Case Summary

National Cement Company

Company Information:

Contact Person:	*Dr / Mohamed Abd Elhakim*
Position:	*Head of Environmental Department*
Direct Telephone:	*02 - 25014222*
Telephone:	*02 – 25010116 / 02 – 25010797 / 010 – 1107624*
Fax:	*02 – 25011464*
Sector:	*Business Public Sector Company*
Project Title:	*Supply of one Mobile suction unit and one auto cleaning unit for cement dust*
Type of Project:	*Work environment*

1. Basic Information:

1.1 Main Product:

Plant 1: *3 wet process kilns*		**Plant 2:** *1 wet process kiln (Russian)*	
Products	**Actual Average Production, t/y**	**Products**	**Actual Average Production, t/y**
Clinker	242,640	Clinker	388,060
Cement	153,399	Cement	582,670

1.2 Raw Material:

Plant 1: *3 wet process kilns*				**Plant 2:** *1 wet process kiln (Russian)*			
Raw materials		**Current Consumption, t/y**		**Raw materials**		**Current Consumption, t/y**	
Limestone		390,408		Limestone		594,411	
Clay		45,884		Clay		69,244	
Slag		25,062		Pyrite cinder		3,535	
Pyrite cinder		2,203		Sand		500	
Sand		600		Gypsum		109,835	
Gypsum		78,370					
Utilities	**Usage**	**Consumption , m^3/y**	**Source**	**Utilities**	**Usage**	**Consumption, m^3/y**	**Source**
Water	Process	165,000	Nile	**Water**	Process	360,000	Nile
	Cooling	720,000 (recycled)	Water tanks		Cooling	2,960,000 recycled	Water Tanks
	Type	**Consumption /y**			**Type**	**Consumption /y**	
Fuel	Natural gas, m^3/y	51,754,186		**Fuel**	Natural gas, m^3/y	74,301,017	
	Source	**Consumption**			**Source**	**Consumption**	
Electricity	National Grid, kWh	33,288,503		**Electricity**	National Grid, kWh	94,343,153	

1.3 **Project Location**:

Tabbin - South Helwan - PO Box 18 Cairo - Egypt.

1.4 **Project Objectives:**

- *Improving the working environment and surrounding area.*
- *Improvement in labor health condition.*

1.5 **Project Description:**

Cement is produced by calcining a mixture of raw materials mainly limestone & clay in large rotary kilns at temperatures above 1450 ºC. This process produces clinker which is subjected to grinding and then mixed with gypsum & other additives to produce cement.

Two types of process are available, namely "wet" and "dry". In the wet process, raw materials are ground, mixed with water & the slurry fed to the rotary kiln. With the dry process raw materials are dried before or during grinding. Dry ground materials are fed to the kiln directly.

The project will consist of the following:

- *Supply of one mobile suction unit and one auto cleaning unit for cement dust.*

This Mobile Equipment will work around the factory & beside source of dust emissions. This equipment will be used to eliminate accumulated residues & dust in different area of the factory.

The auto cleaning unit is:

- *Used to clean up the workshop places.*
- *An efficient method for cleaning large industrial complexes that constitutes an essential part of maintaining the environment.*

1.6 **Project Components:**

A- Technical Specification for Mobile Suction Unit:

High performance vacuum truck with the following specifications:

1- Diesel engine of travelling (4 stroke – water cooled – suitable power).
2- Cabin with A / C.
3- Vacuum unit is operated by separated diesel engine or travelling diesel engine of truck.
4- Operational Vacuum is about 600 m bar.
5- Max. Vacuum is about 700 m bar – safety valve setting.
6- Container volume is about 10 m^3.
7- Transmission is heavy duty driven.
8- The suction deep is about 20 meter with (6 – 8) inch diameter for the hose.
9- Real door of the truck container is hydraulically working.
10- All necessary gauges and control instruments are attached.
11- These things must be delivered with the truck (spare tyre with rim – tools box – filters kit – catalogues for operation – maintenance and repair – V-belts kit)

B- Technical specification for Auto Cleaning Unit for cement Dust:

1- Motor in front of driver cabinet.
2- Isolated Cabinet.
3- Wheel drive.
4- Preparations: Cars prepared for cleaning and spraying water onto dust of thickness up to 40mm.
5- Blower: Prepared with separate motor of fourth stage – diesel – water cool of suction power foot 3/min.

6- Cleaning: Car has 2 lateral brushes, one on each side of suitable diameter made from steel wires –Transversal brush of suitable diameter –working of brashest from driver cabinet.
7- Dust Tank.
8- Water Tank.
9- Spraying: By water pump – the spray system Composed of several nozzles.

1.7 **Actual Project Cost**:

No	Item name	Cost, as read out
1	Mobile Suction Unit	274371.3 US$
2	Auto Cleaning Unit	174000 US$
	Total	**448371.3 US$**

1.8 **EPAP Technical Support**:

EPAP II assigned a local consultant through EPAPII TA (Short term consultant) to prepare:
- *The environmental audit.*

EPAP II PMU assists the company to prepare:
- *Tender document according to WB standard bidding document.*
- *The bid evaluation report and procurement procedures.*

2. **Eligibility Criteria**

2.1 **Environmental:**
- *The company's industrial processes are a source of potential health problems.*

Current measurements are as follows:

Location	Pollutants	Conc. mg/m3	Law 4/94
Cement mills & Raw mills Line 1	PM10	15.2	10
Russian mills Line 2	PM10	20.9	10

- *Both mobile suction unit & spraying unit are very important for cleaning all locations of the work environment and around the company, {external environment}.*
  - *The expected range for reduction of total suspended particulates is 50-70%*
  - *Health risks are expected to decrease. In the following table the company reports the health problems of the workforce as a result of exposure to fine cement dust :*

Chronic cases cured monthly as a result of exposure to cement dust pollution	Skin disease	Chest disease	Ophthalmology
Number of Labors	165	486	48

2.2 **Financial aspects:**
- The Sub Project cost is less than 15 US$ million.
- The payback period is 1 year.

3. Project Procedures

3.1 Steering committee approval: N/A

3.2 Co-financers approval: N/A

3.3 Technical Procedures:

Technical Document	submitted	Approved	Date
Environmental Assessment	N		Sep. 2009
Compliance Action Plan (CAP)	Y	Y	Oct. 2008
Environmental Impact Assessment (EIA)	N/A	N/A	
Technical Agreement	N/A	N/A	

3.4 Implementation Procedures:

3.4.1 Procurement Procedures:

- *The company follows EPAP II standard (2 stage bidding documents) to a national competitive bid (NCB) in El-Ahram newspaper on 2/5/2007 for supplying one Mobile suction unit and one auto cleaning Unit for cement dust.*

3.4.2 Status of Implementation:

Technical Document	submitted	Date	
		Achieved	Planned
Credit worthiness certificate	Y	Jul. 2006	
Financial Agreement	Y	Dec. 2008	
Bidding document	Y	Mar. 2007	
Opening (Envelops A – Technical)	Y	Jul. 2007	
Opening (Envelops B – Financial)	Y	Nov.2007	
Technical and financial Evaluation	Y	Dec. 2007	
Awarding and Contracting	Y	Jan. 2008	
Installation and Commissioning	Y	May 2009	
Monitoring: Q1:	N/A		
Q2:	N/A		
Q3:	N/A		
Q4:	N/A		