

Case Summary

Universal Group – Gas Cookers Production Factory

Company Information:

Contact Person: Eng /Khalil El Bargouthy
 Position: Factory Manager
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 Sector: Private
 Number of labors: 1200
 Project Title: Waste water treatment Plant (WWTP)
 Type of Project: End of pipe Treatment

1.Basic Information:

1.1 Main Products

Products	Actual Average Production, t/y
Cookers (Packed and Plated)	10,155

1.2Raw Materials&Utilities

Raw materials		Current Consumption, t/y	
Black steel sheets		7200	
Stainless steel sheets		1200	
Galvanized steel and Aluminized sheets		1440	
Thermal glass		1728	
Cardboard		240	
Packing foam		60	
Wood		60	
Hcl		18	
H2So4		48	
Enamel powder		140	
Wet enamel raw material		700	
Electrostatic powder		90	
Zinc phosphate		12	
Sodium Hydroxide		18	
Sodium Meta-bi Sulphide		18	
Sodium Hypo-Chloric		9000 Litre	
Utilities	Usage	Consumption, m³/y	Source
Water	Domestic	15,000	Main Six of October City Network
	Cooling	466	
	Process	45,000	
	Other	2,000	
	Type	Consumption /y	
Fuel	Mazot (fuel oil), t/y	-----	
	Solar (diesel oil), t/y	-----	
	Natural gas, m3/y	275,000	
	Source	Consumption	
Electricity	National Grid	16,128 kw	
	Self generated	-----	

1.3 Project Location:

- 6th of October Industrial city – Giza Governorate

1.4 Project Objectives:

- Reduce the hydraulic and Pollution loads of the discharged effluent to public sewage network.
- Reduce the high levels of Oil and Grease and iron loads in The waste water.
- Comply with the environmental law 93/1962 and its modified Executive Regulation by the decree No. 44 /2000.

1.5 Project Description:

WWTP is to be installed to treat the industrial waste water resulting from the parts surface pre-treatment before painting. The waste water is initiated from:

- Surface pre-treatment before wet enamel paint.
- Tunnel treatment before dry enamel paint.
- Zinc phosphating unit.
- The waste water is currently collected in two tanks (one for the acidic and one for the alkaline effluent) of 75 m3 capacity each.

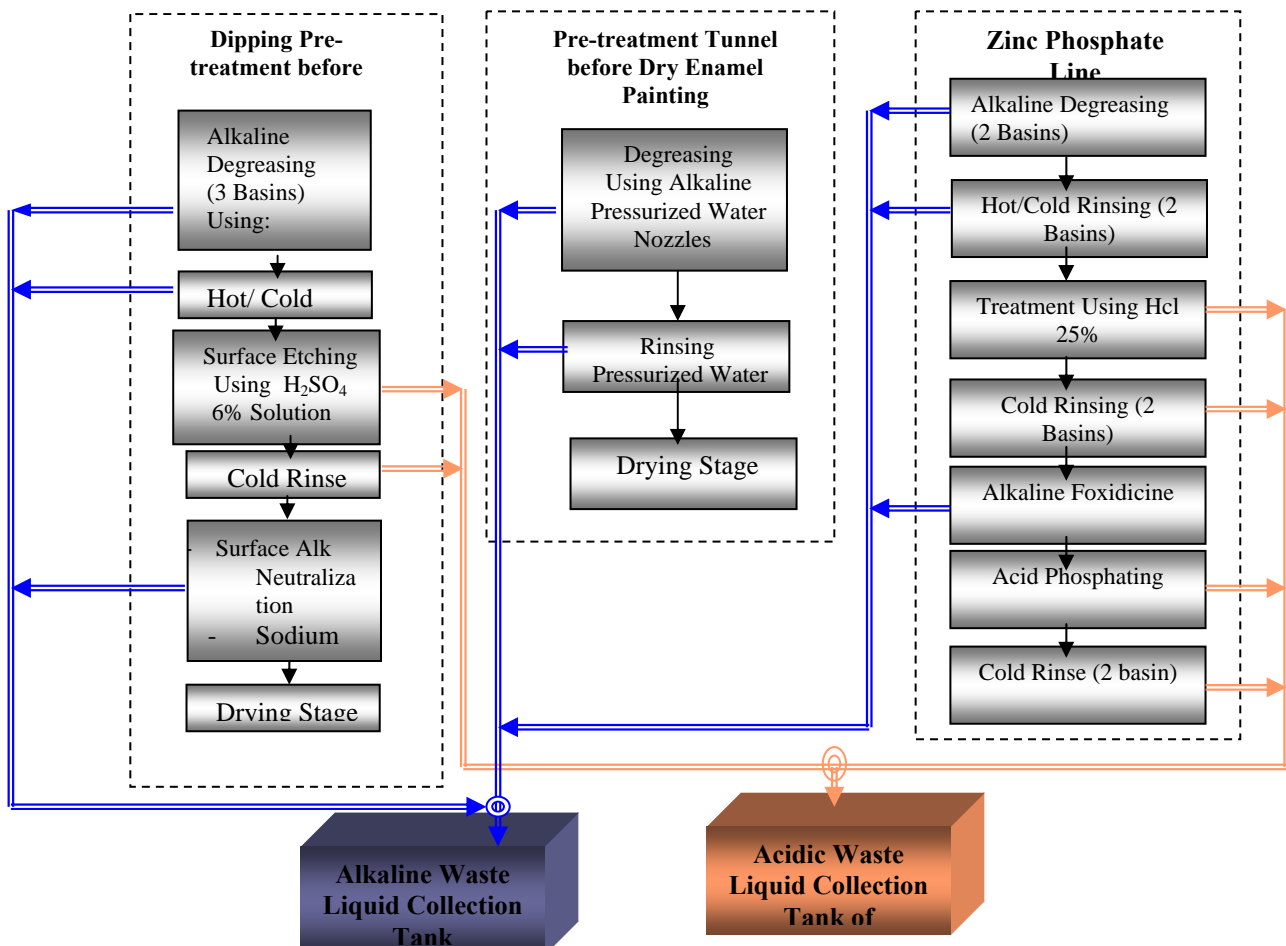


Figure 3.3: Industrial Waste Water Flow

- The main purpose of the WWTP is to reduce the pollution load conveyed to the public sewage network of the 6th of October City.
- The results of latest industrial waste water quality measurements shows that pH is slightly lower than the permissible limit; Grease and Oil concentration value is higher than the permissible limits and The iron is precipitated as oxides resulting from erosion of the steel substrates surface resulting in considerably higher concentration than the Law limit. wastewater should be treated before been discharged to the sewer system.

1.6 **Project Components:**

A Continuous flow wastewater treatment plant shall be installed to treat the effluents of surface finishing production processes including:

- The immersed surface treatment unit before wet enamel treatment.
- Spray degreasing line through the treatment tunnel.
- Immersion Zinc Phosphating unit.

The treatment unit capacity is 150 m³/day. The oil and grease shall be filtered from the spent solutions; then the streams shall be collected, balanced, chemically neutralized, remove heavy metals, simultaneously removing inorganic content and therefore reducing COD & TDS concentration and finally physically treated by appropriate ways to separate and de-water sludge.

As per the above sequence, the system shall include the following:

- Underground effluent balancing system
- Transfer of effluent to above ground treatment module
- Oil and grease treatment
- Coagulation / Flocculation
- Neutralization
- Precipitation of insoluble hydrated metal oxide
- Solid separation
- Slurry thickening
- Effluent polishing & pH adjustment

1.7 **Estimated Project Cost:**

Total project cost US\$ 0.14 M. EPAP finance is US\$ 0.11 M.

1.8 **EPAP Technical Support:**

EPAP II TA assisted Universal in preparing the Environmental audit and CAP. The PMU will assist the company in the preparation of bidding Document.

2. Eligibility Criteria

2.1 Environmental

- The installation of the WWTP shall ensure compliance with Law 93/1962 and its modified Executive Regulation by the decree No. 44 /2000. This will in turn relief the pollution load to the main sewage network of the 6th of October Industrial City. 15% Load Reduction for PH will be achieved, 16% for Total Oil and Grease [TOG] and 87.4% for iron.

2.2 Financial:

- The sub project cost is less than MUS\$ 15
- Payback period: NA

3.Current status of project procedures

3.1 Technical Procedures:

Technical Document	submitted	Approved	Date
Environmental Assessment	Y	Y	Dec 2011
Compliance Action Plan (CAP)	Y	Y	Dec 2011
Environmental Impact Assessment (EIA)	Y	Y	17/11/2011
Technical Agreement	N	N	

3.2 Implementation Procedures:

3.2.1 Procurement Procedures:

The company will follow its commercial practice (acceptable to EPAPII) to issue tender for Supply and Installation of the project equipment

3.2.2 Status of Implementation:

Technical Document	submitted	Date	
		Achieved	Planned
Credit worthiness certificate	Y	Feb 11	
Sub-loan Agreement	Y		
Bidding document (B.D)	N		10/2/2012
Technical and financial Evaluation	N		1/3/2012
Awarding and Contracting	N		1/4/2012
Installation and Commissioning	N		Oct 2012
Monitoring: Q1:	N		Nov 2012
Q2:	N		Feb 2012
Q3:	N		June 2012
Q4:	N		Oct 2012