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

Seventeenth Meeting
Montreal, 26-28 July 1995

REQUESTS FOR BILATERAL COOPERATION

This document consists of:

- Comments and recommendations from the Fund Secretariat
- Status report on on-going bilateral activities from Canada, France, Germany, Singapore, and the United States of America
- Requests from the Governments of Australia, Canada, Denmark, France, and the United States of America

COMMENTS AND RECOMMENDATIONS FROM THE FUND SECRETARIAT

1. Pursuant to Article 10 of the amended Montreal Protocol and decision IV/18 of the Fourth Meeting of the Parties, the Executive Committee is charged with assessing bilateral requests. This document includes the Secretariat's comments for the progress reports on bilateral activities and for the requests for bilateral co-operation. All currency conversions are based on the June 1995 UN exchange rates.

Progress Reports

2. Progress reports were requested from countries whose bilateral activities have not been reported completed. Progress reports were received from all of the Parties with ongoing bilateral activities and are included in Annex I.

Canada

3. Canada reports two completed projects in its progress report. A final accounting of disbursements will be provided in a future progress report. Progress was reported for the four remaining projects being implemented by Canada. The "Initiative to Help Phase Out the Release of ODS by Asian SMEs" is being revised to account for work undertaken by UNEP.

France

4. France reports that two of its three bilateral activities have been completed: country programme preparations in Mauritania and Vietnam. The two completed activities were completed for FF58,240 (US \$11,886) less than budgeted. Project expenditures are reported closed for these two activities and the Committee might consider offsetting these savings against future approvals.

Germany

5. Germany reports that the conversion of the foam cycle to cyclopentane is supposed to be completed at the end of June for the changeover of foam blowing agent to cyclopentane at the Haier Refrigerator Factory in China.

Singapore

6. Singapore reports that its first bilateral "Regional Seminar on MCF Elimination" that was approved for US \$31,976 was completed at a cost of S\$47,515.14 (US \$33,699). Singapore provided a detailed expenditure report on the activity.

7. Singapore also reports that its remaining bilateral activity, "Training Workshop on CFC-113 and MCF Substitutes and Alternative Technology", is scheduled to occur in December 1995.

United States of America

8. The US reports that eight activities as having been completed since its last progress report. A final accounting of disbursements will be provided in a future progress report. There are 13 remaining projects being implemented by the US including five project preparation activities for which all but about US \$470,000 has been disbursed. Although there are no disbursements reported for the sole investment programme under US implementation in China, the progress report indicates that the production line conversion is underway. Progress was reported for all ongoing projects although project preparation activities were suspended in Mexico due to the enterprises' inability and unwillingness to finance the non-incremental cost portion of the proposed investments.

Requests for Bilateral Cooperation

9. Requests for bilateral assistance were received from the governments of Australia, Canada, Denmark, France, and the United States of America. Several requests were withdrawn after discussions with the Secretariat. The requests for retroactive financing are the result of lack of clarity regarding intersessional approval for bilateral assistance (UNEP/OzL.Pro/ExCom/16/20, para. 71(b)).

Australia

10. The three requests received from the Government of Australia are included in Annex II.

11. The project "Demonstration Replacement of Methyl Bromide with a Non-Ozone Depleting Alternative in Grain Storage" (A\$54,066/US \$38,896) will be held in conjunction with the workshop on methyl bromide alternatives approved for implementation by UNEP.

12. The project "Indonesian Ozone Depleting Substances Control Policy" (US \$42,000) will develop a model for legislation and regulations needed to implement ODS controls. The Executive Committee has approved several activities to assist Article 5 countries with information on legislation and regulations for ODS phase-out. It has also approved mechanisms for dissemination of information such as UNEP's clearinghouse and networking activities. The Executive Committee should consider

approving a limited number of such models to further augment the Fund's information base for implementing ODS controls.

13. Australia is also requesting funding for project preparation in Argentina to develop a proposal for the 'Provision of Training in Leak Reduction, Emission Control and Recycling and Management of Non-CFC Refrigerants in the Domestic and Commercial Refrigeration and Air Conditioning Sectors' (US \$40,000). While recycling and emission control are eligible activities, it should be noted that reduced emissions and recovered CFCs have a value that should be taken into consideration in the development of project proposals.

Recommendation

14. All of the proposals meet the guidelines of the Executive Committee and are recommended for approval in the amounts requested. The Treasurer should credit US \$120,896 against Australia's 1995 contributions to the Fund. It is also recommended that the Executive Committee determine that legislation and regulatory assistance models should be limited on a regional basis.

Canada

15. The request received from the Government of Canada is included in Annex III.

16. The project, 'Ozone Depleting Solvents Workshop in Brazil' (US \$50,000), represents a request for retroactive financing. The project's objectives were to present information on ODS alternative technologies in the solvents sector and to develop project proposals for the Committee's consideration.

Recommendation

17. The project proposal, 'Ozone Depleting Solvents Workshop in Brazil' is recommended for approval in the amount requested. The Treasurer should credit US \$50,000 against Canada's 1995 contributions to the Fund.

Denmark

18. The request from the Government of Denmark is included in Annex IV.

19. The project proposal for China 'CFC Recycling Centre (with Denmark)' raises several issues. The main policy issue is the need to consider the savings that will result from the value of the recycled CFC. In this case, the CFC would be reclaimed by the factory that produced it and would therefore sell it. However, the consideration of savings raises the possibility of considering other operational costs such as spare parts, maintenance, utilities, and labour. The consultant that developed the

proposal stated that the price of the reclaimed CFC was hard to determine and the need for additional labour was hard to estimate.

20. Although remaining CFCs in transport cylinders might not require full reclamation, China's country programme calls for one reclamation facility in the Beijing region and one in the Shanghai region. In this regard, the project would be consistent with the country programme.

21. The project includes building modifications to house the reclamation facility, but the Executive Committee has not approved building modifications for recycling equipment thus far.

Recommendation

22. It is recommended that the project should be referred to the Project Review Sub-Committee for its discussion about the treatment of savings in recycling projects.

France

23. The two requests received from the Government of France are included in Annex V.

24. The "Project Preparation and Technical Assistance" project for Lebanon (US \$20,000) will lead to the remaining phase-out of the foam sector in Lebanon. The "Technology Transfer Workshop for African Countries on the Practical Implementation of the Montreal Protocol" (US \$120,000) will provide information on technical options and case studies pertinent to the sectors relevant to the participating countries and provide participating countries with examples of policies and legislative and regulatory mechanisms that will facilitate ODS phase-out.

Recommendation

25. Both of the proposals meet the guidelines of the Executive Committee and are recommended for approval in the amount requested, US \$140,000. However, due to the balance remaining from the two completed activities reported in the progress report (FF58,240=US \$11,886), the Treasurer should only offset US \$128,114 against the 1995 contributions of the Government of France.

United States of America

26. The three requests received from the United States of America are included in Annex VI.

27. The project, "Demonstration Project (Refrigeration - Large Food Stores)" for China (US \$132,000) is part of a joint USA/UNDP project (total cost US \$208,000) which will demonstrate servicing and recycling in this sector for China without further outside funding

assistance for the phase-out of this sub-sector. However, the main policy issue involved in this request is the need to consider the savings that will result from the value of the recycled CFC.

28. The US is also requesting US \$220,000 for the project, "Demonstration Project in MACs" for the Dominican Republic. This proposal raises several issues. The project includes the provision of US \$70,000 for the purchase of recycling equipment. Therefore, this project also raises the issue of savings from the value of the recycled CFC as mentioned above.

29. The Executive Committee has approved similar demonstration projects in Argentina, China, Colombia, Mexico, and Venezuela. It should be noted that the value of the recycled CFC was not deducted from these demonstration projects. This raises the issue of whether or not the incremental costs of demonstration projects should be calculated in the same manner as investment projects.

30. Since four of the five demonstration projects have been approved in the same region, the approval of another demonstration project in the region raises the issue of whether or not there should be a limit to the number of demonstration projects presented by region.

31. The last request is for "Project Preparation in Commercial Refrigeration" for the Dominican Republic (US \$19,000) represents the first project preparation requested for the country.

Recommendation

32. It is recommended that the "Demonstration Project (Refrigeration - Large Food Stores" for China and the MAC Demonstration Project for the Dominican Republic should be referred to the Project Review Sub-Committee for its discussion about the treatment of savings in recycling projects and the nature and extent of incremental costs for demonstration projects.

33. The project proposal, "Project Preparation in Commercial Refrigeration" for the Dominican Republic is recommended for approval in the amount requested. The Treasurer should credit US \$19,000 against United States' 1995 contributions to the Fund.

ANNEX I

PROGRESS REPORTS ON BILATERAL COOPERATION

CANADA

FRANCE

GERMANY

SINGAPORE

UNITED STATES OF AMERICA

PROGRESS REPORT ON BILATERAL COOPERATION

CANADA

PROGRESS REPORT
GOVERNMENT OF CANADA

BRAZIL

PROJECT TITLE: Montreal Protocol Technology Transfer Workshop on ODS (Phase II)

DESCRIPTION: Combination of regulatory and policy infrastructure, information on the Environment Canada/HRAI technician training program, recovery and recycle equipment procurement, and pricing and distribution mechanisms for recycled refrigerants.

DATE OF APPROVAL: December 1994

APPROVED FUNDING: US \$58,390

TIME FRAME: 1 year (1995)

STATUS OF IMPLEMENTATION: Completed. A future progress report will provide disbursement information.

CHILE

PROJECT TITLE: Bromosorb technology in commodity fumigation

DESCRIPTION: Implementation of the Bromosorb technology to recapture and recycle methyl bromide used in commodity fumigation. It will include molecular sieve, adsorption unit, regeneration and air supply compressor, proprietary molecular sieve heat exchanger, microprocessor, turn-key control panel for automatic operation of unit, chromatographer, installation and start-up services, and training.

DATE OF APPROVAL: December 1994

APPROVED FUNDING: US \$300,000

TIME FRAME: 1 year (1994-1995)

STATUS OF IMPLEMENTATION: Equipment has been delivered and is being installed.

CHINA

PROJECT TITLE: Feasibility study to establish a refrigerant conservation programme in Sichuan Province

DESCRIPTION: To provide recommendations on the components, costing and implementation of a phase-one pilot programme in Sichuan Province

DATE OF APPROVAL: September 1994

APPROVED FUNDING: US \$58,400

TIME FRAME: 1 year (1994-1995)

STATUS OF IMPLEMENTATION: Ongoing. Terms of reference have been developed and final approval is expected shortly.

CHINA

PROJECT TITLE: No-clean technology programme

DESCRIPTION: Assist engineers and manufacturing specialists to have access to no clean technology used in printed circuit boards in the electronics industry. The programme includes: a technical workshop, technology assistance to suppliers and a demonstration programme (managed by ICOLP and MEI).

DATE OF APPROVAL: September 1994

APPROVED FUNDING: US \$51,100

TIME FRAME: 1 year (1994-1995)

STATUS OF IMPLEMENTATION: Completed. A report has been submitted to the Fund Secretariat.

INDIA

PROJECT TITLE: Initiative to help phase out the release of ODS by Asian SMEs

DESCRIPTION: Workshops in Delhi, Bombay, Bangalore, targeted to small and medium-size firms. It will include awareness on emerging technologies, project identification and training in project preparation. It will primarily focus on solvents but it will also cover refrigeration and air conditioning, foams, aerosols.

DATE OF APPROVAL: December 1994

APPROVED FUNDING: US \$109,780

TIME FRAME: 1 year (1995)

STATUS OF IMPLEMENTATION: Workshop is being revised to take into consideration the work undertaken by UNEP.

VENEZUELA

PROJECT TITLE: Technical assistance in halon sector

DESCRIPTION: Assessment of halon 1301 needs, halon management programme development, halon 1301 recycling equipment halon sector study tour, and a workshop.

DATE OF APPROVAL: November 1993

APPROVED FUNDING: US \$304,500

TIME FRAME: 4 years (1994-1997)

STATUS OF IMPLEMENTATION: Ongoing. First phase is close to completion. Venezuela is meeting the same phase-out targets as Article 2 countries.

PROGRESS REPORT ON BILATERAL COOPERATION

FRANCE

Rapport sur les activités bilatérales de la France dans la cadre du Fonds multilatéral du Protocole de Montréal

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La France a, en 1994 pour la première fois, utilisé la possibilité offerte par le Fonds Multilatéral du Protocole de Montréal de mettre en oeuvre bilatéralement une part de sa contribution au Fonds Multilatéral.

Les activités de la France ont concerné deux pays : la Mauritanie et le Vietnam.

❶ Activités en Mauritanie

La France finance, à la demande du Gouvernement de la Mauritanie, le Programme Pays ainsi que sa mise en oeuvre complète. Cette prestation s'est déroulée de façon très satisfaisante. Les autorités mauritanionnes avaient parfaitement préparé les données nécessaires et créé un comité interministériel de suivi. C'est pourquoi ce programme a pu être adopté très rapidement par les autorités de la Mauritanie qui se sont associées complètement au travail, appuyé par deux consultants financés par la France.

En ce qui concerne le Programme Pays, celui-ci a été engagé et soldé en 1994. Le financement nécessaire avait été évalué à 44.000 US \$, soit 244.200 FF (taux de change appliqué : 1 US \$ = 5,55 FF, moyenne du taux de change entre le 1er janvier 1994 et le 15 décembre 1994). Le Programme Pays n'a en réalité coûté que 229.678,76 FF.

En ce qui concerne la mise en oeuvre du programme pays (investissement, formation et cellule interministérielle "Ozone"), ce projet a fait l'objet d'une demande de 180.774 US \$, soit 1.003.295,70 FF. La convention de financement a été signée tardivement (avril 1995), avec le Gouvernement mauritanien et le projet sera effectivement mis en oeuvre au deuxième semestre 1995, pour ce qui concerne l'ensemble de ses composants.

❷ Activités au Vietnam

La France a cofinancé, dans le cadre d'une collaboration très satisfaisante avec le PNUE, le Programme Pays du Vietnam. La part de la France s'élevait pour ce projet à 30.000 US \$, soit 166.500 FF. En réalité, le programme n'a coûté que 122.581,20 FF. Dans le cadre de ce projet, la France a plus particulièrement pris en charge l'analyse du secteur industriel, alors que le PNUE, qui était chef de file de cette étude, s'est concentré sur les aspects renforcement des capacités et formation.

Ainsi, en résumé, la France a engagé et clôturé deux opérations (Programme Pays Mauritanie et Vietnam) et une opération est en cours (mise en oeuvre du Programme Pays Mauritanie).

❸ Tableau récapitulatif

Le tableau suivant synthétise ces informations :

Projet	Montant accordé par le Fonds multilatéral	Etat d'exécution	Coût final
Programme Pays Mauritanie	244 000 F	Achevé	229 678,75 F
Programme Pays Vietnam	166 500 F	Achevé	122 581,20 F
Mise en oeuvre du Programme Pays Mauritanie	1 003 295,70 F	En cours	-

PROGRESS REPORT ON BILATERAL COOPERATION

GERMANY

PROGRESS REPORT
GOVERNMENT OF GERMANY

PROJECT TITLE: Staged Project to produce CFC-free refrigerators in China (Stage 1b - Field Testing and Stage 2 - Changeover of foam blowing agent to cyclopentane and refrigerant cycle to isobutane at the Haier Refrigerator Factory)

DESCRIPTION: This project to produce CFC-free refrigerators at the Haier Refrigerator Factory in China was approved for joint implementation by the Governments of the United States and Germany. The project involves conversion of domestic refrigerator manufacturing facility to isobutane refrigerant and to cyclopentane as a blowing agent. The German bilateral will provide assistance for installation, commissioning, employee training, trial operation and start-up, and safety precautions measures. Haier Refrigerator Factory will be using isobutane as a replacement of CFC-12 refrigerant.

DATE OF APPROVAL: March 1995

APPROVED FUNDING: US \$1,336,918

TIME FRAME: 1 year (1995)

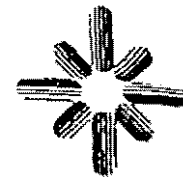
STATUS OF IMPLEMENTATION: The Executive Committee reviewed and approved the conversion of refrigeration appliances at Haier in Qingdao, China, from CFCs and HFCs to hydrocarbons in cooperation with US EPA at its 16th meeting.

The conversion of the foam cycle to cyclopentane is being implemented in cooperation with the company Liebherr and is supposed to be completed at the end of June.

The conversion of the refrigerant cycle to isobutane will afterwards be implemented in cooperation with the firm Liebherr.

PROGRESS REPORT ON BILATERAL COOPERATION

SINGAPORE



REPORT ON

**REGIONAL SEMINAR ON
METHYL CHLOROFORM (1,1,1-TCA) ELIMINATION
22-23 MARCH 1995**

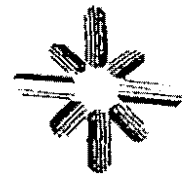
for

Ministry of the Environment, Singapore

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A Introduction

The Regional Seminar On Methyl Chloroform (1,1,1-TCA) Elimination was held on 22-23 March 1995 at Omni Marco Polo Hotel, Singapore. It was organised by Singapore Institute of Standards and Industrial Research (SISIR), with funding from the Government of Singapore as part of its contribution to the Multilateral Fund for the implementation of the Montreal Protocol.

The seminar also had the support and endorsement of UNEP and the Ministry of the Environment (ENV) of Singapore.

B Seminar Objectives

The seminar had the following objectives:

- 1 Accelerate the phasing out of 1,1,1-TCA in the various industries by shifting to non-ODS alternatives
- 2 Exchange and disseminate information on regional countries' progress on phasing out 1,1,1-TCA
- 3 Highlight latest alternative cleaning technologies which are available.

In view of the good participation from industries and regional countries, the objectives have been well achieved.

C Attendance

There were 96 industrial participants (including 5 from Korea and 5 from Malaysia), 6 sponsored country participants (2 each from Indonesia, Thailand and Malaysia), 5 sponsored country speakers (1 each from Indonesia, Thailand, Malaysia, Vietnam and Myanmar), 1 country speaker from Laos (sponsored by UNEP) and 11 technical speakers from various countries. Singapore's country paper was presented by Mr Lim Siak Heng of ENV.

Two sponsored participants from the Philippines were not able to attend the seminar.

In addition, Dr Viraj Vithoontien (ODSONET Regional Network Coordinator, UNEP) gave the keynote address at the seminar. Mr Khoo Lee Meng (Chief Executive, SISIR), gave the opening address.

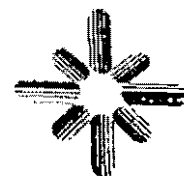


Table 1 Number of Seminar Participants

Industries	96
Country Representatives	6
Country Speakers	7
Technical Speakers	11
UNEP	1
SISIR	7
Total	128

D Breakdown of Expenditure

A detailed breakdown of expenses incurred for the organising of the seminar can be found in Table 2. The total expenditure is S\$47,515.13 (inclusive of 3% GST).

E Follow Up

A 'Training Workshop on CFC 113 & MCF Substitutes and Alternative Technology' will be held in Dec 1995 as a follow up to the seminar. SISIR is working actively with the industries, offering technical assistance to companies which are seeking ODS-free alternatives.

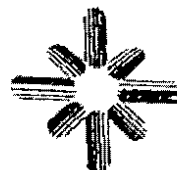


Table 2 Regional Seminar On MCF Elimination - Expenditure

Items	Cost (\$)
Airfare for sponsored participants and speakers	4059.05
Accommodation for sponsored participants and speakers	6776.55
Per Diem for sponsored participants and speakers	2200.00
With-holding Tax for sponsored participants and speakers	1000.00
Brochure	868.50
Postage	480.00
Courier Expenses	284.44
Banner	310.00
Souvenirs	809.70
Refreshment	11775.00
Administrative Charges	2500.00
Photography	450.00
Miscellaneous	2860.47
Presentation Files	420.00
Course Notes	1159.00
Name Tags	36.60
Seminar Organising & Management Fee	10141.89
Total Expenditure (with 3% GST)	46131.20 (47515.14)

Report Prepared By:

Lau Dee Dee

Report Vetted By:

Dr Chong Hooi Long

PROGRESS REPORT ON BILATERAL COOPERATION

UNITED STATES OF AMERICA

		Date of approval	Approved funding	Funds disbursed	Time frame	Status of Implementation
ARGENTINA						
MACs	Demonstration project in MACs <i>Technical Assistance, Training</i>	Mar-1994	\$170,000	\$2,000	1995-1996	Initial planning and preparatory meetings held. Awaiting formal government action.
CHINA						
Halon	Halon 1211 recovery/recharge machines and training <i>Training</i>	Mar-1994	\$735,000	\$727,000	1994-1995	Complete.
Halon	Project Preparation	Jul-1994	\$200,000	\$90,377	1994-1995	Ongoing. Provided followup technical assistance for sectoral strategy study. Initiating project prep. for additional projects including extinguisher factory conversions. Further work may follow finalization of China's halon sector strategy.
Halon	Halon leak reduction demonstration project <i>Technical Assistance, Training</i>	Mar-1995	\$142,437	\$10,000	1995	Newly approved. Ongoing work with Ministry to plan the conversion at the two demonstration factories and to schedule the training workshop. Under the Global Halon Project, UNDP currently procuring necessary seals, hosing, and other materials for project.
Refrigeration	Staged project to produce CFC-free refrigerators in China (stage 1b: field testing and stage 2: changeover of foam blowing agent) <i>Technical Assistance</i>	Mar-1995	\$1,643,865		1995-1996	Line conversion underway.
Refrigeration	Commercial refrigeration project preparation	Mar-1995	\$39,000	\$39,000	1995	Complete. Drafted/revised initial project prospectus. Undertook initial data gathering mission and project planning with Ministry; completed data collection on 30 participating food stores. Project document prepared for refrigerant recovery and conservation training in large food stores to be submitted for approval to the 17th EC meeting.
Refrigeration	MACs servicing demonstration project <i>Technical Assistance, Training</i>	Mar-1995	\$172,500	\$60,000	1995	Newly approved. Initial project implementation mission completed April 1995. Ongoing planning work with Ministry of Machinery Industry. Under the Global MACs Project, UNDP currently procuring equipment for service shops technicians attending the training workshop scheduled for late summer 1995.
COLOMBIA						
Refrigeration	MACs emissions reduction demonstration <i>Technical Assistance, Training</i>	Dec-1994	\$120,000	\$38,000	1995-1996	Ongoing. Initial mission to meet with government, industry, and repair shops completed in February 1995. Initial sector assessment completed; training workshop planning underway.

MALAYSIA						
Halon	Project Preparation	Dec-1994	\$45,000	\$2,000	1994-1995	Ongoing. Continuing discussion with Dept. of Environment and Fire Services Dept. to identify possible areas of cooperation in the sector.
MEXICO						
Refrigeration	MACs emission reduction demonstration <i>Technical Assistance, Training</i>	Jun-1994	\$120,000	\$120,000	Jun 1994-95	Project completed in May, 1995. Report under preparation.
Refrigeration	Commercial Refrigeration Project Preparation	Jun-1994	\$410,000	\$270,258	Jun-1994	Project suspended due to enterprises' inability and unwillingness to finance the non-incremental cost portion of these projects.
Solvents	Project Preparation	Jun-1994	\$450,000	\$330,857	1994-1995	Further activities suspended due to financial situation in Mexico and to difficulty in locating enterprises willing to pay for their portion of the incremental cost of the investment.
Several	Institutional Strengthening	Dec-1994	\$65,000	\$65,000	1994	Complete. Additional institutional strengthening support for the Mexican OFU. Total institution strengthening for the OFU is now \$350,000 beginning in 1991.
PANAMA						
Halon	Project preparation/technical assistance	Jun-1994	\$120,000	\$63,126	1994-1996	Ongoing. Developed strategy and project to eliminate use of halon 1211 in Panama. Implementation delayed due to change in government spring 1994. Efforts to resume project underway in 1995.
THAILAND						
Solvent	Follow-up activities of the USA/Thailand/Japan conference on conservation, containment and alternatives	Oct-1992	\$203,000	\$136,000	1992-1994	Complete. Project proposal for Thai Airways prepared with assistance from Swedish EPA. Follow-up conference held (Feb 94).
URUGUAY						
Halon	Training <i>Training</i>	Dec-1994	\$10,000	\$10,000	Feb-1995	Complete. Halon 1211 recovery/recharge training for 20 technicians and government repr. from Argentina and Uruguay was successfully held in Montevideo in Feb. 1995. One UNDP-procured halon 1211 machine is operational in Uruguay and expected to reduce 1-2 tons of halon 1211 annually.

VENEZUELA

Refrigeration	Phase 1 technical assistance and demonstration project in CFC recycling in MACs. <i>Demonstration</i>	Jun-1992 Jun-1994	\$115,000 \$53,000	\$115,000 \$53,000	Oct 92-Jan 95	Complete. Training workshop for 40 technicians and shop managers was successfully held in Caracas in May 1994. 18 MACs recycling machines have been distributed to the participating service shops and are being used. Ten tons of CFC-12 emissions are being reduced annually.
Refrigeration	Phase 2 MACs demonstration project. <i>Demonstration</i>	Dec-94	\$67,000	\$32,000	1995	Ongoing. Initial project implementation mission completed January 1995. Working with FONDOIN on final preparations and planning for one-week training workshop scheduled for July 1995. Equipment procurement completed end of May 1995.
All	Military ODS Phase-out Workshop	Dec-94	\$40,000	\$1,000	1995	Ongoing. Workshop planned for mid-July 1995.
Halon	Assistance in development and implementation of halon 1211 management plan. <i>Technical Assistance, Training</i>	Jun-94	\$31,000	\$31,000	1994	Complete. Development of halons assessment and initial halon management plan, delivery of one UNDP-procured halon 1211 recovery/recharge unit, participation at two UNDP-sponsored workshops, one focused on halon recycling/banking and another regional workshop.
REGIONAL	Low-consuming countries/Caribbean and Latin America <i>Project Preparation</i>	Jun-94	\$65,000	\$43,000	1994-1995	Ongoing. Draft of guidance document presented at UNEP Central America ODS officers network meeting in Guatemala 11/94. Mission to Bahamas and Dominican Republic to field test document. EPA Collaborating with UNIDO on this project. UNIDO will field test the document in Africa. Completion expected in late summer 1995.

COUNTRY HIGHLIGHTS

CHINA

Following on a November 1994 mission to Beijing where EPA met with the Ministry of Public Security on ongoing cooperative activities in the halon sector, EPA received approval from the ExComm at their March 1995 meeting for a project to reduce halon emissions due to leakage in factories. With the assistance of UNDP under the Global Halon Project, equipment for this project is currently being procured. At the November mission, EPA also met with the Ministry of Internal Trade (MIT), the Ministry of Chemical Industry, the National Environmental Protection Agency, and the Ministry of Machine Industry to discuss further ODS reduction activities in the refrigeration, chemical production, and mobile air-conditioning sectors. EPA reached agreement with MIT and MMI to begin preparing demonstration project proposals to reduce CFC consumption in refrigeration systems and mobile air-conditioning systems (MACs), respectively, through recycling and other refrigerant conservation measures. The MACs demonstration project was approved at the March 1995 ExComm meeting, and with the assistance of UNDP under the Global MACs Project, equipment is currently being procured and a training workshop is planned for late summer 1995. A commercial refrigeration recycling project is being submitted to this meeting.

COLOMBIA

EPA undertook a mission to Colombia in February 1995 to identify participant workshops and to lay the groundwork for the project with the Colombian government. Work is proceeding on or ahead of schedule. As a result of the mission and subsequent discussions, EPA and the Colombian government have identified two possible sites for the workshop. Discussions are also underway about incorporating a provision in which the workshop participants pay for part of the cost of the machines they receive as part of the training. This would improve the project's cost effectiveness.

MEXICO

The Mexico MACs workshop took place in March 1995; a follow-up visit was conducted in May and the project was successfully completed in late May. The project is already producing emission reductions at a rate of 6,155 kgs of ODS per year. EPA expects this to increase as the Mexican economy improves. Planning is currently underway for a phase II component that includes other cities and other regions of the country. As a next step in the evolution of the UNDP/EPA Global MACs Projects, EPA and the Mexican OPU are developing the idea that the participating MACs service shops would pay part of the costs of the machines. This would significantly reduce the cost of the project to the Multilateral Fund.

As was related in EPA's last bilateral activities report, the recent peso devaluation and Mexico's financial difficulties have caused difficulties in EPA's commercial refrigeration projects. The enterprises' ability and willingness to finance the non-incremental cost portion

of these projects has evaporated with the decline in the purchasing power of the peso. EPA and the Mexican OPU have agreed to place this project on hold.

In the solvents sector, EPA has submitted several successful applications and provided technical assistance to many more enterprises. In the meantime, finding solvents projects that present a sufficiently low dollar/kg. ratio to the Fund and that, at the same time, do not present extraordinary costs to the beneficiary enterprise has been increasingly difficult. This, combined with Mexico's recent financial turmoil, has created a similar situation to EPA's commercial refrigeration work, in which enterprises are presently unable or unwilling to invest in new technology until the current economic situation stabilizes. The Mexican OPU and EPA feel it is best to place this project on hold.

URUGUAY

In February 1995, EPA/U.S. Navy conducted training on Uruguay's halon 1211 recovery/recharge unit, including instruction to improve inspection and maintenance of halon fire extinguishers and systems, and information on available halon alternatives. The training involved Uruguay's fire equipment distributors and critical halon users such as the telecommunications company. Four representatives from Argentina also participated in the training.

VENEZUELA

The FONDOIN/U.S. EPA/U.S. Navy workshop for the military, which was approved by the ExComm in October 1994, will be held in early July 1995. It will include 25-30 representatives from Venezuela's military and will focus on several topics: (1) how to conduct an inventory of halon and other ODS use in the Venezuelan military; (2) guidance on the U.S. military's experience in implementing their ODS phaseout; (3) information on the U.S. military's experience in evaluating and testing halon and other ODS alternatives; and (4) case studies of successful ODS phaseout.

FONDOIN, EPA and UNDP have also begun a second phase of Venezuela's MACS work. In December 1994, the ExComm approved \$67,000 for the EPA bilateral component. A workshop will be held in July 1995, and 40 machines will be distributed to shops in 5 cities. Buses and refrigerated transport will also comprise part of this project.

LOW-CONSUMING COUNTRIES

EPA has been working cooperatively with UNIDO on a manual for ODS officers in low-consuming countries. The project is nearing completion. As part of the project, EPA took the manual to the Bahamas and, later in May 1995, the Dominican Republic to conduct a field test. UNIDO is currently field testing the document in two African countries. EPA and UNIDO expect to complete the document by late summer and make it available through UNEP for distribution to the low-consuming countries. As a result of the field tests in the Dominican Republic, EPA has proposed two projects for the 17th ExComm meeting in July.

Projects/Activities Completed During December 1994-June 1995

The following projects/activities were completed during January 1995-June 1995:

a) Uruguay: Halon 1211 Recovery/Recharge Training Workshop

Date of approval: June 1994

Proposed completion date: December 1994

Actual completion date: February 1995

Approved funding: \$10,000

Expenditures/obligations: \$10,000

Halon 1211 activities in Uruguay have been organized by Uruguay's Governmental Commission on Ozone Layer Protection (COGO). In February 1995, EPA/U.S. Navy conducted training on Uruguay's halon 1211 recovery/recharge unit, including instruction to improve inspection and maintenance of halon fire extinguishers and systems, and information on available halon alternatives. The training involved Uruguay's fire equipment distributors and critical halon users such as the telecommunications company. Four representatives from Argentina also participated in the training.

b) Mexico: UNDP/EPA Global MACs Project, Monterrey

Date of approval: June, 1994

Proposed completion date: December, 1995

Actual completion date: June, 1995

Approved funding: \$120,000 (EPA bilateral) plus \$80,000 (est. UNDP Global MACs)

Expenditures/obligations: \$120,000 plus \$80,000

Twenty-one MACs repair shops attended a workshop in Monterrey, Mexico, conducted the week of March 20, 1995. EPA was able to secure delivery of the recovery/recycle machines while the workshop was in process so that at its conclusion, the MACs repair shops were immediately able to take the machines back to their garages and start using them. At a follow-up mission to Monterrey to assess the shops' progress, EPA learned that, already, the MACs shops are reducing CFC-12 emissions at an annual rate of 6.1 MT/yr. Our research suggests that this number will increase some 20-30 percent as the Mexican economy improves. As a result of the workshop, several repair shops have become interested in publicizing the issue of flammable refrigerants that are being offered to the public by unscrupulous dealers. Several articles about the workshop, as well as the issue of dangerous, flammable refrigerants, have appeared in the Monterrey, Mexico media.

ANNEX II

BILATERAL REQUESTS FROM AUSTRALIA



Environment
Protection Agency

Dr Omar El-Arini
Chief Officer
Multilateral Fund for the Implementation of the
Montreal Protocol
27th Floor Montreal Trust Building
1800 McGill College Avenue
Montreal, Quebec H3A 3J6
Canada

Dear Dr El-Arini

**PROPOSAL FOR A BILATERAL METHYL BROMIDE DEMONSTRATION
PROJECT IN ZIMBABWE**

Attached, please find a request for Executive Committee approval for funding for a new bilateral activity in the methyl bromide sector in Zimbabwe, developed in conjunction with the government of Zimbabwe and the Australian Commonwealth Scientific and Industrial Research Organisation.

The proposed project is a workshop to demonstrate the replacement of methyl bromide with non ozone depleting alternatives in grain storage. The project has been developed in accordance with Decision V/23 of the 5th Meeting of the Parties, which allowed for a limited number of methyl bromide alternative demonstration projects.

With regard to the funding request, Australia is asking for an offset of A\$66 880 against our contributions to the Multilateral Fund. This request for approval of new funding relates to additional resources which will be used to meet agreed incremental costs on a project that accords with decision V/23 of the 5th Meeting of the Parties. I should also note the Government of Zimbabwe supports the project, and that a letter of approval will be forwarded as soon as possible.

If you have any questions regarding the submission, please feel free to contact Mr James Shevlin on 61 6 274 1481.

Yours sincerely

for Dianne Gayler
Assistant Secretary
Environment Protection Partnership

19 June 1995

PROJECT PROPOSAL
DEMONSTRATION PROJECT
**REPLACEMENT OF METHYL BROMIDE WITH NON OZONE DEPLETING
ALTERNATIVE IN GRAIN STORAGE
ZIMBABWE**

Summary

Australia and Zimbabwe propose to undertake a bilateral activity to demonstrate commodity fumigation techniques that are not dependent on methyl bromide (an ozone depleting substance). The demonstration will involve the transfer of the improved and 'permanent' sheeting systems of disinfestation and protection of bagged grain to Southern Africa.

It is proposed that the demonstration will be held in association with a proposed UNEP workshop on methyl bromide alternatives to be held in Zimbabwe in the week commencing either 11 September or 18 September 1995.

Background & Rationale

The 5th Meeting of the Parties to the Montreal Protocol specifically allowed for funding of demonstration projects for the phase out of methyl bromide (decision V/23). The need for such projects was further highlighted at the 11th Open Ended Working Group in May 1995 in Nairobi.

Target countries for the proposed demonstration activity are Zimbabwe, Kenya, Zambia and Malawi. Traditionally these countries have used methyl bromide for protection of centrally held food stocks of cereal grains and similar materials. These countries have well developed pest control systems within parastatal organisations that store their strategic grain stocks and are likely to be capable of applying the new technology effectively.

It is estimated that at least 300 tonnes of methyl bromide is used at present for disinfestation of bag-stacked cereal grains in Zimbabwe, Malawi and Zambia and considerable quantities in other African countries. Ozone depleting emissions resulting from this application in the three countries alone, would amount to approximately 210 tonnes per annum.

Most of this usage should be easily and economically replaceable using the technology proposed by the Australian CSIRO Division of Entomology's Stored Grain Research Laboratory (SGRL). The proposed technology has particular advantages where stocks are held long-term for food security.

The technology proposed for transfer by CSIRO is the 'permanent sheeting' system of disinfestation and protection of bagged grain. Delivery of this system into the target countries would demonstrate that replacement of methyl bromide is possible in the treatment of commodities for long term storage. It would also provide a good basis for dissemination of the technology to other African countries.

The system has been well tested in the South East Asian region by CSIRO (SGRL) and local collaborators. How-to-do-it manuals have been written, but full practical experimental hands-on demonstrations are required to transfer the technology effectively.

Project Description

A workshop for up to 25 persons will be held in Zimbabwe in association with the UNEP workshop on methyl bromide alternatives. Participants are expected from Zimbabwe, Malawi, Zambia and Kenya, at least. The workshop will involve the practical demonstration of the following:

- 'permanent sheeting' of a 200t stack of bagged grain using heat welding and/or chemical welding system, for long term storage
- '6-sided' sheeting of a 200t stack of bagged grain using advanced, temporary sealing techniques for disinfestation using phosphine.

Copies of the following practical manuals will be provided for 10 participants in the demonstration:

"Suggested Recommendation for the Fumigation of Grain"

Part 1: Principles and General Practice

Part 2: Carbon dioxide fumigation of bag-stacks sealed in plastic enclosures an operations manual

Part 3: Phosphine fumigation of bag-stacks sealed in plastic enclosures an operations manual.

Two staff members from CSIRO's Stored Grain Research Laboratory will run the demonstration workshop. Some items will be sourced in Australia and shipped prior to the demonstration. A local converter in Zimbabwe has been identified for production of the stack covers, the major materials expense in this activity.

Project Time frame

The workshop will be run over 5 days. Workshop set up and liaison in Australia will involve 8 person days prior to departure.

Project Budget

Personnel salary, secretarial and liaison costs will be borne by SGRL. Other costs associated with the project, as listed below, are being requested under this proposal. Travel costs for participants are based on the following: 5 from Zimbabwe, 2 from Kenya, 1 from Zambia, 1 from Malawi, 1 from Tanzania and 1 from Uganda on the basis that up to 14 additional participants will attend as a follow on from the UNEP conference. Travel costs for these participants would not be covered but per diem would be provided for the additional 5 days required.

Costs covered by SGRL

2 SGRL staff @ \$3500 per day, 5 days	\$17,500
SGRL Secretarial support	\$500
Set up/liaison time prior to demonstration (8 days @ \$800)	\$6,400

Total SGRL contribution	\$24,400
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Costs being requested under this proposal:

2 full size stack covers for 200t stack @ \$3,200 each	\$6,400
2 full size floor sheets @ \$600 each	\$1,200
3 mini demonstration enclosures; 3 mini demonstration floor sheets	\$4,000
1 heat welder	\$3,000
Adhesive	\$1,000
Documentation (25 @ \$100)	\$2,500
Accommodation and \$185 per diem for 5 days per foreign participant	\$18,500
Economy Airfares:	
Kenya-Zimbabwe-Kenya 2 @ \$1,077	
Malawi-Zimbabwe-Malawi 1 @ \$405	
Tanzania-Zimbabwe-Tanzania 1@ \$819	
Uganda-Zimbabwe-Uganda 1@ \$928	
Zambia-Zimbabwe-Zambia 1@ \$310	\$4,616
Accommodation and per diem at \$185 per SGRL staff member	\$1,850
Airfares: Canberra-Zimbabwe-Canberra x 2	\$9,000
Local Transport	\$500
Freight	\$1,500

Total bilateral funding request	\$54,066
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Total Budget	\$78,466
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Project Outcomes

The expected outcomes of this project are:

- Successful transfer of non ozone depleting technology to replace methyl bromide in the long term storage and disinfestation of grain.
- Potential to reduce ozone depleting emissions of methyl bromide by approximately 210 tonnes per annum, if the technology is adopted by Zimbabwe, Zambia and Malawi. In addition, if adopted in eastern and southern Africa we expect a reduction in excess of 500 ODP tonnes.



Environment
Protection Agency

Dr Omar E El-Arini
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Montreal Protocol
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1800 Magill College Avenue
Montreal, Quebec H3A 3J6
Canada

Dear Dr El-Arini

PROPOSAL FOR A BILATERAL PROJECT IN INDONESIA

Attached, please find a request for Executive Committee approval for funding of a new bilateral activity, agreed to by the governments of Indonesia and Australia, to develop an Indonesian Ozone Depleting Substances Control Policy.

The proposed project involves providing practical advice to the Indonesian Government on ODS policy and regulatory options that may be used to meet Indonesia's ODS phase-out target of 1998.

With regard to the funding request, Australia is asking for an offset of US\$42 000 against Australia's 1995 contributions to the Multilateral Fund. This request for approval of new funding relates to additional resources which will be used to meet agreed incremental costs on a project that strictly relates to compliance with the provisions of the Protocol.

Yours sincerely

for Dianne Gayler
Assistant Secretary
Environment Protection Partnerships

19 June 1995

Project Title

Indonesian ODS Control Strategy

Project Description

This project would study and report on options for an effective policy, regulatory and industry framework to implement Indonesia's phase-out objectives. This project could also be used to assist other developing countries in the region identify and implement their own ozone depleting substance (ODS) control regimes.

Background

The Indonesian government, through the strategy and action plan contained in its Country Program, has expressed its commitment to phase-out its consumption of ODS by the end of 1997. This commitment will be accomplished through implementation of projects across six categories: institutional strengthening; regulatory measures; incentives and disincentives; information awareness; investment and technical assistance and monitoring of usage patterns.

Indonesia does not produce or export any bulk ODS, its needs are met solely through imports. Most users purchase primarily from the eight major national companies that act as agents for foreign chemical manufacturers with only a few importing directly from overseas producers.

The Country Program (pp 23, 29, 60) indicates that for Indonesia's phase-out schedule to succeed its Government may need to develop policies: to control and decrease Indonesia's ODS importation and consumption; to prevent the dumping of ODS technologies and products; and, to monitor sectoral use of ODS. Indonesia indicates that without effective implementation of its Country Program, and with the rapid expansion of the Indonesian economy, its consumption would increase from 6,567 ODP tonnes in 1992 to ~14,198 in 1998 and ~58,000 ODP tonnes in 2010. At this stage there are no importation controls.

The 1992 ODS consumption on a sector basis was: refrigeration/air-conditioning 2,096 ODP tonnes (2,112 metric tonnes); aerosols 2,000 ODP tonnes (2,000 metric tonnes); foams ODP 1,025 tonnes (1,025 metric tonnes); fire suppression 972 ODP tonnes (205 metric tonnes); and, solvents 474 ODP tonnes (2,473 metric tonnes). Several sectors, such as the solvents, air-conditioning and aerosol sectors, are characterised by the wide-spread use of ODS by small users.

ODS control and monitoring mechanisms and problems have been discussed in some detail within the network for ODS officers in Southeast Asia/Pacific (ODSONET/SEAP, not funded by the MLF), resulting *inter alia* in a separate workshop report "Collecting and Reporting of Data When Implementing the Montreal Protocol". It was agreed that previous projects, while often discussing or touching upon the need and problems in developing a general legal and administrative framework for control and monitoring ODS consumption, were of a very general nature.

The ODS Officers in this network have concluded that a more detailed project is needed to assist developing countries in structuring a model for an efficient general ODS control system that allows effective monitoring of ODS consumption and the instigation of a phase-out strategies that enable a country to meet its phase-out objectives. It was considered especially appropriate to start by developing such a model for Indonesia which has a relatively high and fast growing consumption of ODS, and ambitious targets for ODS phase-out but no legal or administrative framework yet in place that controls or monitors ODS consumption. It is expected that this project will also assist other countries in setting up an efficient control and monitoring system; several countries in the region anticipate its outcomes with great expectations.

Importantly, the project will draw on all existing experiences, within and outside projects funded by the MLP. In particular, within the framework of GLO/SEV/12/TAS/50, UNEP will collect and analyse in detail the legal and administrative systems in place in some of the Southeast Asian countries, including but not limited to Australia. The experience gained hereby will be used as a basis for the considerations on the control and monitoring system in Indonesia.

It should be noted that the control system to be prepared for Indonesia will cover all types of ODS and all applications. It could, for example, include structuring an import permit system. Such activities cannot be treated as a component of specific investment projects, nor can they be linked to the financial intermediary's monitoring of success in individual projects.

Institutional strengthening can to some extent provide government with human and hardware resources to carry through a control and monitoring system but not with the advice on how to build it up. Similarly, the networking and clearinghouse activities do give assistance in this regard but cannot, within their general activities, provide the detailed advice needed.

Also, while the project will not directly lead to phase-out of ODS in any specific application, it is fully in line with the recommendations of the COWI Consult review of the operation of the financial mechanism. Specifically, that the project will assist in meeting the demonstrated requirement for practical assistance in the development and implementation of appropriate regulatory and legislative measures.

Further, in the *Minutes of the Seventh Ozone Operations Resource Group (OORG) Meeting, 11 April 1995* pp 2 reference is made to Indonesia in the context of key findings in regard to the aerosol sector stating that " aerosol conversion investment lags substantially in a number of countries, including: India, Indonesia, Malaysia, Russian Federation, Thailand, Tunisia, Ukraine and Vietnam." While an Indonesian aerosol project to increase the quality of hydrocarbon available to an acceptable standard has ExCom approval, the point made in the Minutes is that " ... the relative profitability of aerosol conversion in any country is largely determined by the effectiveness of its regulatory and other policies affecting the availability and pricing of the CFCs they [the alternatives] are to replace."

Finally, ODSOONET/SEAP conclusions, the COWI Consult review and the OORG Minutes underline the need for practical assistance, specific to a countries needs, to develop a policy and regulatory framework. This project will assist the development of a control strategy that 'fits' the Indonesian cultural, political and industrial circumstances and builds on the ODS phase-out experiences of other countries to avoid the problems encountered by those countries with policy and regulatory regimes in place.

Outputs

1. Identification of policy, regulatory and ODS management strategy options that could allow Indonesia to eliminate ODS consumption by 1998.
2. Central government and major industry workshop to identify preferred ODS strategy option.
3. National workshop on ozone protection management option identified in Output 2.
4. Description of policy options for use by all Network countries.

Budget

The total budget required for this project is US\$42,000 - comprising US\$32,000 for the Australian component and US\$10,000 for the Indonesian component.

- Australian Component

The Australian component would require a Senior Policy Officer, from the Ozone Protection Section of the Environment Protection Agency, to cease normal duties to work on this project over approximately 16 weeks. The Officer concerned, Mr Chris Howes, will be advising the Indonesian National Steering Committee on the basis of his experience implementing the Australian ODS phase-out, and is not normally involved in providing overseas aid.

It is envisaged that the EPA officer would travel to Indonesia during the implementation of Part 2 (1 week), Part 3-4 (3 weeks) and 5-6 (1 week). The Australian component cost of US\$32,000 comprises US\$19,000 for travel and accommodation and US\$13,000 for salary and administrative costs.

- Indonesian Component

The Indonesian component of \$US10,000 will fund costs associated with the support of government official(s) to assist in the implementation of this project, including the preparation for the National Workshop at Part 6.

Project Time Frame and Implementation Activities:

The project, commencing in May 1995 and concluding in September 1995, and would be implemented as follows:

1. Collect information on control and monitoring methods from developed and developing countries in the region. This could also include collection of forms, permits and licences.
2. Develop an understanding of existing Indonesian infrastructure/systems that may help or hinder implementation of an ODS control and monitoring system.
3. Provide a draft report to the Indonesian National Steering Committee on ODS control and monitoring system options that could be used to meet Indonesia's phase-out objectives.

Issues that will need examination include industry sector structure and inter-relationships, enforcement, sector awareness levels, the obligations of importers and end-users etc. This process will build on the relevant outcomes of prior workshops in the region.

4. Central government and industry workshop to discuss ODS management options.

Prior to the workshop discussions with representatives of the relevant government agencies and industries will be necessary to allow the development of consensus on a preferred ODS control option during the workshop.

After the workshop the EPA representative would discuss with the National Steering Committee outcomes and the implications in regard to a control and monitoring system.

5. Prepare and submit draft final reports on the preferred control and monitoring system, and possible implementation framework to the National Steering Committee for their consideration.
6. National Workshop on ODS management options.

Conduct a two day workshop involving representatives of regional and central government, industry, and community organisations presenting draft final report (based on the outcomes of the workshop at Part 4).

After this workshop undertake further discussions with the National Steering Committee on appropriate changes to the draft final report. Modify draft report accordingly.
7. Provide the Final Report to the Indonesian Government.



Environment
Protection Agency

Dr Omar E El-Arini
Chief Officer
Multilateral Fund for the Implementation of the
Montreal Protocol
27th Floor Montreal Trust Building
1800 Magill College Avenue
Montreal, Quebec H3A 3J6
Canada

Dear Dr El-Arini

PROPOSAL FOR A BILATERAL PROJECT IN ARGENTINA

Please find attached a proposal for bilateral cooperation with the Government of Argentina. The proposal is for project development of a program of training in emission control and recycling for the domestic, commercial and industrial refrigeration and air-conditioning sectors. The proposal excludes the MAC sub-sector which is being covered separately by UNDP.

The proposal is fully described in the attachment. It is intended as the first stage of a three stage project which will ultimately deliver a series of training courses and provide equipment for emission control and recycling in most or all of the non-mobile refrigeration and air-conditioning sectors. While each stage will be developed and submitted separately, an overall summary of the project is submitted as background information for the Executive Committee.

In addition to providing direct assistance to reduce ODS emissions through better practice, the training will create awareness of ozone protection measures and the changeover from CFC refrigerants. It will build confidence among the industrial community in the use and management of new refrigerants. Australian experience is that achievement of these public awareness goals is an essential prerequisite for countries such as Argentina which are in the early stages of implementing ozone protection programs and wish to make rapid progress.

The expenditure proposed is for additional resources for activities which fall within agreed incremental costs and which relate strictly to achieving compliance with the provisions of the Montreal Protocol. The proposal has been developed in conjunction with, and approved by, the Government of Argentina, which has also agreed to the project costs (US\$40 000) being counted against Australia's 1995 contribution to the Multilateral Fund.

Yours sincerely

for Dianne Gayler
Assistant Secretary
Environment Protection Partnerships

19 June 1995

PROJECT OUTLINE - STAGE 1

COUNTRY:	ARGENTINA
PROJECT TITLE:	Provision of training in leak reduction, emission control and recycling and management of non CFC refrigerants in the domestic and commercial refrigeration and air conditioning sectors Phase 1 - Project preparation
SECTOR:	Refrigeration and air-conditioning
SECTOR ODS CONSUMPTION:	2078 Tonnes
INCREMENTAL COST:	US \$40 000
BILATERAL AGENCY:	AUSTRALIAN EPA
NATIONAL COORDINATING AGENCY:	OPROZ - INSTITUTO NACIONAL DE TECNOLOGIA INDUSTRIAL
DURATION:	4 months

PROJECT SUMMARY:

In conjunction with the Ozone Program Office of the Argentine Government and the National Institute of Industrial Technology, develop a project to design and implement training courses to reduce ODS emissions and prepare for the management and servicing of replacement refrigerants in the domestic and commercial refrigeration and air-conditioning sectors.

PROJECT DESCRIPTION:

1. The project will:

- identify current knowledge of ODS replacement technologies, prevailing culture and practice of industry and training organisations
- conduct a workshop with industry/government/training organisations to define areas of greatest need
- identify feasible government policy support options to reduce ODS emissions and prepare for introduction of replacement refrigerants in line with Argentina's country program timetable
- identify priority areas for implementation of pilot training programs building on, but not duplicating, the outcomes of previous projects
- define and develop detailed outlines and implementation plans for 3 proposed high-priority training activities.

2. Implementation:

- three consultants will visit Argentina for 10 working days
- discussions with key industry groups in each sector
- discussions with relevant Government agencies including the Ozone Program Office
- visits to 2 or 3 key industrial locations

3. Output:

- provision of a 1-day workshop with key stakeholders
- report for EPA and Argentine Government on training and policy support options for refrigeration and air-conditioning sectors, including detailed project outlines and implementation plans for 3 high priority training activities

3.1. Workshop description:

3.1 a) Participants: (no more than 30)

- Members of the OPROZ
- Members of the Argentine Chamber of Refrigeration and Air Conditioning (C.A.I.R.A.A) and of the Argentine Association of Refrigeration (A.A.F.). Commercial and domestic refrigeration companies are concentrated in these two organisations.
- Members of the Argentine Chamber of Heating, Air Conditioning and Ventilation (C.A.C.A.A.V). Air conditioning installers and suppliers are grouped in these organisations
- Representatives of the INTI.
- Representatives of the leading producer companies

3.1 b) Scope:

- Discussion of the different areas and components for the training programs
- Role of the three associations in the training programs
- Regional distribution
- Presentation of service activities in leader companies
- Discussion of a service net, including recovery and recycling
- Legal background and general actions

4. Estimated cost: US \$40,000

BILATERAL CO-OPERATION WITH THE ARGENTINE GOVERNMENT UNDER THE MULTILATERAL FUND

1. PROJECT TITLE

Provision of training in leak reduction, emission control and recycling, and the installation and management of non-CFC refrigerants in the domestic and commercial refrigeration and air-conditioning sectors.

2. BACKGROUND AND STRATEGY FOR THE REFRIGERATION AND AIR CONDITIONING SECTORS

In 1992, 1441 tons of CFC 12 and 33 tons of HCFC 22 were consumed in the refrigeration sector in Argentina. 440 tons of CFC 12 were consumed in the domestic subsector, of which 190 tons were used in new equipment and 250 tons for servicing operations. With respect to the commercial and industrial refrigeration sector, the consumption was 668 tons of CFC 12 (68 tons for new equipment and 600 tons for servicing operations) and 333 tons of HCFC 22. Refrigerated transport and the fleets consumed 333 tons of CFC 12.

A) DOMESTIC REFRIGERATION SUBSECTOR:

The production of domestic refrigerators in 1992 was 761,000 units. This figure increased by 7% in 1993 and repeated the same rate during 1994. The domestic sector produces refrigerators and freezers. It is composed basically of 22 enterprises, of which 7 cover 72% of the market.

Around five hundred little shops perform service operations, all over the country. Part of them are independent service operations recognised by the different manufacturers as official service companies, but approximately 30% of them have to be considered as an informal sector.

The phase out schedule for the domestic refrigeration sector foresees the reduction of CFC consumption, for the refrigeration sector, from 1996 until the total elimination by the year 2000 for new equipment production, and in 2006 for servicing.

The strategy of the Argentine Government for the elimination of ODS consumption consists of:

- Individual projects for the large refrigerators producers (approximately 7 projects)
- Two or three global projects for the small producers, taking into account the selected technology and regional distribution.
- Global project of training for servicing, recovery and recycling through bilateral cooperation (this project). In this matter it is necessary to state that provisions for service, training, recovery and recycling activities are not included in the projects previously presented to the Executive Committee of the Multilateral Fund.

B) COMMERCIAL AND INDUSTRIAL REFRIGERATION

The commercial refrigeration subsector is broadly developed in Argentina and provides from self contained display cabinets and freezers up to complete installation for supermarkets, restaurants and small shops.

The phase out schedule for the commercial and industrial refrigeration sector foresees the reduction of CFC consumption, for the refrigeration sector, from 1996 until the total elimination by the year 2000 for new equipment production, and in 2006 for servicing.

The strategy for the subsector is the following:

- A first group of companies which produce small units also provides to the commercial subsector, and their projects are being presented under the domestic subsector (group A).
- The second group of companies, produces display cabinets, for self contained unit and for larger installation, and panels for cold stores. They normally provide complete installations, and their projects are being presented under the commercial subsector. These companies would also play an important role in the retrofitting, recovery and recycling of CFC 12 installations, taking into account that they have influence on refrigerant choice and would offer the possibility of retrofitting to the most important customers (Group B - up to three projects).
- A third group of companies, the small ones, provides units to small shops all over the country. These companies represent a problem, because of the low technology level and low individual CFC consumption, making projects poor cost effective. Some of them began as a service shop, and today they buy separate components (compressors, condensers, evaporators and panels) from different suppliers and provide small installations, keeping also servicing activities (Group C). One or two global reconversion projects are foreseen, after the projects of the second group are completed.
- Servicing in the sector is achieved by a) specialised companies, who perform also installations for group B companies, b) domestic service shops or c) Group C companies. Training in recycling and recovery for this group is going to be achieved under the global project, already mentioned in A) (this project).

C) DOMESTIC AND COMMERCIAL AIR CONDITIONING

Domestic air-conditioning consumed in 1992, 34 tons of HCFC 22 for new equipment and 120 tons of HCFC 22 for service. Servicing companies for this sector are the same as those for the domestic refrigeration sector.

Commercial and industrial air conditioning use CFC 11, CFC 12 and HCFC 22. Approximately 60 tons of CFC 11 and 12 and 40 tons of HCFC 22 are consumed yearly by this sector. Installations and servicing in this sector are normally performed by specialised companies, (around 150).

The strategy for the sector calls for:

- Two or three demonstration projects for reconversion of present installations.
- Training for servicing and installation, recovery and recycling under the same project jointly with refrigeration (this project).

3. PROJECT DESCRIPTION

The project will be developed in three stages:

Phase 1: In conjunction with the Ozone Program Office of the Argentine Government and the National Institute of Industrial Technology, develop a project to design and implement training courses to reduce ODS emissions and prepare for the management

and servicing of replacement refrigerants in the domestic and commercial refrigeration and air-conditioning sectors.

Phase 2: Implementation of three initial high priority pilot training activities, identified in stage 1 to reduce the use of CFCs in the domestic and commercial refrigeration and air conditioning sectors.

Phase 3: Depending on the outcomes of the pilot project, design and implementation of a larger scale training program, targeted at the highest priority sub-sector, based on a) the relative need of sub-sectors and b) the subsectors showing the greatest potential for reductions in CFC use and emissions.

Phase 1: Project Development

1. The project will:
 - identify current knowledge of ODS replacement technologies, prevailing culture and practice of industry and training organisations
 - conduct a workshop with industry/government/training organisations to define areas of greatest need
 - identify feasible government policy support options to reduce ODS emissions and prepare for introduction of replacement refrigerants in line with Argentina's country program timetable
 - identify priority areas for implementation of pilot training programs building on, but not duplicating, the outcomes of previous projects
 - define and develop detailed outlines and implementation plans for 3 proposed high-priority training activities.
2. Implementation:
 - three consultants will visit Argentina for 10 working days
 - discussions with key industry groups in each sector
 - discussions with the Ozone Program Office and other relevant Government agencies
 - visits to 2 or 3 key industrial locations
3. Output:
 - provision of a 1-day workshop with key stakeholders
 - report for EPA and Argentine Government on training and policy support options for refrigeration and air-conditioning sectors, including detailed project outlines and implementation plans for 3 high priority training activities.

3.1. Workshop description:

- 3.1 a) Participants: (no more than 30)
 - Members of the OPROZ
 - Members of the Argentine Chamber of Refrigeration and Air Conditioning (C.A.I.R.A.A) and of the Argentine Association of Refrigeration (A.A.F.). Commercial and domestic refrigeration companies are concentrated in these two organisations.
 - Members of the Argentine Chamber of Heating, Air Conditioning and Ventilation (C.A.C.A.A.V). Air conditioning installers and suppliers are grouped in these organisations.
 - Representatives of the INTI.
 - Representatives of the leading producer companies.

3.1 b) Scope:

- Discussion of the different areas and components for the training programs
- Role of the three associations in the training programs
- Regional distribution
- Presentation of service activities in leader companies
- Discussion of a service net, including recovery and recycling
- Legal background and general actions

4. Cost US \$ 40,000

Phase 2: Pilot Projects

1. The project will:

- collect and analyse information
- devise and conduct pilot demonstration/instruction workshops for a core group of industries/organisations
- provide recycling and leak detection equipment to core group
- adjust existing training materials to suit local requirements
- monitor and report on experience of core group in implementing new procedures

2. Implementation: to be specified after Phase One is completed.

3. Output:

- Workshop for a core group
- Pilot activities on servicing, recovery and recycling in domestic and commercial refrigeration and air conditioning sector
- Report for EPA and Argentine Government on CFCs reduction potential and recommendation for a comprehensive training program based on experience of the core group.

3.1 Workshop description:

3.1 a Participants

- About 30 servicing companies (which will be identified by the larger manufacturers, jointly with the Government)
- Two representatives of the CAIRAA, the CACAAV and the AAF
- Representatives of INTI

The participants from the INTI, CAIRAA, CACAAV and AAF and some key participants from the servicing companies would act as trainers, playing an important role in the third phase.

3.1 b Scope

- Provide training on good servicing practices and leak detection
- Provide instruction on recovery and recycling machines usage
- Develop the follow up actions and forms to report the experience

Phase 3: Training Program

1. Dependent on the outcomes of the pilot projects, design and implement a larger scale training program targeted at the highest priority sub-sector, based on (a) the relative needs of sub-sectors, and (b) the subsectors showing the greatest potential for reductions in CFC use and emissions.

2. Details of the program would be developed after the results of the pilot programs had been analysed, but the training program would:

- collect and analyse information from Phase 2
- devise and conduct a comprehensive training program to train a mix of trainers and mechanics in the selected sub-sector
- provide recycling and leak detection equipment to training institutions and companies whose personnel are being trained
- adjust existing training materials to suit local requirements
- monitor and report on the effectiveness of the program.

General

- The scope of the training would include looking at installation and servicing of the new refrigerants, and could cover retrofit procedures, where applicable. But the main emphasis will be on recycling and emission control.
- Workshops with companies would include elements on what appropriate technology and services are available. The overall program would aim to include identification of specific follow up projects involving appropriate technology and services.

ANNEX III

BILATERAL REQUESTS FROM CANADA



Technology Development Directorate
425 St. Joseph Blvd., 3rd Floor
Hull, Quebec
K1A 0H3

May 1, 1995

Dr. Omar El-Arini
Chief Officer
Multilateral Fund for the Implementation
of the Montreal Protocol

Dear Dr. El-Arini:

Attached please find a project for Executive Committee approval of funding as a new bilateral activity which was developed in consultation with experts in Brazil, ICOLP and the World Bank.

With regards to this funding request, Canada is asking for an offset of \$50,000 against our contributions to the Multilateral Fund. This request for approval relates to additional resources which will be used to meet agreed incremental costs on a project that relates to compliance with the provisions of the Protocol. I should note that the Government of Brazil has given its full approval to this project.

I would also ask that this project receives intercessional approval given that this project will take place before the next Executive Committee.

Yours sincerely,

Steve Gorman
Head, Technology Outreach Section

Attachment

Canada



**INTERNATIONAL
COOPERATIVE FOR
OZONE LAYER
PROTECTION**



2000 L Street, NW
Suite 710
Washington, DC 20036
Telephone: (202) 737-1419
Fax: (202) 296-7442

December 6, 1994

Mr. Steve Gorman
Head, Technology Outreach Section
Technology Development Branch
Conservation and Protection
Environment Canada
3rd Floor, 425 St. Joseph Boulevard
Hull, Quebec
K1A 0H3 CANADA

Subject: Proposal for the International Cooperative for Ozone Layer Protection (ICOLP) to organize and implement an ozone-depleting solvents workshop in Brazil with the support of the World Bank and the Canadian government.

Dear Mr. Gorman:

The International Cooperative for Ozone Layer Protection (ICOLP) is pleased to submit this proposal to organize and implement an ozone-depleting solvents workshop in Brazil in 1995. The project will be organized under the umbrella of ICOLP's World Bank funded Global Solvents Elimination project, and will mirror workshops and follow-up work that ICOLP has completed in China, India, Malaysia, Mexico, Thailand and Turkey.

Background and Overview of ODS Use In Brazil

In 1993, the World Bank awarded ICOLP a grant to implement the Global Solvents Elimination Project, to assist seven Article 5 countries, including Brazil, in the phaseout of ODSs through workshops and demonstration projects. The intent of the project is to increase awareness of the problems of ozone depletion and ODS use, and assist companies in their phaseout efforts by educating them about ODS alternatives and funding opportunities available through the Multilateral Fund. Additional support is necessary to complete a project in Brazil due to funding shortages with the World Bank grant.

The Brazilian project is important because although ODS production has dropped dramatically in recent years, ODS consumption in Brazil remains significant. In 1993 Brazil consumed



Printed on recycled paper.

approximately 6,000 tons of methyl chloroform, 2,726 tons of CFC-11, 5,338 tons of CFC-12, 128 tons of CFC-113, and 46 tons of carbon tetrachloride. Total ODS consumption was 14,291 tons. The largest user sector was for solvents, with 44.2 percent of total consumption. Most of the solvents were used in vapor degreasers, and in cold cleaning methods. The Brazilian government has a target phaseout schedule of 2001 for the substances listed above.

ICOLP Strategy

The objective of the Brazilian Project is to assist Brazilian industry using ODSs to understand best technologies and practices for ODS phaseout, and develop phaseout project proposals to submit to the Multilateral Fund. Without assistance, the large solvents user sector may remain dependent on these substances. Top Brazilian industry representatives will meet with experts in the field to learn about efficient technical options for phaseout of ODSs from vapor degreasers, manual washing procedures, and other ODS uses.

The project will provide Brazilian industry representatives with appropriate information to make informed decisions about alternative technologies and substances. These companies will then be able to phase out ODSs effectively, and will benefit from the shared knowledge and past experience of ICOLP experts.

The Brazilian project will include the following activities:

- Visits of Brazilian industry and government experts to an ICOLP member company(s) ODS-free manufacturing facility(s) in Brazil;
- Workshop on ozone-depleting solvent (ODS) alternative technologies and processes, and the ODS phaseout process in March or April, 1995, in Sao Paulo, Brazil.

The Brazilian project is contingent upon supplemental funding and support from the World Bank or other sources, and support of the Brazilian government and industry. ICOLP has published seven technical solvents alternatives manuals with the USEPA. These can be translated into Portuguese if the need for technical documents is demonstrated, and funding is available. ICOLP has previously worked with country contacts to translate the ICOLP/EPA manuals into Chinese, and is in the process of translating the manuals into Russian. Alternative vendor lists of ODS-alternatives suppliers available in Brazil, can also be developed.

Project Team

Several ICOLP member companies have manufacturing facilities in Brazil, including: AT&T, Ford, Hitachi, IBM, Northern Telecom, Texas Instruments, and Toshiba. Northern Telecom and Northern Telecom Brazil will lead the project for ICOLP with assistance from the other ICOLP member companies.

Lead ICOLP Company Contact:

Elizabeth Rose
Assistant Vice President
Environmental Affairs
Northern Telecom Ltd.
3 Robert Speck Parkway
Mississauga, Ontario
L4W 3C8 CANADA
t: 905-566-3011
f: 905-566-3348

Lead ICOLP Staff:

Allison Morrill
ICOLP Project Manager
Environmental Policy Center
2000 L Street, NW Suite 710
Washington, DC 20036
t: 202-737-1419
f: 202-296-7442

World Bank Contact:

Mr. Sergio Oxman
Ozone Operations Coordinator
Environment Department S-2125
The World Bank
1818 H Street, NW
Washington, DC 20433 USA
t: 202-458-9028
f: 202-522-3258

Implementing Agencies/Country Contacts

Essential to the success of a project in Brazil is the support and assistance from the Government of Brazil and Brazilian industry associations. ICOLP made initial contact with the Brazilian government in 1993. The Brazilian government indicated that they would not be able to support a phaseout project until the Brazilian Country Program was completed. The Brazil Country Program was completed in June, 1994 and the government is better able to cooperate with ICOLP. Initial discussions have taken place between ICOLP and the following representatives:

Mr. Tovar da Silva Nunes
Secretary, Division of Environment
Ministry of External Relations
Foreign Affairs
BRAZIL
t: 55-61-211-6874
f: 55-61-223-7362

Dr. Suely Machado Carvalho
Co-Chair UNEP Technical & Economic
Assessment Panel,
Advisor T.D.C
Economics
Universidade de Sao Paulo -IEE
Ave. Prof. Almeida Prado 925
05508-900 Sao Paulo SP
BRAZIL
t: 55-11-818-4720
f: 55-11-210-7750

Mr. Andre Rivola
GTO Chairman
Ministerio da Industria, do Comercio e do
Turismo
Secretaria de Política Industrial
Grupo de Trabalho Interministerial do
Ozonio
Esplanada dos Ministerios
Bloco "J" - 5 Andar
CEP: 70056-900- Brasilia
Brazil
t: 55-61-226-3948
f: 55-61-225-5825

Sergio Thompson-Flores, Director
FINEP (Financial Intermediary)
Praia do Flamengo 200, 13a
CEP 22210-020-RJ
t: 55-21-205-5719 or 276-0654/5/6
f: 55-21-276-0363

Paulo R. da Silveira Fetal, MP Manager
FINEP (Financial Intermediary)
Praia do Flamengo 200, 13a
CEP 22210-020-RJ
t: 55-21-276-0483 or 276-0330
f: 55-21-276-0402

ICOLP Subcontractors

ICOLP will likely subcontract a portion of the in-country organizational work of the workshop to Inform. Inform has worked with Northern Telecom on their Brazilian environmental initiatives, and are known to be reliable and efficient. The following individual is the contact:

Mr. Waltemir de Melo, Director
INFORM
Av. Nove De Julho
5049-3. ANDAR-DEP 01407
Sao Paulo -SP - Brasil
t: 011-881-6133
f: 011-853-9388

Technical Workshop

ICOLP will organize and implement a two day workshop on ozone-depleting solvent (ODS) alternative technologies and processes in March or April, 1995. The workshop will be held in Sao Paulo, Brazil, where more than eighty percent of the manufacturing companies are located. ICOLP expects to draw at least 100 experts to the workshop.

As in the other ICOLP workshops, ICOLP member company experts will present papers on alternative technologies and processes to accelerate the ODS phaseout. The Brazilian workshop will utilize to the fullest extent possible Brazilian experts. Topics of presentations will include: An Overview of Ozone Depletion, and the Montreal Protocol and Brazil Phaseout dates; Alternatives to Metal Cleaning; Semi-Aqueous and Aqueous Alternatives; No-Clean Alternatives, and others.

Note: An additional ICOLP seminar can be organized to address Aircraft Maintenance in Brazil with the major Brazilian airlines, including Varig. This project would require a separate budget. Nevertheless, it is expected that the technical management of Varig will be in the audience of the ICOLP workshop.

Demonstration Project

ICOLP is open to sharing information through demonstration of ODS-free technologies at ICOLP company manufacturing facilities in Brazil. Participants would have an opportunity to visit existing facilities where new technologies are already in place. ICOLP regards demonstration projects as a valuable resource for companies that wish to begin phaseout efforts. Such projects demonstrate that both product quality and productivity are maintained and frequently improved as a result of implementing ODS phaseout programs. In Brazil, ICOLP will organize a tour for Brazilian industry and government experts to the Ford Motor Companies "No-Clean" Facility, and possibly other ICOLP company facilities, in March or April, 1995.

Estimated Budget

ICOLP is estimating the budgetary need for the project in Brazil to be US \$70,000. These costs can be broken down into the following categories: (estimates of costs as of December, 1994).

• Travel for four ICOLP experts, ICOLP project manager, and Environment Canada Expert	= \$26,000
• Hotel and Per Diem for six experts, for five days	= \$8,000
• Consultants costs for workshop organization	= \$15,000
• Workshop meeting room fees	= \$6,250
• Printing of brochures, workshop equipment and supplies	= \$6,250
• Advertising of workshop	= \$2,500
• Videntaping of workshop	= \$2,000
• ICOLP administration costs	= \$4,000

Estimated Total Workshop Costs (in US Dollars)	= \$70,000
--	------------

ICOLP's in-kind contribution based on time donated to the project will be determined.

ICOLP appreciates the opportunity to work with Environment Canada and the World Bank on an ozone-depleting solvents elimination project in Brazil. Upon acceptance of this proposal, ICOLP and Environment Canada can negotiate the contractual conditions of our agreement.

Please contact either Allison Morrill at (202) 737-1419, or Elizabeth Rose at (905) 566-3011 if you have any questions regarding this proposal or the International Cooperative for Ozone Layer Protection (ICOLP).

Sincerely,



Allison Morrill
ICOLP Project Manager
Environmental Policy Center

cc: Mr. Arthur FitzGerald, ICOLP President
Mr. Thomas Davis, ICOLP Treasurer and AT&T
Ms. Elizabeth Rose, ICOLP Board and Northern Telecom
Mr. Sergio Oxman, The World Bank

ANNEX IV

BILATERAL REQUESTS FROM DENMARK

Mr. Per Henrik Pedersen
Miljøstyrelsen
fax: 32 66 04 79

Dear Dr. El-Arini,

Enclosed is a proposal for a project in China titled "Establishment of a CFC Recycling Centre at Zhejiang Dongyang Chemical Factory". The proposal is hereby submitted to the Executive Committee as part of Denmark's bilateral contribution to the Multilateral Fund for the year 1995.

As can be seen from the enclosed copies of my letter of 18 May, 1995 to the China National Environmental Protection Agency and the latter's reply of 7 June, 1995 the Governments of China and Denmark are agreed on this procedure. Mr. Frank Pinto of UNDP has been closely involved in the preparation of the proposal.

I would welcome any comments you may have and hope to achieve your approval for submitting the proposal to the July meeting of the Executive Committee.

Yours sincerely,


Jørgen Hartnack

Modtaget i MILJØ den

7.6 kl. 11.00

国家环境保护局
CHINA NATIONAL ENVIRONMENTAL PROTECTION AGENCY

115 Namxiaojie, Xizhimennei, Beijing 100035, The People's Republic of China

FACSIMILE COVER SHEET AND MESSAGE

Date: June 7, 1995

No. of Pages: 1

(Including this sheet)

To:

From:

Name: Deng Yongzheng

Name: Ms. Song Xiaozhi

Organization: UNDP Beijing office

Dept.: FECO

City/Country: Beijing, China

Fax Tel. No.: (86-1) 832-7851

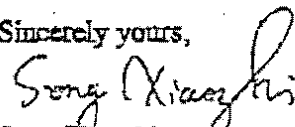
Fax No.: 5322567

Telephone: (86-1) 832-9911 Ext. 3134

RE: ENDORSEMENT LETTER FOR RECYCLING PROJECT

Please take this fax as an official endorsement for *Establishment of a CFC Recycling Centre at Zhejiang Dongyang Chemical Factory* from NEPA.

Sincerely yours,


Song Xiaozhi

cc. Mr. Jorgen Hartnack, Minister- Counsellor
Ministry of Foreign Affairs, Copenhagen, Denmark
Fax: 4533920682

If you experienced any problem in receiving this transmission, please inform the sender at the telephone or fax number listed above.

KONGELIG DANSK AMBASSADE
ROYAL DANISH EMBASSY
NAIROBI

Mr. Liu Yi, Deputy Director
FECO (Foreign Economic
Cooperation Office)
NEPA
Beijing, China

HFCO BUILDING, CORNER OF
KENYATTA AVENUE/KOINANGE STREET
POSTAL ADDRESS: P.O. BOX 40412
TELGR. ADDR.: AMBADANE, NAIROBI
TELEX: 22216
TEL: 331088/331089/331090
TELEFAX: 331492

generating
copy/copies

1
enclosure(s) Ref.:
(To which please refer)

Date 18 May 1995
Dns

Dear Mr. Liu Yi,

I am pleased to attach herewith a finalized draft of the proposed recycling project titled "Establishment of a CFC Recycling Centre at Zhejiang Dongyang Chemical Factory". This proposal has been prepared jointly by the Chinese Ministry of Chemical Industry (MCI) and by Mr. Niels Busch of Denmark, a UNDP consultant working out of UNDP/Beijing.

The project would result in the recycling of 20 tonnes per year of CFCs at the recycling centre which would be established at the Zhejiang Dongyang factory. The total project cost is estimated at US \$205,000. It is intended that UNDP be the Multilateral Fund implementing agency, in consequence whereof the relevant agency support costs have been included in the budget.

We would appreciate your communicating to us whether this proposal meets your priorities. If it does, I would propose that it be submitted to the Executive Committee as part of Denmark's bilateral contribution to the Multilateral Fund for year 1995.

Since I will only be in Nairobi until 26th May attending the UNEP Governing Council Meeting, your response could please be sent to me at the Ministry fax number in Copenhagen specified below.

Awaiting your initial views on the above I remain,

Yours sincerely,

Jorgen Hartnack
Minister-Counsellor
Ministry of Foreign Affairs
Copenhagen, Denmark
Fax: 45-33-921678

cc: Mr. Arthur Holcombe
Resident Representative
UNDP, Beijing

PROJECT COVER SHEET

COUNTRY: People's Republic of China
PROJECT TITLE: Establishment of a CFC Recycling Centre at Zhejiang Dongyang Chemical Factory
SECTOR/ACTIVITIES COVERED: Refrigeration: recovery & recycling
ODS USE IN SECTOR: CFC-12 Production: 13,900 tonnes/yr (1993)
PROJECT IMPACT: Recycling potential for all CFC manufacturing plants is 200 tonnes/yr. For this project: 20 tonnes/yr of CFCs will be recycled
PROJECT DURATION: One Year
TOTAL PROJECT COST: a) US\$ 205,000 (Multilateral Fund)
b) RMB 128,500 (Government of China)
PROPOSED MLF GRANT: US\$ 205,000
BILATERAL DONOR AGENCY: Government of Denmark
NATIONAL COORDINATING AGENCY: National Environmental Protection Agency (NEPA)
NATIONAL IMPLEMENTING BODY: Ministry of Chemical Industry (MCI)
MLF IMPLEMENTING AGENCY: UNDP

PROJECT SUMMARY

The project objective is to establish a CFC Recycling Centre at Zhejiang Dongyang Chemical Factory, one of China's largest CFC manufacturing plants, and to promote better handling of CFCs to reduce emissions. Under the project, every year about 20 tonnes of residual CFCs remaining in the CFC distribution tanks and cylinders will be recovered by the Centre instead of being vented into the atmosphere before the refilling process. The Centre will also be able to reclaim and recycle CFCs received from other companies. The Government of Denmark has agreed to provide bilateral assistance to China specifically targeting CFC recovery and recycling activities, funded from Denmark's bilateral contribution to the Multilateral Fund. Project financing will include provision of one reclamation station and associated accessories for prototype testing/experimentation and evaluation, and technical training/seminars. As one of the first and leading countries to develop and use recycling as a method to reduce ODS emissions, Denmark is well placed to assist other countries utilize such recycling procedures. To ensure project success, the reclamation equipment chosen will be of a proven high quality and training of operators would be supervised by an expert familiar with the equipment capabilities. Experience gained on reclamation and recycling activities will be disseminated to other plants through national seminars. The project will be carried out by Zhejiang Fluoro-Chemical Technology Research Institute (ZFCTRI), Ministry of Chemical Industry, in cooperation with the Zhejiang Dongyang Factory.

Prepared: Niels Busch (Denmark), UNDP Consultant

Reviewed: Clinton Norris, UNDP CFC Replacement Technology Expert

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BILATERAL ASSISTANCE TO AN ARTICLE 5 COUNTRY IN PHASING OUT ODS

PROJECT OF THE GOVERNMENT OF CHINA

Establishment of a CFC Recovery and Recycling Centre at the Zhejiang Dongyang Chemical Factory

1. PROJECT OBJECTIVE

The objective of this project is to establish a CFC Recycling Centre at one of the largest CFC manufacturing plants in China and contribute towards reduction of CFC emissions.

2. SECTOR BACKGROUND

There are about 40 CFC manufacturers in China with a total capacity of about 70,000 tonnes/yr at end-1993. 21 of these are larger factories with production capacity of over 1,000 tonnes/yr. Production of CFCs during 1991-1993 was as follows:

	1991	1992	1993
CFC-11	6,200	6,600	9,600
CFC-12	18,400	14,500	13,900
CFC-113	1,000	1,300	1,600
Others	<u>14,900</u>	<u>14,000</u>	<u>24,400</u>
TOTAL	40,500	36,400	49,500

Of the 25,100 tonnes of CFCs (CFC-11/12/113) produced in 1993, about 16,000 tonnes were produced at the larger factories, while 9,000 tonnes were produced at the smaller plants. The decrease in production of CFC-12, in spite of an increase in capacity (from 36,600 to 48,600 tonnes/yr) is probably due to a lack of raw materials.

The economic growth rate in China is increasing at the rate of 8-10% per year. If this economic growth rate continues, a similar growth rate in ODS consumption can be expected.

As part of China's efforts to implement its Country Programme for ODS phaseout, it has prepared sectoral phaseout strategies. For the phaseout of production of CFCs, China has set a target date of year 2005 and various replacement technologies have been identified in the "Strategy Study for Phasing Out ODS Production in China's Chemical Industry" prepared by the Ministry of Chemical Industry in September 1994.

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3. ENTERPRISE INFORMATION

The Zhejiang Dongyang Chemical Factory produced in 1993 about 3,000 tonnes of CFC-12, 7,000 tonnes of HCFC-22 and a limited quantity of halons. The factory intends to continue its production of CFC-12 for eight years or more.

Usually, CFCs are distributed from the factories to the users in steel tanks and cylinders. It is not possible for users to empty the tanks/cylinders completely and there will always be a residual amount of CFC remaining in the tanks/cylinders when they are returned to the plants.

Before refilling the tanks/cylinders, it is necessary to first clear out any remaining contents and clean the tanks/cylinders. The normal procedure during the cleaning operation is to vent the remaining gas to the atmosphere. It is estimated that between 300-500 tonnes of CFCs were vented into the atmosphere in this way until the last few years when new procedures have been introduced. Such CFC losses in China have now been reduced to about 200 tonnes/year in total. For the selected Zhejiang Dongyang Factory, this CFC loss is estimated at 20 tonnes/yr.

4. PROJECT DESCRIPTION

The project will include installation of a reclamation station at one of the largest CFC manufacturing factories to allow for the recovery, reclamation and recycling of CFCs, in-depth evaluation of such activities, assessment of the most appropriate way to introduce the recycling activities at other CFC manufacturing plants in China, and training and dissemination of the project results.

The project will be carried out by the Zhejiang Fluoro-Chemical Technology Research Institute (ZFCTRI) in cooperation with the Zhejiang Dongyang Chemical Factory, both belonging to the Ministry of Chemical Industry (MCI).

The activities under the project will be supervised by a steering group which will also report to the (National) Coordinating Group for all recycling projects.

As indicated in the Project Summary, Denmark was one of the first countries in the world to use recycling as a practicable way to reduce emissions of ODS. For some years now recycling has been used widely in industrial installations in Denmark. This was made possible by the Danish company A'Gramkow, which over 18 years has developed and steadily refined very efficient equipment for recovery, reclamation and reuse of ODS. Such equipment is also being exported to many parts of the world.

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To help ensure project success, recycling equipment from A'Gramkow will be selected. To ensure the best utilization of the equipment, an expert from A'Gramkow will assist in installing the equipment and supervising the training of the equipment operators.

The project will have the following components:

Component 1: Set-up for the recycling activities

A set-up plan for the recycling activities at factory will be developed. This will include selection of the specific reclamation and recycling unit, design of any building modifications that may be required, and other technical facilities necessary for the installation of the new equipment and the recycling operation.

There are only few manufacturers of CFC reclamation units worldwide. One unit with an adequate supply of spare parts will be imported; other parts/accessories can be procured domestically. Installation and run-in tests of the reclamation station will be carried out under the supervision of the equipment supplier.

Component 2: Training of Personnel

When all the equipment has been installed, the engineers and technicians at the Factory will receive training in the operation of the equipment and the related procedures for the proper handling and recovery of the residual CFCs in the transport tanks/cylinders. In the case of recovered CFCs collected from other facilities, factory personnel will also be trained in collecting samples of recovered CFCs for purity testing, and in carrying out quality control of reclaimed/recycled CFCs.

The training will be carried out by ZFCTRI in cooperation with the Zhejiang Dongyang Chemical factory and the equipment supplier.

Component 3: Recycling Activity

This activity will be carried out by factory personnel and ZFCTRI, and will start upon completion of the training programme. It will cover actual use of the equipment. Full daily records of recycling activities will be kept for the initial six months for evaluation, covering, for instance, the exact amount of CFC recovered from each tank and cylinder, the size of each CFC container, the type and the quality of CFCs collected, the amount of CFCs reclaimed and recycled, the level of purity, etc.

Based on the daily records, an estimate of the amount of CFC that could be saved (instead of emitted) per tank and per cylinder can be made. This estimate can then be used to assess the recycling potential and CFC emissions during filling operations at other CFC manufacturing factories.

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Component 4: Survey and Evaluation

In tandem with the ongoing recycling activities at the Zhejiang Dongyang Factory, a small survey will be undertaken at selected CFC manufacturing factories on their current CFC handling practice, any recycling activities being carried out, the recycling procedures, quality control, etc. The survey will also include consideration of the possibilities of reclaiming CFC from other CFC recycling activities such as recovery of CFC from commercial and industrial refrigeration and air conditioning units.

The survey will be carried out by ZFCTRI in cooperation with the Zhejiang Dongyang Factory.

Component 5: Evaluation/Dissemination of Experience Gained

At the end of the six-month period, a detailed report will be prepared on the experience gained at the Zhejiang Dongyang factory as well as an analysis of the survey done. The report will also provide an evaluation of the best way to introduce recycling activities at different factories in order to reduce the emission of CFC. This will include consideration of the logistics of the CFC distribution system.

The results of this project will be widely distributed to all CFC manufacturing factories, concerned government agencies and institutes, and other major manufacturing enterprises. A national seminar will be organized shortly after the finalization of the report. It is recommended that two additional seminars be held at six months interval after the project completion, to reinforce the experience gained from this project and to promote CFC recycling practice as a way to cope with the anticipated CFC reduction in the near future.

Based on the experience gained through this project, there may also be a need to review and update the original national plan for the recycling activities at the CFC manufacturing plants. It is expected that the project will result in more intense recycling activities by manufacturers and enterprises. The report and the seminar(s) will be prepared and organized by ZFCTRI, the Dongyang Factory and MCI.

5. PROJECT COSTS

The total cost of the project comprises USD 205,000 from the Danish bilateral contribution to the Multilateral Fund and RMB 128,500 as China's in-kind contribution. The Factory will bear all operating costs associated with the planned recycling activities. It is expected that these costs will be offset with the sale of the anticipated recycled CFC and provide an incentive to the Factory to undertake this demonstration project.

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	<u>CHINA</u> <u>RMB</u>	<u>MLF</u> <u>USD</u>
<u>Set-up for Recycling Activities</u>		
o International expert from the producer of the reclamation station/equipment to advise on equipment, building modifications/technical facilities		6,800
o National experts work on sep-up for recycling activities	13,500	
o Equipment: One reclamation station (A'Gramkow, RE 1250), installation, essential spare parts, storage tanks, lifts, pumps, pipes and fittings, freight & insurance		110,000
o Building modifications		20,000
<u>Training</u>		
o Training course: national experts (preparation)		1,000
o Technology transfer, run-in,		15,000
o Training supervision by expert from the producer of the reclamation equipment (incl. travel & expenses)		11,000
o Technical training: engineers and technicians (10 persons, 2 days, including travel & expenses)		2,000
o Recycling activities: (supervision and registration) National experts	27,000	
<u>Survey</u>		
o National experts/including travel + related expenses	43,000	
<u>Evaluation/Dissemination & Seminar</u>		
o Report preparation/evaluation: national experts	45,000	
o Report production		500
o Seminar (3 days)		
International expert (fees, travel, expenses)		6,800
National experts (preparation)		500
20 participants (travel + DSA)		4,000
<u>Miscellaneous</u>		3,800
TOTAL:	128,500	181,400
Agency Support Cost (13%)		23,600
GRAND TOTAL:	128,500	205,000

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6. FINANCIAL PLAN

The total grant amount of USD 205,000 will be funded from the 1995 bilateral contribution from Denmark to the Multilateral Fund. In addition, an in-kind contribution in the amount of RMB 128,500 will be provided by the Government of China to this project.

7. IMPLEMENTATION

MCI will have overall implementation responsibility under the guidance of UNDP and NEPA. The project will be carried out by ZFCTRI and the Zhejiang Dongyang Chemical Factory.

The duration of the project is 12 months. The project will run concurrently with other recycling projects, so that experience gathered from the different projects can be shared and disseminated at national seminar(s).

8. PROJECT IMPACT

The total potential for CFC recycling at the various factories in China is estimated at around 200 tonnes per year. In addition to this, there is a potential recycling of CFC from refrigeration and air conditioning facilities. The estimated recycling potential for this demonstration project is about 20 tonnes of CFC per year.

Annex: Technical Assessment

The Norris Group

303 W Locust Ln
Kennett Square, Pa 19348
610 444 9058
Fax: 302 633 0440

FAX TRANSMISSION COVER SHEET

Date: May 3, 1995
To: Frank Pinto
Chief MPU
UNDP
Fax: 212 906 6947
Re: Review of Zhejiang Dongyang Recycling Project
Sender: Clinton J Norris
Consultant

TECHNICAL REVIEW

I have reviewed the China Project, "Establishment of a CFC Recycling Centre at Zhejiang Dongyang Chemical Factory", from the Recovery and Recycling sector, based on discussions with UNDP - MPU, as well as review of the document.

- | | | |
|---|-----------------------------|---|
| 1 | <u>Country of Origin</u> | China |
| 2 | <u>Project Title</u> | Establishment of a CFC Recycling Centre at Zhejiang Dongyang Chemical Factory |
| 3 | <u>Sector</u> | Recovery and Recycling |
| 4 | <u>Relationship to C.P.</u> | The project addresses how a centre at this CFC manufacturing factory fits in with the need in China for sites to perform reclamation and recycling from returned cylinders who have "heels" of CFC still contained in them. It is somewhat different, although strategically improved from the articulated recycle statements in the C.P., which primarily address multiple, dispersed recovery stations. |

- 2 -

5 Technology

5a) Technical Soundness

This project includes the process definition, equipment qualification, personnel training, and installation of reclamation technology that will meet the needs as described in the document. Since it is a demonstration project, it also includes survey and training components which will assure technical success, and appropriate dissemination of the information to other planned sites.

The technology is a defined technology and should be readily available from several sources who will most likely be requested to bid. It should significantly and safely reduce the venting of "heels" from returned cylinders, and should thereby offset accordingly the need for new production of equivalent quantities of CFCs.

5b) Safety

Reclamation systems can be operated safely. The probable use of pressure/vacuum systems requires adherence to procedures. The procedures should be spelled out clearly and be part of the initial and the ongoing training components. People should be trained before they are permitted to become operators in the recycling/reclamation area. Periodic retraining is also recommended. Chronic exposure needs to be controlled via equipment design for appropriate exhaust and low emissions. Under normal circumstances in a CFC manufacturing facility, the limited number of operators should allow for thorough training to control incidents and chronic exposure.

6 Environmental Impact

If returned cylinders are today vented as stated in the document, then the installation of this demonstration unit will reduce the venting of CFCs to the atmosphere when they are returned to the factory, and will offset the need to produce an equivalent amount of new CFCs. The stated amount to be saved in the project is 20T/yr, but this can be even higher, depending on the extent to which the cylinder users empty them before returning them to the factory.

- 3 -

7 Project Costs

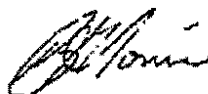
The cost components identified in the project cover the equipment required, the training component, a survey to determine capabilities and needs at some prospective additional sites (The survey is part of the project but is being covered at the expense of the Chinese Government), and an evaluation/dissemination component to complete the demonstration portion of this demonstration project. In discussions with UNDP, some of the cost elements were reduced to improve cost effectiveness.

8 Implementation Timeframe

The proposed implementation timeframe of 12 months is feasible. The idea of running simultaneously with other recycling projects is also feasible, provided that routine exchange takes place.

9 Recommendation

The project is sound, needed, and for a demonstration project, has a reasonable level of cost effectiveness. Approval as proposed is recommended, with the proviso that the safety issues will be addressed, and an exchange of information between the recyclers (who are doing parallel projects) is scheduled.



CLINTON NORRIS

3 May 1995

ANNEX V

BILATERAL REQUESTS FROM FRANCE



CAISSE FRANÇAISE DE DEVELOPPEMENT

ÉTABLISSEMENT PUBLIC
DOTATION 2,5 MILIARDS de FRANCS

PARIS, le 13 JUIN 1995

Monsieur Omar El-Arini
Fonds Multilatéral
1800 Mc Gill College - 27^e étage
MONTREAL - QUEBEC

CANADA

N.REF : 1995/DPE/FEM-MB/DSP N° 138

Cher Monsieur,

Suite à la requête officielle du gouvernement du Liban, la France souhaite aider ce gouvernement à préparer des projets industriels dans le secteur des mousses.

Il s'agit, en fait, de préparer des projets de conversion industrielle pour 10 entreprises appartenant à des ressortissants libanais.

La France souhaite donc affecter 20.000 \$ de sa contribution bilatérale au Fonds Multilatéral du Protocole de Montréal à ce projet.

Je vous serais donc obligée de bien vouloir porter cette demande devant le 17^e Comité Exécutif du Fonds Multilatéral.

Je vous en remercie par avance et vous prie d'agréer, Cher Monsieur, l'expression de mes sentiments les meilleurs.

Monique BARBUT

Responsable du Secrétariat du Fonds Français
pour l'Environnement Mondial

P.J. 1

PROJECT OUTLINE

COUNTRY:	LEBANON
PROJECT TITLE:	Projects preparation/technical assistance
SECTOR COVERED:	Foams sector.
ODS USE IN SECTOR:	143 tonnes ODP
PROJECT IMPACT:	Phase-out of 98 tonnes ODP of CFC 11 & CFC 114
INCREMENTAL COST:	US \$ 20,000
BILATERAL AGENCY:	CAISSE FRANÇAISE DE DEVELOPPEMENT
NATIONAL AGENCY:	MINISTRY OF ENVIRONMENT
DURATION:	4 MONTH

PROJECT DESCRIPTION :

Caisse Française de Développement has received an official request from the Government of Lebanon for the preparation of investissements in the foam sector. In 1993, the total consumption of the sector was 143 tonnes ODP of CFC 11 and CFC 114. The Executive Committee has approved at the its last meeting the amount of US \$ 20,000 to UNIDO to prepare the investment project for two companies consuming 45 tonnes ODP of CFC 11: ETS Henri Abdallah and Nasri Karam. The other companies producing foam are: Polyurethane Foam and Spring Mattresses, Deco Matar, Confortium, FAP, Interdesign, Sleep Comfort, Sweet Dreams, Kilzi, Building Chemicals Corp., Primaflex, Ara Yerevanian, Hallawi Rida. All these companies are lebanese owners.

PROJECT PROPOSAL

PROPOSAL TO 17th EXECUTIVE COMMITTEE MEETING FOR A TECHNOLOGY TRANSFER WORKSHOP FOR AFRICAN COUNTRIES ON PRACTICAL IMPLEMENTATION OF THE MONTREAL PROTOCOL.

PROJECT OUTLINE

REGION:	Countries comprising: Algeria, Benin, Burkina Faso, Cameroon, Central African Republic, Chad, Comoros, Congo, Cote d'Ivoire, Egypt, Gabon, Guinea, Mali, Mauritania, Niger, Senegal, Togo, Tunisia, and Zaire.
PROJECT TITLE:	Proposal for bilateral assistance from France for a technology transfer workshop for African countries on practical implementation of the Montreal Protocol.
SECTOR COVERED:	Several - Refrigeration, Foam, Aerosol, Halon.
SECTOR ODS CONSUMPTION:	5488 tonnes (From figures when given in the Multilateral Fund Inventory of Approved Projects, December 1994)
INCREMENTAL COST:	US\$ 120,000
BILATERAL AGENCY:	France
IMPLEMENTING AGENCIES:	France and UNEP
NATIONAL COORDINATING AGENCY:	To be identified
DURATION:	1995

Description:

The workshop aims to assist African countries with ODS phase-out by providing for interaction and cooperation between governments and industries in developed and developing countries. Developed countries who have hands-on experience in phase-out of ODS will be selected to present case-studies for developing countries. Specifically, the interactions between participants will involve:

- * imparting the latest information on new technical options available for reducing and replacing ODS consumption in various applications. This will be demonstrated through practical examples (case studies);
- * discussing case studies of successful reductions and replacements of ODS by ozone-friendly substitute technologies and products - some successful ones in Africa, but primarily those in developed countries which could be replicated in Africa. These case studies will focus on the sectors relevant to the participating countries and will help in demonstrating the technologies appropriate for conditions in the participating African countries;
- * providing examples to African countries of policies and legislative and regulatory mechanisms which facilitate technology transfer and implementation of investment projects for ODS phase-out;
- * providing for on-site networking between all participants (government, industry and others) about detailed technical assistance.

Bilateral assistance will be provided by France's Bureau de la Caisse Française de Développement (CFD). This activity is expected to catalyze phase-out activities in the African region and to step-up the development and implementation of investment projects.

Workshop Title

Technology Transfer Workshop for Africa on Practical Implementation of the Montreal Protocol.

Background

The African region has had the benefit of the following relevant regional meetings:

- (1) The "Regional Workshop for Africa on Implementation of the Montreal Protocol" (Kenya, December 1992). It was of a general awareness-building nature, provided information about ozone layer damage and consequences, and over-viewed options for ODS phase-out. It was attended by 14 Article 5 countries from Africa, and 16 non-party countries were represented. 13 of the participants were French-speaking countries, 6 of them being Parties to the Montreal Protocol: Burkina Faso, Cameroon, Egypt, Guinea, Togo and Tunisia.
- (2) Following on from the above Workshop was the "Industry Workshop on the Practical Implementation of the Montreal Protocol - the African Perspective" (Swaziland, August 1994). It was conducted in English, and was attended by Botswana, Ghana, Kenya, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania, Uganda, Zambia and Zimbabwe. It focused on practical alternative technology options for ODS phase-out based on proven experience and case studies. South Africa provided bilateral assistance for this Workshop, and provided most of its substantive content.
- (3) The "Regional Training Course on Refrigeration for the African Region" (Kenya, December 1992). It was conducted in English and was attended by 11 countries: Algeria, Burkina Faso, Congo, Ghana, Kenya, Malawi, Mozambique, Senegal, Tanzania, Uganda and Zambia (4 of these being French-speaking countries). It provided information to technical experts on new refrigeration equipment and possibilities for retrofitting, recycling and recovery.
- (4) The meeting of ODS Officers from English-speaking African countries (ODSONET AF/E) (Kenya, May 1995), for updating ODS Officers and contributing to on-going implementation of the Montreal Protocol and phasing-out of ODS.

The meeting of ODS Officers from French-speaking African countries for this same purpose is scheduled to take place in Tunisia, August 1995.

The Proposal

This workshop will provide practical alternative technology and policy options, to be conducted in French. It responds to a number of requests to France and to UNEP from French-speaking African countries, who have not yet benefitted from a workshop for interaction with developed countries on practical experience with successful ODS phase-out technologies. Now, with the completion and on-going finalization of many Country Programmes in these countries, they are ready to acquire and put into practice such knowledge.

French-speaking African countries who are Parties of the Montreal Protocol comprise: Algeria, Benin, Burkina Faso, Cameroon, Central African Republic, Chad, Comoros, Congo, Cote d'Ivoire, Egypt, Gabon, Guinea, Mali, Mauritania, Niger, Senegal, Togo, Tunisia, and Zaire. Non-Parties, and therefore not participants, are: Angola, Burundi, Cape Verde, Djibouti, Equatorial Guinea, Guinea-Bissau, Madagascar, Morocco, Rwanda and Sao Tome and Principe.

Bilateral assistance will be provided by France's Bureau de la Caisse Française de Développement (CFD). It is to be organized by UNEP in association with the CFD and the host government.

Justification

The consumption of ODS in Africa is small, but plays a key role in the life of African countries. Of Country Programmes prepared and approved by the Multilateral Fund Executive Committee, 8 are for French-speaking African countries. 7 more are under preparation in these countries. Key ODS-consuming industries are refrigeration and airconditioning. Aerosol and foam (soft and rigid) consumption is also high. Lower volumes of ODS used in industries include halons and solvents. Also important in Africa, is ODS use for preservation and in exports of agricultural products.

France is preparing projects in Mauritania and Cote d'Ivoire. It is expected that this experience could be incorporated into this workshop, and be duplicated in other countries through such cooperation.

The threat of depletion of the ozone layer must be met by global partnership and regional cooperation. In this spirit, and to meet its obligations under the Montreal Protocol, France proposes this workshop to assist African countries with ODS phase-out.

An important element of ODS phase-out, and the major purpose of this workshop, is information exchange for technology awareness for practical use by industries and awareness of policies and legislative and regulatory mechanisms which support technology transfer and implementation of investment projects for ODS phase-out.

Description:

Objectives:

To assist African countries with ODS phase-out by providing for interaction and cooperation between governments and industries in developed and developing countries. Developed countries who have hands-on experience in phase-out of ODS will be selected to present case-studies for developing countries. Specifically, the interactions between participants will involve:

- * imparting the latest information on new technical options available for reducing and replacing ODS consumption in various applications. This will be demonstrated through practical examples (case studies);
- * discussing case studies of successful reductions and replacements of ODS by ozone-friendly substitute technologies and products - some successful ones in Africa, but primarily those in developed countries which could be replicated in Africa. These case studies will focus on the sectors relevant to the participating countries and will help in demonstrating the technologies appropriate for conditions in the participating African countries;
- * providing examples to African countries of policies and legislative and regulatory mechanisms which facilitate technology transfer and implementation of investment projects for ODS phase-out;
- * providing for on-site networking between all participants (government, industry and others) about detailed technical assistance.

Participants:

- * 1 to 3 participants from each country, comprising 1 ODS Officer and up to 2 industry representatives, preferably from industry associations.
- * Representatives of the Montreal Protocol implementing agencies (UNEP, UNDP, World Bank and UNIDO), the Multilateral Fund Secretariat and regional banks.
- * Industry experts from developed countries having hands-on experience in phase-out, for case study presentation and technical discussions.
- * Observers from industry associations and NGOs.

Content:

The detailed agenda for the Workshop will be finalized in the French-speaking African countries' ODS Officers networking meeting (Tunisia, August 1995), where participants will be representing countries to be invited to the Workshop. The agenda will cover:

- * Briefly - new developments in issues relevant to Africa.
- * In more detail - technological and policy options for replacing ODS.
- * The emphasis of the workshop - taking action from an industry perspective - including case studies from developed countries and some African countries, showing the practical implementation of ODS phase-out. This could include coverage of new technologies, recovery, recycling and reclamation, facilitative policy, legislative and regulatory mechanisms, etc, and will focus on the key ODS-consuming industries of participating countries.

Results:

- * Knowledge imparted to African countries about practical and successful means for ODS phase-out in developed countries and in other countries in their region.
- * Contacts forged between countries requiring assistance and persons/industries in developed countries and in neighboring countries that can be of assistance to them.
- * Facilitation of the transfer of knowledge and technology on ODS replacement from successful persons/industries.
- * Promotion of low-cost phase-out activities like recovery, recycling and retrofitting.
- * Awareness of policies and legislative and regulatory mechanisms which facilitate technology transfer and implementation of investment projects for ODS phase-out.
- * Facilitation of cooperation among African countries and with developed countries for ODS phase-out.
- * Awareness of project preparation activities under the Multilateral Fund.

Deliverables:

Report of the workshop, including presentations and case studies.

Cost:

US\$ 120,000. This includes participants and industry experts travel costs, experts fees, conference facilities, organization costs, preparation and reproduction of presentations and case studies, and reproduction and distribution of workshop proceedings.

ANNEX VI

BILATERAL REQUESTS FROM UNITED STATES OF AMERICA



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

13 June 1995

OFFICE OF
AIR AND RADIATION

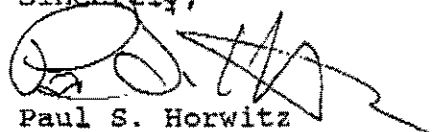
Dr. Omar El-Arini
Chief Officer
Multilateral Fund for the Implementation
of the Montreal Protocol

Dear Dr. El-Arini

Attached please find project proposals for which we are seeking Executive Committee approval. These project funding requests cover agreed incremental costs for activities that strictly relate to compliance with the Protocol. The total funding level that has been requested for a US bilateral offset is well below the allowable 20% threshold for bilateral activities that was approved by the Parties. The countries directly involved have given their approval for us to count these expenditures against our Fund contribution. The projects are consistent with the allocation scheme agreed to at the last meeting of the Executive Committee. We would like resources approved for these projects to be offset against our 1995 contribution to the Multilateral Fund.

Also attached is a status report on our on-going bilateral activities. Please feel free to call in you have any questions regarding any of the attached material.

Sincerely,



Paul S. Horwitz
International Advisor

SUMMARY OF NEW SPENDING

Country	Project Description	Amount
China	Commercial Refrigeration Servicing Demonstration Project	\$132,000
Dominican Republic	MACS Servicing Demonstration	\$220,000
Dominican Republic	Project Preparation: Commercial Refrigeration	\$19,000
	Total	<u>\$371,000</u>

PROJECT PROPOSAL

COUNTRY: CHINA

PROJECT TITLE: Demonstration Project

SECTOR COVERED: Refrigeration (large food stores)

SECTOR ODS CONSUMPTION: 7,500 MT/yr CFC-12 (1991 est.)

INCREMENTAL COST: \$132,000

BILATERAL AGENCY: USEPA

NATIONAL COORDINATING AGENCIES: NEPA & MINISTRY OF INTERNAL TRADE (MIT)

DURATION: 1995

Description:

US EPA proposes to cooperate with NEPA and MIT in the implementation of China's pilot project to reduce CFC use in the refrigeration sector through refrigerant recovery and improved servicing and maintenance practices. EPA's proposed program of activities has been designed with MIT. This project will demonstrate the potential benefits of reducing CFC consumption in a select group of food stores in the Beijing area. The results of this project will be shared with other facilities that could adopt the CFC reduction measures without further outside funding.

EPA's activities will include the following:

- planning, preparing and implementing a refrigerant recycling and conservation project for selected large food stores in the Beijing area
- assisting implementing agency with equipment procurement, including developing equipment specifications
- providing logistical and technical support to participating sites including inspection and preparation of existing equipment, delivery and operation of procured equipment
- plan and conduct training workshop for participating stores and communicate the results of this demonstration project to representatives of additional food stores
- preparation of a report to document progress with this pilot CFC emissions reduction project including the experience of the participating sites

Estimated cost for equipment and related expenses are estimated to be an additional \$80-100,000. A funding request for this component will be submitted separately by UNDP.

We believe that this demonstration project focused on recycling and improved maintenance to reduce leakage rates (which can often exceed 150 % annually) can be accomplished for \$20-30 per kilogram¹. We believe this project will demonstrate that similar future programs could either be self-financing or could have very low incremental costs once refrigerant savings are taken in account.

Follow-on activities:

Follow-on activities will be determined on the basis of opportunities for further cost-effective emissions reductions identified during this project and on the priorities of MIT.

¹ Cost effectiveness is calculated based on the implementation portion of bilateral assistance plus estimated equipment costs, divided by one-year ODS reduction.

PROJECT PROPOSAL

Country:	Dominican Republic
Project Title:	Demonstration (MACs)
Sector Covered:	Refrigeration (MACs)
Sector ODS Consumption	50-70 MT CFC-12
Incremental Cost:	\$220,000
Bilateral Agency:	USEPA
National Coordinating Agency:	Secretaria de Estado de Agricultura, Subsecretaria de Recursos Naturales, Comision Gubernamental de Ozono (COGO)

Background and Discussion

The Dominican Republic became a party to the Montreal Protocol in September, 1993. With the exception of institutional strengthening money, the Dominican Republic (D.R.) has not yet received any assistance from the Multilateral Fund. US EPA and the Dominican Republic's national ozone protection unit (OPU) within the Secretary of Agriculture propose to design and implement an activity to reduce the use of CFC-12 in the important MACs servicing sector. With this project, the OPU and EPA expect to:

- Reduce consumption of CFC in the MACs sector in the country by approximately 30 % per participating establishment.
- Introduce recovery/recycle, and proper MACs servicing to MACs service establishments

This pilot project arises from EPA's mission to the Dominican Republic to field test the low-consuming country guidance document (ExComm approved in June, 1994) that EPA and UNIDO are developing for ozone protection officials in low-consuming countries. EPA's experience to date on the low-consuming country project and our Global MACs Program suggest that a set of modular interventions for the refrigeration servicing sector could be developed that would need only slight modification in order to be taken to other low-consuming countries. This modular approach would lower project preparation time and costs, and enable other low-consuming countries to address the important refrigeration servicing sector which constitutes one of the largest, if not the largest source of ODS consumption in low-consuming countries.

U.S. EPA and the government of the Dominican Republic believe that MACs recycling and refrigerant containment represent an important opportunity to begin work on this modular

approach. A MACs project would reduce CFC-12 emissions in the D.R., while at the same time reducing the impact of the CFC phaseout on automobile owners and others. The D.R. project may include busses, as well as refrigerated transport, to the extent that these represent significant portions of the MACs servicing sector.

The rapidly rising use of HFC-134a, as well as "drop-in" replacements for CFC-12 present problems of leak detection, and cross contamination which should be addressed as soon as possible. Our work all over the world has demonstrated MACs servicing shops' interest in addressing these urgent issues.

As always, the guiding principle of these projects is cost-effective emission reductions. Given the preponderance of ODS use in the refrigeration servicing sector, EPA believes that the greatest impact and most cost effective reductions in ODS use in low-consuming article 5 countries will come from refrigerant recycling. The proposed project will incorporate the lessons learned during the preparation and implementation of the Mexico, Venezuela, Argentina, Colombia, and China MACs projects. The above project costs include equipment and related expenses, which are estimated to be \$70,000.

Project Description

This activity, to be completed over approximately the next 12 months, will begin with data gathering and analysis and will include:

- A pilot demonstration MACs recycling and training workshop;
- Training on practices to reduce CFC-12 used in MACs servicing;
- Furnishing recycling machines and related equipment to participating repair shops (to be funded through UNDP)
- Followup data collection and preparation of a brief report to document the experience of Dominican repair shops with MACs recycling;
- Training on HFC-134a equipment;
- Training of D.R. nationals who can replicate the EPA workshop in-country after the workshop is completed;
- A follow-up mission to assess progress and complete a brief report.

Follow-on Activities

Over the course of the project, EPA will consider how best to transfer these modular projects to other implementing agencies so that they can conduct similar activities in other low-consuming countries. At the same time, EPA and the D.R. will take advantage of the fact that the Central American ODS officers network meeting is slated to take place in the D.R. in November. The

D.R. representative will make a presentation on these projects to educate his Central American colleagues about them so that they can further their own project development efforts upon return to their countries.

PROJECT PROPOSAL

Country:	Dominican Republic
Project Title:	Project Preparation
Sector:	Commercial Refrigeration
Sector ODS Consumption:	200 metric tons/yr (est.)
Incremental Cost:	\$19,000
Bilateral Agency:	USEPA
National Coordinating Agency:	Secretaria de Estado de Agricultura, Subsecretaria de Recursos Naturales, Comision Gubernamental de Ozono (COGO)

Description

The Dominican Republic became a party to the Montreal Protocol in September, 1993. With the exception of institutional strengthening money, the Dominican Republic has not yet received any assistance from the Multilateral Fund. US EPA and the Dominican Republic's national ozone protection unit (OPU) within the Secretary of Agriculture propose to design and implement an activity to reduce the use of ODS in the important commercial refrigeration servicing sector. This project arises from EPA's mission to the Dominican Republic to field test the low-consuming country guidance document (ExComm approved in June, 1994) that EPA and UNIDO are developing for ozone protection officials in low-consuming countries.

Commercial refrigeration users, especially supermarkets, represent a tremendous source of emissions of CFCs. EPA's research into this sector in Mexico and the Bahamas found that commonly-used remote systems leak up to 200 % of their charge annually. Leak rates below 50 and 60 % of charge annually are rare. One chain of 14 stores in the Bahamas that EPA studied loses over 6 metric tons a year to leaks out of a total chain-wide charge of 7.6 metric tons. Large supermarket stores in Mexico lose on average a ton per store.

EPA believes substantial reductions in emissions can be achieved through a demonstration of conservation and recovery/recycle technology and training of commercial refrigeration technicians. The D.R. OPU has already identified an organization of 3,000 refrigeration service technicians that would likely be included in this project. EPA will submit a targeted demonstration project proposal resulting from this project preparation assistance at a later meeting.