Egyptian Environmental Affairs Agency (EEAA)

EPAP II Technical Studies

Part I Compliance Audit

August 2009

Egyptian Pollution Abatement Project (EPAP II)

Part I – Factory Information

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1. Factory profile

Write 2-3 paragraphs describing the factory, its main product, design and actual capacity, the workforce, the operating shifts, hours/shift and days/year. Describe its location, surroundings and available area and refer to location map below. Identify main environmental problems and issues of concern.

Include plot plan (site plan):
The site plan should include the enterprise and the immediate surroundings. It is therefore not the purpose to show where the enterprise is situated on e.g. a map of Egypt, but rather to show where the enterprise is located in the local neighbourhood. The site plan must include:

- *Site location in the area*
- *Inhabited areas in the vicinity of the enterprise*

The plan should be using Google Earth images.

Factory Details

Factory name:

Ownweship:

Address:

Governate:

Chairman

Factory manager:

Total manpower (permanent and temporary)

Industrial sector:

Working hours (no of shifts/d, hours/shift, daysly)

Design and actual production capacity:

Certifications attained (ISO 9000/14001, OHSAS 18000)

Industrial Site Area (m^2):

Surrounding Area:

Year established:

Available licenses and permits:

Contact Details

	Fax:
Factory phone no:	
e-mail:	***Web page:***
Contact Person:	***Position:***
Phone:	***e-mail***

Plants at the Factory

Service units

Water Treatment

Waste water treatment

Cooling towers

Boilers

Power generation, ..other

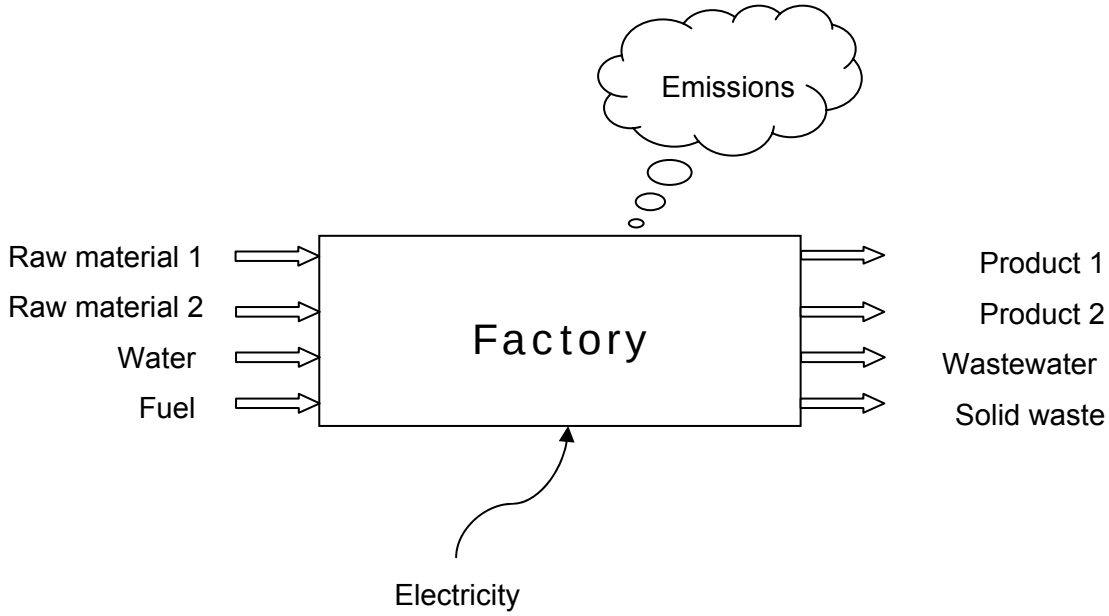
2. Inputs and outputs

Fill the table below and represent the inputs and outputs including emissions on the diagram below.

Raw materials	Current Consumption, t/y

Utilities	Usage	Consumption, m3/y	Source
Water	Domestic		
	Cooling		
	Process		
	Other		
	Type	**Consumption /y**	
Fuel	Mazot (fuel oil), t/y		
	Solar (diesel oil), t/y		
	Natural gas, m3/y		
	Source	**Consumption**	
Electricity	National Grid		
	Self generated		

Products	Actual Average Production, t/y



3. Process description

Insert factory layout plan:
The factory layout plan should show the departments and processes within the enterprise itself. This includes the location of e.g.:

- *Production facilities*
- *Administration facilities*
- *Stores for raw materials, auxiliary materials and products*

If the lay-out plans do not fit into this report format (if they are larger than A4 sized pages), they should be supplied as appendixes.

Describe all process steps in detail, one step in each sub-section, to explain the operation and its environmental implications must include:

- *What raw material conversion is taking place*
- *What is the connection to previous and following steps?*
- *What are the inputs and outputs from the step – quantify if possible*

Include process flow diagrams :
The process flow diagrams should identify all production steps. For each production step, all inputs (including raw materials, process chemicals, steam, water, energy, etc.), and outputs (products, by-products, solid-, liquid-, and gaseous emissions, noise, heat exposure, etc.) must be indicated.
All production steps within the enterprise must be included, and it may be necessary to include more than one process flow diagram if the enterprise is producing on separate production lines.

Photographs of enterprise and production processes may also be included in the report.

4. Emissions and compliance status

In this section the emissions and emission discharge points of the enterprise are described in detail as well as related compliance status. Two layout plans must be included: a sewerage network layout plan and a layout plan showing the enterprise emission points.

If the company already has a sewerage network layout plan it should be included in this section – or attached as appendix to this report. The sewerage layout plan should include indications of wastewater final discharge points. If the enterprise has a wastewater treatment plant, it should also be indicated on the sewerage layout map.

The enterprise layout plan should be presented again and include the following emission points: (ecomap)

- *Stacks*
- *Uncontrolled (fugitive) air emission areas*
- *Discharge points of liquid effluents.*
- *Solid waste areas*

4.1 Air emissions

Control equipment for stack emissions should be described as well as their efficiency. Need for rehabilitation or replacement identified. Number of stacks, stack diameter and height.
Provide a description of the monitoring procedures. This may include:

- *Description of monitoring points that are measured on a regular basis*
- *Description of the monitoring program*
- *Evaluation of monitoring processes*
- *Verification of measuring results*
- *Monitoring equipment and calibration*
- *Use of external consultants for monitoring*
- *Monitoring that needs improvement*

Stack emissions for boilers, furnace and electrical generator and other processes -Combustion sources (limits given in table 5 of annex 6 of ER) and for non- combustion sources (limits given in table 2 of annex 6 of ER)

Parameter	Emission (Nm^3/y)	Concentration (ppm or mg/m^3)	Pollution load (tons/year)	Law limit (ppm or mg/m^3)
CO				
CO_2				
NO_2				
SO_2				
O_2 %				
Stack temperature				

Dust emissions: point source emissions limits given in Table 1 of annex 6, Law 4

Sources	Concentration (ppm or mg/m^3)		Law limits (ppm or mg/m^3)	
	Tsp	PM10	Tsp	PM10

4.2 Wastewater

In this section we are only interested in the end-of-pipe stream discharging to the receiving body. A brief description of the wastewater treatment plant should be included if existing. The following information should be included:

- *Volumetric flow rate of WW*
- *Design capacity of WWTP*
- *Treatment operations*
- *Type of final receiving body (public sewer, canal, Nile, agricultural drain, sea...)*

Provide a description of the monitoring procedures. This may include:

- *Description of the monitoring program*
- *Evaluation of monitoring processes garb or composite sample*
- *Verification of measuring results*
- *Monitoring equipment and calibration*
- *Possible use of external consultants for monitoring*

Fill the following table for discharged streams. If more than one final disposal point use different tables for each stream:

Indicators	Discharge(m^3/year)	Concentration (ppm)	Pollution load (tons/year)	Law limits
pH				
BOD				
COD				
TSS				
Heavy metal				
Others				

4.3 Solid and hazardous waste

Description	*Annual Quantity (ton)	Management and disposal

4.4 Workplace emissions

Pollution abatement measures such as ventilation should be described and their efficiency assessed. Provide a description of the monitoring procedures. This may include:

- *Description of monitoring points that are measured on a regular basis*
- *Description of the monitoring program (adequacy of measured parameters to industrial sector)*
- *Evaluation of monitoring processes*
- *Verification of measuring results*
- *Monitoring equipment and calibration*
- *Possible use of external consultants for monitoring*

Noise (Limits in Annex 7, Law 4, ER)		
Location	Average level (db)	Law limits (db)

Dust (Tsp, PM10) (Limits in Annex 8 pre-table 1, Law 4, ER)				
Location	Concentration (ppm, mg/m^3)		Law limits	
	Tsp	PM10	Tsp	PM10

Gases & vapors (Limits inTable 1 Annex 8, Law 4, ER)			
Location	Type	Concentration(ppm or $mg/m^{3)}$	Law limits (ppm or mg/m^3)

4.5 Environmental register

4.5.1 Status of Environmental Register

Does the enterprise maintain an environmental register? If yes, comment on the availability of required information and its quality.

4.5.2 Status of Monitoring Plan

Comment on the adequacy of monitoring plan (parameters, frequency of monitoring, calibration ..)

4.6 Inspections

This section should include information on:

- *How often is the enterprise inspected by environmental authorities*
- *Registered non-compliances related to environmental regulations*
- *Possible penalties and fines related to environmental issues*
- *Other communication regarding environmental issues with authorities*
- *Does the enterprise have a Compliance Action Plan (a plan to reach compliance with environmental legislation)? How is this plan implemented, and how is the implementation progressed?*

4.7 Summary of non compliance issues

This section should present a summary of non-compliance issues as concluded from previous tables.

5. Benchmarks

Factory benchmarks are usually calculated per ton of main product and may include water consumption/t, fuel consumption/t, wastewater/t, BOD load/t, TSP load/t,...etc. Check IFC guidelines for benchmarks most relevant to sector at hand. If the sector is not available go to other sources.
Comment on how do benchmarks calculated for the factory compare with international benchmarks.