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

Nineteenth Meeting
Montreal, 8-10 May 1996

PROJECT PROPOSAL: MEXICO

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

Foam

- Conversion to CFC-free technology in the manufacture of insulated construction panels and doors at Multypanel UNDP

SECTOR:	FOAM ODS use in sector (1989):	1,629 ODP tonnes
Sub-sector cost-effectiveness thresholds:	rigid foam	US \$7.83/kg

Conversion to CFC-free technology in the manufacture of insulated construction panels and doors at Multypanel.

Project Data	Rigid foam
	Multypanel
ODS phase-out (ODP tonnes)	307
Proposed project duration (Yrs)	1.5
Incremental capital cost (US\$)	310,000
Contingency (%)	10.8
Incremental operational cost (US\$)	120,000
Total project cost (US\$)	430,000
Local ownership (%)	100
Export component (%)	0
Amount requested (US\$) {Original	430,000
{Revised	
Cost effectiveness (US\$/kg)	1.40
National Coordinating Agency	Ozone Protection Unit, National Institute of Ecology
Implementing Agency	UNDP
Technical review completed?	Yes

<i>Secretariat's Recommendations</i>	
Amount recommended (US \$)	428,000
Project impact (ODP tonnes)	306
Cost effectiveness (US \$/kg)	1.40
Implementing Agency support cost (US\$)	55,640
Total cost to Multilateral Fund	483,640

PROJECT DESCRIPTION

Conversion to CFC-free technology in the manufacture of insulated construction panels and doors at Multypanel.

1. Multypanel produces polyurethane foam for insulated construction panels on two continuous Hennecke laminator lines - one for paper faced, and the other for metal faced panels. It also produces insulated doors on a semi-continuous line consisting of a foam dispenser and a door mold carousel. The company's consumption of polyurethane foam system and CFC-11 was 1,500 tonnes and 320 tonnes respectively.
2. The company will phase out the use of CFC-11 with HCFC-22. The conversion is based on a technology developed in-house which requires pressurized tanks, new pumps and modification of the existing pre-mixers and mixing heads.
3. The capital cost of conversion includes:
 - (a) the modifications to 3 units of pre-mixers and dispensers (US \$75,000 each);
 - (b) validation testing of the new products for flammability, insulation value, aging and dimensional stability, which must be done outside the company as required by national regulations (US \$30,000); and
 - (c) production trials (US \$15,000).
4. The project will incur US \$120,000 for incremental operational cost.
5. Technologies considered included HCFC-141b, HCFC-22, HCFC-22/141b, pentane isomers, all water blown and HFC-245 and HFC-356.

Justification for use of HCFC-22

6. The selection of alternative technology was governed by the following considerations. The technology must be:
 - Proven and reasonably mature;
 - Cost effective;
 - Locally available, preferably in blends;
 - Produce products of acceptable physical properties;
 - Meet established (Government, Company, UNDP) standards on environment and safety.
7. HFC-245 and HFC-356 did not meet the requirements on maturity and availability. Pentane isomers and water-blown formulations did not meet company standards on energy efficiency. The HCFC technologies would, however, perform to the company's standards on energy efficiency. From the interim technologies, HCFC-22 provides the best combination of energy efficiency, investment and operational costs.

SECRETARIAT'S COMMENTS AND RECOMMENDATIONS

COMMENTS

1. The difference in the amount requested (US \$430,000) and the amount recommended (US \$428,000) is due to the adjustment in per cent contingency from 10.8 per cent in the project document to 10 per cent as is applicable.

RECOMMENDATIONS

1. The Fund Secretariat recommends approval of the project with associated support cost and the funding level shown below.

	Project Cost US \$	Support Cost US \$	Implementing Agency
Conversion to CFC-free technology in the manufacture of insulated construction panels and doors at Multypanel.	428,000	55,640	UNDP