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

Eighteenth Meeting
Vienna, 22-24 November 1995

PROJECT PROPOSAL: PANAMA

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

- Implementation of a National Programme for Recovery and Recycling of Refrigerant

UNDP

PROJECT EVALUATION SHEET PANAMA

SECTOR: **REFRIGERATION** ODS use in sector (1989): 191 ODP tonnes
 CFC RECOVERY AND RECYCLING

Project Title:

Implementation of a national programme for recovery and recycling of refrigerant*

Project Data	Recovery and recycling
ODS phase-out (ODP tonnes)	16.7
Proposed project duration (Yrs)	1.5
Incremental capital cost (US \$)	172,465
Contingency (%)	10
Incremental operational cost (US \$)	-
Total project cost (US \$)	172,465
Local ownership (%)	-
Export component (%)	-
Amount requested (US \$) {Original	172,465
{Revised	172,465
Cost effectiveness (US \$/kg)	10.32
National Coordinating Agency	Ministry of Health. Comisión Gubernamental del Ozono
Implementing Agency	UNDP
Technical review completed?	Yes

<i>Secretariat's Recommendations</i>	
Amount recommended (US \$)	172,465
Project impact (ODP tonnes)	16.7
Cost effectiveness (US \$/kg)	10.32
Implementing Agency support cost (US\$)	22,420
Total cost to Multilateral Fund (US \$)	194,885

* New proposal to the 18th Meeting

PROJECT DESCRIPTION

1. The project will implement a comprehensive national programme for recovery and recycling of refrigerant in the refrigeration and air conditioning sectors, excluding the mobile air conditioning sub-sector. This programme is part of an overall ODS phase out strategy in the refrigeration sector.
2. The first priority in this programme is to halt CFC discharge into the atmosphere by repairing leaks and controlling unnecessary emissions from refrigeration equipment, followed by CFC recovery from existing installations during maintenance and prior to retrofits or dismantlement.
3. A recovery and recycling nation-wide network comprised of 70 recovery units and 2 recycling centres will be established, at a cost of US \$146,465. In total, 16.7 tonnes of CFC will be recovered and recycled each year.
4. Four training workshops for service technicians of refrigeration and air conditioning equipment, at a cost of US \$19,000, are envisioned which will include practical demonstration on recovery and recycling equipment; good service practices and safety in the handling of refrigerants during installation, servicing, retrofitting and dismantlement of refrigeration and/or air conditioning equipment; detection of CFC leaks and prevention of emissions, and recovery and recycling of refrigerant.
5. To ensure the success of the programme, the Government will introduce a monitoring system to check the amount of CFC to be recovered and recycled by each piece of recovery equipment and assure the quality of the recycled refrigerant. The cost of the monitoring system is US \$7,000.

SECRETARIAT'S RECOMMENDATION

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

Project	Project Cost US \$	Support Cost US \$	Implementing Agency
Implementation of a national programme for recovery and recycling of refrigerant	172,465	22,420	UNDP