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EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Twenty-eighth Meeting
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PROJECT PROPOSAL: EGYPT

This document consists of the comments and recommendations of the Fund Secretariat on the following project:

Solvent

- Conversion of TCA used for the formulation of degreasing and contact cleaners and crack detectors to new formulations with special hydrocarbons and heavy chlorinated ester at Sien

UNIDO

**PROJECT EVALUATION SHEET
EGYPT**

SECTOR: Solvent ODS use in sector (1991): 106 MT ODP tonnes

Sub-sector cost-effectiveness thresholds: TCA US \$38.50/kg

Project Titles:

- (a) Conversion of TCA used for the formulation of degreasing and contact cleaners and crack detectors to new formulations with special hydrocarbons and heavy chlorinated ester at Sien

Project Data	TCA
	Sien
Enterprise consumption (ODP tonnes)	8.98
Project impact (ODP tonnes)	8.98
Project duration (months)	12
Initial amount requested (US \$)	345,143
Final project cost (US \$):	
Incremental capital cost (a)	248,000
Contingency cost (b)	24,800
Incremental operating cost (c)	-41,365
Total project cost (a+b+c)	231,435
Local ownership (%)	100%
Export component (%)	0%
Amount requested (US \$)	231,435
Cost effectiveness (US \$/kg.)	25.77
Counterpart funding confirmed?	
National coordinating agency	Egyptian Environmental Affairs Agency
Implementing agency	UNIDO

Secretariat's Recommendations	
Amount recommended (US \$)	231,435
Project impact (ODP tonnes)	8.98
Cost effectiveness (US \$/kg)	25.77
Implementing agency support cost (US \$)	30,087
Total cost to Multilateral Fund (US \$)	261,522

PROJECT DESCRIPTION

Conversion of TCA used for the formulation of degreasing and contact cleaners and crack detectors to new formulations with special hydrocarbons and heavy chlorinated ester at Sien

Sector background:

-	Baseline consumption of Annex A Group 1 substances (CFCs)*	1,668.0	ODP tonnes
-	Latest available total ODS consumption (1998)	1490	ODP tonnes
-	Baseline consumption in the solvent sector (1991)	106	ODP tonnes
-	Latest available consumption in the solvent sector (1998)	860	ODP tonnes

* Baseline consumption of Annex A controlled substances refers to average of the consumption for the years 1995-1997

1. This project will enable Sien to phase-out 8.98 ODP tonnes of TCA used in the formulation of degreasing and contact cleaners and crack detectors. As the carrier fluid evaporates after the use of the Sien's products, the total consumption evaporates in the atmosphere while utilized by end-users. A new formula using non-ODS solvents has been developed. Although some non-flammable products will be produced, the new solvent formulations are mostly flammable. New equipment is required to process them. The substitution will be accomplished after carrying out qualification tests by which Sien will have to prove to its customers the performance of the new formulations.

2. The baseline equipment in the enterprise consists of a 7 year old production line using open mixing equipment mostly of stainless steel construction with temperature control of the reaction vessels. The required capital equipment includes closed pressure vats and mixing equipment, a heat exchanger, storage and transport tanks and a new filling machine with a total cost of US \$272,800. The project provides incremental operating savings of US\$ 41,365.

Impact of the project on country's Montreal Protocol obligations:

3. This project is said by the implementing agency, UNIDO, to be one of the remaining two identified projects in the solvent sector. However, it should be noted that Egypt has reported its 1998 solvent sector consumption as 860 ODP tonnes. Controls on TCA do not come into effect for Article 5 countries until the commencement of a freeze in consumption in 2003.

SECRETARIAT'S COMMENTS AND RECOMMENDATIONS

COMMENTS

1. The Fund Secretariat discussed with the implementing agency the eligibility of costs for replacement of all the main items in the existing production line. It was established that the flammability of some of the new solvents and the change in the nature of the chemical reactions which occur in the mixing process required that much of the equipment be changed. The specification of one reaction vessel was reduced as the original proposal involved technological upgrade and it was agreed that only 50 percent of the cost of a filling machine was eligible as the new machine was more automated than the equipment in the baseline. Incremental operating savings were recalculated, resulting in an increase in the level of savings.

RECOMMENDATION

1. The Fund Secretariat recommends blanket approval of the project with associated support costs at the funding level shown in the table below:

	Project Title	Project Cost (US\$)	Support Cost (US\$)	Implementing Agency
(a)	Conversion of TCA used for the formulation of degreasing and contact cleaners and crack detectors to new formulations with special hydrocarbons and heavy chlorinated ester at Sien	231,435	30,087	UNIDO