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### **WORKING DOCUMENT N° 3**

## **THE MANAGEMENT OF WASTE FROM THE EXTRACTIVE INDUSTRY**

This working document aims at continuing the consultation process on the management of this particular waste stream. This document, prepared by the Sustainable Resources Unit of DG Environment, does not necessarily represent the position of the Commission in all of the aspects covered.

Comments and reactions to this working document should be sent to [env-mines@cec.eu.int](mailto:env-mines@cec.eu.int) by 2 September 2002.

The working document can be found at the following internet address:  
<http://europa.eu.int/comm/environment/waste/mining.htm>

## WORKING DOCUMENT N° 3

### The management of waste from the extractive industry

Following the response by Member States and stakeholders to the first working document of 15 June 2001 and the second of 4 February 2002, the Sustainable Resources Unit of DG Environment has further elaborated a skeleton text of a draft Proposal for a Directive on the management of waste from the extractive industry, i.e. waste resulting from prospecting, extraction, treatment, and storage of mineral resources and the working of quarries.

It is underlined that this text does *not* necessarily represent the views of the European Commission and that is a “work in progress” document. As such, it may not be always consistent in all its parts and the legal terminology used may not always be entirely correct.

The purpose of this third working document is to clarify some of the issues left open in the first and second one and focus the attention of Member States and stakeholders on the provisions that might be included in the final Commission Proposal – without prejudging decisions that the Commission may take at a later stage.

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An EU-initiative to improve the management of waste from the extractive industry should be based on Articles 175 EC Treaty and should include the following elements:

#### *Article 1*

##### **Objective**

With a view to meeting the requirements of Directive 75/442/EEC on waste as amended<sup>1</sup>, and in particular Articles 3 and 4 thereof, the aim of this Directive is to provide for measures, procedures and guidance to prevent or reduce as far as possible negative effects on the environment, in particular on surface water, groundwater, fauna, flora and soil as well as any resulting risks to human health from the management of waste from the extractive industry.

#### *Article 2*

##### **Scope**

- (1) This Directive covers the on-site management of waste from the extractive industry, i.e. waste resulting from prospecting, extraction, treatment and storage of mineral resources and the working of quarries.
- (2) Unless specified otherwise in this Directive, Directive 75/442/EEC shall continue to apply to the management of waste from the extractive industry.

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<sup>1</sup> Council Directive 75/442/EEC of 15 July 1975 on waste (OJ L 194, 25.7.1975, p. 39) as amended by Council Directive 91/156/EEC of 18 March 1991 (OJ L 78, 26.3.1991, p. 31) and Commission Decision 96/350/EC of 24 May 1996 (OJ L 135, 6.6.1996, p.32).

- (3) Waste generated on-site by an operator engaged in prospecting, extraction, treatment and storage of mineral resources and the working of quarries but which does not directly result from these operations, including for example food waste, waste oil, end-of-life vehicles, spent batteries and accumulators and other such waste arising, is excluded from the scope of this Directive.
- (4) This Directive shall not apply to the management of waste resulting from the offshore prospecting, extraction, treatment and storage of oil and natural gas. Insofar as offshore oil and natural gas operations are not covered by this Directive, the provisions of Directive 75/442/EEC shall continue to apply to these operations.
- (5) Without prejudice to other Community legislation, waste which falls under the provisions of this Directive shall not be subject to Directive 1999/31/EC<sup>2</sup>.
- (6) This Directive shall apply without prejudice to more stringent provisions of national legislation regulating the operation of any of the activities falling within the scope of this Directive.

### *Article 3*

#### **Definitions**

For the purposes of this Directive:

- (1) ‘waste’ means any substance or object in the meaning of Article 1(a) of Directive 75/442/EEC as amended;
- (2) ‘extractive industry’ means all establishments and undertakings practising surface or underground extraction of mineral resources, including extraction by drilling boreholes, and/or prospecting with a view to such extraction, and/or treatment of the extracted material;
- (3) ‘mineral resource’ means a naturally occurring deposit in the earth’s crust of an organic or inorganic compound, such as oil, bituminous shale, coal, peat, lignite, metal, stone, slate, clay, gravel as well as sand, including natural gas but excluding water;
- (4) ‘treatment’ means the mechanical, physical or chemical process or combination of processes, including size reduction, classification and separation, carried out on mineral resources with a view to extract the mineral, and includes the re-processing of previously discarded waste;
- (5) ‘topsoil’ means the uppermost or cultivated layer of soil (the A-horizon);
- (6) ‘overburden’ means the layer of natural grown soil or rock on top of a deposit, which must be removed to gain access to the mineral resource;
- (7) ‘waste rock’ means massive rock that has to be extracted to gain access and recover the mineral resource;

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<sup>2</sup> Council Directive 1999/31/EC of 26 April 1999 on the landfill of waste (OJ L 182, 16.7.1999, p. 1).

- (8) '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;
- (9) 'tailings' means mineral resource from which as much as feasible of the desired minerals have been removed. It consists of gangue and may include process water, process chemicals and portions of the unremoved minerals;
- (10) 'backfill' means the waste within the scope of this Directive, typically overburden, waste rock and tailings, which, either alone or in combination with other structural products (e.g. cement), is placed back into the void after extraction of the mineral. Water containing substances that is injected or groundwater that is re-injected into geological formations in the sense of Article 11(3)(j) of Directive 2000/60/EC<sup>3</sup> do not constitute backfill in the sense of this Directive;
- (11) 'heap' means an engineered facility for the disposal of solid waste on the surface;
- (12) 'dam' means an engineered structure designed to retain or confine water and waste within a pond;
- (13) '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 clearing and recycling of process water. A pond located within a void does not require a dam where it is located entirely below the ground level of the surrounding land. An engineered pond requires a dam to contain the waste where it is located entirely or partially above the ground level of the surrounding land;
- (14) 'acid drainage' or 'alkaline drainage' means any liquid stemming from a management facility and with a pH value respectively lower than 5 or higher than 8;
- (15) 'leachate' means any liquid percolating through the deposited waste and emitted from or contained within a management facility, including acid or alkaline drainage, and likely to negatively affect the environment if not appropriately treated;
- (16) 'management facility' means the area designated on-site 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. It includes, but is not limited to, heaps and ponds. Where any dam or other structure serves to contain, retain, confine or otherwise support such a facility then it shall be deemed to form part of the facility;
- (17) 'disused facility' means a management facility that, at the date set in Article 20(1), is
  - (a) no longer operational, i.e. it does not receive waste within the scope of this Directive any more, and

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<sup>3</sup> 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 (OJ L 327, 22.12.2000, p. 1).

- (b) the identity and/or whereabouts of the waste producer is unknown;
- (18) ‘major accident’ means an incident or an occurrence on site that does or may lead to serious danger to human health and/or the environment, immediate or delayed, on-site or off-site, such as a major emission resulting from a breach or failure of a management facility or from any other developments on site, irrespective of whether this happens within or outwith the course of the operations covered by this Directive;
- (19) ‘dangerous substance’ means a substance, mixture or preparation in the sense of Directives 67/548/EEC<sup>4</sup> and 1999/45/EC<sup>5</sup> as amended;
- (20) ‘best available techniques’ has the same meaning as set out in Article 2(11) of Directive 96/61/EC<sup>6</sup>;
- (21) ‘rehabilitation’ means the working of the land affected by a management facility after the closure of the facility itself in such a way as to put back the land to a satisfactory state, with particular regard to pre-working soil quality, wild life, natural habitats, freshwater systems and landscape;
- (22) ‘restoration’ has the same meaning as set out in Article 2(16) of Directive .../.../EC<sup>7</sup>;
- (23) ‘environmental damage’ has the same meaning as set out in Article 2(18) of Directive .../.../EC;
- (24) ‘operator’ means the natural or legal person responsible for management of waste which falls within the scope of this Directive in accordance with the internal legislation of the Member State where waste management takes place, including in respect of the operational and the after-closure phases;
- (25) ‘waste producer’ means the natural or legal person whose activities produce waste within the scope of this Directive and/or any natural or legal person who carries out operations resulting in a change in the nature or composition of such waste;
- (26) ‘waste holder’ means the producer of the waste or the natural or legal person who is in possession of it;
- (27) ‘competent person’ means a natural person who has the technical knowledge and experience, as defined by the internal legislation of the Member State where the person operates, to carry out the duties arising from this Directive;
- (28) ‘competent authority’ means the authority which the Member States designate as responsible for performing the duties arising from this Directive;

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<sup>4</sup> Council Directive 67/548/EEC of 27 June 1967 on the approximation of laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances (OJ 196, 16.8.1967, p. 1). Directive as last amended by Directive 93/105/EC (OJ L 294, 30.11.1993, p. 21).

<sup>5</sup> Directive 1999/45/EC of the European Parliament and of the Council of 31 May 1999 concerning the approximation of the laws, regulations and administrative provisions of the Member States relating to the classification, packaging and labelling of dangerous preparations (OJ L 200, 30.7.1999, p. 1). Directive as last amended by Commission Directive 2001/60/EC (OJ L 226, 22.8.2001, p. 5).

<sup>6</sup> Council Directive 96/61/EC of 24 September 1996 concerning integrated pollution prevention and control (OJ L 257, 10.10.1996, p. 26).

<sup>7</sup> Directive .../.../EC of [...] of the European Parliament and the Council on prevention and remedying of environmental damage (Commission Proposal COM(2002) 17 final of 23.1.2002).

- (29) 'site' means all land at a distinct geographic location under the management control of an operator.

#### *Article 4*

### **Waste management requirements**

- (1) Member States shall ensure that the operator takes all measures necessary to prevent or reduce as far as possible negative effects on the environment, in particular on surface water, groundwater, soil, flora and fauna as well as human health, and to prevent major accidents and to limit their consequences for human health and the environment from the management of any management facility, including after its closure.
- (2) Member States shall ensure that the operator draws up a waste management plan for the treatment, recovery and disposal of waste within the scope of this Directive with a view to fulfilling the objectives laid down in paragraph (1) and minimising the impacts on the environment and human health, including after the closure of any management facilities.
- (3) The objectives of a waste management plan pursuant to paragraph (2), in particular through the application of best available techniques, shall be:
- (a) firstly, to prevent or reduce waste production and its harmfulness, in particular by:
    - considering waste management in the design phase and in the choice of the method used for the mineral extraction and treatment,
    - considering the changes that the waste may undergo by the increase in surface area and the exposure to conditions above ground,
    - backfilling waste in the void from which it originated as far as is practically feasible and is environmentally sound,
    - ensuring that top-soil is put back in place after the closure of the waste management facility or, if this is not practically feasible, that top-soil is reused somewhere else,
    - using less dangerous substances for the treatment of mineral resources,
  - (b) secondly, to encourage the recovery of waste by means of recycling, reusing or reclaiming such waste, where environmentally sound.
- (4) The waste management plan pursuant to paragraph (2) shall contain at least the following elements:
- (a) the waste characterisation in accordance with Annex II and the estimated total quantities of waste to be produced during the operational phase;
  - (b) the description of the treatment generating such waste and of any subsequent treatment or treatments;

- (c) the description of how effects on the environment or human health due to the disposal of such waste may occur and the measures to be taken in order to prevent such effects ;
- (d) the proposed control and monitoring procedures pursuant to Article 8(2)(c) and the reports pursuant to Article 8(3);
- (e) the proposed plan for the closure and after-closure procedures and monitoring provided for by Article 9;
- (f) measure for prevention of water and soil pollution, in accordance with Article 10;
- (g) the description of any technical, scientific, legal, economic, social or other reasons that have led the operator to choose the processes and, if applicable, the treatment or treatments described in subparagraph (b), and the measures described in subparagraph (c).

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.

#### *Article 5*

#### **Major accident prevention and information for the public**

- (1) The provisions of this Article shall apply to management facilities of class 1 or category A, as defined in Article 7 and shall not apply to those management facilities falling within the scope of Directive 96/82/EC<sup>8</sup> as amended.
- (2) Without prejudice to other Community legislation and in particular Directives 92/91/EEC<sup>9</sup> and 92/104/EEC<sup>10</sup>, Member States shall require each operator to draw up a document setting out the operator's major-accident prevention policy and to ensure that it is properly implemented. The major-accident prevention policy established by the operator shall be designed to guarantee a high level of protection in respect of human health and the environment by appropriate means, structures and management systems. This shall include, *inter alia*, the appointment of a Safety Quality Manager responsible for the daily supervision and implementation of the major-accident prevention policy.
- (3) In order to fulfil the requirement laid down in paragraph (2), Member States shall require the operator to produce a safety report for the purposes of:

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<sup>8</sup> Council Directive 96/82/EC of 9 December 1996 on the control of major-accident hazards involving dangerous substances (OJ L 10, 14.1.97, p. 13).

<sup>9</sup> 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) (OJ L 348, 28.11.1992, p. 9).

<sup>10</sup> 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) (OJ L 404, 31.12.1992, p. 10).

- (a) demonstrating that a major-accident prevention policy and a safety management system for implementing it have been put into effect in accordance with the information set out in point 1 of Annex I;
- (b) demonstrating that major-accident hazards have been identified and that the necessary measures (e.g. secondary containment in the case of tailings ponds) have been taken to prevent such accidents and to limit their consequences for human health and the environment;
- (c) demonstrating that adequate safety and reliability have been incorporated into the design, construction, operation and maintenance of a management facility.

Subject to all the requirements of this Article being fulfilled, safety reports, or parts of reports, or any other equivalent reports produced in response to other national or Community legislation, may be combined to form a single safety report for the purposes of this Article, where such a format obviates the unnecessary duplication of information and the repetition of work by the operator or competent authority, on condition that all the requirements of this Article are complied with.

- (4) Member States shall ensure that:
  - (a) the operator draws up an emergency plan for the measures to be taken on-site (internal emergency plan) in case of an accident and supplies to the competent authorities the necessary information to enable the latter to draw up external emergency plans as specified in subparagraph (b);
  - (b) the authorities designated for that purpose by the Member State draw up an emergency plan for the measures to be taken off-site (external emergency plan) in case of an accident.
- (5) The emergency plans referred to in paragraph (4) must be established with the objectives of:
  - (a) containing and controlling major accidents and other incidents in order to minimise their effects, and in particular to limit damage to human health and/or the environment and property,
  - (b) implementing the measures necessary to protect human health, the environment and property from the effects of major accidents and other incidents,
  - (c) communicating the necessary information to the public and to the services or authorities concerned in the area,
  - (d) providing for the rehabilitation, restoration and clean-up of the environment following a major accident.
- (6) Member States shall ensure that information on safety measures and on the action required to be taken in the event of an accident, containing at least the elements listed in point 2 of Annex I, is supplied to persons likely to be affected by a major accident originating from a management facility covered by this Article, free of charge and without their having to request it.

This information shall be reviewed every three years and, where necessary, updated. It shall also be made available to the public for inspection.

- (7) Member States shall ensure that, in case of any accident, the operator immediately supplies to the competent authority all information required to facilitate the minimisation of its consequences for human health and to assess and minimise the extent of the environmental damage occurred or likely to occur.

## *Article 6*

### **Application and permit**

- (1) No management facility within the scope of this Directive shall be allowed to operate without a permit. The permit granted by the competent authority shall contain the elements specified in paragraph (3) and shall clearly indicate the class and category of the facility according to the criteria set out in Article 7.

Subject to all the requirements of this Article being fulfilled, any other permit produced in response to other national or Community legislation may be combined to form a single permit for the purposes of this Article, where such a format obviates the unnecessary duplication of information and the repetition of work by the operator or competent authority.

- (2) The competent authority may grant an exemption from the requirement in paragraph (1) to those management facilities for the deposit of unpolluted soil or inert overburden or inert waste rock resulting from the prospecting and extraction of mineral resources or the working of quarries where the purpose is to use it to backfill the void from which it originated within one year from production, provided that the requirements of this Directive are met.
- (3) The application for a permit to the competent authority must contain at least particulars of the following:
  - (a) the identity of the operator;
  - (b) the proposed location of the waste management facility, including any possible alternative location, in accordance with the criteria laid down in Annex IV, point 1;
  - (c) the waste management plan pursuant to Article 4(2), so as to fulfil the objectives of paragraph (1) of that Article;
  - (d) where applicable, the proposed measures to prevent accidents and limit their consequences in accordance with Article 5 which meet the objectives of paragraph (3) of that Article;

- (e) the information provided by the operator in accordance with Article 5 of Directive 85/337/EEC<sup>11</sup>, if an environmental impact assessment is required under that Directive;
  - (f) adequate provisions, by way of a financial guarantee or any other equivalent as required by Article 11, made or to be made by the applicant prior to the commencement of waste disposal to ensure that the obligations (including after-closure provisions) arising under the permit issued under the provisions of this Directive are discharged and that the closure procedures required by Article 9 are followed. This financial guarantee or its equivalent shall be kept intact as long as is required by maintenance and after-closure operation of the site in accordance with Article 9;
  - (g) the financial security, as required under Article 12.
- (4) Member States shall take appropriate measures in order to ensure that the public likely to be affected by the management of waste within the scope of this Directive are formally consulted prior to the granting of a waste management permit in accordance with the provisions of Directive .../EC<sup>12</sup>.
- (5) The permit shall be granted only if the application shows that:
- (a) the operator complies with all the waste management requirements of this Directive, including the Annexes;
  - (b) the operator has undertaken suitable studies to ensure that the location of the management facility is appropriate;
  - (c) 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.
- (6) Following a successful application for a permit, the information contained in the permit pursuant to this Article shall be made available to the competent national and Community statistical authorities when requested for statistical purposes. Information of a purely sensitive commercial nature, such as in relation to business relations and cost components, shall not be made public.

### *Article 7*

#### **Classification system for management facilities**

For the purposes of this Directive, Member states shall classify management facilities which are either heaps or engineered ponds

– according to their dimension into:

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<sup>11</sup>Council Directive 85/337/EEC of 27 June 1985 on the assessment of the effects of certain public and private projects on the environment (OJ L 175, 5.7.1985, p. 40). Directive as amended by Directive 97/11/EC (OJ L 73, 14.3.1997, p. 5).

<sup>12</sup> Directive .../EC of the European Parliament and of the Council providing for public participation in respect of the drawing up of certain plans and programmes relating to the environment and amending Council Directives 85/337/EEC and 96/61/EC (Commission Proposal COM(2000) 839 final, OJ C 154 E, 29.5.2001, p. 123).

- (1) class 1: a management facility with a storage capacity of more than 500,000 m<sup>3</sup> if a heap or 250,000 m<sup>3</sup> if an engineered pond;
  - (2) class 2: any other management facility not included in class 1, and
- according to their potential risk into:
- (3) category A: a management facility whose failure or incorrect operation would present a significant accident hazard;
  - (4) category B: any other management facility not included in category A.

The criteria for determining the classification of a management facility under categories A or B are set out in Annex III.

### *Article 8*

#### **Construction and management of management facilities**

- (1) Member States shall take appropriate measures to ensure that the management of a management facility is in the hands of a competent person and technical development and training of staff are provided, *inter alia*, by encouraging the participation to the Community eco-management and audit scheme (EMAS) pursuant to Regulation (EC) No 761/2001<sup>13</sup>.
- (2) The competent authority will have to be satisfied that in constructing a new management facility (including the increase in height of a dam and/or extension of an already existing facility) the operator applies best available techniques and ensures that, in accordance with Annex IV:
  - (a) the management 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 management 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 management facility and for taking action in the event of results indicating instability or water or soil contamination. In particular, structural inspections shall take place weekly during the operational phase of the facility and records shall be kept to ensure appropriate hand over of information;
  - (d) suitable arrangements are made for the management of the management facility after operations have ceased;

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<sup>13</sup> Regulation (EC) No 761/2001 of the European parliament and of the council of 19 March 2001 allowing voluntary participation by organisations in a Community eco-management and audit scheme (EMAS) (OJ L 114, 24.4.2001, p. 1).

- (e) suitable arrangements are made for the closure of the management facility and for the return of the land to a satisfactory condition, in accordance with the permit.
- (3) Where the proposed management facility would fall into class 1 or category A, the operator shall submit, as part of the application for permit, to the competent authority reports on:
- (a) the suitability of the location for the proposed facility,
  - (b) the construction of the facility,
  - (c) the management and operation of the proposed facility, and
  - (d) the arrangements for closure, including arrangements for continuing monitoring and control of the management facility after its closure.

When submitting these reports, the operator shall include sufficient information on the professional qualifications and experience of the person preparing these items to enable the competent authority to assess whether their competence meets the requirements of the Directive.

The competent authority may require further clarifications and the development of complementary studies.

- (4) The operator notifies any events likely to affect the stability of the facility, including earthquakes, and any significant adverse environmental effects revealed by the control and monitoring procedures of the management facility within 48 hours from the event and follows the decision of the competent authority on the nature and timing of the corrective measures to be taken.

The operator shall be required to 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 purpose of demonstrating compliance with permit conditions and increasing the knowledge on waste behaviour.

#### *Article 9*

#### **Closure and after-closure procedures for management facilities**

Member States shall take measures in order to ensure that, in accordance with the permit:

- (1) a management facility shall start the closure procedure:
- (a) when the relevant conditions stated in the permit are met, or
  - (b) under the authorisation of the competent authority, at the request of the operator, or
  - (c) by reasoned decision of the competent authority;

- (2) the operator provides to the competent authority the pieces of information set out in Article 10(5) six months before closure;
- (3) a management facility may only be considered as finally closed after the competent authority has, without undue delay, carried out a final on-site inspection, has assessed all the reports submitted by the operator and has communicated to the operator its approval. This shall not in any way serve to reduce the operator's obligations under the conditions of the permit or otherwise in law;
- (4) unless the competent authority decides to take over these tasks from the operator, after a management facility has been finally closed and without prejudice to any national or Community legislation as regards 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 time during which it could present a hazard.

In accordance with Annex V, the operator shall in particular control the physical and chemical stability of any management 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 shall be monitored and conserved, with control and measuring apparatus always ready for use, and
  - (b) if applicable, the overflow channels and spillways kept clean and free;
- (5) the operator notifies any events or developments likely to affect the stability of the facility, including earthquakes, erosion and subsidence, as well as any significant adverse environmental effects revealed by the control and monitoring procedures of the waste management facility within 48 hours from the event and follows the decision of the competent authority. The operator shall adhere to any decision taken by the competent authority to require corrective measures to be taken.

The operator shall be required to 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 purpose of demonstrating compliance with permit conditions and increasing the knowledge on waste behaviour.

#### *Article 10*

#### **Prevention of water and soil pollution**

- (1) In accordance with Annex VI, the competent authority will have to be satisfied that the operator has applied, with respect to the characteristics of the management facility and the meteorological conditions, best available techniques in order to:
  - (a) evaluate the leachate generation potential of the waste disposed of during both the operational and after-closure phase of the management facility;

- (b) determine the water balance of the management facility (balance of precipitation, run-off, drainage, seepage, evaporation, water re-use etc);
  - (c) prevent surface water and/or groundwater being contaminated by the waste,
  - (d) prevent the mixing of contaminated water with non-contaminated water,
  - (e) prevent contaminated leachate generation as far as is technically achievable,
  - (f) control the transport of contaminated leachate insofar as total prevention is not or not completely possible and collect any contaminated water and leachate,
  - (g) treat contaminated water and leachate collected from the management facility to the appropriate standard required for their discharge.
- (2) If, on the basis of an assessment of environmental risks taking into account, in particular, Directives 76/464/EEC<sup>14</sup>, 80/68/EEC<sup>15</sup> and/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 management facility poses no potential hazard to soil, groundwater or surface water, the requirements in paragraphs (2) (e) to (g) above may be reduced or waived accordingly.
- (3) The measures referred to in paragraph (1) above shall include, unless the competent authority decides otherwise, a combination of a geological barrier and, if necessary, an artificial barrier according to the requirements in Annex VI.
- (4) Member States shall prohibit the disposal of waste within the scope of this Directive, whether in solid, sludgy or liquid form, to surface water, including wetlands, rivers, lakes and seas, and groundwater unless
- (a) the operator complies with the relevant requirements of Directives 76/464/EEC and/or 80/68/EEC and/or 2000/60/EC, as applicable,
  - (b) the waste to be disposed of has a negligible environmental impact on the receiving body of water, account being taken of its physical and chemical characteristics as well as the ecological requirements of fauna and flora in the receiving eco-system, and
  - (c) it can be demonstrated that any other available disposal route has a greater adverse environmental impact than surface water or groundwater disposal alternatives.
- (5) Member States shall ensure that appropriate measures are taken to prevent water and soil pollution from voids left to flood after closure. In order to do this, the operator shall provide the competent authority with information on the following elements:
- (a) layout of workings that will be allowed to flood;

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<sup>14</sup> Council Directive 76/464/EEC of 4 May 1976 on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community (OJ L 129, 18.5.1976, p. 23).

<sup>15</sup> Council Directive 80/68/EEC of 17 December 1979 on the protection of groundwater against pollution caused by certain dangerous substances (OJ L 20, 26.1.1980, p. 43).

- (b) quantity and quality of water encountered in the workings during the last two years;
- (c) predictions of the impact of any future polluting discharges to groundwater and plans for mitigation;
- (d) proposals for flood monitoring.

The elements in subparagraphs (a) to (d) shall provide sufficient information to enable the competent authority to evaluate the operator's compliance with the requirements of Directive 2000/60/EC.

- (6) In case of an engineered pond involving the presence of cyanide, the operator shall ensure that the concentration of total cyanide in the pond is reduced to the lowest possible level using best available techniques. In any case, the operator shall ensure that at any given time the concentration of cyanide in the pond does not exceed 0.2 ppm of total cyanide.

### *Article 11*

#### **Financial guarantee**

- (1) Before proceeding to grant the permit, the competent authority shall demand a guarantee, by setting up a financial deposit or other equivalent means (including industry sponsored mutual guarantee funds), for the purposes of providing readily available funds for the rehabilitation of the land affected by any management facilities at any one time.

The calculation of this financial deposit shall be weighted according to the degree of environmental threat posed by each facility, in particular taking into account the class and category of each facility and the future use of the rehabilitated land. This calculation has to be undertaken based on the assumption that independent and suitably qualified third parties will assess and perform any rehabilitation work needed to be carried out. Where sites are being subject to rehabilitation work over time, the size of the guarantee should be set accordingly.

- (2) In active operations, any authorisation to construct a new management facility shall be conditional upon the prior establishment by the operator of a guarantee as described in paragraph (1).
- (3) Every five years during the operational phase and prior to authorising the closure of a management facility, the competent authority shall proceed to review the amount of the financial guarantee for rehabilitation established before construction of any management facilities, in order to ensure compliance with the permit obligations after closure.
- (4) The competent authority shall declare to the operator that the guarantee referred to in paragraph (1) is no longer necessary after authorisation of closure.

## *Article 12*

### **Financial security**

- (1) Member States shall ensure that the operator has liability cover under an insurance policy or equivalent financial security of sufficient size to:
  - (a) carry out restoration in respect of environmental damage, and
  - (b) compensate for damage caused to property and/or persons in accordance with relevant national rules

in the event of any failure of a management facility.

- (2) The amount of cover required to be underwritten shall be set by the competent authority according to the class and category of the management facility and shall be reviewed annually in accordance with the appropriate national financial index.

## *Article 13*

### **Transboundary effects**

- (1) Where a Member State is aware that the operation of a management facility of class 1 or category A is likely to have significant negative effects on the environment of another Member State, or where a Member State likely to be significantly affected so requests, the Member State in whose territory the application for a permit pursuant to Article 6 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 consultations necessary in the framework of the bilateral relations between the two Member States on a reciprocal and equivalent basis.
- (2) Within the framework of their bilateral relations, Member States shall see to it that in the cases referred to in paragraph (1) the applications are also made available for an appropriate period of time to the public of the Member State likely to be affected so that it will have the right to comment on them before the competent authority reaches its decision.
- (3) Member States shall ensure that, in case of an accident involving such a management facility, information supplied by the operator to the competent authority pursuant to Article 5(7) is immediately forwarded to the other Member State to facilitate the minimisation of the consequences of the accident for human health and to assess and minimise the extent of the environmental damage occurred or likely to occur.

## *Article 14*

### **Inspections by competent authority**

- (1) Member States shall ensure that the competent authority organises a system of inspections or other equivalent measures of control appropriate to the type of management facility concerned. In so doing, Member States shall take into account the

recommendations on minimum criteria for environmental inspections laid down in Recommendation 2001/331/EC<sup>16</sup>. Such inspections or other control measures shall entail a planned and systematic examination of the systems being employed by the operator and a verification of their compliance with the provisions of this Directive.

- (2) Prior to the commencement of disposal operations and at least every twelve months thereafter, the competent authority shall inspect any management facility covered by Article 5 in order to ensure that it complies with the relevant conditions of the permit. This will not reduce in any way the responsibility of the operator under the conditions of the permit.
- (3) Member States shall require the operator to keep up-to-date records of all waste management operations available for inspection by the competent authority and to ensure that, in the event of a change of operator during the management of a management facility, there is an appropriate transfer of relevant up-to-date information and records relating to the facility.

#### *Article 15*

#### **Inventory of closed management facilities**

Member States shall ensure that:

- (1) within three years from the entry into force of this Directive, an inventory of closed management facilities classified under Article 7 as class 1 or category A (including disused facilities) located on their territory is carried out. Such an inventory, to be made available to the public, shall at least contain information on the following elements:
  - (a) the geo-referenced location of the site;
  - (b) the type of mineral or minerals formerly extracted;
  - (c) the types of waste present on the site;
  - (d) the physical and chemical stability of any management facility;
  - (e) whether any acid or alkaline drainage, or metal concentration, is being generated;
  - (f) the environmental conditions of the site, with particular regard to quality of soil, surface water and its receiving catchment area including river sub-basins, and groundwater;
- (2) the sites listed in the inventory referred to in the previous paragraph are classified according to the degree of their impact on human health and the environment. The upper tier of the inventory will thus include closed management facilities causing serious negative environmental impacts or which have the potential of becoming in the

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<sup>16</sup> Recommendation of the European Parliament and of the Council of 4 April 2001 providing for minimum criteria for environmental inspections in the Member States (OJ L 118, 27.04.2001, p. 41).

near future a serious threat to human health, the environment and/or property. The lower tier of the inventory will include those management facilities with no significant negative environmental impacts and no potential of becoming in future a threat to human health, the environment and/or to property;

- (3) within four years from the entry into force of this Directive, rehabilitation is started on sites classified in the upper tier in order to satisfy the requirements of Article 4 of Directive 75/442/EEC. Where the competent authority cannot ensure that the necessary rehabilitation measures are started at the same time, the competent authority shall be entitled to decide which sites must be rehabilitated first;
- (4) the financial costs for complying with the requirement of paragraph (3) are to be borne by the waste producer, insofar as the latter is known and available. Where the waste producer is unknown or unavailable, national or Community rules on liability apply.

#### *Article 16*

### **Obligation to report**

At intervals of three years Member States shall transmit to the Commission a report on the implementation of this Directive, paying particular attention to the requirements regarding closed management facilities in pursuance of Article 15. The report shall be drawn up on the basis of a questionnaire or outline drafted by the Commission in accordance with the procedure laid down in Article 6 of Directive 91/692/EEC<sup>17</sup>. The questionnaire or outline shall be transmitted to Member States six months before the start of the period covered by the report. 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 Community report on the implementation of this Directive within nine months of receiving the reports from the Member States.

#### *Article 17*

### **Penalties**

The Member States shall determine penalties applicable to breaches of the national provisions adopted pursuant to this Directive. The penalties thus provided for shall be effective, proportionate and dissuasive. The Member States shall notify those provisions to the Commission by the date mentioned in Article 20(1) at the latest and shall notify it without delay of any subsequent amendment affecting them.

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<sup>17</sup> Council Directive 91/692/EEC of 23 December 1991 standardizing and rationalizing reports on the implementation of certain Directives relating to the environment (OJ L 377, 31.12.1991, p. 48).

## *Article 18*

### **Committee**

- (1) The Commission shall be assisted by the committee established by Article 18 of Directive 75/442/EEC, hereinafter referred to as "the Committee".
- (2) Where reference is made to this Article, Articles 5 and 7 of Decision 1999/468/EC<sup>18</sup> 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.

- (3) The Committee shall adopt its rules of procedure.
- (4) Any proposals for completing the Annexes to this Directive and any subsequent amendments necessary for adapting them to scientific and technical progress shall be adopted by the Commission, assisted by the Committee.

Any amendments to the Annexes shall only be made in line with the principles laid down in this Directive.

## *Article 19*

### **Transitional provisions**

- (1) Member States shall ensure that any management facility which has been granted a permit or which is already in operation at the time set in Article 20(1) shall comply with the provisions of this Directive, with the exception of Annex IV, point 1, within three years from the date mentioned in Article 20(1).
- (2) The Commission, assisted by the Committee, shall within two years from the date mentioned in Article 21:
  - adopt provisions for the harmonisation and regular transmission of the information referred to in Articles 6(6), 8(4) and 9(5) of this Directive,
  - adopt harmonised criteria and procedures for carrying out the inventory of disused waste management facilities in accordance with Article 15,
  - complete the technical requirements for waste characterisation contained in Annex II,
  - adopt the criteria for determining the classification of management facilities according to Annex III, including any threshold concentrations for dangerous substances,

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<sup>18</sup> Council Decision 1999/468/EC of 28 June 1999 laying down the procedures for the exercise of implementing powers conferred on the Commission (OJ L 184, 17.7.1999, p. 23).

- develop the guidelines for the construction and management of management facilities contained in Annex IV, and also
  - develop closure and after-closure procedures for management facilities in accordance with Annex V.
- (3) The Commission, assisted by the Committee, shall within five years from the date mentioned in Article 21:
- adopt harmonised standards for sampling and analysis methods in relation to the Annexes of this Directive, including the determination of the permeability coefficient for a management facility.

#### *Article 20*

#### **Transposition**

- (1) Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive not later than one year after its entry into force. 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 21*

#### **Entry into force**

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

## ANNEX I

### **Major-accident policy and information to be communicated to the public**

#### **1. MAJOR-ACCIDENT POLICY**

For the purpose of implementing the operator's major-accident prevention policy and safety management system account shall be taken of the following elements. The requirements laid down in the document referred to in Article 5 should be proportionate to the major-accident hazards presented by the management facility:

- (1) the major accident prevention policy should be established in writing and 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. The identification of training needs of such personnel and the provision of the training so identified. The 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 the 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 management 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**

- (1) Name of operator and address of the management facility.
- (2) Identification, by position held, of the person giving the information.
- (3) Confirmation that the management facility is subject to the regulations and/or administrative provisions implementing this Directive and, when applicable, that the safety report referred to in Article 5(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 management 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 will 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**<sup>(\*)</sup>

### **Waste characterisation**

The waste to be disposed of in a facility shall be characterised in such a way as to allow 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 class and 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/EC<sup>19</sup>, with particular regard to its hazardous characteristics;
- (3) description of the chemical substances to be used during treatment of the mineral resource;
- (4) waste transport system to be employed.

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<sup>(\*)</sup> This Annex describes preliminary guidelines to be followed until complete guidelines, taking into account best available techniques, have been elaborated by the Committee referred to in Article 18.

<sup>19</sup> Commission Decision 2000/532/EC of 3 May 2000 replacing Decision 94/3/EC establishing a list of wastes pursuant to Article 1(a) of Council Directive 75/442/EEC on waste and Council Decision 94/904/EC establishing a list of hazardous waste pursuant to Article 1(4) of Council Directive 91/689/EEC on hazardous (OJ L 226, 6.9.2000, p. 3). Last amended by Council Decision 2001/573/EC of 23 July 2001 amending Commission Decision 2000/532/EC as regards the list of wastes (OJ L 203, 28.7.2001, p. 18).

## ANNEX III<sup>(\*)</sup>

### **Criteria for determining the classification of management facilities**

The purpose of determining the classification of a management facility under categories A or B is to complement the classification with classes 1 and 2, thereby taking into account not only the size (volume) of the management facility but also hazard factors.

At least, a management facility shall be classified in category A if:

- in the event of a breach or failure the loss of human life cannot be completely excluded, or
- it contains waste classified as hazardous according to Directive 91/689/EEC, or
- it contains substances or preparations classified as dangerous according to Directives 67/548/EEC or 1999/45/EC.

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<sup>(\*)</sup> This Annex describes preliminary guidelines to be followed until complete guidelines, taking into account best available techniques, have been elaborated by the Committee referred to in Article 18.

## ANNEX IV<sup>(\*)</sup>

### **Construction and management of management facilities**

#### **1. LOCATION OF THE FACILITY**

Without prejudice to other Community legislation, location of a management facility must take into consideration requirements relating to:

- (1) the distances from the boundary of the site to residential and recreation areas, waterways, water bodies and other agricultural or urban sites;
- (2) the existence of groundwater, surface water, coastal water or nature protection zones in the area;
- (3) the geological and hydrogeological conditions in the area;
- (4) the risk of flooding, subsidence, landslides or avalanches on the site;
- (5) the protection of the nature or cultural patrimony in the area;
- (6) the distance to any treatment installation.

#### **2. CONSTRUCTION OF THE FACILITY**

- (1) A detailed construction design shall be drawn up with special regard to the safety measures to ensure the long-term physical and chemical stability of the structure and to prevent major accidents. For any modification or increase in construction height or volume of an existing facility that is not covered by the previously approved construction design, the operator shall present a complementing design to the competent authority for prior approval.
- (2) A construction design for a management facility shall include documents that cover, in sufficient detail and depth depending on the importance of the installation and the potential risks that it may involve, the following:
  - (a) the planned total volume of the facility;
  - (b) where applicable, description of the construction materials of any dam, impermeabilisation layer, and ancillary works;
  - (c) in case of an engineered pond, description of the expected evolution of the volume of liquids in the facility throughout its operational phase, including devices for flood control during periods of maximum rainfall;
  - (d) description of any devices for drainage and dewatering to ensure the stability of the facility;

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<sup>(\*)</sup> This Annex describes preliminary guidelines to be followed until complete guidelines, taking into account best available techniques, have been elaborated by the Committee referred to in Article 18.

- (e) measures to control the quality of surface and ground water during the exploitation of the facility.

### **3. MANAGEMENT AND OPERATION OF THE FACILITY**

[to be completed]

**ANNEX V**<sup>(\*)</sup>

**Closure and after-closure procedures for management facilities**

[to be completed]

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(\*) This Annex describes preliminary guidelines to be followed until complete guidelines, taking into account best available techniques, have been elaborated by the Committee referred to in Article 18.

## ANNEX VI

### **Prevention of water and soil pollution from management facilities**

Protection of soil, groundwater and surface water is to be achieved, *inter alia*, by a combination of a geological barrier and, if necessary, an artificial barrier. The geological barrier is determined by geological and hydrogeological conditions below and in the vicinity of a management facility providing sufficient attenuation capacity to prevent a potential risk to soil and groundwater.

The base of a management facility shall consist of a mineral layer which satisfies permeability and thickness requirements with a combined effect in terms of protection of soil, groundwater and surface water at least equivalent to that resulting from the following requirements:

<b>Type of waste</b>	<b>Permeability coefficient</b>	<b>Thickness</b>
Waste with the potential of generating an acid or alkaline drainage	$\leq 1.0 \times 10^{-9}$ m/s	$\geq 5$ m
Waste without the potential of generating an acid or alkaline drainage	$\leq 1.0 \times 10^{-9}$ m/s	$\geq 1$ m

Where the geological barrier does not naturally meet the above conditions, it can be completed artificially and reinforced by other means giving equivalent protection.