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EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Thirty-third Meeting
Montreal, 28-30 March 2001

PROJECT PROPOSAL: INDIA

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

Production

- 2001 annual work programme – CFC production sector gradual phaseout project — World Bank

INDIA CFC PRODUCTION SECTOR GRADUAL PHASE-OUT PROGRAMME (2001 ANNUAL PLAN)

DESCRIPTION

1. At its 29th Meeting in November 1999, the Executive Committee approved in principle a total of US $82 million to fund the phased reduction and cessation of the entire CFC production in India. Implementation would cover a period of 10 years with annual disbursement established against ODS reduction targets. The World Bank, the implementing agency chosen to implement the sector programme was required to submit an annual work plan to the first meeting of each year during the period of implementation.

2. Accordingly, the World Bank submitted for approval to the 33rd Meeting the 2001 annual programme for the implementation of the India CFC production sector gradual phase-out programme. Together with the 2001 annual work programme, the World Bank also submitted the verification report on the implementation of the 2000 annual work programme because the Agreement approved at the 29th Meeting provides that " Payments are conditional upon completion of the agreed production decreases being independently verified and maintained".

The 2001 Work Programme

3. The 2001 annual work programme starts with a review of the implementation of the 2000 work programme. The review reports on achieving the 2000 CFC reduction target: the target for 2000 was set at 1882 MT in the Agreement (from 22,588 MT in 1999 to 20,706 MT in 2000) and the actual reduction is 2004 MT (from 22,411 MT in 1999 to 20,407 MT in 2000). The US$11 million disbursed from the Fund in 2000 was fully committed, with US$10.73 million paid to the 4 enterprises compensating for production reductions and US$0.27 million reserved for technical assistance activities. The implementation of production reductions is being assisted by the Production Quota Order issued by the Government in November 1999.

4. The second part of the submission describes the target and activities of the 2001 work programme. The CFC production limit set in the Agreement for 2001 is 18,824 MT which requires a further production reduction of 1583 MT (from 20,407 MT in 2000 to 18,824 MT in 2001). The target is to be achieved through continuing with the quota license system. The Government also plans to reinforce the control over the ODS import and export through issuing bulk licenses to ODS producers. In addition, the work programme includes technical assistance activities from setting up the Programme Management Unit (PMU), preparing training strategy and undertaking training of officials at PMU and state level, operating a MIS, and staging public awareness activities. The funding being requested for the 2001 work programme is US$ 11 million, which consists of US$ 10.73 million for production reduction compensation and US$ 0.27 million for the technical assistance programme. In addition the World Bank is requesting the associated support cost which was set at 8% of the programme cost for the first 3 years in the Agreement.

The 2000 Production Verification Report

5. The verification was done in January 2001 by a chartered chemist from the United Kingdom and a chartered accountant from India, the same team which did the verification for the 1999 production. The report includes a summary which contains the findings and conclusions of the team, a summary of the quotas and production of the four enterprises, and company specific data which covers number of operating days, raw material consumption and CFC production tonnage.

6. Among its findings, the team noted that the Indian domestic market for CFCs is shrinking at a faster rate than their production phaseout and as a result there has been greater emphasis by the producers on export business. At the same time, illegal imports at the border and import of CFC11 in polyol mixtures has been discovered. The report concludes that the production tonnage reported by each company is correct and below the respective quota.

COMMENTS

The 2001 annual programme

The role of UNEP

1. It is stated in the submission that UNEP will be responsible for implementing the technical assistance programme of the production closure project (total allocation for technical asistance is US $2 million from the US $82 million approved in principle). It is explained by the Bank that this is done primarily to avoid government bureaucracy and possible implementation delay. However, there could be two issues associated with UNEP's involvement:

(a) Accountability: it is true that the Agreement approved at the 30th Meeting provides the Government of India with the flexibility to use the funds to achieve the production reductions however, a sector programme as this one requires a transparent and accountable process for managing the financial resources disbursed from the Multilateral Fund. From the information provided by the World Bank, it is not clear to whom UNEP is responsible, for instance whether it is accountable to the Government of India alone, since it has signed a Memorandum of Agreement with the Ministry of Environment and Forestry (MoEF). The Bank did not provide a copy of the MOA although the Secretariat requested it. How is UNEP going to be accountable to the World Bank as the lead agency for the CFC closure project and how is it going to be accountable to the Executive Committee as the custodian of the Fund resources?

(b) Transparency: from the little information in the work programme on the technical assistance activities that UNEP will be implementing with the funds from the CFC production closure project, there is the likelihood that similar activities to be implemented by UNEP have already been approved by the Executive Committee for India. Without the necessary details available, it is hard to determine whether there is no duplicate funding. For instance, the 2001 annual work programme of the CFC closure project includes preparing a strategy for training officials at state

level with key action points and timing in spite of the fact the Executive Committee approved at the 30th Meeting US$50,000 for UNEP to develop policy and custom training strategy in India to control ODS import and export. Similarly the annual work programme includes preparing a strategy for national awareness campaign and implementing awareness activities at state level, although the 32nd Meeting approved a total of US$350,000 for a bilateral project to develop an Indian servicing sector strategy in which UNEP was designated as the implementing agency for a sub-project to support the government through capacity building and technical assistance and assist in planning training and awareness programmes.

Import/export control of ODS, Government policies

2. It has been clarified by the World Bank following the submission that the import/export of CFCs is controlled by Import Export Licenses Regulations brought into force by the Government in 1996 and were subsequently strengthened through ODS Regulations in July 2000. This is evidently becoming quite important in view of what is happening to the supply and demand of CFCs in the country and what is taking place at the border, as noted by the verification team. It is therefore important to closely monitor the enforcement of the new ODS Regulations and update the Executive Committee on the results.

3. Annex I, MoEF Letter Confirming ODS Production Levels is missing from the submission and has not been provided by the Bank although the Secretariat requested it. It is an important evidence of the control of the ODS production by the Government of India.

The 2000 production verification report

Consistency of the methodology of the verification with the approved guidelines

4. In paragraph 4 of the Summary, the verification report states that the audit was done, using the same methodology for the 1999 verification in April 2000. Response to the queries from the Secretariat by the World Bank claimed that the verification team members were aware of the guidelines. However the guidelines approved by the ExCom in December 2000 have detailed procedures to be followed by the verification team. It is not clear whether these specific steps were implemented and whether the methodology used by the team in April 2000 was consistent with the approved steps in the guidelines. Therefore the report should have a discussion of the procedure followed for this verification exercise in light of the approved guidelines to provide confidence in the methodology followed.

Completeness of data

Chemplast

5. Data missing: Quotas for CFC11 and CFC 12, annual HF/CFC and CTC/CFC ratios, actual consumption of CTC and HF for CFC11 and CFC12 not separated.

Gujarat

6. Data missing: Data not separated for quotas for CFC11 and CFC12 and actual consumption of CTC and HF for CFC11 and CFC12.

Navin

7. Data missing: Separate data on capacity for CFC11 and CFC12 and HF.

SRF

8. Data missing: Data not separated for quotas for CFC11 and CFC12 and actual consumption of CTC and HF for CFC11 and CFC12.

RECOMMENDATIONS

1. The Secretariat recommends approval of the 2001 annual work programme of the Indian CFC gradual closure project at US$11 million and the associated support cost of US$ 0.88 million for the World Bank, provided that the World Bank agree to:

(a) submitting to the 34th Meeting information about the role of UNEP in the project, in particular the accountability of UNEP towards the Government, the World Bank, and the Executive Committee;

(b) providing in the 2001 verification report data on the CFC sale breakdown between domestic consumption and exports and progress on the implementation of ODS Regulations enacted in July 2000;

(c) including in the 2001 verification report a discussion of the adequacy of the methodology used in light of the specific steps included in the approved guidelines; and

(d) providing in the 2001 verification report separate data on quota, production, CTC and AHF consumption ratio and quantity for CFC11 and CFC12.

2. The Secretariat recommends that the Executive Committee request UNEP to provide clarification on its role in the implementation of the technical assistance activities.

I N D I A

C F C Production Phase – Out Project

2000 Production Verification Mission

January 2001

Report by :-

Mukund M Chitale
Chartered Accountant

Mukund M Chitale & Partners
Vile Parle (E)
Mumbai - 400 057
India

Brian D Joyner
Chartered Chemist

Regulatory & Technical Resources
Easton – in - Gordano
Bristol. BS20 0JD
U K

Index	**pages**

INDIA - CFC Production Phase-Out Project.

Verification Mission - 8 – 18 January 2001. Draft Report.

Summary.

The four production sites were visited during the period 9 – 15 Jan. following which meetings were held with the NCL audit team, the Ozone Cell of the MoEF and in the World Bank offices in New Delhi.

All four producers provided comprehensive data in the questionnaire format agreed by the MP Executive Committee in December 2000, and were completely cooperative in providing additional information, responding to questions, allowing access to all relevant records, etc. Such additional data are held on file within ENVGC in the World Bank.

Extensive information on the general business structure of the companies and on their operational procedures and processes is already on record in the report on the original industry survey carried out in December 1998 and is contained in the World Bank Project Document of June 2000 (Report No. 20613). Relevant process details are also included in the CFC Production Audit Report for Jan – June 2000 prepared by the Process Development Division of the National Chemical Laboratory, Pune. In consequence we see no advantage in reiterating such details and report only specific issues raised by the enterprises.

Similarly, the audit methodology we employed was fully detailed in our April 2000 report on the 1999 production and is not duplicated in this report.

Regarding production of HCFC 22, the ExCom standard format document requires data only on CFCs and all four producers declined to report data on production of HCFC 22 on grounds of commercial sensitivity. However, all companies tabled sufficient data on operating days, raw materials consumption, plant records, analytical results and production tonnages to enable the audit team to build up a satisfactory verification of plant usage.

One query concerned the definition of " Baseline Year " since no single calender year had been used for the Baseline.
BDJ pointed out that the original calculations had used he average production over 1995/6/7 to set the " Production Freeze " figures for 1999, and hence this should be taken as the " Baseline Year ".

All companies stated that the Indian domestic market for CFCs is shrinking at a faster rate than their production phase-down, causing a greater emphasis on export business where prices for both CFCs and HCFC 22 are depressed by world competition.

Another factor is some degree of illegal imports via Nepal or Bangla Desh, plus some import of CFC 11 in polyol premixes (polyol plus CFC 11) for PUR foam production. It was stated that Nepal's total CFC requirement for 2000 had been 54 MT , but that over 300 MT of imports were logged .

All sites had been audited by the NCL team a few days prior to our visits. The NCL inspectors had selected random cylinders of both CFC 12 and HCFC 22 for analysis, and had also taken duplicate samples away for independent analysis. We inspected the analytical records on those samples and saw no need to repeat the exercise, especially in view of the planned liaison meeting with NCL. The only exception to this was at SRF where the analytical laboratory had kept no record of the samples analysed for NCL. Accordingly, cylinders of both CFC 12 and HCFC 22 were selected and the analyses witnessed. The results were entirely reassuring.

One point of clarification that emerged from the liaison meeting with Dr Devotta of NCL concerned the reporting of Gross and Net production figures. Both figures are recorded in the questionnaire and the question was which numbers should be used for Quota observance. We agreed that, since the tonnages of Net Saleable Product were used to establish the Baseline tonnage, the same figures should be used for Quota purposes. Reporting figures for Gross Production is useful as a check on the product handling efficiencies at the respective plants.

Conclusion.

We have verified that the production tonnage reported by each company is correct and below the respective quota. The aggregated production tonnage for India (20,407 MT) fell below the national target (20,706 MT) by a margin of 299 MT.

Mukund M Chitale *Brian D Joyner*

Quotas / Production Summary.

(*All figures in MT*)

A. Baseline Year , 1999.

	% Share	Orig. Quota	Traded Quota	Actual Prodn.
Chemplast	8.52665	1926	1500	1485
Gujerat	35.71365	8067	7482	7415
Navin	26.34585	5951	7335	7244
SRF	29.41385	6644	6271	6267
	100 %	22,588	22,588	22,411

B. Year 1 , 2000. – 8.33 %

Chemplast	1766	1829	1823
Gujerat	7395	7482	7352
Navin	5455	5249	5179
SRF	6090	6146	6053
	20,706	20,706	20,407

C. Year 2 , 2001. – 16.66 %

Chemplast	1606
Gujerat	6722
Navin	4960
SRF	5536
	18,824

No quota trading for 2001 has taken place as yet, but the producers anticipate that such negotiations may be held as the business year progresses.

Gujerat Fluorochemicals Ltd.

9 January 2001

Gujerat personnel :	D K Sachdeva	V. P. Operations
	Deepak Asher	V. P. Corporate Finance
	Joseph Titus	Chief General Manager
	P S Parameswaran	General Manager, Technical
	R J Guijjar	General Manager , Accounts

Plant Operation Summary (Details in appended Verification Report)

CFC 11 / 12 Production	153 days
HCFC 22 "	184 "
Not Operating	29 "

CFC 11 / 12 tonnages (figures rounded to nearest MT)

Opening Stock	69 MT
Production	7352
Sales	7364
Closing Stock	57
CFC 11 / 12 Ratio	21 / 79 %
CTC usage per MT CFC	1.296 MT
AHF " " "	0.322 MT

HCFC 22 Production

CFM usage per MT HCFC 2	1.54 MT
AHF " " " "	0.57 MT

All raw materials usages are within the industry normal ranges.

Note. In addition to the standard Verification Report , the data presented by Gujerat included Bar Charts and Trend Graphs which give a useful overall picture of plant operation throughout the year.

CFC Production Phase Out Verification (Including Gradual Closure)

January 2001

A. Plant identification

Name of Enterprise	:	GUJARAT FLUOROCHEMICALS LIMITED
Plant Ref. Number	:	
Sector Plan #	:	
SRI #	:	
Address of the Plant	:	17/3, 26 and 27, Village Ranjitnagar, Taluka Ghoghamba, District Panchmahais, Gujarat, India 389389
Contact person(s) and Functional Title	:	Deepak Asher, Vice President (Corporate Finance) and Mr. D.K. Sachdeva, Vice President (Operations)
Telephone Number	:	91 (265) 351-207/330-057
Fax Number	:	91 (265) 310-312
E-mail Address	:	Deepakasher@satyam.net.in
Plant Closed	:	No

B. Verification :

Team Composition		
Leader	:	
Name	:	Brian Joyner
Functional Title	:	Consultant, The World Bank
Member(s)	:	
Name	:	M.M. Chitale
Functional Title	:	Local Consultant,
Date of Plant Visit	:	January 9, 2001
Duration of Visit	:	1 day

C. Plant History

Date of construction:	October 1,1989				
ODS Products	No. of Lines	Capacity in Baseline Year*	Production**		
			Baseline Year*	Year 1 1999	Year 2 2000
CFC-11				1,808	1,559
CFC-12				5,607	5,793
CFC-11 / 12 (combined)	1	19,000	8,067		
CFC-13					
CFC-113					
CFC-114/115					
Raw Materials Production**					
HF	1	4,600		4,360	5,457
CTC					

*The year from which data is used for approving the ODS production phase out project.
**Till the year prior to the verification.
***This applies to plants where production of either HF or CTC or both is integrated.

D. Plant Activity in the Year Verified

1. Plant for Complete Closure

No. of CFC-11/12 lines closed : Not applicable

Date of CFC production ceased :

Date of dismantling completed :

Verification of destruction of key components by :

Reactor tank(s) dismantled and destroyed :

Control and monitoring equipment dismantled and destroyed :

Pipes dismantled and destroyed :

Utilities dismantled and destroyed :

Evidence of destruction (photos or videos) :

Chance of resuming production :

Assessment by the verification team to be included in the verification report :

2. Plant for gradual closure

Annual CFC-11/12 quotas, production, sales and stocks since the baseline year*
(Please use one table for each CFC product)

CFC Products (CFC-11)	Baseline Year*	Year 1 1999	Year 2** 2000
Quota	8,067	7,482	7,462
Opening Stock at beginning of year		250	4
Production		1,808	1,559
Sales		2,054	1,542
Closing stock at end of year		4	22

CFC Products (CFC-12**)**	Baseline Year*	Year 1 1999	Year 2** 2000
Quota	8,067	7,482	7,462
Opening Stock at beginning of year		508	65
Production		5,607	5,793
Sales		6,050	5,823
Closing stock at end of year		65	35

*The year from which data is used to approve the ODS production phase out project.
**Till the year of the verification

Annual HF/CFC and CTC/CFC ratios

Ratio	Baseline Year	Year 1 1999	Year 2 2000	Year 3	Year 4	Year 5	Year 6*
CFC-11							
HF/CFC-11		0.164	0.165				
CTC/CFC-11		1.175	1.174				
CFC-12							
HF/CFC-12		0.372	0.375				
CTC/CFC-12		1.335	1.334				

* Till the year of the verification

Operational days per year

Type of Production	Baseline Year	Year 1 1999	Year 2 2000	Year 3	Year 4	Year 5	Year 6*
CFC-11/12		166	153				
HCFC 22		177	184				
Changeover		22	29				
Total		**365**	**366**				

*Till the year of the verification.

Monthly CFC production and raw material consumption*

CFC-11/12 Production and CTC consumption:

Month	No. of operating days	CFC-11 Production	CFC-12 Production	CTC/ CFC-11/12 Ratio	CTC Opening Stock	CTC Procured/or added to stock	CTC Closing Stock	CTC Consumption in CFC-11/12
Jan	25	470.0	966.0	1.286	4,292	403	2,848	1,846
Feb	29	538.0	1,217.0	1.263	2,848	1,359	1,969	2,218
Mar	4	-1.0	178.0	1.314	1,969	174	1,931	232
Apr	4	6.0	90.0	1.485	1,931	591	2,379	143
May	22	76.0	996.0	1.313	2,379	1,177	2,148	1,407
Jun	0	0.0	-1.0	0.000	2,148	0	2,146	-1
Jul	28	45.0	1.018.0	1.333	2,146	1,050	1,778	1,418
Aug	10	117.0	435.0	1.314	1,778	1,050	2,102	726
Sept	6	63.0	105.0	1.441	2,102	9	1,870	242
Oct	23	244.0	791.0	1.260	1,870	93	658	1,305
Nov	0	0.0	-1.0	0.000	658	38	696	0
Dec	0	0.0	-2.0	0.000	696	1,118	1,794	20
Total	**153**							

CFC-11 Production and HF consumption:

Month	No. of operating days	CFC-11 Production	CFC-12 Production	HF/ CFC-11/12 Ratio	HF Opening Stock	HF Procured/or added to stock	HF Closing Stock	HF Consumption in CFC-11
Jan	25	470.0	966.0	0.305	71	531	87	515
Feb	29	538.0	1,217.0	0.308	87	551	98	540
Mar	4	-1.0	178.0	0.378	98	370	34	434
Apr	4	6.0	90.0	0.395	34	568	110	491
May	22	76.0	996.0	0.360	110	455	105	460
Jun	0	0.0	-1.0	0.000	105	517	108	514
Jul	28	45.0	1.018.0	0.364	108	355	76	387
Aug	10	117.0	435.0	0.329	76	491	78	489
Sept	6	63.0	105.0	0.323	78	368	83	363
Oct	23	244.0	791.0	0.322	83	412	94	401
Nov	0	0.0	-1.0	0.000	94	416	55	455
Dec	0	0.0	-2.0	0.000	55	437	79	413
Total	**153**	**1,559**	**5,793**					

Navin Fluorine Industries.
(Chemical Division of Mafatlal Industries Ltd.)

10 January 2001

Navin personnel :	V S Umalkar	Exec. Vice President
	P Roy Chowdhury	General Manager, Accounts
	V K Mathur	Sen. General Manager, Works
	Suresh Patel	Plant Manager
	M G Nakrani	Sen. Manager, Accounts
	Ketan Sablok	Dep. Manager, Accounts

Plant Operation Summary. (Details in appended verification Report)

The two production lines at Navin are now operated as independent units, one reserved for CFC 11 / 12 and one for HCFC 22. There was no “swing” operation.

CFC 11 / 12 production	190 days
Not operating	175 “
HCFC 22 production	212 days
Not operating	163 “
CFC 113 production	7 days.

Note. “ Production “ of CFC 113 was actually chemical and physical purification of approx. 6 MT of crude CFC 113 held in stock at the end of 1999. There was no operation of the chemical reaction section . The closing stock of crude CFC 113 is 6.2 MT.
The pure CFC 113 produced was sold for solvent use and the quantity is included in the total CFC figures.

CFC 11 / 12 / 113 tonnages (figures rounded to nearest MT)

Opening Stock	280 MT
Production	5179 “
Sales	5252 “
Closing Stock	207 “
CFC 11 / 12 Ratio	28 / 72 %
CFC usage per MT CFC	1.301 MT
AHF “ “ “	0.311 “

HCFC 22 Production

CFM usage per MT HCFC 22 1.49 MT

AHF " " " " 0.48 "

These raw materials usages are within the normal industry ranges.

CFC 113 / CFC 113a Operation.

A particular concern raised by Navin is their use of CFC 113 to produce CFC 113a , needed as a raw material for production of the insecticide *L* – cyhalothrin, and potentially also for the production of trifluoro ethanol, trifluoro acetic acid and trifluoro acetic anhydride. In 2000 they sold 11.5 MT of CFC 113a and have a 2001 sales budget of 150 MT. CFC 113a is produced by at least three companies in Europe and the USA, and 60 MT were imported into India during 2000.

ODS production for feedstock use is allowed under the Montreal Protocol and such operation is certainly continuing in Europe and the USA. Additionally, one of the Russian plants controlled under the SITRG closure plan will continue to produce CFC 113 for fluoropolymer production.

If their budget sales of CFC 113a materialise, Navin will need to operate their CFC 113 plant again. All CFC 113 converted into CFC 113a for feedstock use will be outside of the Quota restrictions, but any material sold for solvent or other non-feedstock use will come within their CFC Quota.

Provided that full records are maintained and offered for audit, BDJ could see no reason why this operation should not be authorised, and recommended that Navin make an early submisssion to the MoEF.

Also, since CFC 113a is an ODS until such time as it is used as a raw material, it would be appropriate for the potential for loss to atmosphere be assessed at the end users.

CFC Production Phase Out Verification (Including Gradual Closure)

January 2001

A. Plant identification

Name of Enterprise	:	NAVIN FLUORINE INDUSTRIES Chemicals Division of Mafatlal Industries Limited
Plant Ref. Number	:	
Sector Plan #	:	
SRI #	:	
Address of the Plant	:	Bhestan – 395023, Surat, India
Contact person(s) and Functional Title	:	Mr. Partha Roychowdhury General Manager, Accounts
Telephone Number	:	91 (22) 5274003
Fax Number	:	91 (22) 5240421
E-mail Address	:	p._roychowdhury@mafnav.com
Plant Closed	:	No

B. Verification

Team Composition	:	
Leader	:	
Name	:	Brian Joyner
Functional Title	:	Consultant, The World Bank
Member(s)	:	
Name	:	M.M. Chitale
Functional Title	:	Local Consultant,
Date of Plant Visit	:	10 January, 2001
Duration of Visit	:	1 day

C. Plant History

ODS Products	No. of Lines	Capacity in Baseline Year*	Production**		
			Baseline Year*	Year 1 1999	Year 2 2000
CFC-11				2,077.1	1,432.2
CFC-12				5,124.3	3,741.5
CFC-11 / 12 (combined)	2	13,488.0	5,952.0	7,201.3	5,173.7
CFC-13					
CFC-113		660.0			5.5
CFC-114/115					
Raw Materials Production**					
HF				2,235.8	1,611.9
CTC					

*The year from which data is used for approving the ODS production phase out project.
**Till the year prior to the verification.
***This applies to plants where production of either HF or CTC or both is integrated.

D. Plant Activity in the Year Verified

1. Plant for Complete Closure

No. of CFC-11/12 lines closed : Not applicable

Date of CFC production ceased :

Date of dismantling completed :

Verification of destruction of key components by :

Reactor tank(s) dismantled and destroyed :

Control and monitoring equipment dismantled and destroyed :

Pipes dismantled and destroyed :

Utilities dismantled and destroyed :

Evidence of destruction (photos or videos) :

Chance of resuming production :

Assessment by the verification team to be included in the verification report :

2. Plant for gradual closure

Annual CFC-11/12 quotas, production, sales and stocks since the baseline year*

(Please use one table for each CFC product)

CFC Products (CFC-11, CFC-12)	Baseline Year*	Year 1 1999	Year 2** 2000
Quota	5,952.0	7,335.0	5,249.0
Opening Stock at beginning of year		764.0	280.5
Production		7,201.3	5,179.2
Sales		7,684.8	5,252.2
Closing stock at end of year		280.5	207.5

*The year from which data is used to approve the ODS production phase out project.
**Till the year of the verification

Annual HF/CFC and CTC/CFC ratios

Ratio	Baseline Year	Year 1 1999	Year 2 2000	Year 3	Year 4	Year 5	Year 6*
CFC-11		2,077.1	1,432.2				
HF/CFC-11		0.165	0.163				
CTC/CFC-11		1.174	1.181				
CFC-12		5,124.3	3,741.5				
HF/CFC-12		0.370	0.365				
CTC/CFC-12		1.346	1.349				

* Till the year of the verification

Operational days per year

Type of Production	Baseline Year	Year 1 1999	Year 2 2000	Year 3	Year 4	Year 5	Year 6*
CFC-11/12		275.34	190.46				

*Till the year of the verification.

Monthly CFC production and raw material consumption*

CFC-11 Production and CTC consumption:

Month	No. of operating days	CFC-11 Production	Filling and handling losses	Net Saleable Production	CTC/ CFC-11 Ratio	CTC Opening Stock	CTC Procured/or added to stock	CTC Closing Stock	CTC Consumption in CFC-11
Jan	27.92	195.0	3.1	191.9	1.186	343.7	920.4	333.0	227.5
Feb	22.21	168.0	3.8	164.2	1.183	333.0	1,806.7	1,372.1	194.4
Mar	12.71	106.0	1.9	104.1	1.190	1,372.1	67.3	1,018.7	123.9
Apr	16.62	138.0	4.5	133.2	1.207	1,018.7	182.9	603.0	161.2
May	18.50	133.0	2.3	130.7	1.183	603.0	140.9	127.6	154.7
Jun	20.33	150.0	2.8	147.2	1.178	127.6	1,507.7	921.7	173.3
Jul	19.38	131.0	2.3	128.7	1.168	921.7	1,109.4	1,297.1	150.4
Aug	14.17	118.0	1.9	116.1	1.171	1,297.1	94.5	858.5	135.9
Sept	21.04	157.0	3.3	153.7	1.181	858.5	1,160.8	1,214.4	181.5
Oct	11.79	101.0	0.7	100.3	1.150	1,214.4	112.4	883.7	115.4
Nov	5.79	64.0	2.1	61.9	1.190	883.7	9.8	654.9	73.6
Dec	0.00	0.0	0.1	-0.1	0.000	654.9	135.3	790.3	0.0
Total	**190.46**	**1,461.0**	**28.8**	**1,432.2**	**1.181**		**7,248.0**		**1,691.8**

CFC-11 Production and HF consumption:

Month	No. of operating days	CFC-11 Production	Filling and handling losses	Net Saleable Production	HF/ CFC-11 Ratio	HF Opening Stock	HF Procured/or added to stock	HF Closing Stock	HF Consumption in CFC-11
Jan	27.92	195.0	3.1	191.9	0.162	62.9	511.0	72.9	31.2
Feb	22.21	168.0	3.8	164.2	0.163	72.9	451.0	91.0	26.9
Mar	12.71	106.0	1.9	104.1	0.162	91.0	432.0	93.7	16.9
Apr	16.62	138.0	4.5	133.2	0.164	93.7	808.0	126.0	21.9
May	18.50	133.0	2.3	130.7	0.163	126.0	743.0	113.4	21.3
Jun	20.33	150.0	2.9	147.2	0.163	113.4	824.0	85.5	24.1
Jul	19.38	131.0	2.3	128.7	0.163	85.5	947.0	120.9	20.9
Aug	14.17	118.0	1.9	116.1	0.163	120.9	691.0	95.8	18.9
Sept	21.04	157.0	3.3	153.7	0.164	95.8	864.0	148.8	25.3
Oct	11.79	101.0	0.7	100.3	0.159	148.8	688.0	161.3	16.0
Nov	5.79	64.0	2.1	61.9	0.164	161.3	472.0	182.5	10.2
Dec	0.00	0.0	0.1	-0.1	0.000	182.5	300.0	143.0	0.0
Total		**1,461.0**	**28.8**	**1,432.2**	**0.163**		**7,737.0**		**233.4**

CFC-12 Production and CTC consumption:

Month	No. of operating days	CFC-12 Production	Filling and handling losses	Net Saleable Production	CTC/ CFC-12 Ratio	CTC Opening Stock	CTC Procured/or added to stock	CTC Closing Stock	CTC Consumption in CFC-12
Jan	As CFC-12 is produced in the same plant as CFC-11, operating days are common. Refer to CFC-11	520.0	2.7	517.3	1.350	343.7	920.4	333.0	698.5
Feb		426.0	3.2	422.8	1.345	333.0	1,806.7	1,372.1	568.7
Mar		217.0	9.3	207.7	1.405	1,372.1	67.3	1,018.7	291.8
Apr		322.0	2.1	319.9	1.355	1,018.7	182.9	603.0	433.5
May		337.0	3.6	333.4	1.356	603.0	140.9	127.6	452.3
Jun		397.0	3.5	393.5	1.346	127.6	1,507.7	921.7	529.7
Jul		436.0	3.1	432.9	1.331	921.7	1,109.4	1,297.1	576.2
Aug		294.0	2.9	291.1	1.342	1,297.1	94.5	858.5	390.7
Sept		466.0	3.1	462.9	1.342	858.5	1,160.8	1,214.4	621.4
Oct		243.0	1.8	241.2	1.342	1,214.4	112.4	883.7	323.8
Nov		122.0	1.8	120.2	1.347	883.7	9.8	654.9	161.9
Dec		0.0	1.2	-1.2	0.000	654.9	135.3	790.3	0.0
Total		**3,780.0**	**38.5**	**3,741.5**	**1.349**		**7,248.0**		**5,048.2**

CFC-12 Production and HF consumption:

Month	No. of operating days	CFC-12 Production	Filling and handling losses	Net Saleable Production	HF/ CFC–12 Ratio	HF Opening Stock	HF Procured/or added to stock	HF Closing Stock	HF Consumption in CFC-12
Jan	As CFC-12 is produced in the same plant as CFC-11, operating days are common. Refer to CFC-11	520.0	2.7	517.3	0.366	62.9	511.0	72.9	189.6
Feb		426.0	3.2	422.8	0.367	72.9	451.0	91.0	155.4
Mar		217.0	9.3	207.7	0.378	91.0	432.0	93.7	78.6
Apr		322.0	2.1	319.9	0.365	93.7	808.0	126.0	116.7
May		337.0	3.6	333.4	0.370	126.0	743.0	113.4	123.3
Jun		397.0	3.5	393.5	0.369	113.4	824.0	85.5	145.4
Jul		436.0	3.1	432.9	0.367	85.5	947.0	120.9	158.9
Aug		294.0	2.9	291.1	0.368	120.9	691.0	95.8	107.1
Sept		466.0	3.1	462.9	0.369	95.8	864.0	148.8	170.8
Oct		243.0	1.8	241.2	0.367	148.8	688.0	161.3	88.6
Nov		122.0	1.8	120.2	0.368	161.3	472.0	182.5	44.2
Dec		0.0	1.2	-1.2	0.000	182.5	300.0	143.0	0.0
Total		**3,780.0**	**38.5**	**3,741.5**	**0.365**		**7,737.0**		**1,378.5**

CFC-113 Production

Month	No of operating Days	CFC-113 Production
Jan	0.30	0.63
Feb	0.00	0.00
Mar	1.00	0.98
Apr	0.20	0.07
May	0.25	0.13
Jun	1.00	0.98
Jul	0.20	0.07
Aug	0.50	0.25
Sept	0.10	0.04
Oct	2.00	1.47
Nov	0.25	0.18
Dec	1.00	0.70
Total	**6.8**	**5.49**

Chemplast Sanmar Ltd.

12 January 2001

Chemplast personnel :	V Ramachandran	Vice President
	R Somayaji	Asst. General Manager
	S Suresh	Sales Manager
	S Vasuderan	Senior Chemist

Plant Operation Summary. (Details in appended Verification Report)

CFC 11 / 12 production	231 days
HCFC 22 "	111 "
Not operating	23 "

CFC 11 / 12 tonnages (figures rounded to nearest MT)

Opening Stock	13 MT
Production	1823 "
Sales	1767 "
Closing Stock	24 "
CFC 11 / 12 Ratio	27 / 73 %
CTC usage per MT CFC	1.36 MT
AHF " " "	0.32

Note. This CTC usage is high, at the top end of the normal industry range. Chemplast are aware of this , stating that at times they had found it necessary to run their plant under forcing conditions. They are also aware that the CTC usage figure has been creeping up over quite a long period , a matter they need to look into.

In addition to the standard Verification Report, Chemplast provided a substantially greater amount of extra data giving a month-by-month picture of their operations.

CFC Production Phase Out Verification (Including Gradual Closure)

January 2001

A. Plant identification

Name of Enterprise	:	CHEMPLAST SANMAR LIMITED
Plant Ref. Number	:	
Sector Plan #	:	
SRI #	:	
Address of the Plant	:	Plant No. 1, Mettur Dam, R.S. 636402, Tamil Nadu, India
Contact person(s) and Functional Title	:	Mr. V. Ramachandran, Vice President
Telephone Number	:	(04298) 30382-85
Fax Number	:	(042980 30394
E-mail Address	:	Vrcn@sanmargroup.com
Plant Closed	:	No

B. Verification

Team Composition	:	
Leader	:	
Name	:	Brian Joyner
Functional Title	:	Consultant, The World Bank
Member(s)	:	
Name	:	M.M. Chitale
Functional Title	:	Local Consultant,
Date of Plant Visit	:	January 12, 2001
Duration of Visit	:	1 day

C. Plant History

ODS Products	No. of Lines	Capacity in Baseline Year*	Production**		
			Baseline Year*	Year 1 1999	Year 2 2000
CFC-11					
CFC-12					
CFC-11 / 12 (combined)	1	1,926		1,485	1,823
CFC-13					
CFC-113					
CFC-114/115					
Raw Materials Production**					
HF					
CTC					

*The year from which data is used for approving the ODS production phase out project.
**Till the year prior to the verification.
***This applies to plants where production of either HF or CTC or both is integrated.

D. Plant Activity in the Year Verified

1. Plant for Complete Closure

No. of CFC-11/12 lines closed : Not applicable

Date of CFC production ceased :

Date of dismantling completed :

Verification of destruction of key components by :

Reactor tank(s) dismantled and destroyed :

Control and monitoring equipment dismantled and destroyed :

Pipes dismantled and destroyed :

Utilities dismantled and destroyed :

Evidence of destruction (photos or videos) :

Chance of resuming production :

Assessment by the verification team to be included in the verification report :

2. Plant for gradual closure

Annual CFC-11/12 quotas, production, sales and stocks since the baseline year*
(Please use one table for each CFC product)

CFC Products (CFC-11)	Baseline Year*	Year 1 1999	Year 2** 2000
Quota			
Opening Stock at beginning of year		83.7	9.3
Production		334.6	484.5
Sales		408.9	475.5
Closing stock at end of year		9.3	1.7

CFC Products (CFC-12)	Baseline Year*	Year 1 1999	Year 2** 2000
Quota			
Opening Stock at beginning of year		97.0	3.6
Production		1,150.4	1,338.5
Sales		1,243.5	1,291.9
Closing stock at end of year		3.6	21.9

*The year from which data is used to approve the ODS production phase out project.
**Till the year of the verification

Annual HF/CFC and CTC/CFC ratios

Ratio	Baseline Year	Year 1 1999	Year 2 2000	Year 3	Year 4	Year 5	Year 6*
CFC-11							
HF/CFC-12							
CTC/CFC-12							
CFC-12							
HF/CFC-12							
CTC/CFC-12							

* Till the year of the verification

Operational days per year

Type of Production	Baseline Year	Year 1 1999	Year 2 2000	Year 3	Year 4	Year 5	Year 6*
CFC-11/12		171	231				
HCFC-22			111				
Not operating			23				

*Till the year of the verification.

Monthly CFC production and raw material consumption*

CFC-11 Production and CTC consumption:

Month	No. of operating days	CFC-11 Production	CTC/ CFC-11 Ratio	CTC Opening Stock	CTC Procured/ or added to stock	CTC Closing Stock	CTC Consumption in CFC-11
Jan	24	49.6	1.253	369.4	174.3	283.6	
Feb	29	73.4	1.221	283.6	385.5	326.4	
Mar	31	68.2	1.200	326.4	308.4	311.2	
Apr	23	60.9	1.205	311.2	148.9	189.6	
May	16	30.5	1.248	189.6	128.9	156.0	
Jun	30	72.1	1.210	156.0	262.2	49.1	
Jul	19	43.4	1.141	49.1	181.3	14.6	
Aug	22	36.6	1.252	14.6	233.8	51.5	
Sept	15	27.1	1.246	51.5	129.7	38.9	
Oct	22	22.6	1.232	38.9	203.1	44.8	
Nov	0	0.0	0.0	44.8	150.1	194.9	
Dec	0	0.0	0.0	194.9	96.0	291.0	
Total	**231**	**484.5**					

CFC-11 Production and HF consumption:

Month	No. of operating days	CFC-11 Production	HF/ CFC-11 Ratio	HF Opening Stock	HF Procured/ or added to stock	HF Closing Stock	HF Consumption in CFC-11
Jan	24	49.6	0.170	41.8	75.6	36.4	
Feb	29	73.4	0.164	36.4	79.2	37.2	
Mar	31	68.2	0.163	37.2	75.6	37.4	
Apr	23	60.9	0.162	37.4	75.6	36.6	
May	16	30.5	0.171	36.6	75.6	32.3	
Jun	30	72.1	0.168	32.3	79.2	22.8	
Jul	19	43.4	0.163	22.8	85.8	22.4	
Aug	22	36.6	0.171	22.4	86.4	39.7	
Sept	15	27.1	0.169	39.7	64.8	35.5	
Oct	22	22.6	0.173	35.5	75.0	36.3	
Nov	0	0.0	0.000	36.3	25.2	27.5	
Dec	0	0.0	0.000	27.5	81.0	30.2	
Total	**231**	**484.5**					

CFC-12 Production and CTC consumption:

Month	No. of operating days	CFC-12 Production	CTC/ CFC-12 Ratio	CTC Opening Stock	CTC Procured/ or added to stock	CTC Closing Stock	CTC Consumption in CFC-12
Jan	As CFC-12 is produced in the same plant as CFC-11, operating days are common. Refer to CFC-11	136.1	1.450	369.4	174.3	283.6	
Feb		178.5	1.418	283.6	385.5	326.4	
Mar		173.8	1.392	326.4	308.4	311.2	
Apr		140.8	1.399	311.2	148.9	189.6	
May		85.9	1.449	189.6	128.9	156.0	
Jun		200.6	1.404	156.0	262.2	49.1	
Jul		125.4	1.324	49.1	181.3	14.6	
Aug		103.9	1.453	14.6	233.8	51.5	
Sept		75.0	1.446	51.5	129.7	38.9	
Oct		118.4	1.430	38.9	203.1	44.8	
Nov		0.0	0.000	44.8	150.1	194.9	
Dec		0.0	0.000	194.9	96.0	291.0	
Total		**1,338.5**					

CFC-12 Production and HF consumption:

Month	No. of operating days	CFC-12 Production	HF/ CFC–12 Ratio	HF Opening Stock	HF Procured/ or added to stock	HF Closing Stock	HF Consumption in CFC-12
Jan	As CFC-12 is produced in the same plant as CFC-11, operating days are common. Refer to CFC-11	136.1	0.387	41.8	75.6	36.4	
Feb		178.5	0.372	36.4	79.2	37.2	
Mar		173.8	0.372	37.2	75.6	37.4	
Apr		140.8	0.369	37.4	75.6	36.6	
May		85.9	0.389	36.6	75.6	32.3	
Jun		200.6	0.382	32.3	79.2	22.8	
Jul		125.4	0.370	22.8	85.8	22.4	
Aug		103.9	0.389	22.4	86.4	39.7	
Sept		75.0	0.384	39.7	64.8	35.5	
Oct		118.4	0.394	35.5	75.0	36.3	
Nov		0.0	0.000	36.3	25.2	27.5	
Dec		0.0	0.000	27.5	81.0	30.2	
Total		**1,338.5**					

S R F Fluorochemicals Ltd.

15 January 2001

SRF personnel :	Rajdeep Anand	Snr. Vice President
	W Samuel	Snr. General Manager
	V K Trehan	Dep. General Manager, Works
	S Iyengar	Chief manager Q.A. & Env.

Plant Operation Summary. (Details in appended Verification Report)

CFC 11 / 12	104 days
HCFC 22	159 "
Not operating	102 "

CFC 11 / 12 tonnages (figures rounded to nearest MT)

Opening Stock	496 MT
Production	6053 "
Sales	6234 "
Closing Stock #	322 "

This figure includes 7 MT returned from customers.

CFC 11 / 12 Ratio	36 / 64 %
CTC usage per MT CFC	1.28 MT
AHF " " "	0.29

HCFC Production

CFM usage per MT HCFC 22	1.50 MT
AHF " " " "	0.54 "

All material usages are well within normal industry ranges.

In addition to the standard Verification Report questionnaire, SRF provided additional data enabling a month-by-month appraisal of their operations. This included data on their total production of their chloromethanes plant, from which CTC and CFM are taken for CFC / HCFC production.

CFC Production Phase Out Verification (Including Gradual Closure)

January 2001

A. Plant identification

Name of Enterprise	:	SRF LIMITED
Plant Ref. Number	:	
Sector Plan #	:	
SRI #	:	
Address of the Plant	:	Village Jhivana, Tehsil Tijara, Alwar Rajasthan, India
Contact person(s) and Functional Title	:	Rajdeep Anand, Senior Vice President
Telephone Number	:	91-011-685 7141/685 7231
Fax Number	:	91-011-685 7139/685 4260
E-mail Address	:	Rajdeep@srf-limited.com
Plant Closed	:	No

B. Verification

Team Composition	:	
Leader	:	
Name	:	Brian Joyner
Functional Title	:	Consultant, The World Bank
Member(s)	:	
Name	:	M.M. Chitale
Functional Title	:	Local Consultant,
Date of Plant Visit	:	January 15, 2001
Duration of Visit	:	1 day

C. Plant History

ODS Products	No. of Lines	Capacity in Baseline Year*	Production**		
			Baseline Year*	Year 1 1999	Year 2 2000
CFC-11					
CFC-12					
CFC-11 / 12 (combined)	1	25,000		6,267.8	6,053.0
CFC-13					
CFC-113					
CFC-114/115					
Raw Materials Production**					
HF				4,836	4,382
CTC				7,039	4,791

*The year from which data is used for approving the ODS production phase out project.
**Till the year prior to the verification.
***This applies to plants where production of either HF or CTC or both is integrated.

D. Plant Activity in the Year Verified

1. Plant for Complete Closure

No. of CFC-11/12 lines closed : Not applicable

Date of CFC production ceased :

Date of dismantling completed :

Verification of destruction of key components by :

Reactor tank(s) dismantled and destroyed :

Control and monitoring equipment dismantled and destroyed :

Pipes dismantled and destroyed :

Utilities dismantled and destroyed :

Evidence of destruction (photos or videos) :

Chance of resuming production :

Assessment by the verification team to be included in the verification report :

2. Plant for gradual closure

Annual CFC-11/12 quotas, production, sales and stocks since the baseline year*

(Please use one table for each CFC product)

CFC Products (CFC-11)	Baseline Year*	Year 1 1999	Year 2** 2000
Quota	6,643.0	6,271.0	6,146.0
Opening Stock at beginning of year		431.0	207.2
Production		6,268.0	2,157.1
Sales		6,180.0	2,252.4
Closing stock at end of year		517.0	118.6

CFC Products (CFC-12)	Baseline Year*	Year 1 1999	Year 2** 2000
Quota		6,271.0	6,146.0
Opening Stock at beginning of year			288.9
Production			3,895.9
Sales			3,981.7
Closing stock at end of year			203.5

Note: quota figure in 1999 and 2000 is for CFC-1 and CFC-12.
*The year from which data is used to approve the ODS production phase out project.
**Till the year of the verification

Annual HF/CFC and CTC/CFC ratios

Ratio	Baseline Year	Year 1 1999	Year 2 2000	Year 3	Year 4	Year 5	Year 6*
CFC-11							
HF/CFC-11		0.161	0.161				
CTC/CFC-11		1.180	1.173				
CFC-12							
HF/CFC-12		0.366	0.362				
CTC/CFC-12		1.336	1.332				

* Till the year of the verification

Operational days per year

Type of Production	Baseline Year	Year 1 1999	Year 2 2000	Year 3	Year 4	Year 5	Year 6*
CFC-11/12		115	104				
HCFC-22			159				
Not operating			102				

*Till the year of the verification.

Monthly CFC production and raw material consumption*

CFC-11 Production and CTC consumption:

Month	No. of operating days	CFC-11 Production	CTC/ CFC-11 Ratio	CTC Opening Stock	CTC Procured/ or added to stock	CTC Closing Stock	CTC Consumption in CFC-11
Jan	6.7	143.1	1.128	506.7	530.5	185.9	
Feb	5.7	50.3	1.175	185.9	786.2	303.6	
Mar	9.6	204.7	1.169	303.6	1,372.1	582.3	
Apr	9.9	229.2	1.171	582.3	1,163.8	578.7	
May	8.3	194.1	1.181	578.7	1,340.4	838.6	
Jun	6.5	184.2	1.178	838.6	516.8	452.0	
Jul	13.3	289.5	1.166	452.0	1,261.2	470.4	
Aug	6.0	75.4	1.165	470.4	799.2	524.2	
Sept	8.8	172.4	1.181	524.2	810.7	390.5	
Oct	10.1	265.1	1.168	390.5	1,164.8	568.4	
Nov	2.5	19.9	1.923	568.4	638.6	897.6	
Dec	16.7	329.1	1.168	897.6	1,226.4	826.8	
Total	**104.2**	**2,157.1**	**1.173**		**11,610.7**		

CFC-11 Production and HF consumption:

Month	No. of operating days	CFC-11 Production	HF/ CFC-11 Ratio	HF Opening Stock	HF Procured/ or added to stock	HF Closing Stock	HF Consumption in CFC-11
Jan	6.7	143.1	0.160	1.0	184.1	54.9	
Feb	5.7	50.3	0.151	54.9	282.1	37.7	
Mar	9.6	204.7	0.163	37.7	511.5	27.7	
Apr	9.9	229.2	0.161	27.7	459.3	23.9	
May	8.3	194.1	0.160	23.9	551.2	54.8	
Jun	6.5	184.2	0.157	54.8	412.1	56.8	
Jul	13.3	289.5	0.158	56.8	329.8	58.4	
Aug	6.0	75.4	0.159	58.4	448.5	49.2	
Sept	8.8	172.4	0.160	49.2	294.3	7.5	
Oct	10.1	265.1	0.159	7.5	315.7	40.4	
Nov	2.5	19.9	0.287	40.4	288.7	52.9	
Dec	16.7	329.1	0.164	52.9	305.1	49.0	
Total	**104.2**	**2,157.1**	**0.161**		**4,382.5**		

CFC-12 Production and CTC consumption:

Month	No. of operating days	CFC-12 Production	CTC/ CFC-12 Ratio	CTC Opening Stock	CTC Procured/ or added to stock	CTC Closing Stock	CTC Consumption in CFC-12
Jan	As CFC-12 is produced in the same plant as CFC-11, operating days are common. Refer to CFC-11	237.2	1.281	506.7	530.5	185.9	
Feb		251.8	1.335	185.9	786.2	303.6	
Mar		388.1	1.327	303.6	1,372.1	582.3	
Apr		403.7	1.329	582.3	1,163.8	578.7	
May		365.1	1.341	578.7	1,340.4	838.6	
Jun		249.5	1.338	838.6	516.8	452.0	
Jul		483.2	1.324	452.0	1,261.2	470.4	
Aug		307.4	1.323	470.4	799.2	524.2	
Sept		349.6	1.341	524.2	810.7	390.5	
Oct		329.5	1.327	390.5	1,164.8	568.4	
Nov		23.6	2.184	568.4	638.6	897.6	
Dec		507.0	1.326	897.6	1,226.4	826.8	
Total		**3,895.9**	**1.332**		**11,610.7**		

CFC-12 Production and HF consumption:

Month	No. of operating days	CFC-12 Production	HF/ CFC–12 Ratio	HF Opening Stock	HF Procured/ or added to stock	HF Closing Stock	HF Consumption in CFC-12
Jan	As CFC-12 is produced in the same plant as CFC-11, operating days are common. Refer to CFC-11	237.2	0.361	1.0	184.1	54.9	
Feb		251.8	0.341	54.9	282.1	37.7	
Mar		388.1	0.369	37.7	511.5	27.7	
Apr		403.7	0.363	27.7	459.3	23.9	
May		365.1	0.361	23.9	551.2	54.8	
Jun		249.5	0.354	54.8	412.1	56.8	
Jul		483.2	0.356	56.8	329.8	58.4	
Aug		307.4	0.358	58.4	448.5	49.2	
Sept		349.6	0.362	49.2	294.3	7.5	
Oct		329.5	0.360	7.5	315.7	40.4	
Nov		23.6	0.647	40.4	288.7	52.9	
Dec		507.0	0.371	52.9	305.1	49.0	
Total		**3,895.9**	**0.362**		**4,382.5**		

INDIA

CFC Production Sector Gradual Phaseout Project (ODS III)

2001 Annual Work Program

January 24, 2001

New Delhi Office
South Asia Environment and Social Department
World Bank

INDIA

CFC PRODUCTION SECTOR
GRADUAL PHASEOUT PROJECT (ODS III)

2001 ANNUAL PROGRAM

Table of Contents

INDIA

CFC PRODUCTION SECTOR
GRADUAL PHASEOUT PROJECT (ODS III)

2001 ANNUAL PROGRAM

INTRODUCTION

The Executive Committee approved the *CFC Production Sector Phase-out Plan* for India (UNEP/Ozl.Pro/ExCom/29/69) at its 29th meeting in November 1999 with an allocation of US$ 82 million, including US$ 2 million for technical assistance activities.

India has successfully implemented the 2000 Annual Program by meeting the established CFC production phase-out target of 20,706 metric tons (MT) and by undertaking required policy measures and related activities. (Details of the implementation of the 2000 Annual Program are given in Section A).

In accordance with the *CFC Production Sector Phase-out Plan*, the Bank, as implementing agency, is hereby requesting release of the third tranche under the *CFC Production Sector Gradual Phaseout Project*, amounting to US$ 11 million, for the implementation of the 2001 Annual Program. (Details of the 2001 Annual Program are given in Section B). This funding is linked to the further reduction of CFC production to an amount not to exceed 18,824 metric tons (MT) in 2001.

	Agreed Schedule		Actual		
Year	CFC Production not exceeding (MT)	Phaseout Amount (MT)	Verified CFC Production (MT)	Phaseout Amount (MT)	Annual Funding Level (US$ million)
1999	**22,588**	-	**22,411**	-	12.0
2000	**20,706**	1,882	**20,407**	1,882	11.0
2001	18,824	1,882			11.0
2002	16,941	1,883			6.0
2003	15,058	1,883			6.0
2004	13,176	1,882			6.0
2005	11,294	1,882			6.0
2006	7,342	3,952			6.0
2007	3,389	3,953			6.0
2008	2,259	1,130			6.0
2009	1,130	1,129			6.0
2010	0	1,130			6.0
Total Funding					**82.0**

A. CY2000 ANNUAL PROGRAM ACHIEVEMENTS

A.1 ODS Phase-out and Disbursement

Based on the verified production level of 20,407 MT, ODS phaseout in CY2000 amounted to 2,004 MT. Disbursements to CFC producers during CY2000 amounted to US$20.28 million, reflecting full payment of the CY1999 tranche of US$ 11.71 million and 80% of the CY2000 tranche of US$10.73 million allocated for producer compensation.

Year	Production Phase-out		Grant Tranches (US$ m)	
	Target (MT)	Achieved	Allocation (US$ million)	Status of Disbursements
1999	22,588	India's achievement of the 1999 "freeze level" was verified by the production verification mission of the World Bank in March-April 2000. Total production of CFC in 1999 was verified as 22,411 MT.	12.0	➢ US$11.7 million has been disbursed to the four CFC producers. ➢ US$0.29 million has been released to UNEP-DTIE for technical assistance activities.
2000	20,706	The independent Audit Team appointed by the Government of India verified CY2000 production. Results of this verification have been conveyed to the Bank. The World Bank's audit team has also carried out its own verification. Total production of CFCs was verified by both teams as 20,407 MT.	11.0	➢ US$8.58 million (50% plus 30%) has been disbursed to the four CFC producers. ➢ US$2.15 million (20%) is to be disbursed to the four CFC producers upon final verification of CY2000 production. ➢ US$0.27 million is be released for technical assistance activities to UNEP-DTIE.

A.2 Enterprise-Level CFC Production Phaseout targets (MT)

At the enterprise level, the performance in meeting quota allocations for CY1999 and CY2000 is summarized in the following table.

Name of company	1999 (Metric Tons)			2000 (Metric Tons)		
	Quota	Quota adjusted for trades	Achieved	Quota	Quota adjusted for trades	Achieved
SRF Limited	6,644	6,271	6,267	6,090	6,146	6,053
Gujarat Fluorochemicals	8,067	7,482	7,415	7,395	7,482	7,352
Navin Fluorine (Mafatlal)	5,951	7,335	7,244	5,455	5,249	5,179
Chemplast Sanmar Limited	1,926	1,500	1,485	1,766	1,829	1,823
TOTAL	22,588	22,588	22,411	20,706	20,706	20,407

A.3 Policy Measures

A number of policy measures were adopted and implemented during the course of the year as summarized below.

Activity	Description and Achievements	Date
Production Quota Regulation	Production Quota Order was issued by the Government of India vide GO no. 11/7/99-OC, establishing annual national quotas for the period 2000-2010.	02.03.2000
ODS (Regulation) Rules	The Ozone Depleting Substances (Regulation & Control) Rules were notified in the Gazette of India. Under Rule 3, all CFC producers are required to register with MoEF. Registrations are valid for 18 months. All four CFC producers were registered with MoEF.	19.07.2000 1.10.2000
Production Quota License	A licensing system has been developed for issuing annual production quotas to individual CFC producers. Quota licenses for CY2000 issued.	 03.02.2000

A.4 Technical Assistance Activities

Project Management Unit (PMU) activities for 2000 were undertaken by the Ozone Cell. The PMU's activities are being contracted to a management consulting firm in order to accelerate development of the PMU's business operations procedures and implementation of the technical assistance activities.

Activity	Key Actions	Date
Establishment of PMU	Common understanding for establishment of a PMU between MoEF and UNEP.	29.09.2000
	Memorandum of Agreement document finalized.	15.10.2000
	The Memorandum of Agreement between MoEF and UNEP was signed, formally establishing the PMU.	23.10.2000
	Withdrawal application submitted as a blanket application for the entire US$2 million	01.12.2000
	First disbursement made to UNEP.	12.01.2001

A.5 Monitoring and Reporting Activities

Activity	Undertaken by	Target Date	Date Undertaken	Comments
CFC production report	Enterprises	Quarterly, within 30 days of the end of the quarter	Quarterly reports of monthly production data were submitted by all CFC producers in April, July, October 2000 and in January 2001.	
Progress report	PMU	Semi-annual	Report for July-December 2000 period prepared by 15 January 2001.	No report for January-June 2000 period was prepared since PMU was not established by then.
Annual Performance Audit	Independent Auditor	January 2001	Being undertaken by Audit Team appointed by PMU. Completed on 16th January 2001.	
Progress report	UNEP	Semi-annual: July 2000 and January 2001	Report sent to WB on January 15, 2001.	A joint progress report was presented by UNEP and PMU.
Financial Audit	UNEP	June 2002		No audit is scheduled for CY2000 since no expenses for PMU or TA activities were charged to the project.
Annual Program Audit	WB	January 2001	World Bank Mission to verify 2000 production was conducted in January, 2001. A full supervision mission also undertook a comprehensive review of project implementation.	Next Bank supervision will take place in August 2001.

B. CY2001 ANNUAL PROGRAM: OBJECTIVES AND ACTIVITIES

B.1 ODS Phase-out Objectives and Disbursement Allocation

The objective of the CFC production sector phaseout project for CY2001 Annual Program is to ensure that CFC production is no more than **18,824 MT**. The Bank, on behalf of India, is requesting the release of the third installment, a tranche of **US$ 11.0 million,** to achieve this objective.

It is envisaged that the US$11 million will be disbursed to the following categories of activities:

a) US$ 10.73 million will be disbursed to the four CFC producers for reducing their production levels in accordance with the annual production quotas established for CY2001, and;

b) US$ 0.27 million will be used for technical assistance activities.

B.2 Enterprise-Level Activities – ODS production phase-out targets (MT)

In accordance with the Production Quota Order, individual producers have submitted applications for a CY2001 quota. Following the verification of their adherence with the CY2000 quotas, quotas will be issued to each enterprise by January 31, 2001, as follows.

Name of company	**2001 Quota (MT)** (before trades)
SRF Limited	5,536
Gujarat Fluorochemicals	6,722
Navin Fluorine (Mafatlal)	4,960
Chemplast Sanmar Limited	1,606
Total	**18,824**

B.3 Policy Measures

Activity	Key Actions	Target Dates
Production Quota license	Continued application of the Production Quota Order. Applications for a CY2001 Production Quota license received from all the four CFC producers will be examined by MoEF for issuance of licenses.	No later than January 31, 2001.
Registration of producers	Applications submitted for re-registration of each CFC producer, as required by the Ozone Rules, will be examined by MoEF and processed for renewal of registration.	Between October, 2001 and April 2002.
Implementation of other provisions of ODS Rules.	⇗ Applications for registrations from sellers, stockists, dealers and buyers of CFC will be examined and submitted to . ⇗ Applications for import and export of CFCs will be examined by PMU. On recommendation of the PMU, the Ozone Cell/MoEF will submit recommendations for issuance of bulk licenses for export by CFC producers and licenses for import to DGFT for its issuance of licenses. DGFT will track use of bulk licenses through quarterly reports from producers.	July 2000-June 2001 No later than January 31, 2001 for bulk license for export. Throughout the year for import license.

B.4 Technical Assistance Activities

Proposed technical assistance activities to be undertaken during 2001 are summarized in the following table.

Activity	**Key Actions**	**Target Dates**	**Funds (US$ million)**
Training	Training of PMU officials regarding PMU activities Identification of nodal officials at State level for training Preparing a strategy for training officials with key actions points and timing Organise and implement the training strategy	February 2001 April 2001 onwards	0.03 0.04
MIS Development	Identify the MOS requirement for the PMU and networking with the State Governments Design the MIS and related procedures Identify the software needs and implement MIS	March 2001	0.05
Public Awareness	1. Prepare a strategy for national awareness campaign 2. Organise stakeholders workshops 3. Brochures, pamphlets, publications of other information materials	June 2001 Through out the year	0.07
Operations of PMU	1. Set up PMU and carry out day to day operations relating the TA through the PMU	Jan 2001 onwards	0.14
Other activities	1. Identify specific activities on public awareness at state level and implement the identified activities, including basic capacity building 2. Identify specific research and consultancy studies for facilitating production sector phaseout.	February 2001 onwards	0.50
			0.83

Note: The cost of TA activities to be started in CY2000 will be financed from the 1999 and 2000 TA allocations already approved by Excom and released to the World Bank and from the 2001 allocation. By year, these allocations are US$ 290,000, 270,000 and 270,000 respectively.

B.5 Monitoring And Reporting Activities

The main monitoring and reporting activities for CY2001 are outlined below.

Activity	Description	Undertaken by	Target Dates
Report on CFC production	Quarterly report of monthly production data.	Enterprises	End-April, end-July, and end-Oct 2000, and early Jan 2001.
Progress report	Report on progress of Annual Program activities, including periodic plant inspections and monitoring indicators in PIM	PMU	July 2001, Jan 2002
Annual Performance Audit	Financial and technical audit to verify implementation of Annual Program, including CFC phaseout performance and progress of TA activities	PMU-appointed Independent Auditor	Jan 2002
Disbursement report	Report on disbursements from project account	IDBI	July 2001, Jan 2002
Audit of project account	Audit of financial information related to disbursements	IDBI	September 2001
Progress report	Report on progress of TA activities	UNEP	July 2001, Jan 2002
Financial audit report	Audit of TA account	UNEP-appointed auditors	June 2002
Annual Program Audit	Verification of production	WB	Jan 2002

ANNEX I

MoEF Letter Confirming ODS Production Levels

ANNEX II

ANNUAL PRODUCTION PHASEOUT TARGETS AND ANNUAL GRANT TRANCHES

CY	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Production ceiling (ODP MT)	22,588	20,706	18,824	16,941	15,058	13,176	11,294	7,342	3,389	2,259	1,130	0
Grant Tranche (US$ million)	12.0	11.0	11.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	0
Of which: TA	0.29	0.27	0.27	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.12	0

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