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Executive Committee of
the Multilateral Fund for the
Implementation of the Montreal Protocol

Twentieth Meeting
Montreal, 16-18 October 1996

Addendum

PROJECT PROPOSALS: BRAZIL

This document includes the Comments and Recommendations from the Fund Secretariat on the following projects:

Solvent

- | | |
|---|-------|
| • Elimination of 1,1,1 trichloroethane used for auto parts cleaning at Brosol | UNIDO |
| • Elimination of 1,1,1 trichloroethane used as solvent at Rodabras | UNIDO |
| • Elimination of 1,1,1 trichloroethane used for the formulation of tapping fluids at Tapmatic | UNIDO |
| • Phase-out of 1,1,1 trichloroethane at Teperman | UNIDO |

SECTOR:	Solvent	ODS use in sector (1993):	897 ODP tonnes
Sub-sector cost-effectiveness thresholds:	1,1,1-trichloroethane		38.5 US \$/kg

- (a) Elimination of 1,1,1-trichloroethane used for auto parts cleaning at Brosol
- (b) Elimination of 1,1,1-trichloroethane used as solvent at Rodabras
- (c) Elimination of 1,1,1-trichloroethane used for the formulation of tapping fluids at Tapmatic
- (d) Phaseout of 1,1,1-trichloroethane at Teperman

Project Data	1,1,1-trichloroethane			
	Brosol	Rodabras	Tapmatic	Teperman
ODS phase-out (ODP tonnes)	4.8	4.15	9.9	6.44
Proposed project duration (Yrs)	1	1	1	2
Incremental capital cost (US \$)	280,500	224,620	194,500	234,776
Contingency (%)	10	10		10
Incremental operational cost (US \$)	(102,139)	(73,043)	0	(82,600)
Total project cost (US \$)	178,361	151,577	194,500	152,176
Local ownership (%)	100	100	100	100
Export component (%)	-	-	-	<5
Amount requested (US \$) {Original}	178,361	158,180	375,212	180,527
{Revised}	-	151,577	194,500	152,176
Cost effectiveness (US \$/kg)	37.16	36.52	19.6	23.63
National Coordinating Agency	PROZON	PROZON	PROZON	PROZON
Implementing Agency	UNIDO	UNIDO	UNIDO	UNIDO
Technical review completed?	Yes	Yes	Yes	Yes

Amount recommended (US \$)	178,361	151,577	194,500	152,176
Project impact (ODP tonnes)	4.8	4.15	9.9	6.44
Cost effectiveness (US \$/kg)	37.16	36.52	19.6	23.63
Implementing Agency support cost (US \$)	23,187	19,705	25,285	19,783
Total cost to Multilateral Fund (US \$)	201,548	171,282	219,785	171,959

PROJECT DESCRIPTION

(a) Elimination of 1,1,1-trichloroethane used for auto parts cleaning at Brosol.

1. This project will completely phase out the consumption of 48 metric tonnes of 1,1,1-trichloroethane used as a solvent for degreasing auto parts and motor engine parts at BROSOL. The phase-out of ODSs will be accomplished by replacing the currently used solvent-based degreasers with two aqueous solution systems and one semi-aqueous (hydrocarbon/water emulsion) cleaning machine.

(b) Elimination of 1,1,1-trichloroethane used as solvent at Rodabras.

2. The objective of this project is to phase-out the use of 1,1,1-trichloroethane in metal cleaning operations at Rodabras which is currently using vapor degreasing with 1,1,1-trichloroethane to clean all the vehicle wheels in the production line before the final stage of painting. The phase-out of 41.5 metric tonnes of 1,1,1-trichloroethane will be accomplished with the installation of a new aqueous cleaning line.

(c) Elimination of 1,1,1-trichloroethane used for the formulation of tapping fluids at Tapmatic.

3. This project will enable the enterprise, Tapmatic, to phase-out 99 metric tonnes of 1,1,1-trichloroethane currently used in the manufacture of a fluid used as a lubricant and coolant in the machining of threads in metal parts. The enterprise will reformulate the so-called cutting fluid using a new, synthetic non-ODS chemical. Some of the additives in the new formulation are corrosive, and the chemical composition is more difficult to homogenize when it is mixed. This results in a need for replacement mixing and filling equipment.

(d) Phaseout of 1,1,1-trichloroethane at Teperman.

4. Teperman uses 64.4 metric tonnes of 1,1,1-trichloroethane per year as a solvent in vapor degreasing of metal parts and components for the auto seats manufactured by the company. This project is aimed at accomplishing the complete phase-out of 1,1,1-trichloroethane in the metal cleaning processes. The complete substitution will be accomplished with the installation and start-up of an aqueous cleaning line.

SECRETARIAT'S COMMENTS AND RECOMMENDATIONS

COMMENTS

1. The projects at Brosol, Rodabras and Teperman are all straightforward metal cleaning applications. Technical details such as the capacities and configuration of the new cleaning machines proposed to be acquired were discussed with the implementing agency. There were no significant issues regarding either costs or eligibility. At Teperman, 37% of the cost for auxiliary equipment and installation was found to be ineligible as it related to changes to the production process being introduced at the same time, but which were not related to the ODS phase-out. Costs for proposed implementing agency missions associated with implementation, and which were charged to the projects, were rationalized. The proposed new cleaning processes do not involve the use of HCFCs.

2. With regard to the project at Tapmatic, the Fund Secretariat notes that the 1,1,1-trichloroethane is combined with other chemicals in the formulation of a fluid used as an intermediate good. It is not a process agent, since it is entirely consumed, by evaporation into the atmosphere, when the cutting fluid is used in the manufacture of metal parts. The Fund Secretariat discussed capital costs with the implementing agency and some reduction to the proposed costs for consultants' support were made. The basis for operating costs as provided for in the original proposal was uncertain as to costs and quantities of possible chemical additives, and did not meet requirement for establishing eligibility. The request for operating costs was therefore deleted from the project.

RECOMMENDATION

1. The Fund Secretariat recommends blanket approval of the projects with associated support costs at the funding levels indicated in the table below:

	<u>Project Title</u>	<u>Project Cost</u> US \$	<u>Support</u> <u>Cost US \$</u>	<u>Implementing</u> <u>Agency</u>
(a)	Elimination of 1,1,1-trichloroethane used for auto parts cleaning at Brosol	178,361	23,187	UNIDO
(b)	Elimination of 1,1,1-trichloroethane used as solvent at Rodabras	151,577	19,705	UNIDO
(c)	Elimination of 1,1,1-trichloroethane used for the formulation of tapping fluids at Tapmatic	194,500	25,285	UNIDO
(d)	Phaseout of 1,1,1-trichloroethane at Teperman	152,176	19,783	UNIDO