

Case Summary

Nile Soft Drinks Company “Crush”

Company information:

Contact Person: Eng. Ahmed Shawky
Position: Environmental Project Engineer
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Sector: Food Industry
Number of labors: 800
Project Title: implementation of IWWTP at end pipe stream
Type of Project: water treatment to the end of pipe stream

1. Basic Information:

1.1 Main Products:

Main Products	Average Annual production L/ y
Crush Orange	4,848,500
Sport Cola	21,554,500
Hi-Spot lemon	23,596,000
PET 1 & 2 litre	19,000,000

1.2 Raw Materials:

Raw Material	Average Annual Quantity	
Sucrose	809.462	
Fructose	4714.88	
Caustic Soda (liq.)	455.62	
Caustic Soda (flakes)	11.3	
Ferric Sulfate	1.1	
Chlorine	1.635	
Calcium hydroxide	8.8	
Carbon Dioxide	831.31	
Utilities	Unit	Average Annual Quantity
Water	m ³	369,477
Electricity	KWH	2,926,051
Solar (fuel for cars & forklifts),	liter	480,000
Natural gas,	m ³	586,039

1.3 Project Location:

25 km, Alex – Cairo Desert Road, Amryia

1.4 Project Objectives:

Reduction of (COD, BOD, TDS and TSS) loads to Comply with Decree 402/2009.

Parameter	Concentration (mg/l)	Pollution load (tons/year)	Law limits Decree 402/ 2009
BOD	516.5	155.196	20
COD	1128.50	339.088	20
TSS	461	775.832	30
TDS	2582	138.520	800
Settleable 10' ml/l	1.15	0.346	-
Settleable 30' ml/l	2.23	0.670	-
Sulfides	1.20	0.361	1
O & G	20.50	6.160	5
Phosphate	1.50	0.451	1
Total Nitrogen	7.12	2.139	-
Bacteriological (Total Coliform) in 100 m3	117.50	35.306	1000
Free Cl	0.45	0.135	1
Cd	0.0025	0.001	0.003
Pb	0.0475	0.014	0.001
Cr	0.1105	0.033	0.01
As	Nil	-	0.01

1.5 Project Description:

Crush Company has two production lines for Returnable Glass Bottles (RGB) & one line for Polyethylene terephthalate (PET) produces different types of soft drinks (Crush, Hi Spot and Sport Cola), currently the end-of-pipe stream of the company is not treated and discharged directly to West Nubaria drain. Parameters (mainly pH, BOD, COD, TSS & TDS) do not comply with the regulatory limits for discharging to agricultural drains (law 48, 1982 & Decree No. 402-2009) so the company intends to replace the existing CIP unit by a new ECA unit to reduce the hydraulic and pollutant loads at source and install an IWWTP to treat this effluent and comply with law limits of decree 402/2009.

6. Project Components:

- WWTP with tertiary treatment
- Replacement of CIP unit with new ECA unit

1.6 Actual Project Cost:

The total cost is 1.3 MUS\$ with a finance from EPAP II of about 1MUS\$

1.8 EPAP Technical Support:

- EPAP II hired a national consultant to Prepare the environmental audit, Compliance action plan, technical specification and tender document

2. Eligibility Criteria

2.1 Environmental:

The project will result in compliance of end of pipe stream with respect to BOD, COD, TDS and TSS to be within the environmental laws 48/82 decree 402/2009.

- Reduction resulting from replacement of CIP by ECA (ElectroChemical Activation)

Location	Flow from syrup unit, m3/y	TDS (mg/ l)		Pollution load, t/y		% reduction
		before	after	before	After	
Treated Sterilizing Water	44113	15987	1598	705	70.5	90%

- Reduction resulting from IWWTP

Indicators	Load tons/ yr		Pollution load reduction tons/ yr	Percent load Reduction
	Before	After		
pH	11.5	7-8	-	-
BOD	161	5.58	155.4	97%
COD	351	5.58	345.4	98%
TSS	143	8.38	134.6	94%
TDS	852	223.56	628.44	74%
O & G	6	1.40	4.60	77%
Phosphate	0.6	0.28	0.32	53.43%

2.2 Financial:

- The project has not economic benefits
- The project cost is less than US\$ 15 million

3 Current status of project procedures

3.1 Steering committee approval: approved

3.2 Co-financers approval: N/A

3.3 Technical Procedures:

Technical Document	submitted	Approved	Date
Environmental Assessment	Y	Y	Sep 2010

Compliance Action Plan (CAP)	Y	Y	Sep 2010
Environmental Impact Assessment (EIA)	Y	Y	June 2011
Technical Agreement	N	N	

3.4 Implementation Procedures:

3.4.1 Procurement Procedures:

- The company followed up EPAPII procurement procedure to issue a national competitive bid one stage to Design, supply, install and commissioning of IWWTP
- Where the Company has issues a tender on 1st November 2010 & finalized the technical and financial evaluation was done on 6th of January
- Three companies submit their offers (METITO, NIJHUSN water technology Egypt LTD ITI (Redox)) in which the three offers were technically accepted
- Crush has made the decision to award the contract to Metito as the lowest technically acceptable offer.
- The company has sent the awarding of contracting on 11january 2011

In addition to that the company followed up EPAPII procurement procedure to issue a shopping to replace CIP unit with new ECA unit

- Three companies submitted their offers that were technically accepted
- Crush has made the decision to award the contract to radical water as the lowest technically acceptable offer.

3.4.2 Status of Implementation:

Technical Document	submitted	Date	
		Achieved	Planned
Credit worthiness certificate	Y	6 June 2010	
Sub-loan Agreement	Y	16January 2011	
Bidding document	Y	26 October 2010	
Technical and financial Evaluation	Y	6 January2011	
Awarding and Contracting	Y	11january 2010	
Installation and Commissioning	N		March 2012
Monitoring: Q1:			
Q2:			

Q3:			
Q4:			