UNITED NATIONS

EP

United Nations Environment Programme

Distr.
GENERAL

UNEP/OzL.Pro/ExCom/48/26
2 March 2006

ORIGINAL: ENGLISH

EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Forty-eighth Meeting
Montreal, 3-7 April 2006

PROJECT PROPOSALS: ARGENTINA

This document consists of the comments and recommendations of the Fund Secretariat on the following project proposals:

Fumigant

- Methyl bromide phase-out in tobacco and non-protected vegetable seedbeds (sixth tranche) — UNDP

Production

- Strategy for gradual phase-out of CFC-11 and CFC-12 production: 2006 annual programme — World Bank

PROJECT EVALUATION SHEET – MULTI-YEAR PROJECTS
ARGENTINA

PROJECT TITLE	BILATERAL/IMPLEMENTING AGENCY
Methyl bromide phase-out in tobacco and non-protected vegetable seedbeds (sixth tranche)	UNDP

NATIONAL CO-ORDINATING AGENCY:	Instituto Nacional de Tecnologia Agropecuaria, Oficina del Programa Ozono

LATEST REPORTED CONSUMPTION DATA FOR ODS ADDRESSED IN PROJECT

A: ARTICLE-7 DATA (ODP TONNES, 2004, AS OF FEBRUARY 2006)

Annex E	362.5		

B: COUNTRY PROGRAMME SECTORAL DATA (ODP TONNES, 2004, AS OF MAY 2005)

ODS	Foam	Ref.	Aerosol	ODS	Solvents	Process agent	Fumigant
				Methyl bromide			322.8

Methyl bromide consumption remaining eligible for funding as of end 2004 (ODP tonnes)	n/a

CURRENT YEAR BUSINESS PLAN: Total funding US $502,000 phase-out: 20.3 ODP tonnes

PROJECT DATA	2002	2003	2004	2005	**2006**	2007	Total
Methyl bromide reduction in tobacco, non-protected vegetables sectors (UNDP)	29.0	21.0	16.0	33.5	**56.5**	0	156.0
Maximum remaining MB consumption excluding QPS applications	376.6	256.4	354.8	321.3	**264.8**	242.0	
Project costs UNDP (US $):	1,720,000	467,000	467,000	467,000	**467,000**	0	3,588,000
Total support costs UNDP (US $):	199,200	35,025	35,025	35,025	**35,025**		339,300
Total cost to Multilateral Fund (US $)	1,919,200	502,025	502,025	502,025	**502,025**		3,927,300
Cost-effectiveness (US $/kg)							20.06

FUNDING REQUEST: Approval of funding for the sixth tranche (2006) as indicated above.

SECRETARIAT'S RECOMMENDATION	Blanket approval at the costs indicated above

PROJECT DESCRIPTION

1. On behalf of the Government of Argentina, UNDP has submitted the 2005 progress report on implementation of the project for the phase-out of all remaining soil uses of methyl bromide (MB) in tobacco seedbeds and open-field (non-protected) seedbeds of vegetables (tomatoes, peppers, eggplants and others), for consideration by the Executive Committee at its 48th Meeting. The submission also includes the 2006 annual implementation plan, and a request for funding of the sixth and final tranche at a cost of US $467,000 plus US $35,025 in agency support costs.

2. In addition to this project, UNIDO is implementing a project for the phase-out of 331 ODP tonnes of MB used in strawberries, flowers and protected vegetables. This project was approved by the Executive Committee at its 30th Meeting. The project will be fully implemented by 2015 (as agreed by the Executive Committee at its 45th Meeting).

Progress report

3. In 2005, the Instituto Nacional de Tecnología Agropecuaria (INTA) and the Ozone Unit, with the assistance of UNDP, implemented the fifth tranche of the project to phase out 33.5 ODP tonnes of MB in tobacco and field vegetable seedbeds in Argentina. Several activities took place in 2005, including stakeholder meetings, farmer and technician training in the use of MB alternatives (2,816 farmers and 85 technicians), technical assistance to 16,000 growers, and MB alternative promotion and awareness-raising.

4. Project implementation has fostered the local production of substrates and trays. A protocol for the quality control of substrates was designed in coordination with the Soils Laboratory of the University of Buenos Aires. Progress was also made in the development of MB phase-out regulation, with the drafting of a national ban on the use of mixtures containing more than 70 per cent of MB for soil fumigation, and the application of two provincial bans on the use of MB to fumigate tobacco crops from 2007 onwards.

5. As of the end of 2005, the level of funds remaining to be obligated was US $587,066. These funds have been transferred to the 2006 budget and are being used to implement the phase-out activities begun on 1 January 2006.

Plan of action

6. The following activities will be implemented during the 2006-2007 season: training programmes for an additional 1,500 growers; purchase of inputs and materials to achieve the phase-out of an additional 56.5 ODP tonnes of MB (as established in the Agreement); continued coordination with the Secretariats of Environment and Agriculture to design regulations for controlling imports of MB; continued actions to reduce the cost of inputs for the floating-tray system technology; continued awareness-raising activities; and development of additional training materials and publications.

SECRETARIAT'S COMMENTS AND RECOMMENDATION

COMMENTS

7. The Secretariat noted the comprehensive nature of the report submitted by UNDP on behalf of the Government of Argentina. The total amount of MB phased out in 2005 was 21.0 ODP tonnes, which is below the amount stipulated in the Agreement (33.5 ODP tonnes). However, the total aggregate amount of MB phased out since the approval of the project (118.0 ODP tonnes) is 18.5 ODP tonnes more than the amount committed to in the Agreement (99.5 ODP tonnes).

8. The Secretariat sought a further explanation regarding how the Government of Argentina planned to uphold the ban on MB use in tobacco and non-protected vegetables following its expected complete phase-out in those sectors in 2006, given that MB would continue to be used for other crops and applications until 2015. UNDP reported that, even though MB would be still available for other crops, tobacco growers would not use it, since the tobacco companies are fully on-board with respect to the accelerated phase-out of MB and were very stringent about its phase-out, given concern that its re-use could put their sales at risk. Also, in 2006, the use of MB will be banned in all tobacco-producing provinces from 2007 onwards. With regard to the field vegetable sector, UNDP conceded that avoiding the risk of reverting back to the use of MB in this sector might indeed be more difficult, given that most of the crops addressed by the project were the same as those planted and produced in greenhouses (currently covered by the UNIDO project).

9. The two alternative technologies implemented for the phase-out of MB in tobacco seedbeds are the floating tray system and metham sodium. Taking into account the lower price of metham sodium compared to the floating tray system, the good results so far achieved in controlling pests, its ease of application its availability on the market, and the fact that it is currently the more popular alternative, the Secretariat questioned the long-term sustainability of the floating tray system. UNDP responded by indicating that the floating tray system was expected to expand in the near future, due to the fact that growers have indicated their recognition of the superiority of this technology in respect to the higher quality of plantlets produced, better crop management and the final higher yields. Furthermore, the project team is working towards lowering the cost of the floating tray system.

RECOMMENDATION

10. Taking into consideration that 18.5 ODP tonnes of MB have already been phased out over and above the amount committed to in the Agreement, the Fund Secretariat recommends blanket approval of the projects with associated support costs at the funding levels shown in the table below, on the understanding that the Government of Argentina will submit a project completion report in 2007.

	Project Title	Project Funding (US$)	Support Costs (US$)	Implementing Agency
(a)	Methyl bromide phase-out in tobacco and non-protected vegetable seedbeds (sixth tranche)	467,000	35,025	UNDP

STRATEGY FOR GRADUAL PHASE-OUT OF CFC-11 AND CFC-12 PRODUCTION: 2006 ANNUAL PROGRAMME

PROJECT DESCRIPTION

Background

11. The Executive Committee at its 38th Meeting in 2002 approved in principle a total of US $8.3 million for the implementation of the Agreement for the Production Sector in Argentina, and disbursed the first tranche of US $0.5 million to the project. Subsequently the Executive Committee disbursed the 2003, 2004 and 2005 tranches at the 44th and 45th Meetings after being satisfied with the verification indicating that the CFC producing plant FIASA had achieved the CFC production targets for 2002, 2003 and 2005 as stipulated in the agreement. The annual CFC production limits and the funding tranches of the agreement are summarized in Table 1.

Table 1

Year	2002	2003	2004	2005	2006	2007	2008	2009	2010	Total
Max, allowable production (metric tonnes)	3,020	3,020	3,020	1,647	1,647	686	686	686	0*	
MLF funding $ million	0.5	3.5	0	0.3	2	0	1	1		8.3
Agency fees $ million	0.02	0.11	0.09	0.12	0.10	0.12	0.12	0.047		0.727

(*) save for any CFC production that may be agreed by the Parties to meet essential uses for Argentina

12. The World Bank is requesting, on behalf of the Government of Argentina, the Executive Committee at its 48th Meeting to release the 2006 funding tranche of US $2 million and the associated support cost of US $0.10 million. In accordance with the terms of the Agreement, which requests an independent verification of the achievement of the annual production targets prior to releasing the next funding tranche, the World Bank is submitting the verification of CFC production by FIASA in 2005.

13. The submission of the World Bank includes the 2006 work programme and the verification report of the CFC production at FIASA for 2005 (attached).

Verification of the 2005 CFC production at FIASA

14. The verification was carried out in January 2006 by Mr. Vogelsberg, a consultant from the World Bank, who had carried out similar CFC production verifications in China and other countries. The verification team also included an accountant from a local accounting firm. The report by the technical consultant included conclusions on the verified CFC production at FIASA, the verification process and a discussion on the condition of the plant. The report from the accountant covered the findings on the CFC production and the consumption of the feedstock CTC and HF by examining the financial data.

15. The technical consultant reported not to have the necessary documents from the plant that would enable him to do quality verification work. Due to a recent fire there was no recording of data from the control room by shift operators nor were there any container filling records on finished product. As a result there was no option but to obtain supporting data for claimed CFC production. What had been the practice in the plant since 2004 was to produce every morning a day sheet from feed tanks, product receivers, and finished product tanks and enter the data into a computer to generate the daily material consumption and daily production. These daily sheets were dated but no sequence numbers had been given to these sheets. As a result there was no assurance that there were no missing ones.

16. Consequently the consultant had to rely on bills of lading and VAT tax records on purchased CTC and HF at the ports, truck receipts of movements of the CTC and HF from the ports to the plants, and sales records from domestic markets and exports. These were verified by the team accountant as well as the technical consultant. Since most of the data was summary data on a monthly and yearly basis, there was no daily data to corroborate information from, for example, plant log sheets, flow meter or hourly reading of tank level changes, cylinder, drum, or truck filling records with dates and net quantities, transfer records of movements of raw materials and finished products from or to the production unit, and signed documents showing receipt of raw materials at the plant site when delivered from the port.

17. The technical consultant recommended that, starting from 2006, the plant should retain for the purpose of verification daily control room log sheets for all days and indicate when the plant was down and the reasons; create and retain finished product container logs; sequence the daily computer printouts of production for 365 days, the normal number of days of the year; and provide the HF consumption data when the plant is switched to HCFC-22 production.

18. The consultant commented on the considerable deterioration in the operating conditions of the plant from his first visit in 1999 and noted the increase in the number of process leaks and shutdowns. This was also shown in the lowering of the yields in the CFC from CTC, which was down by 10 per cent from the level in 1999. He was concerned about the environmental impact of the lower production efficiency and higher emission level as well as the effect on the operating personnel. While he understood the economic reasoning behind the reluctance to invest in maintenance due to up-coming closure, he advised on considering the option of running the plant at higher rate and thereby closing down the plant earlier.

19. The accountant used monthly summaries and selected June, July, November and December as samples for checking. The examination covered records on feedstock consumption, CFC production, sales and purchase invoices and confirmed that cumulative change in the inventory of key raw materials was consistent with CFC production, both overall and per campaign.

20. The verification concluded that FIASA produced 1,645 MT of CFCs in 2005 which was 2 MT below the target of 1,647 MT set in the agreement. The production was broken down into 67 MT for CFC-11 and 1,578 MT for CFC-12.

21. The data collected by the verification team are presented using the format in the guidelines for verifying ODS production phase-out which includes: month-by-month production

of CFC-11 and CFC-12; number of days of production; consumption ratios of feedstock to CFC and HCFC-22 production; and inventory change of feedstock of CTC and HF as a way of validating the CFC production.

2006 annual work programme

22. The 2006 annual work programme starts with a brief discussion of the results of the 2005 work programme. It is reported that delays in fund disbursement to the CFC plant were experienced in 2005 because of the negotiation between the plant and the government on the reinvestment of the funds to be paid to the plant. It is anticipated that disbursement would accelerate in 2006.

23. The proposed 2006 work programme includes the target for the CFC production by FIASA, the continuation of the policy to enforce a production cap introduced by the Government to assist implementation of the CFC production phase-out plan, and the planned technical assistance activities. The CFC production target for 2006 is 1,647 ODP tonnes, which is the same as in 2005.

24. A number of technical assistance activities are planned under the 2006 annual programme, which includes: training the government staff to manage the national phase-out plan; developing guidelines for dismantling the equipment at FIASA; exploring alternative business opportunities for FIASA; preparing guidelines for labour displacement compensation; and carrying out public awareness campaigns.

25. The US $2.0 million requested under the 2006 annual programme is planned to be disbursed to FIASA to enable it to comply with the CFC production target. Annex I has 4 tables with details on the various components of the 2006 programme.

SECRETARIAT'S COMMENTS AND RECOMMENDATIONS

COMMENTS

26. There has been a commendable effort by the World Bank to follow up on the decision of the Executive Committee (decision 45/36) by endeavouring to employ the right expertise in carrying out the verification, and standardizing the verification process in countries where the Bank is implementing production phase out projects.

27. The Secretariat agrees with the concern of the consultant of not having the necessary data to conduct a quality verification. This is especially evident in the absence of the daily production log data, which is mandatory in accordance with the guidelines that the Executive Committee approved at the 32nd Meeting. While the monthly and yearly summary data and the results of the financial audit findings provides the consultant with some level of assurance on the claimed CFC production so enabling him to certify the CFC production level, clear instructions have been laid down on the kind of data that should be made available next year for the same exercise.

28. The Secretariat also wishes to echo the concern over the significant deterioration in the operating conditions at the FIASA plant and its potential impact on the environment in terms of higher emissions and work safety. After 2006, the CFC production would be further reduced to a level of 686 MT per year between 2007 and 2009, which would further reduce the operating efficiency of the plant. It is worth considering the option proposed by the consultant of running the plant at a higher production rate and stockpiling the output to enable production to cease at an earlier date than currently scheduled in the Agreement.

29. The data collected by the verification team are presented using the format set out in the guidelines for verifying ODS production phase out, which includes month-by-month production of CFCs, number of days in production, consumption ratios of feedstock to CFC and HCFC-22 production, and inventory change of feedstock of CTC and HF as a way of validating the CFC production.

30. The 2006 annual work programme proposes a CFC maximum allowable target, which is consistent with that in the agreement, and the continuation with a number of newly enacted policy measures to facilitate the implementation of the work programme. The programme also plans a number of technical assistant activities in 2006, including exploring the future market opportunities for FIASA, developing guidelines for the future dismantling the plant, and the compensation for labour displacement.

RECOMMENDATIONS

31. The Secretariat recommends that the Executive Committee may wish to consider:

(a) Approving the 2006 annual work programme at the level of US $2 million and the associated support cost of US $0.10 million for the World Bank, with a request for the World Bank to withhold disbursement to the country until FIASA has established the system to collect the data necessary for the verification in 2007. Specifically the system should collect and retain:

(i) Daily control room log sheets for all days and indicate when the plant is down and why;

(ii) Finished product container logs;

(iii) A sequence of the daily computer printouts of production for 365 days of a calendar year;

(iv) Data sheets on HF consumption when the plant is producing HCFC-22; and

(b) Encouraging the Government of Argentina to consider the feasibility of the option of running CFC production at a higher rate of efficiency, stockpiling the output and closing down CFC production at an earlier date than currently scheduled.

STRATEGY FOR GRADUAL PHASEOUT OF CFC-11 & CFC-12 PRODUCTION IN ARGENTINA

2006 ANNUAL PROGRAM

OPROZ / UEPRO
AND

THE WORLD BANK

February 2006

1. DATA

Country	Argentina		
Year of plan	2006		
No. of years completed	4		
No. of years remaining under the plan	4		
Total ODS to be phaseout through the Strategy for Gradual Phaseout of CFC -11 & CFC -12 Production in Argentina	CFC – 11 + CFC – 12 : 3,020		
	ODS 3:		
	ODS 4:		
ODS Production for the Previous year (MT)		Target	Actual
	CFC 11/12	1,647	1,645
CFC production independently verified	Yes		
Target ODS Consumption for the year of the plan (MT)	CFC 11/12 : 1,647 MT		
Total MLF funding approved for the Plan	US$ 8.3 Million		
Total funds released so far			
		Funding	Disbursed (*)
Total funding disbursed on annual plans	Year 2002	500,000	53,548.00
	Year 2003	3,500,000	1,012,000.00
	Year 2004	0	0
	Year 2005	300,000	9,848
	Total released	4,300,000	1,075,696
Level of funding requested for this AP	US$ 2,000,000		
Support costs	US$ 100,000		
Lead implementing agency	The World Bank		
Co-operating agency (ies)	UEPRO		
	OPROZ (Secretariat of Environment and Sustainable Development)		

(*) Disbursements have recently started after the signature, in November 2004, of the Sub Grant Agreement between the Government of Argentina (GOA) and FIASA.

A: INTRODUCTION

Provide a brief general overview on the status of the implementation of the NOPP/SOPP and recent progress, new initiative, achievements etc.

1 In compliance with the Montreal Protocol, the Government of Argentina (GOA) should fulfill the obligations on phasing-out CFC-11&12 production by 2010. The CFC Production Phase-out Plan for Argentina was approved at the 38th meeting of the Executive Committee (ExCom) of the Multilateral Fund for the implementation of the Montreal Protocol and involves a sole production facility at Frio Industrias Argentinas S.A. (FIASA). The table below summarizes the phase out schedule as per the Agreement between the ExCom and the Government of Argentina (GOA):

Table1: Phase-out schedule as per the Agreement with ExCom:

Year	CFC-11 and CFC-12		MLF funding (in Mill USD)	
	Target	Actual	Project funding	Support costs
2002	3,020	3,015	0.5	0.02
2003	3,020	3,018	3.5	0.11
2004	3,020	3,016	0	0.09
2005	1,647	1,645	0.3	0.12
2006	1,647		2.0	0.10
2007	686		0	0.12
2008	686		1.0	0.12
2009	686		1.0	0.047
2010	0		0	0
Total	3,020 (Total impact)	3,020 (Total impact)	8.30	0.727

(*) save for any CFC production that may be agreed by the Parties to meet essential uses for Argentina

2 Along with the Annual Plan, the World Bank has submitted the findings of the independent external audit for the 2005 CFC production at FIASA. The audit report concludes that the production levels have been kept below the agreed thresholds. This report includes information to support the accomplishment of the proposed maximum production targets in this period.

3 Argentina will reduce its maximum CFC production level as agreed for 2006 to 1,647 MT. By 2007, Argentina will reduce its maximum CFC production level to 686 MT and will maintain this production level until 2009. Total phase-out of production will be achieved by 2010.

4 To date, $3.8 million have been approved to FIASA by the MLF. The totality of these funds have not been released to FIASA yet due to the fact that the GOA and FIASA negotiated a project in which FIASA will re-invest the funds received. So far, FIASA has received $1,012,000 and has started the implementation of the agreed re-investment project. A new schedule of disbursements was negotiated between FIASA and the GOA on December 2005.

B: 2006 ANNUAL PROGRAM

1. UPDATE ON ACTIVITIES FROM THE 2005 ANNUAL PROGRAM

The project suffered delays due to changes in internal procedures for disbursement within the country. Most of the activities in the 2005 annual program have not been completed, though there is strong commitment by the GOA to carry them out.

2. Programs expected to be implemented during Annual Plan 2006

In accordance with the results from audit report attached to this AP, the GOA has complied with the maximum production levels for the 2005. OPROZ though UEPRO has continued with its monitoring activities using its enhanced systems to support this compliance

The phase-out plan under implementation includes the following activities:

(a) Phasing out CFC production by 2010;

(b) Dismantling FIASA's CFC production agreed equipment;

(c) Monitoring achievement of each year's production under the maximum cap agreed with ExCom

(d) Implementation of policy measures and technical assistance activities to support the plan in a sustainable permanent manner

For 2006, the following activities are expected to take place:

2.1 Technical assistance activities for 2006

The technical assistance component ($500,000) will be implemented throughout the project implementation (up to 2010). The following activities were included in the annual plan for 2005, and will be implemented during 2006:

- *Supporting the GOA to strengthen technical capacity of local staff*: This will include training of GOA staff, plus workshops for various participants in the phase-out program, including training in reclamation and re-cycling;

- *Public Awareness campaign:* This activity will support the ozone protection communication strategy prepared by OPROZ, and is linked to other activities currently being implemented by OPROZ;

- *Develop environmental guidelines for dismantling of the FIASA agreed equipment:* A set of environmental guidelines to address environmental friendly activities regarding the plant dismantling will be developed by the government of Argentina.

- *Develop a legal framework to address work compensation schedules for the closing enterprise*: As the project includes labor compensation of the employees lay off of their duty by the closure of the enterprise, a legal framework and estimations of the amount of the compensation will be develop.

- *Technical assistance to FIASA*: This component aims at supporting FIASA to implement substitute production in Argentina outlined in the technical proposals approved by the ExCom.

- *Production audits:* Under this component, funds will be used to carry out the technical and accounting audits of FIASA.

The terms of reference and work schedule will be agreed with World Bank prior to initiating work.

2.2. Compensation to FIASA

As mentioned before, funds approved to FIASA as compensation for shutting down production have not been fully disbursed because FIASA is expected to re-invest these funds. The new schedule of disbursements negotiated on December 2005 between FIASA and the GOA on December 2005 estimates disbursements of $3,650,280 for 2006.

For this Annual Plan 2006, a request of $2,000,000 is being made according to the Agreement between the GOA and the ExCom. These resources will be disbursed based on the accomplishments by FIASA of the 2005 CFC production caps of the same agreements. These accomplishments were certified by an independent team of auditors, of which its report is annex to this plan.

The request for $2 million for this annual plan, plus the remaining $2.788 million already released by the MLF totals $4.788 million. As mentioned before, estimated disbursements under the re-investment project are expected to be $3,650,280 during 2006, with the remaining funds expected to be disbursed early in 2007.

ANNEX 1
PROPOSED ACTIVITIES IN THE 2006 ANNUAL PROGRAM

TABLE 1A: POLICIES AND REGULATIONS

Proposed policy/regulation	Ministry/Agency to be in charge	Planned date of effectiveness
Production caps	OPROZ / UEPRO	Continuing as of 2006

TABLE 1B TECHNICAL ASSISTANCE ACTIVITIES AND TRAINING ACTIVITIES

Name of TA/Training activity	Estimated costs	Duration
Supporting the GOA to strength technical capacity of local staff;	13,000	1 Year
Public Awareness	20,000	1 Year
Develop environmental guidelines for dismantling of the FIASA's agreed equipment	15,000	1 Year
Develop a legal framework to address work compensation schedules for the closing enterprise	10,000	
Facilitating monitoring capabilities and compliance with the agreement between Argentina and the Executive Committee of the MLF.	45,000	1 Year
Technical assistance for alternatives to CFC	100,000	1 Year
Production audit	15,000	1 Year

TABLE 1C: PROJECT MANAGEMENT UNIT

Name of activity	Estimated costs	Duration
Supervision of CFC production phase out	8,000	1 Year

TABLE 1D: COMPENSATION TO FIASA

Name of activity	Estimated costs	Duration
Disbursement plan 2006	3,650,280	2006

(*) The total amount of the Sub Grant Agreement is $7.8 Million and will be disbursed in tranches according to the Agreement between the ExCom and the GOA.

ANNEX 2

Contact Agency/Organization and person in charge of managing the national import/export licensing system.

Secretariat of Environment and Sustainable Development
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AUDIT OF CFC PRODUCTION PHASE-OUT FOR ARGENTINA'S PRODUCTION SECTOR

(FRIONDUSTRIAS ARGENTINAS S.A.; FIASA)

Plant in Villa Mercedes, San Luis, Argentina

Prepared for
The World Bank
UEPRO

Prepared by:

F A Vogelsberg: consultant to World Bank

Assisted by: Nicolas Bielli:

(Accountant: Shilton, Weyers and Associates, Argentina)

Inspection Mission Time Frame

January 12 – January 18, 2006

Plant Inspection Dates

January 14-15, 2006

Date of Report **January 24, 2006**

Format and Table of Contents

- **Verification Conclusions for CFC Production in Argentina for 2005**
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- **Annex I – Text covering details of technical effort by the writers for the FIASA Mission.**
-
- **Annex II – CFC Production Verification tables for gradual closure of FIASA**
-
- **Annex III – Financial Verification by Shilton, Weyers and Associates, Argentina**
-
- **Annex IV – Terms of reference for this mission**
-

1. Mission Objective

Conduct on site verification of CFC Production in Argentina's Frioindustrias Argentinas S.A. FIASA plant according to the Agreement for the Argentina Production Sector and the Guideline of the Executive Committee for the Implementation of the Montreal Protocol EXCom,

Year	2002	2003	2004	2005	2006	2007	2008	2009	2010
Max allowed Production MT of CFC11/12	3020	3020	3020	1647	1647	686	686	686	0
MLF funding USD Million	0.5	3.5	0	0.3	2	0	1	1	
Agency Fees USD Million	0.2	.11	.09	.12	.10	.12	.12	.04	

2. Persons Contacted

UEPRO: Eng. Guillermo Bidone

FIASA

Raul A. Gebbato
Manager, Plant

Ober Acebedo
Manufacturing Manager

3. VERIFICATION CONCLUSIONS WITH RESPECT TO ARGENTINAS CFC PRODUCTION by FIASA in 2005

Type of CFC Product	TOTAL Production		Stocks in 2005 (MT)		
	ODS (MT)	OPD (tonnes)	Opening	Closing	Change
CFC-11	67	67	222	232	+10
CFC-12	1578	1578	1415	1416	+1

The target limit for total CFC Production in 2005 is 1647 ODS tones per the Agreement. The verified total CFC Production is 1645 MT or 2MT below the target limit.

Total consumption of CTC for producing 66.78 MT of CFC-11 is 78.76 MT and the CTC/CFC-11 ration is 1.179 vs (theoretical 1.12). The consumption of CTC for producing 1,578.23 MT of CFC-12 is 2,381.56 MT and the CTC/CFC-12 ratio is 1.509 vs (theoretical 1.272).

Consumption of HF for producing 66.78 MT of CFC-11 is 12.66 MT and the HF/CFC-11 ratio is 0.190 vs (theoretical 0.145). The consumption of HF for procuring 1,578.24 MT of CFC-12 is 633.63 MT and the HF/CFC-12 ratio is 0.401 vs (theoretical 0.330).

All the verified monthly production data and raw materials consumption data are recorded in Annex II of this report, while the verification process as well as the assessment findings are described in Annex I.

ANNEX I

Verification of FIASA 2005 CFC-11/12 Production

General

This was the second time this writer visited the plant. The first visit was October 1999 to evaluate the condition and capacity of the plant. The current visit is the first for verification, as prior year's verification were carried out by others.

This location had apparently not been instructed to prepare and retain documents that the writer typically requires to conduct high quality verification.

Due to a recent fire in their storage room and damage and relocation, there were no control room shift data sheets available for the inspection. In addition, the plant has not maintained filling records for finished product, which make it impossible to obtain supporting data for the claimed production.

In order to verify the CFC production, the following information available at the plant was used instead:

- There are verifiable imports, (VAT tax paid receipts for HF and CTC entering the country) and there are no domestic sources available,
- There are viable records for domestic sales and exports,
- There are viable records for CFC-11 and CFC-12 purchases,
- Assuming end-of-year and end-of-month inventory records for raw materials and finished products are correct, one can assume a production figure that is supported by the above mentioned records.

While the basic production records are not available, we have no reason to contest the reported 2005 CFC production as we found no errors in the paper work examined over the two day site inspection.

Verification Process

Starting in 2004 and at 8AM every day a process engineer collects key data points from feed tanks, product receivers and crude product tanks. These data include; levels, temperatures and composition. These data are entered into a computer program and generates a daily summary of the parameters necessary to arrive at raw material consumption and CFC production.

A sheet is generated and dated for each operating day (there were 95 operating days for CFCs in 2005). However, there are no sequence numbers on these pages so there is no way to assure that none are missing.

Starting in 2006 the plant will; **a)** maintain daily control room log sheet for all days and indicate when the plant is down and why. **b)** They will create finished product container logs and retain them for the verification team and **c)** they will sequence the daily computer printouts of production so there will be 365, sheets in a normal year. When they are producing HCFC-22 they will provide the data points for HF consumption. When the plant is down they will note on the sheet the cause for outage; vacation, maintenance, power outage, etc.

The documents available for verification included; purchased BOL and VAT tax records for receipt of HF and CTC at the Buenos Aires Port, truck receipts for movement of HF and CTC to the Villa Mercedes from the sea port tanks, sales records for all sales to domestic and export markets.

The plant provided us with summary pages indicating dates and quantities of purchased commodities; R-11, R-12, CTC and HF. A summary of CTC & HF receipts at the port and delivers to the plant, with adjustments in some months to cover inventory errors or losses. A monthly summary of domestic and export sales was also provided. These above mentioned documents and figures were verified as correct by an Accountant, and where relevant to production by the writer.

The Plant has minimal instrumentation and measures CTC feed rates to the reactors via parallel weight tanks; with one in use while the other is filled. HF is fed by positive displacement pumps and feed rate is proportional to the stroke rate of the pumps. Crude, refined CFC-11 and refined CFC-12 are collected in parallel pairs of tanks permiting accurate measurement by accounting for level changes, corrected for temperature, composition and density. The above system is conventional and used by small low investment plants around the world.

Plant Condition

The writer's statement in the October 1999 report covering the plant visit was "The plant was in excellent condition and seemed well maintained with several recent capital improvements to up-grade performance.

Conversely today one would conclude that the plant is literally being "run into the ground". A quick inspection of the plant, which is currently shutdown, clearly shows significant deterioration that is causing frequent process leaks and shutdowns. This would explain the very poor yields of raw materials to finished products. CTC to CFC yields for the last three years has been 8-10% below their historical records I established from three year's of plant data in 1999, which means that while "contained" production of CFCs is within their target limit, emissions to the atmosphere are well above normal practice for plants of this size creating a questionable environmental practice as well as potential hazards to the plant personnel.

The plant prepared a six-page document describing the causes of the increased number of leaks and resultant deterioration in the yield of CTC to CFCs. The key points that are made are :

- Original design was low cost and employed marginal materials to deal with the many corrosive issues (This is true in my judgment)
- They are operating the plant well below design rate do to MP restrictions which causes several inefficiencies and instability in the plant (This is true, however they do have the option of operating at higher rates and then shutting down. This is the option used by other plants in a similar situation)
- They view the remaining short-term life as a deterrent to any investment of preventive maintenance. (This is understandable, but creates questionable outcome in safety and wasted or loss of raw materials and products)