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COMITÉ EXÉCUTIF
DU FONDS MULTILATÉRAL AUX FINS
D'APPLICATION DU PROTOCOLE DE MONTRÉAL
Trente-sixième réunion
Montréal, 20-22 mars 2002

PROPOSITION DE PROJETS : CHINE

Ce document comprend les observations et les recommandations du Secrétariat du Fonds sur les projets suivants :

Mousses

• Élimination du CFC-12 dans la fabrication de filets d'emballage en mousse de polyéthylène extrudée dans 30 entreprises (projet parapluie en phase finale)	ONUDI

Autre

• Rapport de mise en œuvre de 2001 et plan de travail de 2002 du plan du secteur du tabac pour l'élimination du CFC-11 en Chine (deuxième décaissement)	ONUDI

Production

• Plan de secteur pour l'élimination de la production de CFC en Chine : programme de travail de 2002	Banque mondiale

Réfrigération

• Remplacement du CFC-12 par le HCFC-22 comme frigorigène dans la fabrication de compresseurs moyens à moteur séparé à Dalian #2 Refrigeration Machinery Factory	Banque mondiale

• Remplacement du CFC-12 par le HCFC-22 comme frigorigène dans la fabrication de petits et moyens compresseurs à moteur séparé à Shanghai Minhang Refrigerator Factory	Banque mondiale
• Remplacement du CFC-12 par le HCFC-22 comme frigorigène dans la fabrication de petits compresseurs à moteur séparé à Zhejiang Beifeng Refrigeration Machinery Co. Ltd	Banque mondiale
• Remplacement du CFC-12 par le HCFC-22 comme frigorigène dans la fabrication de petits compresseurs à moteur séparé à Zhejiang Chunlian Refrigeration Machinery Co. Ltd	Banque mondiale
• Remplacement du CFC-12 par le HCFC-22 comme frigorigène dans la fabrication de petits compresseurs à moteur séparé à Zhejiang Yuhuan Refrigeration Machinery Co. Ltd	Banque mondiale

Solvants

• Programme de mise en oeuvre du plan du secteur des solvants en Chine en 2002.	PNUD

FICHE D'ÉVALUATION DE PROJET
CHINE

SECTEUR : Mousses Consommation sectorielle de SAO (1999) : 23 143 tonnes PAO

Seuil de coût-efficacité du secteur : Polystyrène/polyéthylène 8,22 $US/kg

Titre du projet :

a) Élimination du CFC-12 dans la fabrication de filets d'emballage en mousse de polyéthylène extrudée dans 30 entreprises (projet parapluie en phase finale)

Données relatives au projet	**Polystyrène/polyéthylène**
	30 entreprises
Consommation de l'entreprise (tonnes PAO)	849,00
Incidences du projet (tonnes PAO)	
Durée prévue du projet (mois)	30
Montant initial demandé ($US)	1 118 726
Coût final du projet ($US)	
Coûts différentiels d'investissements a)	6 552 000
Fonds pour imprévus b)	625 200
Coûts différentiels d'exploitation c)	-1 361 967
Coût total du projet (a+b+c)	5 815 233*
Participation locale au capital (%)	100 %
Pourcentage des exportations (%)	0 %
Montant demandé ($US)	1 530 000
Rapport coût-efficacité ($US/kg)	
Confirmation du financement de contrepartie?	Oui
Agence nationale de coordination	SEPA
Agence d'exécution	ONUDI

Recommandations du Secrétariat	
Montant recommandé ($US) Incidences du projet (tonnes PAO) Rapport coût-efficacité ($US/kg) Coûts d'appui de l'agence d'exécution ($US)	
Coût total pour le Fonds multilatéral	

*L'ONUDI demande le financement partiel du montant de la subvention.

DESCRIPTION DU PROJET

Renseignements sur le secteur

1. La 35e réunion du Comité exécutif a approuvé en décembre 2001 un accord pour éliminer les CFC dans le secteur de la mousse de polyuréthanne en Chine. L'objectif d'élimination totale était de 14 143 tonnes PAO DE cfc-11 et exigeait un financement total de 53,85 millions $US. Le Comité exécutif a également approuvé un projet parapluie en phase finale d'une valeur de 2 450 123 $US pour éliminer 359 tonnes PAO de CFC-12 dans la fabrication de mousse de polystyrène extrudée. L'approbation de ce projet de mousse de polyéthylène extrudée aura donc pour effet d'avoir obtenu un appui financier pour l'ensemble de la consommation de CFC dans le secteur des mousses en Chine.

2. L'accord du secteur de la mousse de polyuréthanne en Chine a établi la consommation résiduelle restant à éliminer en Chine avec l'appui du Fonds multilatéral à 4 745 tonnes PAO de CFC. Ce niveau sera réduit grâce au projet approuvé à la 35e réunion pour éliminer 359 tonnes PAO de CFC-12 dans le cadre d'un projet parapluie en phase finale dans le secteur de la mousse de polystyrène extrudée et au projet parapluie en phase finale dans le secteur de la mousse de polyéthylène extrudée présenté à la 36e réunion du Comité exécutif qui, si approuvé, entraînera l'élimination de 849 tonnes PAO supplémentaires.

Mousse de polyéthylène/polystyrène

Renseignements sur le sous-secteur

3. L'élimination du CFC-12 dans le sous-secteur de la mousse de polyéthylène et de polystyrène fait partie d'un plan stratégique proposé par l'ONUDI à la 33e réunion du Comité exécutif. Le plan stratégique prévoyait la proposition de 5 projets de groupe par la Chine afin d'éliminer au total 6 661 tonnes PAO de CFC-12 dans la fabrication de mousses de polyéthylène et de polystyrène extrudées. Deux projets parapluie d'une valeur totale de 9,8 millions $US ont été approuvés à la 25e et la 28e réunions. Le calendrier de présentation des trois projets de groupe restants est établi comme suit :

1.	Mi-2001	Projet de groupe en phase terminale dans le secteur de la mousse de polyéthylène extrudée (30 entreprises)
2.	Fin 2001	1er projet de groupe dans le secteur de la mousse de polystyrène extrudée (9 entreprises)
3.	Mi-2002	Projet de groupe en phase finale dans le secteur de la mousse de polystyrène extrudée (7 entreprises)

Cependant, à la demande du gouvernement de la Chine, le deuxième et le troisième projets de groupe ont plutôt été présentés en 2001, ne laissant que le projet en phase finale dans le secteur de la mousse de polyéthylène extrudée pour 2002.

4. Le sommaire des groupes de projets des secteurs de la mousse de polyéthylène et de polystyrène extrudées de la Chine est présenté ci-dessous :

Date	Projet	N^{bre} d'entreprises	Montant de la subvention ($US)	Élimination de CFC (tonnes PAO)
Projets déjà approuvés				
Juillet 1998	Projet de groupe – mousse de polyéthylène extrudée	25	4 488 516	1 146.0
Juillet 1999	Projet de groupe – Mousse de polyéthylène extrudée	27	5 289 441	825,7
Juillet 2001	Projet de groupe – mousse de polystyrène extrudée	9	2 808 338	750,0
Décembre 2001	Projet en phase terminale – mousse de polystyrène extrudée	7	2 450 123	359,0
TOTAL		68	15 036 418	3 080,7
Projets du pipeline				
Mars 2002	Projet en phase terminale – mousse de polyéthylène extrudée	30	5 815 000	849,0

5. En raison des limites de la planification opérationnelle, l'ONUDI demande une nouvelle révision du calendrier de décaissement des projets du secteur des mousses de polyéthylène et de polystyrène extrudées compris dans le plan stratégique afin de :

a) approuver en principe le projet de groupe restant, c.-à-d. le projet parapluie en phase finale du secteur des mousses de polyéthylène extrudées dans 30 entreprises à la 36^{e} réunion;

b) Approuver le paiement en trois tranches des coûts différentiels recevables du projet prévus dans les plans d'activités de 2001-2003.

6. Le projet est donc présenté à la 36^{e} réunion comme demandé par l'ONUDI, avec l'accord du gouvernement de la Chine. Le calendrier de décaissement et toutes les conditions qui s'y rattachent seront communiqués au Sous-comité sur l'examen des projets après l'approbation du niveau de financement recevable, qui fait encore l'objet de discussions entre le Secrétariat et l'ONUDI.

Projet parapluie en phase finale : 30 entreprises

7. Les 30 entreprises comprises dans ce projet parapluie ont consommé 849 tonnes PAO de CFC-12 par année pour produire des filets en mousse de polyéthylène extrudée. Elles utilisent toutes des extrudeuses monovis d'une capacité de 105-155 kg/h fabriquées en Chine. Soixante des 61 extrudeuses ont été installées en 1993 et 1994. L'autre extrudeuse a été installée en janvier 1995. Le profil des 30 entreprises est présenté au tableau 1 ci-dessous.

8. Les entreprises reconvertiront leur production du CFC-12 à une technologie à base de butane pour le gonflage de la mousse. Le projet comprend des coûts différentiels

d'investissement (CDI) pour les 30 entreprises qui s'élèvent à 6 552 000 $US et le coût d'adapter les 61 chaînes d'extrudeuse, les installations d'entreposage du butane, l'équipement de protection contre les incendies et de sécurité, ainsi que les frais d'experts-conseils, les essais, la formation et l'accréditation de sécurité. Les économies différentielles d'exploitation (EDE) de 1 361 967 $US ont été soustraites des budgets respectifs, selon le niveau de consommation de CFC-12.

OBSERVATIONS ET RECOMMANDATIONS DU SECRÉTARIAT

OBSERVATIONS

9. Le Secrétariat a relevé plusieurs problèmes techniques qui font encore l'objet de discussions avec l'ONUDI. Le niveau de financement total du projet ainsi que la répartition par projet seront communiqués au Sous-comité sur l'examen des projets. Comme mentionné au paragraphe 6 ci-dessous, le calendrier convenu et les conditions de décaissement seront aussi communiqués au Sous-comité.

RECOMMANDATIONS

En attente.

Tableau 1 : Profil des entreprises du projet en phase finale pour éliminer le CFC-12 dans la fabrication de la mousse de polyéthylène extrudée

	Nom	N^{bre} d'extru-deuses	Date d'instal-lation	Production – tonnes	Tonnes de CFC-12 consommées	Total des CDI $US	10 % pour les imprévus* $US	EDE (économie) $US	Budget du projet $US	Coût-efficacité $US/kg
1	Shandong Xixia Plastics Foam Nets Plant	1	08/93	56.7	14	120,400	11,540	-22,812	109,128	7.69
2	Shandong Sitong Packaging Nets Plant	5	05/93, 11/94	273.5	68	467,100	46,210	-109,190	404,120	5.93
3	Shandong Xixia Fruit Freshness-retaining Packing Plant	1	04/94	56.3	14	120,400	11,540	-22,016	109,924	7.97
4	Shandong Tongda Packaging Nets Plant	4	05/93, 10/94	202.3	51	383,200	37,820	-81,656	339,364	6.68
5	Shandong Hefengqiao Packaging Nets Plant	1	03/94	53.7	13	116,400	11,140	-20,667	106,873	8.22
6	Shandong Liyuan Packaging Nets Plant	5	93/94	255.7	64	467,100	46,210	-102,782	410,528	6.41
7	Pucheng Baofeng Packaging Nets Plant	2	03/94	116.8	29	214,900	20,990	-46,663	189,227	6.50
8	Shandong Yongxing Packaging Nets Plant	2	06/94	111.7	28	214,900	20,990	-44,990	190,900	6.82
9	Pucheng Xingshen Packaging Nets Plant	2	09/94	108.3	27	214,900	20,990	-43,513	192,377	7.10
10	Xinjiang Jinma Packing Co.,Ltd	3	93/94	170.0	42	295,900	29,090	-67,181	257,809	6.14
11	Pucheng Xingquan Packaging	1	11/93	55.3	14	120,400	11,540	-21,928	110,012	8.03
12	Pucheng Jinyao Packaging Nets Plant	2	93/94	116.0	28	214,900	20,990	-44,673	191,217	6.80
13	Shanxi Pucheng Hongtupo Packaging Nets Plant	1	12/94	55.8	14	120,400	11,540	-22,495	109,445	7.82
14	Shanxi Huacheng Packaging Nets Plant	1	01/95	56.7	14	120,400	11,540	-22,603	109,337	7.75
15	Shanxi Rongchang Packaging Nets Plant	2	93/94	106.7	27	214,900	20,990	-42,879	193,011	7.23
16	Xinjiang Jinma Packing Co.,Ltd	3	93/94	168.5	42	295,900	29,090	-67,363	257,627	6.13
17	Shanxi Xingyuxing Packaging Nets Plant	1	08/94	64.7	16	120,400	11,540	-25,953	105,987	6.56
18	Shanxi Sihai Packaqing Nets Plant	3	93/94	180.0	42	295,900	29,090	-67,175	257,815	6.15
19	Shanxi Wenming Packaging Nets Plant	1	09/94	63.5	16	120,400	11,540	-25,119	106,821	6.80
20	Sichuan Chongqing Bishan packaging Nets Plant	1	03/94	53.2	13	116,400	11,140	-21,355	106,185	7.98
21	Shandong Qushi Fruit Packaging Nets Factory	1	06/93	51.8	13	116,400	11,140	-20,681	106,859	7.63
22	Pucheng Laosong Packaging Nets Plant	2	03/93, 11/93	110.7	28	214,900	20,990	-44,484	191,406	6.91
23	Shandong Xinlong Packaging Nets Plant	4	93/94	208.3	52	383,200	37,820	-83,646	337,374	6.48
24	Shandong Longkou Changlunzhuang Packaging Nets Plant	2	05/93	106.5	27	214,900	20,990	-42,686	193,204	7.26
25	Shanxi Xuehua Packaging Nets Plant	2	1993	107.3	27	214,900	20,990	-42,798	193,092	7.23
26	Shanxi Poli packaging Nets Plant	2	07/93	110.7	28	214,900	20,990	-45,321	190,569	6.78
27	Shanxi Paper Packaging Plant	2	93/94	108.5	27	214,900	20,990	-43,283	192,607	7.13
28	Shanxi Qian County Packaging Net Plant	2	93/94	110.0	27	214,900	20,990	-43,729	192,161	7.04
29	Shanxi Qian-Xing Country Packaging Nets Plant	1	12/93	54.3	14	116,400	11,140	-21,841	105,699	7.77
30	Yichun Plastics Plant	1	01/93	126.7	32	141,400	13,640	-50,487	104,553	3.32
		61		**3,420**	**849**	**6,402,000**	**625,200**	**-1,361,967**	**5,665,233**	
	Services d'experts-conseils, transfert de technologie, conception technique civile/électrique/mécanique et services de formation								150,000	
									5,815,233	**6.85**

* Les 10 pour cent pour les imprévus ne comprennent pas les 5 000 $US par projet pour l'accréditation de sécurité ni les 150 000 $US pour l'assistance technique pour tout le projet.

FICHE D'ÉVALUATION DE PROJET
CHINE

SECTEUR : Autre (gonflage du tabac) Consommation sectorielle de SAO (1999) : 1 090 tonnes PAO

Seuil de coût-efficacité du secteur : S.o.

Titre du projet :

a) Rapport de mise en œuvre de 2001 et plan de travail de 2002 du plan du secteur du tabac pour l'élimination du CFC-11 en Chine (deuxième décaissement)

Données relatives au projet	**Gonflage du tabac**
Consommation de l'entreprise (tonnes PAO)	
Incidences du projet (tonnes PAO)	120,00
Durée prévue du projet (mois)	12
Montant initial demandé ($US)	2 000 000
Coût final du projet ($US)	
Coûts différentiels d'investissements a)	2 000 000
Fonds pour imprévus b)	
Coûts différentiels d'exploitation c)	
Coût total du projet (a+b+c)	2 000 000
Participation locale au capital (%)	100 %
Pourcentage des exportations (%)	0 %
Montant demandé ($US)	2 000 000
Rapport coût-efficacité ($US/kg)	16,66
Confirmation du financement de contrepartie?	
Agence nationale de coordination	SEPA
Agence d'exécution	ONUDI

Recommandations du Secrétariat	
Montant recommandé ($US)	
Incidences du projet (tonnes PAO) Rapport coût-efficacité ($US/kg) Coûts d'appui de l'agence d'exécution ($US)	
Coût total pour le Fonds multilatéral	

DESCRIPTION DU PROJET

Rapport de mise en œuvre de 2001 et plan de travail de 2002 du plan du secteur du tabac pour l'élimination du CFC-11 en Chine (deuxième décaissement)

Renseignements généraux

10. La 30e réunion du Comité exécutif a approuvé en principe 11 millions $US pour la mise en œuvre du plan du secteur du tabac pour l'élimination du CFC-11 en Chine (plan de secteur), et a demandé à l'ONUDI de préparer un projet d'accord régissant les modalités de décaissement, les exigences de rendement et les procédures de surveillance du plan de secteur.

11. L'ONUDI a présenté à la 32e réunion du Comité exécutif le projet d'accord demandé à la décision 30/54 avec le programme de travail annuel pour 2001, dont le coût est de 2 millions $US. Par la suite, le Comité exécutif a décidé:

a) d'approuver l'accord entre le gouvernement de la Chine et le Comité exécutif (UNEP/OzL.Pro/ExCom/32/44, annexe III);

b) d'approuver 2 millions $US pour la mise en œuvre du programme de travail de 2001;

c) de demander à l'ONUDI de remettre à une future réunion du Comité exécutif un rapport sur l'utilisation des fonds accordés pour les coûts d'appui, qui seront révisés dans deux ans (décision 32/69).

12. Le gouvernement de la Chine a présenté pour examen à la 36e réunion du Comité exécutif un rapport périodique sur la mise en œuvre du programme de travail de 2001 avec une demande pour 2 millions $US pour la mise en œuvre du programme de travail annuel de 2002.

Rapport périodique sur la mise en œuvre du programme de travail de 2001

13. Un système de quotas de consommation de CFC-11 est entré en vigueur dans le secteur du tabac au début de 2001. Le système a établi le quota de consommation de CFC-11 pour chacune des entreprises en 2001 en fonction de la consommation totale du secteur et du niveau de production actuel de l'entreprise. Un permis pour le quota de consommation de CFC-11 a été émis à chacune des entreprises. Les statistiques mensuelles transmises par les entreprises révèlent que la consommation de CFC-11 pour l'année se terminant au mois de décembre 2001 a été de 956,7 tonnes.

14. Les entreprises de gonflage du tabac admissibles ont été invitées à éliminer leur quota de CFC-11 pour 2001 par le biais d'un système de soumissions publiques. Les soumissions ont été déposées en janvier 2001. Dix entreprises qui comptaient démanteler leur équipement à de CFC-11 en 2001 ont remis une soumission (l'ONUDI a été informée du processus de soumission, et tous les documents pertinents ont été examinés par l'agence d'exécution).

15. Au mois de février 2001, le State Tobacco Monopoly Administration (STMA) et le State Environmental Protection Administration (SEPA) ont formé un Comité exécutif d'évaluation

chargé d'étudier toutes les soumissions reçues. Le Comité exécutif a choisi huit équipements d'expansion dans sept entreprises aux fins de démantèlement; un deuxième équipement de la Wuhu Cigarette Factory, installé après le 25 juillet, a été démantelé à la demande de l'entreprise, sans financement du Fonds multilatéral. En tout, 97,4 tonnes de CFC-11 ont été éliminées, comme l'indique le tableau ci-dessous :

N° dans le plan de secteur	**Nom de l'entreprise**	**Équipements**		**CFC-11 (tonnes)**
		Nombre	**Date d'installation**	
18	Tongren Cigarette Factory	1	Août 1991	6,3
20	Bijie Cigarette Factory	1	Octobre 1993	0,0
22	Lichuan Cigarette Factory	1	Avril 1992	25,0
23	Zaoyang Cigarette Factory	1	Mars 1992	21,8
42	Chongqing Cigarette Factory	1	Octobre 1992	8,5
52	Hangzhou Cigarette Factory	1	Octobre 1987	22,3
56	Yuxi Hongta Group Changchun Cigarette Factory	2	Janvier 1985	5,8
33	Wuhu Cigarette Factory(*)	1	Décembre 1996	5,0
Total		9		94,7

* Sans aucun appui financier du Fonds multilatéral

16. Les membres du Groupe de travail spécial sur le plan de secteur du tabac, le Bureau de coopération économique étrangère de SEPA, la Gestion de la régie des tabacs concernée et le Bureau de protection de l'environnement local ainsi que des membres du bureau public du notaire local ont assisté à tous les démantèlements d'équipement d'expansion du tabac à base de CFC-11 (le procédé de démantèlement a été enregistré sur bande vidéo, photographié et notarié; les bandes vidéo et les photos ont été conservées par le Groupe de travail spécial afin qu'elles puissent être examinées par l'agence d'exécution).

17. Au cours de la mise en œuvre du projet, le gouvernement de la Chine a décidé que des recherches plus poussées et de plus amples analyses s'imposaient afin de régler les problèmes qui pourraient survenir lors de l'utilisation des instruments de contrôle et d'assurer qu'ils sont conformes aux règlements de l'Organisation mondiale du commerce. On s'attend à ce que le mécanisme de gestion du commerce soit en place au début de 2002 (la première mesure prévue est une interdiction d'importer/exporter du tabac gonflé au CFC-11 et/ou des cigarettes fabriquées avec du tabac gonflé au CFC-11.

18. Les activités d'assistance technique suivantes ont été entreprises en 2001 :

a) Un atelier de formation à l'intention des gestions des régies des tabacs provinciales et des compagnies de tabac ayant pour but de discuter des modalités de la mise en oeuvre du plan de secteur a eu lieu à Guangzhou au mois de décembre 2000.

b) Une réunion visant à expliquer le système de quotas proposé et mettre sur pied le système de gestion et de surveillance de la mise en œuvre du plan de secteur a eu lieu en janvier 2001.

c) Un système d'information de gestion a été conçu et mis à l'essai, et implanté dans les bureaux et divisions locales de STMA et de SEPA. Le système surveille la consommation de CFC-11 dans les entreprises, prévient la consommation au-delà des quotas permis, et identifie la capacité de production non utilisée et la disponibilité du tabac gonflé.

d) Une étude a été entreprise à Henan Xinzheng Cigarette Factory au mois de décembre 2001 afin de connaître les effets de l'emballage sur le tabac gonflé transporté. De plus, en mars 2001, le Zhengzhou Tobacco Research Institute a été choisi pour préparer une étude visant à optimiser le transport du tabac gonflé.

e) Des experts et des techniciens d'entreprises fabriquant de l'équipement de gonflage du tabac à base de CFC-11 ont été invités à s'exprimer sur les problèmes reliés à la consommation accrue de CFC-11 dans certaines entreprises par rapport aux normes (Guiyang, Zunyi, Xiamen, Shaoguan, Zhangjiakou et Longyan). La quantité de tabac gonflé par unité de CFC-11 utilisée a augmenté après les travaux des experts. Les experts ont aussi préparé un « Guide de l'équipement de gonflage du tabac à base de CFC-11 » qui a été distribué aux compagnies de tabac.

Programme de travail annuel pour 2002

19. Les principales activités du programme de travail de 2002 à être mises en œuvre sont les suivantes :

a) Au cours du premier trimestre de 2002, le gouvernement de la Chine imposera un quota de consommation totale de CFC-11 de 880 tonnes pour l'année 2002. Celui-ci sera suivi d'un appel de soumissions publiques destiné aux entreprises admissibles restantes afin d'éliminer 120 tonnes de CFC-11 et respecter le plan de secteur.

b) Des contrats de démantèlement d'équipement seront signés avec les soumissionnaires retenus et le démantèlement sera surveillé selon les procédures établies en 2001.

c) Un mécanisme de gestion du commerce interdisant l'importation/exportation de tabac gonflé au CFC-11 sera mis en vigueur.

d) Des activités d'assistance techniques seront offertes pour mener à terme l'étude sur les mécanismes de gestion du commerce, y compris le respect des règlements de l'OMC; la suite des travaux pour la réduction des quantités de CFC-11 utilisé dans l'équipement de gonflage existant; des études de faisabilité sur l'approvisionnement en tabac gonflé auprès de groupes d'entreprises; et l'optimisation du transport du tabac gonflé.

e) Les indicateurs d'efficacité des activités proposées qui seront en vigueur en 2002 sont précisés dans le tableau suivant :

<table>
<tr><td colspan="4">Objectifs d'élimination du CFC-11</td></tr>
<tr><td>Consommation actuelle (tonnes PAO)</td><td>Objectif d'élimination en 2002 (tonnes PAO)</td><td>Niveau de consommation à la fin de 2002 (tonnes PAO)</td><td>Indicateurs d'efficacité</td></tr>
<tr><td>1 000</td><td>120</td><td>880</td><td>Niveau de consommation nationale et niveau de consommation des utilisateurs restants</td></tr>
<tr><td colspan="4">Application des politiques</td></tr>
<tr><td colspan="2">Mesures de politique</td><td colspan="2">Indicateurs d'efficacité</td></tr>
<tr><td colspan="2">Permis pour les quotas de CFC-11 pour 2002, 880 tonnes maximum</td><td colspan="2">Allocation et application des quotas</td></tr>
<tr><td colspan="4">Activités dans les entreprises</td></tr>
<tr><td>Activité</td><td colspan="3">Indicateurs d'efficacité</td></tr>
<tr><td>Mise hors service de l'équipement d'expansion à base de CFC-11 (64 chaînes)</td><td colspan="3">1. Fin du processus de soumission pour le choix des chaînes à fermer.
2. Signature des contrats.
3. Exécution du démantèlement des chaînes de production.
4. Remise des rapports sur le démantèlement et l'achèvement du projet.</td></tr>
<tr><td colspan="4">Activités d'assistance technique</td></tr>
<tr><td>Activité</td><td colspan="3">Indicateurs d'efficacité</td></tr>
<tr><td>Information, sensibilisation et formation</td><td colspan="3">Établissement des dates des activités de formation et dissémination de matériel d'information.</td></tr>
<tr><td>Étude des mécanismes de gestion du commerce</td><td colspan="3">Annonce d'une interdiction d'importer et d'exporter tout tabac gonflé au CFC-11 et les cigarettes fabriquées de tabac gonflé au CFC-11.</td></tr>
<tr><td>Suite des travaux pour réduire la consommation de CFC-11 dans l'équipement existant</td><td colspan="3">Les experts doivent terminer les consultations techniques et la formation, et remettre leurs rapports de rendement.</td></tr>
<tr><td>Études de faisabilité sur l'approvisionnement en tabac gonflé</td><td colspan="3">Remise des résultats des études de faisabilité.</td></tr>
<tr><td>Études sur le transport du tabac gonflé</td><td colspan="3">Remise des rapports finaux.</td></tr>
</table>

OBSERVATIONS ET RECOMMANDATIONS DU SECRÉTARIAT

OBSERVATIONS

20. Le Secrétariat a pris connaissance du rapport périodique sur la mise en œuvre du programme de travail de 2001 présenté par l'ONUDI et l'a comparé à l'accord entre le Comité exécutif et le gouvernement de la Chine sur la stratégie d'élimination dans le secteur du tabac. Le Secrétariat a noté que les activités mises en œuvre en 2001 ont donné lieu à l'élimination de 94,7 tonnes PAO de CFC-11 pour le gonflage du tabac (4,7 tonnes PAO de plus que la quantité convenue).

21. Le Secrétariat a également noté que la mise en œuvre des activités d'assistance technique effectuée en 2001, plus particulièrement la mise sur pied d'un système d'information de gestion, a permis, entre autres, de surveiller la consommation de CFC-11 dans les entreprises, prévenant

ainsi une consommation supérieure aux quotas, et de réduire la consommation de CFC-11 dans certaines entreprises.

22. En ce qui concerne le programme de travail pour 2002, le Secrétariat a noté que l'objectif d'élimination de 120 tonnes PAO de CFC est conforme aux quantités à éliminer mises de l'avant dans l'accord.

RECOMMANDATIONS

23. Le Comité exécutif pourrait souhaiter approuver le programme de travail annuel pour 2002 du plan du secteur du tabac pour l'élimination du CFC-11 en Chine et allouer la somme de 2 millions $US à sa mise en œuvre.

24. En vertu de la décision 32/69, le Comité exécutif pourrait également souhaiter que l'ONUDI remette un rapport sur l'utilisation des sommes allouées en coûts d'appui et joindre ce rapport au programme de travail pour 2003.

FICHE D'ÉVALUATION DE PROJET
CHINE

SECTEUR : Production Consommation sectorielle de SAO (199) : S.o.

Seuil de coût-efficacité du secteur : S.o.

Titre du projet :

a) Plan de secteur pour l'élimination de la production de CFC en Chine : programme de travail de 2002

Donnes relatives au projet	**Fin de la production de CFC**
Consommation de l'entreprise (tonnes PAO)	
Incidences du projet (tonnes PAO)	
Durée prévue du projet (mois)	12
Montant initial demandé ($US)	13 000 000
Coût final du projet ($US)	
Coûts différentiels d'investissements a)	
Fonds pour imprévus b)	
Coûts différentiels d'exploitation c)	
Coût total du projet (a+b+c)	
Participation locale au capital (%)	100 %
Pourcentage des exportations (%)	0 %
Montant demandé ($US)	13 000 000
Rapport coût-efficacité ($US/kg)	
Confirmation du financement de contrepartie?	
Agence nationale de coordination	
Agence d'exécution	Banque mondiale

Recommandations du Secrétariat	
Montant recommandé ($US)	
Incidences du projet (tonnes PAO)	
Rapport coût-efficacité ($US/kg)	
Coûts d'appui de l'agence d'exécution ($US)	
Coût total pour le Fonds multilatéral	

DESCRIPTION DU PROJET

25. Le programme annuel de 2002 pour l'élimination de la production de CFC en Chine a été proposé par la Banque mondiale et approuvé par la 35e réunion du Comité exécutif, en décembre 2001. Le comité exécutif a noté que « la demande de financement serait soumise par la Banque mondiale à la 36e réunion, en même temps qu'un rapport de vérification de la mise en oeuvre du programme annuel de 2001. » (Décision 35/49).

26. Comme demandé, la Banque mondiale présente à la 36e réunion du Comité exécutif, le rapport de vérification de la mise en oeuvre du programme de 2001 pour l'élimination de la production de CFC en Chine (annexe I), qui comprend une vérification complète de la fermeture des 3 usines mentionnées dans le programme de travail de 2001 (portant les numéros de rapports de vérification A7, A11 et B5 du SRIC) et de 7 usines dont le niveau de production était inférieur au quota du programme annuel de 2001 (portant les numéros de rapport de vérification A8, A10, A13, A14, B8, B12 et B14 du SRIC).

27. Le rapport est divisé en cinq parties. La première partie est un sommaire des résultats principaux de paramètres tels que la consommation générale de matières premières et une évaluation globale de la réalisation des objectifs du programme annuel de 2001. La deuxième partie propose une description de la vérification des 7 usines dont le niveau de production a été inférieur aux quotas de 2001. Elle débute par une évaluation du suivi effectué par l'usine sur les améliorations proposées dans la dernière vérification et poursuit avec des observations sur la qualité de la tenue de livres et un exposé détaillé de la méthode et des dossiers utilisés pour vérifier la production de CFC et la consommation de matières premières. La deuxième partie se termine par l'identification des problèmes et leur conclusion.

28. La troisième partie présente les résultats conformément au mode de présentation approuvé par le Comité exécutif, et porte sur les données de capacité de production, le mélange de produits, les quotas de production et la production, le niveau de consommation et la consommation réelle des matières premières, et les journées d'activités. La quatrième partie porte sur la vérification de la fermeture et du démantèlement de 3 usines en 2001. Les données à cet effet ont été transmises selon le mode de communication des données approuvé par le Comité exécutif. La quatrième partie se termine par une évaluation du caractère complet du démantèlement. La cinquième partie propose une vérification financière de l'usine visant à confirmer les résultats de la vérification matérielle de l'usine.

29. L'évaluation générale de la vérification conclut que la Chine a atteint l'objectif annuel établi dans l'accord pour l'année 2001 grâce à un niveau de production réel de 36 196,1 tonnes PAO, un niveau inférieur à l'objectif de 36 200 tonnes PAO fixé dans l'accord. Avec la remise du rapport de vérification, la Banque demande le décaissement de 13 millions $US et des coûts d'appui connexes pour le programme annuel de 2002.

OBSERVATIONS ET RECOMMANDATIONS DU SECRÉTARIAT

OBSERVATIONS

Respect des lignes directrices sur la vérification de l'élimination de la production des SAO

30. La vérification du programme de travail de 2001 révèle une amélioration importante du respect des lignes directrices sur la vérification de l'élimination de la production de SAO comparativement aux rapports des années précédentes. L'amélioration était déjà évidente dans le rapport de vérification révisé du programme de travail de 2000 remis par la Banque mondiale en juillet 2001 avec la demande pour les derniers 50 pour cent du financement pour le programme de travail de 2001. Les modes de présentation approuvés sont mieux respectés, et la description de la méthode et de la pertinence des documents d'appui utilisés pour repérer et valider la production de CFC et la consommation de matières premières est plus détaillée. Il y a aussi un compte rendu plus complet des problèmes recensés et un suivi d'année en année de ces problèmes afin d'en assurer l'amélioration.

Problèmes reliés au respect des quotas de production

31. Le rapport de vérification a fait une mise en garde concernant l'étroite marge réalisée par deux usines, Zhejiang Chemical Research Institute pour le CFC-114, et Jiangsu Changsu 3F Refrigerant Co Ltd. pour le CFC-11, dans le respect des quotas établis. Zhejiang Chemical Reasearch Institute a produit 6 833 tonnes de CFC-114, un excédent de 0,033 tonne par rapport au quota de 6,8 tonnes. Les deux décimales ont été arrondies à une seule décimale dans le rapport, ce qui a permis à l'usine de respecter son quota. En ce qui concerne 3F, les vérificateurs ont remis en question le fait que l'usine ait mis les fuites au crédit de son quota alloué car ils affirment que tout produit fini émis dans l'atmosphère devrait être compté comme une émission de SAO. Autrement, la production et la façon de traiter les fuites pourraient faire la différence entre le respect et le non-respect du quota de l'usine car celle-ci a produit 8 221,9 tonnes de CFC-11 alors que son quota était de 8 222 tonnes.

32. Le gouvernement devrait établir une façon standard de traiter les fuites importantes de produits finis et assurer une surveillance plus étroite de la mise en oeuvre des quotas. Il est toutefois noté que le gouvernement a entrepris des inspections sur place par des pairs chez les producteurs de CFC restants afin d'améliorer la surveillance.

Données de la vérification financière

33. L'implantation de la vérification financière pour renforcer la vérification matérielle est une mesure appréciée. Cependant, la cinquième partie du rapport ne contient pas suffisamment de données pour permettre de juger des résultats et des conclusions tirées.

34. Il n'y a aucun rapport financier sur les dépenses du programme d'assistance technique, et la vérification n'en fait pas état. Pourtant, le programme reçoit un important appui financier. On ne sait pas trop si la Banque mondiale compte inclure le programme d'assistance technique dans la vérification financière ni quels mécanismes la Banque utilise actuellement pour surveiller ce

programme, surtout en ce qui a trait à la fréquence des rapports et le nom de l'agence qui assure la vérification.

Examen des frais d'administration de la Banque mondiale

35. L'accord stipule : « La Banque mondiale a accepté d'être l'agence d'exécution de ce projet contre des frais annuels de 9 % des coûts de projet décaissés au cours des trois premières années du programme. » L'année 2002 sera la quatrième année de ce programme. Les coûts payés à la Banque mondiale doivent donc être révisés afin de déterminer le taux et la période pendant laquelle ce taux sera payé.

RECOMMANDATION

36. Le Secrétariat recommande que le Comité exécutif accorde à la Banque mondiale le décaissement de 13 millions $US pour la mise en œuvre du programme de travail de 2002 sur l'élimination de la production des CFC en Chine.

37. Le Secrétariat recommande que le Comité exécutif décide du niveau de frais d'administration à payer à la Banque mondiale pour continuer à gérer le programme, et la période pendant laquelle ces frais seront payés. Lorsque ce taux sera établi, les frais d'administration correspondants pour le programme de travail de 2002 en Chine devraient être payés à la Banque.

38. Le Secrétariat recommande que la Banque mondiale fournisse de l'information sur la surveillance financière dont fait l'objet le programme d'assistance technique, surtout en ce qui a trait à la fréquence des rapports et le nom de l'institution qui effectue la vérification.

FICHE D'ÉVALUATION DE PROJET
CHINE

SECTEUR : Réfrigération — Consommation sectorielle de SAO (2000) : 6 855 tonnes PAO

Seuil de coût-efficacité du secteur : Commercial 15,21 $US/kg

Titre des projets :

a) Remplacement du CFC-12 par le HCFC-22 comme frigorigène dans la fabrication de compresseurs moyens à moteur séparé à Dalian #2 Refrigeration Machinery Factory
b) Remplacement du CFC-12 par le HCFC-22 comme frigorigène dans la fabrication de petits et moyens compresseurs à moteur séparé à Shanghai Minhang Refrigerator Factory
c) Remplacement du CFC-12 par le HCFC-22 comme frigorigène dans la fabrication de petits compresseurs à moteur séparé à Zhejiang Beifeng Refrigeration Machinery Co. Ltd
d) Remplacement du CFC-12 par le HCFC-22 comme frigorigène dans la fabrication de petits compresseurs à moteur séparé à Zhejiang Chunlian Refrigeration Machinery Co. Ltd
e) Remplacement du CFC-12 par le HCFC-22 comme frigorigène dans la fabrication de petits compresseurs à moteur séparé à Zhejiang Yuhuan Refrigeration Machinery Co. Ltd

Données relatives au projet	**Commercial**				
	Dalian #2	**Shanghai Minhang**	**Zhejiang Beifeng**	**Zhejiang Chunlian**	**Zhejiang Yuhuan**
Consommation de l'entreprise (tonnes PAO)	154,18	125,00	149,76	146,47	216,60
Incidences du projet (tonnes PAO)	14878	120,62	144,52	141,34	209,60
Durée prévue du projet (mois)	36	36	36	36	36
Montant initial demandé ($US)	1 828 852	1 576 100	1 524 886	1 546 071	1 395 399
Coût final du projet ($US)*					
Coûts différentiels d'investissements a)	1 652 562	1 635 589	1 651 812	1 604 567	1 578 802
Fonds pour imprévus b)	165 256	163 559	165 181	160 457	157 880
Coûts différentiels d'exploitation c)	43 563	205 244	299 868	338 472	237 881
Coût total du projet (a+b+c)	1 861 381	2 004 392	2 116 861	2 103 496	1 974 563
Participation locale au capital (%)	100 %	100 %	100 %	100 %	100 %
Pourcentage des exportations (%)	0 %	0 %	0 %	0 %	0 %
Montant demandé ($US)	1 599 680	1 583 250	1 598 954	1 553 221	1 528 280
Rapport coût-efficacité ($US/kg)	10,75	13,13	11,06	10,99	7,31
Confirmation du financement de contrepartie?	Oui	Oui	Oui	Oui	Oui
Agence nationale de coordination	SEPA				
Agence d'exécution	Banque mondiale				

Recommandations du Secrétariat	
Montant recommandé ($US)	5 250 852
Incidences du projet (tonnes PAO)	764,86
Rapport coût-efficacité ($US/kg)	6,86
Coûts d'appui de l'agence d'exécution ($US)	587 594
Coût total pour le Fonds multilatéral	5 838 444

*Ces coûts tiennent compte des propositions modifiées présentées à la 36e réunion du Comité exécutif.

DESCRIPTION DU PROJET

Renseignements sur le secteur

- Derniers chiffres sur la consommation totale de SAO (1999)	67 580 tonnes PAO
- Consommation de référence de substances du groupe I de l'annexe A (CFC)	57 818 tonnes PAO
- Consommation de substances du groupe I de l'annexe A en 1999	42 983 tonnes PAO
- Consommation de référence de CFC dans le secteur de la réfrigération commerciale et industrielle en 2000, y compris l'entretien	6 855 tonnes PAO
- Montants approuvés pour les projets d'investissement dans le secteur de la réfrigération commerciale et industrielle en date de 2000	43,8 millions $US
- Quantité de CFC à être éliminée dans le cadre de projets d'investissement dans le secteur de la réfrigération en date de la fin 2000	4 200 tonnes PAO

39. En 1995, la Chine a élaboré sa stratégie pour éliminer la consommation de CFC-12 dans le secteur de la réfrigération commerciale et industrielle. La consommation dans ce secteur a été évaluée à 13 000 tonnes PAO à partir de la demande non contrainte de 1995. La stratégie décrivait l'état du secteur en 1993, prévoyait l'élimination complète des CFC dans le secteur avant la fin de 2004 et ne demandait un appui financier que pour la reconversion de 24 des 73 usines de fabrication de compresseurs visées par la stratégie. Les coûts associés à la fermeture des 49 entreprises restantes, de même que les coûts de l'adaptation de l'équipement de réfrigération restant à une technologie de frigorigènes sans CFC, et les coûts de récupération, de recyclage et de valorisation devaient être payés par le gouvernement de la Chine. Par la suite, la Chine a présenté des projets pour 19 de ces entreprises ainsi qu'un projet d'assistance technique pour la mise à niveau du General Machinery Research Institute. Ces projets ont été approuvés par le Comité exécutif entre 1995 et 1999 à un coût total de 43,8 millions $US pour éliminer 4 200 tonnes PAO. La technologie choisie était à base de HCFC-22 et la capacité envisagée résultant de la reconversion était d'environ 185 000 appareils par année.

40. Six projets avaient été menés à terme par la Banque mondiale à la fin avril 2001. La mise en œuvre du projet de compresseurs commerciaux avait été évaluée dans le contexte de la stratégie pour l'élimination de la consommation de CFC-12 dans le secteur de la réfrigération commerciale et industrielle en Chine. Le rapport d'évaluation a été présenté à la 34e réunion où le Comité exécutif a pris la décision 34/13 qui reconnaît la capacité de production sous utilisée après la reconversion et fournit, entre autres, une orientation particulière pour la préparation de futures propositions de projet dans ce secteur afin de réaliser une reconversion plus durable à plus faible coût.

41. À la 35e réunion du Comité exécutif, le gouvernement de la Chine a présenté par l'entremise de la Banque mondiale, un plan de secteur révisé pour l'élimination de la consommation de CFC-11 et de CFC-12 dans le secteur de la réfrigération industrielle et commerciale, et cinq projets d'investissement pour la reconversion d'installations de fabrication

de compresseurs. Le Comité exécutif a pris note de la stratégie révisée et a adopté la décision 35/50 en conséquence.

42. Selon la décision 35/50, les cinq projets restants devraient être proposés à la 36e réunion du Comité exécutif, comme l'indique la stratégie de secteur. Cette décision donne au gouvernement de la Chine la souplesse nécessaire pour déterminer les coûts différentiels qui ne sont pas nécessairement reliés à la reconversion des cinq entreprises en question afin de mettre en œuvre les activités d'élimination nécessaires dans le secteur de la façon la plus économique possible.

Description des projets

43. Les cinq entreprises fabriquent divers modèles de petits et de moyens compresseurs à moteur séparé ainsi que de l'équipement de réfrigération tel que des évaporateurs, des condensateurs, et des appareils de climatisation et de condensation. En plus d'utiliser leurs propres compresseurs, les entreprises importent des compresseurs hermétiques et semi-hermétiques à base de HCFC-22 pour fabriquer de l'équipement de réfrigération. Les cinq entreprises reconvertiront leurs activités à une technologie à base de HCFC-22.

44. Les cinq projets ont été proposés à l'origine par la Banque mondiale aux fins d'examen à la 35e réunion du Comité exécutif. Les résultats de l'examen préliminaire du Secrétariat sont rapportés dans les observations du Secrétariat au Comité exécutif qui ont servi de fondement à la formulation et l'adoption de la décision 35/50. Les propositions ont été reportées à la 36e réunion. La Banque mondiale a proposé des révisions aux cinq projets qui comprennent des renseignements supplémentaires pas tout à fait conformes aux renseignements fournis dans la proposition originale. L'examen du Secrétariat tient compte de ces renseignements. Cependant, les données relatives aux cinq projets présentées dans ce document semblent conformes à celles des documents originaux qui ont servi de fondement aux conseils formulés à l'intention de la 35e réunion du Comité exécutif.

45. Dans les 19 projets approuvés à ce jour, le transfert technologique devait se faire par l'achat de nouveaux compresseurs conçus par les pays non-visés à l'article 5. En raison des difficultés à concrétiser cette approche, le Comité exécutif a décidé dans la décision 34/13 qu'une reconversion plus durable pourrait être réalisée à meilleur coût pour les cinq projets restants en mettant à niveau les compresseurs existants à l'échelle locale avec l'assistance d'un réseau d'universités, de centres de recherche locaux, et de consultants internationaux. Par conséquent, les coûts de transfert demandés sont de 100 000 $US pour quatre entreprises et de 120 000 $US pour la cinquième entreprise.

46. Comme les composantes principales des nouveaux compresseurs ne sont pas des mêmes dimensions et que tout doit être d'une très grande précision, les outils de mesure dédiés existants devront être remplacés. Chacune des entreprises demande un appui financier pour l'achat d'un centre d'usinage à contrôle numérique au coût de 390 000 $US à 600 000 $US par machine, selon la taille du compresseur fabriqué, pour l'usinage de carters. Deux centres d'usinage sont demandés pour chacun des quatre projets proposés et une seule pour le projet Dalian, ce qui représente neuf appareils.

47. Les coûts du centre d'usinage à contrôle numérique représentent la composante la plus onéreuse de chacun des projets. Un appui financier est également demandé pour l'achat de plus petits centres d'usinage à contrôle numérique de fabrication locale, selon la configuration du procédé de fabrication, pour la production de vilebrequins, de bielles et de plateaux de distribution dans chacune des propositions.

48. Les coûts de reconversion comprennent également le remplacement des outils d'usinage, les accessoires fixés dédiés, l'équipement de vérification, les essais de production, la formation, l'assurance expédition et l'installation.

49. Les coûts pour les imprévus sont calculés à 10 pour cent du coût de l'investissement. Un facteur de réduction de 12 pour cent a été appliqué aux cinq propositions afin de tenir compte de la mise à niveau technologique. Les propositions de projet comprennent les calculs des coûts d'exploitation. Par contre, ces coûts ne sont pas demandés. L'ensemble des coûts différentiels représente 7 745 773 $US.

Justification de l'utilisation du HCFC-22

50. La justification de l'utilisation du HCFC-22 a été fournie et est jointe à l'annexe II aux présentes. La lettre d'engagement sur le financement de contrepartie est également jointe à chacune des propositions, et sera disponible au Secrétariat sur demande.

OBSERVATIONS ET RECOMMANDATIONS DU SECRÉTARIAT

OBSERVATIONS

51. Le Secrétariat a examiné les cinq propositions à la lumière de l'approbation des 19 projets du sous-secteur de la fabrication de compresseurs commerciaux, l'évaluation du secteur de la fabrication des compresseurs en Chine et la décision 34/13 qui s'en est suivi, ainsi que la décision 35/50 (Stratégie pour la production de compresseurs dans la réfrigération commerciale en Chine) et la décision 35/48 (Plan d'élimination du secteur des mousses en Chine). Le Secrétariat a aussi discuté des cinq propositions avec la Banque mondiale. Plusieurs questions ont été soulevées.

Nombre de centres d'usinage à contrôle numérique

52. Le nombre de centres d'usinage à contrôle numérique peut être calculé pour chacune des entreprises à partir du nombre d'heures de travail par année, le temps d'usinage exigé par compresseur et le niveau de production nécessaire. Par contre, ce calcul doit être effectué après avoir pris en considération la partie pertinente des décisions 34/13 et 35/50 selon laquelle la base de calcul pour l'équipement onéreux doit tenir compte du temps de fonctionnement prolongé. De plus, comme c'est le cas dans les 19 projets déjà approuvés, les centres d'usinage à contrôle numérique doivent être réservés à l'usinage final de haute précision tandis que l'équipement existant doit, dans la mesure du possible, être conservé et utilisé pour l'usinage préliminaire. Cette façon de faire réduira le temps d'usinage et le nombre de centre d'usinage nécessaire.

53. Shanghai Minhang Refrigeration Factory, une usine pour laquelle on demande deux centres d'usinage, appartient à Zhejiang Chunhui Group, qui a déjà reçu un appui financier de 2,2 millions $US pour quatre centres d'usinage à contrôle numérique qui ne sont pas utilisés à leur plein potentiel à l'heure actuelle. Cette situation est propice à la rationalisation, comme le prévoit la décision 34/13.

54. En vertu de ce qui précède, le Secrétariat et la Banque mondiale ont convenu du nombre de centres d'usinage à contrôle numérique recevables, à savoir un centre d'usinage à contrôle numérique chacune pour quatre entreprises et deux pour Jhejiang Chunlian, qui possède le niveau de production le plus élevé des cinq entreprises. Les coûts différentiels d'investissement ont été calculés en conséquence pour chacune des entreprises.

Coûts différentiels des centres d'usinage à contrôle numérique

55. Il y a eu de longues discussions sur les coûts différentiels des centres d'usinage à contrôle numérique entre la Banque mondiale et le Secrétariat avant la 22e réunion du Comité exécutif. À la suite de ces discussions, les coûts différentiels des centres d'usinage à contrôle numérique variant de 460 000 $US à 560 000 $US pour les capacités concernées, ainsi que le facteur de mise à niveau technologique de 20 pour cent, ont été réduits à un coût fondé sur les soumissions reçues, qui étaient de l'ordre de 300 000 $US à 350 000 $US, et un facteur de mise à niveau technologique ramené à 12 pour cent. Ces paramètres ont été utilisés pour sept projets approuvés à la 22e réunion et dans 3 projets approuvés à la 28e réunion. La Banque mondiale propose un coût révisé de 390 000 $US à 600 000 $US pour les projets actuels, et un facteur de mise à niveau technologie inchangé de 12 pour cent. La Banque a indiqué que ces coûts sont fondés sur le coût réel de l'équipement acheté dans les projets mis en œuvre. Par contre, le coût des appareils finalement achetés par les entreprises n'est pas nécessairement un facteur déterminant dans l'établissement des coûts différentiels. Le Secrétariat recommande que les coûts des machines demeurent au même niveau que les coûts liés au facteur de la mise à niveau technologique et établis dans les projets antérieurs comme étant recevables, à savoir une machine à 350 000 $US et quatre à 300 000 $US.

Autres coûts différentiels

56. Se fondant sur l'approbation de projets semblables à la 28e réunion, le Secrétariat a fourni à la Banque mondiale la justification des coûts ajustés de plusieurs points budgétaires tels que les appareils de mesure, les machines d'usinage, les accessoires fixes dédiés, l'équipement d'essai et la production d'essai. Les budgets des projets ont été révisés en conséquence.

Niveau de financement admissible

57. Compte tenu de ce qui précède et étant entendu que le gouvernement de Chine profitera de la souplesse nécessaire et que les ressources seront utilisées de la façon la plus rentable possible, ce qui ne comprendra pas nécessairement la reconversion dans les cinq entreprises en question, le niveau de financement total admissible convenu entre la Banque mondiale et le Secrétariat est de 5 250 852 $US. Les coûts d'appui aux agences ont été établis à 587 594 $US

58. L'approbation des cinq derniers projets entraînera l'élimination permanente et durable dans le sous-secteur de la réfrigération commerciale.

RECOMMANDATIONS

59. Le Secrétariat recommande l'approbation de l'allocation de la somme de 5 250 852 $US et des coûts d'appui aux agences de 587 594 $US à la Banque mondiale pour la mise en œuvre des cinq derniers projets dans le sous-secteur de la réfrigération commerciale et industrielle en Chine, sous réserve que la Banque mondiale soit tenue de préciser les activités réelles mises en œuvre et les coûts correspondants dans ses rapports périodiques et d'achèvement.

FICHE D'ÉVALUATION DE PROJET
CHINE

SECTEUR : Solvants | Consommation sectorielle de SAO (2000) : 3 927 tonnes PAO

Seuil de coût-efficacité du secteur :

CFC-113	19,73 $US/kg
TCA	38,50 $US/kg
TTC	S.o.

Titre du projet :

a) Programme de mise en oeuvre du plan du secteur des solvants en Chine

Données relatives au projet	**Plusieurs solvants**
Consommation de l'entreprise (tonnes PAO)	
Incidences du projet (tonnes PAO)	925,00
Durée prévue du projet (mois)	
Montant initial demandé ($US)	6 330 000
Coût final du projet ($US)	
Coûts différentiels d'investissements a)	
Fonds pour imprévus b)	
Coûts différentiels d'exploitation c)	
Coût total du projet (a+b+c)	
Participation locale au capital (%)	100 %
Pourcentage des exportations (%)	0 %
Montant demandé ($US)	6 330 000
Rapport coût-efficacité ($US/kg)	
Confirmation du financement de contrepartie?	
Agence nationale de coordination	SEPA
Agence d'exécution	PNUD

Recommandations du Secrétariat	
Montant recommandé ($US) Incidences du projet (tonnes PAO) Rapport coût-efficacité ($US/kg) Coûts d'appui de l'agence d'exécution ($US)	
Coût total pour le Fonds multilatéral	

DESCRIPTION DU PROJET

Programme de mise en oeuvre de 2002 du plan du secteur des solvants en Chine

60. Le PNUD, au nom du gouvernement de la Chine, a présenté au Comité exécutif aux fins d'examen, un rapport sur la mise en œuvre du plan du secteur des solvants pour l'élimination de SAO en Chine, pour la période d'avril 2000 à décembre 2001, ainsi qu'une demande pour l'approbation du programme de mise en œuvre annuel de 2002 (annexe III au présent document).

61. La 30e réunion du Comité exécutif a approuvé en mars 2000 un accord pour l'élimination des SAO dans le secteur des solvants en Chine au coût de 52 millions $US. Cette même réunion du Comité exécutif a aussi approuvé la mise en œuvre d'un plan pour la période d'avril 2000 à décembre 2001 et un appui financier de 6,75 millions $US (plus des coûts d'appui de 10 pour cent) pour les activités prévues en 2000.

62. La 32e réunion du comité exécutif a pris note que le rapport provisoire sur le programme annuel de 2000-2001 du plan du secteur des solvants de la Chine présenté à la réunion indiquait que l'élimination prévue n'atteignait pas un des objectifs d'élimination mis de l'avant dans l'accord.

63. Le PNUD a présenté à la 33e réunion du Comité exécutif un rapport périodique provisoire et une demande pour le décaissement du deuxième versement prévu de 6 955 000 (plus les coûts d'appui de 10 pour cent) pour le programme annuel de 2000-2001. Le rapport précisait que des mesures correctives avaient été adoptées afin d'assurer le respect de tous les objectifs d'élimination. La décision 33/46 du Comité exécutif approuve le financement demandé, étant entendu qu'en vertu de l'amendement au programme annuel sur le financement de la production de bromure de n-propyle :

a) Le bromure de n-propyle fabriqué par la Chine ne serait pas disponible pour l'exportation.

b) Un quota de production annuel sera imposé afin de satisfaire aux exigences pour l'utilisation des solvants seulement.

c) La Chine contrôlerait la vente de bromure de n-propyle uniquement aux entreprises qui participent aux projets de reconversion dans le cadre du plan du secteur des solvants en Chine.

d) Le Bureau des importations et des exportations de Chine assurerait la surveillance et ferait en sorte qu'aucun bromure de n-propyle ne soit exporté de la Chine.

e) Le PNUD, l'agence d'exécution du secteur des solvants de la Chine, confirmerait dans son plan de vérification annuel qu'aucun bromure de n-propyle n'a été exporté.

f) Aucun appui financier supplémentaire ne sera demandé au Fonds multilatéral pour la reconversion finale à des technologies sans SAO.

64. La 35e réunion du Comité exécutif a examiné et approuvé le Programme de mise en œuvre annuel de 2002 (décision 35/51).

65. Les parties B1 et B2 du rapport décrivent les contrats d'élimination signés avec les entreprises, annoncés dans le programme de mise en œuvre de 2000-2001. La partie F du rapport fournit les données sur la consommation globale de CFC-113, de TCA et de CTC pour l'année 2000, comme annoncé dans l'accord du plan de secteur.

66. Le rapport indique que le projet de coopération bilatérale qui devait être mis en œuvre avec le Japon, prévu au plan de secteur, n'aura pas lieu. Un projet de coopération bilatérale possible avec la France, également prévu dans le plan de secteur, est encore en voie d'examen (partie B3).

67. La partie B4 indique que la Chine a mis en œuvre la modalité de l'accord d'interdire l'exportation de SAO utilisés comme solvants nettoyants.

68. La partie C comprend toute une gamme d'activités d'assistance technique conformes aux activités annoncées dans le programme de mise en œuvre. La partie C5 insiste sur le fait qu'aucune activité n'avait encore été entreprise et qu'aucune dépense n'avait été engagée dans l'élaboration et la production de HEP-2 contenant du bromure de n-propyle.

69. Les indicateurs d'activité des activités contenues dans le premier programme de mise en œuvre, et leurs résultats, sont présentés dans un tableau de l'annexe I au rapport.

OBSERVATIONS ET RECOMMANDATIONS DU SECRÉTARIAT

OBSERVATIONS

70. Le rapport sur le programme de mise en œuvre de 2000-2001 révèle que la Chine a signé des contrats pour la réduction de la consommation de SAO dans des entreprises, qui atteignent et dépassent même le niveau d'élimination total pour chacune des SAO mentionnées dans le programme de mise en œuvre.

71. Les chiffres fournis dans le rapport (partie F, page 9) révèlent que les objectifs de consommation de 2000 de CFC-113, de TCA et de CTC précisés dans le programme ont été atteints. Ces chiffres ne proviennent pas des activités comprises dans le plan de secteur et qui auront des incidences sur les objectifs de consommation pour 2001, et ne sont dont pas sujets à vérification par le PNUD (cette vérification débutera cette année pour la consommation de 2001). Les chiffres comprennent les niveaux de production, d'importation et d'exportation du CFC-113, du TCA et du CTC. Le niveau de production du CFC-113, qui se situe à 4 371 tonnes, est supérieur au niveau de production total rapporté par la Banque mondiale dans sa vérification de la production de CFC en Chine en 2000, qui se situait à 4 125 tonnes. De plus, « la consommation des matières premières » du CFC-113 évaluée à 245 tonnes dépasse de 12,5 tonnes (10 tonnes PAO) la quantité maximum convenue de CFC-113 comme matière première précisée au paragraphe « c » de l'accord. Le PNUD a ouvert une enquête sur ces divergences flagrantes.

72. Le paragraphe « c » de l'accord stipule également que la Chine préparera chaque année une liste des quantités de CFC-113 et de CTC achetés par certaines entreprises particulières afin d'être utilisées comme agents de transformation et matières premières exemptés. Cette liste n'est pas comprise dans le rapport. Le Secrétariat a soulevé la question auprès du PNUD qui a entrepris des mesures pour obtenir l'information demandée dans l'accord.

73. L'annexe au rapport contient un tableau des indicateurs d'efficacité, dont certains sont identiques aux indicateurs d'efficacité proposés dans le plan de mise en œuvre. Le tableau révèle que les indicateurs d'efficacité ont été respectés.

74. Si le Comité exécutif reçoit de l'information satisfaisante sur les questions en suspens mentionnées ci-dessous de la part du PNUD, le Comité exécutif pourrait approuver l'allocation de la somme de 6 330 000 $US et les coûts d'appui de 633 000 $US à l'agence du programme de mise en oeuvre annuel de 2002 pour le secteur des solvants en Chine approuvés à la décision 35/51.

RECOMMANDATION

75. En attente.

Annex I

CHINA CFC PRODUCTION PHASEOUT PROGRAM

2001 VERIFICATION REPORT

February 13, 2002

Inspection Team

F.A. Vogelsberg: Mission Leader and primary text preparation – Annex I

Hua Zhangxi: Data Summary Annex II and Annex III.

Wu Ning: Financial Verification of the CFC Production for China in 2001 – Annex IV

Assisted and Accompanied By

Tang Qingyan: State Environment Protection Administration – Beijing (January 28 - February 4)

Feng Liulei: State Environment Protection Administration – Beijing (February 4-8)

Inspection Mission Time Frame

January 27 – February 10, 2002

Plants Covered in Visitation Order

Juhua Fluoro-Chemiacal Co. Ltd – Zhejiang Province, Quzhou City

Dongyang Chemical Plant – Zhejiang Province, Dongyang City

Linhai Limin Chemcial Plant – Zhejiang Province, Linhai City

Guangdong Xiansheng Chemical Co. Ltd – Guangdong Province Zengcheng City

Jaingsu Meilan Electro-Chemical Plant – Jiangsu Province, Taihou City

Jiangsu Changsu* 3F Refrigerant Co. Ltd – Jiangsu Province, Changsu* City

* All World Bank documents spell as Changsu; while the true spelling is Changshu

Report Format and Contents

Summary of verification conclusions for CFC Production in China for year 2001.

Annex I – Complete textual description of the Missions' Verification efforts for each of the seven Enterprises' year 2001 Production.

Annex II – China CFC Production Phase out Program 2001 CFC Production Verification Report.

Annex III – China CFC Production Sector Complete Closure Project 2001 Verification Report.

Annex IV – Financial Verification of CFC Production in China in 2001.

There were seven enterprises producing CFC products in China in 2001. The verified overall national production of CFCs in 2001 is 36,196.1 tons (ODP). The following table is the breakdown in accordance with various types of product.

Type of CFC Product	Number of Producers	Total Production (in tons)	
		ODS	ODP
CFC-11	3	14,098.9	14,098.9
CFC-12	6	19,257.2	19,257.2
CFC-13	1	27.0	27.0
CFC-113	1	3,375.0	2,700.0
CFC-114	1	6.8	6.8
CFC-115	2	177.0	106.2
Overall National			36,196.1

The total consumption of CTC for the production of 14,098.9 tons of CFC-11 product is 17,426.3 tons; and the overall average CTC/ CFC-11 ratio is 1.236. Among the three CFC-11 producers, the producer that had the lowest CTC/ CFC-11 ratio (1.209) is Zhejiang Juhua Fluoro-chemical Co. Ltd.(SRI# B 14); and the highest ratio (1.271) is Jiangsu Meilan Electro-chemical Plant (SRI# A 8) .

The total consumption of HF for the production of 14,098.9 tons of CFC-11 product is 2,228.6 tons; and the overall average HF/ CFC-11 ratio is 0.158. Among the three CFC-11 producers, the producer that had the lowest HF/ CFC-11 ratio (0.156) is Zhejiang Juhua Fluoro-Chemical Co. Ltd. (SRI# B 14); and the highest ratio (0.180) is Jiangsu Meilan Electro-chemical Plant (SRI# A 8).

The total consumption of CTC for the production of 19,256.9 tons of CFC-12 product is 26,586.2 tons; and the overall average CTC/ CFC-12 ratio is 1.380. Among the six CFC-12 producers, the producer that had the lowest CTC/ CFC-12 ratio (1.357) is Zhejiang Dongyang Chemical Plant (SRI# B 12); and the highest (1.411) is Jiangsu Changsu 3 F Refrigerant Co. Ltd. (SRI# A 10)

The total consumption of HF for the production of 19,257.2 tons of CFC-12 product is 7,388.4 tons; and the overall average HF/ CFC-12 ratio is 0.384. Among the six CFC-12 producers, the producer that has the lowest HF/ CFC-12 ratio (0.354) is Zhejiang Juhua Fluoro-chemical Co. Ltd. (SRI # B 14) and the highest (0.418) is Guangdong Xiansheng Chemical Co. Ltd.(SRI# A 13).

A detailed summary of China CFC production in 2000 follows on the next page.

SUMMARY OF CHINA CFC PRODUCTION IN 2001

CFC-11

SRI #	Name of Enterprise	Production (ODS)	Production (ODP)	CTC Cons'ption	HF Cons'ption	Ratio CTC/ CFC-11	Ratio HF/ CFC-11
A 8	Jiangsu Meilan Electro-chemical Plant	1,049.7	1,049.7	1,334.1	189.4	1.271	0.180
A 10	Jiangsu Changsu 3F Refrigerant Co. Ltd.	8,221.9	8,221.9	10,254.0	1,287.1	1.247	0.157
B 14	Zhejiang Juhua Fluoro-chemical Co. Ltd.	4,827.3	4,827.3	5,838.2	752.1	1.209	0.156
	Overall	14,098.9	14,098.9	17,426.3	2,228.6	1.236	0.158

CFC-12

SRI #	Name of Enterprise	Production (ODS)	Production (ODP)	CTC Cons'ption	HF Cons'ption	Ratio CTC/ CFC-12	Ratio HF/ CFC-12
A 8	Jiangsu Meilan Electro-chemical Plant	1,792.9	1,792.9	2,439.6	711.7	1.361	0.397
A 10	Jiangsu Changsu 3F Refrigerant Co. Ltd.	5,075.0	5,075.0	7,163.0	2,084.8	1.411	0.411
A 13	Guangdong Xiansheng Chemical Co. Ltd.	1,099.4	1,099.4	1,507.8	459.9	1.371	0.418
B 8	Zhejiang Linhai Limin Chemical Plant	1,364.9	1,364.9	1,870.5	569.3	1.370	0.417
B 12	Zhejiang Dongyang Chemical Plant	2,218.9	2,218.9	3,010.5	835.6	1.357	0.377
B 14	Zhejiang Juhua Fluoro-chemical Co. Ltd.	7,706.1	7,706.1	10,590.7	2,727.1	1.374	0.354
	Overall	19,257.2	19,257.2	26,582.1	7,388.4	1.380	0.384

CFC-13

SRI #	Name of Enterprise	Production (ODS)	Production (ODP)	CFC-12 Cons'ption	Ratio CFC-13/CFC-12
B 8	Zhejiang Linhai Limin Chemical Plant	27.0	27.0	74.8	2.771

CFC-113

SRI #	Name of Enterprise	Production (ODS)	Production (ODP)	PCE Cons'ption	HF Cons'ption	Ratio PCE/ CFC-113	Ratio HF/ CFC-113
A 10	Jiangsu Changsu 3F Refrigerant Co. Ltd.	3,375.0	2,700.0	3,601.2	1,601.2	1.067	0.474

CFC-114

SRI #	Name of Enterprise	Production (ODS)	Production (ODP)	CFC-113 Cons'ption	HF Cons'ption	Ratio CFC-113/ CFC-114	Ratio HF/ CFC-114
B-11	Zhejiang Chemical Research Institute	6.8	6.8	8.9	2.8	1.304	0.413

CFC-115

SRI #	Name of Enterprise	Production (ODS)	Production (ODP)	CFC-113 Cons'ption	HF Cons'ption	Ratio CFC-113/ CFC-115	Ratio HF/ CFC-115
A 10	Jiangsu Changsu 3F Refrigerant Co. Ltd.	50.0	30.0	86.0	40.2	1.720	0.803
B-11	Zhejiang Chemical Research Institute	127.0	76.2	152.1	52.950	*1.382	0.417
	Overall	177.0	106.2	238.1	93.1	*1.478	0.526

* Zhejiang Chemical Research Institute made use of 23.461 tons of CFC 113a, which is a non-ODS obtained as by-product from their HCFC 123 production unit, as part of raw material for CFC 115 production. This action has been taken into consideration in the calculation of the ratio.

Annex I: Textual Description

Tuesday, January 29 – Zhejiang Juhua (Quhua) Fluoro-Chemistry Co. Ltd.

12,000 TPA CFC-11/CRC-12
10,000 TPA AHF
30,000 TPA Chloromethanes (nominal 14,000 TPA CTC)

Background

The fiscal year 2000 data verification was conducted by Messers Vogelsberg, Hua and Wu from the World Bank and Li Zhuo from SEPA on June 4 & 5, 2001. This was the first of ten Enterprise verifications conducted using the new Ex-Com format, so considerable effort was expended in an attempt to match production plant control log sheet data to reported monthly production. This exercise proved non-productive at several locations, as explained in detail in our June 25, 2001, Mission Report Summary. Therefore, while we will examine plant-operating records to verify they are "real time" records; reconciliation of mass flow rates to reported monthly production will not be attempted.

Current Visit Purpose

Juhua, as one of the seven operating plants in 2001 operating under a quota, is required to present plant data and records for verification of key raw material consumptions and CFC-11 and CRC-12 produced in 2001.

Last years' verification work established that this Enterprise maintains very detailed and easily verifiable CFC production records and the reader of this report may want to refer to our June 25, 2001, Mission Report for specific details of records created by Juhua. The year 2001 verification, like last year, was conducted in two parts; with Mr. Wu Ning conducting a financial review and the other team members examined production plant daily and monthly records. All individual monthly records for CFC-11 and CFC-12 production (finished product packaged and passed as acceptable by quality control) were verified as accurately reported by the Enterprise to SEPA. A representative number of monthly AHF and CTC transfers into the fluorocarbon plants were verified and found to be accurate as reported to SEPA. A representative number of the plant's shift log sheets were examined to check on the Enterprise's reported operating days. We concur that their reported days of operation were correct. We also were satisfied that the shift, daily and monthly records were authentic; and as reported last year all records were done in ink and properly signed by at least two responsible personnel.

Our team is satisfied that Juhua data for CFC-11 and CFC-12 production in 2001 is correct as reported to SEPA.

Juhua produces most of their CTC needs for CFC's but require some outside purchases to meet their current demand. Juhua also sells some CTC to outside customers. The plant's total CTC balance was reconciled.

Juhua produced most of their on site AHF needs, but also purchase some AHF to meet total site needs. AHF is used on site for producing HCFC-22, CFC-11/12 and Aqueous HF. HF also is sent to commodity storage for sale to outside customers. Juhua's AHF balance was reconciled.

Reconciliation of the above CTC and AHF transactions took an inordinate amount of time and Juhua has been asked to provide clearer records for next year's verification.

For future notice, when the plant is closed permanently it is important to recognize that the way Juhua reports CFC production; i.e., material that is packaged and passed quality control tests, results in a large in process stock of abut 700 tonnes. At final shutdown this quantity must be declared as production within their final year.

Wednesday, January 30 – Zhejiang Dongyang Chemical Plant

5,000 TPA CFC-12
8,000 TPA HCFC-22
20,000 TPA AHF

Background

Our verification team last visited this site June 6, 2001, for verification of year 2000 CFC-12 production, sales and raw materials consumption.

Verification Results

As at Juhua, we split into two teams; Mr. Wu Ning examined financial records to verify raw material purchases and use as well as sales of CFC-12. Messrs Vogelsberg, Hua and Madam Tang (SEPA) examined CFC-12 plant operating records and product cylinder filling records.

All CFC cylinder filling record sheets were totaled for each operating month and verified against their official production reported to SEPA. All monthly records were accurate with the exceptions of a 50kg error (overage) in September. This small amount did not cause the Enterprise to exceed their 2001 quota to produce CFC-12. During verification of the CFC-12 cylinder record it was apparent that in 2001 they started filling several thousand 13.6kg DAC's or disposable pressure tanks, which are being exported under an export permit from SEPA.

Zhejiang Dongyang kept a daily and monthly plant log sheet showing estimated AHF and CTC fed to each of their two CFC-12 reactors. One log sheet covers a full month of daily totals from each shift as well as a monthly cumulative figure. We compared all of these figures for CTC and AHF

and found them to deviate less than 1% from official reported AHF and CTC used in each fiscal month.

All AHF is transferred to the CFC-12 plant via weigh tank that always contains exactly 1320kg making reconciliation of AHF use very easy and exact. CTC is transferred from the warehouse bulk storage and billed to the CFC-12 plant based on the tank level changes.

By examining their plant shift logs we verified their reported number of operating days as very precise.

Our team is very comfortable with its summarized results for Zhejiang Dongyang.

Thursday-Friday January 31-February 1 – Zhejiang Linhai Limin Chemical Plant

3,000 TPA CFC-12 (2 Reactors; only one operating)
100 TPA CFC-13
10,000 TPA HCFC-22 (max 13,000 TPA if standby CFC-12 reactor is utilized for HCFC-22)

Background

Last year's verification was conducted June 7,2001. We described in detail the excellent set of records maintained by Limin in our June 25, 2001 Mission Report. The reader of this report may refer to June's report if there is a need to revisit the forms and records used by Limin.

Verification Results for CFC-12

CFC-12 cylinder filling records for every day of each operating month were reconciled against the plant's official reported production and found to be correct for all months. The above covered total 2001 CFC-12 production for sales as well as for conversion to CFC-13. CFC-12 transferred to the CFC-13 plant was verified as accurate vs figures reported to SEPA. It is worth noting that the CFC-13 plant 27 tonne quota was approved by the Government to use 72.9 tonnes of CFC-12. However, due to operating problems they consumed 74 Tonnes. The 1.9 tonnes overage was purchased from an outside source since the plant's CFC-12 year 2001 quota was already committed to outside sales, at higher prices than which they could be purchased.

AHF is purchased in cylinders for the site's CFC-12 and other production units. Cylinder weights are the basis of consumption in the various plants. Prior to March it was difficult to reconcile specific use for CFC-12 and for other uses. Starting in March all AHF quantities were identified as to which plant they were used in making reconciliation for the balance of the year very easy. Reported AHF use for CFC-12 agreed with figures reported to SEPA from March through year- end 2001.

CTC is purchased primarily in bulk, and CFC-12 plant consumption is based on CTC feed tank level changes. The CTC transfers for the entire year were verified for all operating months and found to have been accurately reported.

We are very satisfied that Limin's CFC-12 production and AHF plus CTC consumptions have been accurately reported.

We checked three months of operating log sheets to verify their reported number of operating days. Examination of three months would indicate that actual operation was approximately 15 days less than reported since they do not count a day as lost unless there is one full 8- hour shift of outage.

Verification for CFC-13

Limin typically fills 35kg cylinders of CFC-13. All cylinder-filling records for the eleven months of operation were checked and each month's production was correctly reported. While they operated 282 days in 2001 they only filled cylinders on 106 days.

We raised concern about their very poor yield of CFC-13 from feedstock CFC-12 in January and February of 2001. In 39 operating days of Jan/Feb they consumed 6.306 tonnes of CFC-12 feedstock, yet recovered only 1.295 tonnes of CFC-13, 1.04 tonnes or 45% less than the 2.33 tonnes that should have been produced at their normal CFC-12/CFC-13 ratio of 2.7. Three possible reasons for the high ratio of CFC-12 are:

- CFC-12 feedstock was sold as CFC-12 product
- CFC-12 was vented from the system as unconverted feedstock
- High by product FC-14 production, which carries CFC-13 to the atmosphere were it is vented.

According to plant supervision causes of the poor yield were as follows:

- During the year-end maintenance shutdown in 2000 an oil less (non-lubricated) compressor was installed and it worked poorly allowing higher than normal CFC-13 losses in the refrigerated condenser vent stream. The person pushing the use of the non- lubricated compressor was reluctant to give up the experiment.
- They had catalyst problems that caused poor CFC-12 conversion so they generated a significant quantity of contaminated CFC-12 (contained some CFC-13) that was stored and slowly fed into the system in later months.
- The combination of their poor new compressor (did not provide the high pressure necessary to reduce CFC-13 losses in the refrigerated vent condenser) and excess FC-14 by-product caused poor yield until the compressor was changed in late February.

Yields improved by March so that the yearly yields were near normal. The above problem caused loss of production in January and February so they had to operate more days in the remainder of the year to make their 27 tonne quota since they had customers for every kg of product.

We verified each month's transfer of feedstock CFC-12 to the CFC-13 to the plant; the totals for each month were correct. We questioned why some transfer slips in about six cases were lump sum figures and did not show what cylinders were in the transfer. They produced a bound record book that showed the specific cylinder quantities, thereby removing our concern.

We were satisfied that the year 2001 CFC-13 production and CFC-12 feedstock consumed are valid as reported.

Saturday February 2 – Zhejiang Chemical Research Institute

150 TPA CFC-114/115

Background

Our year 2000 production data verification was conducted June 8, 2001. Our June 25, 2001 Mission Report provides considerable detail of the records generated and maintained by Zhejiang Chemical Research and this detail will not be repeated in our current report unless exceptions are noted.

Year 2001 Production Verification Results

There are three issues in Zhejiang's 2001 data report that need addressing.

The first concerns appearance of CFC-113a as part of the CFC-113 feedstock for conversion to CFC-114 and CFC-115. By M.P. definition CFC-113a isomer is not an ODS, hence, not controlled, (it is a solid below 15º C hence, not able to reach the upper atmosphere, hence not controlled). The China CFC-113 solvent sector plan calls for conversion of China's solvent using industries to non-ODS processes by year- end 2005.

Zhejiang produces HCFC-123 by reacting chlorine with HCFC-133a and this process creates some unavoidable by-product CFC-113a. In 2001 most of the by-product CFC-113a was used to manufacture a non-ODS pesticide. However, Zhejiang being aware that their source of feedstock CFC-113 could disappear in the 2006 to 2009 time frame, decided to determine if quality CFC-115 could be produced from CFC-113a. Since CFC-115 has no isomers this was a logical route and they started using come CFC-113a in producing their 2001 quota of CFC-115.

A second concern involved Zhejiang's report to SEPA of 2001 data showing 0.033 tones of CFC-114 as an intermediate to be used for future CFC-115 manufacture. This is not allowed and the 0.033 tonnes must be counted as part of their 2001 CFC-114 production. Therefore, their 2001 production of CFC-114 must be restated as 6.833 tonnes vs their quota of 6.8 tonnes. The overage of

0.033 tonnes turns out to negligible since figures are rounded to one decimal in the reports. However, were it 50kg it would have rounded up to 0.1 tonne and been a non-compliance issue. This is another case where Enterprises are operating too close to their quota and risking non-compliance (Zhejiang Dongyang had a 50 kg overage error in September).

The third concern involves disclosure in Zhejiang's 2001 report that they used 51.750 tonnes of CFC-113 over five-month period (Jan-May) to produce other
Non-CFC products. Examination of records in their downtown financial headquarters documented that 51.750 tonnes went to a pilot plant at the Research Center to produce trifluoracetic acid (TFA) a non – ODS pharmaceutical intermediate. In February, 500 kg went into producing pyrethrin (a pesticide intermediate). To make this intermediate they isomerize CFC-113 to CFC-113a since the "a" isomer with the three fluorine atoms on one carbon is the biologically active molecule. We concur that this activity is allowed under the feedstock provision of the MP.

The cylinder filling master record sheets for each month of CFC-115 and CFC-114 production were checked against the warehouse transfer receipts and compared to their official monthly production data. An insignificant error of 3kg in over reported production of CFC-115 was noted in June. We were satisfied that their 2001 CFC-115 production was correct as reported to SEPA and in a previous text we noted the small exception of 33 kg in CFC-114 production.

In examining CFC-115 cylinder filling records we suspected that the filling log sheet listing cylinder number, tare weight and gross weight is most likely created from some source not provided to us (we believe this because the full page of entries representing as much as full month's cylinder filling is too neat and clean and always filled in with identical handwriting). The supervisor of filling confirmed that he receives a slip of paper documenting each cylinder filling, which he accumulates in a file and transfers to a monthly report at month end. The accumulated slips are discarded at month end. The supervisor of filling showed us some original resent slips and promised that, in the future these will be saved for examination.

All AHF, CFC-113 and CFC-113a transfer receipts were checked for each month and found in agreement with reported official consumptions.

Since their CFC-114/115 reaction system contains four reactors, grouped two reactors to a set, it is necessary to look at two log sheet sets to understand operation for a specific month. Examination of these sheets prove conclusively that they are "real time" logs and we are satisfied that reported operation days are correct. For the reasons mentioned in our June 25,2001 report no attempt was made to reconcile log sheet raw material flows to actual finished product production.

As in all other verifications exercises we split into two teams, Mr. Wu Ning handling the financial data and the three other team members examining production plant records. All four team members are comfortable with the 2001 data report for Zhejiang Chemical Research Institute.

Sunday February 3 – Guangdong Xiansheng Chemical Co. Ltd

3,000 TPA CFC-12

Background

Our year 2000 data verification was conducted June 10, 2001. During last years record examination we suggested that they could and should improve some of their procedures and paperwork so future verification teams would be more satisfied that Guangdong Xiansheng's records were credible.

Verification of Year 2001 Data

We examined 2001 production records that were comparable to the prior year's verification and were pleased to learn that they had heeded our prior concerns and improved procedures in several areas:

- In late 2001 they stenciled numbers on all of their CFC-12 cylinders, and noted same on their filling log sheets.
- The filling log sheets are now signed in ink by two different people
- All receipts for raw materials are signed by the delivery and receiving persons.
- Sale quantities are tracked by paper work that has the full name of the purchasing party.

They also responded to our prior concern that their CTC to CFC-12 ratio was quite high and as such could raise concerns in future verifications. They checked the soil adjacent to their three large bulk CTC tanks and found significant CTC levels in the soil. They found three leaks in two tanks and repaired in July 2001. They also replaced a bad condenser that was venting excessive CTC vapor.

Their 2002 CTC/CFC-12 ratio improved to 1.371 from 1.402 in 2001.

All CTC and AHF consumption figures for each month were verified as accurate but required some adjustment to add AHF and CTC reported loss figures to their consumption figures. They understood why such losses could not be excluded from total consumption figures.

CFC-12 monthly filling logs were verified as accurate for all nine months of operation in 2001.

A representative number of reactor operating log sheets were examined to verify hourly weigh tank readings for CTC and AHF fed to each of their two CFC-12 reactors. There was perfect

agreement of log sheet data for monthly total (raw material usage of CTC and AHF). This exercise also allowed verification of reported operating days in 2001.

Both financial record verification and our plant record's verification went well and our team is fully satisfied that Guangdong Xiansheng's data reported to SEPA for 2001 is correct.

Tuesday February 5- Jiangsu Meilan Electro-Chemical Co. Ltd.

3,000 TPA CFC-11
3,000 TPA CFC-12
20,000 TPA HCFC-22
16,000 TPA AHF (expanded from 6000 to 10,000 in 2001)
30,000 TPA chloromethane (new methanol based plant started in 2001)

Background

Our year 2000 data verification was conducted June 14, 2001. This Enterprise had the best set of records of all seen in our June 2001 mission making verification very easy.

Verification of Year 2001 Data

Their new Chloromethane plant started up in 2001 so they now have three sources of CTC:

- Purchased drums
- Purchased bulk delivered in 50MT quantities and
- Pipe line transfers from their chloromethane plant starting in April 2001

In addition the CTC large bulk tank used by the warehouse developed a leak and was removed from service. The fluorocarbon production plant has two bulk CTC storage tanks, one has now been taken over by the warehouse to receive material from the above three CTC sources. As in the past all transfers to production are via a 6.67MT tank into the Production controlled bulk CTC tank. The fluorocarbon plant's use of CTC for the CFC-11 and CFC-12 plants are via shift weigh tanks. In verifying CTC use it became apparent that while all transfers to production are via the 6.67MT warehouse controlled tank that there is a "paper transaction" at the beginning and end of each month where unused CTC is transferred back from production to the warehouse. This transaction is reversed at the start of the next production month.

They confirmed that they are operating their new chloromethane plant to minimize CTC production hence they will continue CTC purchases until CFC production falls below on site CTC production.

All CFC-11 records pertaining to CFC-11 drums filled, AHF and CTC fed to the reactor were examined and found to be correct and support the reported values. Reported plant operating days were verified as correct.

All CFC-12 records pertaining to CFC-12 cylinders filled, cylinders transferred to the warehouse, plus AHF and CTC consumed were examined and found to support reported figures for CFC-12. CFC-12 plant reported operating days were found to be correct.

We questioned the poorer ratios for CTC/CFC in June and December and were told that there were several mechanical problems in these months.

The verification team was fully satisfied that the Jiangsu Meilan production and consumption figures reported to SEPA for the year 2001 are correct.

We also met the CFC production inspectors authorized by SEPA, who are resident at Meilan from Dongyang and Changsu 3F any time Meilan is operating any of their CFC production facilities. This accommodation by the seven operating Enterprises provides another level of assurance that each Enterprise is honestly reporting CFC production data.

Meilan export both CFC-11 and CFC-12. All exported CFC-12 is in returnable cylinders.

Thursday February 7 – Jiangsu Changsu 3F Refrigerant Co Ltd.

10,000 TPA CFC-11
5,000 TPA CFC-12
4,000 TPA CFC-113
400 TPA CFC-115

Background

We last visited Changsu 3F June 15 and 16, 2001 for verification of year 2000 CFC production and raw materials consumption data. Our June 25, 2001 Mission Report described in detail the excellent records system used by 3F and also noted that some original records generated and subsequently transferred to monthly reports are discarded. We requested that all original records be retained for future verification.

Verification Results for Year 2001 CFC Production

As in previous verification efforts Mr. Wu Ning conducted a financial review while Messrs Vogelsberg, Hua and Feng (SEPA) verified plant production records for 2001. The compilation of records generated by 3F were described in detail in our June 25, 2001 Mission Report which should be consulted by those interested in this detail; as it will not be repeated in our current report.

CFC-113

As mentioned in our June 25, 2001 Mission Report in process inventory adjustments each month caused confusion in our year 2000 data review. After our June 2001 visit they changed this procedure. However, for 2001, data it was still necessary to check these adjustment figures through May. 3F also lumped their November and December CFC-113 data together since there were only four days in fiscal December (November 27, 28, 29 & 30). The report has been adjusted to correct this.

The total CFC-113 production by 3F in 2001 is correct as reported at 4194.4MT; 819.4 MT of which were used as raw materials for chemical conversion in these applications

- Production of CFC-115 by 3F
- Production of non-CFC products within the Enterprise
- Production of CFC-114/15 by Zhejiang Chemical (SR1# B-11)
- Production of Zhejiang Chemical (SR1# B-11) other non-CFC products

All of the above mentioned applications have been verified. Therefore, the team concludes that the total CFC-113 production under quota control is 3375MT as ODS or 2700MT expressed as ODP tonnes. 3F's CFC-113 operating days as reported appear to be correct.

AHF and PCE use figures prior to June were accumulated for the month and a monthly use receipt issued; with the original daily records discarded. From June onward daily use figures were recorded in a bound notebook that has been saved for verification.

AHF plus PCE reported monthly use figures were verified as correctly reported for CFC-113 production.

CFC-113a was produced from CFC-113 for an agriculture product by isomerization on the 3F site. The activity took place in August through December and consumed 324.4 MT of CFC-113.

CFC-113 was also converted to CTFE polymer in August, September, and November and December, consuming 200.45 MT of CFC-113. In June 1.3MT of CFC-113 was used in a research project to produce a non-ODS refrigerant.

The above three activities consumed their reported 526.1 MT of CFC-113 for non-ODS production; all of which are accepted as correct.

Their CFC-113 data for year 2001 are accepted as correct.

CFC-115

CFC-115 only operated five months, June, July August, October and November in 2001. Since production occurred after our June 2001 visit, they saved the bound notebook detailing CFC-113 and AHF feedstock for CFC-115 production; making verification easy and accurate. CFC-115 production of 50MT was verified as correct.

CFC-113 and AHF consumption figures were verified as correct as reported to SEPA.

3F count any day where some CFC-113 and AHF are fed to the CFC-115 reactors as an operating day. Using this criteria their reported operating days were correctly reported.

CFC-11

While 3F have two CFC-11 reactors they operate only one on occasion. This makes operating days of questionable value since it is a very time consuming exercise to examine every shift for all days in a month. There are some cases where one reactor is down but the 2nd reactor still have feeds on, hence there should be no loss in operating days, but it does mean loss of capability. We checked operating logs for a couple of months and believe that 3F reported operating days tend to be 1-1/2 days greater than actual. Our criteria deducts time when AHF or CTC feeds were off. 3F counts any shift with feed flows for one hour an operating shift. All eleven months CFC-11 production transfer slips were examined and verify their reported production. During this exercise we noted four months where product was returned from the warehouse to Production due to potentialleakageof non-standard containers; (10MT in April, 0.81MT in June, 3MT in September and 0.25MT in October). We delved in to the 10MT in April and determined that they were attempting to reuse CTC drums for CFC-11 and noticed very small leaks in a few so they rejected the entire 40 drum (10MT) quantity and discontinued the reuse practice. There is no formal transfer slip documenting the return of the above ~13.5MT so we accept on good faith that it occurred. However, we suggested that any future returns be well described and documented to improve the credibility of their production figures. We also stressed that any significant leakage can not be claimed as a credit since any loss of finished product to the atmosphere must be counted as an ODS release, hence production. Considering that 3F report 8,221.9MT of CFC-11 production against their 8,222MT quota makes the above issue in the future a potential non-compliance issue.

CTC and AHF consumptions wee validated against their reported amounts and found to be correct.

We are satisfied that 3F's CFC-11 reported production and raw material consumptions for 2001 are correct as reported.

CFC-12

CFC-12 is produced in 3 reactors. Two respective months were examined to determine if 3F's operating days seemed reasonable as reported. While there are outages on individual reactors the only time all three were down was when there was a plant wide electrical outage. For the two months examined in detail we concur that there reported operating days are realistic.

All CFC-12 cylinder transfer slips from production to the warehouse were checked for all eleven operating months and found to be accurate. This exercise raised two issues that were resolved satisfactorily;

- One local customer uses their own cylinders and usually returns them with a measurable CFC-12 "heel". 3F "credit" them with the "heel" and deduct the "heel" quantity from the monthly production in the month the cylinders are filled. This totaled about 2MT for the year; and is considered a perfectly legitimate practice.
- On two occasions 17MT and 19.25MT of CFC-12 in cylinders were returned from the warehouse to production so they would have sufficient product to fill large orders for 13.6kg DAC's. "Heels" in the returned cylinders, after discharging the contents to the production bulk tank, were included in the "tare" weight at the next filling. This is an acceptable practice.

We suggest they keep better paper records of these transactions in the future.

All CTC and AHF monthly figures were verified as correctly reported.

CTC transfers are large quantity bulk 8-10 times per month for use in both CFC-11 and CFC-12. Records of individual transfers are kept in a bound notebook. A representative number of transfer and month were checked and we are satisfied in their accuracy.

All AHF is received in cylinders making reconciliation of all monthly data impractical since these are typically about 170 transactions per month. After verification of one month's data vs total monthly consumption are accepted monthly reported figures as accurate.

CFC-12 cylinders are filled on every shift and each shift creates a filling log slip, showing each cylinder serial number, tare, gross and net weight. At the end of each day these figures are totaled for each cylinder size and the weights listed on a daily production transfer to warehouse slip. We reconciled a few days and were satisfied that these transactions were properly documented.

Reconciliation of a full month or year's cylinder filling is not practical since up to one thousand small service cylinders and DAC's can be filled in one month.

3F vent returned cylinders into a recovery system. Prior to 2001 the recovered product was not included in the monthly production or annual quota. This is an acceptable industry practice. However, SEPA has not yet approved continuing this practice starting in 2001 so 3F has accumulated about 6MT of CFC-12 in specially identified cylinders waiting SEPA's decision on how they want such material handled.

The overall 3F verification went well, and as stated in our June 25, 2001 Mission Report 3F keep some of the best records in the industry. We are fully satisfied that 3 F's reported CFC's production report for 2001 are correct.

General Comment From Overall Verification

Four companies started exporting DAC's of CFC-12 in the year 2001; Jiangsu Meilan, Juhua, Dongyang and 3F (respective quantities were: 193.8MT, 905.3MT, 746.6MT and 846.5MT). The total of 2,692MT represents about 200 thousand DAC's into the Global Market creating a significant potential for illegal trade once the product leaves China's control.

Annex II: CFC Production Phase Out Verification (Including Gradual Closure)
January- February 2002
(A8 Jiangsu Meilan)

A. Plant identification

Name of Enterprise	:	Jiangsu Meilan Electro-chemical Plant
Plant Ref. Number	:	
Sector Plan #	:	1
SRI #	:	A8
Address of the Plant	:	No. 460 Yangzhou Lu, Taizhou City, Jiangsu Province, PC 225300
Contact person(s) and Functional Title	:	Mr. Zhang Futing, Vice General Manager
Telephone Number	:	0523-6336490
Fax Number	:	0523-6341488
E-mail Address	:	mldh.tz@public.tz.js.cn

B/ Verification

Team Composition	:	3
Leader	:	1
Name	:	F.A. Vogelsberg
Functional Title	:	Consultant, The World Bank
Member(s)	:	2
Name	:	Wu Ning/ Hua Zhangxi
Functional Title	:	Financial Analyst/ Technical Consultant, the World Bank
Date of Plant Visit	:	February 4-5
Duration of Visit	:	1.5 day

C. Plant History

Date of Construction:							
ODS Products	No. of Lines	Capacity in Baseline Year*	Production**				
			Baseline Year*	Year 1 1998	Year 2 1999	Year 3 2000	Year 4 2001
CFC-11	1	3,000	1,050	2,009	1,766	1,049.8	1,049.7
CFC-12	1	3,000	1,793	1,606	1,866	1,793.0	1,792.9
CFC-13							
CFC-113							

CFC-114/115							
Raw Materials Production***							
HF	1	3,000*	7	553	3,336	4,223	4,835
CTC	1****	-	-	-	-	-	696

*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. The HF production has been expanded to 6,000. In 2001 a new HF production unit with capacity of 10,000 was built and started up.
**** A new chloromethane production unit was built and started up in 2001. The total capacity of various chloromethanes is 30,000, in which CTC shares 1,500.

D. Plant Activity in the Year Verified

1. Plant for Complete Closure

No. of CFC-11/12 lines closed : N.A.

Date of CFC production ceased : N.A.

Date of dismantling completed : N.A.

Verification of destruction of key components by : [Name of certifying body] N.A.

Reactor tank(s) dismantled and destroyed : N.A.

Control and monitoring equipment dismantled and destroyed : N.A.

Pipes dismantled and destroyed : N.A.

Utilities dismantled and destroyed : N.A.

Evidence of destruction (photos or videos) : N.A.

Chance of resuming production : N.A.

Assessment by the verification team to be included in the verification report : N.A.

2. Plant for gradual closure

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

CFC Products (CFC-11)	Baseline Year*	Year 1 1998	Year 2 1999	Year 3 2000	Year 4 2001**
Quota			1,766	1,050	1,050
Opening Stock at beginning of year	117	123	337	275	53.1
Production	1,050	2,009	1,766	1,049.8	1,049.7
Sales	1,044	1,795	1,828	1,271.7	947.7
Closing stock at end of year	123	337	275	53.1	155.1

CFC Products (CFC-12)	Baseline Year*	Year 1 1998	Year 2 1999	Year 3 2000	Year 4 2001**
Quota			1,866	1,793	1,793
Opening Stock at beginning of year	133	201	54	101	138.8
Production	1,793	1,606	1,866	1,793.0	1,792.9
Sales	1,725	1,753	1,819	1,755.2	1,849.8
Closing stock at end of year	201	54	101	138.8	81.9

* The year from which the data is used to approve the ODS production phase out project.
** In May 2001, the enterprise used 0.04 tons of their own product as make-up for refrigeration system of their own production unit. The Verification categorized such product transfer as sales.

Annual HF/CFC and CTC/CFC ratios

Ratio	Baseline Year	Year 1 1998	Year 2 1999	Year 3 2000	Year 4 2001	Year 5	Year 6*
CFC-11	1,050	2,009	1,766	1,049.8	1,049.7		
HF/CFC-11	0.174	0.181	0.177	0.180	0.180		
CTC/CFC-11	1.273	1.267	1.270	1.271	1.271		
CFC-12	1,793	1,606	1,866	1,793.0	1,792.9		
HF/CFC-12	0.377	0.403	0.391	0.388	0.397		
CTC/CFC-12	1.338	1.368	1.375	1.342	1.361		

* Till the year of the verification

Operational days per year

Type of Product	Baseline Year	Year 1 1998	Year 2 1999	Year 3 2000	Year 4 2001	Year 5	Year 6*
CFC-11		210	146	88	96		
CFC-12		217	131	152	213		

*Till the year of the verification

Monthly CFC Production and Raw Material Consumption

Notice: The Plant has separate production lines for CFC-11 and CFC-12. However, their raw material stocks are combined.
Therefore, the two tables (CTC for CFC-11 and CTC for CFC-12) are combined together here.

CFC-11 / CFC-12 Production and CTC Consumption

Month	CFC-11 and CFC-12	No. of Op'ting Days for CFC-11	No. of Opt'ing Days for CFC-12	CFC-11 Prod'n	CFC-12 Prod'n	CTC Consump-tion of CFC-11	CTC Consump-tion of CFC-12	CTC/ CFC-11 Ratio	CTC/ CFC-12 Ratio	CTC Opening Stock	CTC Procured/ Added	CTC Sold Out	CTC Closing Stock
Jan		10	31	110.5	297.1	140.5	396.6	1.271	1.335	57.9	486.8	-	7.6
Feb		21	12	189.5	126.4	240.5	168.7	1.269	1.335	7.6	408.7	-	7.0
Mar		20	29	250.0	301.8	317.5	415.6	1.270	1.377	7.0	728.2	-	2.0
Apr		-	19	-	185.6	-	247.8	-	1.335	2.0	373.3	-	127.5
May		17	-	150.8	-	191.6	-	1.270	-	127.5	301.6	-	237.6
Jun		-	20	-	130.1	-	184.8	-	1.421	237.6	155.0	-	207.8
Jul		7	9	87.8	37.6	111.4	50.3	1.270	1.337	207.8	407.3	-	453.4
Aug		-	16	-	104.6	-	144.9	-	1.385	453.4	315.0	-	623.5
Sept		-	7	-	74.7	-	101.2	-	1.355	623.5	-	-	522.3
Oct		-	31	-	255.7	-	348.1	-	1.361	522.3	270.0	-	444.2
Nov		7	21	81.1	203.1	103.9	271.1	1.280	1.335	444.2	102.9	-	172.2
Dec		14	18	180.0	76.0	228.7	110.5	1.271	1.453	172.2	325.3	-	158.3
		96	213	1,049.7	1,792.9	1,334.1	2,439.6	1.271	1.361		3,874.0	-	

Monthly CFC Production and Raw Material Consumption

Notice: The Plant has separate production lines for CFC-11 and CFC-12. However, their raw material stocks are combined; and there other HF uses. Therefore, the two tables (HF for CFC-11 and HF for CFC-12) are combined together here.

CFC-11 / CFC-12 Production and HF Consumption

Month	CFC-11 and 12	No. Of Op'ting Days for CFC-11	No. Of Opting days for CFC-12	CFC-11 Prod'n	CFC-12 Prod'n	HF Consump-tion of CFC-11	HF Consump-tion of CFC-12	HF/ CFC-11 Ratio	HF/ CFC-12 Ratio	HF Opening Stock	HF Procured/ Added	HF Sold Out & for Other Uses*	HF Closing Stock
Jan		10	31	110.5	297.1	19.9	118.2	0.180	0.398	112.8	433.6	315.1	93.1
Feb		21	12	189.5	126.4	34.1	49.7	0.180	0.393	93.1	363.2	273.6	99.0
Mar		20	29	250.0	301.8	45.0	120.7	0.180	0.400	99.0	544.0	430.7	46.6
Apr		-	19	-	185.6	-	70.7	-	0.381	46.6	578.5	547.2	7.2
May		17	-	150.8	-	27.1	-	0.180	-	7.2	528.9	505.0	4.1
Jun		-	20	-	130.1	-	51.7	-	0.397	4.1	624.2	531.1	45.4
Jul		7	9	87.8	37.6	15.8	14.4	0.180	0.382	45.4	592.3	467.4	140.2
Aug		-	16	-	104.6	-	41.4	-	0.396	140.2	393.2	310.8	181.2
Sept		-	7	-	74.7	-	28.8	-	0.385	181.2	458.7	370.7	240.4
Oct		-	31	-	255.7	-	105.4	-	0.412	240.4	524.3	525.9	133.4
Nov		7	21	81.1	203.1	14.6	77.1	0.180	0.380	133.4	366.4	351.5	56.6
Dec		14	18	180.0	76.0	33.0	33.6	0.183	0.443	56.6	646.6	562.8	73.8
		96	213	1,049.7	1,792.9	189.4	711.7	0.180	0.397		6,053.9	5,191.7	

* Refers to all HF for other non-CFC uses within the Plant and HF sold out as commodity.

CFC Production Phase Out Verification (Including Gradual Closure)
January- February 2002
(A 10 Jiangsu Changsu 3F)

A. Plant identification

Name of Enterprise	:	Jiangsu Changsu 3F Refrigerant Co. Ltd.
Plant Ref. Number	:	
Sector Plan #	:	6
SRI #	:	A10
Address of the Plant	:	Fushan, Haiyu Town; P.C. 215522
		Changsu City, Jiangsu Province
Contact person(s) and Functional Title	:	Shen Xuezhong, General Manager
Telephone Number	:	0520-2629918
Fax Number	:	0520-2621243
E-mail Address	:	

B. Verification

Team Composition	:	3
Leader	:	1
Name	:	F.A. Vogelsberg
Functional Title	:	Consultant, The World Bank
Member(s)	:	2
Name	:	Wu Ning/ Hua Zhangxi
Functional Title	:	Financial Analyst/ Technical Consultant, The World Bank
Date of Plant Visit	:	January 6-8, 2002
Duration of Visit	:	2.5 days

C. Plant History

Date of construction:							
ODS Products	No. of Lines	Capacity in Baseline Year*	Production				
			Baseline Year*	Year 1 1998	Year 2 1999	Year 3 2000	Year 4 2001
CFC-11	1	10,000	10,232	8,380	7,960	8,192	8221.9
CFC-12	1	5,000	2,739	3,452	2,780	5,019.1	5,075
CFC-13	-	-	-	-	-	-	-
CFC-113 (expressed as ODS)	1	4,000	3,858	3,470	3,542	3,445.0	3,375
CFC-114/115 (expressed as ODS)	1	400	34	8	150	150	50

Raw Materials Production***							
HF	2	6,000	4,804	5,276	7,615	7,497	10,428
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. Now the HF production has been expanded to 12,000, with 3 production lines.

D. Plant Activity in the Year Verified

1. Plant for Complete Closure

No. of CFC-11/12 lines closed : N.A.

Date of CFC production ceased : N.A.

Date of dismantling completed : N.A.

Verification of destruction of key components by : [Name of Certifying Body] N.A.

Reactor tank(s) dismantled and destroyed : N.A.

Control and monitoring equipment dismantled and destroyed : N.A.

Pipes dismantled and destroyed : N.A.

Utilities dismantled and destroyed : N.A.

Evidence of destruction (photos or videos) :

Chance of resuming production : N.A.

Assessment by the verification team to be included in the verification report : N.A.

2. Plant for gradual closure

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

CFC Products (CFC-11)	Baseline Year*	Year 1 1998	Year 2 1999	Year 3 2000	Year 4** 2001
Quota			7,960	8,192	8,222****
Opening Stock at beginning of year	511	874	629	352	40.5
Production	10,232	8,380	7,960	8,192.0	8,221.9
Sales	9,869	8,625	8,237	8,503.5	8,262
Closing stock at end of year	874	629	352	40.5	0.4

CFC Products (CFC-12)	Baseline Year*	Year 1 1998	Year 2 1999	Year 3 2000	Year 4** 2001
Quota			2,779	5019	5,075
Opening Stock at beginning of year	473	590	514	1	3.3
Production	2,739	3,452	2,780	5,019.1	5,075
Sales	2,622	3,528	3,293	5,016.8	5,047.3
Closing stock at end of year	590	514	1	3.3	31

CFC Products(CFC-113, ODS)	Baseline Year*	Year 1 1998	Year 2 1999	Year 3 2000	Year 4** 2001
Quota			3,542.5	3,445	3,375
Opening Stock at beginning of year	212	435	426	248	5.5
Production***	3,858	3,470	3,542	3,445.0	3,375
Sales	3,635	3,479	3,720	3,687.5	3,380
Closing stock at end of year	435	426	248	5.5	0.5

CFC Products (CFC-115, ODS)	Baseline Year*	Year 1 1998	Year 2 1999	Year 3 2000	Year 4** 2001
Quota			150	100	50****
Opening Stock at beginning of year	0	12	3	58	74.1
Production	34	8	151	100.2	50
Sales	22	17	96	84.1	79.3
Closing stock at end of year	12	3	58	74.1	44.8

*The year from which data is used to approve the ODS production phase out project.
**Till the year of the verification
*** Refers to CFC-113 production for non- raw material uses. CFC-113 production for uses as intermediates for CFC-114/115 and other non-CFC products excluded.
**** In the annual Program 2001, the quota for CFC-11 is indicated as 8,192 and for CFC-115 is 100 (ODS, equivalent to 60 ODP); however, based upon the market situation, the enterprise applied and the Chinese Government approved to change the quota for CFC-11 to 8,222 and the quota for CFC-115 to 50 (ODS, equivalent to 30 ODP).

Annual HF/CFC and CTC, PCE or CFC 113/ CFC ratios

Ratio	Baseline Year	Year 1 1998	Year 2 1999	Year 3 2000	Year 4 2001	Year 5	Year 6*
CFC-11	10,232	8,380	7,960	8,192.0	8,221.9		
HF/CFC-11	0.165	0.167	0.160	0.160	0.157		
CTC/CFC-11	1.191	1.259	1.259	1.255	1.247		
CFC-12	2,739	3,452	2,780	5,019.1	5,075		
HF/CFC-12	0.38	0.409	0.401	0.409	0.411		
CTC/CFC-12	1.380	1.514	1.403	1.400	1.411		
CFC-113	3,858	3,470	3,542	3,445.0	3,375		
HF/CFC-113	0.480	0.456	0.480	0.509	0.474		
PCE/CFC-113	1.053	1.041	1.065	1.048	1.067		

CFC-115	33.6	8	151	100.2	50		
HF/CFC-115	1.122	1.678	1.138	0.886	0.803		
CFC-113/115	2.383	2.02	1.607	2.105	1.720		

* Till the year of the verification

Operational days per year

Type of Production	Baseline Year	Year 1 1998	Year 2 1999	Year 3 2000	Year 4 2001	Year 5	Year 6*
CFC-11	356	326	323	302	297		
CFC-12	357	339	250	293	307		
CFC-113	313	343	340	327	327		
CFC-115	179	86	353	246	85		

*Till the year of the verification.

Monthly CFC Production and Raw Material Consumption

CFC-11 Production and CTC Consumption

Month	CFC-11	No. of Operating days*	CFC-11 Production	CTC Consump-tion	CTC/ CFC-11 Ratio	CTC Opening Stock**	CTC Procured/ Added	CTC Sold Out	CTC Closing Stock**
Jan		22.0	597.3	780.0	1.306	Please refer to " Monthly CTC Overall Balance"			
Feb		24.0	702.1	880.0	1.253	Table attached later.			
Mar		28.0	612.5	768.0	1.254				
Apr		29.0	845.0	1,060.0	1.254				
May		30.0	764.4	960.0	1.256				
Jun		31.0	916.4	1,157.0	1.262				
Jul		30.0	873.1	1,084.0	1.242				
Aug		21.0	476.8	598.0	1.254				
Sept		31.0	881.8	1,098.0	1.245				
Oct		30.0	902.5	1,128.0	1.250				
Nov		21.0	650.0	741.0	1.140				
Dec		-	-	-	-				
		297.0	8,221.9	10,254.0	1.247				

* Operating days of a month is recorded from the 26th day of the previous month to 25th day of the month. This is the reason for 31 operating days appeared in June and september
** The CTC storage is used commonly by both CFC 11 and CFC 12 production units.

CFC-11 Production and HF Consumption

Month	CFC-11	No. Of Operating days*	CFC-11 Production	HF Consump-tion	HF/ CFC-11 Ratio	HF Opening Stock**	HF Procured/ Added	HF Sold Out	HF Closing Stock**
Jan		24.0	597.3	90.6	0.152	Please refer to " Monthly HF Overall Balance"			
Feb		28.0	702.1	108.8	0.155	Table attached later.			
Mar		28.0	612.5	93.7	0.153				
Apr		29.0	845.0	132.9	0.157				

May	30.0	764.4	120.9	0.158
Jun	31.0	916.4	146.6	0.160
Jul	30.0	873.1	139.6	0.160
Aug	21.0	476.8	76.7	0.161
Sept	31.0	881.8	141.9	0.161
Oct	30.0	902.5	142.2	0.158
Nov	21.0	650.0	93.2	0.143
Dec	-	-	-	-
	303.0	8,221.9	1,287.0	0.157

* Operating days of a month is recorded from the 26th day of the previous month to 25th day of the month. This is the reason for 31 operating days appeared in April, June and November.
** Storage of HF is commonly used for the whole enterprise.

Monthly CFC Production and Raw Material Consumption

CFC-12 Production and CTC Consumption

Month	CFC-12	No. of Operating days*	CFC-12 Production	CTC Consump-tion	CTC/ CFC-12 Ratio	CTC Opening Stock**	CTC Procured/ Added	CTC Sold Out	CTC Closing Stock**
Jan		25.0	224.4	314.0	1.399	Please refer to " Monthly CTC Overall Balance"			
Feb		28.0	354.4	496.0	1.399	Table attached later.			
Mar		28.0	461.5	646.0	1.400				
Apr		27.0	492.0	688.0	1.398				
May		30.0	543.7	761.0	1.400				
Jun		31.0	655.0	931.0	1.421				
Jul		30.0	579.9	820.0	1.414				
Aug		31.0	518.4	772.0	1.489				
Sept		31.0	577.5	830.0	1.437				
Oct		30.0	507.6	697.0	1.373				
Nov		16.0	160.6	208.0	1.295				
Dec		-	-	-	-				
		307.0	5,075.0	7,163.000	1.411				

* Operating days of a month is recorded from the 26th day of the previous month to 25th day of the month. This is the reason for 31 operating days appeared in June and September.
** The CTC storage is used commonly by both CFC 11 and CFC 12 production units.Therefore, stock figures are not recorded here.

CFC-12 Production and HF Consumption

Month	CFC-12	No. Of Operating days*	CFC-12 Production	HF Consump-tion	HF/ CFC-12 Ratio	HF Opening Stock	HF Procured/ Added	HF Sold Out	HF Closing Stock
Jan		25.0	224.4	88.3	0.393	Please refer to " Monthly HF Overall Balance"			
Feb		28.0	354.4	139.7	0.394	Table attached later.			
Mar		28.0	461.5	184.6	0.400				
Apr		27.0	492.0	200.4	0.407				
May		30.0	543.7	219.7	0.404				
Jun		31.0	655.0	274.6	0.419				

Jul	30.0	579.9	243.6	0.420
Aug	31.0	518.4	226.3	0.437
Sept	31.0	577.5	246.8	0.427
Oct	30.0	507.6	202.4	0.399
Nov	16.0	160.6	58.6	0.365
Dec	-	-	-	-
	307.0	5,075.0	2,084.8	0.411

* Operating days of a month is recorded from the 26th day of the previous month to 25th day of the month. This is the reason for 31 operating days appeared in April and November.

Monthly CFC Production and Raw Material Consumption

CFC-113 Production and PCE Consumption

Month	CFC-113	No. of Operat-ing days*	Production I**	Production II**	Production III**	Production IV**	Production V**	PCE Consump-tion for Production I	PCE Consump-tion for Production V	PCE/ Total CFC-113 Ratio	PCE Opening Stock	PCE Procured/ Added	PCE Sold Out	PCE Closing Stock
Jan		27.0	399.0	-	25.0	-	424.0	425.7	456.1	1.076	518.5	39.9	-	102.3
Feb		28.0	443.0	-	10.0	-	453.0	472.7	476.3	1.051	102.3	996.7	0.1	622.8
Mar		28.0	319.0	-	20.0	-	339.0	340.4	364.0	1.074	622.8	-	-	258.8
Apr		29.0	266.0	-	24.0	-	290.0	283.8	312.0	1.076	258.8	724.9	0.1	671.6
May		30.0	359.8	-	5.3	-	365.0	383.9	395.0	1.082	671.6	-	0.0	276.6
Jun		31.0	375.0	27.3	-	-	402.2	400.1	432.8	1.076	276.6	968.8	-	812.6
Jul		28.0	235.5	36.0	19.0	-	290.5	251.3	309.5	1.065	812.6	1,232.0	70.0	1,665.1
Aug		31.0	281.2	8.0	46.0	57.7	392.9	300.1	418.5	1.065	1,665.1	-	-	1,246.6
Sept		31.0	313.3	-	15.0	85.1	413.4	334.3	440.2	1.065	1,246.6	853.7	-	1,660.1
Oct		30.0	202.0	7.3	15.0	138.3	362.5	215.6	386.2	1.065	1,660.1	978.7	-	2,252.6
Nov		30.0	181.3	7.5	20.0	141.1	349.8	193.4	367.3	1.050	2,252.6	-	-	1,885.3
Dec		4.0	-	-	8.0	104.1	112.1	-	117.7	1.050	1,885.3	700.0	-	2,467.6
		327.0	3,375.0	86.0	207.3	526.1	4,194.4	3,601.2	4,475.6	1.067		6,494.8	70.2	

* Operating days of a month is recorded from the 26th day of the previous month to 25th day of the month. This is the reason for 31 op'tings days in June and September.

** Production I refers to the CFC-113 product that is not to be chemically converted. That is, to be used as ODS.
Production II refers to the CFC-113 product that is to be chemically converted to CFC-115 within the Enterprise.
Production III refers to the CFC-113 product that is to be chemically converted to CFC-114/115 and other non-CFC products by Zhejiang Chemical Industry Institute (SRI # 11).
Production IV refers to the CFC-113 product that is to be chemically conveted to non-CFC products within the Enterprise.
Production V refers to overall production of CFC-113. It is equal to I + II + III + IV.

Monthly CFC Production and Raw Material Consumption

CFC-113 Production and HF Consumption

Month	CFC-113	No. of Operating days*	Production I**	Production II**	Production III**	Production IV**	Production V**	HF Consumption	HF/ Total CFC-113 Ratio	HF Opening Stock	HF Procured/ Added	HF Sold Out	HF Closing Stock
Jan		27.0	399.0	-	25.0	-	424.0	207.9	0.490	Please refer to "HF Monthly Overall Balance"			
Feb		28.0	443.0	-	10.0	-	453.0	224.2	0.495	Table attached later.			
Mar		28.0	319.0	-	20.0	-	339.0	146.6	0.432				
Apr		29.0	266.0	-	24.0	-	290.0	141.7	0.489				
May		30.0	359.8	-	5.3	-	365.0	178.8	0.490				
Jun		31.0	375.0	27.3	-	-	402.2	195.2	0.485				
Jul		28.0	235.5	36.0	19.0	-	290.5	137.9	0.475				
Aug		31.0	281.2	8.0	46.0	57.7	392.9	190.6	0.485				
Sept		31.0	313.3	-	15.0	85.1	413.4	200.4	0.485				
Oct		30.0	202.0	7.3	15.0	138.3	362.5	171.1	0.472				
Nov		30.0	181.3	7.5	20.0	141.1	349.801	148.2	0.424				
Dec		4.0	-	-	8.0	104.1	112.099	47.5	0.424				
		327.0	3,375.0	86.0	207.3	526.1	4,194.4	1,990.0	0.474			-	

* Operating days of a month is recorded from the 26th day of the previous month to 25th day of the month. This is the reason for 31 op'tings days in June and September.

** Production I refers to the CFC-113 product that is not to be chemically converted. That is, to be used as ODS.
Production II refers to the CFC-113 product that is chemically converted to CFC-115 within the Enterprise.
Production III refers to the CFC-113 product that is to be chemically converted to CFC-114/115 and other non-CFC products by Zhejiang Chemical Industry Institute (SRI# B11)
Production IV refers to the CFC-113 product that is to be chemically conveted to Non-CFC product within the Enterprise.

Monthly CFC Production and Raw Material Consumption

CFC-115 Production and CFC-113 Consumption

Month	CFC-115	No. of Operat-ing days	CFC-115 Prod'n (ODS)	CFC-113 Consump'n for Internal CFC-115 Prod'n	CFC113 /CFC115 Ratio	CFC-113 Opening Stock	CFC-113 Procured/ Added	CFC-113 Comsump'n for Internal Non-CFC Prod'n*	CFC-113 Consump'n of ZCR** for Conver'n Prod'n	CFC-113 Sold Out (ZCR** Excluded)	CFC-113 Closing Stock
Jan			-	-	-	5.5	424.0	-	25.0	338.1	66.4
Feb			-	-	-	66.4	453.0	-	10.0	309.0	200.4
Mar			-	-	-	200.4	339.0	-	20.0	366.5	152.9
Apr			-	-	-	152.9	290.0	-	24.0	300.5	118.4
May			-	-	-	118.4	365.0	-	5.3	386.5	91.6
Jun			15.7	27.3	1.732	91.6	402.2	-	-	319.9	146.7
Jul			20.0	36.0	1.800	146.7	290.5	-	19.0	352.7	29.5
Aug			6.5	8.0	1.231	29.5	392.9	57.7	46.0	269.4	41.4
Sept			-	-	-	41.4	413.4	85.1	15.0	212.9	141.8
Oct			4.0	7.3	1.813	141.8	362.5	138.3	15.0	199.5	144.3
Nov			3.8	7.5	1.989	144.3	349.8	141.1	20.0	262.0	63.5
Dec			-	-	-	63.5	112.1	104.1	8.0	63.0	0.5
			50.0	86.0	1.720		4,194.4	526.1	207.3	3,380.0	

* Refers to the CFC-113 chemically converted to non CFC product(s) within the Enterprise.

** Refers to Zhejiang Chemical Industry Research Institute (SRI# B 8) that converted CFC 113 to CFC 114/115 and other non-CFC products.

CFC-115 Production and HF Consumption

Month	CFC-115	No. 0f Op'ting days*	CFC-115 Production	HF Consump-tion	HF/ CFC-115 Ratio	HF Opening Stock	HF Procured/ Added	HF Sold Out	HF Closing Stock
Jan			-	-	-	Please refer to "Monthly HF Overall Balance"			
Feb			-	-	-	Table attached later.			
Mar			-	-	-				

Apr		-	-	-
May		-	-	
Jun	25	15.7	13.9	0.884
Jul	30	20.0	15.7	0.783
Aug	6	6.5	2.8	0.431
Sept	-	-	-	-
Oct	10	4.0	4.0	1.000
Nov	14	3.8	3.8	1.008
Dec	-	-	-	-
	85	50.0	40.2	0.803

Monthly CFC Production and Raw Material Consumption

Monthly CTC Overall Balance

Month	CTC Consumption for CFC-11	CTC Consumption for CFC-12	CTC Consumption Total	CTC Opening Stock	CTC Procured/ Added	CTC Sold Out	CTC Closing Stock
Jan	780.0	314.0	1,094.0	4,236.3	300.0	29.4	3,412.9
Feb	880.0	496.0	1,376.0	3,412.9	2,662.4	4.3	4,695.0
Mar	768.0	646.0	1,414.0	4,695.0	1,135.7	-	4,416.7
Apr	1,060.0	688.0	1,748.0	4,416.7	1,435.3	0.1	4,104.0
May	960.0	761.0	1,721.0	4,104.0	1,093.6	5.4	3,471.2
Jun	1,157.0	931.0	2,088.0	3,471.2	1,171.6	2.0	2,552.8
Jul	1,084.0	820.0	1,904.0	2,552.8	1,879.7	34.2	2,494.3
Aug	598.0	772.0	1,370.0	2,494.3	1,501.0	0.1	2,625.2
Sept	1,098.0	830.0	1,928.0	2,625.2	322.1	31.5	987.8
Oct	1,128.0	697.0	1,825.0	987.8	1,557.2	0.1	719.9
Nov	741.0	208.0	949.0	719.9	908.1	37.4	641.7
Dec	-	-	-	641.7	3,112.8	3.9	3,750.6
	10,254.0	7,163.0	17,417.0		17,079.5	148.2	

Monthly CFC Production and Raw Material Consumption

Monthly HF Overall Balance

Month	HF Consumpt'n for CFC-11	HF Consumpt'n for CFC-12	HF Consumpt'n for CFC-113	HF Consumpt'n for CFC-115	HF Total Consumpt'n for CFCs	HF Opening Stock	HF Procured/ Added	HF for Other Uses*	HF Closing Stock
Jan	90.6	88.3	207.9	-	386.8	129.0	688.8	26.3	404.8
Feb	108.8	139.7	224.2	-	472.7	404.8	404.0	100.7	235.4
Mar	93.7	184.6	146.6	-	424.9	235.4	1,320.3	775.0	355.9
Apr	132.9	200.4	141.7	-	475.0	355.9	1,027.0	539.7	368.2
May	120.9	219.7	178.8	-	519.4	368.2	1,211.0	662.3	397.4
Jun	146.6	274.6	195.2	13.9	630.3	397.4	1,148.7	559.9	356.0
Jul	139.6	243.6	137.9	15.7	536.7	356.0	1,161.6	665.5	315.4
Aug	76.7	226.3	190.6	2.8	496.4	315.4	1,043.6	766.5	96.3
Sept	141.9	246.8	200.4	-	589.1	96.3	1,137.3	392.4	252.1
Oct	142.2	202.4	171.1	4.0	519.7	252.1	942.4	400.7	274.1
Nov	93.2	58.6	148.2	3.8	303.8	274.1	596.9	330.0	237.3
Dec	-	-	47.5	-	47.5	237.3	-	29.7	160.2
	1,287.1	2,084.8	1,990.0	40.2	5,402.1		10,681.8	5,248.6	

* Including HF consummed for all non CFC production within the Enterprise and HF sold out as commodity .

CFC Production Phase Out Verification (Including Gradual Closure)

January- February 2002

(A 13 Guangdong Xiansheng)

A. Plant identification

Name of Enterprise : Guangdong Zengcheng Xiangsheng Chemical Co. Ltd**.**

Plant Ref. No.

Sector Plan # : 36

SRI # : A 13

Address of the Plant : Zhuchun Farm, P.C. 511370, Zengcheng City, Guangdong Province

Contact person(s) and Functional Title : Mr. Ouyang Shiming, General Manager

Telephone Number : 020-82854060

Fax Number : 020-82852815

E-mail Address :

B. Verification

Team Composition : 3

Leader : 1

Name : F.A. Vogelsberg

Functional Title : Consultant, The World Bank

Member(s) : 2

Name : Wu Ning/ Hua Zhangxi

Functional Title : Financial Analyst/ Technical Consultant, The World Bank

Date of Plant Visit : February 3, 2002

Duration of Visit : 1 day

C. Plant History

Date of Construction	1994						
ODS Products	No. of Lines	Capacity in Baseline Year	Production**				
			Baseline Year	Year 1 1998	Year 2 1999	Year 3 2000	Year 4 2001
CFC 11							
CFC 12	1	3,000	1,100	1,834	1,601	1,098	1,099.4
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 : N A

Date of CFC production ceased : N A

Date of dismantling completed : N A

Verification of destruction of key components by : [Name of certifying body] N A

Reactor tank(s) dismantled and destroyed : N A

Control and monitoring equipment dismantled and destroyed : N A

Pipes dismantled and destroyed : N A

Utilities dismantled and destroyed : N A

Evidence of destruction (photos or videos) : N A

Chance of resuming production : N A

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

2. Plant for gradual closure

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

CFC Products: CFC-12	Baseline Year*	Year 1 1998	Year 2 1999	Year 3 2000	Year 4** 2001
Quota			1,603	1,100	1,100
Opening Stock at beginning of year	0	0	20	0	169.3
Production	1,100	1,834	1,601	1,098	1,099.4
Sales	1,100	1,814	1,621	928.7	878.2
Closing stock at end of year	0	20	0	169.3	390.5

*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 1997	Year 1 1998	Year 2 1999	Year 3 2000	Year 4 2001	Year 5	Year 6*
CFC-11							
HF/CFC-11							
CTC/CFC-11							
CFC-12	1,100	1,834	1,601	1,098	1,099.4		
HF/CFC-12	0.360	0.423	0.410	0.415	0.418		
CTC/CFC-12	1.390	1.343	1.330	1.402	1.371		

* Till the year of the verification

Operational days per year

Type of Production	Baseline 1997	Year 1 1998	Year 2 1999	Year 3 2000	Year 4 2001	Year 5	Year 6*
CFC-12	177	230	193	149	141		

*Till the year of the verification.

Monthly CFC Production and Raw Material Consumption

CFC-12 Production and CTC Consumption

Month	CFC-12	No. of Operating days	CFC-12 Production	CTC Consump-tion	CTC/ CFC-12 Ratio	CTC Opening Stock	CTC Procured/ Added	CTC Sold Out	CTC Closing Stock
Jan		-	-	0.0	-	40.1	194.8	-	235.0
Feb		18	141.0	198.8	1.410	235.0	-	-	36.2
Mar		21	161.4	227.6	1.410	36.2	222.1	-	30.8
Apr		20	154.0	211.9	1.376	30.8	274.7	-	93.6
May		17	127.4	175.8	1.380	93.6	221.8	-	139.6
Jun		12	92.0	126.1	1.370	139.6	169.3	-	182.9
Jul		-	-	-	-	182.9	-	-	182.9
Aug		14	110.0	148.9	1.353	182.9	-	-	34.0
Sept		15	121.0	161.9	1.338	34.0	323.7	-	195.7
Oct		12	94.0	125.2	1.332	195.7	111.2	-	181.7
Nov		-	-	-	-	181.7	-	-	181.7
Dec		12	98.6	131.7	1.336	181.7	-	-	50.0
		141	1,099.4	1,507.8	1.372		1,517.7	-	

CFC-12 Production and HF Consumption

Month	CFC-12	No. Of Operating days	CFC-12 Production	HF Consump-tion	HF/ CFC-12 Ratio	HF Opening Stock	HF Procured/ Added	HF Sold Out	HF Closing Stock
Jan		-	-	-	-	9.9	-	-	9.9
Feb		18	141.0	59.2	-	9.9	60.2	-	10.9
Mar		21	161.4	68.0	0.421	10.9	66.6	-	9.5
Apr		20	154.0	63.5	0.412	9.5	59.3	-	5.3
May		17	127.4	52.8	0.414	5.3	58.5	-	11.0

Jun	12	92.0	37.8	0.411	11.0	38.8	-	11.9
Jul	-	-	-	-	11.9	-	-	11.9
Aug	14	110.0	44.3	0.402	11.9	38.9	-	6.6
Sept	15	121.0	48.6	0.402	6.6	55.0	-	13.0
Oct	12	94.0	37.6	0.400	13.0	34.0	-	9.4
Nov	-	-	-	-	9.4	-	-	9.4
Dec	12	98.6	48.3	0.490	9.4	48.3	-	9.4
	141	1,099.4	459.9	0.418		459.5	-	

CFC Production Phase Out Verification (Including Gradual Closure)

January- February 2002

(B 8 Zhejiang Linhai Limin)

A. Plant identification

Name of Enterprise	:	Zhejiang Linhai Limin Chemical Plant
Plant Ref. Number	:	
Sector Plan #	:	22
SRI #	:	B8
Address of the Plant	:	Zhenxing Jie, P.C.317000, Linhai City, Zhejiang Province
Contact person(s) and Functional Title	:	Mr. He Geping, Vice General Manager
Telephone Number	:	0576-5177088
Fax Number	:	0576-5178055
E-mail Address	:	IHLM@mail.tzptl.zj.cn

B. Verification

Team Composition	:	3
Leader	:	1
Name	:	F.A. Vogelsberg
Functional Title	:	Consultant, The World Bank
Member(s)	:	2
Name	:	Wu Ning/ Hua Zhangxi
Functional Title	:	Financial Analyst/ Technical Consultant, The World Bank
Date of Plant Visit	:	January 31 – February 1, 2001
Duration of Visit	:	1.5 day

C. Plant History

Date of Construction	1983						
ODS Products	No. of Lines	Capacity in Baseline Year	Production**				
			Baseline Year	Year 1 1998	Year 2 1999	Year 3 2000	Year 4 2001
CFC 11							
CFC 12	2	3,000	1,365	1,658	1,188	1,364.7	1,364.9
CFC 13	1	50	27	26	27	27	27
CFC 114/115							

Raw Materials Production**							
CTC	No						
HF	No						

*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 : N.A.

Date of CFC production ceased : N.A.

Date of dismantling completed : N.A.

Verification of destruction of key components by : [Name of certifying body] N.A.

Reactor tank(s) dismantled and destroyed : N.A.

Control and monitoring equipment dismantled and destroyed : N.A.

Pipes dismantled and destroyed : N.A.

Utilities dismantled and destroyed : N.A.

Evidence of destruction (photos or videos) : N.A.

Chance of resuming production : N.A.

Assessment by the verification team to be included in the verification report : N.A.

2. Plant for gradual closure

Annual CFC-12/13 quotas, production, sales and stocks since the baseline year*

CFC Products (CFC-12)	Baseline Year*	Year 1 1998	Year 2 1999	Year 3 2000	Year 4 2001
Quota			1,189	1,365	1,365
Opening Stock at beginning of year	125	125	151	126	143.3
Production	1,365	1,658	1,188	1,364.7	1,364.9
Sales	1,365	1,632	1,213	1,347.4	1,338.5***
Closing stock at end of year	125	151	126	143.3	169.7

CFC Products (CFC-13)	Baseline Year*	Year 1 1998	Year 2 1999	Year 3 2000	Year 4 2001
Quota			27	27	27

Opening Stock at beginning of year	0.91	7.91	7.34	2.6	7.9
Production	27.00	26.40	26.95	27	27
Sales	20.00	26.97	31.72	21.7	29.8
Closing stock at end of year	7.91	7.34	2.57	7.9	5.1

*The year from which data is used to approve the ODS production phase out project.
**Till the year of the verification
*** Financially, the total CFC-12 sales is 1343.33; however, the enterprise has purchased in 4.854 tons and sold to the client. therefore, the net sales become 1,338.5.

Annual HF/CFC and CTC/CFC ratios

Ratio	Baseline 1997	Year 1 1998	Year 2 1999	Year 3 2000	Year 4 2001	Year 5	Year 6*
CFC-12	1,365	1,658	1,188	1,364.7	1,364.9		
HF/CFC-12	0.418	0.408	0.408	0.415	0.417		
CTC/CFC-12	1.339	1.346	1.343	1.373	1.370		
CFC-13	27.00	26.40	26.95	27.0	27		
HF/CFC-13	0.888	1.098	1.073	1.122**	1.155		
CTC/CFC-13	2.843	3.623	3.360	3.713***	3.796		

* Till the year of the verification
** Obtained indirectly by (ratio CFC-12/CFC-13) × (ratio HF/ CFC-12)
*** Obtained indirectly by (ratio CFC-12/CFC-13) × (ratio CTC/ CFC-12)

Operational days per year

Type of Production	Baseline 1997	Year 1 1998	Year 2 1999	Year 3 2000	Year 4	Year 5	Year 6*
CFC-12	290	356	255	252	242		
CFC-13	135	157	173	228	277		

Monthly CFC Production and Raw Material Consumption

CFC-12 Production and CTC Consumption*

Month	CFC-12	No. Of Operating days*	CFC-12 Production as Product	CFC-12 Production for CFC-13	CFC-12 Production Total	CTC Used for CFC-12 as Product	CTC Consump-tion**	CTC/ CFC-12 Ratio**	CTC Opening Stock***	CTC Procured/ Added*	CTC Sold Out	CTC Closing Stock***
Jan		18.0	90.6	2.5	93.0	121.7	125.0	1.343	227.4	166.5	-	268.9
Feb		20.0	106.9	3.8	110.7	148.2	153.5	1.387	268.9	111.7	5.1	222.1
Mar		28.0	149.5	6.5	156.0	206.3	215.3	1.380	222.1	53.2	5.0	55.0
Apr		31.0	185.1	8.5	193.6	246.5	257.8	1.332	55.0	436.1	10.0	223.3
May		27.0	159.3	7.9	167.3	221.1	232.1	1.388	223.3	176.1	10.3	157.1
Jun		30.0	160.5	9.7	170.2	223.7	237.2	1.394	157.1	203.4	-	123.3
Jul		30.0	218.1	8.5	226.6	299.2	310.9	1.372	123.3	139.8	6.0	-53.8
Aug		28.0	150.6	9.0	159.6	207.3	219.7	1.377	-53.8	301.4	5.0	22.9
Sept		-	-	-	-	-	-	-	22.9	-	0.1	22.8
Oct		15.0	72.5	5.3	77.8	98.6	105.7	1.359	22.8	28.3	0.3	-55.0
Nov		15.0	71.8	11.3	83.1	97.8	113.2	1.362	-55.0	287.4	-	119.2
Dec		-	-	-	-	-	-		119.2	106.3	8.7	216.9
		242.0	1,364.9	72.9	1,437.8	1,870.5	1,970.4	1.370		2,010.3	50.4	

* Operating days of a month is recorded from the 26th day of the previous month to 25th day of the month. This is the reason for 31 operating days in April.
In case there is one (or more) shift that has reactor operation with a clender day, this clender day is considered as one operating day.

**The Plant produces CFC-13 by disproportioning of CFC-12. All data concerning CTC consumption refer to total CFC-12 production, including CFC-12 production as products and CFC-12 production for CF-13.

*** Negative stock figures are caused by delay of financial documentation.

Monthly CFC Production and Raw Material Consumption

CFC-12 Production and HF Consumption*

Month	CFC-12	No. Of Operating days	CFC-12 Production as Product	CFC-12 Production for CFC-13	CFC-12 Production Total	HF Used for CFC-12 as Product	Total HF Consump-tion**	HF/ CFC-12 Ratio**	HF Openning Stock****	HF Procured/ Added	HF Sold Out***	HF Closing Stock****
Jan		18.0	90.6	2.5	93.0	38.0	39.0	0.420	11.0	105.1	130.8	-53.7
Feb		20.0	106.9	3.8	110.7	44.0	45.6	0.412	-53.7	311.1	201.4	10.4

Mar	28.0	149.5	6.5	156.0	65.4	68.2	0.437	10.4	358.8	247.5	53.4
Apr	31.0	185.1	8.5	193.6	74.6	78.0	0.403	53.4	238.2	203.5	10.2
May	27.0	159.3	7.9	167.3	70.6	74.1	0.443	10.2	259.1	237.3	-42.1
Jun	30.0	160.5	9.7	170.2	67.6	71.7	0.421	-42.1	584.6	455.7	15.1
Jul	30.0	218.1	8.5	226.6	88.4	91.9	0.406	15.1	439.8	414.4	-51.4
Aug	28.0	150.6	9.0	159.6	63.6	67.3	0.422	-51.4	479.8	377.4	-16.4
Sept	-	-	-	-	-	-	-	-16.4	71.0	139.5	-84.9
Oct	15.0	72.5	5.3	77.8	28.9	31.0	0.398	-84.9	318.0	166.9	35.2
Nov	15.0	71.8	11.3	83.1	28.5	33.0	0.397	35.2	243.8	173.1	73.0
Dec	-	-	-	-		-		73.0	205.1	242.9	35.2
	242.0	1,364.9	72.9	1,437.8	569.3	599.8	0.417		3,614.4	2,990.4	

* Operating days of a month is recorded from the 26th day of the previous month to 25th day of the month. This is the reason for 31 operating days in April.
In case there is one (or more) shift that has reactor operation with a clender day, this clender day is considered as one operating day.

**The Plant produces CFC-13 by disproportioning of CFC-12. All data concerning HF consumption refer to total CFC-12 production, including CFC-12 production as products and CFC-12 production for CF-13.

*** Here, the HF sold out refers to the amount of HF used by other non-CFC production.

**** Negative stock figures are caused by delay of financial documentation.

Monthly CFC Production and Raw Material Consumption

CFC-13 Production and CFC-12 Consumption*

Month	CFC-13	No. Of Operating days**	CFC-13 Production	CFC-12 Consump-tion***	CFC-12/ CFC-13 Ratio***	CFC-12 Opening Stock	CFC-12 Procured/ Added	CFC-12 Sold Out	CFC-12 Closing Stock
Jan		15	0.350	2.460	7.029	-	2.460	-	-
Feb		19	0.945	3.846	4.070	-	3.846	-	-
Mar		28	2.425	6.533	2.694	-	6.533	-	-
Apr		31	3.255	8.467	2.601	-	8.467	-	-
May		29	3.010	7.912	2.629	-	7.912	-	-
Jun		31	3.640	9.668	2.656	-	9.668	-	-
Jul		30	3.150	8.503	2.699	-	8.503	-	-
Aug		31	3.360	8.982	2.673	-	8.982	-	-
Sept		-	-	-	-	-	-	-	-
Oct		23	1.960	5.252	2.680	-	5.252	-	-
Nov		30	3.850	10.416	2.705	-	10.416	-	-
Dec		10	1.050	2.757	2.626	-	2.757	-	-
		277	26.995	74.796	2.771		74.796	-	

*The Plant produces CFC-13 by disproportioning of CFC-12. CTC and HF are used indirectly, and described in previous sheets (the CFC-12 Prouction and CTC/HF Consumption).

** Operating days of a month is recorded from the 26th day of the previous month to 25th day of the month. This is the reason for 31 operating days appeared in April and June.
In case there is one (or more) shift that has reactor operation within a clender day, this clender day is considered as one operating day.

*** The CFC-12/CFC-13 ratio in Jan and Feb were extremely higher than normal practice. The reasons have been assessed and identified as due to abormal performance of the catalyst purchased which caused the convesion of of CFC-12 partly to carbon tetra fluoride; and the abnormal of a new installed compressor which caused the lower recovery of CFC-13 product. The problems were fixed since late Feb. During the mentioned abnormal period the enterprise has changed the reactor inventory many times; and the reactionmixtu mixture that containing containminated CFC-12 was stored and used graduatly in the production after March.Therefore the ratio after March was lower and th yearly average approached 2.771 that is a little higher than that in 2000.
Consequently, the total consumption of CFC-12 for production of CFC-13 in 2001 is 1.896 ton higher than 72.9 tons that was approved by the Chinese government. The enterprise made up this gap by purchasing such amount of CFC-12 from outside as ODS.

CFC Production Phase Out Verification (Including Gradual Closure)

January- February 2001

(B 11 Zhejiang Chemical Institute)

A. Plant identification

	:	
Plant Ref. Number		
Sector Plan #	:	10
SRI #	:	B11
Address of the Plant	:	No. 926, Xixi Lu, P.C. 310023, Hangzhou City, Zhejiang Province
Contact person(s) and Functional Title	:	Mr. Zhang Jianjun, Deputy Director
Telephone Number	:	0517-5229414
Fax Number	:	0517-5221129
E-mail Address	:	

B. Verification

Team Composition	:	3
Leader	:	1
Name	:	F.A. Vogelsberg
Functional Title	:	Consultant, The World Bank
Member(s)	:	2
Name	:	Wu Ning/ Hua Zhangxi
Functional Title	:	Financial Analyst/ Technical Consultant, The World Bank
Date of Plant Visit	:	February1- 2 2002
Duration of Visit	:	1.5 day

C. Plant History

Date of Construction 1990							
ODS Products (Expresed in ODS)	No. of Lines	Capacity in Baseline Year	Production**				
			Baseline Year	Year 1 1998	Year 2 1999	Year 3 2000	Year 4 2001
CFC 11							
CFC 12							
CFC 113							
CFC 114/115	1	100	10.6/120.3	20.7/102.2	0./120	7.33/119.6	6.8/127

Raw Materials Production**							
CTC							
HF							

*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 : N.A.

Date of CFC production ceased : N.A.

Date of dismantling completed : N.A.

Verification of destruction of key components by : [Name of certifying body] N.A.

Reactor tank(s) dismantled and destroyed : N.A.

Control and monitoring equipment dismantled and destroyed : N.A.

Pipes dismantled and destroyed : N.A.

Utilities dismantled and destroyed : N.A.

Evidence of destruction (photos or videos) :

Chance of resuming production : N.A.

Assessment by the verification team to be included in the verification report : N.A.

2. Plant for Complete Closure

Annual CFC-114/115 quotas, production, sales and stocks since the baseline year*

CFC Products (CFC-114)	Baseline Year*	Year 1998	Year 2 1999	Year 3 2000	Year 4** 2001
Quota			11	11	6.8***
Opening Stock at beginning of year	7.96	15.25	20.60	17.52	20.74
Production	10.60	20.70	0	7.33	6.83
Sales	3.31	15.35	3.08	4.11	4.01
Closing stock at end of year	15.25	20.60	17.52	20.74	23.56

CFC Products (CFC-115, expressed as ODS)	Baseline Year*	Year 1998	Year 2 1999	Year 3 2000	Year 4** 2001
Quota			120	120	127***
Opening Stock at beginning of year	3.64	40.27	74.81	49.45	79.21
Production	120.30	102.20	119.98	119.64	127
Sales	83.67	67.66	145.34	89.88	121.3
Closing stock at end of year	40.27	74.81	49.45	79.21	84.9

*The year from which data is used to approve the ODS production phase out project.
**Till the year of the verification
*** In the Annual Program 2001, the quota for CFC-114 is indicated as 11 and for CFC-115 is 120 (ODS, equivalent to 72 ODP); However, based upon the market situation, the enterprise applied and the Chinese Government approved to change the quota for CFC-114 to 6.8 and the quota for CFC-115 to 127 (ODS, equivalent to 76.2 ODP).

Annual HF/CFC-114 (CFC 115) and CFC-113/CFC-114 (CFC-115) ratios

Ratio	Baseline 1997	Year 1 1998	Year 2 1999	Year 3 2000	Year 4 2001	Year 5	Year 6*
CFC-114	10.60	20.70	0	7.33	6.83		
HF/CFC-114		0.41	0	0.337	0.413		
CFC-113/CFC-114		1.200	0	1.207	1.304		
CFC-115	120.30	102.20	119.98	119.64	127		
HF/CFC-115		0.569	0.479	0.482	0.417		
CFC-113/CFC-115		1.549	1.665	1.564	1.387		

* Till the year of the verification

Operational days per year

Type of Production	Baseline 1997	Year 1 1998	Year 2 1999	Year 3 2000	Year 4 2001	Year 5	Year 6*
CFC-114	**	**	**	**	**		
CFC-115	330	248	266	303	249		

*Till the year of the verification.
** The CFC-114 production uses the same production unit as the CFC-115 production. In 2000, among the total 303 operating days, 20 days have the CFC-114 production. In 2001, among the total 249 operating days, 8 day have the co-production of CFC-114.

Monthly CFC Production and Raw Material Consumption

CFC-114/115 Production and CFC-113 Consumption **(Expressed in ODS)**

Month	CFC-114/115	No. of Operating days*	CFC-114 Prod'n	CFC-115 Prod'n	CFC-113 consumption for CFC-114	CFC-113 Consumption for CFC-115	CFC-113a Consumption for CFC-115**	CFC-113 /CFC-114 Ratio	CFC-113 /CFC-115 Ratio***	CFC-113 Opening Stock	CFC-113 Procured/ Added	CFC-113 for Other Non-CFC Products****	CFC-113 Closing Stock
Jan		-	-	-	-	-	-	-	-	5.5	25.0	19.00	11.50
Feb		-	-	-	-	-	-	-	-	11.5	10.0	4.50	17.00
Mar		29	-	8.94	-	16.25	-	-	1.817	17.0	10.0	10.00	0.75
Apr		13	2.976	4.23	3.819	5.43	-	1.283	1.283	0.8	17.0	7.00	1.50
May		15	3.857	5.04	5.093	6.66	-	1.320	1.321	1.5	22.3	11.25	0.75
Jun		31	-	14.66	-	-	20.5	-	1.395	0.8	-	-	0.75
Jul		30	-	14.91	-	19.75	-	-	1.325	0.8	19.0	-	-
Aug		31	-	16.29	-	18.75	3.0	-	1.335	-	46.0	-	27.25
Sept		31	-	23.10	-	30.75	-	-	1.331	27.3	15.0	-	11.50
Oct		30	-	12.45	-	16.75	-	-	1.345	11.5	15.0	-	9.75
Nov		24	-	20.64	-	29.00	-	-	1.405	9.8	20.0	-	0.75
Dec		15	-	6.71	-	8.75	-	-	1.304	0.8	8.0	-	-
		249	6.833	126.99	8.912	152.09	23.5	1.304	1.382		207.3	51.75	

* The operating day are recorded from the 26th of previous month to the 25th of the month. This he reason for 31 days in June.
CFC-114 was co-produced by the same production line for 3 days in April and 5 days in May.
CFC 114 production uses the same production unit as the CFC 115. It carried out during three days in April and five days in May.

** CFC-113a, a non -ODS, was a by product from the production of HCFC-123 in the Enterprise.It has been used as part of the raw material for CFC 115 in 2001.

*** Here refers to the ratio of the sum of CFC-113 and CFC-113a consumed to the production of CFC-115.

**** In February, 0.5 ton was used for the production of pyrethrin (a pesticide) and 4 tons for TFA (trifluoro acetic acid). In other months, all were used forTFA.

Monthly CFC Production and Raw Material Consumption

CFC-114/CFC-115 Production (expressed in ODS) and HF Consumption

Month	CFC-114 /CFC-115	No. Of Operating days*	CFC-114 Production	CFC-115 Production	HF Consump-tion for CFC-114	HF Consump-tion for CFC-115	HF/ CFC-114 Ratio	HF/ CFC-115 Ratio	HF Opening Stock	HF Procured/ Added	HF for Other Uses**	HF Closing Stock***
Jan		-	-	-	-	-	-	-	9.095	12.870	10.890	11.075
Feb		-	-	-	-	-	-	-	11.075	20.460	16.170	15.365
Mar		29	-	8.94	-	5.280	-	0.590	15.365	13.860	17.160	6.785
Apr		13	2.976	4.23	0.817	1.163	0.275	0.275	6.785	42.900	34.320	13.385
May		15	3.857	5.04	2.003	2.617	0.519	0.519	13.385	32.670	30.690	10.745
Jun		31	-	14.66	-	6.600	-	0.450	10.745	34.650	28.710	10.085
Jul		30	-	14.91	-	5.940	-	0.399	10.085	23.100	25.740	1.505
Aug		31	-	16.29	-	7.920	-	0.486	1.505	41.250	27.390	7.445
Sept		31	-	23.10	-	7.260	-	0.314	7.445	26.730	21.120	5.795
Oct		30	-	12.45	-	5.280	-	0.424	5.795	25.740	24.420	1.835
Nov		24	-	20.64	-	7.920	-	0.384	1.835	40.920	31.350	3.485
Dec		15	-	6.71	-	2.970	-	-	3.485	27.060	27.575	-
		249	6.833	126.99	2.820	52.950	0.413	0.417		342.210	295.535	

* The operating day are recorded from the 26th of previous month to the 25th of the month. This he reason for 31 days in June.
CFC 114 production uses the same production unit as the CFC 115. It carried out during three days in April and five days in May.

** Means HF used for other non CFC products within the enterprise..

*** Negative stock figure was caused by delay of financial documentation.

CFC Production Phase Out Verification (Including Gradual Closure)

January- Februarry 2002

(B12 Zhejiang Donyang)

A. Plant identification

Name of Enterprise	:	Zhejiang Dongyang Chemical Plant
Plant Ref. Number	:	
Sector Plan #	:	7
SRI #	:	B12
Address of the Plant	:	Wunning Dong Lu, P.C. 322100, Dongyang City, Zhejiang Province
Contact person(s) and Functional Title	:	Mr. Wang Tian'e, Deputy Director
Telephone Number	:	0759-6623201
Fax Number	:	0759-6632697
E-mail Address	:	Zjfcc@public.dy.jhptt.zj.cn

B. Verification

Team Composition	:	3
Leader	:	1
Name	:	F. A. Vogelsberg
Functional Title	:	Consultant, The World bank
Member(s)	:	2
Name	:	Wu Ning/ Hua Zhangxi
Functional Title	:	Financial Analyst/ Technical Consultant, The World Bank
Date of Plant Visit	:	January 30 2002
Duration of Visit	:	1 day

C. Plant History

Date of Construction	1979						
ODS Products	No. of Lines	Capacity in Baseline Year	Production**				
			Baseline Year	Year 1 1998	Year 2 1999	Year 3 2000	Year 4 2001
CFC 11							
CFC 12	1	5,000	2,219	2,751	2,063	2218.5	2218.9
CFC 113							
CFC 114/115							

Raw Materials Production**							
CTC	No	0	0	0	0	0	0
HF	3	15,000	10,872	11,065	10,415	11,744	13,862

*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 : N.A.

Date of CFC production ceased : N.A.

Date of dismantling completed : N.A.

Verification of destruction of key components by : [Name of certifying body] N.A.

Reactor tank(s) dismantled and destroyed : N.A.

Control and monitoring equipment dismantled and destroyed : N.A.

Pipes dismantled and destroyed : N.A.

Utilities dismantled and destroyed : N.A.

Evidence of destruction (photos or videos) : N.A.

Chance of resuming production : N.A.

Assessment by the verification team to be included in the verification report : N.A.

2. Plant for gradual closure

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

CFC Products (CFC-11, CFC-12)	Baseline Year*	Year 1 1998	Year 2 1999	Year 3 2000	Year 4** 2001
Quota			2,053	2,219	2,219
Opening Stock at beginning of year	259	202	1,120	836	1,631.9
Production	2,219	2,751	2,053	2,218.5	2,218.9
Sales	2,276	1,833	2,337	1,422.6	2,799
Closing stock at end of year	202	1,120	836	1,631.9	1,051.8

*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 1997	Year 1 1998	Year 2 1999	Year 3 2000	Year 4 2001	Year 5	Year 6*
CFC-12	2,219	2,715	2,053	2,218.5	2,218.9		
HF/CFC-12	0.342	0.365	0.367	0.375	0.377		
CTC/CFC-12	1.325	1.368	1.367	1.357	1.357		

* Till the year of the verification

Operational days per year

Type of Production	Baseline 1997	Year 1 1998	Year 2 1999	Year 3 2000	Year 4 2001	Year 5	Year 6*
CFC-12	319	277	229	235	242.5		

*Till the year of the verification

Monthly CFC Production and Raw Material Consumption

CFC-12 Production and CTC Consumption

Month	CFC-12	No. Of Operating days	CFC-12 Production	CTC Consump-tion	CTC/ CFC-12 Ratio	CTC Opening Stock	CTC Procured/ Added	CTC Sold Out	CTC Closing Stock
Jan		-	-	-	-	16.8	-	-	16.8
Feb		-	-	-	-	16.8	360.1	-	376.9
Mar		18.5	174.9	236.1	1.350	376.9	498.6	-	639.4
Apr		27.0	251.3	341.3	1.358	639.4	625.6	-	923.6
May		28.0	282.3	383.4	1.358	923.6	417.3	-	957.5
Jun		24.0	222.5	302.1	1.358	957.5	274.1	-	929.4
Jul		28.5	294.6	399.4	1.356	929.4	57.5	-	587.5
Aug		23.0	196.9	266.4	1.353	587.5	-	-	321.1
Sept		17.0	141.3	191.5	1.356	321.1	165.1	-	294.7
Oct		23.0	192.3	261.3	1.359	294.7	-	-	33.4
Nov		29.0	252.9	343.7	1.359	33.4	372.0	-	61.7
Dec		24.5	209.9	285.3	1.359	61.7	425.9	-	202.3
		242.5	2,218.9	3,010.5	1.357		3,196.0	-	

CFC-12 Production and HF Consumption

Month	CFC-12	No. Of Operating days	CFC-12 Production	HF Consump-tion	HF/ CFC-12 Ratio	HF Opening Stock*	HF Procured/ Added	HF Sold Out and Others**	HF Closing Stock*
Jan		-	-	-	-	47.5	940.6	920.1	68.0
Feb		-	-	-	-	68.0	874.5	966.4	-23.9
Mar		18.5	174.9	64.7	0.370	-23.9	1,294.1	1,155.9	49.6
Apr		27.0	251.3	95.0	0.378	49.6	1,338.3	1,227.3	65.6
May		28.0	282.3	103.0	0.365	65.6	1,331.0	1,182.9	110.8
Jun		24.0	222.5	84.5	0.380	110.8	1,360.9	1,346.3	40.9
Jul		28.5	294.6	112.2	0.381	40.9	1,174.8	1,071.6	31.9

Aug	23.0	196.9	72.6	0.369	31.9	1,280.4	1,210.2	29.6
Sept	17.0	141.3	54.1	0.383	29.6	1,142.8	1,081.1	37.2
Oct	23.0	192.3	72.6	0.378	37.2	1,024.0	876.1	112.5
Nov	29.0	252.9	96.4	0.381	112.5	1,109.8	1,018.6	107.4
Dec	24.5	209.9	80.5	0.384	107.4	990.4	934.3	83.0
	242.5	2,218.9	835.6	0.377		13,861.7	12,990.6	

* Negative stock number is due to delay of financial documentation.

** Including HF for all other non-CFC uses within the Plant and HF sold out as commodity.

Production CFC Phase Out Verification (Including Gradual Closure)

January- February 2002
(B 14 Zhejiang Juhua)

A. Plant identification

Name of Enterprise	:	Zhejiang Juhua Fluoro-chemical Co. Ltd.
Plant Ref. Number	:	
Sector Plan #	:	3
SRI #	:	B14
Address of the Plant	:	Kecheng Qu, P.C. 324004, Guzhou City, Zhejiang Province
Contact person(s) and Functional Title	:	Mr. Cai Jian Qun, Acting General Manager
Telephone Number	:	0570-3097543
Fax Number	:	0570-3098687
E-mail Address	:	Qzfh@ppp.qzptt.zj.cn

B. Verification

Team Composition	:	3
Leader	:	1
Name	:	F.A. Vogelsberg
Functional Title	:	Consultant, The World Bank
Member(s)	:	2
Name	:	Wu Ning/ Hua Zhangxi
Functional Title	:	Financial Analyst/ Technical Consultant, The World Bank
Date of Plant Visit	:	January 28-29 2002
Duration of Visit	:	1.5 day

C. Plant History

Date of Construction	1993						
ODS Products	No. of Lines	Capacity in Baseline Year	Production**				
			Baseline Year	Year 1 1998	Year 2 1999	Year 3	Year 4
CFC 11/12 (Combined)	1	4,000/ 8,000	4,339/ 7,760	4,121/ 7,632	3,376/ 6325	4,339/ 7,759	4,827.3/ 7,706.1
CFC 113							
CFC 114/115							
Raw Materials Production							
CTC	1	12,000***	11,659	10,751	13,140	13,479	15,697

HF	1	10,000****	8,929	10,614	11,361	13,290	14,994

*The year from which data is used for approving the ODS production phase out project.
**Till the year prior to the verification.
*** The capacity of total chloromethanes is 30,000. Now, CTC capacity has been adjusted to 14,700.
**** Has been expanded to 15,000

D. Plant Activity in the Year Verified

1. Plant for Complete Closure

No. of CFC-11/12 lines closed : N.A.

Date of CFC production ceased : N.A.

Date of dismantling completed : N.A.

Verification of destruction of key components by : [Name of certifying body] N.A.

Reactor tank(s) dismantled and destroyed : N.A.

Control and monitoring equipment dismantlec and destroyed : N.A.

Pipes dismantled and destroyed : N.A.

Utilities dismantled and destroyed : N.A.

Evidence of destruction (photos or videos) : N.A.

Chance of resuming production : N.A.

Assessment by the verification team to be included in the verification report : N.A.

2. Plant for gradual closure

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

CFC Products (CFC-11)	Baseline Year*	Year 1 1998	Year 2 1999	Year 3 2000	Year 4** 2001
Quota			3,375	4,339	4,827.5***
Opening Stock at beginning of year	85	15	419	0	0
Production	4,339	4,121	3,376	4,339	4,827.3
Sales	4,409	3,717	3,599	4,339	4,827.3
Closing stock at end of year	15	419	0	0	0

CFC Products (CFC-12)	Baseline Year*	Year 1 1998	Year 2 1999	Year 3 2000	Year 4** 2001
Quota			6,325	7,760	7,706.5***

Opening Stock at beginning of year	20	2	420	4	6
Production	7,760	7,632	6,325	7,759	7,706.1
Sales	7,778	7,214	6,741	7,757	7,706.4
Closing stock at end of year	2	420	4	6	5.7

*The year from which data is used to approve the ODS production phase out project.
**Till the year of the verification
*** In the annual Program 2001, the quota for CFC-11 is indicated as 4,629 and for CFC-12 is 7,905; however, based upon the market situation, the enterprise applied and the Chinese Government approved to change the quota for CFC-11 to 4827.5 and the quota for CFC-12 to 7,706.5.

Annual HF/CFC and CTC/CFC ratios

Ratio	Baseline 1997	Year 1 1998	Year 2 1999	Year 3 2000	Year 4 2001	Year 5	Year 6*
CFC-11	4,339	4,121	3,376	4,339	4,827.3		
HF/CFC-11	0.150	0.151	0.150	0.157	0.156		
CTC/CFC-11	1.151	1.152	1.150	1.215	1.209		
CFC-12	7,760	7,632	6,325	7759	7,706.1		
HF/CFC-12	0.340	0.341	0.341	0.357	0.354		
CTC/CFC-12	1.304	1.309	1.304	1.381	1.374		

* Till the year of the verification

Operational days per year

Type of Production	Baseline 1997	Year 1 1998	Year 2 1999	Year 3 2000	Year 4 2001	Year 5	Year 6*
CFC-11	341	347	335	346	319		
CFC-12	(341)**	(347)**	(335)**	(346)**	(319)**		

*Till the year of the verification.
** Operated together with CFC-11 in a same production line.

Monthly CFC Production and Raw Material Consumption

CFC-11 and CFC 12 Production and CTC Consumption

Month	CFC-11 and CFC-12	No. Of Operat-ing days	CFC-11 Prod'tion	CFC-12 Prod'tion	CTC Consump-tion for CFC-11	CTC Consump-tion for CFC-12	CTC/ CFC-11 Ratio	CTC/ CFC-12 Ratio	CTC Opening Stock	CTC I*	CTC II*	CTC III*	CTC Procured/ Added**	CTC Sold Out***	CTC Closing Stock
Jan		29.0	400.0	708.7	484.3	975.0	1.211	1.376	1,667.3	1,184.6		222.4	1,407.0	-	1,615.0
Feb		28.0	401.8	640.5	487.1	880.7	1.212	1.375	1,615.0	1,361.0	18.5		1,379.5	18.5	1,608.3
Mar		30.0	406.0	782.1	499.4	1,092.3	1.230	1.397	1,608.3	1,338.0			1,338.0	-	1,354.6
Apr		27.0	494.0	806.8	587.4	1,089.8	1.189	1.351	1,354.6	1,370.0	28.5		1,398.5	28.5	1,047.5
May		31.0	522.4	857.2	625.4	1,166.0	1.197	1.360	1,047.5	1,522.0	40.0		1,562.0	27.5	790.6
Jun		29.0	443.1	656.6	536.4	903.5	1.211	1.376	790.6	1,281.0	30.0		1,311.0	18.0	643.7
Jul		30.0	405.4	574.4	486.3	782.8	1.200	1.363	643.7	1,320.6		109.4	1,430.0	2.0	802.6
Aug		29.0	407.8	564.5	498.0	781.9	1.221	1.385	802.6	1,376.5		219.5	1,596.0	20.5	1,098.2
Sept		29.0	350.0	659.1	422.9	904.3	1.208	1.372	1,098.2	1,238.6		275.4	1,514.0	0.8	1,284.2
Oct		23.0	320.0	630.3	390.6	873.3	1.221	1.386	1,284.2	984.0		113.0	1,097.0	-	1,117.3
Nov		29.0	346.0	492.9	428.0	692.7	1.237	1.405	1,117.3	1,273.0	5.0	167.4	1,445.5	3.8	1,438.4
Dec		5.0	331.0	333.0	392.5	448.4	1.186	1.347	1,438.4	179.5	1,146.0		1,325.5	0.3	1,922.8
		319.0	4,827.3	7,706.1	5,838.2	10,590.6	1.209	1.374		14,428.9	1,268.0	1,107.1	16,804.0	119.8	

* CTC I refers to CTC in-house produced and transferred to CFC production unit.
CTC II refers to CTC in-house produced and transferred to CTC commodity inventory.
CTC III refers to CTC purchased from outside.

** CTC Procured/ Added is the summation of CTC I, II and III.

*** CTC Sold Out refers to CTC sold to outside as commodity and that for other non-CFC uses within the Company.

CFC-11 and CFC 12 Production and HF Consumption

Month	CFC-11 and CFC-12	No. of Operating days	CFC-11 Production	CFC-12 Production	HF Consump-tion for CFC-11	HF Consump-tion for CFC-12	HF Consump-tion for CFC-11 and CFC-12	HF/ CFC-11 Ratio	HF/ CFC-12 Ratio	HF Opening Stock	HF Procured/ Added	HF Sold Out*	HF Closing Stock
Jan		29.0	400.0	708.7	61.6	248.1	309.7	0.154	0.350	722.2	1,174.8	774.9	812.4
Feb		28.0	401.8	640.5	61.5	222.6	284.2	0.153	0.348	812.4	1,227.2	906.4	849.0
Mar		30.0	406.0	782.1	64.4	281.8	346.2	0.159	0.360	849.0	1,260.0	1,207.5	555.3
Apr		27.0	494.0	806.8	74.8	277.9	352.7	0.151	0.344	555.3	1,158.1	928.9	431.8
May		31.0	522.4	857.2	81.1	302.7	383.8	0.155	0.353	431.8	1,586.7	1,082.9	551.8
Jun		29.0	443.1	656.6	70.2	236.8	307.0	0.159	0.361	551.8	1,409.7	1,076.7	577.6
Jul		30.0	405.4	574.4	63.9	206.0	269.9	0.158	0.359	577.6	1,536.7	1,233.5	610.9
Aug		29.0	407.8	564.5	63.4	199.3	262.7	0.156	0.353	610.9	1,499.5	1,186.8	660.8
Sept		29.0	350.0	659.1	54.3	232.5	286.8	0.155	0.353	660.8	1,412.4	931.0	855.5
Oct		23.0	320.0	630.3	49.3	220.7	270.1	0.154	0.350	855.5	922.9	925.8	582.6
Nov		29.0	346.0	492.9	55.5	179.8	235.3	0.160	0.365	582.6	1,151.0	936.8	561.5
Dec		5.0	331.0	333.0	52.0	118.8	170.8	0.157	0.357	561.5	1,492.6	1,091.5	791.8
		319.0	4,827.3	7,706.1	752.1	2,727.1	3,479.2	0.156	0.354		15,831.5	12,282.7	

* Including HF sold out as commodity and all other non-CFC uses within the company.

CFC-11 and CFC 12 Production and HF Consumption

Month	CFC-11 and CFC-12	No. of Operating days	CFC-11 Production	CFC-12 Production	HF Consump-tion for CFC-11	HF Consump-tion for CFC-12	HF Consump-tion for CFC-11 and CFC-12	HF/ CFC-11 Ratio	HF/ CFC-12 Ratio	HF Opening Stock	HF Procured/ Added	HF Sold Out*	HF Closing Stock
Jan		29.0	400.0	708.7	61.6	248.1	309.7	0.154	0.350	722.2	1,174.8	774.9	812.4
Feb		28.0	401.8	640.5	61.5	222.6	284.2	0.153	0.348	812.4	1,227.2	906.4	849.0
Mar		30.0	406.0	782.1	64.4	281.8	346.2	0.159	0.360	849.0	1,260.0	1,207.5	555.3
Apr		27.0	494.0	806.8	74.8	277.9	352.7	0.151	0.344	555.3	1,158.1	928.9	431.8
May		31.0	522.4	857.2	81.1	302.7	383.8	0.155	0.353	431.8	1,586.7	1,082.9	551.8
Jun		29.0	443.1	656.6	70.2	236.8	307.0	0.159	0.361	551.8	1,409.7	1,076.7	577.6
Jul		30.0	405.4	574.4	63.9	206.0	269.9	0.158	0.359	577.6	1,536.7	1,233.5	610.9
Aug		29.0	407.8	564.5	63.4	199.3	262.7	0.156	0.353	610.9	1,499.5	1,186.8	660.8
Sept		29.0	350.0	659.1	54.3	232.5	286.8	0.155	0.353	660.8	1,412.4	931.0	855.5

Oct	23.0	320.0	630.3	49.3	220.7	270.1	0.154	0.350	855.5	922.9	925.8	582.6
Nov	29.0	346.0	492.9	55.5	179.8	235.3	0.160	0.365	582.6	1,151.0	936.8	561.5
Dec	5.0	331.0	333.0	52.0	118.8	170.8	0.157	0.357	561.5	1,492.6	1,091.5	791.8
	319.0	4,827.3	7,706.1	752.1	2,727.1	3,479.2	0.156	0.354		15,831.5	12,282.7	

* Including HF sold out as commodity and all other non-CFC uses within the company.

Annex III. CHINA CFC PRODUCTION SECTOR COMPLETE CLOSURE PROJECT 2001

In accordance with China CFC Production Sector Plan and the Annual Program 2001, three CFC production units in three corresponding China enterprises have been closed. The enterprises are:

A 7	Suzhou Xinye Chemical Co. Ltd.	1 CFC-11 unit
A 11	Jiangsu Changsu Yudong Chemical Plant	1 CFC-113 unit
B 15	Fujian Shaowu Fluoro-Chemical Plant	1 CFC-12 unit

The concerning enterprises reported on their completion of closure. In June of 2001, A World Bank Verification Team, consisting of Messrs. F. A. Vogelsberg, consultant, Hua Zhangxi, consultant, and Wu Ning, financial analyst, conducted verification activities for the total closure of the three CFC production units in the three corresponding enterprises. At the same time, the Team also verified the CFC production of those enterprises in 2000.

Before the Verification Team visited the plant sites, the World Bank provided the Terms of Reference for the task . The Verification Team proceeded with its mission after fully familiarizing itself with the scope of the required work contained in these terms of reference. The concerned enterprises have provided information and evidences with respect to their closure and dismantling activities. The enterprises also provided the information with respect to their production, consumption of raw materials, and sales of the product(s) in 2000. The Verification Team studied and reviewed this information and prepared questions for clarification and data sheets for verification.

At the field sites of the three closed enterprises, the necessary documents needed for the 2000 production verification, such as production logs, sales records, material transfer records were made available to the Verification Team. All evidence of the dismantling and disposal of the equipment mentioned in the Agreement were also made available.

Based upon the inspection and examination of all information as well as the observation on field sites, the Verification Team concluded that **a**ll the three CFC production units in the three corresponding enterprises have been closed completely. The dismantling and disposal of key equipment meets the requirement specified in the Agreement. All the evidence as well as the remaining plant sites have been reviewed and inspected by the Verification Team. Those three enterprises will not be able to resume CFC production.

For the three closed enterprises, verification of year 2000 production was done as follows:

- Examination of year 2000 starting CFC stock
- Examination of year 2000 CFCs produced and sold
- Examination of year 2000 raw materials consumed
- Examination of year 2000 end CFC stock

So, the Verification Team concluded that the total CFC production of the three closed enterprises in 2000 was 4,235.2 tons (ODP).

CFC Production Phase Out Verification (Including Gradual Closure)

June 2001

(Suzhou Xinye)

A. Plant identification

Name of Enterprise	:	Suzhou Xinye Chemical Co. Ltd.
Plant Ref. Number	:	
Sector Plan #	:	34
SRI #	:	A7
Address of the Plant	:	Caihong Building, Sanxiang Lu, PC 215004
Contact person(s) and Functional Title	:	Mrs Song Renqi, Manager of Finance dept.
Telephone Number	:	0512-8281388
Fax Number	:	0512-8281988
E-mail Address	:	zgsnc@Public1.sz.js.cn

B. Verification

Team Composition	:	3
Leader	:	1
Name	:	F.A. Vogelsberg
Functional Title	:	Consultant, The World Bank
Member(s)	:	2
Name	:	Wu Ning/ Hua Zhangxi
Functional Title	:	Financial Analyst/ Technical Consultant
Date of Plant Visit	:	June 18 2001
Duration of Visit	:	1 day

C. Plant History

Date of construction: 1993						
ODS Products	No. of Lines	Capacity in Baseline Year*	Production**			
			Baseline Year*	Year 1 1998	Year 2 1999	Year 3 2000
CFC-11	2	7,000	2,532	5,042	7,408	2,532
CFC-12	-	-	-	-	-	-
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.

D. Plant Activity in the Year Verified

1. Plant for Complete Closure

No. of CFC-11/12 lines closed : 2

Date of CFC production ceased : December 26 2000

Date of dismantling completed : January 02 2001

Verification of destruction of key components by : [Name of certifying body] Suzhou Wuxian EPB

Reactor tank(s) dismantled and destroyed : Yes

Control and monitoring equipment dismantled and destroyed : Yes

Pipes dismantled and destroyed : Yes

Utilities dismantled and destroyed : Yes

Evidence of destruction (photos or videos) : Yes, available

Chance of resuming production : No

Assessment by the verification team to be included in the verification report : The closure is complete. All concerning equipment has been dismantled. The evacuated building has been used for other non-ODS chemical production.

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 1998	Year 2 1999	Year 3** 2000
Quota			7,408	2,532
Opening Stock at beginning of year	0	8	912	462
Production	2,532	5,042	7,408	2,532
Sales	2,524	4,138	7,858	1,201
Closing stock at end of year	8	912	462	1,793

*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 1997	Year 1 1998	Year 2 1999	Year 3 2000	Year 4	Year 5	Year 6*
CFC-11	2,532	5,042	7,408	2,532			
HF/CFC-11	0.174	0.177	0.166	0.167			
CTC/CFC-11	1.136	1.250	1.214	1.209			
CFC-12							
HF/CFC-12							
CTC/CFC-12							

* Till the year of the verification

Operational days per year

Type of Production	Baseline Year 1997	Year 1 1998	Year 2 1999	Year 3* 2000	Year 4	Year 5	Year 6
CFC-11	256	312	226	141			

*Till the year of the verification.

Monthly CFC Production and Raw Material Consumption

CFC-11 Production and CTC Consumption

Month	CFC-11	No. of Operating days*	CFC-11 Production	CTC Consump-tion	CTC/ CFC-11 Ratio	CTC Opening Stock	CTC Procured/ Added	CTC Sold Out	CTC Closing Stock
Jan		5	89.6	107.9	1.204	3,450.7	-	10.8	3,332.0
Feb		0	-	-	-	3,332.0	-	3,023.4	308.6
Mar		0	-	-	-	308.6	6,630.1	54.4	6,884.3
Apr		31	506.0	607.8	1.201	6,884.3	-	2,606.1	3,670.4
May		19	318.0	381.6	1.200	3,670.4	-	0.3	3,288.5
Jun		31	686.0	839.3	1.223	3,288.5	-	3.0	2,446.2
Jul		0	-	-	-	2,446.2	-	3.0	2,443.2
Aug		0	-	-	-	2,443.2	-	1,215.0	1,228.2
Sept		0	-	-	-	1,228.2	-	-	1,228.2
Oct		11	179.5	217.3	1.211	1,228.2	-	-	1,010.9
Nov		25	423.0	510.4	1.207	1,010.9	-	-	500.5
Dec		19	329.9	397.5	1.205	500.5	-	1.5	101.5
		141	2,532.0	3,061.8	1.209		6,630.1	6,917.5	

* Operating days of a month is recorded from the 26 th of the previous month to the 25th of the month. This is the reason for 31 operating days appeared in April and June.

CFC-11 Production and HF Consumption

Month	CFC-11	No of Operating Days*	CFC-Production	HF Consump-tion	HF/CFC Ratio	HF Opening Stock	HF Procured/ Added	HF Sold Out	HF Closing Stock
Jan		5	89.6	14.8	0.165	11.0	23.0	-	19.2
Feb		0	-	-	-	19.2	-	-	19.2
Mar		0	-	-	-	19.2	22.8	-	42.0

Apr	31	506.0	85.1	0.168	42.0	87.7	-	44.6
May	19	318.0	53.2	0.167	44.6	5.8	-	-2.8
Jun	31	686.0	110.4	0.161	-2.8	84.6	-	-28.6
Jul	0	-	-	-	-28.6	25.3	-	-3.3
Aug	0	-	-	-	-3.3	-	-	-3.3
Sept	0	-	-	-	-3.3	-	-	-3.3
Oct	11	179.5	32.2	0.179	-3.3	27.5	-	-8.0
Nov	25	423.0	71.3	0.169	-8.0	101.5	-	22.2
Dec	19	329.9	55.4	0.168	22.2	34.0	0.8	-
	141	2,532.0	422.4	0.167		412.2	0.8	

* Operating days of a month is recorded from the 26th of the previous month to the 25th of the month. This is the reason for 31 operating days appeared in April and June.

CFC Production Phase Out Verification (Including Gradual Closure)

June 2001

(Jiangsu Changsu Yudong)

A. Plant identification

Name of Enterprise	:	Jiangsu Changsu Yudong Chemical Plan
Plant Ref. Number	:	
Sector Plan #	:	24
SRI #	:	A 11
Address of the Plant	:	Haiyu Town, Wangshi, Yinbing Lu,
Contact person(s) and Functional Title	:	Mr. Yan Weiliang, Deputy Director
Telephone Number	:	0520-2561256
Fax Number	:	0520-2561808
E-mail Address	:	Yonglida@public.sz.js.cn

B. Verification

Team Composition	:	3
Leader	:	1
Name	:	F.A. Vogelsberg
Functional Title	:	Consultant, The world Bank
Member(s)	:	2
Name	:	Wu Ning/ Hua Zhangxi
Functional Title	:	Financial Analyst/ Technical Consultant
Date of Plant Visit	:	June 17 2001
Duration of Visit	:	1 day

C. Plant History

Date of construction:						
ODS Products	No. of Lines	Capacity in Baseline Year*	Production**			
			Baseline Year*	Year 1 1998	Year 2 1999	Year 3 2000
CFC-11						
CFC-12						
CFC-13						
CFC-113 (expressed in ODS)	2	1,000	681	658	681	680.7
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	:	2
Date of CFC production ceased	:	December 10 2000
Date of dismantling completed	:	January 16 2001
Verification of destruction of key components by	:	[Name of certifying body] EPB Changsu City Government
Reactor tank(s) dismantled and destroyed	:	Yes
Control and monitoring equipment dismantled and destroyed	:	Yes
Pipes dismantled and destroyed	:	Yes
Utilities dismantled and destroyed	:	No
Evidence of destruction (photos or videos)	:	Yes, available
Chance of resuming production	:	No
Assessment by the verification team to be included in the verification report	:	The CFC production facility has been diamantled completely. The building was evacuated and used for other non-ODS production

2. Plant for gradual closure

Annual CFC-113 quotas, production, sales and stocks since the baseline year* (expressed in ODS)

CFC Products (CFC-113 expressed as ODS)	Baseline Year*	Year 1 1998	Year 2 1999	Year 3 2000
Quota			680 (Issued)	680
Opening Stock at beginning of year	119	48	11	15
Production	681	658	681	680.7
Sales	752	695	677	695.7
Closing stock at end of year	48	11	15	0

*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 1998	Year 2 1999	Year 3 2000	Year 4	Year 5	Year 6*
CFC-113	681	658	681	680.7			
HF/CFC-113	0.541	0.565	0.504	0.545			
PCE/CFC-113	1.537	1.111	1.143	1.146			

* Till the year of the verification

Operational days per year

Type of Production	Baseline Year 1997	Year 1 1998	Year 2 1999	Year 3 2000	Year 4	Year 5	Year 6*
CFC-113	255	260	270	252			

*Till the year of the verification.

Monthly CFC-113 production and raw material consumption*

CFC-113 Production and PCE Consumption:

Month	CFC-113	No. of Operating days	CFC-113 Production	PCE Consump-tion*	PCE/ CFC-113 Ratio	PCE Opening Stock	PCE Procured/ Added	PCE Sold Out*	PCE Closing Stock
Jan		0	-	-		77.3	19.2	37.0	59.5
Feb		12	33.0	47.3	1.433	59.5	-	9.1	3.1
Mar		30	70.0	83.8	1.197	3.1	166.1	18.5	66.9
Apr		30	80.5	92.8	1.153	66.9	86.5	28.9	31.7
May		30	90.6	100.7	1.111	31.7	105.9	28.5	8.4
Jun		30	85.6	102.7	1.200	8.4	140.7	24.0	22.4
Jul		21	40.0	44.0	1.100	22.4	83.1	21.7	39.8
Aug		0	-	-	-	39.8	10.0	41.7	8.1
Sept		26	105.0	117.5	1.119	8.1	166.9	22.1	35.4
Oct		28	90.0	101.0	1.122	35.4	308.5	228.1	14.8
Nov		30	72.0	81.2	1.128	14.8	193.4	113.6	13.4
Dec		15	14.0	17.0	1.214	13.4	144.7	3.2	137.9
		252	680.7	788.0	1.146		1,425.0	576.4	

* Including other non- CFC uses in the Plant.

CFC-113 Production and HF Consumption

Month	CFC-113	No. of Operating days	CFC-113 Production	HF Consump-tion*	HF/ CFC-113 Ratio	HF Opening Stock*	HF Procured/ Added*	HF Sold Out	HF Closing Stock*
Jan		0	-	-	-	-	-	-	-
Feb		12	33.0	21.9	0.664	-	21.9	-	-
Mar		30	70.0	48.1	0.687	-	48.1	-	-

Apr	30	80.5	43.4	0.539	-	43.4	-	-
May	30	90.6	47.2	0.521	-	47.2	-	-
Jun	30	85.6	45.3	0.529	-	45.3	-	-
Jul	21	40.0	20.4	0.510	-	20.4	-	-
Aug	0	-	-	-	-	-	-	-
Sept	26	105.0	53.6	0.510	-	53.6	-	-
Oct	28	90.0	45.9	0.510	-	45.9	-	-
Nov	30	72.0	36.7	0.510	-	36.7	-	-
Dec	15	14.0	8.7	0.621	-	8.7	-	
	252	680.7	371.2	0.545		371.2	-	

* The Plant has a toll agreement with Fugang Chemical Comical Company which specified that all CFC-113 product would be purchased by the latter with all raw materials provided in accordance with the consumption. Therefore, the Plant does not have the HF stock.

CFC Production Phase Out Verification (Including Gradual Closure

June 2001

(Fujian Shaowu)

A. Plant identification

Name of Enterprise	:	Fujian Shaowu Fluoro-chemical Plant
Plant Ref. Number	:	
Sector Plan #	:	29
SRI #	:	B15
Address of the Plant	:	No. 18, Ximg'an Lu, Saikou, P.C. 354001, Shaowu City Fujian Province
Contact person(s) and Functional Title	:	Mr. Wan Heping, Acting Director Mr. Wang Shenghe, Chief of Administration Office
Telephone Number	:	0599-6655091
Fax Number	:	0599-6655091
E-mail Address	:	SWFHGC@public.nppee.fj.cn

B. Verification

Team Composition	:	3
Leader	:	1
Name	:	F.A. Vogelsberg
Functional Title	:	Consultant, The World Bank
Member(s)	:	2
Name	:	Wu Ning/ Hua Zhangxi
Functional Title	:	Finacial Analyst/ Technical Consultant
Date of Plant Visit	:	June 12 – 13 2001
Duration of Visit	:	1.5 day

C. Plant History

Date of Construction	1989					
ODS Products	No. of Lines	Capacity in Baseline Year	Production**			
			Baseline Year	Year 1 1998	Year 2 1999	Year 3 2000
CFC 11						
CFC 12	1	3,500	1,159	1,170	979	1,158.6
CFC 113						
CFC 114/115						

Raw Materials Production**						
HF	1	3,000*	1,160	992	2,135	5,379

*The year from which data is used for approving the ODS production phase out project. Now, expanded to 15,000 with 4 production lines.
**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 : 1

Date of CFC production ceased : December 28 2000

Date of dismantling completed : February 11 2001

Verification of destruction of key components by : [Name of certifying body] EPB, Shaowu City, Economic Commission, Shaowu City

Reactor tank(s) dismantled and destroyed : Yes

Control and monitoring equipment dismantled and destroyed : Yes

Pipes dismantled and destroyed : Yes

Utilities dismantled and destroyed : Yes

Evidence of destruction (photos or videos) : Yes , Available

Chance of resuming production : No

Assessment by the verification team to be included in the verification report : Closed completely. All the building in which the CFC production unit was installed has been evacuated and used for new non CFC production.

2. Plant for gradual closure

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

CFC Products (CFC-12)	Baseline Year*	Year 1 1998	Year 2 1999	Year 3** 2000
Quota			979	1,159
Opening Stock at beginning of year	136	103	140	178
Production	1,159	1,170	979	1,158.6
Sales	1,192	865	940	989.1
Closing stock at end of year	103	140	178	347.5

*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 1997	Year 1 1998	Year 2 1999	Year 3 2000	Year 4	Year 5	Year 6*
CFC-12	1,159	1,170	979	1,158.6			
HF/CFC-12	0.380	0.367	0.369	0.381			
CTC/CFC-12	1.371	1.339	1.346	1.333			

* Till the year of the verification

Operational days per year

Type of Production	Baseline 1997	Year 1 1998	Year 2 1999	Year 3 2000	Year 4	Year 5	Year 6*
CFC-12	159	153	133	148			

*Till the year of the verification.

Monthly CFC-11/12 production and raw material consumption*

CFC-12 Production and CTC Consumption

Month	CFC-12	No. of Operating days	CFC-12 Production	CTC Consump-tion	CTC/ CFC-12 Ratio	CTC Opening Stock	CTC Procured/ Added	CTC Sold Out	CTC Closing Stock
Jan		0	-	-	-	72.8	93.0	-	165.8
Feb		16	97.3	116.4	1.196	165.7	146.5	-	195.8
Mar		10	71.2	101.8	1.430	195.8	152.7	-	246.7
Apr		19	175.0	234.9	1.342	246.7	103.4	-	115.2
May		8	76.8	103.9	1.353	115.2	102.0	-	113.3
Jun		14	128.5	170.0	1.323	113.3	97.5	-	40.8
Jul		0	-	-	-	40.8	51.9	-	92.7
Aug		10	70.6	91.8	1.300	92.7	129.6	-	130.5
Sept		0	-	-	-	130.5	51.6	-	182.1
Oct		13	119.5	157.7	1.320	182.1	107.7	-	132.1
Nov		30	177.8	231.6	1.303	132.1	114.6	-	15.1
Dec		28	241.9	336.8	1.392	15.1	321.7	-	-
		148	1,158.6	1,544.9	1.333		1,472.2	-	

CFC-12 Production and HF Consumption

Month	CFC-12	No. Of Operating days	CFC-12 Production	HF Consump-tion	HF/ CFC-12 Ratio	HF Opening Stock	HF Procured/ Added	HF Sold Out*	HF Closing Stock
Jan		0	-	-	-	** 72.8	304.1	337.6	39.3
Feb		16	97.3	34.4	0.354	39.3	244.2	217.8	31.3
Mar		10	71.2	29.4	0.413	31.3	277.9	279.8	-
Apr		19	175.0	65.0	0.371	-	370.6	260.7	44.9
May		8	76.8	27.6	0.359	44.9	373.6	332.1	58.8
Jun		14	128.5	48.2	0.375	58.8	396.5	392.2	13.9
Jul		0	-	-	-	13.9	335.5	267.8	81.6
Aug		10	70.6	27.9	0.395	81.6	560.4	601.9	12.2
Sept		0	-	-	-	12.2	620.2	530.4	102.0
Oct		13	119.5	45.0	0.377	102.0	587.6	545.2	99.4
Nov		30	177.8	70.0	0.394	99.4	612.2	649.0	*** -7.4
Dec		28	241.9	93.8	0.388	*** -7.4	697.0	523.9	71.8
		148	1,158.6	441.3	0.381		5,378.9	4938.6	

* Including HF sold as commodity and used for other non-CFC production within the plant.
** The stock at the closing of 1999 is "0". It referred to the stock of the CFC production unit. In this table, the overall balance of HF of the whole plant is shown; and the stock at the beginning of 2000 becomes 72.8.
*** Negative figure is due to financial recording formality.

Annex IV: Financial Verification of 2001 CFC production in China

From January 28th, 2002 to February 10th, 2002, I joined a mission comprising Messrs. Anthony Vogelsberg (team leader/technical expert) and Hua Zhangxi (HZX, technical expert) to carry out the verification of CFC production in China in 2001 in accordance with the CFC Production Sector 2001 annual programme. The mission was accompanied by the representatives from SEPA, Ms. Tang Qinyuan (from January 28th, 2002 to February 4th, 2000) and Mr. Feng Liulei (from February 4th, 2002 to February 8th, 2002). The mission visited the following plants/companies:

Zhejiang Juhua Fluoro-Chemical Co. Ltd. (CFC 11, CFC 12),
Zhejiang Dongyang Chemical Plant (CFC 12),
Zhejiang Linhai Limin Chemical Plant (CFC 12, CFC 13),
Zhejiang Chemical Industry Research Institute (CFC 114, CFC 115),
Guangdong Zengcheng Xiangsheng Co.Ltd. (CFC 11),
Jiangsu Meilan Electro-Chemical Plant. (CFC 11, CFC 12), and
Jiangsu Changsu Ref. Plant–Changsu 3F (CFC11, CFC12, CFC113 & CFC115).

Based on the experience gained from the previous verification in 2001, the mission also split into technical group and financial group to hold discussions with each CFC production plant/company in parallel during the visit. I took the lead in financial discussions with each plant/company. Therefore, this report only covers the financial discussions with and financial verification of each CFC production plant/company, which follows the Guidelines and Standard Format for Verification of ODS Production Phase-out [1] (Guidelines).

In addition to the Guidelines, the financial verification was done under the following assumptions due to the tight schedule of the mission agreed by Ms. Helen Chan, Task Team Leader, EASES, the World Bank:

The plants/companies understood the importance of this verification, and
The plants/companies provided completed materials and information needed for this verification.

[1] UNDP/Ozl.Pro/Excom/32/33 of October 24, 2000, adopted as Decision 32/70 at the 32nd Excom Meeting.

Unlike the verification in 2001, this verification exercise was conducted ahead of the annual national (CNAO) audit of the CFC production sector. The mission havs no CNAO's documentation and reporting as reference to follow. Therefore, I checked all necessary financial records and the original documents covering the following aspects:

Production of each CFC,
Procurement and production of raw materials for CFC (CTC, AHF and PCE)[2], and
Consumption of raw materials (CTC, AHF and PCE).

Before the visit of the mission, each plant/company filled in questionnaires and submitted them to HZX through SEPA. Necessary clarifications were requested by HZX and feedbacks were given by relevant plants/companies.

The findings of my discussion were summarized as follows:

Production of CFC

I checked the financial records of CFC production in each plant/company. The financial records were made from the Product Receipt Sheets which were prepared throughout the month. The Product Receipt Sheet is a general name of the document of product acceptance by the warehouse of the plants/companies. Different plants/companies have different names for this kind of sheet. These sheets contained the names and the quantities of CFC products and they were confirmed by the signatures of statisticians from CFC production facilities and warehouse keepers. The financial records of CFC production were made on the last day of each month based on the Product Receipt Sheets provided by warehouse keepers.

Procurement of raw materials for CFC production

I checked the financial records of procurement of CTC, AHF and PCE in each plant/company. CTC, AHF and PCE were procured from time to time according to the need of the production of CFC. The financial records were made mainly on the basis of invoices issued by suppliers of CTC, AHF and PCE and Raw Materials Receipt Sheets at least signed by one person, the procurement personnel, in Juhua (B14), Dongyang (B12), Limin (B8), Xiangsheng (A13), and Changsu-3F (A10), while in other plants/companies, like Zhejiang Chemical Institute (B11) and Meilan (A8) the sheets were signed by both procurement personnel and warehouse keepers. The Raw Materials Receipt Sheet is a general name of raw materials acceptance documents. Different plants/companies have different names for this kind of sheet. In case the invoices were not received by financial staff at the end of each month, the raw materials accepted by warehouses were temporarily debited according to the Raw Materials Receipt Sheets. When the invoices were received, the previous entries were written in red and new entries made according to the invoices. This is normal practice in China and it makes the financial records consistent with real inventory at the end of each month. If the beginning stock of raw materials at the start of each month is negative, it means the plant/company does not strictly follow the sound accounting practice in China. However, in Changsu-3F I found that the invoices often reached the company before the raw materials. The financial records were made according to invoices and the quantities recorded were the quantities receivable. No adjustments were made when the raw materials arrived and there were differences with the recorded quantities. Changsu-3F made a comprehensive adjustment at the last day of year 2001 to keep consistency between real inventory and financial records.

Production of raw materials for CFC production

Except Zhejiang Chemical Institute (B11), Limin (B8) and Xiangsheng (A13), all plants/companies produced raw materials (CTC or AHF or both) for CFC production in 2001 in addition to their procurement of raw materials. I checked the financial records production of CTC and AHF, which based on Product Receipt Sheets or Production and Raw Materials Consumption Calculation Sheets or Production Sheets. Theses sheets were signed by statisticians from CTC/AHF production facilities and warehouse keepers in Juhua (B14) and Meilan (A8) while in Dongyang (B12) and Changsu-3F theses sheets were signed by heads of CTC/AHF production facilities and statisticians.

Consumption of raw materials

I checked the financial records for consumption of CTC, AHF and PCE, mainly for CFC production. Usually the consumption of CTC, AHF and PCE was totalled at the end of each month. CFC production facilities finalized the data of CTC, AHF and PCE consumption at the last day of each production month (25th of each month) according to their

[2] Raw materials also includes CFC 12 for CFC 13, CFC 113 for CFC 114 & CFC 115.

production logs. Monthly Production and Raw Materials Consumption Sheets (in Juhua (B14, Dongyang (B12) and Changsu-3F (A10)) and Raw Materials Delivered Sheets (in Limin (B8), Zhejiang Chemical Institute (B11), Xiangsheng (A13) and Meilan (A8)) were prepared by CFC production facilities and submitted to accounting offices. The monthly financial records were made on the basis of these sheets bearing the signatures of warehouse keepers (in Limin (B8), Zhejiang Chemical Institute (B11), Xiangsheng (A13)), or statisticians of CFC production facilities (in Juhua (B14), Zhejiang Chemical Institute (B11) and Changsu-3F (A10)) or heads of CFC production facilities (in Dongyang (B12), Zhejiang Chemical Institute (B11), Xiangsheng (A13), Meilan (A8) and Changsu-3F (A10)).

Besides Juhua (B14) all raw materials received by CFC production facilities equalled the consumption of raw materials. In Juhua (B14) CFC production facilities received the raw materials for CFC production from warehouse and consumed part of them. Therefore, at the end of each month the CFC production facility had unused raw materials which were also included in the company stocks.

Changsu-3F has two AHF production facilities. Unlike our last verification, the mission was informed that both AHF production facilities involved in CFC production in 2001. Therefore, I checked the production data of both AHF production facilities and consumption data of all AHF in Changsu-3F.

Sales of CFC

I checked the financial records of CFC sales. As the time left for me in each plant was not enough to check the detailed evidences of sales and taking into account the less importance of sales in the verification of CFC production, I only noted down the data of CFC sales. Another reason for simple verification of CFC sales is that there was no error found during the last verification in 2001. For the purpose of reducing the risk in this aspect, I checked the inventory records confirmed by relevant personnel. At the last month of year 2001, SEPA encouraged the plants/companies to send inspectors to other plants/companies. The inspectors obtained training from SEPA and made physical inventory of CFC products and raw materials at the last day of year 2001. Therefore, I checked the inventory documents signed by the inspectors and found they were consistent with the financial records of the plants/companies.

* * * * *

After the financial verification in each plant/company I prepared spreadsheets with corrections to the tables submitted by plants/companies before the mission departure.

As this financial verification was made on the basis of two assumptions mentioned above, I recommend again that financial audit should include examinations of the plants/companies Balance Sheet and Income Statement because with the audited Balance Sheet and Income Statement, the verification mission for next year can understand the whole picture of the plants/companies they visit and satisfy themselves that the plants/companies provided the complete information covering CFC production. For example, from the note of sales income, the verification mission could understand the composition of sales income of the plants/companies and sales of CFC product. From the note of inventory, the verification mission could understand the inventory of CFC product.

Wu Ning
Financial Analyst
Verification Team of CFC Production in China in 2001
February 9, 2002

Annex II

国 家 环 境 保 护 总 局
CHINA STATE ENVIRONMENTAL PROTECTION ADMINISTRATION
115 Nanxiaojie, Xizhimennei, Beijing 100035, The People's Republic of China

FACSIMILE COVER SHEET AND MESSAGE

Date: Nov. 12, 2001

No. of Pages: 2
(Including this sheet)

To:
Name: Erik Pedersen
Organization: World Bank, ENVGM
City/Country: Washington, D.C., USA
Fax No.: 001-202-5223256

From:
Name: Liu Yi
Dept.: FECO
Fax Tel. No.: (86-10)66151776
Telephone: (86-10) 66153366 Ext. 5508

MESSAGE: Endorsement of Use of HCFC as a Transitional Substance by the Five I&C Enterprises

Dear Erik,

Regarding Industrial and Commercial refrigeration projects, which had been submitted to the MLF secretariat, SEPA endorses related issues as follows:

1. SEPA has reviewed the proposal for the conversion to HCFC for the compressor production at the five I&C refrigeration companies:

- Dalian #2 Refrigeration Machinery Factory
- Zhejiang Beifeng Refrigeration Machinery Company Co. Ltd.
- Zhejiang Chulian Refrigeration Machinery Co. Ltd.
- Zhejiang Yuhuan Refirgeration Machinery Co. Ltd.
- Shanghai Minhang Refrigeration Factory

and has agreed that HCFC can be used as a transitional substance by the five companies. This agreement also takes into account the strategy for the industrial and commercial refrigeration sector, where the second conversion would be facilitated through the technical upgrade of the compressor production facilities at the companies.

2. SEPA also agrees that no further funding will be requested on behalf of the companies for the conversion to a none ODS substsance in the future if the forthcoming project including above mentioned five enterprises were approved by the ExCom.

Regrads,

Xiong Kang

for Liu Yi
Director General
FECO/SEPA
P. R. China

cc: Helen Chan

Annex III

ANNUAL PROGRESS REPORT ON THE IMPLEMENTATION OF SOLVENT SECTOR PLAN FOR ODS PHASEOUT IN CHINA FOR THE PERIOD APRIL 2000 – DECEMBER 2001 AND REQUEST FOR RELEASE OF FUND FOR THE IMPLEMENTATION OF THE 2002 ANNUAL IMPLEMENTATION PROGRAMME

submitted by
State Environmental Protection Administration (SEPA), China
and
United Nations Development Programme (UNDP)

A. BACKGROUND

At its 30th Meeting held in Montreal 29-31 March 2000, the Executive Committee of the Multilateral Fund for the Implementation of the Montreal Protocol (ExCom), by Decision 30/56, approved the "Agreement for ODS Phase out in China's Solvent Sector" (Agreement) on the phase out of ozone-depleting substances (ODS) in China's solvent sector at a total cost of $52 million to the Multilateral Fund (MLF).

The Agreement is for the phased reduction and complete phase out of the consumption of trichlorotrifluoroethane (CFC-113) and 1,1,1 trichloroethane (TCA), as well as the consumption of carbon tetrachloride (CTC) used as cleaning solvents in China.

The $52 million would be paid out in instalments over an eleven-year period in the exact amount of US dollars as specified in the Agreement, starting in the year 2000 and ending in 2010. By the approval of the Agreement, China committed that in exchange for the funding level specified, it will eliminate its total non-exempt CFC-113 and TCA consumption, as well as its total CTC consumption for solvent use in accordance with an agreed schedule. China further agreed that total non-exempt CFC-113 and TCA consumption in China, as well as the total consumption of CTC in the solvent sector in China will not exceed the levels agreed for specific chemicals in each year up to 2010.

China will phase out its CFC-113 consumption by 1 January 2006 and its CTC consumption by 1 January 2004, save for consumption of these two ODS for feedstock and process agent uses, and for CFC-113 consumption and CTC solvent consumption that may be agreed by the Parties to be essential for China after 2010. TCA will be totally phased out by 1 January 2010, save for any TCA solvent consumption that may be agreed by the Parties to be essential for China after 2015.

The United Nations Development Programme (UNDP) has agreed to be the implementing agency for this project for the first three years at a fee of 10% of funds allocated during that

period. The fees for future years will be agreed between the Executive Committee and the implementing agency for the project.

B. PHASEOUT ACTIVITIES

Immediately after the approval of the Agreement in March 2000, the State Environmental Protection Administration of China (SEPA) and UNDP held many discussions on implementation arrangements and preparation of workplans. The project document was signed by SEPA and UNDP in June 2000. The draft Project Implementation Manual (PIM) was reviewed, finalized and agreed by SEPA and UNDP in June 2000.

In August 2000, A Domestic Implementing Agency (DIA) was selected, through international competitive bidding, to assist SEPA in undertaking the day-to-day operational activities to facilitate enterprise level phase out.

Since June 2000, SEPA, the Special Working Group for Solvent (SWG), and the DIA had conducted seminars, workshops and national conferences for solvent consuming enterprises, industrial associations and national experts to introduce and publicize the Solvent Sector Plan, to initiate action to organize the Alternative Technology Support System (ATSS), to discuss the operational mechanism, to obtain updated information on current cleaning technologies and trends in each industrial sector, and to identify and assess alternative solvents and conversion technologies for different ODS solvent consuming sub-sectors.

In July 2000, international and national experts met to further develop the sector phase out plan in defining the phase out priorities, set time schedules, identify technical options and funding level for phase out in each sub-sector. National experts gained experience through exchanges with UNDP international experts. Phase out schedules were refined and preparation for the first bidding of ODS Reduction Contacts were carried out.

1. 2000 ODS Reduction Contracts

Due to the time required to complete some of the preparatory works that are critical to the successful initiation of enterprise level phase out activities, the initiation of the first year bidding process was delayed for about two months. Bidding documents for ODS Reduction Contracts to phase out the amount of ODP required to meet the 2001 targets were sent out in September 2000 to 30 large and medium ODS solvent consuming enterprises in liquid crystal display (LCD) manufacture, compressor, electric vacuum and electronic component identified as priority subsectors for early phase out. All these enterprises have pre-registered their interest in converting to non-ODS cleaning technologies.

20 out of the 30 enterprises submitted their bids by the closing date of 6 November 2000. The DIA organized bid evaluation by a Bid Evaluation Committee comprising representatives from the SWG, technical experts and DIA. A two-stage evaluation was utilized to evaluate the documentation. 19 out of the 20 bids were qualified for the next stage of technical evaluation utilizing the following six criteria:

- priority of subsector;
- mature and advance alternative technology;
- reasonable and executable implementation plan;
- quality of documentation;
- management and financial condition of enterprise; and
- price.

The bid evaluation recommended 15 enterprises for the award of ODS Reduction Contracts that would phase out 473.169 tons of CFC-113, 15.6 tons of TCA and 7.6 tons of CTC. ODS Reduction Contracts for these 15 enterprises were signed on 27 November 2000. With the ODS to be phased out by these reduction contracts, even though the aggregate 2000 phase out targets in the 2000 – 2001 First Annual Programme would be exceeded, there was still a shortfall of 84.6 tons in the phase out of TCA that China had to meet.

Subsequent to the report to the 32nd Executive Committee Meeting in December 2000 on the results of the 2000 bidding, the Government of China undertook necessary action to make up the shortfall in TCA phase out. One more ODS Reduction Contract was signed on 21 February 2001 to phase out an additional 86 tons of TCA to meet all the phase out targets of each of the three solvents stipulated in the 2000 – 2001 First Annual Programme.

The 16 ODS Reduction Contracts signed would therefore phase out 473.169 tons of CFC-113, 101.6 tons of TCA and 7.6 tons of CTC. Total bid price for the 16 winning bids is RMB 58,799,444, counterpart funding by the enterprises amounted to RMB 24,641,414, total phase out cost for the ODS Reduction Contracts awarded is RMB 34,158,030, equivalent to US$ 4,132,353.

The implementation of the 2000 ODS Reduction Contracts is well underway. In April 2001, international competitive bidding for the equipment required for the 2000 ODS Reduction Contracts was advertised in newspapers in China and international website. By the closing date of 13 June 2001, 15 domestic equipment manufacturers purchased the bidding document, 12 of them submitted bids. A Bid Evaluation Committee of five, consisting of three technical experts, one representative from the DIA and one representative from the procurement agency, carried out the bid evaluation. A Bid Evaluation Report and the recommendation of award were submitted to the Contracts Committee of the Foreign Economic Cooperation Office (FECO) of SEPA for review and approval. Contracts for the procurement of equipment were subsequently awarded to two lowest bidders.

2. 2001 ODS Reduction Contracts

According to the 2000 – 2001 First Annual Programme, the phase out of 655 tons of CFC-113 and 100 tons of TCA were to be achieved with the 2001 ODS Reduction Contracts and Voucher System.

Preparation for the 2001 bidding was initiated in February 2001. DIA issued bidding documents on 2 April 2001 to 23 enterprises in the LCD, compressor, electronic vacuum, electronic

components and mechanical processing subsectors. 21 of the 23 enterprises submitted their bid by the closing date of 12 June 2001. Bid evaluation was carried out by a Bid Evaluation Committee utilizing the same evaluation criteria as applied to the 2000 bidding. The Bid Evaluation Committee recommended the award of contract to 19 successful bidding enterprises to phase out 676.978 tons of CFC-113, 27.973 tons of TCA. The Bid Evaluation Report was reviewed and approved by the Contracts Committee of FECO. ODS Reduction Contracts with the 19 winning enterprises were signed on 5 July, 2001

The phase out amount of TCA again fell short of the required phase out target by 72.027 tons. The Contracts Committee of FECO requested the DIA to secure additional contract(s) by 31 October 2001, to phase out at least 72.1 tons of TCA.

SWG and DIA therefore investigated nearly 20 TCA consuming enterprises and identified 5 enterprises with higher consumption as potential candidates for phase out. Technical discussions were carried out with these enterprises. DIA and national experts then carried out site visits and completed negotiations and finalized the technical schemes with two enterprises to phase out an additional 78 tons of TCA. ODS Reduction Contracts were signed with these two enterprises in September 2001.

The 21 ODS Reduction Contracts signed in 2001 would therefore phase out 676.978 tons of CFC-113, 105.973 tons of TCA. Total bid price for the 21 winning bids was RMB 56,050,140, counterpart funding by the enterprises amounted to RMB 20,003,300, total phase out cost for the 21 ODS Reduction Contracts awarded is RMB 36,046,840, equivalent to US$ 4,360,857.

With the guidance of national experts, the 21 winning enterprises are currently preparing the technical specifications for the equipment required.

As a result of the 2000 and 2001 biddings, the status of ODS Reduction Contracts can be summarized as follows:

	CFC-113 (ODS tons)		**TCA (ODS tons)**		**CTC (ODS tons)**		**No. of Enterprises**		**Funding (US$)**	
	Planned	Executed	Planned	Executed	Planned	Executed	Planned	Executed	Planned	Executed
2000 Bidding	466	473	100	101	0	7.6	10-20	16	$5 million	$4.132 million
2001 Bidding	655	677	100	105.9	0	0	10-20	21	$5.5 million	$4.361 million

3. Bilateral Project Preparation Activities

Project preparation funds were approved at the 29th Executive Committee Meeting for Japanese and French bilateral investment projects to reduce ODS solvent consumption. These investment projects would be the total involvement of bilaterals in the China Solvent Sector Plan covered by the Agreement

UNDP was designated by the Government of Japan as the implementing agency of the bilateral project preparation. A project preparation mission was carried out in July 2000, with the participation of Japanese experts and UNDP sector expert. Based on the mission and inputs provided by the experts, a project proposal for the elimination of CFC-113 used in six enterprises was finalized. The six enterprises manufacture liquid crystal display (LCD) in Guangdong province, China. The project proposal reflected the alternative technologies recommended and discussed between the experts and the six enterprises.

The overall cost effectiveness of the Japanese bilateral investment project proposal, calculated on eligible consumption for each enterprise, was $19.60/kg ODP. As China agrees that the overall cost-effectiveness of the Agreement of US$12.90/kg will be equal to, or better than, the cost-effectiveness without any bilateral involvement, China did not feel that it can maintain the overall cost-effectiveness with the implementation of the bilateral project proposal at the cost-effectiveness reflected in the project proposal, as it may not be able to make up the difference with low cost-effectiveness projects. China therefore decided that it could not accept the submission of the bilateral investment project proposal to the Executive Committee for consideration.

The French bilateral investment project is still under consideration. The submission of this bilateral project proposal must be endorsed by SEPA. France is requested to coordinate its submission of the investment project with SEPA and UNDP.

4. Relevant Policies

Paragraph j of the Agreement stipulated that 12 months after approval of the Agreement China shall ban the export of ozone-depleting substances used as cleaning solvents (CFC-113, TCA and CTC). SWG started to report or apply to the State Management Office of Import and Export of ODS (hereinafter referred as to the Office) for formulating relative policies through FECO/SEPA.

The Office is a managing office jointly established by the National Customs Administration, the Ministry of Foreign Trade and Economic Cooperation (MOFTEC) and SEPA. The Office is dedicated to make, promulgate and execute policies on controlling the import and export of ODS. Regarding the regulations of the Agreement and relative requirements of execution of the Solvent Sector Plan, the Office promulgated the "Second Export Banning List of ODS" on 18 January 2001 and ordered to execute it formally effective 1 February 2001. The specific regulations relating to ODS solvent are as follows:

1. An export license management system will be used for CTC and TCA exported as raw materials or reagent. A quota license management system will be used for the import of TCA as cleaning solvent. The export of CTC and TCA as cleaning solvent and the import or export of CFC-113 as cleaning solvent is banned.

2. The enterprise who needs to import or export TCA and export CTC as raw material or reagent shall make application to the Office as per regulation and procedures specified in "The Notice of Issuing About Strengthening the

Regulations on Importing or Exporting ODS" and shall obtain approval by the Office and get the import or export license issued by authorities authorized by the MOFTEC. Then the customs house can release the import or export against such license.

C. TECHNICAL ASSISTANCE ACTIVITIES

1. Training Activities

Training activities were conducted in August 2000 and April 2001 for 120 and 100 participants from the candidate enterprises for the 2000 and 2001 bidding respectively. Training programme includes:

- Introduction of Solvent Sector Plan and its execution modality;
- Preparation of bid proposal and how the bidding will be executed;
- Introduction by technical experts on alternative technologies;
- Exchange and discussion between technical experts and enterprises.

Training during pre-bid meeting conducted for 60 participants to provide the participants with:

- Introduction of basic requirements of the bid proposal and related forms;
- Technical specification requirements and related forms;
- Clarifications on technical aspects and on alternative technologies.

2. Public Awareness & Promotion

Mass media promotions were carried out during a National Solvent Working Conference held in August 2000. Periodic articles are published in the electronic sector's regular publications and in countrywide newspapers and magazines. Public awareness campaign on the Solvent Sector Plan has also been launched.

3. Strengthening of Alternative Technology Support System (ATSS)

The special characteristic of the China Solvent Sector Plan is the sheer number of enterprises and the wide usage of ODS in different subsectors and regions. To better resolve the alternative technology issues, to provide enough alternative technology options and support for ODS consumers to meet their production demand during the process of ODS solvent phase out, an Alternative Technology Support System (ATSS) has been established to serve all users, with primary focus to service the small-scale users and to provide technical support to the SWG and DIA.

ATSS is composed of such members as national expert group, relevant industrial associations, three technical support centers, alternative solvent or equipment dealers or manufacturers. A total of 10 national experts have joined the national expert group. Exchange with and technical training by international experts were carried out. The national expert group provided training to

enterprises on alternative technologies and carried out technical exchanges and discussions. With the assistance of the industrial associations, SWG and national expert group carried out on-the-spot investigation on enterprises producing LCD, compressor and electric vacuum and provided the enterprises with information on alternative technologies and other support services. They also assisted the enterprises in determining the technical scheme and preparing technical specifications. In addition to sector experts, technical experts from alternative equipment manufacturers were also included in the national expert group.

As members of the ATSS, industrial associations mobilize the relevant enterprises to participate in the ODS phase out activities, popularize the Solvent Sector Plan and coordinate activities during implementation of the phase out projects.

In addition, the three Alternative Technology Support Centers took an active role in various phase out activities, providing candidate enterprises with consulting, testing and measuring services.

4. Solvent Sector Management Information System (SSMIS)

With the approval of several sector plans for China, it is now necessary to redesign and further develop the ODS Management Information System (MIS) by FECO. The SSMIS would be readjusted and developed so as to meet the overall MIS requirements of FECO as an integrated system for the ODS MIS, so that it will present an integrated and coordinated database for the management and monitoring of all the sector plans.

Project contractor has been selected through competitive bidding process and the Terms of Reference for the SSMIS has now been finalized. Activities and development work have been initiated in August 2001.

5. Development and Investment of Alternative Solvents Production

During preparation for the implementation of the Solvent Sector Plan, China realizes that the most important challenge for a successful and smooth phase out in the solvent sector is the sufficient availability of good quality alternatives at reasonable low price. At present, China imports most of the alternative solvents at a very high price which is a major obstacle to getting the interest of enterprises to participate in phase out activities. Some local enterprises have embarked on the development and production of alternative solvents and equipment. SEPA strongly believes that one important activity in the successful implementation of the Solvent Sector Plan is to assist these local enterprises in the development of these alternative solvents that are identified to be of good potential substitutes and to provide investment in building up their production capacity in order to provide sufficient local supply to current ODS solvent consumers.

Two locally developed alternative solvents, HEP-2 (containing nPB) and HT-1 have been evaluated by Chinese industries and found to be economically and technically acceptable alternative solvents. Testing and pilot production in some sub-sectors have proven to be effective and their use being accepted by those enterprises.

To meet the requirement of the development and production of alternative solvents, a total of $2 million was reduced from the ODS Reduction Contracts and Voucher System in 2000 and 2001, as a result of savings achieved through the bidding process, to be reallocated to the development and production of alternative solvents. SEPA has revised the 2000 – 2001 Annual Programme to include this support. The amended 2000 – 2001 First Annual Programme was submitted to and reviewed at the 33rd ExCom Meeting.

While $2 million will be deployed from the ODS Reduction Contracts and Voucher Systems of CFC-113 and TCA in 2000 and 2001 to provide for the development cost and investment capital for alternative solvents, even with the $2 million reduction, China was able to sign sufficient ODS Reduction Contracts to phase out the level of consumption required to meet the 2001 and 2002 control targets, as stipulated in the Agreement. This was achieved through the bidding system which resulted in a lower phase out cost per ODP tonne, therefore the reduced allocation was still sufficient to cover the cost of the 2000 and 2001 ODS Reduction Contracts.

Up to the end of December 2001, while no activity has yet been initiated or expenditure incurred in the development and production of HEP-2 that contains nPB, China has actively carried out alternative technology studies in the following sectors:

- Experiments and study on alternative LCD cleaning solvent;
- Experiments and study on electric vacuum sector;
- Strategy on alternative technologies development.

D. FUNDING

In approving the Agreement at its 30th Executive Committee Meeting, the ExCom approved the release of the 2000 funding level of $6.75 million in March 2000 to facilitate China's initiation of activities to meet the 2001 reduction target levels as well as work towards achieving future years' reduction targets. The ExCom also release the 2001 funding in the amount of $6.955 million in March 2001 to initiate activities for the year 2001.

E. SUBMISSION OF REPORTS

At the 32nd ExCom Meeting, China and UNDP presented the "Interim Report and Request for Second Payment on the Implementation of the 2000 – 2001 Annual Programme Under the China Solvent Sector Plan" (UNEP/OzL.Pro/ExCom/32/30/China). An Addendum to the Interim Report was also submitted shortly prior to the 32nd ExCom Meeting. After considering the recommendations of the Sub-Committee on Project Review (UNEP/OzL.Pro/ExCom/32/21, para. 96), the Executive Committee "took note of the interim report on the 2000 – 2001 Annual Programme under the China Solvent Sector Plan indicated that the projected phase out would not meet one of the phase out targets stipulated in the Agreement." (UNEP/OzL.Pro/ExCom/32/44, para. 79)

At the 33rd ExCom Meeting, China and UNDP submitted the "Report and Request for Second Payment on the Implementation of the 2000 – 2001 Annual Programme under the China Solvent Sector Plan." After consideration of the report, the ExCom approved the release of the 2001 funding in the amount of $6.955 million for the 2001 phase out activities.

The 2002 Annual Implementation Programme was submitted to the 35th Executive Committee for review and approval of the Executive Committee. The 2002 Annual Implementation Programme in the amount of $6,330,000, covering the period of January – December 2002, includes enterprise-level phase out activities, policy actions and technical assistance activities to phase out 625 MT of CFC-113, 250 MT of TCA and 50 MT of CTC (500 ODP tonnes of CFC-113, 25 ODP tonnes of TCA and 55 ODP tonnes of CTC) with ODS phase out results being achieved by the end of 2003, to enable China to meet its 2004 phase out targets. The Executive Committee, having considered the recommendation of the Sub-Committee on Project Review, decided at its 35th Executive Committee Meeting to approve the 2002 Annual Implementation Programme of the solvent sector in China, as the basis for considering funding of the programme at a future meeting (ExCom Decision 35/51).

F. 2000 CONTROL TARGETS OF SOLVENTS CONSUMPTION

The Solvent Sector Plan for ODS Phase out in China was approved at the 30th Executive Committee Meeting in March 2000. As phase out projects at the enterprise level will take at least 12 – 18 months to complete implementation, any project activities initiated under the China Solvent Sector Plan in 2000 will not result in any consumption phase out at the end of 2000. The annual performance verification as required in the Agreement will be conducted only starting with the production and consumption level of 2001, to be carried out after the first quarter of 2002, when official data and records of production and consumption become available for the preceding year.

Based on official data and statistics on China chemical production, import and export obtained by SEPA, the total domestic consumption of CFC-113 and TCA has met the relevant targets specified in the Agreement signed between MLF and China. While the annual usage of CTC in China is around 60,000 to 70,000 MT, 100 MT was used as cleaning solvents. The balance was used as feedstock. The following table indicated that China did not exceed the 2000 consumption levels for specific chemicals.

	CFC-113		TCA		CTC	
	ODS	ODP	ODS	ODP	ODS	ODP
Consumption Target	4,125	3,300	6,212	621	100	110
Production	4,371		809			
Import	19		6,796			
Export	88		29			
Raw Material Usage	245		1,863			
Solvent Consumption	4,057	3,246	5,713	571	100	110

G. ACHIEVEMENT OF PERFORMANCE INDICATORS

As reflected in Appendix 1 to this Report, in implementing the ODS Reductions Contracts and technical assistance activities, China has been able to achieve the performance indicators stipulated in Table 5 of the Amended 2000 – 2001 First Implementation Programme.

H. ACTION CURRENTLY UNDERWAY

1. Voucher System

The SWG is currently reviewing the regulations on the execution of the Voucher System and thinks that it still need further study and development on the relative appendix tables and forms, the basic design of the voucher, as well as the contents of information packages to be provided to the small OD solvent consumers.

The DIA is currently completing the review and approval of the final version of the regulations. It is planned that the Voucher System will be introduced in the first quarter of 2002, to a small group of small users and then to proceed with the promotion and registration.

3. Audit

Under the Agreement, two audits are to be carried out, one financial audit and one performance audit, starting with the phase out that would be achieved at the end of 2001. UNDP will include the Solvent Sector Plan project in its annual audit exercise, which will be conducted in the first quarter of 2002, on management and financial matters. Special emphasis will be placed on the management and financial issues of phase out activities at the enterprise level, and on technical assistance and other administrative matters at UNDP, DIA, SWG and FECO.

UNDP is currently under discussion with SEPA and the National Audit Board to carry out a performance audit starting after the first quarter of 2002, on the performance of the ODS

Reduction Contracts, the verification of national level of solvent consumption, in coordination with the audit on the production level (of CFC-113, TCA and CTC) under the China CFC Production Plan , when official data and records on ODS production and consumption in China will become available.

Verification of import and export of OD solvents will also be verified during the performance audit so as to arrive at a credible national solvents consumption level, in order to verify that the 2001 phase out targets stipulated in the Agreement have been achieved. The performance verification report for 2001, will be submitted to the last Executive Committee Meeting of 2002.

I. REQUEST FOR THE RELEASE OF 2002 FUNDING

At its 35th Executive Committee Meeting, the Executive Committee, by Decision 35/51, decided to approve the 2002 Annual Implementation Programme of the solvent sector in China, as the basis for considering funding of the programme at a future meeting. In accordance with the terms of the Agreement, China and UNDP request the Executive Committee to release the 2002 funding in the amount of $6,330,000, and the 10% fee to enable China and UNDP to initiate the 2002 phase out activities, as contained in the approved 2002 Annual Implementation Programme.

Appendix 1

Implementation Programme (2000 - 2001)
Performance Indicators

Solvent Phase out Targets					
Solvent Sub-sector	Start of programme (MT)	Reduction Target (MT)	End of programme (MT)	Indicators to be reported on in Semi-Annual Progress Reports. Verified in Annual Performance Audits	Achievement
CFC-113 Imports / Exports	149	0	0	Ban on exports and imports effective January 1, 2001	Promulgated 18 January 2001, effective 1 February 2001
Domestic Consumption and Phase out Target	4,441	466 (plus 600 from on-going MLF projects)	3,375 (in 2001) 2750 (in 2002)	Consumption levels (production plus imports minus exports)	No impact on 2000 Consumption and Phase out Targets ODS Reduction Contracts signed to meet 2001 and 2002 Phase Out Targets
TCA Supplement	-	>100	-	Included in ODS reduction contracts	
Number of ODS Reduction Contracts (inclusive of TCA supplement) Voucher Redeem		L/M 20-40 S 100 (2001)		Number of contract signed (sum of ODS reduction in the contracts) Progress under contracts Number of voucher redeemed	16 ODS Reduction Contracts signed in 2000 to phase out 473 MT of CFC-113, 101 MT of TCA and 7.6 MT of CTC; 21 ODS Reduction Contracts signed in 2001 to phase out 677 MT of CFC-113, 105.9 Mt of TCA
Policy and TA Initiatives					
Initiatives	Indicators to be reported on in semi-annual progress reports	Achievements			
1. Bidding System	Bidding system's operating procedures finalized. Winning enterprises for 2000 –2001 selected. Enterprises trained for bid preparation for 2000 and 2001bidding.	Project Implementation Manual finalized June 2000 and bidding took place in September 2000 and April 2001. 16 and 21 enterprises selected to participate in 2000 and 2001 phase out activities respectively. Training took place prior to each year's bidding.			
2. Public Awareness	Introduce Solvent Sector Plan and phase out schedule on two newspapers Invite ODS solvent users to take part in the reduction bidding and promote the enterprises to participate the phase out actions	Mass media promotions carried out in August 2000. Periodic articles published in electronic sector's regular publications and countrywide newspapers and magazines. 30 and 23 enterprises were invited to participate in the 2000 and 2001 bidding.			
3. Training	Provide personal training courses to ODS users, EPBs and local line ministries	Trainings and seminars on ODS phase out conducted during 2000 and 2001.			
4. Notice on banning newly-built enterprise which produces or uses ODS solvent	Promotional campaigns on the ban; Local Electronic Bureaus and EPBs engaged in overseeing ban enforcement.	Second Export Banning List of ODS promulgated on 18 January 2001 and became formally effective 1 February 2001.			
5. Developing ATSS	Contracts issued, progress reports	ATSS composed of national expert group, relevant industrial associations, three technical support centers, alternative solvent or equipment dealers or manufacturers			