



EU Legislation – Legal Background for waste management

Setting the framework / Fundamental and general provisions / Definitions

Waste Framework Dir.
(2006/12/EC)

repealed by 12.12.2010

New Waste Framework Dir.
(2008/98/EC)

into force on 12.12.2010

Hazardous Waste Dir.
(Dir. 91/689/EEC)

with
Dec. 2000/532/EC

repealed by 12.12.2010

Waste Shipment Regulation
(Reg. (EC) 1013/2006)

**Specification of waste
treatment operations**

Landfill Directive
(Dir. 1999/31/EC)

Acceptance Criteria
(Council Decision
2003/33/EC)

IPPC
(Dir. 2008/1/EC)

Incineration
(Dir. 2000/76/EC)

Specification for single waste streams

Sewage
Sludge
Dir. 86/278

Batteries and
Accumulators
Dir. 2006/66

Packaging
and
Packaging
Waste
Dir. 94/62

PCBs
Dir. 96/
59

End-of Life
Vehicles
Dir.
2000/53

WEEE
Dir. 2002/96

Waste oil Dir.
75/439

ROHS
Dir.
2002/95

Mining
Waste
Dir.
2006/21



Waste Framework Directive 2006/12/EC **(ex 75/442/EEC)**

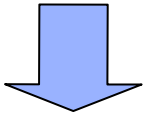


Treatment methods (Article 1)

Disposal
operations listed
in Annex II A



Recovery
operations listed
in Annex II B



Disposal Operation concerning landfills:

D 1: Deposit into or onto land (e.g. landfills etc.)

D 5: Specially engineered landfills (e.g. placement into lined discrete cells which are capped and isolated from one another and the environment, etc.)

Waste categories NOT covered (Article 2)



Gaseous effluents



**Mineral resources
working quarries**



Animal carcasses



Radioactive Waste



Waste waters



**Decommissioned
explosives**



Control of Landfilling - Record keeping and Inspections

(Art. 14):

(a) Keep record of :

- Quantity
- Nature
- Origin
- Destination*
- Frequency of collection*
- Mode of transport*
- Treatment method*

*Where relevant

(b) Make this information available, on request to the competent authority

Inspections (Art. 13):

appropriate periodic inspections by the competent authority



New Waste Framework Directive 2008/98/EC



Revision of Waste Framework Directive

The Waste Framework Directive (**2006/12/EC**) on waste has been revised in order to modernise and streamline its provisions.

The new Waste Framework Directive (**2008/98/EC**: “*Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives*” sets the basic concepts and definitions related to waste management and lays down waste management principles such as the “polluter pays principle” or the “waste hierarchy”.

Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with the new Waste Framework Directive by

12 December 2010.



Hazardous Waste Directive 91/689/EEC



Categorization of hazardous waste - Article 1(4)

Annex I

Hazardous due to category
or generic type

- 1 Hospital and clinical wastes
- 2 Pharmaceuticals, medicines
and veterinary comp.
- 3 Wood preservatives
- ...
- 40 other

Annex II

Hazardous due to
constitutes of the waste

- C 1 beryllium and comp.
- C 2 vanadium comp.
- C 3 chromium (V1) comp.
- C 4 cobalt compounds
- ...
- C 51 hydrocarbons

Annex III

Hazardous due to
properties of waste

- H 1 Explosive
- H 2 Oxidizing
- H 3 A Highly Flammable
- ...
- H 14 Ecotoxic

All hazardous wastes must be **categorized** with their unique **European Waste Code** (EWC, 6 digit code) derived from the Annexes of Decision 2000/532: List of hazardous waste

Directive 91/689/EEC on hazardous waste will be repealed by 12.12.2010



Landfill Directive 1999/31/EC



Operations excluded and exemptions permitted (Article 3)

Operations excluded from the scope of the Directive:

- **Spreading of sludges** on soil for the purpose of fertilisation
- The use of **inert waste** for redevelopment/restoration or construction in landfills
- The deposit of non-hazardous **dredging sludges** along waterways
- The deposit of **unpolluted soil**, non-hazardous **inert waste** from **mining and quarrying**



MS can declare that specific articles* do not apply for landfills (<15 kt/<1kt/y) for inert or non-hazardous waste on isolated island or in **isolated settlements**
(Notification to Commission required)

* Use only for inert; financial guarantee, cost coverage; acceptance procedures, control & monitoring, quality control



Classification of landfills (Article 4)

inert

Definition Art. 2 (e):

- Waste that does not undergo significant physical, chemical or biological transformation
- Waste will not dissolve, burn, biodegrade or react

bricks & tiles

glass & porcelain

non-hazardous

Definition Art. 2 (b) + (d):

- Municipal waste
- Waste not covered by paragraph (c)

e.g. municipal waste

hazardous

Definition Art. 2 (c):

Any waste covered by Article 1(4) of Directive 91/689/EEC on hazardous waste – listed showing the nature, constituents or properties listed in Annex I, II and III

e.g. chemicals

Waste NOT to be accepted in landfills (Article 5 (3))

Liquid waste

Waste which is:
explosive, corrosive, oxidizing, highly flammable (defined in Annex III of Directive on haz. waste)

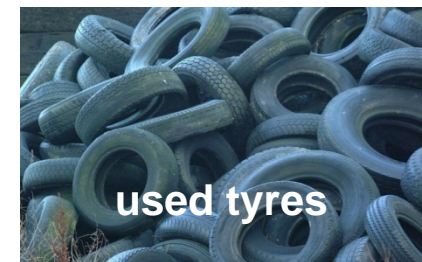


Hospital and clinical waste

from medical and veterinary establishments
(defined as infectious in Annex III of Directive on hazardous waste)



Whole **used tyres** (from July 2003)
Shredded used tyres (from July 2006),
excluded:
whole tyres used as engineering material



Article 5(3): "The dilution or mixture of waste solely in order to meet the waste acceptance criteria is prohibited."

Directive 1999/31 – Acceptance requirements (Article 6)

(a) Only waste that has been subject to treatment may be landfilled*

Treatment (Art. 2 (h)) :

- Physical processes
- Thermal processes
- Chemical processes
- Biological processes
- including sorting,

that change the characteristics of the waste in order to reduce its volume or hazardous nature, facilitate its handling or enhance recovery



* May not apply if such treatment does not contribute to prevention and reduction of negative impacts



Reduction targets for biodegradable municipal waste (Article 5)

...of amounts stated 1995 in EUROSTAT (or latest year before)



Reached aim already in 2003

* Countries which put more than **80% of Municipal Waste** (EUROSTAT 1995) into landfills may **extend the period for maximal 4 years**

(Applies e.g. for: UK, ES, all 10 new MS)

Targets to be re-examined by 2014

Commission works on Standards for Composting since 2007

It will take the MS some time to implement environmentally sound management of biowaste and the Commission will revisit the issue in the review of the Thematic Strategy on waste prevention and recycling in **2010**. Review will assess the progress of the MS and the need for additional measures, including additional legislative measures on top of the legislative measures already proposed in the Strategy package.



Definition and strategies for biodegradable waste

Any waste that is capable of undergoing anaerobic or aerobic decomposition



MS shall develop national strategies for reduction of biodegradable waste using recycling, composting, biogas production and material/energy recovery



Range of approaches – Biodegradable waste

- Bans on landfilling biodegradable waste
- Mandatory separate collection (e.g. biowaste, packaging waste, biodegradable fraction C&D waste)
- Mandatory MBT or incineration
- Incineration MSW
- Low share of landfilling



- Voluntary approaches
- Landfill taxes
- No or poor separation (e.g. only packaging, only major commercial sources)
- No or were little bans for landfilling (e.g. only animal by-products, health care waste)
- no or little energy recovery or biological treatment facilities
- high share of landfilling



Implementation examples (2005) – Biodegradable waste

- AT: Legal obligation for separate collection biowaste, packaging waste, biodegradable fraction C&D waste;
landfilling only of wastes pre-treated by incineration or MBT in order to obtain TOC <5%
- BE: Flanders: Landfilling ban for unsorted MSW, waste collected for recovery and combustible fraction (TOC >6%)
- DK: Landfilling ban for all combustible waste fractions (incineration)
- DE: General legal obligation for separation; biodegradable MSW composted, packaging waste recovered;
general ban for landfilling of untreated waste (pre-treatment MBT or incineration)



Implementation examples (2005) – Biodegradable waste

LU: separate collection kitchen, green waste, paper, wood;
pre-treatment installations for MSW at landfills (sorting, shredding,
homogenisation, organic stabilisation)

NL: High share of incineration for MSW;
targets for separate collection organic waste,
ban on landfilling separately collected biowaste (composting,
fermentation)

SE: Landfilling ban for combustible and organic waste;
high share incineration
growing share biological treatment



Information sources

2005:

„Implementation
of the Landfill
Directive
in EU 15“

- Basic characterisation
- Compliance testing
- On-site verification
- at landfill level (case studies)

2005:

„National strategies
for reduction of
biodegradable waste“

- Separation
- Treatment
- Bans to landfill
- Share

2007:

Follow-up study
implementation
DE, ES, HU, IE,
SI, SE

- Implementation into national legislation (DE, HU, SE, SI)
- Guidance Documents (IE, HU, SI, SE)
- Additional acceptance criteria
- Inspections (generally targeted on landfill operators while SE primarily addresses waste generators)

(http://ec.europa.eu/environment/waste/landfill_index.htm)



Siting and general requirements for landfills (Annex I)

1. Location

- Distance to residential areas, recreational areas, waterways
- Waterbodies, agricultural or urban sites
- Existence of water or nature protection zones
- Geological and hydrogeological conditions
- Risk of flooding, subsidence, landslide or avalanches
- Protection of nature or patrimony

2. Water control and leachate management

Control water from precipitation; prevent surface or ground water from entering the landfill body/waste, leachate collection

3. Protection of soil and water

Geological barrier, sealing system



Siting and general requirements for landfills (Annex I)

4. Gas control

Collect, treat, use

5. Nuisance and hazards

Minimise odour, dust, noise, traffic, birds, vermin, insects, fires

6. Stability

Place in a way to avoid slippage and settling

7. Barrier

Prevent free access and establish system to detect illegal dumping

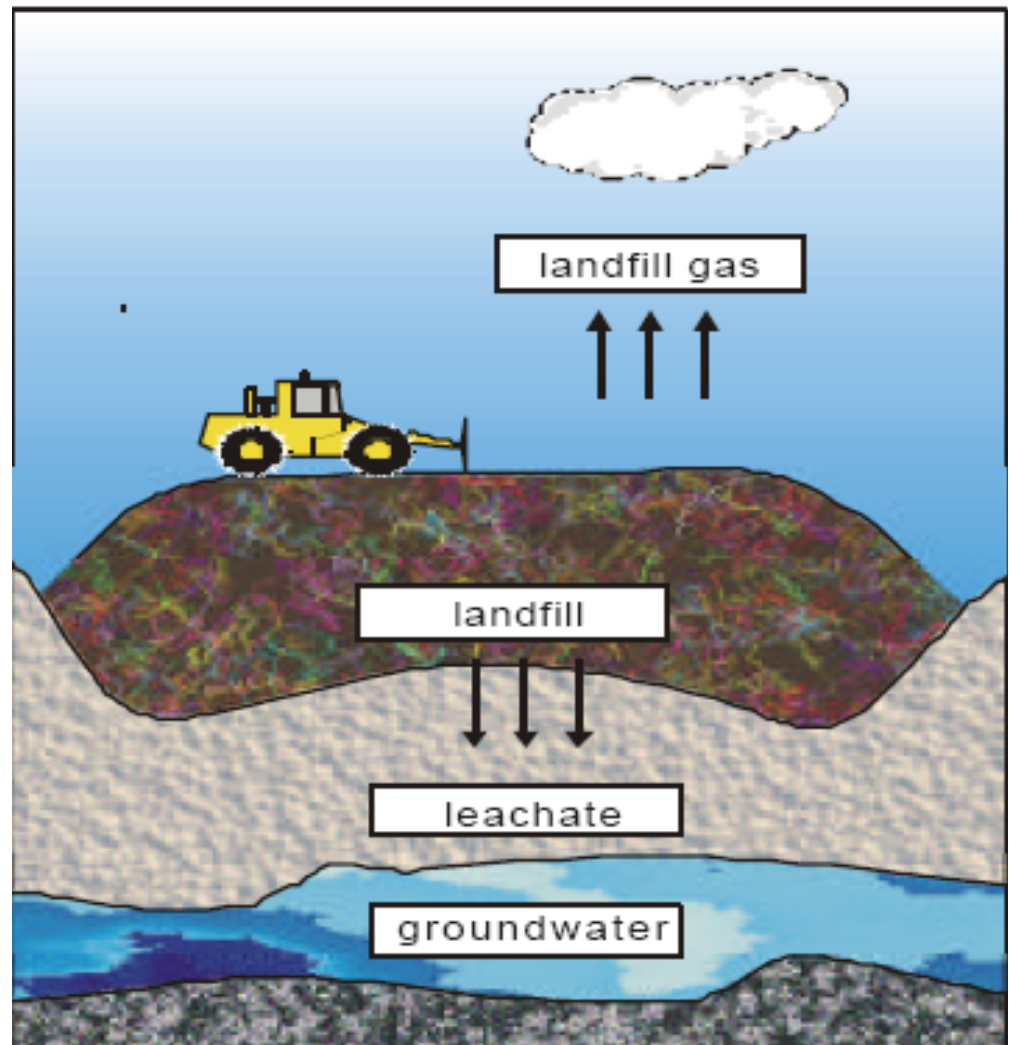


Authorization

Operation

Closure

Aftercare





Permit for disposal operation (Art. 7 and 8)

Application for permit: (Art. 7)

- (a) Identity of applicant and operator
- (b) Description of types and total quantities of waste to be deposited
- (c) Proposed capacity
- (d) Description of disposal site (incl. Hydrogeology and Geology)
- (e) Proposed methods for pollution prevention and abatement
- (f) Operation, monitoring and control plan
- (h) EIA accord. 85/337/EEC if required
- (i) Financial security

Conditions of permit: (Art. 8)

Issue of permit only if

- a (i) relevant requirements fulfilled
- a (ii) management in hand of person technically competent; development and training provided
- a (iii) necessary measures taken to prevent accidents and limit consequences
- a (iv) adequate provisions (financial security) to ensure obligations including after-care
- (b) In line with relevant WMP
- (c) inspection by competent authority prior to commencement of disposal



Minimum content of permit (Art. 9) (specifying and in supplement to Dir. 2006/12/EC and Dir. 96/61/EC)

Permit shall state :

- (a) **Class** of landfill
- (b) Defined **types** and total **quantity** of waste authorized for deposition
- (c) Requirements for **preparation, operation, monitoring, control** incl. Contingency plans (Annex III,4B), provisional requirements for closure and after-care
- (d) Obligation of **annual reporting** to competent authorities on type and quantities of waste disposed and results of monitoring (acc. Art. 12/13 and Annex III)



Permit for IPPC installation* Directive 2008/1/EC (Art. 9)

- Description of installation and its activities
- Conditions of the site
- Raw and auxiliary materials used or generated
- Source of emission
- Nature and quantities of forecastable emissions
- Proposed technology for emission prevention and reduction
- Measures to monitor emissions
- Measures to prevent pollution, use energy efficiently, prevent accidents, remediation and after-care

***applicable to landfills receiving >10 t/d or total capacity of 25 kt, excluding landfills for inert waste**



Directive 1999/31/EC – Cost calculation (Art. 10)

Member States shall take measures to ensure that all costs involved in :

1. Setting up
2. Operation
3. Financial security (as far as possible)
4. Estimated costs of closure and after-care for a period of at least 30 years

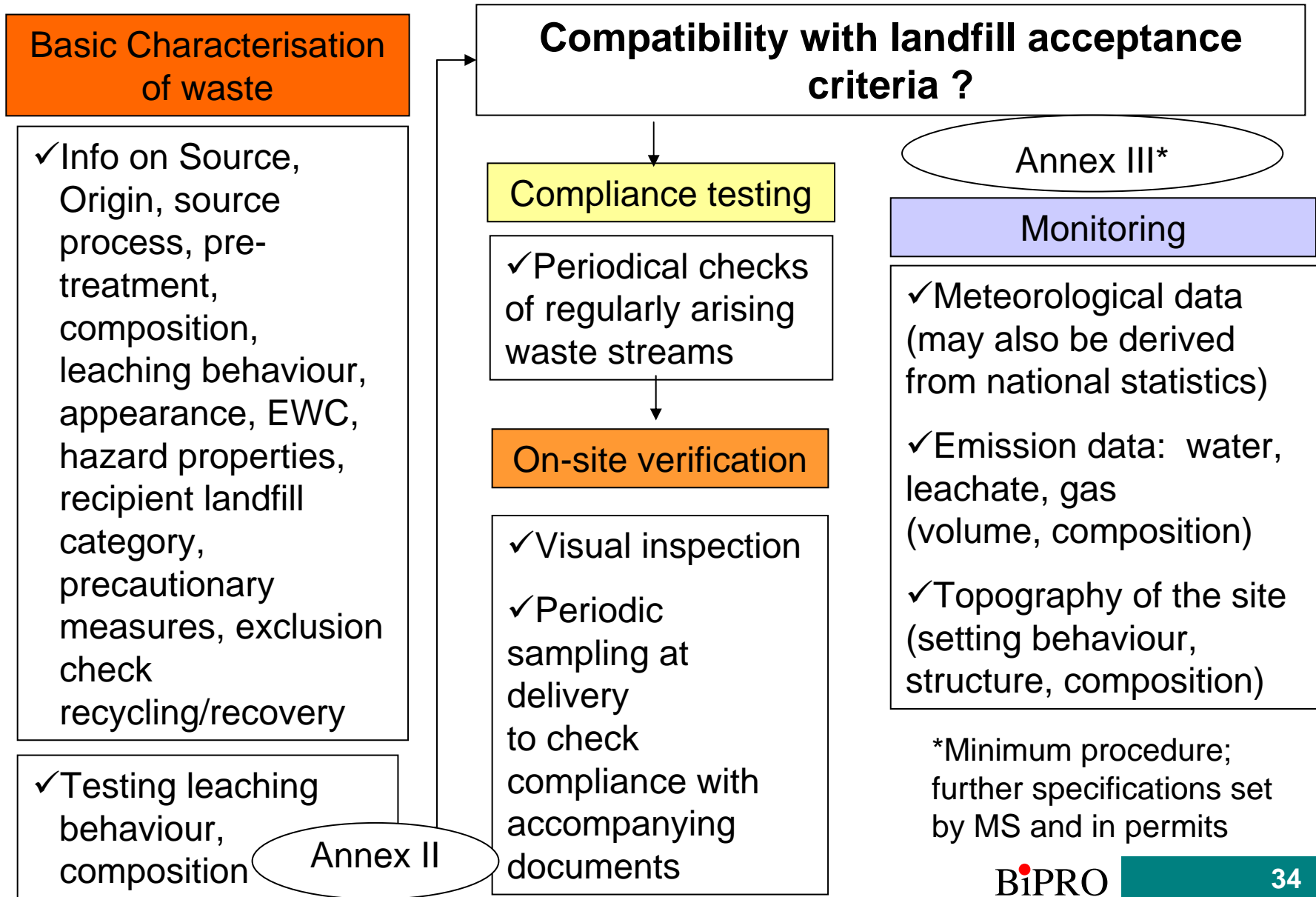
are covered by landfill fees for disposal

**To be paid
by owner,
collector or
producer**

Transparency in collection and use of necessary cost information shall be ensured acc. to Directive 90/313/EEC (free access to environmental information)



Operation of Landfills – Acceptance Control, Monitoring





Criteria and procedures for acceptance of waste at landfills (Decision 2003/33/EC)

Landfill for inert waste:
short list of acceptable inert wastes,
specific leaching limit values

Landfill for non-hazardous waste:
municipal waste, gypsum waste, stable, non-reactive
hazardous waste;
specific leaching limit values

Landfill for hazardous waste:
specific leaching limit values

**Standards for
sampling and
test methods
to be applied
since July
2005**



Control and monitoring procedures acc. Annex III of Landfill Directive

Meteorological data



Daily testing of meteorological data (temperature, volume of precipitation etc.)

Emission data: water, leachate and gas control



Frequent testing of volume and composition from leachate, gas and surface water

Protection of groundwater



Frequent testing of groundwater level and composition

Topography of the site: data on the landfill body



Yearly testing of landfill body

Control and monitoring procedures acc. Annex III of Landfill Directive

Leachate control



Leaching system,
collecting point for taking samples
and further treatment of leachate

Gas control



Gas collection system
collecting point for taking samples
and further treatment of gas

	Operating phase
Leachate volume	Monthly
Leachate composition	Quarterly
Volume and composition of surface water	Quarterly
Potential gas emissions and atmospheric pressure (CH ₄ , CO ₂ , O ₂ , H ₂ S, H ₂ , etc)	Quarterly

Specific details which are described underneath the table in the Annex have to be taken into consideration

The parameters to be measured and the substances to be analysed as well as the frequency of measuring must be laid down in the permit document



Closure / Aftercare of landfills (Art. 13)

Start of closure according to:

- permit,
- at request of operator
- at decision of authority

Operator responsible for maintenance, monitoring, control as long as required by authority

Monitoring
(acc. Annex III Landfill
Directive)



- Meteorological data
- Emission data: groundwater, leachate, gas (volume, composition)
- Topography of the site (structure and composition, setting behaviour)

Notification of any significant adverse environmental effect revealed by control procedures

Execution of corrective measures following on decision of authorities



Adaptation of existing installations (Art. 14)

Existing installations

! (permit granted or in operation at the time of transposition of the Directive)

may not continue operation

as soon as possible and
2009 at the latest

unless the following steps have been accomplished:

- (a) Operator presents conditioning plan for the site including all aspects required for permit under this Directive and corrective measures needed to comply with the requirements
- (b) Competent authorities take definite decision whether operation can continue on the basis of the plan and the requirements of 99/31/EC; if required measures to close the site in accordance with Art. 13
- (c) In case of approval, authorisation of necessary work and setting of transitional period for completion

