid generation occurs when sulphide-rich materials in waste rock and tailings are exposed to, and react with, oxygen and water to form sulphuric acids. This can also be a natural process, but, by exposing these materials and breaking them up, mining can greatly accelerate the rate at which these reactions take place.

AD is characterised by depressed pH values and elevated concentrations of dissolved heavy metals. The sulphuric acid, which is generated easily, dissolves metals such as iron, copper, aluminium, and lead. One of the most serious aspects of acid drainage is its persistence in the environment. An acid-generating mining waste facility has the potential for long-term, severe impacts on surface and groundwater and aquatic life. Once the process of acid generation has started, it is extremely difficult to stop. The combination of acidity and dissolved contaminants is known to kill most forms of aquatic life, rendering streams nearly sterile and making water unfit for human consumption.

¹⁵ This section is largely based on excerpts from the report of the “Mining, Minerals and Sustainable Development” project, supported by the World Business Council on Sustainable Development.

Furthermore, particular care needs to be taken for the fine-grained nature of many tailings deposits (and of fine-grained sediments released by abrasion and weathering of shaley waste rock). In both of these cases and in addition to the risk to human life posed by mud flows caused by accidents, this inert waste can also destroy aquatic life by simple smothering, even though it might be chemically non-reactive.

3.2.2. *Stability*¹⁶

The shifting of large volumes of rock, cyanide, acid and other hazardous reagents may well encounter accidents. At global level, the greatest single concern is the failure of tailings storage facilities. Since 1975, tailings storage facility failures have accounted for around three-quarters of all major mining-related environmental incidents worldwide. Major accidents seem to occur on average once a year and they can have devastating consequences for the environment, human health and property.

The physical properties of fine-grained mine waste particles are frequently such that (when saturated with water and subjected to stress) they tend to behave thixotropically, in some cases giving rise to devastating mud flows, such as those already mentioned at Aberfan and Stava which claimed 412 human lives between them.

Considering that tailings storage facilities are built over long periods, the first priority should be to ensure that all facility designs are based upon the highest possible safety standards. However, they require not just good design but also close, consistent and routine monitoring and supervision over a long period. Having adequately qualified persons in charge with clear authority is an absolute requirement from a safety perspective. Periodic review and audit of safety conditions is necessary. Personnel with the correct training are needed to ensure that each extraction company carries out any necessary adjustments to design requirements as conditions change. Ongoing stewardship by skilled staff on behalf of competent authorities is also necessary to monitor conditions or intervene without delay if problems arise.

4. CURRENT MANAGEMENT OF WASTE FROM THE EXTRACTIVE INDUSTRIES¹⁷

Some examples of practice applied in Member States and Candidate Countries are given below:

Overburden and waste-rock management

- In certain lignite mines¹⁸ the ratio of overburden to lignite is around 5:1. That means that in the case of the largest lignite site about 200 million tonnes of overburden is removed every year in order to extract some 40 million tonnes of lignite. The overburden is directly transported via conveyor belts to the mined-out part of the pit and backfilled.

¹⁶ *Ibid.*

¹⁷ Summary of technical information and examples for this section are mainly taken from the first draft of the BAT Document on “Management of tailings and waste rock in mining activities” drawn up by the European IPPC Bureau located at the IPTS in Seville, September 2002. This section only gives a broad and simplified overview of the situation.

¹⁸ This example is taken from www.rheinbraun.de.

- In open cast metal mines the waste rock is piled up in large heaps beside the mining pit. In some cases the acid drainage generating waste is piled separately. In a particular metal mine the waste rock heaps cover an area of 400 ha with a rate of 25 million tonnes of waste rock being generated each year

Tailings management

- Many coal mines, as well as certain iron mines generate two types of tailings: a coarse fraction which is piled up in heaps, and a fraction of fine tailings. In the latter case, tailings are either directly discharged into ponds or are to a large extent filtered and only the very fine material is stored in ponds while the filtered material is dumped onto the heaps.
- Most non-ferrous metal mines generate wet tailings in a slurry form which are stored in ponds. Sometimes these ponds are lined with synthetic material to avoid seepage into the ground. If the tailings have acid drainage generation potential, they may be discharged subaqueously to avoid oxidation. Often the coarse fraction is used as backfill in underground excavations. Gold mines use cyanide to recover the fine gold through a leaching process carried out in tanks. Before these tailings are discharged into the pond the cyanide is mostly destroyed. At a copper mine the tailings pond currently contains 330 million m³ of tailings covering 1 400 ha, while in another 18 million tonnes of tailings are generated each year.
- In the extraction of so-called industrial minerals many variations of tailings management facilities are used, such as large ponds comparable to the ones at metal mines, small ponds (swimming pool size), large heaps (a potash heap can be up to 240m high and contain 130 million tonnes of tailings), backfill, dried tailings backfilled together with waste rock in mined-out parts of pits and quarries.

The amount of waste generated varies quite significantly between extraction operations. Where only a pure vein is mined almost no waste may be produced. In the case of coal about 75% of the extracted material is coal and the other 25% are tailings. This means that in Europe (EU-15 and Candidate Countries), where yearly 220 million tonnes of marketable coal are produced, a total of about 70 million tonnes of tailings are generated each year. Gold ore contains only a few grams of gold (Au) per tonne of mined material, e.g. a gold content of 5 g/t means that in order to extract a tonne of gold about 200 000 t of ore have to be mined with it and will end up as tailings in the pond.

Upon closure of an operation the waste material is usually covered with topsoil and revegetated. If the waste has the potential to generate acid drainage then it is either covered with a more or less impermeable layer or permanently covered with water.

5. LEGAL SITUATION AT EU LEVEL

5.1. Council Directive 75/442/EEC of 15 July 1975 on waste (Waste Framework Directive)¹⁹

The Waste Framework Directive lays down general provisions and principles for the handling of waste, as defined in Article 1(a) of the Directive. Article 2(1)(b)(ii) of the Directive establishes that waste resulting from prospecting, extraction, treatment and storage of mineral resources and the working of quarries will be excluded from the scope of Directive 75/442/EEC where they are already covered by other legislation.²⁰ As already clarified by the Commission in its Communication on “Safe operation of mining activities: a follow-up to recent mining accidents”, at present there is no specific Community legislation on this type of waste and, therefore, Directive 75/442/EEC applies to waste from the extractive industries²¹.

The qualified nature of the exemption in Article 2(1)(b)(ii) of the Waste Framework Directive, as introduced by Council Directive 91/156/EEC which amended the original 1975 version of the Waste Framework Directive, suggests that the Community legislature had the intention of regulating the waste from the extractive industries with a specific instrument to be developed at a later stage. Bearing in mind that framework legislation on waste management at Community level only establishes the basic requirements to ensure the protection of the environment, it has been recognised, in particular since the adoption of the 5th Environmental Action Programme in 1992 and the Community Waste Strategy²² that was revised in 1996, that customised Community action had to be taken for certain waste streams which posed particular risks or had a higher environmental impact due to either their volume or hazardousness. The waste stream approach is in line with Article 2(2) of the Waste Framework Directive, which explicitly refers to the possibility of laying down specific rules through Directives concerning the management of particular categories of waste, and has the advantage of providing tailor-made measures to reduce the environmental impacts of certain sectors and enhance the recycling and recovery of particular waste streams.

This Proposal establishes customised minimum requirements for an industrial activity, which, in the light of the significant volumes of waste involved and their high potential for environmental and health hazards, cannot be properly addressed through the general Waste Framework Directive alone. Once this Proposal is adopted it will be complementary to

¹⁹ OJ L 194, 25.7.1975, p. 39. Directive as amended by Council Directive 91/156/EEC of 18 March 1991 (OJ L 78, 26.3.1991, p. 31).

²⁰ Currently, there is a request for a preliminary ruling pending before the ECJ (C-114/01 Avesta Polarit) as to whether mining activities should be considered to be outside the scope of Directive 75/442/EEC as amended. The Commission, as well as the Finnish authorities, have submitted that the reference to “other legislation” in Article 2(1)(b)(ii) of Directive 75/442/EEC as amended means “other *Community* legislation”, which would confirm that the Directive applies to the mining sector, given no relevant Community legislation on waste from the extractive industries exists at the moment. In contrast, Germany and the UK argue that the reference to “legislation” means both national and EU legislation. The effect of their interpretation would mean that the mining sector is excluded from the scope of Directive 75/442/EEC (given that a considerable amount of national legislation already exists). The latter argument would go against the spirit and purpose of the Directive (as revised in 1991), which includes the achievement of a common Community definition of waste and a high level of environmental protection throughout the EU. The opinion of the Advocate-General, delivered on 10 April 2003, confirms the interpretation of the Commission.

²¹ In the light of the ECJ judgement in case C-9/00 (Palin Granit Oy), material such as topsoil, waste rock, overburden or tailings from extraction activities are waste when they fulfil the definition in Article 1(a) of Directive 75/442/EEC.

²² COM(1996)399 final.

Directive 75/442/EEC. The complementarity will be based both on Article 2(2) of Directive 75/442/EEC and on a cross-reference made to that Directive, specifying that, unless otherwise stated, the new Directive will supplement the provisions of the Waste Framework Directive.

5.2. Council Directive 1999/31/EC of 26 April 1999 on the landfill of waste (Landfill Directive)²³

Waste from the extractive industries is generally covered by the provisions of the Landfill Directive, the principal exception being “the deposit of unpolluted soil or of non-hazardous inert waste resulting from prospecting and extraction, treatment, and storage of mineral resources and the working of quarries” (Article 3(2), fourth indent).²⁴ In respect of waste generated from the extractive industries, the Landfill Directive therefore covers both hazardous waste and non-hazardous waste that is not inert. Given that certain fractions of waste from the extractive industry are hazardous and are in practice often mixed together with non-hazardous and inert waste elements, the Landfill Directive also applies to the latter.

The Landfill Directive is designed to cater for general and common aspects of landfill management that could arise in connection with the deposition of municipal, commercial or industrial waste in a typical landfill, with a view to reducing their negative environmental effects. Some of its provisions are thus not tailored to accommodating best management practice or dealing with management challenges specific to the extractive sector. In particular, the Landfill Directive contains the following provisions that are problematic in this regard for the management of waste from the extractive industries:

- *A ban on the disposal of liquid waste into landfill.* This renders the operation of tailings ponds illegal. In fact, tailings ponds are an essential feature of certain mining operations (such as in the metal mining sector and certain coal extraction industries).²⁵ The prohibition of the disposal of liquid waste under the Landfill Directive would stop this disposal practice.
- *A general ban on the co-disposal of non-hazardous with hazardous waste (with very limited exceptions that could also apply to mining waste) or with inert waste.* In mining operations, the waste that is generated (i.e. overburden, waste rock, tailings) may well consist of hazardous, non-hazardous and inert materials, all mixed together. In practice, this mixed waste is usually disposed of into the same engineered infill structure, as these wastes originate from the same extraction site. It would therefore make neither economic nor environmental sense to take them to different disposal sites.

²³ OJ L 182, 16.7.1999, p. 1.

²⁴ Member States may also declare that they wish to take advantage of the option in the Landfill Directive to reduce the range of obligations that apply under that Directive in relation to the permanent underground storage of waste in deep geological cavity such as a salt or potassium mine (see Articles 2(f) and 3(5) of the Directive). However, this option is likely to be of practical benefit only to mines that have deep underground and impermeable corridors/shafts, and would not be of use to open cast type operations.

²⁵ Tailings ponds are large earth-fill dams containing the residue (tailings) of the milling process to extract metals from mined ores. To obtain the valuable materials, the rock is ground into fine particles and mixed with water and chemicals to help them float out. The resulting fine slurry has the consistency of sand, clay and silt. It may contain sulphides which, when mixed with water in air, form acid.

- *A requirement to install a barrier and a liner to be put under a landfill site in order to prevent groundwater pollution. In terms of the extraction of mineral resources, this particular requirement is not necessary and not even advisable for certain types of waste heaps (for example, where the presence of a liner might well cause a slippage of the heap with subsequent risk of collapse of the installation). It is therefore questionable whether the insertion of a barrier and liner in facilities containing waste from the extraction industries would produce a net environmental benefit.*

Therefore, it is evident that some of the provisions of the Landfill Directive are not the most suitable way of ensuring the safe management of waste generated from mineral extraction operations. Instead, appropriately tailored controls need to be introduced in respect of the management of such waste, also bearing in mind that the Landfill Directive does not contain adequate provisions to prevent accidents, in particular relating to the stability of dams in tailings ponds.

5.3. Council Directive 96/61/EC of 24 September 1996 concerning integrated pollution prevention and control (IPPC Directive)²⁶

All installations covered by Annex I to the IPPC Directive are required to obtain an operating permit from the competent authorities in the Member States. Permits must contain emission limit values or equivalent parameters. These must be based on the use of best available techniques (or “BAT”). Under this Directive, permits must include provisions that deal with aspects other than normal operating conditions, such as relating to start-up, leakages or other malfunctions, momentary stoppages and definitive cessation of operations, where there is a risk that the environment may be affected. The IPPC Directive addresses the *overall* impact of the production process on environmental media. For example, it covers air, water and soil pollution, the generation and handling of process residues, and the use of energy.

Extraction activities as such are not specifically addressed by the IPPC Directive. However, certain metallurgical activities, mineral processing activities, chemicals production activities and landfill activities (involving waste other than inert waste) fall within the scope of the Directive. Thus, if extraction is carried out as a “directly associated activity” to any of the activities listed in Annex I to the IPPC Directive, it must be covered by an IPPC permit.

5.4. Council Directive 96/82/EC of 9 December 1996 on the control of major-accident hazards involving dangerous substances (Seveso II Directive)²⁷

The Seveso II Directive aims to contribute to the prevention of major accidents which involve dangerous substances. In addition, it seeks to limit the adverse consequences of such accidents on human health and the environment, with a view to ensuring high levels of protection throughout the Community in a consistent and effective manner. It provides in particular for Safety Management Systems to be put into effect, including a detailed risk assessment using possible accident scenarios. Operations typically addressed by this Directive are chemical plants and storage facilities in which dangerous substances are present in sizeable quantities.

²⁶ OJ L 257, 10.10.1996, p. 26.

²⁷ OJ L 10, 14.1.1997, p. 13.

Article 4(e) of the Seveso II Directive excludes from its scope the main activities of the extractive industries, namely the prospecting for and exploitation of minerals in mines and quarries or by means of boreholes. Moreover, Article 4(f) excludes “waste land-fill sites”. The Proposal to amend the Seveso II Directive²⁸ suggests recasting Articles 4(e) and (f) of the Seveso II Directive in such a way as to ensure that the chemical and thermal processing and related storage involving dangerous substances as well as tailings disposal facilities used in connection with these operations fall within the scope of the Directive and are no longer excluded.

5.5. Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy (Water Framework Directive)²⁹

The Water Framework Directive establishes a general framework for the protection of all waters (rivers, lakes, coastal waters and groundwaters). It aims to prevent pollution at source and sets out control mechanisms to ensure sustainable management of all pollution sources. A key requirement of the Directive is the setting up of river basin management plans which specify how the objectives set for the river basin (ecological status, quantitative status, chemical status and protected area objectives) are to be achieved within the timescale set.

Article 5 of the Directive requires the characterisation of pressures and impacts in a river basin by 2004 and Article 8 provides for the establishment of a monitoring network by 2006. Although not explicitly mentioned, point sources of water pollution, such as any acid drainage generated by tailings ponds, mine waste heaps or mine voids, will have to be included in the characterisation of pressures and impacts in a river basin. The combination of the above-mentioned requirements established by the Water Framework Directive has also the potential to ensure that pollution originating from abandoned waste management facilities of the extractive industries is properly addressed.

5.6. Council Directive 85/337/EEC³⁰ on the assessment of the effects of certain public and private projects on the environment, as amended by Council Directive 97/11/EC of 3 March 1997³¹ (the EIA Directive)

The Environmental Impact Assessment Directive as amended provides that projects which are likely to have significant effects on the environment are made subject to an environmental impact assessment (EIA) prior to development consent being given. This EIA must cover, *inter alia*, effects from waste and include a description of measures to prevent, reduce or offset any significant adverse effects. Information gathered under the EIA process has to be taken into consideration by the competent authority when granting development consent.

The extractive industry is included in the Annexes of the Directive, which list those activities which are likely to have significant environmental impacts and are to be subject to an EIA. In particular, quarries, open-cast and underground mining and drillings are included in the scope of the Directive.

²⁸ COM(2001)624 final of 10.12.2001. This proposal is currently proceeding through the legislative process in the Council and the European Parliament. An amended proposal has been adopted by the Commission and political agreement has now been reached in the Council on a Common Position on it.

²⁹ OJ L 327, 22.12.2000, p. 1.

³⁰ OJ L 175, 5.7.1985, p. 40.

³¹ OJ L 73, 14.3.1997, p. 5.

6. LEGAL SITUATION IN THE MEMBER STATES AND CANDIDATE COUNTRIES

The extractive industries are one of the oldest sectors of industry in the EU. In recent decades the bulk of the extractive industries have moved away from smaller underground operations to larger mining in open-cast pits. This type of operation has resulted in larger amounts of waste being generated, because the often unwanted topsoil and overburden have to be removed in order to gain access to the mineral ore. In many cases the amount of overburden that has to be transported is many times more than the tonnes of ore that are extracted. This has also led to the fact that mining has become a more capital-intensive business, where it takes many years before investment sees a financial return through the marketing of extraction products, which are typically the concentrates.

6.1. Legal situation in the Member States

Due to the large body of regulations that apply to the extractive industries, an exhaustive presentation of the legislation relative to mining and quarrying in the Member States is not possible in the context of this Explanatory Memorandum.³²

As a general rule, Member States have regulated the activities of the extractive industries from the viewpoint of security of supply (metals, strategic minerals) or energy policy (lignite, coal, oil) with laws in certain cases dating back centuries. The environmental aspects have been dealt with more recently, including within the context of EU legislation.

Legislation governing the extractive industries has grown over the years, often following a major event or disaster which has led to calls for specific legislation to control or eliminate certain operations within the industry. Until recently, legislation was mainly concerned with the working environment of pits or quarries, and relatively little attention has been directed to the environmental consequences of mining.

The scope and application of environmental legislation vary in the different Member States and waste generated from the extractive industries is sometimes subject to markedly different rules. In particular, the issue of closure and rehabilitation of a waste management facility and its monitoring over time are addressed in a way that does not always ensure a level playing field across the internal market and the relevant costs may fall on the taxpayer if no financial guarantee is requested.

6.2. Legal situation in Candidate Countries for EU Accession³³

In many Candidate Countries mining waste is included to varying degrees in the scope of waste legislation. Whilst national provisions on hazardous waste generally apply to hazardous mining wastes, none of the candidate countries has adopted any specific measures for the handling of hazardous mining wastes. In some of these countries the Landfill Directive (1999/31/EC) has not yet been transposed.

³² For more detailed information, see Annex 7 of the report “Management of mining, quarrying and ore-processing waste in the European Union”, BRGM, December 2001, prepared on behalf of DG Environment and available at <http://europa.eu.int/comm/environment/waste/0204finalreportbrgm.pdf>.

³³ This section is based on the draft report of the PECOMines project (“Inventory, regulation and environmental impact of toxic mining wastes in pre-Accession Countries”) drawn up by the PECOMines team in the Soil and Waste Unit at the JRC in Ispra: Tamás Hámor, *Legislation of mining waste management in Central and Eastern European Candidate Countries*, Ispra, March 2002 (unpublished).

Countries with long-standing underground mining traditions and significant production figures have detailed regulations on mining safety. However, tailings ponds safety does not seem to be considered a priority policy issue. Legislation does exist, though, in a few Candidate Countries, whilst in others specific regulations on tailings are being drafted. Closure is not regulated in as much detail as is the case in respect of the opening of mines. While in most Candidate Countries specific provisions exist concerning site remediation requirements during the operational lifetime of a mine, this is not the case for the post-operational (after-care) phase. The indefinite or definitive cessation of extraction operations are critical issues, as many abandoned mines are left without closure and remediation controls and safeguards in place, often with no operator or successor (orphan mines). This state of affairs presents a high risk to the environment and health, but also to the taxpayer who may have to bear the relevant costs.

In most of the Candidate Countries, mining royalties are paid to local and central government. In principle, environmental funds can be used to finance remediation operations in respect of extraction sites. In one country, mining waste generation is subject to payment of fees, except for the overburden from lignite (brown coal) mining. The fee is variegated according to the hazardousness and/or difficulty in handling and treating the waste (e.g. sand from processing of natural aggregates is cheaper than waste from metal ore processing), its quantity and the period of storage.

7. LEGAL BASIS

The Proposal is based on Article 175(1) of the EC Treaty, which is the specific legal basis for the Community's policy in the field of the environment. Accordingly, the relevant legislative procedure to be followed is co-decision, as set out in Article 251 of the EC Treaty, after consulting the European Economic and Social Committee and the Committee of the Regions.

8. SUBSIDIARITY AND PROPORTIONALITY

8.1. Subsidiarity

There is already an extensive body of national legislation that traditionally covers the economics and strategic aspects of the extractive industries. Over the last thirty to forty years, environmental aspects have also been taken into account in laying down requirements for preventing accidents and serious environmental consequences from the handling of mineral resources. This was often a result of growing public concern over the effects of mismanagement of waste from the extractive industries, especially after the occurrence of a number of serious accidents.

The Commission considers that a legislative framework covering the management of waste from the extractive industries is the appropriate tool, setting minimum requirements to secure much needed improvements in terms of the environmental performance of this particular industrial sector. This sector is a predominant source of waste generation with attendant environmental protection challenges and, thus far, has only been subject to a relatively narrow range of EU legislation with respect to health and safety at work and security of energy supply issues.

The corporate organisational structure of the extractive industrial sector varies between the Member States, ranging from large multinational companies to small and medium-sized enterprises (SMEs). In addition, there are considerable disparities between Member States at national, regional or local levels with respect to the type, degree and efficacy of safety controls applicable to waste management facilities servicing the extraction industries.

A common set of rules at EU level would help establishing a level playing field in terms of minimum administrative control and supervision in this area. This is important in the context of extending the internal market dimension to mineral resource extraction within the EU, namely ensuring that the internal market is not arbitrarily compartmentalised according to national boundaries.

Furthermore, negative environmental consequences flowing from mismanagement of extractive industry waste may be transboundary in nature, as clearly highlighted by the recent accidents in Spain and Romania. In those cases, the environmental pollution to water and soil directly affected more than one regions or countries and this highlights the need for putting in place systems that will allow appropriate transboundary cooperation in case of emergency.

Most sectors of the extractive industries operate at a multinational level, competing in global markets. This Directive could provide useful guidance to third countries wishing to develop analogous standards for the extractive industries operating on their territory.

8.2. Proportionality

The present Proposal takes the form of a Directive in order to leave Member States ample room for manoeuvre and enable them to adopt the most appropriate measures to reach the objectives laid down. Certain elements of a technical and more prescriptive nature (such as content and scope of the waste management plan, threshold limits for cyanide and cyanide compounds in tailings ponds and measures for reducing water pollution) have been introduced in order to ensure both a high level of environmental protection and a harmonised approach to waste management controls across the EU, as mandated by the EC Treaty.³⁴

The Proposal tackles only those aspects that need to be regulated at EU level in order to ensure that the objectives of the EC Treaty are met. Most of the measures to be taken are subject to further specific deliberation by the relevant national competent authority, account being taken of the prevailing local conditions. Specific exemptions are introduced so that the administrative requirements laid down are proportionate to the environmental hazards involved.

Furthermore, the wording of the Proposal is sufficiently flexible to allow existing good practices and procedures applied at Member State level to continue without the need to introduce additional administrative burdens.

³⁴ See in particular Articles 2, 6 and 174-176 TEC.

9. CONSISTENCY WITH OTHER COMMUNITY POLICIES

The extractive industries are subject to certain Community rules in the field of **health and safety of workers** by virtue of Council Directive 92/91/EEC of 3 November 1992 concerning the minimum requirements for improving the safety and health protection of workers in the mineral-extracting industries through drilling (eleventh individual Directive within the meaning of Article 16(1) of Directive 89/391/EEC)³⁵ and Council Directive 92/104/EEC of 3 December 1992 on the minimum requirements for improving the safety and health protection of workers in surface and underground mineral-extracting industries (twelfth individual Directive within the meaning of Article 16(1) of Directive 89/391/EEC).³⁶ These Directives lay down minimum requirements for the health and safety of workers engaged in the surface and underground mineral-extractive industries. Certain measures that operators have to take for the protection of workers will also be relevant from an environmental protection standpoint. This Proposal is therefore consistent with earlier health and safety legislation, and even adds to it since an enhanced level of environmental protection would also entail further improvement in workers' protection.

The security of **energy supply** within the EU will not be unduly affected by this Proposal, because the Proposal limits itself to those measures that are strictly necessary in order to fulfil the objectives of EU environmental policy. The vast majority of the measures contained in the Proposal are already now best practice and often a statutory requirement at national level.

This Proposal is in line with **industrial policy**, including policy applying to SMEs. Accordingly, it contains only those measures that are necessary to reach the set objectives. In particular, the exclusion of inert non-hazardous waste from most of the provisions means that this Proposal will not affect the quarrying sector of the extractive industries to any significant extent. This sector is mainly composed of SMEs across the EU.

In terms of competitiveness and **competition**, the present Proposal sets a level playing field across the EU, thus helping to avoid distortions in the production of raw materials needed for manufacturing purposes. Consequently, it is consistent with Community policies on competition and the internal market.

The minimum requirements laid down in the Directive could also be of use in assessing the environmental compatibility of extraction projects in **third countries**. For instance, this instrument could become a useful tool to check that projects receiving Community funding in the context of development aid include the necessary measures to prevent or reduce as far as possible negative effects on the environment of third countries³⁷. It could also constitute a useful benchmark for European companies with respect to their extraction activities in third countries, especially in developing countries, by promoting the implementation of best practices to operations carried out outside the EU territory.

³⁵ OJ L 348, 28.11.1992, p. 9.

³⁶ OJ L 404, 31.12.1992, p. 10.

³⁷ Commission Communication (COM (2000)424 final) providing a compendium of policy guidelines in specific areas or sectors of co-operation establishes, in its section 2.4 on "Mineral resources development", that the sustainable development of the mineral sector relies, *inter alia*, on technical/financial assistance for "development of environmental regulatory frameworks and their enforcement".

10. CONTENT OF THE PROPOSAL

Article 1 sets out the objective of the Proposal.

Article 2 defines the scope of the Proposal.

The Proposal covers waste, i.e. topsoil, overburden, waste rock and tailings, generated within the context of land-based extraction and/or treatment of mineral resources, with the exception of wastes that are not specific to the extractive industries. These other wastes, e.g. household waste, waste oils, spent batteries, end-of-life vehicles, will continue to be covered by the relevant provisions of the Waste Framework Directive (75/442/EEC), the Landfill Directive (1999/31/EC) or other specific EU legislation, depending on the objective and scope of the particular waste management operation.

The scope is phrased in such a way as to coincide with the exemption under Article 2(b)(ii) of the Waste Framework Directive in order to ensure legal clarity.

Waste from the offshore extractive industries is excluded from the proposed Directive's material scope because the nature of these operations makes the technical measures contained in this Proposal, which are designed for land-based minerals extraction, impracticable to apply. This waste will continue to be covered by the provisions of the Waste Framework Directive.

The Proposal excludes from its scope unpolluted soil and makes inert non-hazardous waste subject to a limited set of requirements, given the relatively reduced risks associated with their management. This is in line with the similar exclusion from the scope of the Landfill Directive. The Commission is of the opinion that in this way it is possible to strike a balance between legal requirements on SMEs, which usually generate such waste, and protection of the environment.

Waste from extraction and/or treatment of mineral resources that is transported outside the area where it is generated (e.g. drill cuttings from borehole drilling consigned to a third party contractor for disposal) is also excluded from the scope of this Proposal and remains only subject to the provisions of the Landfill Directive. This is to avoid any loophole in EU legislation in respect of those waste management operations not carried out on site.

As for prospecting, given the small quantity of waste involved and in order to avoid any unnecessary burdens on the extractive industry, the Commission proposes to leave the current legislative regime unchanged. This in practice means that the provisions of Directive 75/442/EEC apply, in particular the requirements of Articles 4 and 8 thereof.

The Commission is of the opinion that waste from the extractive industries has certain peculiarities and properties that make the application of the Landfill Directive unsuitable. It is for this reason that the Proposal exempts waste covered by it from the requirements of the Landfill Directive.

Article 3 contains the definitions for the purposes of this Directive.

Inert waste is defined in **Article 3(2)** in the same way as it is defined in the Landfill Directive.

The definition of mineral resource (**Article 3(3)**) contains a non-exhaustive list of minerals and organic and inorganic compounds that are regarded as being part of the economic activities of the extractive industries.

The definition of extractive industries (**Article 3(4)**) is sampled from a similar definition contained in Directives 92/91/EEC and 92/104/EEC. In this context, the use of terms such as “mine” and “quarry” has been avoided in order to clarify that, despite the legal differences that may exist in Member States according to the type of mineral extracted and/or treated, this Proposal is about waste coming from all types of extractive sectors.

Treatment is defined in **Article 3(5)** in such a way as to specify that smelting and/or metallurgical operations involving the use of thermal processes are not concerned by this Proposal. On the contrary, the definition includes waste generated from the treatment of minerals which are treated in a different location from where they were extracted (e.g. bauxite imported from third countries that generates red mud once treated for producing alumina).

Article 4 establishes a general requirement for the safe management of extractive waste. Measures to be taken are to be based on best available techniques as defined in Directive 96/61/EC. These techniques are being drawn up by the European IPPC Bureau in Seville, Spain, and will be published in the form of a BAT (Best Available Technique) Document shortly. Through this method, the Commission is of the opinion that the best level of environmental protection can be guaranteed in a manner that gives legal certainty and does not create an unnecessary burden for the industry.

Article 5 provides for the production of a waste management plan on the part of the operator. This provision, in connection with Article 7(2)(c), will ensure that the operator provides the competent authority with all the information needed relating to preventing or minimising the impacts of waste management on the environment.

By way of cross-reference with Articles 11 and 12 and Annex II, the waste management plan and its content play a pivotal role in the Proposal. The Commission is of the opinion that such a waste management plan will be an invaluable tool for the operator and will allow due and early planning of waste management options with a view to minimising waste production and its harmfulness whilst also encouraging recovery and beneficial reuse of extracted material.

Article 5(6) provides for the explicit possibility of merging the content of this waste management plan with other similar instruments developed on the basis of national or Community legislation of relevance. This will avoid unnecessary duplication of efforts on the part of the operator and the competent authority.

Article 6, in connection with Annex I, contains one of the key elements of this Proposal, namely the obligation for an operator to prevent major accidents and their negative consequences for humans and the environment. In order to avoid any duplication of legislation, waste facilities subject to the requirements of Directive 96/82/EC as amended (Seveso II) will not be covered by the measures laid down in this Article. The Commission takes the view that in this way it will honour the pledge it made when adopting the Proposal for the amendment to the Seveso II Directive and ensure that *all* waste sites in the extraction industries that have the potential to cause a major accident are made subject to sound management practices, in particular periodic inspections by the competent authority and notification to the public.

The Safety Manager to be appointed by the operator for the daily supervision of the accident prevention policy does not need to be a different individual from the actual operator. However, the Commission is of the opinion that, by highlighting the need for such a professional figure to be present and responsible for accident-prevention policy, more care and attention will be paid to the everyday operations involved.

The remit of this Article is limited to high-risk waste facilities (category A), because in principle these facilities are more likely to cause serious accidents. Indeed, the criteria defined in Annex III of the Proposal will ensure that all waste facilities likely to constitute a major threat to the environment and human health will be classified as belonging to category A.

In accordance with the provisions of the Aarhus Convention,³⁸ as signed by the European Community, and in particular Article 7 thereof, **Article 6(6)** requires Member States to ensure that the public concerned are given early and effective opportunities to participate in the preparation or review of the external emergency plan.

Article 7 requires Member States to ensure that operators hold permits and specifies which elements have to be part of the permit itself. The cross-reference made to Articles 5, 6 and 14 ensures that all the relevant provisions of the Proposal in terms of environmental protection are in fact considered in the application and eventually in the permit itself. In this way the operator will have to provide the competent authority with all the information needed for an appropriate assessment of the application. The contents of the permit will allow due enforcement of the provisions of this Proposal.

Article 8 allows scrutiny of the permit by the public in accordance with the principles and obligations contained in the Aarhus Convention. The Commission is of the opinion that giving such a possibility to the public will help to shed transparency on the process and favour the extractive industries in their attempts to gain public confidence in their business. The wording of this Article is in line with Article 6 of the Aarhus Convention and allows for the information of the public at large of the application for a permit and the participation of the public concerned in the decision making process.

Article 9, in conjunction with Annex III, provides for a classification system of waste facilities that takes into account the likely effects that an accident involving the release of the waste contained in the facility may have. The criteria for classifying the facilities will have to be further developed via comitology, as the matter is highly technical in nature and requires *ad hoc* studies.

Article 10 provides for certain measures pertaining to backfilling, i.e. waste placed back to the excavation void. While encouraging this method, the Commission is of the opinion that backfilled waste needs nevertheless some attention in order to ensure its stability, prevent water pollution and allow for adequate monitoring.

Article 11 establishes general requirements and objectives in respect of the construction and maintenance of waste facilities. The Proposal does not enter into the details of the engineering techniques to be used, as this was not felt to be appropriate for such an instrument. The Commission is of the opinion that the competent authority is in a better position to evaluate whether the operator follows the guidance given on the matter by the BAT Document.

Article 12 provides for measures to ensure proper closure and monitoring of waste facilities. It lays down the tasks that have to be carried out by the operator and the role of the competent authority in supervising closure and aftercare procedures. The Commission aims in this way to stop any “walk away” practices on the part of unscrupulous operators or in the event of extraction companies falling into insolvency, through measures that are in line with the polluter pays principle and do not constitute an unnecessary burden on the industry.

³⁸ United Nations Convention of 25 June 1998 on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters.

Article 13 contains measures of a general nature in order to prevent waste that is deposited in a waste facility from causing any negative effects on the environment, notably on water and/or soil. It makes an appropriate link with existing Community legislation in the field of water, in order to avoid any duplication of requirements.

In particular, this article includes a specific provision on the sensitive issue of cyanide management in the extractive industry. The upper limit value introduced for the concentration of free cyanide and cyanide compounds in tailings ponds of 50ppm of WAD (weak acid dissociable) cyanide has been suggested by the International Cyanide Management Code³⁹ developed under the auspices of the United Nations Environmental Programme (UNEP) and the International Council on Metals and the Environment (ICME). It is the understanding of the Commission, as confirmed by representatives of the industry (Euromines), that the gold extraction plants in the EU and Candidate Countries for EU accession are able to comply with this limit value without any doubt. However, the Commission is of the opinion that technological progress in this field should be stimulated in order to reduce even further the potential negative consequences on the environment from a cyanide spill. To this effect, a limit value of 10 ppm WAD cyanide, to be achieved in two steps within ten years of the transposition date of the Directive, seems perfectly achievable (it is already achieved today in certain gold-processing plants). Member States are free to adopt stricter environmental protection measures than those prescribed in this legislative initiative.

Article 14 provides for the establishment of a financial guarantee system on the part of the operator prior to the beginning of disposal operations. Such a guarantee is meant to cover any expenses that a third party would incur in rehabilitating the site in case of insolvency or “walk away” practice of the operator and can include schemes based on compliance with a corporate financial test. The text of this Article has been carefully worded in order to avoid any unnecessary burden on the industry while still achieving its important objective.

Article 14(5) clarifies that, in accordance with the polluter pays principle and in line with the provisions on environmental liability with regard to waste management set out in the Proposal for a Directive on environmental liability with regard to the prevention and remedying of environmental damage,⁴⁰ operators engaged in the extractive industries are subject to appropriate liability cover in respect of environmental damage or imminent threat of damage caused by their operations. Annex I to the above-mentioned Proposal covers “waste management operations, including the collection, transport, recovery and disposal of waste and hazardous waste, including the supervision of such operations and after-care of disposal sites, subject to permit or registration in pursuance of Council Directive 75/442/EEC of 15 July 1975 on waste⁴¹ and Council Directive 91/689/EEC of 12 December 1991 on hazardous waste.⁴² Those operations include, *inter alia*, the operation of landfill sites under Council Directive 1999/31/EC of 26 April 1999 on the landfill of waste⁴³ and the operation of incineration plants under Directive 2000/76/EC of the European Parliament and of the

³⁹ <http://www.cyanidecode.org/>.

⁴⁰ Directive .../.../EC of [...] of the European Parliament and the Council on environmental liability with regard to the prevention and remedying of environmental damage (Commission Proposal COM(2002)17 final, 23.1.2002).

⁴¹ OJ L 194, 25.7.1975, p. 39. Directive as last amended by Commission Decision 96/350/EC of 24 May 1996 adapting Annexes IIA and IIB thereto (OJ L 135, 6.6.1996, p. 32).

⁴² OJ L 377, 31.12.1991, p. 20. Directive as amended by Council Directive 94/31/EC of 27 June 1994 (OJ L 168, 2.7.1994, p. 28).

⁴³ OJ L 182, 16.7.1999, p. 1.

Council of 4 December 2000 on the incineration of waste⁴⁴". As explained in section 5.1 of this Explanatory Memorandum, such waste includes waste from the extractive industries. Hence, the latter is already subject to the provisions of the proposed Directive on the prevention and remedying of environmental damage.

Article 15 establishes a procedure for consultation among neighbouring countries in order to exchange information and ensure that the public is properly informed about waste facilities that could have negative consequences on their environment.

Article 16 lays down one of the key measures of the Proposal, namely the obligation for the competent authority to inspect any waste management facilities. The experience gained in recent years with the serious accidents of Aznalcóllar and Baia Mare has prompted the Commission to indicate that a strong enforcement regime is necessary if serious negative consequences on the environment have to be avoided.

Article 16(2) requires the operator to keep records on the construction and further development of the waste facility, and to ensure their appropriate handover in the event of a change of operator. Again, the Commission is of the opinion that such a sound practice could avoid serious accidents and limit their consequences, as the lack of transfer of information about facilities that may have been in existence for tens of years is an important factor in their mismanagement.

Article 17 stipulates that Member States have to provide the information needed to assess the effectiveness of this legislation and to estimate the future accrual of waste from the extractive industries. Information on accidents and near accidents is in particular required, so that it can then be made usefully available to Member States concerned.

Article 18 requires Member States to lay down penalties applicable to breaches of the national provisions adopted pursuant to this Directive in order to ensure proper dissuasion of inappropriate behaviour by undertakings.

Article 19 provides for an exchange of information on methods of carrying out inventories and rehabilitating closed waste facilities that are a cause of serious pollution to the environment. This will contribute towards reducing environmental pressures from a significant "burden of the past".

It also provides for dissemination of information on best available techniques. As a matter of fact, since 2001 the Commission has been organising an exchange of information on best available techniques on the management of waste in the extractive sector between Member States and the organisations concerned and plans to publish the results of this work in 2004. This information should thus be taken into account by the Member States when they implement this Directive.

Article 20 sets out implementing and amending measures to be taken by the Commission with the assistance of the Committee provided for in **Article 21**. This Committee is established under Directive 75/442/EEC and will involve experts designated by the Member States with the necessary competence on the management of waste from extractive industries.

Annex I contains a list of elements that have to be considered when drawing up a major-accident prevention policy as well as the items that have to be made public.

⁴⁴ OJ L 332, 28.12.2000, p. 91.

Annex II provides for the parameters to be analysed in the context of the procedure of waste characterisation.

Annex III lays down the criteria to be used in determining the risk category of a waste facility.

11. IMPACT ASSESSMENT FORM: THE IMPACT OF THE PROPOSAL ON BUSINESS WITH SPECIAL REFERENCE TO SMALL AND MEDIUM-SIZED ENTERPRISES (SMEs)

11.1. Taking account of the principle of subsidiarity, why is Community legislation necessary in this area?

Article 2 of the Waste Framework Directive states that “waste resulting from prospecting, extraction, treatment and storage of mineral resources and the working of quarries” has to be excluded from the Directive’s provisions if it is “already covered by other legislation”. It also provides that “specific rules for particular instances or supplementing those of this Directive on the management of particular categories of waste may be laid down by means of individual Directives”.

In the light of disparities of rules at national level and the transboundary nature of environmental impacts from extractive industry waste, it is necessary to lay down minimum requirements at EU level in order to improve the environmental and safety aspects of the management of waste disposal facilities.

The proposed Directive is seen as being the best way to restore clarity concerning the management of waste from the extractives industries, and to set a framework for action which enjoys the support of both the Commission, the Member States and the industry itself. The advantages of having a common set of rules across the whole of the EU is seen as a positive factor, adding further support to the concept of EU legislation rather than a range of national, regional and local controls of varying efficacy.

11.2. What are the main aims of the proposed Directive?

The proposed Directive seeks to set a framework within which operators from the extractive industry and Member States can agree on appropriate actions. It specifically seeks to avoid being over-prescriptive in an industrial sector that is characterised both by facilities which may remain operational over hundreds of years, and by rapid technical change.

The two main technical aims of the proposed Directive are:

- to minimise the adverse effects of polluted drainage from waste management facilities, which have the potential to create very long-term environmental impacts persisting well after both the facility and the associated mine or quarry have been closed; and
- to prevent, or minimise the impacts of, accidents, and in particular to ensure the long-term stability of tailings dams and ponds, given that dam bursts have the potential to create widespread environmental damage, including threats to human life.

The main administrative procedures set out in the proposed Directive concern:

- the planning, licensing and eventual closure of waste management facilities associated with the extractive industry, with particular measures applicable to those facilities with the potential to create transboundary impacts;
- mechanisms for dealing with major accidents and unexpected events;
- the introduction of mechanisms for guaranteeing that all operators from the extractive industry put (and keep) in place sufficient financial guarantees to ensure the eventual full reinstatement of the waste management facilities for which they are responsible, whatever their status or financial health at the time when such reinstatement falls due.

11.3. Who will be affected by the proposed Directive?

11.3.1. Sectors of business

From the business sector, all (or virtually all) operators of mines and quarries will be affected by the proposed Directive, as will all on-shore oil and gas operators. In this context, ‘operators’ include those parties involved in the extraction, treatment and storage of ores and minerals. There will also be impacts on national, regional and local government administrations, including autonomous and semi-autonomous statutory regulators and other competent authorities.

The extent of regulatory impact will vary widely, depending on the nature and volume of the wastes that each operation generates, and the nature of the licensing regimes under which their operators currently work. The operations likely to face the lowest impacts as a result of the proposed Directive are those that satisfy all of the following criteria:

- those that produce an ore or mineral that is wholly or substantially inert, and do so without using either water or chemicals; and
- those that use open-pit mining/quarrying techniques, replacing their topsoil, overburden and waste rock in the worked-out area; and
- those that work entirely above the water table with no (or minor) risk of flooding; and
- those that are already licensed and regulated on matters of environmental performance and safety.

Although the proposed Directive makes no distinction between waste facilities located above and below the water table (third indent above), it is clear that those which produce inert waste only (first indent above), and are not flooded on a regular or permanent basis, will have simpler waste management plans and risk assessments. These will in turn be both simpler to implement and cheaper to produce. This judgement does not extend to facilities disposing of non-inert waste, which can pollute groundwater via leachate, whether the waste sits within or above an aquifer.

The operations likely to face the highest impacts are those that meet any of the following criteria (unless they are already licensed and regulated in some detail on matters of environmental performance and safety):

- those that produce an ore, mineral or waste that is hazardous (or chemically active under “normal” circumstances) in its own right; and/or
- those that produce an ore or mineral from an ore body with the potential to generate acid or alkaline pollution; and/or
- those that use water to process their ore or mineral, or to store their waste; and/or
- those that use chemicals (such as cyanide or xanthates) to process their ore.

11.4. What will businesses have to do to comply with the proposed Directive?

11.4.1. Overview

Operators from the extractive industry will face a range of tasks as a consequence of transposition of the proposed Directive. For many operators - particularly those in current Member States - these tasks will not be wholly new, since the extractive industry is already widely regulated, and most operators already have policies and mechanisms in place to address the issues raised by the proposed Directive.

A permit is already required under the terms of the Waste Framework Directive, so the marginal impact of the proposed Directive should be limited. Many of the obligations (and their associated costs) might be made easier to meet by greater clarity at the level of operators and competent authorities. The BAT Document can be expected to provide some clarity, but at national level Member States could help further by developing and publishing model plans, policies and technical guidance to which operators and individual officials can refer as a way of avoiding having to solve each challenge from first principles.

11.4.2. When costs may arise

The new obligations (and additional costs) that mineral extraction operators are expected to face can be grouped under three headings:

- one-off costs arising directly from the need to adapt a current or proposed facility to the regulatory and operating regime created by the proposed Directive;
- additional annual costs applicable during the operational phase of the facility;
- additional annual costs applicable during the after-care phase of the facility.

Articles 5-13 inclusive of the Proposal are likely to create some one-off costs for many operators, though some operators will not be directly affected by some Articles. The largest costs are likely to be those associated with Articles 11 (construction and management of waste facilities) and 13 (prevention of water and soil pollution). Articles 5, 6 and 12-13 inclusive are likely to create some additional annual operational phase costs for many operators. Articles 12 (closure and after-care) and (to a lesser extent) 13 (prevention of water and soil pollution) are likely to create some additional after-care phase costs for most operators.

Bearing in mind that the cost of establishing a financial guarantee is quite distinct from other costs and is expected to contribute a significant share of the total costs, Article 14 is considered in more detail. Article 14 seeks to address the risk that an operator might declare bankruptcy during or at the end of the operational phase, leaving no resources to cover the closure and after-care phases. It does this by requiring operators to establish an upfront stand-alone financial guarantee of sufficient value to cover all such costs. Ireland and Canada operate a system comparable to the one provided for in Article 14. The normal forms of financial guarantee are either cash, letters of credit or bank guarantees, insurance surety bond guarantees, and/or financial guarantee insurance. Cash is not a realistic option for most companies, and nor would it be an economically efficient mechanism unless the company concerned had access to an excess of capital. Letters of credit and bank guarantees come straight “off the top” of a company’s overdraft facility. They reduce by an equivalent amount the capital which can be borrowed, and may well add to the overall cost of the company's borrowing. Companies without a credit rating of ‘AA’ or better would be unlikely to find this a practical (or affordable) option. That leaves bonds and similar guarantee mechanisms (which may be ‘conditional’ or ‘on demand’). Such guarantees are normally arranged by a specialised intermediary, and unless the operator’s debt is rated as ‘investment grade’, the guarantee is likely to have to be secured against some form of collateralised counter-indemnity arranged by the operator. Operators with an established track record, and particularly those with a diversified and strong parent company, can secure their bonds against their balance sheet (i.e. the cost of the collateral is the same as their marginal cost of capital). Less robust and lesser known companies may well struggle to arrange the necessary guarantees. Reports from Ireland put the annual cost of the necessary financial guarantee (bond) at between 0.5 and 0.75% of the value of the bond. Reports from Canada suggest that the cost is more like 1.0%. For every €1 million of bonded guarantee, 1.0% amounts to €10,000 per year.

11.5. What will national, regional and local administrations have to do to comply with the proposed Directive?

National administrations will have to create (or adapt) and then maintain regulatory, inspection and enforcement systems capable of meeting the obligations established for them by the proposed Directive. The extent to which some of these obligations are delegated to regional and/or local administrations will in some cases be influenced by the country’s geology, which in turn determines whether (and how widely) commercially viable mineral extraction operations can be supported.

Most of the additional costs that will fall on administrations will be related to the cost of employing additional technical and administrative staff. After the first 5-10 years, by which time the new regulatory regime should be “bedded in”, these costs should decline. The number of additional staff needed, and the technical qualifications that they will require, will vary from country to country to reflect the number and type of closed, current and potential future mines, quarries and other extractive industry facilities that they have. One five-person unit at national government level plus a matching five-person unit in the competent authority might be expected to cost slightly less than €1 million per year (salaries, other costs of employment, office space and other necessary facilities). Additional administrative capacity could be needed at the regional or local level.

11.6. What economic effects is the proposed Directive likely to have?

It is important to note that the cost estimates set out below are based on the fact that the Landfill Directive (1999/31/EC) is currently not applied to waste management facilities associated with the extractive industry. In the light of the potential implications of the Waste Framework and Landfill Directives, it can reasonably be argued that, were the provisions of these Directives to be applied in full to waste from extractive industries, the incremental cost of applying the provisions of this Proposal would be marginal.

According to the findings of an evaluation carried out on behalf of the Commission,⁴⁵ the Net Present Value⁴⁶ (NPV) of the total cost flow is just under €670 million, of which the major shares are expected to be borne by the construction aggregates sector (50%), the deep coal mining sector (21%), the deep metal mining sector (12%) and the special clays and gypsum sector (9%). These estimates cover both the 15 existing Member States and the 10 Applicant Countries, and are based on the assumption that many existing facilities will have to adapt their waste management practices to some degree.

The evaluation suggests that the NPV of the costs associated with deep metal mines over a 40-year life would be about €83 million. To put this into context, with metal production of around 2 million tonnes per year (in very rough terms), and therefore of 80 million tonnes over 40 years, this would equate to approximately €1 per tonne of metal mined. Although the figures on which the evaluation is based are subject to considerable uncertainty, the outcome cited above suggests that - in percentage terms - the additional costs that would be absorbed by the consumers or passed on to the consumers of metals would be small.

A study in 2001 on "Costs of improving the management of mining waste"⁴⁷ used a small sample of mines to estimate the overall cost of waste management in metal mines. The cost was reckoned to be just under €15 per tonne of metal mined for zinc mines, and about twice that for copper mines.

Combining the output from that study with the estimate cited above (of €1 per tonne of metal mined for new waste management measures), it appears that the rise in waste management costs resulting from this Proposal would fall within a range of 5-10% of current waste management costs for many mines.

For construction aggregates the high contribution to the overall cost is a reflection of the relatively very large number of quarries (20,000 in the present 15 Member States and an estimated 5,000 in the Applicant Countries, most of them small and medium enterprises). The NPV of the costs associated with construction aggregates has been estimated at €335 million (i.e. €33.5 million a year when spread over a typical 10-year quarry operating life). This

⁴⁵ Financial evaluation of a Proposal for a Directive on waste from the extractive industry, Symonds Group, November 2002. The cost estimates cited in the text above come from an updating exercise undertaken in April 2003 based on the revised Proposal for a Directive.

⁴⁶ The concept of Net Present Value is widely used by financial analysts to compare different cash flows (i.e. sequences of costs and/or receipts spread over differing periods of years). It calculates a sum of today's money which represents a specified cash flow at a specified rate of interest. It therefore takes into account the cost of borrowing and/or using money, and the fact that a Euro in the hand is worth more than a promise of a Euro at some future point.

⁴⁷ A study on the costs of improving the management of mining waste, Symonds Group, October 2001 (available at http://europa.eu.int/comm/environment/waste/studies/mining/mining_cost.pdf). The costs assumptions made in this study considered the situation in the extractive industry sectors prior to the entry into force of the provisions of the Landfill Directive.

compares with a sector turnover (in the 15 present Member States only) of €35,000 million and production of around 2,650 million tonnes of construction aggregates a year⁴⁸. The additional costs would therefore be equivalent to approximately 0.1% of turnover and €0.01 per tonne of aggregate sold. Additional costs for small and medium quarries are expected to be limited to around €425 per year during operation, and €625 per year during the after-closure phase.

11.7. Does the proposed Directive contain measures to take account of the specific situation of Small and Medium-sized Enterprises (SMEs)?

Although no exemptions from the obligations created by the proposed Directive are offered to SMEs *per se*, those exemptions which are allowed will apply primarily to SMEs in practice. First and foremost, unpolluted soil is beyond the scope of this Proposal. Furthermore, inert waste is only subject to a limited set of requirements. Most of the SMEs that could have been potentially affected by this Proposal (e.g. quarries of ornamental stone, industrial minerals, etc.) would only generate non-hazardous inert waste and unpolluted soil. Thus, either they will not be concerned by the measures of this proposed Directive or they will be concerned by a limited number of measures. Moreover, Article 6 (dealing with major accident prevention and the provision of information to the public) applies only to facilities classified as Category A. The same applies to Article 15 (dealing with transboundary effects). Although some mines and quarries operated by SMEs will be classified in Class A, it would be difficult to argue that such an SME should be held to a lower standard of public safety than its peers.

12. CONSULTATION WITH STAKEHOLDERS

To ensure the broadest consultation possible on the potential scope and content of this Proposal, the Environment Directorate-General of the Commission organised a number of meetings, workshops and technical seminars, launched a number of studies and set up a web page⁴⁹ on the initiative.

A study on the “Costs of Improving the Management of Mining Waste” was completed by the Symonds Group consultancy in October 2001 and considered the economic implications of implementing waste management measures. A second study on the technical aspects of mining waste management (“Management of Mining, Quarrying and Ore-Processing Waste in The European Union”) by the BRGM consultancy was published in April 2002 and reviewed waste quantities and management practices within the EU. Both studies, upon finalisation, were made available on the aforementioned web page of DG ENV.

Three working documents have also been drawn up to serve as a basis for *ad hoc* discussions with all stakeholders (Member States, Accession Countries, different sectors of industry and NGOs). The results of the aforementioned studies have been used in drafting these working documents. These working documents have also been made available on the web page, along with the written comments of the consultees. An e-mailbox has also been set up for the submission of comments by various bodies or persons interested.

The positions of the consultees (Member States, Accession Countries, industry, NGOs) can be summarised as follows:

⁴⁸ www.uepg.org

⁴⁹ <http://europa.eu.int/comm/environment/waste/mining.htm>.

12.1. Member States and Candidate Countries

Three meetings with representatives of the Member States and the Candidate Countries were held.

Most countries welcome the European Commission's initiative of proposing a Directive designed to improve the management of waste from the extractive industries. The Proposal is also seen as an opportunity to establish a comprehensive legal framework for this waste stream, bearing in mind that the provisions of the Landfill Directive are deemed unsuitable for it.

Major suggestions made and concerns expressed addressed the following issues:

- The scope of the Directive should focus on mining waste with the highest potential for environmental damage and avoid, for example, putting an unnecessary burden on the management of inert non-hazardous waste or waste from prospecting operations. It is also argued that certain requirements were overly-prescriptive and that many issues should rather be left to be dealt with at Member State level or in the BAT document.
- The classification of waste facilities is a crucial matter since it determines the application of important provisions of the Directive. A flexible classification scheme is favoured, which takes full account of the operating conditions and is therefore based on a risk assessment process.
- The Technical Annexes need not be too detailed and it is considered more appropriate to deal with such technical matters in the BAT reference document. To that effect, it is also suggested that the Directive make sufficient references to BAT.
- The requirement to draw up an inventory of abandoned mining waste facilities and the resulting obligations for rehabilitation are regarded as a cumbersome task which should not be regulated at EU level.

12.2. Industry

Several business organisations were consulted and made comments during 2001 and 2002. They include:

IMA (Industrial Minerals Association) – Europe

EAA (European Aluminium Association)

UK Coal

Euromines (European Association of Mining Industries, Metal Ores & Industrial Minerals)

British Aggregates Association

Bundesverband Baustoffe Steine+Erden e.V. (German Building Materials Association)

CBI (Confederation of British Industries)

CEAMIM (Comité de las Empresas Andaluzas de Minería Metálica)

CECSO (European Solid Fuels Association)

CEPMC (Council of European Producers of Materials for Construction)

CERAME-UNIE (Liaison Office of the European Ceramic Industry)

CLC (Cobre Las Cruces S.A.)

FEAD (European Federation of Waste Management and Environmental Services)

OGP (International Association of Oil and Gas Producers)

RNGM (Rio Narcea Gold Mines S.A.)

The BANKS Group (UK opencast coal producers)
The Mining Association of the United Kingdom
UEPG (European Aggregates Association)
WVB (Wirtschaftsvereinigung Bergbau e.V.)

Their positions are summarised below:

- Several organisations agree with the initiative of establishing a specific EU legal framework dealing with waste from the extractive industries, while a few others question this need. Concerns are expressed as regards the potential impact of the Proposal on the competitiveness of businesses and the additional administrative burden that may arise. It is considered necessary to clarify the links of the Proposal with the Waste Framework Directive, as well as with other relevant EU legislation, existing or under preparation, and it is suggested that the proposal avoid duplicating existing requirements, especially as regards permitting procedures.
- Regarding the scope of the Proposal, it is suggested that the term “waste” be properly defined, taking into account current practices in the extractive industry. It is argued in particular that materials such as topsoil, overburden and inert waste should be excluded from the scope of the Proposal or treated according to their potential risk. Certain consultees also argue that provisions on major accidents should be left out of the Proposal and be dealt with only by the Seveso II Directive.
- As regards the content of the Proposal, it is considered that the Proposal must be flexible and not too prescriptive, and its requirements should be proportionate to environmental problems likely to arise. Most consultees support the need for a classification scheme of waste facilities based on risk assessment. The arrangements for financial guarantees should leave sufficient room for decision to the Member State authorities. It is also requested that sufficient reference to the BAT document be made throughout the text.

12.3. NGOs

The following environmental NGOs were involved:

EEB (European Environment Bureau)
Minewatch
WWF (World Wide Fund for Nature)

Their responses to consultation can be summarised as follows:

- The Commission’s initiative for a specific legal framework on mining waste is welcomed. They stress the need for a sufficiently comprehensive Proposal, which should be clearly results-orientated and not rely too much on BAT. It should in particular adequately cover inert waste, which may have significant pollution potential, as well as other important aspects such as mine voids and liability insurance.
- Unambiguous wording of the Proposal is favoured, including a more explicit definition of “waste” and direct cross-references to other relevant EU legislation. It is argued that the inventory of closed waste facilities would be less cumbersome to carry out if it focused on significant impacts recorded and it is suggested that the classification of facilities should draw clearly on environmental considerations.

12.4. Others

Comments were also received from the following:

EFG (European Association of Geologists)

Madrid School of Mines

SHCMOEI (Safety and Health Commission on the Mining and Other Extractive Industries)

With the exception of SHCMOEI, they state their support for a Proposal on the management of waste from the extractive industries. The role of the competent person in relation to accident prevention is highlighted. Other comments and suggestions made are broadly reflected in the views of the Industry and NGOs set out above.

Relevant scientific and technical advice and information has also been provided by the project 'ERMITE' (Environmental Regulation of Mine waters In The EU), funded under the 5th Research Framework Programme (contract no. EVK1-CT-2000-078).

Proposal for a

DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

on the management of waste from the extractive industries

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty establishing the European Community, and in particular Article 175(1) thereof,

Having regard to the proposal from the Commission,⁵⁰

Having regard to the opinion of the European Economic and Social Committee,⁵¹

Having regard to the opinion of the Committee of the Regions,⁵²

Acting in accordance with the procedure laid down in Article 251 of the Treaty,⁵³

Whereas:

- (1) The Communication of the Commission⁵⁴, entitled “Safe operation of mining activities: a follow-up to recent mining accidents” sets out as one of its priority actions an initiative to regulate the management of waste from the extractive industries. This action is designed to complement initiatives relating to the envisaged amendment of Council Directive 96/82/EC of 9 December 1996 on the control of major-accident hazards involving dangerous substances⁵⁵ as well as the production of a best available technique document covering waste rock and tailings from mining activities under the auspices of Council Directive 96/61/EC of 24 September 1996 concerning integrated pollution prevention and control.⁵⁶
- (2) In its Resolution of 19 June 2001 concerning that Communication the European Parliament strongly supported the need for a Directive on waste from the extractive industries.

⁵⁰ OJ C ..., ..., p. ...

⁵¹ OJ C ..., ..., p. ...

⁵² OJ C ..., ..., p. ...

⁵³ Opinion of the European Parliament of [], Council common position of [] and Decision of the European Parliament of [].

⁵⁴ COM(2000) 664 final.

⁵⁵ OJ L 10, 14.1.1997, p. 13.

⁵⁶ OJ L 257, 10.10.1996, p. 26.

- (3) Decision No 1600/2002/EC of the European Parliament and of the Council of 22 July 2002 laying down the Sixth Community Environment Action Programme⁵⁷ set as the objective for wastes that are still generated that the level of their hazardousness should be reduced and that they should present as little risk as possible, that preference should be given to recovery and especially to recycling, that the quantity of waste for disposal should be minimised and should be safely disposed of, and that waste intended for disposal should be treated as closely as possible to the place of its generation to the extent that this does not lead to a decrease in the efficiency of waste treatment operations. Decision No 1600/2002/EC also prescribes as a priority action, with reference to accidents and disasters, the development of measures to help prevent major accident hazards, with special regard to those arising from mining, and the development of measures on mining waste. Decision No 1600/2002/EC also sets as a priority action the promotion of sustainable management of extractive industries with a view to reducing their environmental impact.
- (4) In accordance with the objectives of Community policy on the environment, it is necessary to lay down minimum requirements in order to prevent or reduce as far as possible any negative effects on the environment or on human health which are brought about as a result of the management of waste from the extractive industries, such as tailings (i.e. the solids that remain after the treatment of minerals by a number of techniques), waste rock and overburden (i.e. the material that extractive operations move during the process of accessing an ore or mineral body), and topsoil (i.e. the upper layer of the ground).
- (5) Accordingly, this Directive should cover the management of waste from land-based extractive industries. However, such provision should reflect the principles and priorities identified in Council Directive 75/442/EEC of 15 July 1975 on waste⁵⁸ which, in accordance with Article 2(1)(b)(ii) thereof, continues to apply to any aspects of the management of waste from the extractive industries which are not covered by this Directive.
- (6) In order to avoid duplication and disproportionate administrative requirements, the scope of this Directive should be limited to those particular operations considered to be a priority for the purposes of meeting its objectives.
- (7) Accordingly, the provisions of this Directive should not apply to those waste streams which, albeit generated in the course of mineral extraction or treatment operations, are not directly linked to the extraction or treatment process. Where such waste is deposited into or on to land, the provisions of Council Directive 1999/31/EC of 26 April 1999 on the landfill of waste⁵⁹ will apply, as in the case of waste generated at an extraction or treatment site and transported to another location for the purposes of its deposit into or on to land.

⁵⁷ OJ L 242, 10.9.2002, p. 1.

⁵⁸ OJ L 194, 25.7.1975, p. 39. Directive as last amended by Commission Decision 96/350/EC (OJ L 135, 6.6.1996, p. 32).

⁵⁹ OJ L 182, 16.7.1999, p. 1.

- (8) Nor should the provisions of this Directive apply to waste resulting from the offshore extraction and treatment of mineral resources, to the deposit of unpolluted soil or to waste from the prospecting of mineral resources, while non-hazardous inert waste from the extraction and treatment of mineral resources should only be covered by a limited set of requirements due to its lower environmental risks.
- (9) Moreover, while covering the management of waste from the extractive industries which may be radioactive, this Directive should not cover such aspects as are specific to radioactivity.
- (10) In order to remain true to the principles and priorities identified in Directive 75/442/EEC and, in particular, in Articles 3 and 4 thereof, Member States should ensure that operators engaged in the extractive industry take all necessary measures to prevent or reduce as far as possible any negative effects, actual or potential, on the environment or on human health which are brought about as a result of the management of waste from the extractive industries.
- (11) These measures should be based on the concept of best available techniques as defined in Directive 96/61/EC and, when applying such techniques, it is for the Member States to determine how the technical characteristics of the waste facility, its geographical location and local environmental conditions can, where appropriate, be taken into consideration.
- (12) Member States should ensure that operators in the extractive industry draw up appropriate waste management plans for the treatment, recovery and deposition of mining waste. Such plans should be structured in such a way as to ensure appropriate planning of waste management options with a view to minimising waste generation and its harmfulness, and encouraging waste recovery. Moreover, waste from the extractive industries should be characterised with respect to its composition in order to ensure that, as far as possible, such waste reacts only in predictable ways.
- (13) In order to minimise the risk of accidents and to guarantee a high level of protection for the environment and human health, Member States should ensure that each operator adopts and applies a major-accident prevention policy for waste. In terms of preventive measures, this should entail the delivery of a safety management system, emergency plans to be used in the event of accidents and the dissemination of safety information to persons likely to be affected by a major accident. In the event of an accident, operators should be required to provide the competent authorities with all the relevant information necessary to mitigate actual or potential environmental damage. These particular requirements should not apply to those waste facilities from the extraction industries falling within the scope of Directive 96/82/EC on the control of major-accident hazards involving dangerous substances.
- (14) Because of the special nature of the management of waste from the extractive industries, it is necessary to introduce specific application and permit procedures in respect of all classes of waste facilities used to receive such waste. Those procedures should be consistent with the general permitting requirements laid down in Article 9 of Directive 75/442/EEC.

- (15) Member States should be required to ensure that, in accordance with the United Nations Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters of 25 June 1998 (Århus Convention), as signed by the European Community, the public are informed about the application for a waste management permit and the public concerned are consulted prior to the granting of a waste management permit.
- (16) It is necessary to indicate clearly the requirements with which waste facilities servicing the extraction industries must comply as regards location, management, control, closure and preventive and protective measures to be taken against any threat to the environment in the short as well as the long-term perspective, and more especially against the pollution of groundwater by leachate infiltration into the soil.
- (17) It is necessary to define clearly the classes of waste facilities used to service waste from the extractive industries, taking into account the likely effects of any pollution resulting from the operation of such a facility or from an accident in which waste escapes from such a facility.
- (18) Waste placed back into the excavation voids needs also to be subject to certain requirements in order to protect surface and groundwater, secure the stability of such waste, and ensure appropriate monitoring upon cessation of disposal activities.
- (19) With a view to ensuring the proper construction and maintenance of waste facilities servicing waste from the extraction industries, Member States should take appropriate measures to ensure that the design, location and management of such facilities is carried out by technically competent persons. It is necessary to ensure that the training and knowledge acquired by operators and staff afford them the necessary skills. In addition, competent authorities should satisfy themselves that operators ensure suitable arrangements with respect to the construction and maintenance of a new waste facility or to any extension or modification of an existing facility, including after-closure following closure of a facility or of extraction operations.
- (20) It is necessary to define when and how a waste facility servicing the extractive industries should be closed and to set out the obligations and responsibilities to be met by the operator during the after-closure period.
- (21) Member States should require operators of the extractive industries to apply monitoring and management controls in order to prevent water and soil pollution and to identify any adverse effect that their waste facilities may have on the environment or on human health. In addition, for the purposes of minimising water pollution, the deposition of waste into any receiving body of water should be in compliance with Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy⁶⁰. Furthermore, concentrations in tailings ponds of cyanide and cyanide compounds from certain extraction industries should, in view of their harmful and toxic effects, be reduced to the lowest possible levels, using best available techniques. Maximum concentration thresholds should be set accordingly to prevent such effects.

⁶⁰ OJ L 327, 22.2.2000, p. 1. Directive as amended by Decision No 2455/2001/EC (OJ L 331, 15.12.2001, p. 1).

- (22) The operator of a waste facility servicing the extractive industries should be required to lodge a financial deposit or equivalent by way of an adequate guarantee ensuring that all the obligations flowing from the permit will be fulfilled, including those relating to the closure and after-closure of the site. The financial guarantee should be sufficient to cover the cost of rehabilitation of the site by a suitable qualified and independent third party. It is also necessary for such a guarantee to be provided prior to the commencement of deposition operations in the waste facility and to be periodically adjusted. In addition, in accordance with the polluter pays principle and with Directive .../.../EC of the European Parliament and the Council on environmental liability with regard to the prevention and remedying of environmental damage⁶¹, it is important to clarify that operators engaged in the extractive industries are subject to appropriate liability in respect of environmental damage caused by their operations or the imminent threat of such damage.
- (23) In the case of the operation of waste facilities in the extractive industries that are likely to have significant adverse transboundary effects on the environment in the territory of another Member State, there should be a common procedure in place to facilitate consultation among neighbouring countries. This should be done with a view to ensuring that there is an adequate exchange of information between authorities and that the public are duly informed about any such facilities that could have negative consequences for their environment.
- (24) It is necessary for Member States to ensure that competent authorities organise an effective system of inspections or equivalent control measures in respect of waste facilities servicing the extraction industries. Without prejudice to the obligations of the operator under the permit, prior to the commencement of deposition operations there must be an inspection to check that the permit conditions have been complied with. In addition, Member States should ensure that operators and their successors maintain up-to-date records relating to such waste facilities and that operators transfer to their successors information concerning the state of the facility and its operations.
- (25) Member States should send regular reports to the Commission on the implementation of this Directive, including information on accidents or near-accidents. On the basis of those reports, the Commission should report to the European Parliament and the Council.
- (26) Member States should lay down rules on penalties for infringement of this Directive and ensure that they are implemented; those penalties should be effective, proportionate and dissuasive.
- (27) The Commission should ensure an appropriate exchange of scientific and technical information on how to carry out an inventory of closed waste facilities at Member State level and on the development of methodologies to assist Member States in complying with Article 4 of Directive 75/442/EEC when rehabilitating closed waste facilities. Moreover, an exchange of information should be ensured within and between Member States on the best available techniques.

⁶¹ Directive .../.../EC of [...] of the European Parliament and the Council on environmental liability with regard to the prevention and remedying of environmental damage (Commission Proposal COM(2002) 17 final of, 23.1.2002).

- (28) The objective of this Directive, that is to say, improving the management of waste from the extractive industries, cannot be sufficiently achieved by the Member States acting alone because the mismanagement of such waste may cause pollution of a transboundary nature. Under the polluter pays principle it is necessary, *inter alia*, to take into account any damage to the environment caused by waste from the extractive industries, and different national applications of that principle may lead to substantial disparities in the financial burden on economic operators. Moreover, the existence of different national policies on the management of waste from the extractive industries hampers the aim of ensuring a minimum level of safe and responsible management of such waste and maximising its recovery throughout the Community. Therefore, since by reason of the scale and effects of the proposed action, it can be better achieved at Community level, the Community may adopt measures in accordance with the principle of subsidiarity as set out in Article 5 of the Treaty. In accordance with the principle of proportionality, as set out in that Article, this Directive does not go beyond what is necessary in order to achieve the objective.
- (29) The measures necessary for the implementation of this Directive should be adopted in accordance with Decision 1999/468/EC of 28 June 1999 laying down the procedures for the exercise of implementing powers conferred on the Commission.⁶²
- (30) The operation of waste facilities existing at the moment of transposition of this Directive should be regulated in order to take the necessary measures, within a specified period of time, for their adaptation to the requirements of this Directive,

HAVE ADOPTED THIS DIRECTIVE:

Article 1
Subject matter

With a view to the continuous and consistent application of the principles and priorities laid down in Directive 75/442/EEC on waste and, in particular, in Articles 3 and 4 thereof, this Directive provides for measures, procedures and guidance to prevent or reduce as far as possible any adverse effects on the environment, and any resultant risks to human health, brought about as a result of the management of waste from the extractive industries.

Article 2
Scope

1. Subject to the provisions of paragraph 2, this Directive covers the management of waste from the extractive industries, hereinafter “extractive waste”, that is to say, waste resulting from the extraction, treatment and storage of mineral resources and the working of quarries.
2. The following shall be excluded from the scope of this Directive:
 - (a) waste which is generated by the extraction and treatment of mineral resources, but which does not directly result from those operations, such as food waste, waste oil, end-of-life vehicles, spent batteries and accumulators;

⁶² OJ L 184, 17.7.1999, p. 23.

- (b) waste resulting from the offshore extraction and treatment of mineral resources;
 - (c) the deposit of unpolluted soil resulting from the extraction, treatment and storage of mineral resources and the working of quarries;
 - (d) waste generated at an extraction or treatment site and transported to another location for the purposes of its deposit into or on to land;
 - (e) waste from the prospecting of mineral resources.
3. The deposit of non-hazardous inert waste shall only be subject to the provisions of Article 5 paragraphs 1 and 2, Article 11(2) points (a) to (e) and Article 13(1) points (a) to (c) of this Directive.
 4. Without prejudice to other Community legislation, waste which falls within the scope of this Directive shall not be subject to Directive 1999/31/EC.

Article 3 *Definitions*

For the purposes of this Directive:

- (1) 'waste' is as defined in Article 1(a) of Directive 75/442/EEC;
- (2) 'hazardous waste' is as defined in Article 1(4) of Council Directive 91/689/EEC of 12 December 1991 on hazardous waste;⁶³
- (3) 'inert waste' means waste that does not undergo any significant physical, chemical or biological transformations. Inert waste will not dissolve, burn or otherwise physically or chemically react, biodegrade or adversely affect other matter with which it comes into contact in a way likely to give rise to environmental pollution or harm human health. The total leachability and pollutant content of the waste and the ecotoxicity of the leachate must be insignificant, and in particular not endanger the quality of surface water and/or groundwater;
- (4) 'mineral resource' or 'mineral' means a naturally occurring deposit in the earth's crust of an organic or inorganic compound, such as oil, bituminous shale, coal, lignite, metal, stone, slate, clay, gravel or sand, including natural gas, but excluding water;
- (5) 'extractive industries' means all establishments and undertakings engaged in surface or underground extraction of mineral resources, including extraction by drilling boreholes or treatment of the extracted material;
- (6) 'treatment' means the mechanical, physical or chemical process or combination of processes carried out on mineral resources with a view to extracting the mineral, including size reduction, classification, separation and leaching, and the re-processing of previously discarded waste, but excluding thermal processes;

⁶³ OJ L 377, 31.12.1991, p. 20. Directive as amended by Council Directive 94/31/EC of 27 June 1994 (OJ L 168, 2.7.1994, p. 28).

- (7) 'tailings' means the waste solids that remain after the treatment of minerals by separation processes (e.g. crushing, grinding, size-sorting, flotation and other physico-chemical techniques) to remove the valuable minerals from the less valuable rock;
- (8) 'heap' means an engineered facility for the disposal of solid waste on the surface;
- (9) 'dam' means an engineered structure designed to retain or confine water and waste within a pond;
- (10) 'pond' means a natural or engineered facility for disposing of fine-grained waste, normally tailings, along with varying amounts of free water, resulting from the treatment of mineral resources and from the clearing and recycling of process water;
- (11) 'weak acid dissociable cyanide' means cyanide and cyanide compounds that are dissociated with a weak acid at a defined pH;
- (12) 'leachate' means any liquid percolating through the deposited waste and emitted from or contained within a waste facility, including polluted drainage, which may adversely affect the environment if not appropriately treated;
- (13) 'waste facility' means any area designated for the accumulation or deposit of waste, whether in a solid or liquid state or in solution or suspension, for a period of more than one year, and being deemed to include any dam or other structure serving to contain, retain, confine or otherwise support such a facility, and also to include, but not be limited to, heaps and ponds, but excluding excavation voids into which waste is replaced after extraction of the mineral;
- (14) 'major accident' means an occurrence on site, that seriously endangers human health or the environment, whether immediately or over time, on-site or off-site;
- (15) 'dangerous substance' means a substance, mixture or preparation within the meaning of Council Directive 67/548/EEC⁶⁴ and Directive 1999/45/EC of the European Parliament and of the Council⁶⁵;
- (16) 'best available techniques' is as defined in Article 2(11) of Directive 96/61/EC;
- (17) 'receiving body of water' means surface waters as defined in Article 2(1) of Directive 2000/60/EC, groundwater as defined in Article 2(2) of Directive 2000/60/EC, transitional waters as defined in Article 2(6) of Directive 2000/60/EC, and coastal water as defined in Article 2(7) of Directive 2000/60/EC;
- (18) 'rehabilitation' means the treatment of the land affected by a waste facility in such a way as to restore the land to a satisfactory state, with particular regard to pre-working soil quality, wild life, natural habitats, freshwater systems, landscape and appropriate beneficial uses;
- (19) 'the public' means one or more natural or legal persons and, in accordance with national legislation or practice, their associations, organisations or groups;

⁶⁴ OJ P 196, 16.8.1967, p. 1.

⁶⁵ OJ L 200, 30.7.1999, p. 1.

- (20) ‘the public concerned’ means the public affected or likely to be affected by, or having an interest in, the environmental decision-making under Article 5 and Article 6 of the present Directive; for the purposes of this definition, non-governmental organisations promoting environmental protection and meeting any requirement under national law shall be deemed to have such an interest;
- (21) ‘operator’ means the natural or legal person responsible for the management of extractive waste, in accordance with the national law of the Member State in which waste management takes place, including in respect of the operational and the after-closure phases;
- (22) ‘waste holder’ means the producer of the waste or the natural or legal person who is in possession of it;
- (23) ‘competent person’ means a natural person who has the technical knowledge and experience, as defined by the national law of the Member State in which the person operates, to carry out the duties arising from this Directive;
- (24) ‘competent authority’ means the authority which a Member State designates as responsible for performing the duties arising from this Directive;
- (25) ‘site’ means all land at a distinct geographic location under the management control of an operator.

Article 4
General requirements

- 1. Member States shall ensure that the operator of a waste facility takes all measures necessary to prevent or reduce as far as possible any adverse effects on the environment or on human health brought about as a result of the management of that facility, including after its closure, and to prevent major accidents involving that facility and to limit their consequences for the environment and for human health.
- 2. The measures referred to in paragraph 1 shall be based, *inter alia*, on the best available techniques, without prescribing the use of any technique or specific technology, but taking into account the technical characteristics of the waste facility, its geographical location and the local environmental conditions.

Article 5
Waste management plan

- 1. Member States shall ensure that the operator draws up a waste management plan for the treatment, recovery and disposal of extractive waste.
- 2. The objectives of the waste management plan shall be:
 - (a) to prevent or reduce waste production and its harmfulness, in particular by considering:
 - (i) waste management in the design phase and in the choice of the method used for mineral extraction and treatment;

- (ii) the changes that the waste may undergo in relation to an increase in surface area and exposure to conditions above ground;
- (iii) placing waste back into the excavation void after extraction of the mineral, as far as is practically feasible and environmentally sound;
- (iv) putting topsoil back in place after the closure of the waste facility or, if this is not practically feasible, reusing topsoil elsewhere;
- (v) using less dangerous substances for the treatment of mineral resources;
- (b) to encourage the recovery of waste by means of recycling, reusing or reclaiming such waste, where environmentally sound.

3. The waste management plan shall contain at least the following elements:

- (a) waste characterisation in accordance with Annex II and the estimated total quantities of waste to be produced during the operational phase;
- (b) a description of the operation generating such waste and of any subsequent treatment to which it is subject;
- (c) a description of how the environment or human health may be adversely affected by the disposal of such waste and the preventive measures to be taken;
- (d) the proposed control and monitoring procedures pursuant to Article 11(2)(c);
- (e) the proposed plan for the closure and after-closure procedures and monitoring provided for in Article 12;
- (f) measures for the prevention of water and soil pollution pursuant to Article 13.

The waste management plan shall provide sufficient information to enable the competent authority to evaluate the operator's compliance with the requirements of this Directive.

- 4. The waste management plan shall be reviewed every five years and amended, as appropriate, in the event of significant changes to the operation of the waste facility or to the waste disposed of. Any amendments shall be notified to the competent authority.
- 5. Plans produced pursuant to other national or Community legislation and containing the information specified in paragraph 3 may be used where this obviates the unnecessary duplication of information and the repetition of work by the operator, on condition that all requirements under paragraphs 1 to 4 are met.

Article 6
Major-accident prevention and information

1. The provisions of this Article shall apply to Category A waste facilities, as defined in Article 9 save for those waste facilities falling within the scope of Directive 96/82/EC.
2. Without prejudice to other Community legislation, and in particular Council Directive 92/91/EEC⁶⁶ and Council Directive 92/104/EEC⁶⁷, Member States shall ensure that major-accident hazards are identified and the necessary features are incorporated into the design, construction, operation and maintenance of the waste facility in order to prevent such accidents and to limit their adverse consequences for human health and the environment, including any transboundary impacts.
3. For the purposes of the requirements under paragraph 2, each operator shall draw up a major-accident prevention policy for waste and put into effect a safety management system implementing it, in accordance with the elements set out in point 1 of Annex I.

As part of that policy, the operator shall appoint a safety manager responsible for the implementation and periodic supervision of the major-accident prevention policy.

The operator shall draw up an internal emergency plan of the measures to be taken on site in the event of an accident.

The competent authority shall draw up an external emergency plan for the measures to be taken off site in the event of an accident. The operator shall provide the competent authority with the information necessary to enable the latter to draw up that plan.

4. The emergency plans referred to in paragraph 3 shall have the following objectives:
 - (a) to contain and control major accidents and other incidents so as to minimise their effects, and in particular to limit damage to human health or to the environment and property;
 - (b) to implement the measures necessary to protect human health, the environment and property from the effects of major accidents and other incidents;
 - (c) to communicate the necessary information to the public and to the services or authorities concerned in the area;
 - (d) to provide for the rehabilitation, restoration and clean-up of the environment following a major accident.

Member States shall ensure that, in the event of a major accident, the operator immediately provides the competent authority with all the information required to help minimise its consequences for human health and to assess and minimise the extent, actual or potential, of the environmental damage.

⁶⁶ OJ L 348, 28.11.1992, p. 9.

⁶⁷ OJ L 404, 31.12.1992, p. 10.

5. Member States shall ensure that the public concerned are given early and effective opportunities to participate in the preparation or review of the external emergency plan to be drawn up in accordance with paragraph 3. To that end, the public concerned shall be informed about any such proposal and relevant information shall be made available, including *inter alia* information about the right to participate in the decision-making process and about the competent authority to which comments and questions may be submitted.

Member States shall ensure that the public concerned is entitled to express comments within reasonable timeframes and that, in the decision on the external emergency plan, due account is taken of these comments.

6. Member States shall ensure that information on safety measures and on the action required in the event of an accident, containing at least the elements listed in point 2 of Annex I, is provided, free of charge and as a matter of course, to the public concerned.

That information shall be reviewed every three years and, where necessary, updated.

Article 7 *Application and permit*

1. In accordance with Article 9 of Directive 75/442/EEC, no waste facility shall be allowed to operate without a permit granted by the competent authority. The permit shall contain the elements specified in paragraph 2 and shall clearly indicate the category of the facility according to the criteria set out in Article 9.

Subject to compliance with all requirements under this Article, any permit produced pursuant to other national or Community legislation may be combined to form a single permit, where such a format obviates the unnecessary duplication of information and the repetition of work by the operator or competent authority.

2. The application for a permit shall contain at least the following details:
 - (a) the identity of the operator;
 - (b) the proposed location of the waste facility, including any possible alternative locations;
 - (c) the waste management plan pursuant to Article 5;
 - (d) where applicable, a document demonstrating that a major-accident prevention policy and a safety management system for implementing it have been put into effect in accordance with Article 6(3);
 - (e) adequate arrangements by way of a guarantee, as required under Article 14.
3. Member States shall take appropriate measures to ensure that the public are informed about the application for a waste management permit in accordance with Article 8(1) and that the public concerned are given early and effective opportunities to participate in the procedure for the granting of a waste management permit in accordance with Article 8 paragraphs 2 to 6.

4. The permit shall be granted only if the application shows that:
 - (a) the operator complies with all requirements under this Directive;
 - (b) the management of waste is in line with the relevant waste management plan or plans referred to in Article 7 of Directive 75/442/EEC.
5. The information contained in a permit granted under this Article shall be made available to the competent national and Community statistical authorities where requested for statistical purposes. Sensitive information of a purely commercial nature, such as information concerning business relations and cost components, shall not be made public.

Article 8
Public participation

1. The public shall be informed, by public notices or other appropriate means, such as electronic media where available, of the following matters early in the procedure for granting a permit or, at the latest, as soon as the information can reasonably be provided:
 - (a) the application for a permit or, as the case may be, the proposal for the updating of a permit in accordance with Article 7;
 - (b) where applicable, the fact that a decision is subject to consultation between the Member States in accordance with Article 15;
 - (c) details of the competent authorities responsible for taking the decision, those from which relevant information can be obtained, those to which comments or questions can be submitted, and details of the time schedule for transmitting comments or questions;
 - (d) the nature of possible decisions or, where there is one, the draft decision;
 - (e) where applicable, the details relating to a proposal for the updating of a permit or of permit conditions;
 - (f) an indication of the times and places where, or the means by which, the relevant information will be made available;
 - (g) details of the arrangements for public participation and consultation made pursuant to paragraph 5.
2. Member States shall ensure that, within appropriate time frames, the following is made available to the public concerned:
 - (a) in accordance with national legislation, the main reports and advice issued to the competent authority or authorities at the time when the public were informed in accordance with paragraph 1;

- (b) in accordance with the provisions of Directive 2003/4/EC of the European Parliament and of the Council on public access to environmental information⁶⁸, any information in addition to that referred to in paragraph 1 of this Article which is relevant for the decision in accordance with Article 7 of this Directive and which only becomes available after the time the public have been informed in accordance with paragraph 1 of this Article.
3. The public concerned shall be entitled to express comments and opinions to the competent authority before a decision is taken.
 4. The results of the consultations held pursuant to this Article shall be taken into due account in the taking of a decision.
 5. The detailed arrangements for public participation under this Article shall be determined by the Member States so as to enable the public concerned to prepare and participate effectively.
 6. When a decision has been taken the competent authority shall, in accordance with the appropriate procedures, inform the public concerned and shall make the following information available to the public concerned:
 - (a) the content of the decision, including a copy of the permit;
 - (b) the reasons and considerations on which the decision is based.

Article 9
Classification system for waste facilities

For the purposes of this Directive, Member States shall classify waste facilities which are either heaps or engineered ponds in one of the following categories, depending on their hazard potential:

- (1) Category A: a waste facility whose failure or incorrect operation would present a significant accident hazard;
- (2) Category B: any waste facility not included in Category A.

The criteria for determining the classification of a waste facility in Category A are set out in Annex III.

⁶⁸ OJ L 41, 14.2.2003, p. 26.

Article 10
Excavation voids

Member States shall ensure that the operator, when considering placing waste back into the excavation voids, takes appropriate measures in order to:

- (1) secure the stability of such waste in accordance with Article 11(2);
- (2) prevent the pollution of surface and groundwater in accordance with paragraphs 1 and 2 of Article 13;
- (3) monitor such waste in accordance with paragraphs 4 and 5 of Article 12 .

Article 11
Construction and management of waste facilities

1. Member States shall take appropriate measures to ensure that the management of a waste facility is in the hands of a competent person and that technical development and training of staff are provided.
2. The competent authority shall satisfy itself that, in constructing a new waste facility or modifying an existing waste facility, the operator ensures that:
 - (a) the waste facility is suitably located, taking into account in particular geological, hydrogeological and geotechnical factors, and is designed so as to meet the necessary conditions for preventing pollution of the soil, groundwater or surface water and ensuring efficient collection of contaminated water and leachate as and when required under the permit;
 - (b) the waste facility is suitably constructed, managed and maintained to ensure its physical stability and to prevent pollution or contamination of soil, surface water or groundwater;
 - (c) there are suitable arrangements for monitoring and inspection of the waste facility by competent persons and for taking action in the event of results indicating instability or water or soil contamination;
 - (d) suitable arrangements are made for the rehabilitation of the land and the closure of the waste facility;
 - (e) suitable arrangements are made for the management of the waste facility after operations have ceased.

Records of the monitoring and inspections referred to in point (c) shall be kept to ensure the appropriate hand-over of information.

3. The operator shall, without unnecessary delay, notify any events likely to affect the stability of the facility and any significant adverse environmental effects revealed by the control and monitoring procedures of the waste facility. The operator shall implement the internal emergency plan and follow any other instruction from the competent authority as to the corrective measures to be taken.

The operator shall meet the costs of the measures to be undertaken.

At a frequency to be determined by the competent authority, and in any event at least once a year, the operator shall report, on the basis of aggregated data, all monitoring results to the competent authorities for the purposes of demonstrating compliance with permit conditions and increasing knowledge of waste behaviour.

Article 12

Closure and after-closure procedures for waste facilities

1. Member States shall take measures to ensure compliance with paragraphs 2 to 5.
2. A waste facility shall only start the closure procedure if one of the following conditions is satisfied:
 - (a) the relevant conditions stated in the permit are met;
 - (b) authorisation is granted by the competent authority, at the request of the operator;
 - (c) the competent authority issues a reasoned decision to that effect.
3. A waste facility may be considered as finally closed only after the competent authority has, without undue delay, carried out a final on-site inspection, assessed all the reports submitted by the operator, certified that the site has been rehabilitated and communicated to the operator its approval of the closure.

That approval shall not in any way reduce the operator's obligations under the conditions of the permit or otherwise in law.
4. Save where the competent authority decides to take over such tasks from the operator, after a waste facility has been finally closed and without prejudice to any national or Community legislation governing the liability of the waste holder, the operator shall be responsible for its maintenance, monitoring and control in the after-closure phase for as long as may be required by the competent authority, taking into account the nature and duration of the hazard.
5. When considered necessary by the competent authority following closure of a waste facility, the operator shall, in particular, control the physical and chemical stability of the facility and minimise any negative environmental effect, in particular with respect to surface and groundwater, by ensuring that:
 - (a) all the structures pertaining to the facility are monitored and conserved, with control and measuring apparatus always ready for use;
 - (b) where applicable, overflow channels and spillways are kept clean and free.

6. Following closure of a waste facility, the operator shall, without delay, notify any events or developments likely to affect the stability of the facility, and any significant adverse environmental effects revealed by the relevant control and monitoring procedures. The operator shall implement the internal emergency plan and follow any other instruction from the competent authority as to the corrective measures to be taken.

The operator shall meet the costs of the measures to be undertaken.

In cases and at a frequency to be determined by the competent authority, the operator shall report, on the basis of aggregated data, all monitoring results to the competent authorities for the purposes of demonstrating compliance with permit conditions and increasing knowledge of waste behaviour.

Article 13
Prevention of water and soil pollution

1. The competent authority shall satisfy itself that the operator has taken the necessary measures in order to:
 - (a) evaluate the leachate generation potential of the waste disposed of during both the operational and after-closure phase of the waste facility and determine the water balance of the waste facility;
 - (b) prevent leachate generation and surface water or groundwater from being contaminated by the waste;
 - (c) treat contaminated water and leachate collected from the waste facility to the appropriate standard required for their discharge.
2. Where, on the basis of an assessment of environmental risks, taking into account, in particular, Council Directive 76/464/EEC,⁶⁹ Council Directive 80/68/EEC⁷⁰ or Directive 2000/60/EC, as applicable, the competent authority has decided that collection and treatment of leachate is not necessary or it has been established that the waste facility poses no potential hazard to soil, groundwater or surface water, the requirements set out in points (b) and (c) of paragraph 1 may be reduced or waived accordingly.
3. Member States shall make the disposal of extractive waste, whether in solid, slurry or liquid form, into any receiving body of water conditional upon compliance by the operator with the relevant requirements of Directive 2000/60/EC.
4. In the case of a pond involving the presence of cyanide, the operator shall ensure that the concentration of weak acid dissociable cyanide in the pond is reduced to the lowest possible level using best available techniques and, in any case, that the concentration of weak acid dissociable cyanide at the point of discharge of the tailings from the processing plant into the pond does not exceed 50 ppm as from [transposition date], 25 ppm as from [transposition date + five years] and 10 ppm as from [transposition

⁶⁹ OJ L 129, 18.5.1976, p. 23.

⁷⁰ OJ L 20, 26.1.1980, p. 43.

date + ten years].

If the competent authority so requests, the operator shall demonstrate, through a risk assessment that takes site-specific conditions into account, that those concentration limits could not be further lowered.

Article 14
Financial guarantee and environmental liability

1. The competent authority shall, prior to the commencement of any operations involving the deposit into or onto land of waste, require a guarantee, in the form of a financial deposit or equivalent, including industry-sponsored mutual guarantee funds, so that:
 - (a) all obligations under the permit issued pursuant to this Directive, including after-closure provisions, are discharged;
 - (b) there are funds readily available at any given time for the rehabilitation of the land affected by the waste facility.
2. The calculation of the guarantee referred to in paragraph 1 shall be made according to:
 - (a) the likely environmental impact of the facility, taking into account in particular the category of the facility, the characteristics of the waste and the future use of the rehabilitated land;
 - (b) the assumption that independent and suitably qualified third parties will assess and perform any rehabilitation work needed.
3. The size of the guarantee shall be periodically adjusted according to the rehabilitation work needed to be carried out on the waste facility.
4. Where the competent authority approves closure in accordance with Article 12(3), it shall provide the operator with a written statement releasing him from the guarantee obligation referred to in paragraph 1.
5. The provisions of Directive .../.../EC⁷¹ on environmental liability with regard to the prevention and remedying of environmental damage shall apply *mutatis mutandis* in respect of environmental damage caused by the operation of any extractive waste facility, as well as in respect of any imminent threat of such damage occurring by reason of the operation of any such a facility.

⁷¹ Directive .../.../EC of [...] of the European Parliament and the Council on environmental liability with regard to the prevention and remedying of environmental damage (Commission Proposal COM(2002) 17 final of 23.1.2002, OJ C 151 E, 25.6.2002, p.132).

Article 15
Transboundary effects

1. Where a Member State is aware that the operation of a Category A waste facility is likely to have significant adverse effects on the environment of another Member State, or where a Member State likely to be thus affected so requests, the Member State in whose territory the application for a permit pursuant to Article 7 was submitted shall forward the information provided pursuant to that Article to the other Member State at the same time as it makes it available to its own nationals.

Such information shall serve as a basis for any consultation necessary within the context of bilateral relations between the two Member States on a reciprocal and equivalent basis.

2. Within the framework of their bilateral relations, Member States shall ensure that in the cases referred to in paragraph 1 the applications are also made available for an appropriate period of time to the public concerned of the Member State likely to be affected so that they will have the right to comment on them before the competent authority reaches its decision.
3. Member States shall ensure that, in the event of an accident involving a waste facility as referred to in paragraph 1, information provided by the operator to the competent authority pursuant to Article 6(4) is immediately forwarded to the other Member State in order to help minimise the consequences of the accident for human health and to assess and minimise the extent of the actual or potential environmental damage.

Article 16
Inspections by the competent authority

1. Prior to the commencement of disposal operations and at regular intervals to be decided by the Member State concerned, the competent authority shall inspect any waste facility covered by Article 6 in order to ensure that it complies with the relevant conditions of the permit. An affirmative finding shall in no way reduce the responsibility of the operator under the conditions of the permit.
2. Member States shall require the operator to keep up-to-date records of all waste management operations and make them available for inspection by the competent authority and to ensure that, in the event of a change of operator during the management of a waste facility, there is an appropriate transfer of relevant up-to-date information and records relating to the facility.

Article 17
Obligation to report

1. At intervals of three years Member States shall transmit to the Commission a report on the implementation of this Directive. The report shall be drawn up on the basis of a questionnaire or outline to be adopted by the Commission in accordance with the procedure referred to in Article 21(2). The report shall be transmitted to the Commission within nine months of the end of the three-year period covered by it.

The Commission shall publish a report on the implementation of this Directive within nine months of receiving the reports from the Member States.

2. Every year Member States shall transmit to the Commission information on events notified by the operators in accordance with Articles 11(3) and 12(6). The Commission shall make this information available to the Member States upon request.

Article 18
Penalties

The Member States shall lay down rules on penalties for infringement of the provisions of national law adopted pursuant to this Directive and shall take all measures necessary to ensure that they are implemented. The penalties provided for shall be effective, proportionate and dissuasive.

Article 19
Exchange of information

1. The Commission, assisted by the Committee referred to in Article 21, shall ensure that there is an appropriate exchange of technical and scientific information between Member States, with a view to developing methodologies relating to:
 - (a) the drawing-up of inventories of closed waste facilities. Such methodologies shall allow for the identification of closed waste facilities and their classification, according to the degree of their impact on human health and the environment, in two tiers: an upper tier including closed waste facilities causing serious negative environmental impacts or having the potential to become a serious threat in the near future to human health, the environment and/or property; and a lower tier including those waste facilities with no significant negative environmental impacts and no potential to become a serious threat in the future to human health, the environment and/or to property;
 - (b) the rehabilitation of those closed waste facilities classified in the upper tier of the inventory in order to satisfy the requirements of Article 4 of Directive 75/442/EEC. Such methodologies shall allow for the establishment of the most appropriate risk assessment procedures and remedial actions having regard to the variation of geological and hydrogeological characteristics across Europe.
2. The Member States shall ensure that the competent authority follows or is informed of developments in best available techniques.
3. The Commission shall organise an exchange of information between Member States and the organisations concerned on best available techniques, associated monitoring and developments in them. The Commission shall publish the results of the exchange of information.

Article 20
Implementing and amending measures

1. Within three years of the date of entry into force of this Directive, the Commission shall adopt, in accordance with the procedure referred to in Article 21(2), the provisions necessary for the following:
 - (a) the harmonisation and regular transmission of the information referred to in Articles 7(5) and 12(6) of this Directive;
 - (b) the implementation of Article 13(4), including technical requirements relating to the definition of weak acid dissociable cyanide and its measurement method;
 - (c) technical guidelines for the establishment of the financial guarantee in accordance with the requirements of Article 14(2);
 - (d) technical guidelines for inspections in accordance with Article 16;
 - (e) completion of the technical requirements for waste characterisation contained in Annex II;
 - (f) definition of the criteria for the classification of waste facilities according to Annex III, including any threshold concentrations for hazardous waste and dangerous substances;
 - (g) determination of any harmonised standards for sampling and analysis methods needed for the technical implementation of this Directive.
2. Any subsequent amendments necessary for adapting the Annexes to scientific and technical progress shall be adopted by the Commission in accordance with the procedure referred to in Article 21(2).

Those amendments shall be made exclusively with a view to achieving a high level of environmental protection.

Article 21
Committee

1. The Commission shall be assisted by the Committee established by Article 18 of Directive 75/442/EEC, hereinafter “the Committee”.
2. Where reference is made to this paragraph, Articles 5 and 7 of Decision 1999/468/EC shall apply, having regard to the provisions of Article 8 thereof.

The period laid down in Article 5(6) of Decision 1999/468/EC shall be set at three months.

Article 22
Transitional provision

Member States shall ensure that any waste facility which has been granted a permit or which is already in operation before or on [date of transposition] complies with the provisions of this Directive within four years after that date, save for those set out in Article 14(1) for which compliance must be ensured within six years after that date.

Article 23
Transposition

1. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive not later than on [date of entry into force + 18 months]. They shall forthwith inform the Commission thereof.

When Member States adopt those provisions, they shall contain a reference to this Directive or be accompanied by such a reference on the occasion of their official publication. Member States shall determine how such reference is to be made.

2. Member States shall communicate the texts of the provisions of national law which they adopt in the field covered by this Directive to the Commission.

Article 24
Entry into force

This Directive shall enter into force on the twentieth day following that of its publication in the *Official Journal of the European Union*.

Article 25
Addressees

This Directive is addressed to the Member States.

Done at

For the European Parliament
The President

For the Council
The President

ANNEX I

Major-accident prevention policy and information to be communicated to the public concerned

1. Major-accident prevention policy

The operator's major-accident prevention policy and safety management system should be proportionate to the major-accident hazards presented by the waste facility. For the purpose of implementing them, account shall be taken of the following elements:

- (1) the major-accident prevention policy should include the operator's overall aims and principles of action with respect to the control of major-accident hazards;
- (2) the safety management system should include the part of the general management system which includes the organisational structure, responsibilities, practices, procedures, processes and resources for determining and implementing the major-accident prevention policy;
- (3) the following issues shall be addressed by the safety management system
 - (a) organisation and personnel — the roles and responsibilities of personnel involved in the management of major hazards at all levels in the organisation; identification of training needs of such personnel and the provision of the training so identified; and involvement of employees and, where appropriate, subcontractors;
 - (b) identification and evaluation of major hazards — adoption and implementation of procedures for systematically identifying major hazards arising from normal and abnormal operations and assessment of their likelihood and severity;
 - (c) operational control — adoption and implementation of procedures and instructions for safe operation, including maintenance of plant, processes, equipment and temporary stoppages;
 - (d) management of change — adoption and implementation of procedures for planning modifications to, or the design of, new waste facilities;
 - (e) planning for emergencies — adoption and implementation of procedures to identify foreseeable emergencies by systematic analysis and to prepare, test and review emergency plans to respond to such emergencies;
 - (f) monitoring performance — adoption and implementation of procedures for the ongoing assessment of compliance with the objectives set by the operator's major-accident prevention policy and safety management system, and the mechanisms for investigation and taking corrective action in case of non-compliance. The procedures should cover the operator's system for reporting major accidents or near misses, particularly those involving failure of protective measures, and their investigation and follow-up on the basis of lessons learnt;

- (g) audit and review — adoption and implementation of procedures for periodic systematic assessment of the major-accident prevention policy and the effectiveness and suitability of the safety management system; the documented review of performance of the policy and safety management system and its updating by senior management.

2. Information to be communicated to the public concerned

- (1) Name of operator and address of the waste facility.
- (2) Identification, by position held, of the person providing the information.
- (3) Confirmation that the waste facility is subject to the regulations and/or administrative provisions implementing this Directive and, when applicable, that the information relevant to the elements referred to in Article 6(2) has been submitted to the competent authority.
- (4) An explanation in clear and simple terms of the activity or activities undertaken at the site.
- (5) The common names or the generic names or the general danger classification of the substances and preparations involved at the waste facility as well as waste which could give rise to a major accident, with an indication of their principal dangerous characteristics.
- (6) General information relating to the nature of the major-accident hazards, including their potential effects on the surrounding population and environment.
- (7) Adequate information on how the surrounding population concerned are to be warned and kept informed in the event of a major accident.
- (8) Adequate information on the actions the population concerned should take, and on the behaviour they should adopt, in the event of a major accident.
- (9) Confirmation that the operator is required to make adequate arrangements on site, in particular liaison with the emergency services, to deal with major accidents and to minimise their effects.
- (10) A reference to the external emergency plan drawn up to cope with any off-site effects from an accident. This should include advice to co-operate with any instructions or requests from the emergency services at the time of an accident.
- (11) Details of where further relevant information can be obtained, subject to the requirements of confidentiality laid down in national legislation.

ANNEX II

Waste characterisation

The waste to be disposed of in a facility shall be characterised in such a way as to guarantee the long-term physical and chemical stability of the structure and to prevent major accidents. The waste characterisation shall include, where appropriate and in accordance with the category of the facility, the following aspects:

- (1) description of expected physical chemical and radiological characteristics of the waste to be disposed of;
- (2) classification of the waste according to the relevant entry in Commission Decision 2000/532/EC⁷², with particular regard to its hazardous characteristics;
- (3) description of the chemical substances to be used during treatment of the mineral resource and their stability;
- (4) description of the method of deposition;
- (5) waste transport system to be employed.

⁷² OJ L 203, 28.7.2001, p. 18.

ANNEX III

Criteria for determining the classification of waste facilities

A waste facility shall be classified in category A if:

- in the event of a breach or failure the loss of human life cannot reasonably be excluded on the basis of a risk assessment taking into account factors such as the size, the location and the environmental impact of the waste facility, or
- it contains waste classified as hazardous under Directive 91/689/EEC above a certain threshold, or
- it contains substances or preparations classified as dangerous under Directives 67/548/EEC or 1999/45/EC above a certain threshold.