Egyptian Environmental Affairs Agency (EEAA)

EPAP II Technical Studies

Part II Sub-project Assessment

August 2009

Egyptian Pollution Abatement Project (EPAP II)

Part II – Sub-project Assessment

For each proposed sub-project, the following information must be included in the report (sections 1-6) are to be described for each sub-project).

1. Sub-project Purpose

In this section information about which non-compliance issue the sub-project is addressing. A description of the environmental problem(s) addressed by the proposed sub project and a technical description of the current situation of the processing step where the proposed sub-project will be implemented should be presented. The problems encountered may include:

- *Wastewater not meeting regulation demands*
- *Air emission not meeting regulation demands*
- *Solid waste not meeting regulation demands*
- *Work environment not meeting regulation demands*

2. Description of proposed sub-project

The proposed sub-project must be described in detail. The description should include:

- *Indication of proposed sub-project on layout plant*
- *Technical description of sub-project and how it affects the environmental problems*
- *The reason for choosing the proposed technology*
- *Are other options available which could lead to compliance*
- *Is the technology local or imported.*

3. Expected impacts of sub-project

3.1 Load reduction

The following questions need to be answered:

- *What is the pollution load reduction achieved by the sub-project?*
- *What is the percentage load reduction with respect to each target pollutant?*
- *How significant is the pollution reduction caused by the sub project in % of total pollution from the enterprise?*

3.2 Compliance

This section should include description of the situation after the sub-project implementation regarding compliance with regulations regarding one or more of the following aspects:

- *Wastewater*
- *Air emission*
- *Solid waste*
- *Work environment*

3.3 Productivity Increase

Will the sub-project cause any increase in productivity? What is the expected percentage increase in productivity?

3.4 Residue management

How are residues generated by the sub-project managed? (e.g. sludge from WWTP, dust from de-dusting systems, scrubbed pollutant in WW, etc...)

3.5 GHG reduction potential

Does the sub-project present any potential for GHG reduction? If so, how much reduction in CO2 equivalent?

3.6 Sub-project inputs and outputs

In this section the inputs and outputs (including emissions, effluents and wastes) before and after sub-project implementation are identified. Depending on the sub-project impact the inventory will be applied to a specific equipment, production line in a plant, a production plant or the entire factory. Information can be presented in the following table:

Inputs	**Before Sub-project**	**After Sub-project**
Outputs	**Before Sub-project**	**After Sub-project**

4. Cost benefit analysis of proposed sub-project

The economic implications of the sub-project are described in this section. A simple pay-back period is calculated using capital and running cost information provided in previous sections.

The production capacity must also be taken into consideration when calculating the pay-back time of a proposed sub-project, as the production capacity is often increased after introduction of new equipment. Increased production capacity may lead to cost benefits per produced unit, even if the total running price is higher than before the intervention. Operation and maintenance costs, taxes and depreciation should be deduced from the profit to obtain the annual savings.

The payback period for each sub-project is calculated using the following equation:

$$\text{Simple payback period} = \frac{\text{Capital cost}}{\text{Annual savings}}$$

5. Proposed tendering procedure and possible suppliers

The tendering procedure is described in this section. Rules for the tender procedure are described in the EPAP II procedures.

If the enterprise already has established a list of suppliers, or has already received offers for the proposed sub-projects, these should be provided along with the description of the tendering procedure.

6. Self-monitoring plan

This section describes the monitoring plan to measure the effect of the sub-project. The monitoring plan should include regular measurements of the environmental impacts from the sub-project:

What, When, How and Where to monitor should be included in the plan.
Data verification and equipment calibration plan should be also included.

- *Wastewater*
- *Air emissions*
- *Solid waste*
- *Work environment*