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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: JORDAN

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

Aerosol

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| • Aerosol conversion at M. Haddad & Sons | World Bank |
| • Aerosol conversion at Jordan Antiseptics & Detergents Ind. Co. Ltd. (JADICO) | World Bank |
| • Aerosol conversion at Jordan Chemical Products Co. Ltd. (JCPCO) | World Bank |
| • Aerosol conversion at Jordan Industrial Petrochemical Co. Ltd. (JIPCO) | World Bank |

PROJECT EVALUATION SHEET **JORDAN**

SECTOR: **AEROSOL**

ODS use in sector (1991): 225 ODP tonnes

Sub-sector cost-effectiveness thresholds:

4.4 US \$/kg

Phasing out of CFCs at:

- (a) Jordan Antiseptics and Detergents Ind. Co. Ltd. (JADICO)
- (b) Jordan Chemical Products Co. Ltd. (JCPCO)
- (c) Jordan Industrial Petrochemical Co. Ltd. (JIPCO)
- (d) M. Haddad and Sons

Project Data				
	JADICO	JCPCO	JIPCO	M. Haddad
ODS phase out (ODP tonnes)	20	61	98	115
Proposed project duration (Yrs)	1	1	1	1
Incremental capital cost (US\$)	102,300	242,000	391,050	190,300
Contingency (%)	10	10	10	10
Incremental operational cost (US\$)	(15,215)	0	0	0
Total project cost (US\$)	87,085	242,000	391,050	190,300
Local ownership (%)	100	100	100	100
Export component (%)	-	-	-	-
Amount requested (US\$) {Original {Revised	79,086	242,000	391,050	190,300
Cost effectiveness (US\$/kg.)	3.95	3.97	3.99	1.65
National Coordinating Agency	Ozone Project Preparation and Implementation Unit			
Implementing Agency	World Bank	World Bank	World Bank	World Bank
Technical review completed?	Yes	Yes	Yes	Yes

Secretariat's Recommendations				
Amount recommended (US \$)	20	61	98	115
Project Impact (ODP tonnes)				
Cost effectiveness (US \$/kg)				
Implementing Agency support cost (US\$)				
Total cost to Multilateral Fund				

PROJECT DESCRIPTION

1. The Executive Committee at its 7th Meeting approved a grant for Jordan in the amount of US \$1.5 million under the World Bank's implementation. Three investment projects in the aerosol sector were developed under this grant: (i) LPG purification project at a cost of US \$700,000; (ii) Conversion of CFC-12 to HAP at M. Haddad and Sons plant at a cost of US \$250,000; and (iii) Conversion of CFC-12 to HAP at Households and Toiletries at a cost of US \$135,000.
2. The Government of Jordan is submitting four additional project proposals for replacement of CFCs with LPG as an aerosol propellant. Implementation of these four projects will lead to the elimination of 294 tonnes of CFC-12.
3. The four enterprises produce different sized presentations of deodorants, hair sprays and insecticides, with the following annual production: JADICO, 260,000 cans; JCPCO, 240,000 cans as a contract filler and 154,000 cans of its own brand; JIPCO, 971,000 cans; and Haddad and Sons, the largest user of CFC-12 in aerosols, 950,000 cans.
4. Three enterprises (JADICO, JCPCO and JIPCO) will convert to hydrocarbon aerosol grade propellant (HAP) technology. Conversion entails installation of automatic gas filling machine with propellant handling system, a water bath for testing filled cans, HAP storage system, gas detectors and a fire control system. In addition, a modular safe filling room with enhanced ventilation system is requested for JCPCO and JIPCO.
5. The conversion of production at Haddad and Sons, has already been funded through the project approved at the 7th Meeting (paragraph 1 above). The Government of Jordan is requesting additional funding needed to change the proposed HAP storage facility from 50 kilo portable tanks to stationary tanks, and the installation of an electrical sub-station. The proposed changes will address the safety issue of using small tanks and an apparent requirement by the petroleum refinery that it would only ship hydrocarbon in bulk if the company had a storage capacity of 20 metric tonnes (sufficient for one year's production).
6. Technical assistance will be provided for performance and supervision of engineering designs, installation of equipment and commissioning of the plant and training.

SECRETARIAT'S COMMENTS

CFC consumption in the aerosol sector in Jordan

1. In 1991, the total CFC consumption in the aerosol sector in Jordan was 225 tonnes, equivalent to 36% of total ODS used in the country (Country Programme). The 1996 consumption for the sector was stated in the project document to be 350 tonnes. This figure was advised to the implementing agency by Government officials in Jordan. However, the country programme has not been revised or updated.
2. The World Bank reviewed the project proposals in accordance with discussions with the Fund Secretariat. Cost of some pieces of equipment, including the water baths, aerosol filling lines and the LPG storage tanks, were adjusted on the basis of information from approved projects which established the capacity requirements and cost levels for the equipment needed by aerosol filling enterprises of varying sizes.

3. In the case of the Haddad and Sons project proposal, it was agreed that only one of the two hydrocarbon storage tanks requested was eligible as this provided for around six months' supply of propellant for the enterprise, and the request for an electrical sub-station was ineligible. The incremental cost of the projects was adjusted accordingly.
4. Incremental operating costs and savings were re-calculated applying the methodology that has been used in more than 25 similar projects (i.e., difference in cost per can when filling with CFCs or HAPs), and in accordance with Decision 17/15 (UNEP/OzL.Pro/ExCom/17/60).
5. The Fund Secretariat considered that the LPG purification project approved at the 7th Meeting should be taken into consideration when calculating the eligible incremental operating costs/savings the projects. This could be done by either (i) calculating operating costs/saving using the price of unpurified of LPG, US \$0.26/kg, as the base cost of the LPG since the purification of the gas has already been funded, or (ii) canceling the LPG purification project and returning the amount granted to Jordan to the Multilateral Fund, and subsequently reviewing each aerosol project proposal to include a purification system of similar configuration and cost to those used in many other approved projects.
6. The Fund Secretariat and the World Bank together with the Government of Jordan are still discussing the methodology to incorporate the benefits from the LPG purification project. Results of the discussions will be reported to the Sub-Committee on Project Review.