



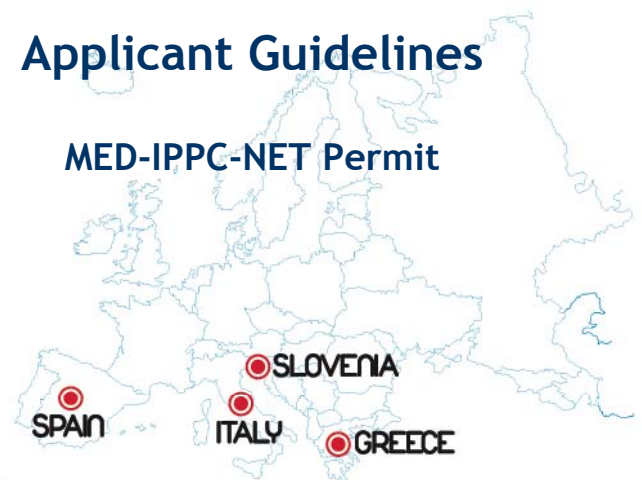
# MED-IPPC-NET

Implementing Eco-Future

Network for strengthening and improving the implementation of the European IPPC Directive regarding Integrated Pollution Prevention and Control in the Mediterranean

## Applicant Guidelines

MED-IPPC-NET Permit





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## 0. INTRODUCTION

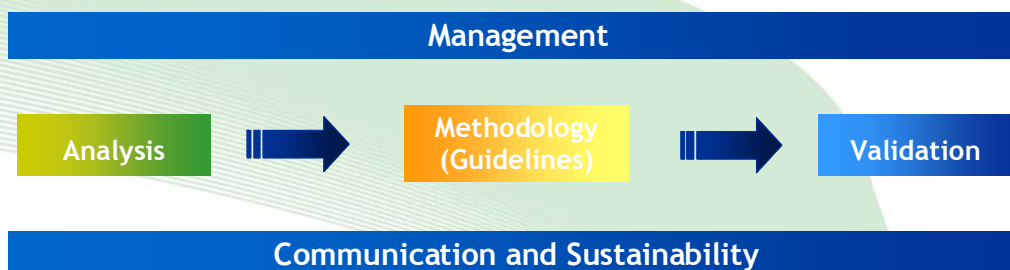
*MED-IPPC-NET "Network for strengthening and improving the implementation of Directives 96/61/EC and 2008/1/EC on Pollution Prevention and Control in the Mediterranean"* is a project co-financed by the European Regional Development Fund through the MED Programme for interregional cooperation. Its main goal is to identify key aspects in the implementation of the IPPC Directive concerning Integrated Pollution Prevention and Control (IPPC) within the Mediterranean area, in order to establish a set of good practices that should be taken into account by all regions wishing to enhance its implementation. These good practices will be validated in four industrial sectors included in the scope of the IPPC Directive (sections 1.1, 3.5, 5.4, 2.6 or 6.1), thereby encouraging the harmonization of the processes involved in IPPC permits throughout the Mediterranean.

The specific objectives of the project are those listed below:

- ✓ Strengthen *cooperation among the competent regional authorities and other bodies* directly involved in the implementation of the IPPC Directive in the Mediterranean regions, so as to advance together towards the strengthening and improvement of the implementation of the Directive.
- ✓ *Encourage the transfer of knowledge, experience and methodologies for application* in the field of IPPC Directive among the Mediterranean regions.
- ✓ *Promote the integration of regional players operating in the field of the IPPC Directive* (regional authorities, technology centres, research centres, public agencies, etc.) for the definition of common interests and developing courses of action to meet the demands of all.
- ✓ Ensure, through the establishment of common standards and the development of a unified methodology, *the strengthening and improvement of the implementation of the IPPC Directive in the Mediterranean*, so as to position the Mediterranean as a European reference in the implementation of the IPPC Directive and therefore in the environmental performance of its industrial facilities.

The project consortium has brought together the key competent actors and agencies in the implementation of the IPPC Directive (Regional Authorities, Public Agencies, Technology Centres, etc.), ensuring a wider partnership covering the whole Mediterranean area. The project has the participation of four European Union countries (Spain, Italy, Greece and Slovenia) and covers a total of seven regions (Valencia, Andalusia, Sicily, Tuscany, Piedmont, western Macedonia and eastern Styria).

The activities implemented to fulfil the objectives of the project were distributed as shown in the figure below:



Picture 1. Activities planned for the MED-IPPC-NET project



0. *Analysis of the status of implementation of the IPPC Directive* across different regions from the legislative, administrative, control and inspection system and contents of IPPC permits point of view, in order to identify potential strengths and weaknesses, facilitating the transfer of knowledge and experience among them.
1. *Design and development of a methodology* that includes common guidelines that allow or help harmonize and improve implementation of the IPPC Directive.
2. *Validation of the Methodology* through the development of a pilot project in 10 facilities of the most relevant industrial sector in each region (sections 1.1, 3.5, 5.4, 2.6 or 6.1), in order to ensure its proper implementation and usefulness.

This guide aims to provide guidance to the titular of the installation on the content of a MED-IPPC-NET Permit issued according to the Directive 96/61/CE, in order to standardize data and information transfer to the competent authority in issuing the permit (officer). Likewise, it has been used in some cases, clear and illustrative examples based on real experiences of the participating regions in order to facilitate the user to understand the scope of each of the sections.

The list of the content is in concordance with the template of the MED-IPPC-NET Permit and with the Applicant Guidelines and contains the following general sections:

- **General information:** It describes the conditions and obligations of the owner of the facility, including description of the facility, disciplinary proceedings and other authorizations, licenses and environmental permits included in the MED-IPPC-NET Permit.
- **Environmental conditions:** It establishes, for each of the environmental aspects, emission limit values and applicable technical requirements, including requirements related to best available techniques, monitoring and control plan, purification systems and environmental information.
- **Technical annexes:** It completes The information included in the preceding paragraphs, providing related requirements, on the one hand, with the methods and test conditions and sampling (including production equipment and measuring devices) and, on the other hand, environmental performance indicators.

The design and development of this document is based on the study and analysis of the content of permits issued in the regions participating in the project to meet the requirements arising from the implementation of the IPPC Directive. Likewise, this document has been validated in the 10 most important industrial sectors of each of the regions.

The methodology used to identify sections and subsections that are going to be part of the MED-IPPC-NET Permit was as follows: from permits issued in each of the regions, it has been implemented an analysis of their content allowing the identification of the major sections included in most of the permits reviewed.

Finally, it is important to note that the content of the MED-IPPC-NET Permit issued by the competent authority will depend, among others, on factors as the characteristics of the facility, the powers conferred on the competent authorities in the field of environment, the level of transposition of the implementation of the IPCC Directive into its national law... In this regard, it is made a call on each region or each competent authority for the assessment of the feasibility and suitability of taking into account the proposals outlined in this guide as well as how to carry it out.





## 1. GENERAL INFORMATION

### 1.1. DESCRIPTION OF THE INSTALLATION

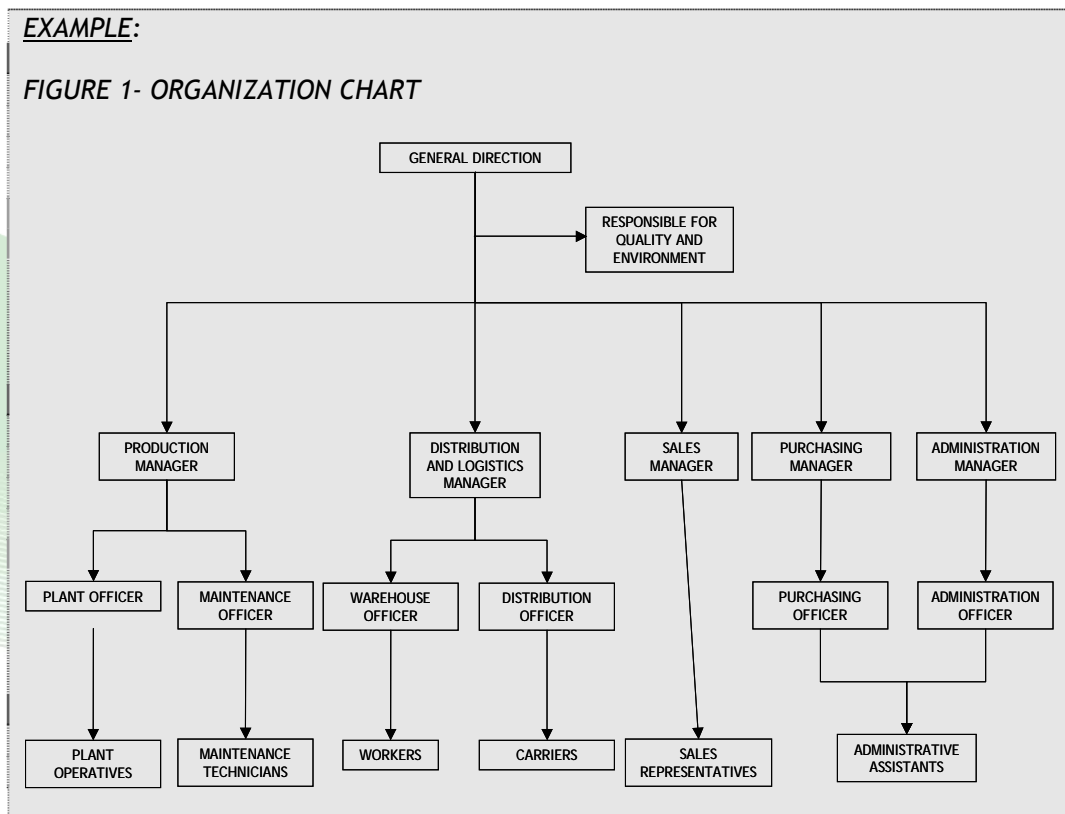
#### 1.1.1. DATE OF THE INSTALLATION

The following data of the installation should be included (maximum 1 page):

- Name of the company, trade name, VAT number, full address (including location, province, town, region and country), telephone, fax, e-mail.
- Owner of the installation, operator, legal representative, person in charge of the plant or production (if applicable), person in charge of the environment (if applicable) and contact person with his/her corresponding data (full name, position in the company, address, telephone and e-mail).
- Number of work centres, plants, delegations, headquarters, corporate address, ... The data of the contact person, position, address, telephone, fax and e-mail should be included for each of the centres.
- Register number of industrial establishments.
- National Classification of Economic Activities (CNAE).
- Epigraph of the IPPC Directive to which the main activity and associated production capacity belong.
- Total number of workers.
- Investments targeted to environmental improvements.
- Organization chart (hierarchic representation of the staff with their corresponding positions or jobs).

#### EXAMPLE:

FIGURE 1- ORGANIZATION CHART





- For each job, its functions and responsibilities should be defined.
- Current number of workers (for existing installations) and future workers (for new installations) for each job.
- Work turns, indicating the number of workers and the time slot of each of the work turns.

### 1.1.2. LOCATION OF THE INSTALLATION

The UTM coordinates should be included, attaching a location map (at scale, for instance, 1:25000) and an installation map (at scale 1:1000 or 1:5000).

Local and/or regional information on the urban planning, soil uses and conditions (orographical, morphological, geological conditions, ...), soil classification (urban land, non-urban area, rural land, and industrial and special soils, ...) and weather conditions.

### 1.1.3. CHARACTERISTICS OF THE INSTALLATION

The following data should be included:

- Production capacity and planned annual production: indicate the present capacity (if any) and the capacity applied for. Relevant capacity measures shall be as described in the regulation on IPPC enterprises or where no capacities are mentioned here, as relevant for the activity (units, raw material use, etc.).
- Installation power.
- Operation time of the plan: indicate hours and days per week of the activity normal operation. Indicate also if the activity occasionally is operated in other periods (weekly annual variations, peak loads, etc.).
- Planned date for commencing and completion of building activities: date planned for commencing building activities (for new installations or substantial changes).
- Planned date for starting operation (for new installations or substantial changes).

### 1.1.4. DESCRIPTION OF THE PRODUCTION PROCESS, ACTIVITIES AND PRODUCTS

Describe the production cycle, with a schematic flow chart divided in phases<sup>1</sup>, with identification of each stage although this several times in the same configuration or temporarily inactive. Also indicate the timing of operating standards of production as a whole.

For each phase found achieve a card bearing the name and number of corresponding phase in which detailed analysis is made of that step, with the following schedule:

<sup>1</sup> The term "phase" means any transaction in which the raw materials and auxiliaries, even if made from waste, and intermediates are working on a continuous or discontinuous, extracted, processed, combusted, lively, mixed use, supplied, stored, etc.



**NOTE 1:**

*The level of detail should be agreed with the permit issuing authority before the final application is forwarded to the authority.*

**NOTE 2:**

*The description of the production process can be supplemented or replaced (in case it collects the same data) with the following information:*

*(1) Cadastral map showing the sheet and the plots and extend the area for planting.*

*(2) Plan to scale not less than 1:1000 which are highlighted, in addition to the plant, adjacent buildings and their height.*

*(3) Plant site plan in appropriate scale, which are identified areas occupied by each production facility or service (eg. Kilns, reactors, storage, spray booths, heat generators, the abatement equipment, etc..) And all atmospheric emission points (stacks, vents, flares, aspirations to work environment, etc.). marked by a serial number.*

**NOTE 3:**

*For all quantitative data on emissions and fuel consumption or production of substances indicating whether the data are measured, calculated or estimated in any case attach certified analytical measurement, the calculation procedure followed or the criteria used to estimate.*

**NOTE 4:**

*For existing installations, whether on stage are subject to change, in which case explicitly characterize the current situation and predicted.*

A) **Substances and energy input:** Type, characteristics and quantity of each material initiated at the stage, are also possible including the following contributions:

- ◆ Fuels.
- ◆ Waste from third parties or self, must be specified in the particular type of goods, the danger, the ERC, the physical nature, the chemical composition - physical.
- ◆ Energy.
- ◆ Water, indicating the case of supply of water from outside or recirculated or emunction.

B) **Description:** description of the stage by explaining the process used in its theoretical principles and state the possible chemical reactions, indicate the duration, the methods of implementation, operation and continuity or discontinuity.

C) **System description of the stage at the service of a service phase showing:** size, capabilities and operating conditions, control systems and control, maintenance program, plant maturity, etc. Characterize the state of technical minimum time required for the achievement of operating conditions and the interruption in the installation, then declare the operating conditions corresponding to the minimum technical.





- D) *Output products type*, characteristics and quantity of each material out of the hour during the day and year, indicating for each destination.

**EXAMPLES:**

Sirvan de ejemplos para los epígrafes 1.1, 2.6 y 3.5:

**COMBUSTIÓN PLANTS (1.1)**

Stage(1)	Technology (2)	Fuel	Power (Mw <sub>t</sub> )
Combustion	Boiler	Solid fuels	> 300
			< 500
			≥ 500
			50 - < 300
			≥ 300 - < 500
			Independent from thermal power
	Gaseous fuels	Independent from thermal power	
Steam turbine	Gaseous fuels	Independent from thermal power	

**SURFACE TREATMENT (2.6)**

Stage		Technology	Fuel	Power (Mw <sub>t</sub> )	
Pre-treatment	Polish	Mechanical or manual polish	NA	NA	
		Chemical polish	NA	NA	
	Stripping	Stripping acid baths	NA	NA	
		Stripping alkaline baths	NA	NA	
Degrease	Degreasing baths	NA	NA		
Surface Treatment	Electrolytic processes	Anodize	Anodizing tank	NA	NA
		Chromium-plating	Chromium-plating tank	NA	NA
		Zinc coating	Zinc coating tank	NA	NA
		Nickel plating	Nickel plating tank	NA	NA
	Chemical processes	Passivation	Passivation tank	NA	NA
	Immersion in molten metal baths	Hot dip galvanizing	Hot dip galvanizing tank	NA	NA
Galvanizing furnace			NA	NA	
Finish	Painting	Painting cabin	NA	NA	
		Enamel cabin	NA	NA	
		Varnishing cabin	NA	NA	





Drying	Cataphoresis tank	NA	NA
		Polymerization furnace	Natural Gas
	Propane		NA
	Drying furnace	Natural Gas	NA
		Propane	NA
	Diesel fuel	NA	
	Drying stove	NA	NA
Immersion drying	Natural Gas	NA	

**CERAMIC INDUTRY (3.5)**

Stage	Technology	Fuel	Power (Mw <sub>t</sub> )
Raw materials conditioning and moulding	Mill, extruder, press and mixer	-	NA
Drying	Dryer	Natural Gas	NA
		Biomass	NA
		Coke	NA
		Fuel-oil	NA
Burning	Tunnel Furnace	Natural Gas + Coke	NA
		Natural Gas + Fuel-oil	NA
		Fuel-oil	NA
		Coke + Fuel-oil	NA
		Coke + Biomass	NA
	Hoffman Furnace	Coke and marc	NA
		Coke y fuel-oil	NA
		Natural Gas	NA
	Intermittent Furnace	Natural Gas	NA

(1) Stage: stage or phase of the production process.

(2) Technology: equipment or production technique.



### 1.1.5. MAIN ASPECTS AND ENVIRONMENTAL IMPACTS PRODUCED

Foreseen consumptions: fill in list of the raw and auxiliary materials, substances, preparations, fuels, energy and water utilised or produced in the activity.

The list (s) should be very comprehensive, all raw materials and chemicals used, fuels, intermediaries and products should be included. This applies also to the amount of raw materials and output figures.

A table for each of the following environmental aspects should be included:

- Materials and substances (non dangerous raw materials used in the production, non dangerous auxiliary substances used in the production, dangerous raw materials and substances used in the production, dangerous auxiliary materials and substances used in the production, dangerous intermediaries formed in the production, dangerous substances in the product).
- Energy (use of fuel for heat and steam generation and for transport inside the enterprise not including use of fuel for production of electricity or combined power and heat, use of heat and steam from external suppliers, use of electricity, use of fuel for production of electricity and heat -power plants and boiler houses-).
- Water (use of water in the processes, intake of surface, ground and marine water -detailed description of intake-). Give data about water consumption:
  - Name of water source.
  - Exact location of measuring profile.
  - Description of water intake plant and equipment.

#### EXAMPLES:

**TABLE 1- USE OF RAW MATERIALS, AUXILIARIES, ETC. NOT CONTAINING DANGEROUS COMPONENTS OR SUBSTANCES**

Ref. No or Code	Material / Substance (1)	Type of material (2)	Used for (3)	Annual usage tonnes

- 1) Raw materials are all materials that appear in the product.
- 2) Type of material: metals, wood, plastic, minerals, oil products, tar products, organic chemicals, inorganic chemicals, vegetable, animal, paint with less than 5% VOC, paint with more than 5% VOC, others.
- 3) Storage in barrels, tanks (type), under ground, outdoor, indoor, etc. Max and average storage. Give reference to map.

**TABLE 2.- USE OF RAW MATERIALS, AUXILIARIES, ETC. CONTAINING DANGEROUS COMPONENTS OR SUBSTANCES**

Ref. No or Code	Material / Substance (1)	Type of material (2)	Used in the production for (3)	Dangerous component (4)	Amount stored and way of storage in tonnes (5)	Annual usage tonnes

- 1) Raw materials are all materials that appear in the product.
- 2) Type of material: metals, wood, plastic, minerals, oil products, tar products, organic chemicals, inorganic chemicals, vegetable, animal, paint.



- 4) *Dangerous components in this context are preparations or substances which are or should be marked with one or more of the danger categories mentioned in the brackets below. Write the dangerous component, the danger category /Tx, T, Xn, N, Fx, F, E) and the % content. Dangerous component are preparations or substances which are or should be marked with category label mentioned in the brackets according to Regulation.*

*Mass balances: where possible please give mass balances for the dangerous components. The issuer of the permit (officer) may required that a mass balance is made for certain components. The mass balance shall the % of the dangerous components in waste water, waste, air and in the product.*

**TABLE 3 - USE OF ENERGY**

Ref. No or Code	Type of material (1)	Used for	Annual usage(m3, l, etc)

*(1) Type of material: methane, diesel fuel, etc.*

Ref. No or Code	Type(1)	Used for	Annual usage (MW)

*(1) Type of material: electricity, etc.*

**TABLE 4 - USE OF WATER**

Ref. No or Code	Type of source (1)	Used for	Annual usage (m3)

*(1) Type of source: well, depurator etc.*

## 1.2. GENERAL CONDITIONS

### 1.2.1. FILE

*To be completed by the competent authority (officer).*

### 1.2.2. PERIOD OF VALIDITY OF THE MED-IPPC-NET PERMIT

*To be completed by the competent authority (officer).*

### 1.2.3. DISCIPLINARY PROCEEDING

*To be completed by the competent authority (officer).*





#### 1.2.4. ENVIRONMENTAL DISCIPLINE PROCEDURE

*To be completed by the competent authority (officer).*

#### 1.2.5. GENERAL OBLIGATIONS OF THE OWNER OF THE INSTALLATION

*To be completed by the competent authority (officer).*

#### 1.2.6. PROCEDURE COSTS OF THE MED-IPPC-NET PERMIT GRANTING

*To be completed by the competent authority (officer).*

### 1.3. FACTUAL BACKGROUND

*To be completed by the competent authority (officer).*

### 1.4. LEGAL BACKGROUND

*To be completed by the competent authority (officer).*

### 1.5. DECLARATIONS

*To be completed by the competent authority (officer).*

### 1.6. AUTHORITIES INVOLVED IN THE MED-IPPC-NET PERMIT GRANTING PROCESS

*To be completed by the competent authority (officer).*

### 1.7. OTHER AUTHORIZATIONS, LICENCES AND ENVIRONMENTAL PERMITS

Include a list with of all permits, licenses and environmental authorizations that the facility had until the moment of application for a MED-IPPC-NET Permit.

#### EXAMPLES:

*Among others:*

- (1) License to discharge liquid waste.*
- (2) Wastes producers and managers (hazardous and non-hazardous).*
- (3) Authorization of emission of greenhouse gases.*
- (4) Any reference to Environmental Management Systems according to the international standard ISO 14001 or the Eco-Management and Environmental Audit Scheme (EMAS), indicating the date of issue of the relevant certificate or registration.*



## 2. ENVIRONMENTAL CONDITIONS

### 2.1. ATMOSPHERIC EMISSIONS

#### 2.1.1. CHANNELLED EMISSIONS

##### 2.1.1.1. Requirements and Technical Conditions

- ✓ Characterization, emission points or sources and pollution parameters

For each stage of the production cycle of paragraph 1.1.4, the following elements will be defined:

A) *Gaseous effluents generated*: characterize the waste gases that originate from being specified, qualitative, quantitative and time needed to stop emissions, the description should at least provide the following data (see notes 1 and 2):

- Air flow [ $\text{m}^3 / \text{h}$  to  $0^\circ\text{C}$  and  $0,101\text{MPa}$ ].
- Temperature.
- Pollutants indicating mass flow [ $\text{kg} / \text{h}$ ] and concentration [ $\text{mg} / \text{m}^3$ ] shall indicate pollutants actually emitted, in particular.

B) *Allocation of emissions*: the emissions produced by single stage, specify the destination, indicating mode of treatment / disposal. In particular, indicate whether each issue.

- ◆ Is piped directly to the outside (in this case number and indicate the point of emission in the plan) to characterize the emission point (height to ground level, diameter, outlet horizontal / vertical).
- ◆ Is sent to the slaughter plant (whether dedicated to a single stage or shared with other stages).
- ◆ Is sent to the successive phases of work.

C) *Abatement equipment*: technology adopted for the treatment of emissions originated solely by single stage considered, including information on:

- ◆ Operating conditions, control systems and control.
- ◆ Incoming materials (including any fuel and water) and outbound destination).
- ◆ Specify the presence of potential steps from the array phase gas liquid or solid.
- ◆ Mode, timing and frequency of routine maintenance of the installation or removal system, a residual.
- ◆ Emission points (and identify them on many on plan).

#### NOTES:

(1) *For new plants or subject to change: specify the time limit for making the system installation.*

(2) *Attach the summary of emissions to be completed directly on the specimen attached in every voice, in agreement with the particular sequence.*

(3) *It should be indicated whether the value has been measured (M), calculated (C), estimated (E), and the method, using the following acronyms:*



*For measured values: Standard abbreviation (UNE, ISO, EPA...) to regulations or standards at international level, PER for method prescribed in license or permit, NRB for national or regional measurement method prescribed in a legal act for a pollutant and complex, ALT for alternative measurement method, MRC for measurement method whose performance is demonstrated using Certified Reference Materials and OTH for other methods of measurement.*

*For calculated values: ETS, IPCC, ONU/EMEP for calculation method internationally recognized, PER for calculation method prescribed in the license or permit, NRB for national or regional calculation method prescribed in a legal act for a pollutant and complex, MAB for material balance accepted by competent authorities, SSC for specific calculation method of the sector at European level and OTH for other calculation methods.*

*(4) It must be provided the information used in the determination of data: report from the Administration Collaborating Entity on environmental matter / Self-control / Monitoring / Mass balance or emission factor and source /...*

This table should be included:





Emission point		Flow (Nm <sup>3</sup> /h)	Emission duration (h/day)	Frequency in 24 hours	T <sup>a</sup> (°C)	Pollutant		Method		Emission point height above ground (m)	Diameter or side section (m or m <sup>2</sup> )	Abatement system <sup>2</sup>	Observations
No	Source					Type	Concentration (mg/Nm <sup>3</sup> )	Type	Description				

<sup>2</sup> For example: C= Cyclone; F.T.= Fabric filter ; P.E.= Electrostatic precipitator; A.U.V.= Venturi wet scrubber; A.S.= Absorber; A.D.= Adsorber; P.T.= Thermal post-combustion; P.C Catalytic post-combustion; Others= specify.





### 2.1.1.2. Limits

- ✓ Reference Values, according to the law

*To be completed by the competent authority (officer).*

- ✓ Reference Values, according to the BATs

*To be completed by the competent authority (officer).*

- ✓ Emission Limit Values

*To be completed by the competent authority (officer).*

### 2.1.1.3. Best Available Techniques

- ✓ Current situation and comparison with the BATs

You should make a reconnaissance of the BREF documents available, both vertical and horizontal.

Should therefore be made a comparison between the different BAT applicable and what is currently done.

Emission point		Pollutant	Plant state (BAT applied or not applied)
No	Source		

- ✓ Actions and deadlines to meet the BATs

Should then be formulated proposals for compliance with the BAT with the appropriate timing adjustment. These aspects can be explained in tabular form as follows.

Emission point or source		Pollutant	BAT	Plant state (BAT applied or not applied)	Adaptation with deadline indication
No.	Source				

Specify, by evaluating both qualitative and quantitative environmental improvement expected in terms of reducing pollution from all IPPC, as a result of planned operations.



**2.1.1.4. Plan for Monitoring and Control**

- ✓ Emission point or source, parameter pollutant, sampling, control and data collection, transmission and registration system

Plan for Monitoring and Control (PMC) proposal contains the program of readings verification be made by the proposer during the period of validity of the MED-IPPC-NET Permit.

The PMC should include:

Emission point	Pollutant	Monitoring				
		No.sample	Internal/ External	Frequency	Description	Reports

Emission point	Pollutant	Control			
		Internal/ External	Frequency	Description	Reports

**NOTES:**

(1) It is understood as control activities those carried out by the owner of the facility or a Collaborating Organisation of the Administration as regards environmental protection and/or an accredited Testing Laboratory aimed at ensuring that operations performed by facilities that have associated significant environmental aspects (e.g. air emissions) are being developed according to the environmental requirements imposed on permits (e.g., maintenance of production equipment and/or reduction/treatment systems).

(2) It is understood as monitoring activities those activities carried out by the competent authority or by the staff deemed appropriate oriented regularly to check that the significant environmental aspects related to operations implemented by the facilities meet the environmental requirements imposed on permits (for example, periodic inspections according to the applicable sectoral environmental legislation, regulatory inspection every 3 years of atmospheric emissions from the combustion boiler.)





**EXAMPLES:**

Emission point	Pollutant	Monitoring				
		No. sample	Internal/External	Frequency	Description	Reports
Oil boiler	Dust	7	External	Every 2 years	Regulation inspection by an Administration Collaborating Entity as regards environmental matters	External audit report
		-	Internal	Continuously	Self-control	Data transmission

Emission point	Pollutant	Control			
		Internal/External	Frequency	Description	Reports
Oil boiler	Dust	Internal	Every 6 months	Maintenance	Registration of maintenance activities

**2.1.1.5. Depuration system**

Abatement equipment centralized: Description and design of the abatement equipment adopted for the treatment of emissions from multi-stage (the abatement equipment at the service of emissions from two or more stages conveyed together) with information on:

- operating conditions, control systems and control
- efficiency of abatement
- incoming materials (including any fuel and water) and outbound destination
- power consumption
- drawing or diagram of the installation or removal system described.
- mode, timing and frequency of routine maintenance of the installation or removal system, a residual
- emission points (identify them on plan).



This table should be included:

Prior to treatment							Treatment/ Depuration system	After treatment					
Emission point or source		Pollutant	mg/Nm <sup>3</sup>		g/s			mg/Nm <sup>3</sup>		g/s		t/y	
No.	Source		monthly average	max	average	max		monthly average	max	average	max	average	max



### 2.1.1.6. Environmental information

Periodic reports, preferably with a technical report and tables of summary information (eg Excel / Access) that will bring the summary of all monitoring performed explicit information provided by Plan Monitoring and Control. Timely reporting of abnormal situations and/or failures that may cause abnormal emission situation.

Likewise, an integrated database with emission data or pollutant releases (Directive 2000/60/ES) is often called a Pollution Release and Transfer Register (PRTR) or a Pollutant Emission Register (PER). Important characteristics of a national PRTR/PER include:

- Facilities periodically send a mandatory report to the competent authorities on their releases to air, water, soil and wastes (see the following table).
- Emission data of specific pollutants from individual facilities are accessible to the public.

TABLE. - POLLUTION RELEASE AND TRANSFER REGISTER (PRTR)						
Pollutant	Method	Trial/ factor used	T (total) kg/year	A (accidental) kg/year	Coding of contributing sources	Comments

**NOTES:**

(1) *Pollutant: those air pollutants emitted included in the PRTR Regulation should be included.*

(2) *Method: indicate whether the value has been measured (M), calculated (C), estimated (E), and the method, using the following acronyms:*

*For measured values: Standard abbreviation (UNE, ISO, EPA...) to regulations or standards at international level, PER for method prescribed in license or permit, NRB for national or regional measurement method prescribed in a legal act for a pollutant and complex, ALT for alternative measurement method, MRC for measurement method whose performance is demonstrated using Certified Reference Materials and OTH for other methods of measurement.*

*For calculated values: ETS, IPCC, ONU/EMEP for calculation method internationally recognized, PER for calculation method prescribed in the license or permit, NRB for national or regional calculation method prescribed in a legal act for a pollutant and complex, MAB for material balance accepted by competent authorities, SSC for specific calculation method of the sector at European level and OTH for other calculation methods.*

(3) *Trial/factor used, indicate the reference standard of the test in which is based the measure, or the emission factor in which is based the calculation.*

(4) *Total: Include diffuse and/or fugitive emissions.*

(5) *Comments: It must be provided the basic information used for determining the reported data: Collaborating Organization Report/Self-control/Monitoring, if measured method.*





**2.1.1.7. Other requirements and specific Technical Conditions.**

Include other items not covered in the preceding paragraphs (eg. greenhouse gases...).

**2.1.2. NON-CHANNELLED EMISSIONS (DIFFUSE)**

**2.1.2.1. Requirements and Technical Conditions**

Sources of fugitive emissions and identifying the substances that may be present in such emissions, as well as the existence of nearby villages. Must also be given adequate technical arguments to demonstrate the non-channelling of such emissions. If the issue is technically conveyed submit a proposal, which are described in the terms and timing of conveyance.

Se deberá cumplimentar la siguiente tabla:

Non-channelled emission point		Pollutant
No.	Source	

**EXAMPLES:**

Non channelled emission point		Pollutant
No.	Source	
Inmisión	Vehicular traffic	Total suspended particles Sedimentary particles SH <sub>2</sub>
	Waste vessel	
	Leachates accumulation	
	Leachates forced evaporation plant	



### 2.1.2.2. Limits

Estimation or calculation of fugitive emissions arising from the establishment, expressed as a mass flow of each pollutant, describing the procedure of estimation / calculation used to obtain the quantities. If the estimate is made from measurements taken in the workplace, you must attach the relevant certificate and an analytical plan on which are marked sampling points.

Pollutant	Unit	Average inmission					
		Point 12	Point 2	Point 3	Point 4	Point 5	Point n
		UTM (huso 30) X: Y:	UTM (huso 30) X: Y:	UTM (huso 30) X: Y:	UTM (huso 30) X: Y:	UTM (huso 30) X: Y:	UTM (huso 30) X: Y:

#### EXAMPLES:

Pollutant	Unit	Average inmission					
		Point 1	Point 2	Point 3	Point 4	Point 5	Point n
		UTM (huso 30) X: Y:	UTM (huso 30) X: Y:	UTM (huso 30) X: Y:	UTM (huso 30) X: Y:	UTM (huso 30) X: Y:	UTM (huso 30) X: Y:
Total suspended particles	$\mu/m^3$						
Sedimentary particles	mg/m <sup>2</sup> day						
SH <sub>2</sub>	$\mu/m^3$						

(\* ) It must be enclosed a sketch showing the location of control points with regard to the facility, indicating, if

- ✓ Reference Values, according to the law

To be completed by the competent authority (officer).

- ✓ Reference Values, according to the BATs

To be completed by the competent authority (officer).

- ✓ Emission Limit Values

To be completed by the competent authority (officer).



### 2.1.2.3. Best Available Techniques

Description for each stage of installed systems or precautions taken to reduce fugitive emissions. A description of any planned improvement works, detailing the deadlines laid down and estimate the proposed reduction of fugitive emissions.

✓ Current situation and comparison with the BATs

Emission point		Pollutant	Plant state (BAT applied or not applied)
No	Source		

✓ Actions and deadlines to meet the BATs

Emission point or source		Pollutant	BAT	Plant state (BAT applied or not applied)	Adaptation with deadline indication
No.	Source				

**EXAMPLE:**

Emission point or source		Pollutant	BAT	Plant state (BAT applied or not applied)	Adaptation with deadline indication
No.	Source				
	Non-channelled emission	Total suspended particles and Sedimentary particles	Automated irrigation system	YES	-
			Periodic sweep of dust from the machinery and trucks areas of traffic	YES	-
			Paving of outdoor areas and access to the factory	NO	6 months





### 2.1.2.4. Plan for Monitoring and Control

Plan for Monitoring and Control (PMC) proposal contains the program of readings verification be made during the period of validity of the MED-IPPC-NET Permit.

The PMC should include:

Emission point	Pollutant	Monitoring				
		No.sample	Internal/External	Frequency	Description	Reports

Emission point	Pollutant	Control			
		Internal/External	Frequency	Description	Reports

#### EXAMPLES:

Emission point	Pollutant	Monitoring				
		No. sample	Internal/External	Frequency	Description	Reports
Non-channelled emission	Total suspended particles, sedimentary particles and SH <sub>2</sub>	3 points properly distributed throughout the facility	Internal	Once a year	The sampling of air quality will be done in the worst conditions, with all the activities responsible for channelled and diffuse emissions into operation	Internal control report
	External		Every 2 years	External control report		

Emission point	Pollutant	Control			
		Internal/External	Frequency	Description	Reports
Non-channelled emission	Total suspended particles and sedimentary particles	Internal	Continuous	Automated irrigation system	-
			Weekly	Periodic sweep of dust from the machinery and trucks areas of traffic	Cleanup activities registry
			Isolated case	Paving of outdoor areas and access to the factory	Final report of the work



### 2.1.2.5. Environmental information

Periodic reports, preferably with a technical report and tables of summary information (eg Excel / Access) that will bring the summary of all monitoring performed explicit information provided by Plan Monitoring and Control. Timely reporting of abnormal situations and/or failures that may cause abnormal emission situation.

### 2.1.2.6. Other requirements and specific technical conditions

Include other items not covered in the preceding paragraphs.

## 2.1.3. ENVIRONMENTAL REQUIREMENTS FOR NOISES

### 2.1.3.1. Requirements and Technical Conditions

Write a noise impact report, which contains the following elements:

1. Description of the type of activity, existing or planned, the production cycle, plant, equipment and machinery that might be expected to use, location of the settlement and the context in which it is inserted.
2. Description scheduling of activities and those of main and subsidiary operation of facilities, specifying the temporal characteristics of activities and facilities, the possible seasonal nature, duration during the day and night and if that period is continuous or discontinuous, the operating frequency, the possibility/need during the year are kept open glass surfaces such as doors or windows, the simultaneous pursuit of sound sources, etc.

DESCRIPTION SCHEDULING OF ACTIVITIES				
Activity	Season	Duration during the day and night	Frequency	Doors/windows wide opened

#### EXAMPLES:

DESCRIPTION SCHEDULING OF ACTIVITIES				
Activity	Season	Duration during the day and night	Frequency	Doors/windows wide opened
Pulpers	All year	8.00-17.00	2h/day	Open air

3. Description of noise sources related to the activity, their location and characterization of each sound (eg. indication of the rating data related to acoustic power of the different sound sources or, if not available, levels Emission sound pressure, presence of an impulsive and tonal component, and, if necessary, the directivity of each source, in situations



of uncertainty on project type or location of sound sources to install, can indicate emission levels estimated by analogy with those from similar sources, provided that this situation is shown explicitly, and that emission levels are estimated caution).

IDENTIFICATION AND DESCRIPTION OF NOISE SOURCES						
Identification of noise sources	Description	Location	Characterization of noise	Frequency	Sound Power or Sound Pressure	...

- Description of the construction of the premises (roof, walls, doors, windows etc.) with particular reference to the acoustic characteristics of materials used;

DESCRIPTION OF THE CONSTRUCTION OF THE PREMISES	
Component	Sound Reduction Index $R_w$
Walls	-
Doors	-
windows	-
Roofs	-
.....	-

- Identification and description of receptors (eg hospitals, schools, homes, parks, etc.) present in the study area, with details of their useful characteristics in terms of noise (eg intended use, height, distance from the opera or activities planned, etc.);

IDENTIFICATION AND DESCRIPTION OF RECEPTORS				
Receptor	Intended use	Height	Distance	.....
Receptor 1	Hospital	.....	.....	.....
Receptor 2	School	.....	.....	.....
Receptor 3	Homes	.....	.....	.....
Receptor 4	Park	.....	.....	.....

- Map of the study and description of the methodology used for its detection. The plan, which should be directed, updated, and appropriate scale, must indicate the location of the settlement IPPC its perimeter and neighbouring regions, receptors and other major existing sound sources, with indication of the height difference;





7. Indication, if provided by law, the acoustic zoning of the study area (business and surrounding area in various directions).

Acoustic zoning area		Noise indicators and related limit values <sup>3</sup>	
		Emission Limit Value dB(A)	Immission Limit Value dB(A)
Time <sup>4</sup>	Day-time		
	Night-time		

8. Identification of the main sound sources outside the company (eg road, rail, another production plant, etc.) already present in the study and an indication of noise levels in the absence of the specific contribution of the firm (or earlier if new installation opera), receptors in the vicinity of existing settlements and those expected to implement the existing planning.

Description of the main sound sources outside the company	Distance	Source Noise level
Source 1		
Source 2		
		Total: background noise

**EXAMPLES:**

Description of the main sound sources outside the company	Distance	Source Noise level
Highway	200 mt from the east side of the factory	
		Total: background noise

9. Results of the characterization of noise levels generated by the company against the receptors and the external environment. In case of new settlements make a calculation explicit forecast parameters and calculation models used. The characterization must be made through the implementation of measures articulated in the territory as established by law and standards of good practice.

<sup>3</sup> Noise indicators have to be chosen according to related national or regional regulations.

<sup>4</sup> Day or Night periods could be different according to related regional or local regulations. Time values could be: day 07.00 to 19.00, evening 19.00 to 23.00 and night 23.00 to 07.00 local time.



SPECIFIC NOISE LEVEL - EMISSION LIMIT VALUE Leq in dB(A) day 6-22h							
Receptor	Acoustic zoning area	Floor	Source 1	Source 2	Source n	Total emission (1+2+...n)	Limit

SPECIFIC NOISE LEVEL - EMISSION LIMIT VALUE Leq in dB(A) night 22-6h							
Receptor	Acoustic zoning area	Floor	Source 1	Source 2	Source n	Total	Limit

SPECIFIC NOISE LEVEL - IMMISSION LIMIT VALUE Leq in dB(A) day 6-22h						
Receptor	Acoustic zoning area	Floor	Background noise (a)	Total emission (1+2+...n)=b	Total immission (a+b)	Limit

SPECIFIC NOISE LEVEL - IMMISSION LIMIT VALUE Leq in dB(A) night 22-6.00h						
Receptor	Acoustic zoning area	Floor	Background noise (a)	Total emission (1+2+...n)=b	Total immission (a+b)	Limit

SPECIFIC NOISE LEVEL - DIFFERENTIAL IMMISSION LIMIT VALUE LAeq in dB(A) day 6-22h						
Receptor	Acoustic zoning area	Floor	Background noise (a)	Environmental noise (b)	$\Delta$ (b-a)	Limit

SPECIFIC NOISE LEVEL - DIFFERENTIAL IMMISSION LIMIT VALUE LAeq in dB(A) night 22-6h						
Receptor	Acoustic zoning area	Floor	Background noise (a)	Environmental noise (b)	$\Delta$ (b-a)	Limit



10. Calculation of the contribution of traffic-induced the increase of noise levels against the receptor and the surrounding environment; it must be evaluated also the noise of the land for parking and maneuvering of vehicles.

CONTRIBUTION OF TRAFFIC-INDUCED			
Street	Vehicle/h	Added vehicle /h	Δ noise dB(A)

11. If a new activity, analysis of noise generated during construction, or construction sites, according to the logical path indicated in the preceding paragraphs, and timely indications of all appropriate technical and operational precautions to be taken to minimize noise and meet the requirements.

The main existing focuses of noise emission are:

Description of the main existing focuses of noise emission

**EXAMPLES:**

Description of the main existing focuses of noise emission
Vehicular traffic within the facilities
Mixing, grinding and kneading machines
Conveyor belts
Loading truck
Maintenance and repair of machinery





### 2.1.3.2. Limits

Based on the results of emission levels obtained in controls, the competent authority shall determine the Emission Limit Values. To this end the following table must be completed:

External Emission Level (EEL)			
Point 1			
Date	Period		Emission level (dBA)
__/__/__	__:--	__:--	
__/__/__	__:--	__:--	
Point 2			
Fecha	Periodo		Nivel de emisión (dBA)
__/__/__	__:--	__:--	
__/__/__	__:--	__:--	
Point 3			
Fecha	Periodo		Nivel de emisión (dBA)
__/__/__	__:--	__:--	
__/__/__	__:--	__:--	
Fecha	Periodo		Nivel de emisión (dBA)
__/__/__	__:--	__:--	
__/__/__	__:--	__:--	

- ✓ Reference Values, according to the law

*To be completed by the competent authority (officer).*

- ✓ Reference Values, according to the BATs

*To be completed by the competent authority (officer).*

- ✓ Emission Limit Values

*To be completed by the competent authority (officer).*

### 2.1.3.3. Best Available Techniques

Identify, in BREF and BAT reference, any precautions taken or to be taken to reduce the noise impact and any necessary adjustments, with the timescale (to summarize in a table). If no, identify possible alternatives to be considered BAT.

Description for each stage of installed systems or precautions taken to reduce noise impact. A description of any planned improvement works, detailing the deadlines laid down and estimate the proposed reduction of noise emissions.



✓ Current situation and comparison with the BATs

Emission point		Plant state (BAT applied or not applied)
No	Source	

✓ Actions and deadlines to meet the BATs

Emission point or source		BAT	Plant state (BAT applied or not applied)	Adaptation with deadline indication
No.	Source			

**EXAMPLE:**

Emission point or source		BAT	Plant state (BAT applied or not applied)	Adaptation with deadline indication
No.	Source			
	Noise emission	Limiting the speed of vehicles inside the facilities	YES	-
		Maintenance of machinery	YES	-
		Soundproofing	NOT	6 months

**2.1.3.4. Plan for Monitoring and Control**

PMC proposal contains the program of readings verification be made by the proposer during the period of validity of the AIA.

The PMC should include:

Emission point	Monitoring				
	No. sample	Internal/ External	Frequency	Description	Reports



Emission point	Control			
	Internal/ External	Frequency	Description	Reports

**EXAMPLES:**

Emission point	Monitoring				
	No. sample	Internal/External	Frequency	Description	Reports
Noise emission	Annex II Regional Decree	External	Every 2 years	Measurements will be carried out at the time in which noise levels are higher, and at those points where it is expected to find more noise pollution	External control report

Emission point	Control			
	Internal/External	Frequency	Description	Reports
Noise emission	Internal	Periodical	Maintenance of machinery	Maintenance register

**2.1.3.5. Depuration system**

Description of technical measures (eg installation of barrier, soundproofing the building, installation of doors and windows, high acoustic insulation, installation of silencers, etc.) and management (eg procedures and timetables, identification of specific areas of work to 'inside of the abutments, etc..) for the containment of noise, adopted or will be taken to bring the noise to the limits of the law for each recipient. The description of these measures is supported by all relevant information to specify their operating principles and characteristics and to identify their properties to reduce noise levels and the extent of the expected reduction.

**2.1.3.6. Environmental information**

Transmission of periodic reports (at least once during the IPPC permit and when changes of the system), preferably with a technical report and tables of summary information (eg Excel / Access) that will bring the summary of all monitoring performed at the various receptors, explicit information provided by PMC and the measures of noise levels, compared with legal limits and other requirements, if any, generated by the plant against the external environment surrounding receptors and expressed according to the identified noise by law in each Member State. Explicit way of timely reporting of abnormal situations and/or failures that may cause abnormal noise situation.





### 2.1.3.7. Other requirements and specific Technical Conditions.

Include other items not covered in the preceding paragraphs. For example, compilation, if useful, of the register of any complaints received with corrective measures taken and a record of maintenance performed on the noise sources.

## 2.1.4. ENVIRONMENTAL REQUIREMENTS FOR ODOURS

### 2.1.4.1. Requirements and Technical Conditions

Write a odour impact report, which contains the following elements:

1. Identification of all sources of odorous emissions, including diffuse, areas and operations most critical from the standpoint of odour by the analysis of the following elements:
  - a) production cycle;
  - b) potential substances causing odours;
  - c) precursors of substances causing odours;
  - d) possible solutions of odour control (crucial process phases, frequency, maintenance requirements, etc).
2. Definition of any process parameters indicative of the onset conditions that create odours.
3. Definition of the parameters for the control of odorous emissions that will limit the value of atmospheric emissions (ammonium, H<sub>2</sub>S, COV, etc.).

The following table must be completed:

Sources of odorous emissions	Substance	Character of smell

### 2.1.4.2. Limits

- ✓ Reference Values, according to the law

*To be completed by the competent authority (officer).*

- ✓ Reference Values, according to the BATs

*To be completed by the competent authority (officer).*

- ✓ Emission Limit Values

*To be completed by the competent authority (officer).*



### 2.1.4.3. Best Available Techniques

Identify, in BREF and BAT reference, any precautions be taken to reduce the odour impact and any necessary adjustments, with their timing adjustment (to summarize in a table). If no, identify possible alternatives to be considered BAT.

Description for each stage of installed systems or precautions taken to reduce the odour impact. A description of any planned improvement works, detailing the deadlines laid down and estimate the proposed reduction of odour emissions.

- ✓ Current situation and comparison with the BATS

Emission point		Plant state (BAT applied or not applied)
No	Source	

- ✓ Actions and deadlines to meet the BATs

Emission point or source		BAT	Plant state (BAT applied or not applied)	Adaptation with deadline indication
No.	Source			

### 2.1.4.4. Plan for Monitoring and Control

PMC proposal contains the program of readings verification be made by the proposer during the period of validity of the AIA.

The PMC should include:

Emission point	Monitoring				
	No.sample	Internal/ External	Frequency	Description	Reports

Emission point	Control			
	Internal/ External	Frequency	Description	Reports



**2.1.4.5. Depuration system**

Description of cleaning systems (eg. scrubber, biofilter) that have deodorizing action and how to manage and control them.

**2.1.4.6. Environmental information**

Describe the way of transmission, if necessary, of periodic reports, preferably with a technical report and tables of summary information (eg Excel / Access) that will bring the summary of all monitoring made (including any control of process parameters indicative of the onset conditions that create odours).

Explicit way of timely reporting of abnormal situations and/or failures that may cause abnormal odour situation.

**2.1.4.7. Other requirements and specific Technical Conditions.**

Compiling a plant diary of operation performed (eg. sludge or waste movement, etc) and malfunction of installations (eg. anaerobic depuration of industrial waters discharges, for the landfill, malfunction of the biogas suction system, etc.).

Date	Situation creating odour impact	Type (O=ordinary operation; A= Anomaly)	Climatic conditions	Precautions taken	Notes
__/__/__					
__/__/__					
__/__/__					

Compilation, if useful, of the register of any complaints received with corrective measures taken.

**2.2. ELECTROMAGNETIC EMISSIONS**

**2.2.1. Requirements and Technical Conditions**

Describe in the production cycle (schematic flow chart divided in phases) cited above, the part of plant, equipments producing electromagnetic emissions, if there are. Describe the identification of each stage although this several times in the same configuration or temporarily inactive. Also indicate the timing of operating standards of production as a whole. (Eg: metallurgical phase, welding phase, bonding materials, production control systems, ...).

Describe also accessory equipment present on site (Eg: power lines, electrical substations, electrical boxes, radio antennas, ...).

This table should be included (*complete only the parts needed*):





Plant / Accessory equipment						
Emission		Phase	Emission duration (h/day)	Frequency in 24 hours	Emission level (measured)	Emission level (estimated)
No.	Source					



### 2.2.2. Limits

- ✓ Reference Values, according to the law

*To be completed by the competent authority (officer).*

- ✓ Reference Values, according to the BATs

*To be completed by the competent authority (officer).*

- ✓ Emission Limit Values

*To be completed by the competent authority (officer).*

### 2.2.3. Best Available Techniques

Identify, in BREF and BAT reference, any precautions be taken to reduce the EMF impact and any necessary adjustments, with their timing adjustment (to summarize in a table) .

- ✓ Current situation and comparison with the BATs

Emission point		Plant state (BAT applied or not applied)
No	Source	

- ✓ Actions and deadlines to meet the BATs

Emission point or source		BAT	Plant state (BAT applied or not applied)	Adaptation with deadline indication
No.	Source			

### 2.2.4. Plan for Monitoring and Control

PMC proposal contains the program of readings verification be made by the proposer during the period of validity of the AIA.

The PMC should include:



Emission point	Monitoring				
	No. sample	Internal/ External	Frequency	Description	Reports

Emission point	Control			
	Internal/ External	Frequency	Description	Reports

### 2.2.5. Depuration system

Description of technical measures (eg installation of barrier, insulation, moving, relocation, ...) and management (eg procedures and timetables, identification of specific areas of work, ...) adopted or will be taken to bring the EMF to the limits of the law for each recipient. The description of these measures is supported by all relevant information to specify their operating principles and characteristics and to identify their properties to reduce levels and the extent of the expected reduction.

### 2.2.6. Environmental information

Transmission of periodic reports (at least once during the AIA and when changes of the system), preferably with a technical report and tables of summary information (eg Excel / Access) that will bring the summary of all monitoring performed at the various receptors, explicit information provided by PMC and the measures of EMF levels, compared with legal limits and other requirements, if any, generated by the plant against the external environment surrounding receptors and expressed according to the identified EMF by law in each Member State. Explicit way of timely reporting of abnormal situations and/or failures that may cause abnormal noise situation.

### 2.2.7. Other requirements and specific Technical Conditions.

Compiling a record of maintenance performed on the EMF sources.

Compilation, if useful, of the register of any complaints received with corrective measures taken.





## 2.3. WASTEWATERS (DISCHARGES)

### 2.3.1. DISCHARGES OF INDUSTRIAL WATERS, SANITARY WATERS AND RAINWATERS

#### 2.3.1.1. Requirements and Technical Conditions

##### ❖ *Industrial waters*

Details of all point emission sources of industrial waste waters and emissions from them to the receiving medium (surface water etc.) or to the public sewage system with the industrial waste water (pre)treatment (WWT) plant data should be supplied (an example in table 2.3.1). Detailed description of the industrial WWT plant and all techniques for pollution prevention should also be described. A summary list of discharges, together with maps, drawings and supporting documentation should be included. The particular discharge can consist of several outlet streams. For discharges into groundwater the professional opinion, carried out by external institute, should be enclosed (national legislation and/or authority requirements should be considered).

Details of all cooling systems (direct cooling, indirect cooling, open/close loops) together with drawings, flow charts and supporting documentation (chemical water preparation description and list of used substances/preparations for the existing installation) and discharge of heat calculation sheets (fraction of the heat emission) should be also supplied. The receiving medium (surface water) can be salmonide or ciprinide type of surface water. In general, the horizontal reference document on the application of Best Available Techniques to Industrial Cooling Systems should be considered. The list of pollution parameters and critical parameters in operation should be chosen by actual local, regional, national/EU legislation together with the vertical and/or horizontal BREFs for particular installation. At certain annual amount (per example, if exceed 100.000 m<sup>3</sup>/a) of an industrial waste water the continuous water flow measurement has to be permanently installed on each discharge.

##### ❖ *Sanitary Waters*

Details of all point emission sources of sanitary waste waters (SWW) and emissions from them to the to the sewage system with external or internal WWT plant data should be supplied. Classification (small/medium/large) of the WWT plant (internal or external/public) should also be described. Total quantity per year of SWW and COD/BOD5 parameters are important. The usually value for COD untreated SWW is 900 mg/l. Small WWT plant below 50 population units (PUs; 1 PU is 60 g BOD5/day) and between 50 and 2000 PUs should be described and conformity declaration according to standard EN 12566 (below 50 PUs) and EN 12255-5, 6, 7(below 2000 PUs) from the producer should be included (depends on national legislation and authority requirements). The same data collection together with other documentation, drawings for each sanitary waste water discharge should be prepared (table 2.3.3). According to EN 1825 requirements for grease separators regarding to principles of design, performance and testing, marking and quality control should be considered (if any).

Emission levels are to understand as emission without dilution with rainwater and/or uncontaminated cooling water.

Details of all point emission sources of rainwater and emissions from them to the receiving media should be supplied. A summary list of discharges(rainwater drainage), together with maps, drawings (usually as common situation regarding to industrial, sanitary WW together with total area in m<sup>2</sup>) and supporting documentation should be



included. The data collection for each rainwater discharge is shown in the table 2.3.1 as an example.

In some cases the use of rainwater as process water to reduce fresh water consumption may be environmentally beneficial.

Another important aspect of the WW system is the handling of rainwater and rinsing water. In a number of older chemical complexes in MS, only one sewer system is present and rainwater, rinsing water, cooling water and process water are collected in this system and directed to the WWT facilities. Especially during periods of heavy rainfall, this might lead to upsets of the WWT plant and lead to increased discharges. Advanced chemical sites usually have a separate sewer system for the collection of uncontaminated rainwater and cooling water.

#### ❖ *Other discharges*

A detailed overview and a summary of emissions into ground (land spreading) together with explanatory maps, drawings and other supplementary materials should be attached. The facility has to describe why it is not economically feasible to discharge to a WWT plant or to a surface water recipient. For all pollution parameters detailed description should be presented and how the requirements are fulfilled.

The description includes at least (table):

- Amount of water per day/per year
- Way of discharging (filtration, land spreading)
- Protection of groundwater - description of the geology, hydrogeology
- Meteorological conditions
- Location of discharging
- Distance to drinking water sanitary zones
- Depth in the ground
- Monitoring and control measures
- Treatment of contaminated water and leachate collected from the landfill to the appropriate standard required for their discharge

Assessment of waste water discharge into the ground from existing or planned WW discharges should be attached. It should be prepared by competent laboratory/institute.

A detailed description of all relevant studies, assessments, reports, results, measurement sites, equipment, plans, drawings and other relevant document from the past activities should be also attached (if any).



1. Data for the discharge				
1. Description				
Discharge name		code		
U.T.M. coordinates		X:	Y:	
Municipal/region name		code	Parcel No:	
2. General data				
Discharge into:				
Public sewage (y/n)		Sewage with WWT (y/n)	WWT name	
Surface water (y/n)		Surface water name		
Soil (groundwater) (y/n)		External professional opinion by institute enclosed (y/n)	Reference if Y	
Other		description		
3. Volume flow, amount and type of waste water for particular outlet stream which is conducted on that discharge				
Outlet stream: industrial, cooling, sanitary and rainwater on that discharge				
Outlet stream code	X1	X2	X3	X4
Waste water type				
Max. 6 hours average volume flow (l/s)				
Max. amount per day (m <sup>3</sup> /day)				
Max. annual amount (1000* m <sup>3</sup> /a)				
actual annual amount (m <sup>3</sup> )				
Type of discharging:				
Total area conducted with rainwater (m <sup>2</sup> )*				





**NOTES:**

(\*) Rainwater from the roof are excluded.

(1) Waste water code: industrial, cooling, sanitary.

(2) Type of discharging: continuous, discontinuous, charge.

❖ **Other discharges**

A detailed overview and a summary of emissions into ground (land spreading) together with explanatory maps, drawings and other supplementary materials should be attached. The facility has to describe why it is not economically feasible to discharge to a WWT plant or to a surface water recipient. For all pollution parameters detailed description should be presented and how the requirements are fulfilled.

The description includes at least (table 2.3.1):

- Amount of water per day/per year
- Way of discharging (filtration, land spreading)
- Protection of groundwater - description of the geology, hydrogeology
- Meteorological conditions
- Location of discharging
- Distance to drinking water sanitary zones
- Depth in the ground
- Monitoring and control measures
- Treatment of contaminated water and leachate collected from the landfill to the appropriate standard required for their discharge

Assessment of waste water discharge into the ground from existing or planned WW discharges should be attached. It should be prepared by competent laboratory/institute.

A detailed description of all relevant studies, assessments, reports, results, measurement sites, equipment, plans, drawings and other relevant document from the past activities should be also attached (if any).

**2.3.1.2. Limits**

- ✓ Reference Values, according to the law

*To be completed by the competent authority (officer).*

- ✓ Reference Values, according to the BATs

*To be completed by the competent authority (officer).*

- ✓ Emission Limit Values

*To be completed by the competent authority (officer).*



**2.3.1.3. Best Available Techniques**

- ✓ Current situation and comparison with the BATs

Emission point		Plant state (BAT applied or not applied)
No	Source	

- ✓ Actions and deadlines to meet the BATs

Emission point or source		BAT	Plant state (BAT applied or not applied)	Adaptation with deadline indication
No.	Source			

**2.3.1.4. Plan for Monitoring and Control**

PMC proposal contains the program of readings verification be made by the proposer during the period of validity of the AIA.

The PMC should include:

Emission point	Monitoring				
	No. sample	Internal/ External	Frequency	Description	Reports

Emission point	Control			
	Internal/ External	Frequency	Description	Reports

**2.3.1.5. Depuration system or treatment plant**

- ❖ *Industrial Waters*

Detailed description of the industrial WWT plant or other depuration systems and all techniques for pollution prevention should be described. For the industrial WWT plant should be considered also the horizontal BREF Waste Water and Waste Gas Treatment (CWW; BREF-Feb03) together with used special substances/preparations. The character and scale of the emissions in the waste water are highly variable and



depend on the composition of the raw materials, products, intermediates, auxiliaries, process conditions, etc. Liquid (non-aqueous) originating from chemical production and product handling are to be dealt with separately - usually in vertical BREFs. For each industrial WWT plant the operational procedure should exist together with operational records. The operational procedures should include at least the following information:

- WWT plant operator.
- Information regarding the input specific substances/pollutants.
- Treatment technique depuration; Pollution reduction %.
- Average emission value after (pre)treatment: Normal operation (Kg/tonnes product)/ Abnormal operation (start-up, etc).
- WWT plant operational data (technology/process description, WWT plant efficiency).
- Handling with residues (solid or liquid wastes) after treatment.
- Operational and maintenance procedure.
- Procedure for the control together with monitoring system.
- Corrective action in case of accidents (incidents) together with start-ups and WWT plant interruptions.
- Managing, maintenance and procedure for operational records.
- responsible competent personnel (detailed data) for the maintenance of WWT plant and records.
- link to the project documentation, producers of the WWT plant and other relevant information.

TABLE. - WWT operational record					
WWT operator	Type of industrial WWT:			Treatment technique:	
	Specific substances input	Average EVs after treatment at normal condition, kg/tonnes	Average EVs after treatment at abnormal condition, kg/tonnes	WWT efficiency, %	Wastes (liq./sol.), kg
WWT control status of monitoring system					
Continuous measurement			Discontinuous measurement (key parameters)		
pH	T	Waterflow, m <sup>3</sup>	COD	Heavy metals	other
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Accident/incident:					
Corrective action:					
Maintenance:					
Date/Location/Signature:					





❖ *Sanitary Waters*

Detailed description of the sanitary WWT plant and all techniques for pollution prevention should be described. For the sanitary WWT plant should be considered also the horizontal BREF Waste Water and Waste Gas Treatment (CWW; BREF-Feb03). For each sanitary WWT plant the operational procedure should exist together with operational records. The control the internal small WWT plant (below 2000 PUs) usually is carried out by public/municipal operator (consider regional, national requirements).

TABLE. - WWT operational record					
WWT operator	Type of sanitary WWT: <input type="checkbox"/> <50 PUs <input checked="" type="checkbox"/> >50<2000 PUs <input type="checkbox"/> >2000 PUs				<input checked="" type="checkbox"/> Internal <input type="checkbox"/> External
	Specific substances input	Average EVs after treatment at normal condition, kg	Average EVs after treatment at abnormal condition, kg	WWT efficiency, %	Sludges, kg
WWT control status of monitoring system					
Continuous measurement			Discontinuous measurement		
waterflow	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no	<input checked="" type="checkbox"/> COD	<input checked="" type="checkbox"/> BOD5	<input checked="" type="checkbox"/> other	
Accident/incident:					
Corrective action:					
Maintenance:					
Date/Location/signature:					

❖ *Rainwaters*

Operational failure, equipment leakage, unintentional contamination of cooling water or other disturbances in production or storage units can lead either to an increased discharge of pollutants into receiving water via the WWT plant, or to its malfunction. The risk of such events can create the need for centralised or decentralised receiving (or buffer) facilities. The several buffer devices used for this purpose. Their capacity has to be sufficient to store all waste water, probably including rainwater, incurred during a production. The first treatment step for WW and rainwater - and often also the final step - is the separation of suspended solids and immiscible liquids (with regard to water) from the main water stream. Grit separation is the removal of sand from rainwater.

Retention ponds control the rainwater flow to prevent downstream strain of the receiving river. The size of the pond depends on the necessary hydraulic residence



time. A special application of sand filters is their function to treat rainwater run-off. They provide a highly effective instrument to remove pollutants from rainwater (lightly contaminated surfaces).

For each oil separator for light liquids the operational procedure should exist together with operational records. The operational procedures should include at least the following information what is described in item 2.3.1.5.

TABLE. - RAINWATERS				
Devices	No./code	Location	Description/ technical standard	Capacity (if any)
Buffer devices				
Sand filters				
Oils separator				

❖ *Other discharges*

Detailed description of the decentralised or centralised (on-site or off-site) treatment facilities or other depuration systems and all techniques for pollution prevention should be described.

**2.3.1.6. Environmental information**

Transmission of periodic reports (at least once during the AIA and when changes of the system), preferably with a technical report and tables of summary information (eg Excel / Access) that will bring the summary of all monitoring performed at the various receptors, explicit information provided by PMC and the measures of EMF levels, compared with legal limits and other requirements, if any, generated by the plant against the external environment surrounding receptors and expressed according to the identified EMF by law in each Member State. Explicit way of timely reporting of abnormal situations and/or failures that may cause abnormal noise situation.

Likewise, an integrated database with emission data or pollutant releases (Directive 2000/60/ES) is often called a Pollution Release and Transfer Register (PRTR) or a Pollutant Emission Register (PER). Important characteristics of a national PRTR/PER include:

- Facilities periodically send a mandatory report to the competent authorities on their releases to air, water, soil and wastes (see the following table).
- Emission data of specific pollutants from individual facilities are accessible to the public.

TABLE. - NOTIFICATION OF TRANSFER OF DIRECT EMISSIONS TO WATER / POLLUTANTS RELEASE (PRTR)						
Pollutant	Method	Trial/factor used	T (total) kg/year	A (accidental) kg/year	Coding of contributing sources	Comments



**NOTES:**

(1) *Pollutant: those water emissions and pollutants releases included in the PRTR Regulation should be included.*

(2) *Method: indicate whether the value has been measured (M), calculated (C), estimated (E), and the method, using the following acronyms:*

*For measured values: Standard abbreviation (UNE, ISO, EPA...) to regulations or standards at international level, PER for method prescribed in license or permit, NRB for national or regional measurement method prescribed in a legal act for a pollutant and complex, ALT for alternative measurement method, MRC for measurement method whose performance is demonstrated using Certified Reference Materials and OTH for other methods of measurement.*

*For calculated values: ETS, IPCC, ONU/EMEP for calculation method internationally recognized, PER for calculation method prescribed in the license or permit, NRB for national or regional calculation method prescribed in a legal act for a pollutant and complex, MAB for material balance accepted by competent authorities, SSC for specific calculation method of the sector at European level and OTH for other calculation methods.*

(3) *Trial/factor used: indicate the reference standard of the test in which is based the measure, or the emission factor in which is based the calculation.*

(4) *Comments: It must be provided the basic information used for determining the reported data: Collaborating Organization Report/Self-control/Monitoring, if measured method.*

**EXAMPLES:**

*An integrated database with emission data or pollutant releases (Directive 2000/60/ES) is often called a Pollution Release and Transfer Register (PRTR) or a Pollutant Emission Register (PER). Important characteristics of a national PRTR/PER include:*

(1) *Facilities periodically send a mandatory report to the competent authorities on their releases to air, water, soil and wastes (table 2.3.2).*

(2) *Emission data of specific pollutants from individual facilities are accessible to the public.*

**TABLE 1.- LIST OF POLLUTANTS AND TOTAL ANNUAL RELEASES INTO WATER**

Activity code (annex I)	Pollutant into receiver media	Pollutant to external WWT plant	Measuring method	Total amount, kg/a	Total unintentional amount, kg/a
2.2b	Hg	...	ISO 5666	...	...

*Each year the facility operator shall send to the competent authority (national EPA) a Report for WW Monitoring prepared by authorised laboratory.*

*The mandatory reporting of emissions according to the requirements of the Decision PRTR/PER is a stepwise process with the following key elements:*





(a) Identifying and selecting the facilities with Annex I activities (Council Directive 96/61/EC - so called IPPC directive). PRTR/PER Decision requires Member States to report emissions from all individual facilities with one or more activities as mentioned in Annex I. These activities are identified by the source categories as specified in the PRTR/PER.

(b) Determining pollutant specific emissions from all individual facilities with Annex I activities. The PRTR/PER Decision requires Member States to include in the report the emissions to air and water for all pollutants for which the threshold values are exceeded. Both pollutants and threshold values are specified of the PRTR/PER Decision.

(c) Reporting the emissions for individual facilities with Annex I activities. The emission data shall be reported for each facility according to the certain format.

(d) Reporting aggregated emission data for all pollutants of the PRTR/PER Decision in an overview report. This overview report includes the national totals of all individually reported emissions for both each of the source categories and the NOSE-P codes as specified of the PRTR/PER Decision. Member States shall provide this overview report on paper and on CD-ROMs.

(e) Disseminating all reported data by the Commission. The Commission will make the facility specific data as well as the aggregated data provided by each Member State publicly accessible on the Internet.

(Reporting of emission data in the PRTR/PER format will require additional workload for the facilities and national governments involved. In case a facility has an environmental management system (EMS) based on ISO 14001, the environmental aspects of the facility are already documented and reported within the system. Although ISO 14001 does not include a public reporting requirement, many companies publish annual company reports communicating their environmental performance to stakeholders, customers and the general public. For companies with an EMS it is a limited additional effort to provide information on emissions in the PRTR/PER format. This reporting procedure may also stimulate the process of the development environmental reporting by facilities. Facilities with an EMAS registration already publish a validated public environmental statement, including a summary of pollutant emissions. Some Member States have begun experimenting with 'regulatory relief', which implies that an EMAS registered facility is expected to comply with its permits and may benefit of less frequent inspections by the regulatory bodies.

The additional effort to meet the PRTR/PER requirements will be limited when an environmental management system is already in place, especially when this system has been ISO 14001 certified or has an EMAS registration.

Waste water is aqueous effluent from chemical processes, product make-up, raw material preparation, equipment cleaning, storage facilities, loading activities. Rainwater and indirect cooling water are not included because of the different definitions in the MS for the WW. Instead rainwater and its need for treatment is dealt with separately. Cooling water is dealt with in the respective horizontal BREF on Industrial Cooling Systems.

### 2.3.1.7. Other requirements and specific Technical Conditions.

To reduce the biological risk due to cooling systems operation, it is important to temperature control, maintain the system on a regular basis and avoid scale and corrosion. All measures are more or less within the good maintenance practice that would apply to a recirculating wet cooling system in general. The more critical



moments are start-up periods, where systems' operation is not optimal, and standstill for repair or maintenance. For new towers consideration must be given to design and position with respect to surrounding sensitive objects, such as hospitals, schools and accommodation for elderly people.

The responsibility for the monitoring (BREF Monitoring systems) is generally divided between the competent authorities and the operators, although competent authorities usually rely to a large extent on "self monitoring" by the operator, and/or third party contractors. It is highly important that monitoring responsibilities are clearly assigned to all relevant parties so that they are all aware of how the work is divided and what their own duties and responsibilities are.

A pollution incident response plan is mainly a strategy to spread all information needed in a most efficiency way to all those who may be concerned. That should be described by operator in the document in the waste water field. The information asked for is general, applicable to all sites. Special productions or site-specific features might require further information.

A landfill must be situated and designed so as to meet the necessary conditions for preventing pollution of the soil, groundwater or surface water and ensuring efficient collection of leachate. Protection of soil, groundwater and surface water is to be achieved by the combination of a geological barrier and a bottom liner during the operation/active phase and by the combination of a geological barrier and a top liner during the passive/post closure. The geological barrier is determined by geological and hydrogeological conditions and in the vicinity of a landfill site providing sufficient attenuation capacity to prevent a potential risk to soil and groundwater. The landfill, depends on its class, base and sides shall consist of a mineral layer which satisfies permeability and thickness requirements with a combined effect.

#### ❖ *Rainwaters*

The operator facilities should be considered that the requirements for oils separator and grease separators according to EN 858-2 and EN 1825 standards are fulfilled.



## 2.4. CONSUMPTIONS

### 2.4.1 WATER CONSUMPTION

#### 2.4.1.1 Water uses allowed. Authorized volume

The total water balance by the facility operator (new or existing) should be prepared (Table "General water balance"). Water balance on the site according to the simple equation has to be: Total water input = Total water use. These data will be crucial for calculation of different environmental taxes (water sources and/or waste water), which mostly depend on national regulations of the MS.

TABLE.- GENERAL WATER BALANCE	
<b>Water supply sources</b>	
From public water grid:	
From own wells:	
Other:	
<b>TOTAL water input:</b>	
<b>Water used for</b>	
Cooling WW:	
Sanitary WW:	
Industrial(process) WW:	
Water, built in products:	
Evaporate water:	
Water loose (system defection):	
Water, sold to the others (as option):	
<b>TOTAL water use:</b>	
<b>No. of employees:</b>	

TABLE.- THE DIFFERENT WATER CONSUMPTION BY DIFERENT WATER TYPE OF WATER SOURCE								
water source	Cooling water	Outlet technological water from processes as:			Sanitary water	Other use of water		Total consumption
		Waste water	Steam/vapour	Built in product		m <sup>3</sup> /a	purpose	
	m <sup>3</sup> /a	m <sup>3</sup> /a	m <sup>3</sup> /a	m <sup>3</sup> /a	m <sup>3</sup> /a	m <sup>3</sup> /a		m <sup>3</sup> /a
Public water grid								
Own wells/pumping								
a) surface water								
b) groundwater								
Other								
<b>TOTAL</b>								





For each installation (Annex I activities of the Council Directive 96/61/EC) on the site separate data should be prepared according to an example shown in table 2.4.2, together with total water consumption in the industrial complex. The total annual water consumption on the site should be authorised by national EPAs or in separate (water) permit issued (valid in case of own pumping from surface water or groundwater).

#### 2.4.1.2 Prevention, minimizing and control measures

To determine BAT, the BAT-“approach” is described separately for each environmental issue and each technique, taking into account potential cross-media effects. The evaluation starts with reducing the demand of water and its discharge to the environment. It is followed by the assessment of options for the minimisation of the natural resources dedicated to the prevention or reduction of emissions, bearing in mind that this will also lead to easier technological process operation:

1. Prevention by technological options:
  - integrated technical measures
  - change of configuration
2. Prevention by optimisation of systems operation
3. Application of end-of-pipe technology or additional techniques.

These main points regarding prevention, minimizing and control measures in the document should be described by the facility operator.

All main water measures should be identified, regular checked and calibrated by authorised laboratory.

#### 2.4.1.3 Environmental information

A widespread and well known EMFA tool is Pinch technology, used to optimise production processes, save energy and water consumption and decrease the impact of waste discharge. Two of those - the optimisation of water consumption and waste discharge - are within the scope of BREF on Waste Water and Waste Gas Treatment (CWW; BREF-Feb03). Optimisation of production processes is covered by vertical BREFs and other references. The facility each year shall report to competent authority the total water supply (environmental tax for pumped amount of water from own wells - Slovenia case) and demand.

### 2.4.2 ENERGY CONSUMPTION

#### 2.4.2.1 Energy uses allowed. Foreseen consumptions

The total energy consumptions should be prepared (Table “Energy consumption the production process”) by the facility operator (new or existing) together with sources of that energy (internal/external). Total annual energy consumption is divided on the electrical, steam, heat and compressed air, expressed in common unit MWh. The energy is used for the production process or other parts of the facility.



TABLE.- ENERGY CONSUMPTIONS IN THE PRODUCTION PROCESS						
Source (interna / external)	Electrical energy consumption MWh/a		steam and heat consumption MWh/a		Compressed air consumption MWh/a	
	Production process	Other	Production process	Other	Production process	Other

#### 2.4.2.2 Prevention, minimizing and control measures

The same principle described in item 2.4.2.1 can be used. All main energy measures should be identified, regular checked and calibrated by authorised laboratory. Installation prepares a list of process control measures for all types of energy uses (table "List of process control measures"). It should be considered the horizontal BREFs Energy Efficiency Techniques (ENE; D1-Apr06) in connection with GHG emission and vertical BREFs for specific activity.

TABLE.- LIST OF PROCESS CONTROL MEASURES					
Type of energy	Measuring points description	Way of measuring	Parameters/ Frequency	method	Measurement carried out by
Electricity	Process code/name	<i>Autom./manual</i>	kWh, 1/mon.	....	Installation/ compet. lab.
....					

#### 2.4.2.3 Environmental information

Direct and indirect greenhouse gas (GHG) emissions or other specific emission per tonnes of products as environmental performans indicators should be considered.



### 2.4.3 FUEL CONSUMPTION

#### 2.4.3.1 Fuels uses allowed. Foreseen consumptions

The total fuel consumptions should be prepared together with sources of that fuels (gas, liquid and solid fuels and/or wastes). Waste classification according to Decision 2000/532/EC on the list of waste should be done (if any). The total energy production and consumption on the site should be calculated together with energy used for internal transport.

TABLE.- CONSUMPTION OF DIFFERENT TYPE OF FUEL/WASTE						
Code/name of fuel/ classification waste code	Type of fuel/waste		Annual consumption		Composition of significant polluters in the fuel	
	Name	Unit	Expressed as in unit	Expressed as MWh/a	Parameter	Fraction





**TABLE.- ENERGY PRODUCTION AND CONSUMPTION**

Energy consumption														
Production process Wh/a	Heating h/a	Internal transport Wh/a	Electricity Production					Heat and steam production						
			Total annual production		Demand on the industrial complex/ installation		Used for sale		Total annual production		Demand on the industrial complex/ installation		Used for sale	
			MWh/a	%	MWh/a	%	MWh/a	%	MWh/a	%	MWh/a	%	MWh/a	%



### 2.4.3.2 Prevention, minimizing and control measures

The same principle described in item 2.4.2.1 can be used. All main fuel measures should be identified, regular checked and calibrated by authorised laboratory. It should be considered the horizontal BREFs Energy Efficiency Techniques (ENE; D1-Apr06) in connection with GHG emission and vertical BREFs for specific activity.

### 2.4.3.3 Environmental information

Direct greenhouse gas (GHG) emission from fuels as environmental performans indicator should be considered. According to national legislation the permit for GHG emissions from the facility has to be acquired. Each year the facility operator shall send to the competent authority (national EPA) a Report for GHG emission Monitoring certified by authorised company together with special expert.

Each year the facility operator shall send to the competent authority (national EPA) a Report for recovery waste (as secondary fuel).

## 2.4.4 OTHER CONSUMPTIONS<sup>5</sup>

### 2.4.4.1 Uses allowed

The lists should be very comprehensive, all raw materials and chemical used, intermediaries, by-products and products should be included. This applies also to the amount of raw materials and output figures. The facility's safety data, containing information about toxicity, possible medical attention needed, use, storing see the following tables) as well as data about accident prevention and possible medical attention needed must be submitted (Chemical Act, REACH regulation) as attachments. Particular attention should be paid to materials and products consisting of, or containing, forbidden chemicals or chemicals of restricted use or substances on list of dangerous chemicals (some special industry branches).

<sup>5</sup> Raw materials or dangerous substances and preparations.



**TABLE.- USE OF RAW MATERIALS, AUXILIARIES AND SUBSTANCES**

Raw material code or classification of waste according to waste list	Raw material	Way of use	Storage, tank code	Max. quantity on the storage (tonnes)	Annual consumption (tonnes)	IPPC installation code/other installation code where raw material is used	Fraction of raw material use in IPPC installation or other installation (%)	waste supplier (code)	Name / code of installation for waste recovery	Notes

**TABLE.- DANGEROUS RAW MATERIALS, AUXILIARIES, SUBSTANCES AND PREPARATIONS, BY-PRODUCTS/INTERMEDIATES, PRODUCTS**

Raw material code or classification of waste according to waste list	Raw material	Dangerous category	R-risk phrase	S-safety phrase	Mas. amount of raw material (tonnes)	Dangerous substances/preparation and raw materials		
						Chemical name	CAS No.	Fraction (%)





**TABLE.- BY-PRODUCTS AND INTERMEDIATES IN THE PRODUCTION**

By-iproduct, intermediatecode	By-product, inermediate name	Way of use	Storage, tank code	Max. storage amount (tonnes)	Annual consumption (tonnes)	IPPC installation code /other installation code where by-product/intermediate is produced	Fraction of by-product/intermediate use in IPPC installation or other installation (%)

**TABLE.- PRODUCTS**

Product code	Product name	Storage, tank code	Max. storage amount (tonnes)	Annual production (tonnes)	IPPC installation code / other installation code where product is produced



#### 2.4.4.2 Prevention, minimizing and control measures.

The same principle described in item 2.4.2.1 can be used. Possibility of replacement hazardous raw material/auxiliaries with non-hazardous should be a part of permanent continual improvement policy.

#### 2.4.4.3 Environmental information.

Each new import of hazardous chemicals to national Chemical Agency should be report. The facility operator has to consider all requirements arise from Regulation (EC) 1907/2006 (with corrigendum) of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

### 2.5. SOIL PROTECTION AND GROUNDWATERS

#### 2.5.1 Requirements and Technical Conditions

- ✓ Safety measures in hazardous substances and/or preparations storage

Detailed list of all storage tanks and other storage should be indicated (see the following table)as follows:

- ✓ Reference number, location/code.
- ✓ Content.
- ✓ Type an size (branch, material).
- ✓ Age.
- ✓ Location on site (underground, on the ground, indoors, measures to protect air).
- ✓ Distance from sewer - enclosed a map.
- ✓ Date of last check/test made by competent laboratory.
- ✓ Technical check-up, prevention techniques, BAT code from horizontal BREF.

According to the particular reference document (BREF) regarding storage tanks and other storage which it belongs to specific installation (the vertical BREFs belong to the Annex I activities of the Council Directive 96/61/EC) should be also identified together with the horizontal BREFs for reference document for the Best Available Techniques to Emissions from Storage (ESB; BREF-Jul06).

TABLE.- STORAGE TANKS WITH DESCRIPTION

Tank code	Building code	Tank volume (m3)	content	Age	Date of last check/test	Prevention techniques	Tank construction / underground / on the ground/BAT code	Code of IPPC installation / other installation code



**EXAMPLES:**

TABLE. - STORAGE TANKS WITH DESCRIPTION								
Tank code	Building code	Tank volume (m3)	content	Age	Date of last check/test	Prevention techniques	Tank construction / underground / on the ground/BAT code	Code of IPPC installation / other installation code
xx.xx	575	9	oil	2002	27.6.2002	Double steel shell, safety valve, concrete surface	On the ground, outdoors (liquid argon) pressure vessel, BAT technique/code	2.5a

Location of other storage of chemicals, by-products, products includes:

- ✓ A map the location/code of other storage (also bags, drums etc.).
- ✓ Substances stored.
- ✓ Way of storage/max. package units in the storage.
- ✓ Storage capacity (volume).
- ✓ Description of preventive action/security against pollution of ground or sewer system, reference to BAT.

OTHER STORAGE WITH DESCRIPTION						
Storage code	Building code	Name of building or storage	Storage capacity volume) (m <sup>3</sup> )	Substance	Way of storage/max. storage units	Description of preventive action regarding to lower environmental impact

**EXAMPLES:**

OTHER STORAGE WITH DESCRIPTION						
Storage code	Building code	Name of building or storage	Storage capacity volume) (m <sup>3</sup> )	Substance	Way of storage/max. storage units	Description of preventive action regarding to lower environmental impact
xxxx	yyy	Storage products	13.000	Product...	Pallets, three levels	Cover storage, concrete floor, ect.; BAT technique xxxx





- ✓ Systems of drainage or collection of potentially polluted waters.

Detailed description, maps, drawings of systems of drainage or collection of potentially polluted waters the owner of the installation should be prepared in connection with the managing of the WWs on the site.

### 2.5.2 Plan for Monitoring and Control

- ✓ Control point

Regarding to protection of groundwater on the landfill of waste the sampling points the facility operator has to provide.

- ✓ Parameter pollutant

All substances that the firm uses in the production process and all pollutants issued by installation (e.g. gas oil, paints, solvents, and all liquid substances that could pollute soil and groundwater).

As regards the dangerous substances, the owner should also indicated its dangerous level.

To this purpose the owner should fill the following table:

Emission Source	Emission Flow	Pollutant	Dangerous level of substances

- ✓ Sampling type, responsible, frequency and method

The measurements (sampling type, responsible, frequency and method) must be such as to provide information on groundwater likely to be affected by the discharging of waste, with at least one measuring point in the groundwater inflow region and two in the outflow region. This number can be increased on the basis of a specific hydrogeological survey and the need for an early identification of accidental leachate release in the groundwater (reference ISO 5667 sampling groundwater). The monitoring of groundwater is shown in the following table.

TABLE. - MONITORING OF GROUNDWATER		
Parameter	Frequency in operation phase (number/a)	Frequency in after-care phase (number/a)



**EXAMPLES:**

TABLE.- MONITORING OF GROUNDWATER		
Parameter	Frequency in operation phase (number/a)	Frequency in after-care phase (number/a)
Level of groundwater	Every six months	Every six months
Groundwater composition*	Site-specific frequency	Site-specific frequency

**NOTES:**

(1) Recommended parameters: pH, TOC, phenols, heavy metals, fluoride, AS, oil/hydrocarbons.

- ✓ Data collection, transmission and registration system.

All reports from competent laboratories during the year should be collected (e-form and/or written form). Archival time of such records on safety place depends on national legislation requirements (usually 5 years).

**2.5.3 Environmental information**

An integrated database with emission data or pollutant releases (Directive 2000/60/ES) is often called a Pollution Release and Transfer Register (PRTR) or a Pollutant Emission Register (PER). Important characteristics of a national PRTR/PER include:

- Facilities periodically send a mandatory report to the competent authorities on their releases to air, water, soil and wastes (see the following table).
- Emission data of specific pollutants from individual facilities are accessible to the public.

TABLE.- LIST OF POLLUTANTS AND TOTAL ANNUAL RELEASES INTO SOIL/GROUND				
Activity code (annex I)	Pollutant into soil	Measuring method	Total amount, kg/a	Total unintentional amount, kg/a

**EXAMPLES:**

TABLE.- LIST OF POLLUTANTS AND TOTAL ANNUAL RELEASES INTO SOIL/GROUND				
Activity code (annex I)	Pollutant into soil	Measuring method	Total amount, kg/a	Total unintentional amount, kg/a
2.5b	Hg	ISO 5666	....	....



### 2.5.4 Other requirements and specific Technical Conditions

Directive 2003/105/EC of the European Parliament and of the Council of 16 December 2003 amending Council Directive 96/82/EC on the control of major-accident hazards involving dangerous substances (see the following table) should be considered in a part of document prepared by owner of the installations. All elements of Safety management system (SMS) belong to another permit issued by competent authority. Several countries have specific requirements for SMS functions (for example, in Slovenia, there is an environmental expert required by law for the implementation of the *Seveso* and IPPC Directives).

LIST OF DANGEROUS SUBSTANCES ACCORDING TO SEVESO DIRECTIVE						
No.	Chemical name	CAS No.	Dangerous category	R -risk phrase	S -safety phrase	Max. amount of dangerous substances produced during the major accident (tonnes)

Other information about any other reclaim in progress:

- Historical analysis about soil and groundwater pollution (e.g. past soil contaminations, past soil characterization carried out in order to verify the pre-existing pollution, information about any other former enterprise that was located in the site of the installation).





## 2.6. WASTES PRODUCTION

### 2.6.1. HAZARDOUS WASTES

#### 2.6.1.1. Requirements and Technical Conditions

##### ✓ Authorization

Include in the following table hazardous wastes produced:

European Waste List	Description	Quantity	Unit	Storage system	Source	Final disposition

#### EXAMPLES:

European Waste List	Description	Quantity	Unit	Storage system	Source	Final disposition
15 01 10*	Empty chemical containers (plastic, metal)	2.500	Kg/year	Plastic drums with a capacity of 1000 kg.	Maintenance of equipment, machinery and facilities	Disposal
15 02 02*	Oily rags	1.800	Kg/year	Plastic drums with a capacity of 50 kg		
15 01 11*	Clean and empty aerosol cans	100	Kg/year	Plastic drums with a capacity of 50 kg		

#### NOTES:

(\*). Indicate whether it is recovery or disposal.

##### ✓ Identification, labelling and packaging

Detailed description of the processing cycle by which the waste and its proper classification, labelling and packaging. If necessary, in the presence of codes mirror, performing chemical analysis for correct classification. Law Enforcement and bat industry and those on general waste storage.

##### ✓ Storage

Key Features of storage (area, height, type of flooring, presence of cover, containment devices). Enforcement (eg prevention plan storm water, rainwater) and the bat industry and the general ones on the storage of waste and / or hazardous substances (eg cover).

##### ✓ Transfer and notification

The competent body, according to the applicable sectoral legislation, shall prepare the obligations relating to the transfer and shipment notification of hazardous waste.



✓ Transport

The competent body, according to the applicable sectoral legislation, shall prepare the obligations on the transport of hazardous waste.

✓ Registration

The competent body, according to the applicable sectoral legislation, will draw up obligations relating to hazardous waste register.

**2.6.1.2. Plan for Monitoring and Control**

PMC proposal contains the program of readings verification be made by the proposer during the period of validity of the MED-IPPC-NET Permit.

The PMC should include:

Emission point	Monitoring				
	No. sample	Internal/ External	Frequency	Description	Reports

Emission point	Control			
	Internal/ External	Frequency	Description	Reports

**2.6.1.3. Environmental information**

Periodic reports, preferably with a technical report and tables of summary information (eg Excel / Access) that will bring the summary of all monitoring performed explicit information provided by Plan Monitoring and Control. Timely reporting of abnormal situations and/or failures that may cause abnormal emission situation.

Likewise, an integrated database with emission data or pollutant releases (Directive 2000/60/ES) is often called a Pollution Release and Transfer Register (PRTR) or a Pollutant Emission Register (PER). Important characteristics of a national PRTR/PER include:

- Facilities periodically send a mandatory report to the competent authorities on their releases to air, water, soil and wastes (see the following table).
- Emission data of specific pollutants from individual facilities are accessible to the public.



TABLE.- WASTE TRANSFER NOTIFICATION (PRTR)							
LER Code	Method	T (total) Kg/ year	A(accidental) Kg/year	Origin	Use	Treatment operation	Comments

**NOTES:**

(1) Method: indicate whether the value has been measured (M), calculated (C), estimated (E), and the method, using the following acronyms:

For measured values: Standard abbreviation (UNE, ISO, EPA...) to regulations or standards at international level, PER for method prescribed in license or permit, NRB for national or regional measurement method prescribed in a legal act for a pollutant and complex, ALT for alternative measurement method, MRC for measurement method whose performance is demonstrated using Certified Reference Materials and OTH for other methods of measurement.

For calculated values: ETS, IPCC, ONU/EMEP for calculation method internationally recognized, PER for calculation method prescribed in the license or permit, NRB for national or regional calculation method prescribed in a legal act for a pollutant and complex, MAB for material balance accepted by competent authorities, SSC for specific calculation method of the sector at European level and OTH for other calculation methods.

(2) Destination: indicate (R) for recovery or (D) for disposal.

(3) Comments: It must be provided the basic information used for determining the reported data: Collaborating Organization Report/Self-control/Monitoring, if measured method.

## 2.6.2. NON-HAZARDOUS WASTES

### 2.6.2.1. Requirements and Technical Conditions

Indicate in the table below for non-hazardous waste at the facility:

TABLE.- NON-HAZARDOUS WASTES					
LER code	T (total) Kg/ year	Origin	Use	Treatment operation	Comments

The competent body, according to the applicable sectoral legislation, will draw up obligations relating to the possession of the non-hazardous waste.





### 2.6.2.2. Plan for Monitoring and Control

PMC proposal contains the program of readings verification be made by the proposer during the period of validity of the AIA.

The PMC should include:

Emission point	Monitoring				
	No. sample	Internal/ External	Frequency	Description	Reports

Emission point	Control			
	Internal/ External	Frequency	Description	Reports

### 2.6.2.3. Environmental information

Periodic reports, preferably with a technical report and tables of summary information (eg Excel / Access) that will bring the summary of all monitoring performed explicit information provided by Plan Monitoring and Control. Timely reporting of abnormal situations and/or failures that may cause abnormal emission situation.

## 2.6.3. CONTAINERS AND CONTAINER WASTES

### 2.6.3.1. Requirements and Technical Conditions

✓ Container waste prevention

Prevention means reducing container waste in the amount of container material (quantitative prevention) and the harm that these materials can cause in the environment (qualitative prevention), taking into account:

- Materials and substances used in container and container waste.
- Container and container waste in the process of production, marketing, distribution, use and disposal by developing non-pollutant products and techniques.

When addressing prevention it is essential not to lose sight of the function of the container and its relationship with the product it contains, will be successful only an approach that considers the product packaged as a set throughout its life cycle, taking into account, at least the following aspects:

- Package functions: main functions of container and its relationship to prevention.
- Consumption habits: how socioeconomic factors influence consumers' needs and how they are reflected in packaged products.

✓ Container and marketing



The container and marketing of packaged products are the first steps in the life cycle of the container before they reach the consumer, where once consumed the product, it is generated a container waste to be managed properly.

The goal is the recovery and management of such container waste, and the packers and marketers of packaged products take responsibility for this or, if it is not possible to identify them, those earlier responsible for the entry into the market of packaged products.

These companies are responsible for container waste from individuals or domestic consumption put in the national market. To meet this obligation, two alternative routes are established:

- Establish a Deposit and Return System (SDDR), currently difficult to implement, or be exempted from this requirement by
- Membership of an Integrated Management System (IMS) of container wastes and used containers. In this way, the company will contribute an amount for each household container put on the national market, in order to finance the separate collection of container waste from Local Authorities.

The management of commercial and industrial container is the responsibility of the final holder of the waste, who will be obligated to transfer to a licensed waste contractor. Nevertheless the responsible for the placing on the market may voluntarily include these packages in the IMS.

✓ Container collection

Once the products have been consumed and the container fails to fulfil the mission for which it was created, it becomes waste and it is at this time when it has to be recovered to enable its recycling.

The selective collection of containers is therefore based on recovering the different fractions of containers separately from other waste, so that they can be recycled.

To do so the first thing to do is provide the public with different containers depending on the type of container involved (e.g., a container for plastic containers, cans and cartons and another container for cardboard and paper containers).

✓ Recycling

To recycle the containers of products we usually consume, we must first separate them into groups according to the nature of the material they are made and then deposit them in selective collection bins installed on the streets.

Thus, paper and cardboard containers go directly to collectors and recyclers that, after a classification based on the quality and a following recycling, will produce new cardboard and paper.

In the case of light packaging, we find three very distinct groups, plastic containers, metal cans and cartons, that before being sent to their respective recyclers they also have to be separated, for which they must go through the containers selection plants. Once adequately separated, each fraction is directed to its corresponding recycler which will transform them into new raw material to manufacture new containers or other products which use these materials, such as automobile parts, pipes, textiles, etc.



### 2.6.3.2. Environmental information

Periodic reports, preferably with a technical report and tables of summary information (eg Excel / Access) that will bring the summary of all monitoring performed explicit information provided by Plan Monitoring and Control. Timely reporting of abnormal situations and/or failures that may cause abnormal emission situation.

Likewise, companies that place packaged products on the market are required to submit Prevention Business Plans (PBP) according to the amount of containers placed over a year that are likely to generate waste. For the preparation of these plans there are two options:

- Participation in a sectoral-based Prevention Business Plan developed by the Integrated Management System (IMS).
- Developing a Prevention Business Plan on an individual basis.

### 2.6.4. OTHER TYPES OF WASTES

Other types of waste sludge are subject to the same information for the storage of hazardous and non-hazardous.

## 2.7. WASTES MANAGEMENT

### 2.7.1. General Technical Conditions

Describe in detail how the course of treatment for each denial (stating the EWC code), the quantities produced and the management and final destination and storage costs. Preparation of a flowchart Enforcement (eg rainwater prevention plan,) and the bat industry and the general ones on the storage of waste and / or hazardous substances (eg cover). Include a floor plan on an appropriate scale, with the zoning of land dedicated to the management of waste and indicated the exact location of each type of waste. Precautions in handling the waste and in general measures envisaged to mitigate the risks to human health and the environment.

#### ✓ Authorization

Include in the table below for wastes which approval is sought, as well as the course of treatment, the quantities produced and the method for managing storage and final destination:





European Waste List	Description	Quantity	Unit	Previous treatment operations	Final disposition

✓ Admission procedure for waste

Provision of adequate and detailed procedure "approved" the refusal of entry (ask the creator of the refusal compiling a descriptive card as they are reported the name of the refusal, the EWC code and the specific process of origin. If the code identifies the special non-hazardous waste has a corresponding "mirror entry", the card must be together with all the information that allowed their control to exclude the danger denial of certification or by analytical, written by qualified professional; or waste not subject to input analytical determination in the description must be indicated the criterion adopted for the classification of the same or to lay waste to the creator of the obligation to inform the operator changes the process production may change the composition of waste delivered, with particular reference use of materials containing hazardous substances or preparations, except when necessary to send again the documentation referred to above).

The procedure for checking the entry or the acceptance of waste should include, at least the following aspects:

1. Check the documentation (approval of the vehicle, monitoring and control document fill-in...)
2. Weight and register of the load (weighing, date and time of arrival, waste origin, type of waste, waste vessel...)
3. Visual inspection.
4. Characterization and / or periodic sampling of the waste.
5. Notification to the CMA in the absence of waste acceptance.
6. Give each producer the corresponding authorization (minimum authorization content: opening hours of the landfill, how the waste should be delivered, maximum amount authorized and price of each waste consignment management.

✓ Previous treatment operations

Describe in a report the next issues with the aid of flow chart and tables.

- The conduct treatment activities Flowchart with characterizations
- Constructing and operating systems, facilities and technical means chosen
- Enforcement and the BAT industry and the general ones on the storage of waste and / or hazardous substances.
- The quantity of materials may be recovered
- Any energy recovery (mode, use, quantity)
- Nominal capacity of the system (kg / h)
- Actual potential of the system (kg / h)
- Number of daily hours of operation
- Number of days in a year
- Systems of regulation and control of plant



Previous treatment operations						
Quantity of material recovered (tonn/g)	Type and quantities of energy recovery (Kwt/h) or (Kwe/h)	Nominal capacity of the system (kg / h)	Actual potential of the system (kg / h)	Number of daily hours of operation (h)	Days in a year (g)	Systems of regulation and control of plant (yes or not)

**EXAMPLES:**

Previous treatment operation examples:

For urban waste:

recoverable material recovery	biodegradable material recovery	composting plant	container selection plant	Thermal recovery

For hazardous waste:

physical-chemical treatment	biological treatment	thermal treatment	Other treatment

**2.7.2. Particular Technical Conditions**

- ✓ Storage Capacity

Indication of the capacity of storage and in particular:

Description of storage capacity	Nominal capacity of the system (kg / hot / year or m <sup>3</sup> year)	Actual potential of the system (kg / h)	Annual quantities handled and the amount of waste deposited (maximum capacity of storage)

- ✓ Design Features

Constructing and operating systems, facilities and technical means chosen (referring to rainwater harvesting and processing, soil, leacheate and odour / gas).

**EXAMPLES:**



<i>Geological barrier and artificial coating</i>
<i>Drainage and management of leaching waters</i>
<i>Leaching water storage ponds</i>
<i>Plants of forced evaporation of leaching waters</i>
<i>Drainage and management of rain waters</i>
<i>Maintenance, cleaning and revision of rain water networks</i>
<i>Gas draining and management (use of biogas)</i>
<i>Torch or biogas burning</i>
<i>Energy use through internal combustion engines</i>
<i>Landfill enclosure (metallic mesh)</i>
<i>Periodic maintenance and revision</i>
<i>Inconveniences and risks</i>
<i>Control of noises, smells, dust...</i>
<i>Plagues and insects control</i>
<i>Protection measures against fires</i>
<i>Soil protection and waterproof measures</i>

✓ Pollution Prevention and Control

Description of interventions to reduce quantity and / or hazardous waste; type of system for prevention / reduction have been adopted; brief description of the operating principle of the system chosen; diagram and description of major components; frequency and type of service provided by the operator; utilities necessary for operation of the prevention / reduction; costs. Deans predicted environmental monitoring Fire Prevention.

✓ Exploitation and post-closure plants

Detailed report of all transactions in place at the time of cessation of activities with particular.

**2.7.3. Meteorological parameters**

The facility should supply data on the collection method for meteorological data (in situ, national/local meteorological network etc.). Meteorological data (table 2.8.1) are important in connection with control and monitoring procedures in operation and after-care phases on landfills and at ambient monitoring of air quality associated with using dispersion models.

TABLE.- GENERAL METEOROLOGICAL PARAMETERS									
Date	Time	Wind velocity (m/s)	Wind direction	Temperature (°C)	Tmin (°C)	Tmax (°C)	Rel. Humidity (%)	Pressure (mbar)	Volume of precipitation (l/m <sup>2</sup> )





**TABLE.- METEOROLOGICAL PARAMETERS AT THE LANDFILL IN DIFFERENT PHASE**

Parameter	Operation phase	After-care phase

**TABLE.- METEOROLOGICAL PARAMETERS FOR USING IN THE DISPERSION MODELS**

Date	Time, Half hour average	Wind velocity (m/s)	Wind direction	Temperature (°C)	Tmin (°C)	Tmax (°C)	Rel. humidity (%)



**EXAMPLES:**

**TABLE. - GENERAL METEOROLOGICAL PARAMETERS**

Date	Time	Wind velocity (m/s)	Wind direction	Temperature (°C)	Tmin (°C)	Tmax (°C)	Rel. Humidity (%)	Pressure (mbar)	Volume of precipitation (l/m <sup>2</sup> )
dd.mm.yyyy	00:00	2,17	256	6,7	5	18	99	979	0

**TABLE. - METEOROLOGICAL PARAMETERS AT THE LANDFILL IN DIFFERENT PHASE**

Parameter	Operation phase	After-care phase
Volume of precipitation	Daily	Daily, added to monthly values
Temperature (min., max., 14.00 h CET)	Daily	Monthly average
Direction and force of prevailing wind	Daily	Not required
Evaporation (lysimeter)*	Daily	Daily, added to monthly values
Atmospheric humidity (14.00 h CET)	Daily	Monthly average

**TABLE. - METEOROLOGICAL PARAMETERS FOR USING IN THE DISPERSION MODELS**

Date	Time, Half hour average	Wind velocity (m/s)	Wind direction	Temperature (°C)	Tmin (°C)	Tmax (°C)	Rel. humidity (%)
dd.mm.yyyy	00:00	2,17	256	6,7	5	18	99

✓ Volume of precipitation

Volume of precipitation (rainfall) is measured with special instrument. The unit is expressed as liters per m<sup>2</sup>, or in mm per m<sup>2</sup> (daily, monthly averages).

✓ Minimum and maximum temperature

The air temperature is measured with thermometer. The unit is expressed as °C, with daily minimum, maximum and temperature at 14.00 hour CET or monthly average after-care phase case. Input data for dispersion model are half hour averages.

✓ Wind direction and force

Direction and force of prevailing wind is measured with special instrument (windmill sail). Wind direction is expressed as angle between 0°(N - north), 90°(E - east), 180°(S - south), 270°(W - west) and 360°. Wind force is expressed as meter per second (daily averages or half-hour averages).

✓ Evaporation and atmospheric humidity

Water evaporation from landfill of waste is measured with lysimeter or through other suitable methods. The atmospheric humidity is expressed as percentage (%) of relative humidity (daily and monthly averages).



✓ Environmental information

Periodic reports, preferably with a technical report and tables of summary information (eg Excel / Access) that will bring the summary of all monitoring performed explicit information provided by Plan Monitoring and Control. Timely reporting of abnormal situations and/or failures that may cause abnormal emission situation.

#### 2.7.4. Environmental Information

Periodic reports, preferably with a technical report and tables of summary information (eg Excel / Access) that will bring the summary of all monitoring performed explicit information provided by Plan Monitoring and Control. Timely reporting of abnormal situations and/or failures that may cause abnormal emission situation.

#### 2.7.5. Other Technical Conditions

Indicate other type of technical conditions.

### 2.8. OTHER ENVIRONMENTAL ASPECTS<sup>6</sup>

#### 2.8.1. Light pollution

The owner of the installation should indicate to the officer any situations that can create the light pollution. For this, the owner of the facility shall provide, at least, information on the following aspects:

- ✓ Light pollution protection zone: location of the activity, hours of operation of the activity.
- ✓ Light spots: number of light spots and location (state whether light spots or signs are located at: entrances to activity, internal roads, parking facilities, activities facilities, external store, facades...), screen model, type of lamp, electric power of the lamp, the lamp luminous flux, colour temperature of light, medium lighting, flow control, hours of operation.
- ✓ Signs: placement, type, luminance, functioning hours.
- ✓ Facades, shop windows and windows: facade luminance, shop window or window luminance, etc.

#### 2.8.2. Asbestos

It is necessary indicate if asbestos is present in insulations and in coverings, the preservation state of asbestos (e.g. if the asbestos is friable/confined/thick), the typology of used asbestos, the installation year of coverings, etc.

Other informations are about the probability that asbestos can be dispersed towards the environment, about the existence of periodical monitoring of asbestos and of its dispersion (e.g. asbestos fibers dispersion in the area, or test of the friability/consistency of the structure).

<sup>6</sup> Damages to livestock trail, protected areas (natural landscapes or parks), legionella.





### 2.8.3. Biodiversity

For the new installation or reconstructed existing ones the Strategic Environmental Assessment (SEA) with Environmental report should be carried out as national authority procedure for the national/municipal spatial planning. Depends on size and the type of the reconstruction for existing installations the Environmental Impact Assessment (EIA) with Environmental Impact report should be done. These special reports with detailed studies and investigations cover all environmental impacts together with assessment damages to livestock trail, especially in protected area (natural landscapes or park) according to regional/national/EU legislation.

### 2.8.4. Legionella

Facility operator should identify all location of possible appearance of legionella.

## 2.9. UNUSUAL SITUATIONS WHICH CAN AFFECT THE ENVIRONMENT

### 2.9.1. EXCEEDING OF THE EMISSION LIMIT VALUES

*To be completed by the competent authority (officer).*

### 2.9.2. CLOSE, CLOSURE AND DISMANTLING

Prior to the start of the closing stage, the owner of the facility shall submit a Dismantling Project, signed by a competent technician, which details the measures and precautions to take during the dismantling and containing at least:

- ✓ Studies, tests and analysis to be performed on soil and surface and groundwater to determine the topology, scope and delimitation of areas potentially contaminated. The land must be under the same conditions before starting the activity, without causing damage to the soil or the environment
- ✓ Goals to meet and remedial actions to take in relation to existing pollution.
  - Dismantling and demolition sequence.
  - Waste generated at each stage indicating the estimated amount produced, ways of temporary storage and manager of the residue which has been predicted on the basis of the topology and the danger of those.

It should be taken into account the preference of the reuse versus recycling, of the latter versus the recovery and of the latter versus the disposal when choosing the final destination of those generated waste.



### 2.9.3. STOPS AND STARTS CONDITIONS

*To be completed by the competent authority (officer).*

### 2.9.4. LEAKS AND OPERATION FAILURES

The owner of the facility shall inform the competent authority of any incident or accident occurred on the facilities that might affect the environment. The report shall contain at least the following information:

- ✓ Type of impact.
- ✓ Location and cause of the incident and time of occurrence.
- ✓ Length.
- ✓ In case of accidental spillage, flow and material spilled.
- ✓ In case of exceeding limits, emission data.
- ✓ Estimated damage.
- ✓ Corrective measures taken.
- ✓ Preventive measures to avoid recurrence.
- ✓ Deadlines for the effective implementation of preventive measures.

Likewise, it must have a preventive maintenance manual containing the means available to prevent pollution in case of accidental spills or leaks and security measures implemented. The measures taken must be detailed to ensure the protection of the environment, and will include a register which shall contain the maintenance operations carried out periodically, as well as the impact observed.

### 2.9.5. ACCIDENT HAZARDS

Regardless of the legal requirements that at the state / regional / local level are imposed to facilities on accident risk, as well as on applicable civil protection regulations and territorial and special action plans, the owner of the facility should have an Internal Emergency Plan in which is described the actions planned in case of emergencies, as well as human and material resources which would be available.

### 2.9.6. ENVIRONMENTAL INFORMATION

Periodic reports, preferably with a technical report and tables of summary information (eg Excel / Access) that will bring the summary of all monitoring performed explicit information provided by Plan Monitoring and Control. Timely reporting of abnormal situations and/or failures that may cause abnormal emission situation.



### 3. TECHNICAL ANNEXES

#### 3.1. ENVIRONMENTAL PERFORMANCE INDICATORS

First of all describe Environmental Indicators “EMAS oriented”. They introduce these indicators in the periodical communication foreseen by the MED-IPPC-NET could be a regulatory relief for EMAS organisations. It means that EMAS registered organisations will be able to use the Environmental Statement to communicate their performance to the Competent Authority. This issue is connected with the best practice entitled “simplifications in the permitting procedure for particular categories”.

The indicators will focus on the performance in the following key environmental fields:

- Energy efficiency.
- Materials consumption efficiency.
- Water.
- Wastes.
- Emissions.
- Biodiversity.

When it is considered that one or several indicators are not pertinent for their more significant environmental aspects, no report on these indicators will be needed, presenting a justification to that end.

Each indicator will consist of:

- Figure A: total annual impact/consumption in the considered field.
- Figure B: global annual production of the organization.
- Figure R: A/B ratio.

The three elements of each indicator should be reported, de acuerdo a la siguiente tabla:

Environmental Aspect	Pollutant	Indicator	Unit	A	B	A/B

The figure A, will be reported as follows:

- On the energy efficiency.
- On the materials consumption efficiency.
- On the water.
- On the wastes.
- On the emissions:
  - «Total annual greenhouse gases emissions», including at least the CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFC, PFC and SF<sub>6</sub> emissions. They should be expressed in CO<sub>2</sub> equivalent tonnes.
  - «Total annual air emissions», including at least the SO<sub>2</sub>, NO<sub>x</sub> and PM emissions. They should be expressed in kilograms or tonnes.
- On the biodiversity.
- On other significant environmental aspects.





The indication of the global annual production (figure B) is the same for all the fields, but it is adjusted to the different types of organizations, according to their type of activity. It will be reported by indicating the total annual gross added value expressed in million Euro (EUR millions) or the annual physical production expressed in tonnes. In the case of small organizations, the total annual business volume or the number of workers.

Apart from the aforementioned indicators, other indicators for expressing its global annual production can be also used (propose to Competent Authority the chosen with explication).

**EXAMPLES:**

Environmental Aspect	Pollutant	Indicator	Unit	A	B	A/B
Atmospheric emissions	NOx	Total annual emission	t	XX <sub>1</sub>	YY	XX <sub>1</sub> /YY
	SOx	Total annual emission	t	XX <sub>2</sub>	YY	XX <sub>2</sub> /YY
	PM	Total annual emission	Kg	XX <sub>3</sub>	YY	XX <sub>3</sub> /YY

• Environmental Indicators “EMAS oriented”:

Environmental aspects	Indicator
Energy efficiency	Total annual energy consumption, expressed in MWh or GJ / X
	Percentage of total annual consumption of energy (electricity and heat) produced by the organisation from renewable energy sources
Material efficiency	Annual mass-flow of different materials used* (excluding energy carriers and water), expressed in tones / X
Water	Total annual water consumption expressed in m <sup>3</sup> / X
Waste	Total annual generation of waste broken down by type expressed in tones / X
	Total annual generation of hazardous waste expressed in kilograms or tones / X
Biodiversity	Use of land*, expressed in m <sup>2</sup> of built-up area / X
Emissions to air	Total annual emission of greenhouse gases*, including at least emissions of CO <sub>2</sub> , CH <sub>4</sub> , N <sub>2</sub> O, HFCs, PFCs and SF <sub>6</sub> , expressed in tonnes of CO <sub>2</sub> equivalent / X
	Total annual air emission*, including at least emissions of SO <sub>2</sub> , NOx and PM, expressed in kilograms or tones / X

X = total annual gross value-added expressed in million euro (EUR Mill.) or total annual physical output expressed in tonnes or, in the case of small organizations the total annual turnover or number of employees

• Other Environmental Indicators (to propose and assess with Competent Authority) examples:

Environmental aspects	Indicator
Energy efficiency	Efficiency ratio of energy produced and introduced as a fuel expressed in %
	Fuel consumed and energy produced expressed in mc / MWh Energy (thermal-electric) MWh / tonne product



		<i>Recovered waste energy as t/t product expressed in Tep Energy (thermal-electric) MWh / t waste input</i>
<i>Material efficiency</i>		<i>Recovered waste energy as t/t product expressed in Tep</i>
		<i>Waste recovered as raw material t / t product</i>
		<i>Incoming waste t / t waste recovered</i>
		<i>Amount of waste paper t / t final product</i>
		<i>Waste paper t / t virgin fiber</i>
<i>Water</i>		<i>Water mc / MWh produced</i>
		<i>Water withdrawn / water used in %</i>
		<i>Water discharged mc / t final product</i>
		<i>Water taken mc / t slaughtered</i>
		<i>Water taken mc / t live weight number of animals</i>
<i>Waste</i>		<i>Predominant waste t / t product</i>
		<i>Predominant waste t / t waste input</i>
		<i>Leachate t / t waste input</i>
		<i>Slurry t / t live weight</i>
<i>Biodiversity</i>		
<i>Emission to air</i>		<i>Biogas t / t waste input</i>
		<i>Characteristic effluent emission kg / t product input</i>
		<i>Greenhouse gas emissions t / t live weight</i>
		<i>Amount of characteristic gaseous (solvents) kg / t product</i>

### 3.2. PLAN FOR MAINTENANCE AND CALIBRATION

#### 3.2.1. PRODUCTIVE AND AUXILIARY EQUIPMENTS

The owner of the facility shall develop a Maintenance Plan of the production and auxiliary equipment containing at least the following information:

- Productive and auxiliary equipment with environmental impact.
- Programme for cleaning of dusty material.
- Operations log systems.
- Responsible for each operation.
- Reference of replaced equipment.

Reference	Name of the equipment	Maintenance activities	Frecuency	Officer	Register



### 3.2.2. AUTOMATIC MEASUREMENT SYSTEM (A.M.S)

The owner of the facility, referring to the monitored parameters, should answer the following issues:

- Pollutant parameters to be monitored.
- Preparation of the automatic transmission.
- Fitting the data transmission system (temperature, humidity, vibration, etc.).
- Access to the sampling points.
- Programme of maintenance, calibration, verification and contrast.
- Initial setting.
- Collection, maintenance and transmission of data.

### 3.3. MEASUREMENTS AND TESTS METHODOLOGY

The owner of the facility should contain a list of reference standards used to perform tests and measurements provided in the Control and Monitoring Plans.

### 3.4. CONDITIONING OF FIXED SOURCES OF GASES EMISSIONS FOR THE ISOKINETIC SAMPLING

In order for the officer to establish the requirements and technical conditions as regards the arrangement of the sources, the owner of the facility must provide detailed plans on the location of sources.