NATIONS UNIES

EP

Programme des Nations Unies pour l'environnement

Distr.
Restreinte

UNEP/OzL.Pro/ExCom/45/38
8 mars 2005

FRANÇAIS
ORIGINAL: ANGLAIS

COMITÉ EXÉCUTIF
DU FONDS MULTILATÉRAL AUX FINS
D'APPLICATION DU PROTOCOLE DE MONTRÉAL
Quarante-cinquième réunion
Montréal, 4 – 8 avril 2005

PROPOSITIONS DE PROJETS: MEXIQUE

Le présent document comporte les observations et les recommandations du Secrétariat du Fonds sur les propositions de projet suivantes:

Élimination

• Plan national d'élimination de CFC : deuxième tranche	ONUDI et Banque mondiale

Production

• Plan sectoriel pour l'élimination du secteur de production de CFC-11 et de CFC-12 : troisième tranche	ONUDI

FICHE D'ÉVALUATION DE PROJET (PROJETS PLURIANNUELS)
MEXIQUE

TITRE DU PROJET	AGENCE BILATÉRALE/AGENCE D'EXÉCUTION
Plan national d'élimination de CFC: deuxième tranche	ONUDI et Banque mondiale

ORGANISME NATIONAL DE COORDINATION:	SEMARNAT

DERNIÈRES DONNÉES DÉCLARÉES SUR LA CONSOMMATION À ÉLIMINER GRÂCE AU PROJET
A : DONNÉES RELATIVES À L'ARTICLE 7 (TONNES PAO, 2003, EN DATE DE MAI 2004)

CFC, Groupe I Annexe A	1 989		

B : DONNÉES SECTORIELLES DU PROGRAMME DE PAYS (TONNES PAO, 2003, EN DATE DE MAI 2004

SAO	Aérosol	Mousse	Réf. mfg.	Réf. Service	Agent de transformation	TOTAL
CFC-11	0	137	10		0	147
CFC-12	70	55	30	1 634	0	1 789
CFC-113	0				33	33
CFC-114	0			20	0	20
Total CFC	70	192	40	1 654	33	1 989

Consommation restante de CFC admissible au financement (tonnes PAO)	n/a

PLAN D'ACTIVITÉS DE L'ANNÉE EN COURS : Financement total: 5 351 350 $US: élimination totale de 40 tonnes PAO

DONNEES RELATIVES AU PROJET		**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**Total**
CFC (Tonnes PAO)	Limites du Protocole de Montréal	4 625	2 312	2 312	694	694	694	0	n.d.
	Consommation maximum pour l'année	4 403	2 205	150	50	50	50	0	n.d.
	Demande totale (référence)	1 932	1 667	1 190	725	425	195	140	6 274
	Élimination annuelle grâce aux projets en cours	40	165	77	15	0	0	0	297
	Élimination nouvellement ciblée	0	100	400	450	300	230	55	1535
	Élimination annuelle non financée	0	0	0	0	0	0	0	0
CONSOMMATION TOTALE DES SAO À ÉLIMINER		40	265	477	465	300	230	55	1832
Coûts finaux du projet ($US):									
	Financement pour l'ONUDI	3 517 000	4 478 000	299 500	0	0	0	0	8 294 500
	Financement pour la Banque mondiale	0	500 000	0	0	0	0	0	500 000
Financement total du projet		3 517 000	4 978 000	299 500	0	0	0	0	8 794 500
Coûts d'appui finaux		0	0	0	0	0	0	0	0
	Coûts d'appui pour l'ONUDI	263 775	335 850	22 463	0	0	0	0	622 088
	Coûts d'appui pour la Banque mondiale	0	37 500	0	0	0	0	0	37 500
Total des coûts d'appui		263 775	373 350	22 463	0	0	0	0	659, 588
COÛT TOTAL POUR LE FONDS MULTILATÉRAL ($US)		3 780 775	5 351 350	321 963	0	0	0	0	9 454 088
Rapport coût/efficacité du projet ($US/kg)									5.26

*2004 Les données sur la consommation sont provisoires

DEMANDE DE FINANCEMENT: Approbation du financement pour la deuxième tranche (2005) tel qu'indiqué ci-dessus.

RECOMMANDATION DE SECRÉTARIAT	**Examen individuel**

DESCRIPTION DU PROJET

1. Au nom du Gouvernement mexicain, l'ONUDI a soumis à la 45e réunion du Comité exécutif une demande pour la deuxième tranche de financement du plan national d'élimination de CFC pour le Mexique. La demande était accompagnée d'un document en deux parties avec les sous-titres suivants: « Première Partie : Réalisations du programme annuel précédent » et « Deuxième Partie : Programme annuel de mise en œuvre; Deuxième tranche ».

2. L'Accord relatif au plan national d'élimination de CFC pour le Mexique avait été approuvé initialement à la 42e réunion du Comité exécutif en 2004, au niveau de financement de 8 794 500 $US. Dans le cadre de ce plan, le Gouvernement mexicain se proposait de réaliser la réduction de sa consommation de CFC à 3,2% en 2006, de 1,1% en 2007 et d'atteindre l'élimination totale en 2009, avec comme point de départ, un niveau de consommation de 4 403 tonnes PAO en 2004.

3. Aux termes de l'Accord entre le Comité exécutif et le Mexique, le Comité exécutif n'accordera le financement prévu au calendrier financement approuvé que si le pays satisfait aux conditions suivantes:

a) Le pays a atteint son objectif pour l'année visée;

b) L'atteinte de l'objectif a fait l'objet d'une vérification indépendante;

c) Le pays a essentiellement concrétisé toutes les mesures indiquées dans le dernier programme annuel de mise en œuvre; et

d) Le pays a présenté un programme annuel de mise en œuvre pour l'année pour laquelle le financement est demandé, et il a reçu l'aval du Comité exécutif à cet effet.

4. L'ONUDI a communiqué les données préliminaires de consommation de 2004 qui étaient bien inférieures à la consommation maximum autorisée pour cette année là. L'ONUDI a informé le Secrétariat que la date limite de soumission étant fixée en début février, il était impossible de soumettre un rapport de vérification.

5. L'ONUDI a soumis un rapport sur les progrès réalisés dans l'exécution du programme annuel de mise en œuvre 2004. La comparaison entre les activités planifiées dans le dernier programme de mise en œuvre approuvé en 2004 ainsi que les activités entreprises révèlent d'importants décalages. Les campagnes de sensibilisation planifiées pour 2004 ainsi que les programmes de formation pour les techniciens en réfrigération, n'ont pas encore été menés à bien. Les activités planifiées pour 2004 nécessitaient un total de 3 517 000 $US desquels 435 251 $US (12,4%) ont été effectivement engagés ou dépensés jusqu'en février 2005.

6. L'ONUDI avait joint à la demande de financement pour le plan national d'élimination de CFC du Mexique, la deuxième tranche du programme annuel de mise en oeuvre pour 2005. Le programme annuel de mise en œuvre, soumis par l'ONUDI au nom du Mexique est conforme au format contenu dans l'Accord entre le Mexique et le Comité exécutif. Du montant de 4 978 000 $US envisagé pour le programme 2005, la somme de 1 378 000 $US (27,7%) a été

prévue pour un projet national de formation des techniciens d'entretien, 2 500 000 $US (50,2%) pour un projet national de récupération et de recyclage et 500 000 $US (10%) pour un programme incitatif de reconversion et de remplacement des refroidisseurs, à exécuter par la Banque mondiale. Certaines caractéristiques des différentes activités doivent être prises en compte:

a) Le projet national de formation des techniciens d'entretien planifié pour 2005 est une continuation d'un programme de 2004. En 2004, le financement prévu pour cette activité était de 1 928 300 $US duquel 14% seulement ont été décaissés. Le financement total envisagé pour cette activité spécifique en 2004 et en 2005 représente 37,6% du financement total approuvé en principe pour le Plan national. Ni le document de projet, ni le plan annuel, n'indique avec précision à quelles activités est destiné ce financement.

b) Le projet national de récupération et de recyclage des frigorigènes planifié pour 2005 est une continuation d'un programme de 2004. En 2004, le financement prévu pour cette activité était de 600 000 $US, desquels 3,1% avaient été décaissés. Le financement total prévu spécifiquement pour cette activité en 2004 et en 2005 correspond à 35,2% du financement total approuvé en principe pour le Plan national. Ni le document de projet, ni le rapport annuel n'indique avec précision à quelles activités est destiné ce financement.

c) L'élément refroidisseur qui doit être mis en œuvre par la Banque mondiale constitue la deuxième phase d'un projet approuvé par la 28e réunion du Comité exécutif et est modelé sur la base de l'expérience acquise au cours de la première phase. Dans la première phase, on avait prévu dix refroidisseurs et l'élimination de cinq tonnes de CFC. Mais cette phase a réalisé plus qu'initialement prévu, avec douze refroidisseurs et l'élimination de 7,8 tonnes PAO. Pour la deuxième phase, les cinq propriétaires de refroidisseurs ont déjà été identifiés et les discussions sont en cours avec plusieurs autres. La Banque mondiale a indiqué un certain nombre d'activités organisationnelles à mener dans le cadre du projet, par exemple : l'évaluation des projets, la sélection des équipements, la gestion financière, assurer le recyclage des CFC et la destruction de l'équipement. Au départ, la Banque mondiale ne figurait pas dans l'Accord entre le Mexique et le Comité exécutif. À la demande du Secrétariat, l'ONUDI a introduit une demande écrite par laquelle le Gouvernement de Mexique exprime son vœu de voir la banque mondiale assurer la mise en œuvre de l'élément refroidisseur. S'Appuyant sur une proposition soumise par la Banque mondiale à la 41e réunion, le Comité exécutif a endossé dans la Décision 42/10 aux termes de laquelle la mise en œuvre de cette activité sera subsumée dans les plans nationaux de mise œuvre de ces pays.

OBSERVATIONS ET RECOMMANDATION DU SECRÉTARIAT

OBSERVATIONS

7. Au moment de la rédaction du présent document, trois des quatre conditions nécessaires pour l'approbation des tranches annuelles, et qui ont été citées dans le paragraphe 3 ci-dessus, n'ont pas été remplies. Il s'agit notamment de la condition sur la vérification, la mise en œuvre du programme annuel de l'année précédente et la présentation d'un programme annuel de mise en oeuvre susceptible d'être approuvé, pour l'année en cours. Les questions liées aux conditions qui n'ont pas été remplies sont examinées dans les paragraphes suivants :

a) *Vérification de la consommation:* La vérification des objectifs de consommation exige, dans le cas du Mexique qui est pays producteur de CFC, la vérification de la production, des importations et des exportations. En raison de certaines caractéristiques de l'accord sur le secteur de la production, le Mexique est en train de stocker d'importantes quantités de sa production pour les utilisations futures; le additions aux stocks accumulés font, conformément aux définitions du Protocole de Montréal, partie de la consommation de l'année au cours de laquelle elles sont produites. L'ONUDI étant aussi responsable du projet du secteur de la production du Mexique, a pu soumettre un rapport sur les chiffres de production de 2004 incluant leur vérification. Les objectifs d'élimination du secteur de la production et de la consommation sont bien coordonnés; par conséquent, la réalisation des objectifs du secteur de la production, ainsi que les informations détaillées mais non vérifiées sur les ventes et les exportation de CFC indiquent que les objectifs du secteur de la consommation ont été également atteints.

b) *Mise en oeuvre du programme annuel de l'année précédente:* les décaissements très faibles pour le programme annuel de mise en œuvre pour 2004, ainsi que le contenu du rapport montrent que le pays n'a pas essentiellement concrétisé toutes les mesures indiquées. Dans l'étude théorique approfondie sur l'évaluation des plans nationaux d'élimination, l'évaluateur en chef souligne que « le décaissement est et devrait être lié aux principales activités des programmes annuels et la plupart des accords ne devraient pas privilégier les activités coûteuses et insuffisamment préparées." Le Secrétariat souhaite souligner que la décision du Mexique et de l'ONUDI d'examiner soigneusement et de procéder doucement lorsqu'il s'agit de dépenser le financement pour l'élimination des CFC est, pour ce qui concerne le cas du Mexique, probablement le moyen le plus approprié d'avancer.

c) *Préparation en vue de l'approbation du programme annuel de mise en œuvre pour l'année en cours:* Le programme annuel de mise en oeuvre pour 2005 comporte deux éléments: l'élément qui est mis en oeuvre par la Banque mondiale et qui concerne les refroidisseurs, et l'autre élément mis en œuvre par l'ONUDI et qui vise le secteur de l'entretien en réfrigération et les systèmes de réfrigération de petite et moyenne taille.

i) L'approbation de l'élément refroidisseur du projet mis en œuvre par la Banque mondiale, a été demandée séparément depuis 18 mois comme deuxième phase d'un projet en cours. Cette deuxième phase avait été arrêtée depuis la 41e réunion. La description du projet est détaillée et, compte tenu de l'expérience acquise dans la mise en œuvre précédente et de la documentation soumise au Secrétariat, on voit clairement les activités planifiées, les personnes responsables ainsi que les bénéficiaires. Le Secrétariat recommande l'approbation sans condition de cette activité.

ii) Au moment de la rédaction du présent rapport, on dispose de peu d'information sur l'autre élément du programme annuel de mise en œuvre qui doit être exécuté par l'ONUDI et qui vise le secteur de l'entretien en réfrigération. Le Secrétariat pense que le deuxième programme annuel de mise en œuvre constitue une étape importante, vu que le pays et l'agence ont eu la possibilité d'examiner les problèmes, de combler les lacunes en information, de mettre à jour et de compléter la stratégie du plan initial au cours de la première année de la mise en œuvre et ont l'avantage de connaître exactement le financement disponible. Par conséquent, le programme présenté devrait contenir :

- Par rapport au plan global d'élimination (ne figure pas encore dans la proposition de projet), des informations précises sur les rôles des intervenants dans le processus de mise en oeuvre, notamment la description des responsabilités. Il faudra fournir aussi un bref résumé de l'évaluation globale comportant les diverses activités potentielles et leurs contributions à l'élimination totale, ainsi qu'une liste des activités prévues jusqu'en 2010, les besoins approximatifs en ce qui concerne leur financement, une clarification sur les questions liées à la gestion de la mise en œuvre, comme par exemple : qui sont les bénéficiaires; quelle est l'importance de l'appui dont ils ont besoin; ainsi qu'un calendrier préliminaire de la mise en œuvre; et

- Par rapport à la planification annuelle, la liste des activités planifiées et les besoins anticipés de leur financement, les échéances et la date d'achèvement de chaque activité, les caractéristiques de chaque groupe de bénéficiaires comme l'emplacement, la taille, la méthode d'identification des bénéficiaires et la procédure pour leur permettre d'accéder aux avantages.

8. Considérant le reliquat du financement de la tranche de l'année dernière, soit 3 081 millions $US déposés dans le compte de l'ONUDI et qui correspond aux 88% du financement initial, le Secrétariat pense que l'ONUDI ne doit décaisser aucun financement, tant qu'un programme annuel de mise en oeuvre satisfaisant n'aura pas été soumis.

RECOMMANDATION

9. À la lumière des explications ci-dessus, il est demandé au Comité exécutif de reporter l'examen de la demande de la tranche 2005 du plan national d'élimination de CFC du Mexique jusqu'à ce que les conditions spécifiées dans l'Accord entre le Mexique et le Comité exécutif soient remplies.

10. Par ailleurs, il est demandé au Comité exécutif :

a) De noter avec appréciation que le Mexique a rapporté une consommation réelle considérablement inférieure à 4 403 tonnes PAO, niveau convenu dans l'accord comme consommation maximum autorisée pour 2004;

b) De modifier l'accord entre le Mexique et le Comité exécutif pour inclure la Banque mondiale en tant qu'agence d'exécution coopérante, suite à la demande du Mexique;

c) D'approuver le financement de 4 978 000 $US pour la deuxième tranche du plan national d'élimination de CFC du Mexique reparti ainsi qu'il suit:

i) 500 000 $US plus 37 500 $US de frais d'appui à la Banque mondiale, à être utilisés spécifiquement dans une activité liée aux refroidisseurs au Mexique; et

ii) 4 478 000 $US plus 335 850 $US de frais d'appui à l'ONUDI.

d) De noter que le décaissement du financement approuvé par l'ONUDI en vertu du paragraphe (ii) ci-dessus ne devrait intervenir que lorsqu'un accord aura été conclu entre le Secrétariat et l'ONUDI sur la satisfaction des conditions suivantes:

i) Présentation d'un rapport approprié attestant la vérification de la consommation de 2004 et l'élimination annuelle liée ; et

ii) Soumission d'un programme annuel de mise en œuvre satisfaisant pour 2005 qui tient compte du reliquat de financement la première tranche qui a été reporté, et qui comporte une description détaillée des responsabilités des différents intervenants dans la mise en œuvre, ainsi qu'une liste détaillée des activités.

e) De demander au Secrétariat d'informer le Comité exécutif, à sa 46e réunion, sur les progrès réalisés, dans le cadre du rapport sur la mise en oeuvre des projets approuvés faisant l'objet d'exigences particulières pour la remise des rapports.

PLAN SECTORIEL POUR L'ÉLIMINATION DU SECTEUR DE PRODUCTION DE CFC-11 ET CFC-12 : RAPPORT DE VÉRIFICATION 2004 ET PROGRAMME ANNUEL DE MISE EN ŒUVRE 2005

Historique

11. À sa 40e réunion en 2003, le Comité exécutif avait approuvé en principe un total de 31,85 millions $US pour la mise en œuvre de l'Accord relatif au secteur de production de CFC du Mexique, et avait décaissé la première tranche de 5,3 millions $US pour le projet. Aux termes de l'Accord, le Gouvernement du Mexique a pris le double engagement de réaliser un niveau maximum de production de CFC de 22 000 tonnes pendant la période 2003-2005, et de ne pas dépasser la limite de production maximum autorisée et convenue dans l'Accord pour chacune des trois années. Par la suite, Comité exécutif a débloqué la tranche de financement de 2004 soit 10,7 millions $US à sa 42e réunion, après une vérification satisfaisante de la production de CFC de 2003 qui a confirmé que le pays a produit 8,694 tonnes de CFC-11 et de CFC-12 en 2003, se conformant ainsi aux deux exigences de l'Accord.

12. Les principaux éléments de l'Accord sont présentés dans le tableau suivant.

Pays	Mexique
Titre du projet:	Plan sectoriel pour l'élimination du secteur de production de CFC-11 et de CFC-12
Année du plan	2005
Nombre d'années achevées	2
Nombre d'années restant en vertu du plan	2
Production maximale de CFC autorisée entre 2003 et 2005	22 000 tonnes
Production annuelle maximale de CFC autorisée en 2003 et en 2004	12 355 tonnes
Production réelle de CFC en 2003	8 694 tonnes
Production réelle de CFC en 2004	8 044 tonnes
Production maximale autorisée proposée pour 2005	5 262 tonnes
Financement total approuvé en principe pour le plan d'élimination de CFC	31,85 millions $US
Financement total décaissé à la date de Décembre 2004	$16 millions $US
Niveau de financement demandé pour le plan annuel 2005	$4 millions $US

13. Conformément aux exigences de l'Accord qui stipule qu'après 2003 le décaissement des tranches de financement doit être assujetti à la soumission par l'ONUDI du rapport de vérification indépendante de la production de l'année précédente qui doit satisfaire aux exigences du Protocole de Montréal et aux limites de production totale autorisée dans l'Accord, ainsi qu'à

la soumission d'un programme annuel de mise en œuvre pour l'année en question, l'ONUDI présente le rapport de vérification de la production de CFC du Mexique en 2004, en même temps que le programme de travail annuel 2005 au niveau de financement de 4 millions $US, plus 300 000 $US de frais d'agence.

Vérification de la production de CFC au Mexique en 2004

14. La vérification a été effectuée en Janvier 2005 par Ess Jay Consultants, la même firme de consultation qui avait mené la vérification de 2003. Le rapport comportait un résumé analytique, le rapport proprement dit, ainsi que les données présentées sous le format convenu dans les directives de vérification de l'élimination de la production des SAO approuvées par le Comité exécutif en 2000. Le rapport commençait par un bref résumé de l'histoire de l'usine de CFC de Quimobasicos qui compte deux unités de production capables de produire le CFC et le HCFC-22. Cependant, en raison de la faible demande de CFC, du délai relativement long et du mode de changement peu rentable entre les deux séries de produits, une unité a été consacrée à la production de CFC depuis 1995, tandis que l'autre assure la production de HCFC-22. L'équipe de vérification a travaillé uniquement sur l'unité qui produisait le CFC et a visité l'unité de HCFC uniquement pour confirmer qu'elle produit effectivement ce produit. Il a été reporté que l'usine a poursuivi en 2004 son test pour produire le CFC-12 uniquement par recyclage du CFC-11, probablement en raison de la baisse de la demande pour ce produit.

15. Il a été rapporté que l'équipe de vérification a eu accès à tous les locaux de l'usine ainsi qu'aux documents nécessaires pour son travail, notamment : les reçus d'achat des matières premières, les registres de production, les journaux quotidiens de production, le transfert des stocks et les registres de stockage, les factures des ventes, les retours mensuels sur la TVA enregistrée au ministère du revenu, les quotas d'importation et les importations réelles de CFC et de HF. Les vérificateurs ont choisi au hasard 4 mois dans l'année comme échantillons de vérification. L'équipe a commencé par vérifier les stocks d'ouverture de CFC-11 et de CFC-12, ainsi que les volumes de CTC et de HF utilisés comme matières premières, dans les registres financiers et les registres d'entrepôt de l'année 2004. Ensuite, l'équipe a procédé à la vérification de la consommation des matières premières, opération qui consiste à vérifier la liste des achats du département des finances et à la comparer avec un certain nombre de factures. Il y a aussi une description du processus quotidien de production et du mouvement du produit fini à l'intérieur de l'usine, l'enregistrement de la production réelle, de la production nette et des pertes liées aux manipulations de remplissage. Le ratio de consommation des matières premières a également été comparé au registre historique et aux normes industrielles, et a été considéré d'après le rapport, comme acceptable.

16. Il y a eu ensuite l'examen de l'emballage des produits à base de CFC et de la description du procédé suivi dans l'usine. On a procédé à une vérification d'un échantillon de registres de comptabilité des emballages, à une vérification du poids des différents emballages et de la qualité du gaz par chromatographie. La vérification a enfin porté sur l'examen des registres de vente et des stocks de fermeture des produits à base de CFC et des matières premières. Le rapport comportait également 7 annexes ainsi que des copies des premiers registres qui avaient été examinés.

17. Il ressort de la vérification que Quimobasicos a produit 8 044 tonnes de CFC en 2004, sous forme de CFC-11 (1 177 tonnes) et de CFC-12 (6 867 tonnes). Ce chiffre est inférieur à la

production annuelle maximum autorisée de 12 355 tonnes et, si l'on déduit les 8 694 tonnes produites en 2003 et les 8 044 tonnes produites en 2004 de la production totale maximum autorisée pour 2003-2005 qui est de 22 000 tonnes, la production restante maximum autorisée pour 2005 serait de 5 262 tonnes. L'usine a enregistré 23 tonnes de pertes liées aux manipulations de remplissage, mais ces pertes ont été comptabilisées dans la production totale autorisée. En 2004, l'usine a vendu un total de 6 029 tonnes de CFC, dont 1 049 tonnes à l'intérieur du pays et 4 980 tonnes par exportation.

18. Les données collectées par l'équipe de vérification ont été présentées en utilisant le format convenu dans les directives de vérification de l'élimination de la production des SAO qui incluent la production mensuelle des CFC et de HCFC-22, le nombre de jours de production, les ratios de consommation des matières premières par rapport à la production de CFC et de HCFC-22, le changement de stock des matières premières (CTC et HF) comme moyen de justifier la production de CFC.

Le programme de travail pour 2005

19. Le programme de travail pour 2005 comporte trois parties : un résumé du projet, les réalisations du programme annuel de travail 2004, et les objectifs et les activités du programme de travail 2005. Le résumé du projet comporte l'objectif et le niveau de financement pour le programme de travail 2005. Aux termes de l'accord, un niveau de production maximum autorisé de 5 262 tonnes constitue l'objectif pour le programme annuel 2005, lorsqu'on aura déduit les productions réelles des années 2003 et 2004 de la production maximum autorisée de 22 000 tonnes pour les trois années (2003-2005). La mise en œuvre du programme 2005 nécessite un financement de 4 millions $US et 300 000 $US pour les frais d'agence.

20. Le programme de travail 2004 rapporte la réalisation d'une production totale de CFC de 8044 tonnes par Quimobasicos, production qui est inférieure à la production annuelle maximum autorisée de 12 355 tonnes stipulée dans l'Accord. Des 10,7 millions $US décaissés pour le programme de travail 2004, 10,6 millions $US ont été alloués pour compensation à Quimobasicos et le reliquat a été affecté aux activités d'assistance technique à entreprendre par le Gouvernement. Un certain nombre de mesures politiques avaient été planifiées et mises en œuvre en 2004 pour faciliter la réalisation de l'élimination de la production de CFC. Ces mesures incluent, pour les producteurs de CFC, un système de quota de production régi par la loi et qui a été introduit en janvier 2004. En même temps, le Gouvernement a lancé le processus d'introduction d'une réglementation détaillée visant à bannir progressivement l'utilisation des CFC dans tous les secteurs, ainsi que la production et l'importation des équipements contenant le CFC. Le Gouvernement était en train de promouvoir auprès des importateurs, un accord préconisant l'interdiction d'importation des CFC et l'utilisation des CFC stockés entre 2003 et 2005.

21. Le programme a poursuivi la surveillance de la production de Quimobasicos par le biais de rapport obligatoire à soumettre par les producteurs de CFC à l'Unité nationale de l'ozone, des visites périodiques des responsables gouvernementaux aux producteurs de CFC et de l'imposition d'amendes pour tout dépassement de quota de production ou pour communication de fausses informations. Un certain nombre d'activités d'assistance technique qui avaient démarré en 2003 se sont poursuivies en 2004. Il s'agit notamment des campagnes de

sensibilisation du public, de la formation des négociants en CFC et des agents de douane, ainsi que de la mise en place d'un système de gestion de l'information.

22. L'objectif 2005 d'un niveau de production maximum autorisé de 5 262 tonnes sera réalisé à travers le quota obligatoire de production de CFC introduit en janvier 2004 et par le biais du contrôle des importations de CTC. L'usine envisage de compléter le quota d'ici le milieu de l'année pour ensuite passer à la production de HCFC. Sur la base du ratio de consommation de CTC par rapport à la production de CFC-11 et de CFC-12, le Gouvernement du Mexique autorisera un quota d'importation maximum de CTC de 9 300 tonnes en 2005. Sur le total de 4 millions $US demandés pour 2005, 3,81 millions $US seront décaissés et versés à Quimobasicos pour l'application du quota de production et le reliquat, 0,19 millions, sera alloué aux activités d'assistance technique. Le programme propose un certain nombre d'activités d'assistance technique, notamment la mise en place d'un système de gestion de l'information sur les SAO ainsi que les activités susceptibles d'aider dans la mise en oeuvre du plan national d'élimination des CFC. Le programme de travail 2005 se termine par un calendrier et les coûts estimatifs des activités d'assistance technique pour 2005 et 2006.

Observations

23. Le programme de travail 2005 propose 5 262 tonnes comme production maximale autorisée de CFC pour le Mexique, ce qui correspond au quota restant de 22 000 tonnes pour la durée de 3 ans (de 2003 à 2005), lorsqu'on a déduit la production réelle de 2003 et 2004.

24. Il est à noter que le Gouvernement du Mexique envisage d'autres trains de mesures pour 2005 notamment, l'interdiction progressive de CFC dans tous les secteurs, l'interdiction d'importer le CFC et les équipements contenant le CFC. Ces mesures faciliteraient les projets de fermeture de la production de CFC ainsi que le programme national d'élimination de CFC également en cours de mise en œuvre

25. La vérification de la production de CFC de l'année 2004 à Quimobasico est menée conformément aux directives du Comité exécutif sur la vérification de l'élimination de la production des SAO et contient une description satisfaisante de la méthodologie et de la documentation examinées pour confirmer la réalisation des objectifs annuels de réduction de la production. La présente vérification s'est également conformée à la décision du Comité exécutif relative à l'approbation du programme annuel 2004; un consultant financier faisait partie de l'équipe des vérificateurs.

26. Conformément à la pratique en vigueur pour la présentation des rapports de vérification de l'élimination de la production de CFC, le Secrétariat fournit uniquement les données globales et non pas les annexes ou les données mensuelles sur la production et les matières premières. Toutefois, les annexes et les données mensuelles peuvent être disponibles à la demande de tout membre du Comité exécutif.

Recommandations

27. Le Secrétariat recommande que, à la lumière de la vérification satisfaisante indiquant que le programme de fermeture de la production de CFC du Mexique a réalisé l'objectif de réduction de la production de CFC de 2004 tel quel spécifié dans l'Accord, le Comité exécutif approuve le programme de travail 2005 de l'Accord sur l'élimination de la production de CFC du Mexique au niveau de financement de 4 millions $US, plus 300 000 $US de frais d'agence pour l'ONUDI.

PROJECT COVER SHEET – MULTI-YEAR PROJECTS

COUNTRY: MÉXICO

PROJECT TITLE	IMPLEMENTING AGENCY
National CFC phase-out plan for Mexico, 2nd Tranche	UNIDO SEMARNAT

NATIONAL COORDINATING AGENCY:

LATEST REPORTED CONSUMPTION DATA FOR ODS ADDRESSED IN PROJECT
A: ARTICLE-7 DATA (ODP tonnes, 2003, AS OF MAY 2004)

Annex A Group I, CFCs	1,989.00

B: COUNTRY PROGRAMME SECTORAL DATA (ODP tonnes, 2003, AS OF MAY 2004)

ODS	Aerosol	Foam	Ref. mfg.	Ref. Service	Process Agent	TOTAL
CFC-11	0	137	10		0	147
CFC-12	70	55	30	1,634	0	1,789
CFC-113	0				33	33
CFC-114	0			20	0	20
CFC Total	70	192	40	1,654	33	1,989

CFC Consumption remaining eligible for funding (ODP tonnes)	n.a.

CURRENT YEAR BUSINESS PLAN: Total funding US$5,351,350 Total phase-out, 40 ODP tonnes

PROJECT DATA		2004	2005	2006	2007	2008	2009	2010
CFCs (ODP tonnes)	Montreal Protocol limits	4,625	2,312	2,312	694	694	694	0.0
	Annual consumption limit	4,403	2,205	150	50	50	50	0.0
	Total demand (reference)	1,932	1,667	1,190	725	425	195	140
	Annual phase-out from ongoing projects	40	165	77	15	-	-	-
	Annual phase-out newly addressed	-	100	400	450	300	230	55
	Annual unfunded phase-out	-	-	-	-	-	-	-
TOTAL ODS CONSUMPTION TO BE PHASED OUT		40	265	477	465	300	230	55
Project costs (US$):								
	Funding for UNIDO	3,517,000	4,478,000	299,500				
	Funding for World Bank		500,000					
Total project funding		3,517,000	4,978,000	299,500				
Support cost								
	Support cost for UNIDO	263,775	335,850	22,463				
	Support cost for World Bank		37,500					
Total support costs		263,775	373,350	22,463				
TOTAL COST TO MULTILATERAL FUND (US$)		3,780,775	5,351,350	321,963				

* 2004 Consumption data are provisional

Project cost effectiveness (US$/kg ODP)	5.26 USD/Kg

FUNDING REQUEST: Approval of funding for 2nd tranche (2005) as indicated above.

Prepared by: SEMARNAT / UNIDO **Date:** 7 February 2005

Reviewed by: n.a. **Date:** n.a.

Part 1. ACHIEVEMENT OF THE PREVIOUS ANNUAL PROGRAMME

1. Preface

National CFC phase-out plan (NPP) in Mexico was approved in April 2004 at the 42nd Meeting of Executive Committee of the Multilateral Fund for the implementation of the Montreal Protocol. The implementation of the project has started in June 2004. Major achievement for project implementation during June – December 2004 is described in this Chapter.

2. Targets

Target achieved, 2004:	**Target set in Agreement, 2004:**
3,207.17 ODP tonnes	4,403 ODP tonnes

Indicators		**Preceding Year, 2003**	**Year of Plan, 2004**		**Reduction (or increase)**	
		Actual [1]	Actual[4] (provisional)	Annual program[2]	Actual	Annual program[2]
Supply of ODS by	Import	1,168	402.76	400	774.88	768
	Less re-export[5]	-	(9.65)	-		-
	Production	821 [3]	2,814.05	4,003	(1,993.05)	(3,182)
	Total [1]	1,989	3,207.17	4,403	(1,218.17)	(2,414)
Demand of ODS	Manufacturing	335	191.61	292	143.4	40 [6]
	Servicing	1,654	994.30	1,640	659.7	0
	Stockpiling	n.a.	2,021.26	2,471	(2,021.3)	(2,471)
	Total	1,989.0	3,207.17	4,403	(1,218.2)	(2,431)

[1] Actual data reported to the Ozone Secretariat for 2003, however not stipulated in the Agreement.
[2] Data provided in the Agreement.
[3] Production (8,694.00 ODP tonnes) – Export (7,873.00 tonnes) as per reported to the Ozone Secretariat.
[4] Provisional data for 2004 based on audited production data and customs records and quotas (Production, 8,044 ODP tonnes; exports of produced CFC, 5,229.95 ODP tonnes).
[5] A part of imported CFC-114 and CFC-115 was exported.
[6] From on-going projects.

The data in the above table demonstrate that Mexico fulfilled the year 2004 maximum allowable CFC consumption level requirement of the Agreement calculated in accordance with Article 7 of the Montreal Protocol (consumption=production + import - export).

The CFC production data were audited and verified by independent auditors contracted by UNIDO. The import was slightly lower than planned taking into consideration of re-export of 9.65 ODP tonnes of CFC. Thus, the total supply of new CFCs to the domestic market amounted to only 3,207.17 ODP tonnes, i.e., 1,196 ODP tonnes less than the 4,403 ODP tonnes planned for 2004 under the Agreement. This was the result of the tight control of production, imports and exports under the well functioning licensing system.

3. Industry Action

3.1. Data provided in the Annual Implementation Programme.

Sector	Consumption Preceding Year (2003)	Consumption Year of Plan (2004)	Reduction within Year of Plan (2003)-(2004)	Number of Projects Completed	Number of Servicing Related Activities	ODS Phase-Out (in ODP tonnes)
Manufacturing						
Aerosol	70	50.0	20	1	n.a.	20
Foam	192	192	0	0		0
Refrigeration	50	30	20	1		20
Solvents	-			0		0
Other	20	20	0	0		0
Total	332	292	40	2		40
Servicing						
Refrigeration servicing	1,640	1,640	0	0	1	0
Total	1,640	1,640	0	0	1	0
GRAND TOTAL	1,972	1,932	40	2		40

3.2. Actual data.

Sector	Consumption Preceding Year (2003)	Consumption Year of Plan (2004)*	Reduction within Year of Plan (2003)-(2004)	Number of Projects Completed	Number of Servicing Related Activities	ODS Phase-Out (in ODP tonnes
Manufacturing						
Aerosol	70	87.41	(17.41)	Partial compl.		(17.41)
Foam	192	104.2	87.8	1		87.8
Refrigeration	40	0	40	1		40
Solvents	-	-	-	-		-
Other	33	0	33	1		33
Total	335	191.61	143.39	3		143.39
Servicing						
Refrigeration	1,654	994.3	659.7	0	1	659.7
Total	1,654	994.3	659.7	0	1	659.7
GRAND TOTAL	1,989	1,185.91	800.66	3 + 1 partial		803.09

* Preliminary data

According to the data available as of end January 2005, substantial reductions were achieved in the cumulative CFC consumption (manufacturing + servicing sector) in 2004. The actual CFC consumption in 2003 amounted to 1,989 ODP tonnes; the target for 2004 was set in the Annual Plan at 1,932 ODP tones; the actual consumption in 2004 was 1,185.91 ODP tonnes. The achieved reduction of 803.09 has been the result of completion and partial completion of on-

going projects in the foam, refrigeration and aerosol sectors as well as the progress of the legislation, management and awareness components of the Sector Plan, the CFC production closure Plan and the continuing institutional strengthening project.

4. Technical Assistance Activities

4.1. Achievement of activities listed in the annual implementation programme

a)	Proposed Activity:	Workshop(s) and investment assistance for CFC user industry in refrigeration manufacturing sector
	Objective:	Achieve final phase-out of CFC use in the refrigeration manufacturing sector
	Target Group:	Enterprises in the above sectors
	Impact:	Phase-out of 50 ODP tonnes of CFC in 2005
	Achievement:	The remnant enterprises were surveyed by a consulting firm to evaluate and verify the use of CFC and the need of assistance for the CFC phase-out in the refrigeration manufacturing sector. The survey shows that no enterprise needs any additional support to convert their production processes.
b)	Proposed Activity:	Awareness campaign
	Objective:	Assist phase out of CFC use on national level
	Target Group:	Enterprises and general public in the country
	Impact:	Increased public awareness on importance of ozone layer protection and its practical implications
	Achievement:	Terms of reference was prepared for the contract of a publicity agency to develop video and printed materials for promotion and publicizing the Ozone matter in public media and organizing other related activities. The contract will be signed in 2005.
c)	Proposed Activity:	Training of national experts and key stakeholders on the implementation of the NPP
	Objective:	Strengthening of national capacity on project implementation and phase-out program
	Target Group:	NOU-SEMARNAT staff.
	Impact:	Effective implementation of NPP
	Achievement:	With UNIDO assistance, the selected NOU-SEMARNAT staff completed the fundamental training related to the refrigerant management plan in terms of legislation in industrialized countries, new alternatives and on good service practices as well as on the generally available and commonly used service and recovery equipment. After the fundamental training in the UK, the national team made a study-tour to Romania and Croatia to review the experience of implementation of RMPs in these countries. Right after this core personnel training event, NOU-SEMARNAT prepared the detailed plan of implementation of NPP.

d)	Proposed Activity:	Training programs for the refrigeration service technicians
	Objective:	Improvement of technical skills in detection and recovery of refrigerant gases, including information on good practices in refrigeration servicing and awareness on available alternative refrigerants
	Target Group:	Technicians of the disposal centres of old equipments, training institutions.
	Impact:	Increased CFC containment, strengthening of recovery, and storage and recycling system, reduction of CFC refrigerant consumption in the service sector.
	Achievement:	A national institute was selected as the national training center under the NPP for the training of FIDE (Fund for energy savings) Technicians to recover the refrigerant gases from old equipments. The international bidding for the procurement of the equipment for training center and FIDE technicians was done, and it will be delivered into the training centers in 2005.

4.2 Establishment of national project implementation structure

Through the execution of activities described in the previous section, the national project implementation structure was established. As stated in the Agreement, the NOU in SEMARNAT is the central coordination institute for the whole project. SEMARNAT assigned experienced staff as dedicated officers for the NPP implementation. Furthermore, SEMARNAT will assign several regional and national institutes for activities, including:

- Survey of refrigeration service sector,
- Development of the strategy for the management of recovered CFCs in Mexico,
- Selection and education of trainers for the training program for the service sector technicians,
- Preparation of national training manual for the service technicians,
- Selection and contracting of the training centre for the service technicians

5. Manufacturing sector program

The survey applied to the refrigeration manufacturing sector established that there is no more use of CFC in the remaining eligible companies, and the remaining budget will be reallocated for other programs of the plan.

This achievement has been the result of the application of an Emergent Norm, and the market control through the reduction of the CFC supply and the increase of the prices of these substances in Mexico.

6. National project for training of service technicians

In Mexico, there is a very successful incentive program for retirement of old refrigeration and air conditioning equipments through the Fund for Energy Savings Fund (FIDE). This program has accelerated the replacement of old equipments, resulting in reductions of the use of CFC, since

the new equipment are free of CFC and thus the release of CFCs is continuously reduced in the service sector.
Recovery of refrigerant gases is also included in this program. A national institute was selected as the national training center for the training of FIDE Technicians to recover the refrigerant gases from old appliances.
International bidding for the procurement of the equipment for training center and FIDE technicians was completed, and the equipment will be delivered into the training centers soon.

The Terms of Reference for the training of the service sector technicians as well as the specification of the equipment for the training laboratories and for the service technicians were already prepared. The international bidding will be carried out early 2005.

7. Customs training

The Customs Training program will be initiated soon after the finalization and official publication oft the Mexican Official Norm on the specifications of environmental protection measures for the elimination of the use of CFC in equipments and products of national or imported manufacture.

8. Other achievements through on-going projects

With regard to the use of CFC in the manufacturing sector, during 2004 Mexico completed with full success the first tranche of the CFC phase out project in the foam sector. In this project investment part is fully completed and only pending activities are related to awareness raising.

Mexico will implement the second tranche of this project during 2005-2006, to complete the CFC phase out in the foam sector.

Likewise, the remaining aerosol sector companies still using CFCs, signed the respective contracts to phase out the use of these substances within the ongoing phase out program, by the first semester of 2006.

9. Government Action

Policy/Activity Planned	Schedule of Implementation	Achievement
Ozone Depleting Substances (ODS) Regulations The Mexican Government is enhancing its regulation on the uses of CFCs in the Country. The proposed regulation aims for a gradual abandonment of the use of CFCs in all sectors consistent with the Montreal Protocol obligations, through: (i) The enactment of a norm that allows use of CFCs to satisfy only the basic internal needs and essential uses in the Country, and prohibits the production or imports of all kinds of refrigeration equipment, air conditioning equipment, propellant formulations, plastic foam or solvent cleaning operations that use or contain CFCs, except those related to essential uses as defined by the Montreal Protocol. (ii) The implementation of the "Total Annual Quota Program for the National Consumption of CFCs", which establishes caps for the consumption of CFCs in the Country. The Program will be compulsory for producers and importers of CFCs. This policy is also consistent with the CFC Production Closure Project approved at the 40th ExCom Meeting.	During 2005	The Mexican Official Norm is already prepared as a draft and it has to be enacted under the official procedures.

10. Financial status (as of December 2004)

Activity	Planned Expenditures (US $)	Actual Expenditures As of Dec. 2004 (US $)
a. Project management and technical assistance	350,000	147,000*
b. Refrigeration manufacturing program	300,000	
c. Customs training	338,700	0
d. National project for training of service technicians	1,928,300	269,913**
e. National refrigerant recovery and recycling project	600,000	18,338***
TOTAL	3,517,000	435,251

* Contract with SEMARNAT, UNIDO mission, local experts, equipment.
** Training equipment and training courses. (Part to be obligated in Feb.)
*** Core personnel training

11. Conclusion

All the milestones set for the first tranche in the national CFC phase-out plan for Mexico were achieved. The current legislation is effectively functioning and supporting the CFC phase-out programme of Mexico. The National Ozone Unit is tightly monitoring the phase-out programme and undertaking the necessary corrective measures if and when required. The ongoing awareness programmes contribute to the reduction of ODS consumption in the Country.

PART 2. ANNUAL IMPLEMENTATION PROGRAMME ; SECOND TRANCHE

1. Data

Country	:	Mexico
Year of plan	:	2005
# of years completed	:	1
# of years remaining under the plan	:	6
Target ODS consumption of the preceding year	:	4,403 ODP tones
Target ODS consumption of the year of plan	:	2,205 ODP tones
Level of funding requested	:	US$ 4,978,000
Lead implementing agency	:	UNIDO

2. Target

Target:	2,205 ODP tonnes			
Indicators		**Preceding Year* 2004**	**Year of Plan, 2005**	**Reduction**
Supply of ODS by	Import	402.76	300	206.4
	(Less re-export)	(9.65)	-	-
	Production	2,814.05	1,905	909.9
	Total (1)	3,207.17	2,205	1116.3
Demand of ODS	Manufacturing	191.61	97	95.6
	Servicing	994.30	1,569	(456.1)
	Stockpiling	2,021.26	539	1,476.8
	Total (2)	3,207.17	2,205	1,116.3

*Provisional data.

3. **Industry Action**

Sector	Consumption Preceding Year (2004) [1]	Consumption Year of Plan (2005) [3]	Reduction within Year of Plan (2004)-(2005)	Number of Projects Completed	Number of Servicing Related Activities	ODS Phase-Out (ODP tonnes)
Manufacturing						
Aerosol	87.41	30	47.41	0		47.41
Foam	104.2	47	57.2	1		57.2
Refrigeration	0	0	0	0		0
Solvents	-	-	-	-		-
Other	0	20	(20)	-		(20)
Total	191.61	97	94.61	1		94.61
Servicing						
Refrigeration	994.3	1,570	(575.4)[2]	0		(575.4)
Total	994.3	1,570	(575.4)	0		(575.4)
GRAND TOTAL	1,185.91	1,667	(481.09)[2]	0		(481.09)

[1] Preliminary Data
[2] An accelarated phase out was achieved in 2004
[3] As per Agreement

3. Technical Assistance Activity

a) Proposed Activity: Awareness campaign (continued from the first tranche)
Objective: Assist the phase-out of CFC use on national level
Target Group: Enterprises and general public in the country
Impact: Increased public awareness on importance of ozone layer protection and its practical implication

b) Proposed Activity: Training programs for the refrigeration service technicians (continued from the first tranche) with following activities: -

- Selection of the training centre for the service sector technicians;
- Procurement of training equipment;
- Finalizing and printing training materials and text books.

Objective: Improvement of technical skills, dissemination of information on good practices in refrigeration servicing, awareness on available alternative refrigerants
Target Group: Refrigeration service technicians, training institutions
Impact: Increased CFC containment, strengthening of recovery, recycling and reclamation system, reduction of CFC refrigerant consumption in the service sector

c) Proposed Activity: Custom Training
Objective: Improvement on the detection of CFC by the custom officers.
Target Group: Custom officers
Impact: Application of the Mexican Official Norm for the control and

		ban of the imports of equipments and material containing CFC
d)	Proposed Activity:	Final tranche of the ongoing incentive program for replacement of Chillers of the World Bank in line with the project document. The details are elaborated in the attached submission of the World Bank (Annex 1).
	Objective:	Improve the recovery of CFC in the chiller sector, incentive programme for the retirement and replacement of old equipments substituting them by new energy efficient and CFC free chillers..
	Target Group:	Owners of chillers
	Impact:	Reduction on the consumption of CFC in the chiller sector.
e)	Proposed Activity:	Incentive program for replacement of old refrigeration and air-conditioning equipments (This program is already developed by the Trust fund for energy savings - FIDE)
	Objective:	Improve the recovery of CFC in the domestic refrigeration and air conditioning sector and the retirement of old equipments substituting by new ones free of ODS.
	Target Group:	Owners of old refrigerant and air conditioning equipments (in use)
	Impact:	Reduction on the consumption of CFC in the domestic refrigeration sector.

4. Recovery and recycling project

Development of a National Strategy for the Management of Refrigerant Gases, that will include a national inventory of equipments that contain CFC, a national inventory of the types and amount of CFCs contained in equipments and the strategy of storage, recycling, and the feasibility of the installation of a destruction technology.

5. Government Action

Government action in the second tranche.

Policy/Activity Planned	Schedule of Implementation
Issue of the Mexican Official Norm that allows commercialisation of CFCs to satisfy basic internal needs and essential uses in the Country, and prohibits the production or imports of all kinds of refrigeration equipment, air conditioning equipment, propellant formulations, plastic foam or solvent cleaning operations that use or contain CFCs, except those related to essential uses as defined by the Montreal Protocol.	During 2005

6. Annual budget

Table 7 summarizes planned expenditures for the second tranche of the NPP, Mexico.

Table 7. Project costs of the NPP, second tranche

Activity	Planned Expenditures (US $)
a. Project management and technical assistance	300,000
c. Customs training	100,000
d. National project for training of service technicians	1,378,000
e. National refrigerant recovery and recycling project	2,500,000
f. Incentive program for retrofitting and replacement of obsolete CFC containing refrigerators and air-conditioners	200,000
g. Incentive program for retrofitting and replacement of chillers (Co-operating Implementing Agency: World Bank)	500,000
TOTAL	4,978,000

7. Administrative fee, US$ 373,350

Annex 1.

Action Plan for the exercise of resources equivalent to $ 500.000 USD for the execution of the Second Stage of the Program of Substitution of Cooling Air Systems (Chillers).

I. Projects in Process of Formalization

Name of the Enterprise: Comercializadora de Hotelería Oasis, S.A. de C.V. (Palmar I)

Project: Substitution of two inefficient cooling air systems of 175 T.R. y 350 T.R. that actually operate with the R-11 refrigerating gas, for more efficient units which would use the R-134A ecologic refrigerating gas.

Amount of FIDE´s investment: US$104, 348.00

Estimate investment amount of the enterprise: US$249,489.70

Name of the Enterprise: Comercializadora de Hotelería Oasis, S.A. de C.V. (Oasis Playa HCP)

Project: Substitution of three inefficient cooling air systems of 225 T.R. that actually operate with the R-11 refrigerating gas, for more efficient units, which would use the R-134A ecologic refrigerating gas.

Amount of FIDE´s investment: US$104, 348.00

Estimate investment amount of the enterprise: US$111, 852.37

C) Name of the Enterprise: Instituto Nacional de Cardiología

Project: Sustitution of inefficient cooling air systems of 200 T.R. that actually operate with the R-11 refrigerating gas, for a more efficient unit, which would use the R-134A ecologic refrigerating gas.

Amount of FIDE´s investment: US$104, 348.00

Estimate investment amount of the enterprise: Awaiting to define the total investment amount of the supplier.

D) Name of the Enterprise: Sinaloa Centro, S.A. de C.V. (Plaza Fiesta)

Project: Substitution of two central inefficient cooling air systems of 150 T.R. that actually operate with the R-11 refrigerating gas, for more efficient units which would use the R-134A ecologic refrigerating gas at the Comercializadora de Hotelería Oasis, S.A. de C.V. facilities.

Amount of FIDE´s investment: US$104, 348.00

Estimate investment amount of the enterprise: US$78,260.87

E) Name of the Enterprise: Industria Química del Istmo, S.A. de C.V. (Grupo Cydsa)

Project: Substitution of central inefficient cooling air systems of 250 T.R. that actually operate with the R-11 refrigerating gas, for a more efficient unit which would use the R-134A ecologic refrigerating gas.

Amount of FIDE´s investment: US$104, 348.00

Estimate investment amount of the enterprise: Awaiting to define the total investment amount of the supplier.

II. Additional enterprises in process of promotion

According to the information received by the manufacturers, the following enterprises are in process of promotion for the agreement of new projects: Marriot Hotel, Hotel Balboa Tower, Hotel Hayat Acapulco, Hotel Fiesta Americana - Leon Guanajuato, Group Modelo, among others.

On the other hand, FIDE is on charge of the promotion of projects with several enterprises of the country, which at their moment are canalized to the participant manufacturers in the program in order that they present their technical-economic proposals to them, offering the user the necessary elements to be able to go for the best option.

III. Activities to implement in the projects to execute.

Elaboration of technical-economic evaluation of the projects.
Selection and final quotation from the suppliers of efficient equipment.
Compilation of administrative and financial information for the formalization of the financing and to make the corresponding evaluations.
Authorization process of the projects.
Elaboration and signature of the agreement and contracts.
Payment process of advance payment of 50% to the supplier for the initiation of the projects.
Requisition of the efficient equipment.
Retirement of the inefficient cooling units to proceed with the extraction of the cooling gas R-11 and oil for its recycling.
Physical destruction of the inefficient units.
Rise and signature of corresponding acts.
Supply, starting and putting in operation of the efficient equipment.
Payment process of advance of project by 35%.
Verification of the obtained savings of electrical energy.
Payment process of settlement of project by the last 15%.
Elaboration of the corresponding reports.

ANNUAL IMPLEMENTATION PROGRAMME

Sector Plan for Phasing out CFC-11 and CFC-12 Production Sector, Mexico
MEX/PRO/40/INV/115

1. PROJECT SUMMARY

1.1 Project data

Country:	Mexico
Year of plan:	2005
# of years completed:	2
# of years remaining under the plan:	1
Substances:	Annex A Group I and Annex B Group I
Target ODS production of the preceding year (maximum):	10,400 metric tonnes
Target ODS production of the year of plan (maximum):	5,262 metric tonnes
Target ODS aggregate production for the years 2004 and 2005 (maximum):	13,306 metric tonnes
Level of funding requested:	$ 4.0 million

National coordinating agency: SEMARNAT[1]

International implementing agency: UNIDO

1.2 Project target

Target:	5,262 METRIC TONNES

Indicators	**Actual in preceding Year (2004)**	**Year of Plan (2005)**	**Total in years 2004 and 2005**	**Total in years 2003 to 2005**
Production, metric tonnes	8,044	5,262	13,306	22,000

The CFC production in 2004 according to the findings of the technical and financial audit was **8,044** metric tonnes. As per the Agreement (see Section 2), the aggregate CFC production in

[1] Secretaria de Medio Ambiente y Recursos Naturales

years 2003 to 2005 shall not exceed 22,000 metric tonnes; therefore aggregate production for the years 2004 and 2005 shall not exceed **13,306** metric tonnes. Further in accordance with the Montreal Protocol, the CFC production in 2005 shall not exceed 50 % of the baseline production of 12,355 metric tonnes, i.e. 6,739 metric tonnes. Accordingly, the 2005 CFC production in Mexico shall be limited to maximum **5,262** metric tonnes.

2. BACKGROUND

The Agreement for the Sector Plan for Phasing out CFC-11 and CFC-12 Production Sector, Mexico (first tranche) was approved at the 40th Meeting of the Executive Committee of the Multilateral Fund for the Implementation of the Montreal Protocol in July 2003[2].

By approval of the Agreement, Mexico agrees that in exchange for the funding level specified in Table below, it will reduce its total production of the substances of Group I Annex A and Group I Annex B in an accelerated manner as compared to the allowable production indicated in the same Table 1.

Table 1. Agreement for the Sector Plan for Phasing out CFC-11 and CFC-12 Production Sector

Year	2003	2004	2005	2006	2007	2008	2009	2010	Total
Maximum allowable production (metric tonnes)	12,355	12,355	6,739	6,739	2,808	2,808	2,808	0	
Maximum production levels agreed (metric tonnes)	22,000*			0	0	0	0	0	22,000
Verified actual CFC production (metric tonnes)	8,694	8,044	-	-	-	-	-	-	16,738
MLF funding US$ million	5.3	10.7	4.0	11.85	0	0	0	0	31.85
Agency fees US$	397,500	802,500	300,000	888.750	0	0	0	0	2,388,750

* Total maximum production for the years 2003 to 2005. It is understand that Mexico may not exceed its allowable production limit during any one year.

Through the implementation of the 2004 Annual Program of the Sector Plan for Phasing out CFC-11 and CFC-12 in the Production Sector (second tranche), Mexico has met its year 2004 Annual Implementation Programme target of containing the maximum CFC production level below **10,400** metric tonnes, since the actual production of CFC-11 and CFC-12 was kept at the level of 8,044 metric tonnes.

[2] Decision 40/54 (h), UNEP/Ozl/Pro/ExCom/40/50 Annex V

In accordance with the Agreement, UNIDO, as the implementing agency, is submitting an Annual Program for the period "1 January - 31 December 2005" for the consideration at the 45th Meeting of the Executive Committee. This Annual Program has been prepared in cooperation with SEMARNAT.

This document describes the achievements of the 2004 Annual Program by Mexico and details the planned program and activities for 2005. It is being submitted for approval and release of the third tranche of funds amounting to US$ 4.0 million including the enterprise compensation and the technical assistance (TA) component for the implementation of the 2005 Annual Programme.

3. 2004 ANNUAL PROGRAM ACHIEVEMENTS

3.1 CFC Production phase-out and disbursement

CFC production in 2004 amounted to 8,044 metric tonnes, against the target production of 10,400 metric tonnes set in the 2004 Annual Implementation Programme.

The disbursement to a CFC producer, Quimobasicos, in 2004 amounted to US$ 10,600,000, allocated for enterprise compensation.

The disbursement to the Government of Mexico in 2003-2004 for the implementation of the TA component was of US$413,300. This grant is has been allocated for the TA activities to be organized by the Government with the assistance of UNIDO:

Activity	**Cost, US$**
Project management, local experts	72,000
Design of an information collection system of ODSs	10,000
Equipment acquisition	17,500
Creation of the system to collect data and information of ODSs	253,300
Training, local and international travels	28,500
Technical and financial audit of Quimobásicos	32,000
Total	**413,300**

Table 2. CFC Production phase-out and disbursement in 2003-2004

Year	Production Phase-out		Grant Tranche (US$)	
	Target (metric tonnes)	**Achieved (metric tonnes)**	**Allocation (US$ million)**	**Status of Obligations**
2003	12,355	8,694 *	5,300,000	5,277,735
2004	10,400	8,044 *	10,700,000	10,646,999

* The independent audit team administrated by UNIDO verified CFC production in 2003 and in 2004.

3.2. Policy measures

Overview of the past activity

Mexico holds one of the most advanced CFC phase-out programs among Article 5 Countries. Actions started as early as in 1988 and have become a permanent effort of the Government of Mexico. These actions have been coordinated through the Ministry of Environment (currently SEMARNAT). The Mexican CFC policy framework has been focusing on the use and supply of CFCs rather than on actions to control production. Some of the most important measures implemented, include:

a) Monitoring on trade of CFCs: Starting from 1993, the Ministry of Environment has required the national CFC producing enterprises to voluntarily report domestic and international commercial activities such as production, imports and exports volumes. The industry is fully compliant with this requirement.

b) Import control on CFCs and CTC: SEMARNAT has set up an import licensing system on CFCs and CTC, using an inter-ministerial mechanism called CICOPLAFEST. The Ministry of Finance through the Customs Office enforces this regulation. Under the system, only the holder of import rights (namely Quimobásicos) is allowed to import the raw material (carbon tetrachloride) for the production of CFCs, and only the holders of import rights of CFC (namely Quimobásicos and Dupont) are allowed to import these substances. Allocation of rights is based on historical (1990) domestic sales data. Quotas are established according to the average sales of the years 1995-1997 and subjected to the internal goals of SEMARNAT.

c) Constraints for growth on industrial demand of CFCs: Since 1993, SEMARNAT has played an active role to circumvent the installation of any new CFC consuming facility in the Country, with emphasis on the original equipment manufacturer (OEM) sector. For the installation of any new production facility in the Country Mexican law requires an operation's license, which is granted by SEMARNAT, in order to manage related environmental impact and risks, and to establish emission prevention and control requirements, as well as to define operational conditions and growth. To enable compliance with the Mexican obligations under Montreal Protocol, SEMARNAT has been able to discourage the use of CFCs, and negotiate in favour of CFC substitutes, thus avoiding new progress on CFC consumption in the OEM sector.

Notwithstanding the current degree of success of controlling and diminishing CFC consumption in the Country, the major concerns of the Government regarding further progress of the phase-out process enabling definite compliance with Montreal Protocol obligations are:

a) Prohibition of import of CFC containing equipment: Since 1998 the Government has been setting up temporary prohibitions on import of refrigeration, air conditioning and water cooling equipment using CFCs in order to halt new additional CFC demand, and complement efforts in controlling manufacturing industry's demand. Permanent control measures will be established by SEMARNAT to prohibit import of equipment using CFC, including also used cars in addition to refrigeration equipment.

b) Controlling availability of CFCs on the Mexican market: Although collaboration with CFC producers/importers have provided major advancements on control of CFC availability, an agreement on a definite CFC production and import phase-out schedule will be formalized as an integral part of the present project. Nevertheless, the Government of Mexico is concerned about the uncontrolled introduction of CFCs to the Country, and to that end, is preparing actions to strengthen regulations and enforcement to control illegal trade. Support from the international community is being received as part of this project to enhance and speed-up the implementation of such regulations and enforcement.

Planed activities

The Government of Mexico established additional supporting measures to promote CFC production phase-out in the Country, while considering domestic remnant necessities and consumption phase-out concerns as discussed in the previous chapter. The main objective of the formulation of the regulatory instruments is the strengthening of a policy framework to achieve complete ODS phase-out complying with the obligations under the Montreal Protocol in a gradual and orderly manner to minimize adverse economic affects to all sectors involved.

a) Ozone Depleting Substances (ODS) Regulations: The Mexican Government has initiated formulation of a detailed regulation to monitor and control the production and uses of Ozone Depleting Substances in the Country. Proposed regulations include control mechanisms for several Ozone depleting substances, such as CFCs, carbon tetrachloride, halons, methyl chloroform, and methyl bromide. Salient features of the proposed regulation regarding CFCs are:

(i) Gradual abandonment of the use of substances that deplete the Ozone layer in all sectors consistent with the Montreal Protocol obligations. The rule would be compulsory for all producers, importers, exporters, distributors, vendors and commercial and industrial consumers of CFCs.

(ii) From the date of implementation of the norm, authorized commercialization of CFCs will be only permitted to satisfy basic internal needs and essential uses in the Country. The regulation will include schedules with maximum allowable quantities permitted for such uses on a yearly basis until 2010.

(iii) From the date of implementation of the regulation, it will be prohibited to produce or import all kinds of refrigeration equipment, air conditioning equipment, propellant formulations, plastic foam or solvent cleaning operations that use or contain CFCs, except those related to essential uses as defined by the Montreal Protocol.

(iv) The regulation will establish rules to control the commercialisation of recycled or reprocessed CFCs.

Achievement in 2004

A series of policy measures were adopted and implemented during the course of the year 2003 as summarized below.

a) Production Quota: The Government of México established a CFC production quota to the CFC producing enterprise, Quimobásicos. The production quota system is in place from January 2004.

The monitoring and enforcement mechanism for the production plan involve:

(i) Quota system operation is established as a production cap issued to the Production Sector by SEMARNAT (production quota);

(ii) Mandatory reporting of Production Sector on actual production figures to the National Ozone Unit;

(iii) Monitoring and supervision of implementation of CFC production cap, and on import of raw material (carbon tetrachloride);

(iv) Sanctioning of the production sector in case of exceeding its and/or import quota; in such cases the quota is correspondingly reduced for the following year taking into consideration also the production Sector phase-out Agreement with the ExCom (ANNEX IV).

b) Regulation for control of ban of production and import of CFCs: The Government of México is promoting an agreement between the CFC importers to close the importation, and only use in the next years the stockpiles produced during the period of 2003-2005.

Table 3. Policy measures achievement in 2004

Legislation	**Related Activity**	**Planned Timing in project proposal**	**Achievement in 2004**
Production Quota	Introduction of production quota	2003 - 2004	Production Quota was put in place. CFC Production has been controlled by import regulation of CTC.
Regulation for control and ban of production and import of CFCs	Enactment	By 2005	Draft regulation prepared

3.4 Technical assistance activities

Implementation modality

Following steps have been taken in order to execute the technical assistance activities.

- Project approval: July 2003
- Allocation of the grant for the compensation for the enterprise and the technical assistance activities determined: September 2003
- Detailed technical assistance activities determined: October 2003
- Budget allocation for each activities determined: October 2003
- Mechanism for the grant transfer determined: December 2003
- Recruitment of a national expert initiated: December 2003

Planned key activities and achievement in 2004

Table 4 summarizes achievements and the status of key activities in 2004.

Table 4. Achievements and the status of key TA activities in 2004

Activity item	**Planned timing as per Project Document**	**Achievement and status in 2004**
a) Design of public awareness campaign to promote phase-out of CFCs	2003 - 2004	Design of and awareness strategy was designed and approved by the social communication office of SEMARNAT. TOR for design of video and printed material is in preparation. The organization of an event to announce the CFC closure production in Mexico is in preparation.
b) Design and conduct market study to fully characterize remnant demand of CFCs in Mexico	2003 -2004	Contract of the national expert that will develop the National Strategy for CFC Management in México was issued. Implementation is continuous in 2004 and years after based on the grant to be provided in later tranches.
c) Prepare consumer sector phase-out plan to submit to MLF for approval of funds necessary for phase-out.	2003 - 2004	Refrigeration sector CFC phase-out plan (NPP) submitted to the 42nd ExCom was approved.
d) Customs training programme to control illegal trade in harmony with NPP	2003 - 2004	The relevant project was included in the NPP submitted to the 42nd ExCom for assistance from the Multilateral Fund. The training program has been deferred until the Mexican Official Norm is issued, this will occur during 2005.

Activity item	Planned timing as per Project Document	Achievement and status in 2004
e) Creation of information and monitoring system on the production, consumptions imports, exports of CFCs and other ODS including a remote communication system via internet.	2003 - 2004	The information and monitoring system is being designed by an information technology company under a contract already awarded; they will develop the software, procure the equipment, install the system and conduct a training campaign to all users of this system (Customs, Health Ministry and SEMARNAT).
f) Regular training programmes for the Government and Industry on regulations and enforcement regarding CFC phase-out matters.	2003 - 2004	Organization of Workshops for Government officials in Health, Agriculture, Economy and Environmental Ministries. Execution planned in 2005 using the third tranche of the grant.

3.5. Monitoring and reporting activities

The monitoring and reporting mechanism undertaken in 2004 is detailed in Table 5.

Table 5. Monitoring and reporting activities in 2004

Activity	By	Timing	Remarks
2nd Tranche approval	April 2004	April 2004	42nd ExCom
Contract with the enterprise for compliance, reporting as well as other obligation	UNIDO Enterprise	April 2004	UNIDO Contract No. 04/105
Progress report to UNIDO based on the contract above	Enterprise	May 2004	Satisfactory report received
Audit for verification of CFC production phase-out	Auditor	January 2004	Satisfactory report received. It was submitted to MFS for consideration for approval at the 42nd ExCom
Supervision	UNIDO SEMARNAT	January 2004	Supervision was undertaken in January 2004

4. 2005 ANNUAL PROGRAM: OBJECTIVES AND ACTIVITIES

4.1 ODS Phase-out objectives and disbursement allocation

The objective of the 2005 Annual Program is to ensure that the CFC production does not exceed **5,263** metric tonnes in the year, and the total accumulated production in years 2003 to 2005 does not exceed 22,000 MT.

UNIDO, on behalf of the Government of Mexico, is requesting the release of the third installment of US$ 4.0 million to achieve this objective, which is to be disbursed to the following categories:

- US$ 3.81 million, which will be disbursed to the beneficiary CFC producing enterprise for reducing keeping the production level in accordance with the annual production allowed for 2005; and

- US$ 0.19 million for implementation of the TA component.

4.2 CFC production phase-out target

The Government of México will authorize a CFC production quota to Quimobásicos, the only CFC producer in México. The production level authorized is no more than **5,263** MT for 2005.

Further, the Government of Mexico authorizes the import Quota of CTC to the CFC producing enterprise up to 9,300 metric tonnes in 2005. Therefore, the enterprise can produce up to **5,263** tonnes of CFC-12 and CFC-11.

Table 6. CFC Production target at the production enterprise

Name of company	MAXIMUM 2005 ANNUAL PRODUCTION,**(metric tonnes)**
Quimobasicos	5,262*
Total	5,262*

* With the condition that the maximum aggregate CFC production in 2003-2005 is 22,000 metric tonnes.

4.3 Policy measures

A series of policy measures is going to be implemented during the course of the year 2004 as summarized below.

Production Quota: The production quota system is in place from January 2004. The import Quota system of the ODS raw material, CTC is being continued to doubly control the CFC production in the production sector.

Regulation for control and ban of production and import of CFCs: The Government of México continues promoting an agreement between the CFC importers to close the importation, and only use for the next years the stockpile produced during the period prior to the cessation of CFC production at Quimobásicos.

Table 7. Policy measures to be carried out in 2004

Legislation	**Related Activity**	**Planned timing in project proposal**	**Plan in 2004**
Production Quota	Introduction of production quota system	2003 - 2004	Production Quota system will be used to continue to control CFC production through imposition of import Quota on CTC
Regulation for control and ban of production and import of CFCs	Enactment	In 2005	Proceeding for the approval by the Parliament

4.4 Technical assistance activities

Proposed technical assistance activities to be undertaken during 2005 are summarized below. These activities have been decided based on the priorities of the Government of Mexico with regard to the national ODS phase out strategy.

a) ODS Information monitoring system.

This system will consist of an instrument to monitor permanently the flows and related information of ODS that are imported and exported through all the Mexican customs. It will register the gross sales and use of ODS inside the country and will be capable to follow up the movements in the quota established for the importers of ODS.

The major activities of this item are:
- design and implementation of the ODS information and monitoring system.
- supervision of the implementation of the information system.
- acquisition of a remote communication system via internet to facilitate training activities and linkage with stakeholders involved.

b) Technical assistance and training of relevant ministries and agencies.

It consists of technical workshops for officials of governmental agencies related to ODS management (Environmental Federal Attorney, Customs, etc.) with the aim to train them in ozone layer protection issues and specifically in detection and identification of ODS.

In the courses the participation of national and international experts is envisaged. It will utilize the specific material developed by UNEP. For the environmental attorney officials, it will include the supply of infrared identifiers of ODS.

Major activities are:
- recruitment of national and international experts;
- acquisition of existing training materials;
- acquisition of infrared identifiers;
- organization of training courses and workshops

c) Technical audit, supervision

It is a planned to carry out technical audits at Quimobásicos at the end of each year during the period of 2003-2006, to authenticate compliance with the agreement with the Executive Committee of the Multilateral Fund for the Implementation of the Montreal Protocol. Trough this instrument SEMARNAT verify the quantity of CFC produced in Mexico each year and take the necessary measures to ensure compliance with the Montreal Protocol.

d) Development and implementation of a communication strategy

This item will allow the Government of Mexico and SEMARNAT through the National Ozone Unit to communicate to specific publics the advances of México in the process of implementation of the Montreal Protocol and in particular, the closure of CFC production in México. This program is implemented in close coordination with the Social Communication Office of SEMARNAT.

The major activities are:

- Design and development of a communication strategy;
- Design of materials;
- Special events.

e) Local and international travels

This item is related to the local travels of the national experts, governmental officials and national ozone unit personnel for the different activities related to this technical assistance program.

f) General project management

Assist the ozone Protection Unit in coordinating and managing the technical assistance project for the CFC Production Sector Phase–out Plan, specifically in the preparation of reports, design, development and implementation of the different programs included in this project, development and management of databases for ODS and support the technical audits of CFC production closure.

Major activities:

- Recruitment of national experts
- Following up on the Monitoring system, the National Strategy for CFC Management and other related programs.

g) Time schedule

The tentative time schedule is given as in the table below.

Table 8. The tentative time schedule for TA activities in 2005-2006

	Activity	2005												2006
		J	F	M	A	M	J	J	A	S	O	N	D	
A	**ODS Information and Monitoring System**													
	Signing of contract.													
	Design and operation of the ODS Information and Monitoring System													
	Send to UNIDO for revision and initiate the process of acquisition of Remote communication system via internet to facilitate training activities and linkage with stakeholders involved.													
	Acquisition of Remote communication system.													
B	**Technical assistance and training of relevant ministries and agencies**													
	Design of workshops													
	Preparation of workshop													
	Training workshop													

	Activity	2005												2006
		J	F	M	A	M	J	J	A	S	O	N	D	
C	**Technical Audit supervision**													
	Audit to a CFC production factory													
D	**Development and implementation of a Communication strategy**													
	Design of the communication strategy													
	Implementation of the communication strategy													
E	**Local and international travels**													
F	**General project management**													
	Recruitment of a national experts													
	Report													

g) Estimated costs of activities

The estimated cost of the project by activity is listed in the table below.

Table 9. Estimated costs of TA activities

	Activity	**2003-2004 US$**	**2005 US$**	**2006 US$**
A	**ODS Information and Monitoring System**			
	Elaboration of Terms of Reference of the project for ODS Information and Monitoring System	3,500		
	Design and implementation of the ODS Information and Monitoring System	227,000	40,000	80,600
	Acquisition of Remote communication system via internet to facilitate training activities and linkage with stakeholders involved.	30,000		
B	**Technical assistance and training of relevant ministries and agencies**			
	Training workshop	37,300	10,000	10,000

	Activity	**2003-2004 US$**	**2005 US$**	**2006 US$**
C	**Technical Audit supervision**			
	audit to a CFC production factory	16,000	16,000	16,000
D	**Development and implementation of a Communication strategy**			
	Implementation of the communication strategy	37,500	89,000	105,100
E	**Local travels**	12,000	5,000	5,000
F	**General project management**			
	Recruitment of a national experts	50,000	30,000	30,000
	TOTAL	413,300	190,000	246,700

4.5. Monitoring and reporting activities

The similar steps will be taken for the monitoring and reporting schedule for 2005 as undertaken in 2004. Table below summarizes the relevant activities.

Table 10. Monitoring and reporting activities in 2005

Activity	**Responsible**	**Timing**	**Remarks**
Approval of Annual Tranche programme 2005	-	April 2005	45th ExCom
Contract with the enterprise for compliance, reporting as well as other obligation	UNIDO Enterprise	May 2005	Modality for preparation of the contract and the contractual obligation to be decided by UNIDO after the approval of the 2004 annual programme
Progress report to UNIDO based on the contract above	Enterprise	To be decided in the Contract	-
Audit for verification of CFC production phase-out	Auditor	January 2006	-
Supervision and regular monitoring	UNIDO SEMARNAT	During 2005	Periodically

MEXICO

CFC PRODUCTION SECTOR AUDIT REPORT

(FOR 2004)

ESS JAY CONSULTANTS:	Mr. T. K. Padmanabhan, Team Leader Mr. V. K. Trehan, Engineer, Technical Expert Mr. Hitesh, Mahajan, Chartered Accountant, Financial Expert
SEMARNAT:	Mr. A. Sanchez-Guevara, Ozone Protection Unit Coordinator
UNIDO:	Dr. T. Gróf, Unit Chief, Project Manager Mr. Rodrigo Serpa, Consultant

DATE OF SUBMISSION: 27.01.2005

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Technical and Financial Audit of the CFC plant Cydsa / Quimobasicos Monterrey, Mexico for the MEX/PRO/40/INV/115, "Sector Plan for Phasing out of CFC-11 and CFC-12 in the Production Sector" (third tranche)"

BACKGROUND

1. The Executive Committee entered into an Agreement with Mexico, by which the only plant producing CFCs in Mexico will be assisted with funds to meet international obligations under the Montreal Protocol.

2. The Agreement (UNEP/OzL.Pro/ExCom/40/50) stipulates the CFCs production that is permissible to Mexico for specified years and the funding that will be made available for compliance.

3. The cited Agreement uses the following terms to describe the CFC production permitted for the plant.

a. "**Maximum Allowable Production"** 2003 to 2010. Year wise production limit in accordance with the Montreal Protocol.

b. "**Maximum Production Levels Agreed"** 2003 to 2005. This stipulates the maximum production (22,000 MT) permitted under the cited Agreement for the Mexican Production Sector. The Plant will cease CFC production thereafter.

4. The Agreement stipulates a "Maximum Allowable Production" of 12,355 MT in 2004, which is a part of the "Maximum Production Levels Agreed" limit of 22,000 MT in the years 2003-2005.

The plant produced 8,694 MT of CFCs in 2003 against the "Maximum Production Levels Agreed" of 22,000 tonnes for the years 2003, 2004 & 2005. Hence, the permitted total production for CFCs in 2004 and 2005 is 13,306 MT. Of this total, the plant is allowed to produce a maximum of 12,355 MT in 2004.

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

1. Objective of the audit

Verification of CFC-11 and CFC-12 production in 2004 at Quimobasicos Factory, Monterrey, Mexico with a verification team to study the financial and technical data on the site to establish that the production of this enterprise is in accordance with the Agreement, UNEP/Ozl.Pro/ExCom/40/50 .

The disbursement of funds under this Agreement to the beneficiary enterprise is contingent on independent verification and report of CFC production.

2. Verification Team

The audit was carried out by Ess Jay Consultants who were accompanied by persons from the Government of Mexico and UNIDO to ensure the right process under Ex Com Guidelines was followed.

3. Two plants producing ODS

The Quimobasicos Plant at Monterrey has two refrigerant production units of Allied Signal Technology. Both plants have a common control room with sophisticated PLC based integrated control systems. Plant 1 (commissioned in 1963) produces only HCFC- 22, and Plant 2 (commissioned in 1983) produces CFC-11 and CFC-12. Both plants have a swing-over capability but are running in the modes indicated, since 1995. The average swing-over time from CFC-11/CFC-12 to HCFC-22 or vice versa is 15 days and the plant deems the swing over time as uneconomical and has decided to dedicate product manufacture in Plants 1 & 2 as indicated above.

Thus, only the plant producing CFCs (Plant 2–commissioned in 1995) was audited in detail & audit of Plant-1(producing HCFC) was carried out only to confirm that it produced only HCFC 22.

4. Summary outcome of Audit

a. The field verification on 2004 CFCs production at Quimobasicos' factory confirms the production, inventory and sales data submitted by the Plant in response to the questionnaire sent to them prior to the audit. The plant produces CFC-11, CFC-12 and HCFC-22.

b. The actual production of CFC-11 and CFC-12 is well within the "Maximum Allowable Production", (i.e., the CFC Production Freeze Target for Mexico under the Montreal Protocol) of 12,355 MT for the year 2004.

c. The Enterprise Quimobasicos has produced only 8,044 MT of CFC-11 and CFC-12 against the 2004 "Maximum Allowable Production" limit of 12,355 MT. This represents utilisation of 65.10 % of the production limit for the year 2004.

d. The plant has also committed to a total production of 22,000 MT in the period 2003-2005 under the Agreement. Against this commitment, the production was 8,694 MT in 2003 and 8,044 MT in 2004, i.e. a total of 16,738 MT, which is 76.08% of their 3 year "Maximum Production Levels Agreed" limit. Thus, Quimobásicos, as the only CFC producer in Mexico, has a provision to produce 5,262 MT of CFCs in the year 2005. The management is contemplating to complete this production limit by May 2005 and cease CFC production thereafter.

e. The CFC-11 & CFC-12 closing stock verified at the end of December 2004 is 2,435 MT, which will be the opening stock for 2005. The plant, in addition to its own storage capacity for finished goods, has used bulk storage on contractual basis outside the Plant.

5. CFC-11 and CFC-12 production audit summary (January 2004 – December 2004), MT

Item	Data	Remarks
Maximum Production Level Agreed for 2004 (MT)	12,355	(Production freeze target for Mexico)
Actual Production 2004 (MT)	8,044	(Gross production)
Difference +/- (MT)	4,311	(Under produced)
Actual Production in 2003 (MT)	8,694	
Total Production in 2003-2004 (MT)	16,738	
Max. Allowable Production 2003-2005 (MT) under the Agreement (MT)	22,000	(In accordance with the Agreement)
Max production level under Agreement 2005 (MT)	5,262	
% of 2004 "Maximum Production Level Agreed" utilized (%)	65.10	
% of 2003-2005 Max Allowable Production under the Agreement utilized (%)	76.08	
Opening Stock as of 1st January 2004 (MT)	443	
Other additions	0	
Total opening stock as of 1st January 2004 (MT)	443	
Gross production (MT)	8,044	
Filling & other losses (-)/ Surplus(+)*(MT)	-23	Filling loses are accounted as a part of gross production and adjusted against Max. Production Level Agreed
Net production (MT)	8,021	Gross Production minus Losses
Domestic Sales (MT)	1,049	
Export sales (MT)	4,980	
Total sales (MT)	6,029	
Closing stock Dec 2004 (MT)	2,435	Opening stock plus net production minus sales.

6. Any unusual occurrences, which have an effect on the CFC production in 2004

In the month of April 2004, production in the CFC plant was NIL as the plant was stopped for attending to a rupture in the reactor. During this period, the catalyst was also changed.

It was reported that there was no incident or occurrence leading to major loss of raw material/ finished product, as a result of this plant stoppage. The auditors verified this by examining records before, during and immediately after the shutdown period.

7. Any CFCs other than CFC-11 or CFC-12 produced or purchased by the plant

Only CFC-11 and CFC-12 is produced by the plant. However, there is import of other CFCs e.g. CFC-113, CFC-114, CFC-115, CFC- 124 etc to cater to domestic demand.

8. Major modifications and equipment change in Plant 2:

No major modification or equipment change was carried out in this plant in the year 2004. As per un-audited balance sheet as on December 2004 no major equipments were purchased by the company, which increase the CFC production capacity.

9. Future Plans for the production of CFC and alternative use of Plant 2

The management of the Plant informs that they plan to produce the balance under the CFC "Maximum Production Levels Agreed" for the year 2005 by May 2005 (i.e. a maximum of 5,263 MT) and thereafter cease CFC production for consumption as ODS. They propose to use the plant for HCFC 22 production.

EXECUTIVE COMMITTEE FORMATS & COMMENTS

The Formats as given in Doc No 32/33 Dated 24 October 2000 were filled and submitted by the plant prior to the physical verification and were verified at the time of location audit.

Major observations:

(Ex-Com Forms 1, 2, 3 and 4 annexed)

a. Data on plant location, names of respondents etc. were given by the plant

b. The combined capacity of both the plants, in CFC terms is 23,652 MTA. Both plants have equal capacity in CFC terms.

c. Data submitted for CFC-11 and CFC-12 from 1995 onwards are for Plant 2 as there has been no swing over in the two plants.

d. HF in-house production was discontinued from Dec. 2001.

e. CTC was always imported after getting the import permission/license from the Government of Mexico.

f. The enterprise has reduced production in 2004 by around 7.50% over the year 2003. (2004 production: 8,044 MT; 2003 production: 8,694 MT**).** The decrease in production in 2004 was due to reduction in the number of operating days. However, the plant has been operated at 30.69 TPD in 2004 against the nominal rate of production of 36 TPD (11,826 TPA/330 days). The average production per day for the year 2004 is higher than the average production per day for the year 2003 (28 TPD).

g. Net Loss is 23 MT, which is 0.29% of Gross production. This loss is comparable to the best plants in the world. The loss is taken as a part of gross production.

h. CTC and HF norms are consistent over the years and comparable with good plants in the world. Only in the month of January 2004, the norms are higher than the rest of the year due to the low number of operating days (4.5 days).

i. The ratio of production of CFC-11 and CFC-12 in the years 2003 and 2004 has remained the same.

Year	CFC-11 (MT)	CFC-12 (MT)	Ratio (CFC-12 / CFC-11)
2003	1,291	7,401	5.73
2004	1,177	6,867	5.83

j. The total consumption of CTC in the year 2004 as verified was 10,482.34 MT.

k. The verification audit of 2004 production at Quimobasicos plant according to the Agreement between Mexico and the Executive Committee for the phase-out of CFCs in the production sector was carried out. Both plants are in good condition and well maintained. Based on the data supplied by the enterprise and random checks, the verification team from Ess Jay Consultants confirm the monthly and annual production, sales and inventory data as given in Ex-Com formats attached as Forms 1, 2, 3 & 4.

l. In 2004 the production was accounted in both gross and net basis and the losses were calculated as the difference between the two.

m. Data of Plant 1 producing HCFC-22 is included in Sheet ExCom F4. The HF consumption balance was verified for both plants as they have a common storage of the raw material.

n. The total consumption of HF in the year 2004 (CFC & HCFC both) as verified was 7,086.40 MT. Verification of consumption of the 2 plants is given in the detailed portion of the report.

Raw Material Consumption ratio	CFC-11	CFC-12
Carbon tetrachloride (tones/ ton of product)	1.1676	1.3265
Hydrogen fluoride (tones/ton of product)	0.1665	0.3780

CTC and HF norms are consistent over the years and comparable to good plants in the world.

Ex-Com Form 1

Questionnaire for ODS production Phase Out Verification (Including Gradual Closure)

A. Plant identification

Name of enterprise	:	Quimobásicos, S.A. de C.V.
Plant reference number	:	N.A
Sector plan number	:	MEX/PRO/40/INV/115
SRI #	:	N. A
Address of the plant	:	Ave. Ruiz Cortínes # 2333 Pte, Monterrey, N.L. México
Contact person(s) and functional title	:	Sergio Lozano García, General Manager Ing.Walter Hugler Quintanilla, Manager Planning
Telephone number	:	(52) 8158-2695
Fax number	:	(52) 8351-3582
E-mail address	:	selozano@cydsa.com

B. Verification Team Composition

Ess Jay Consultants	:	Vibhash Kumar Trehan, engineer, technical expert Hitesh Mahajan, chartered accountant, financial expert
Accompanied by	:	
SEMARNAT		Agustin Sanchez -Guevara, Ozone Protection Unit Coordinator
UNIDO Multilateral Environmental	:	Dr. Tamas Grof, Unit Chief, project manager
Agreement Branch	:	Mr. Rodrigo Serpa Fonnegra, consultant
Date of plant visit	:	11th, 12th , 13th and 14th January 2005
Duration of visit	:	Three and half days

Ex-Com Form 2

2. Questionnaire for ODS production Phase Out Verification (Including Gradual Closure)

A. Plant history

Date of construction: Plant 1 = 1963, Plant 2 = 1983

			Production										
ODS Products	No of lines	Capacity in baseline year (for both plants)	Baseline year (aver. 95-97)	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
CFC-11	2 (1)	**23,652**	2,586	2,411	3,051	2,297	1,020	1,225	1,307	851	757	1,291	1,177
CFC-12	2 (1)		7,714	9,473	7,156	6,513	4,658	4,305	6,238	5,790	4,894	7,402	6,867
CFC-13													
CFC-113													
CFC-114/115													
Raw material production													
HF (2)	1 (3)		5,774	5,021	6,203	6,098	4,344	5,210	4,956	4,166	-	-	-
CTC													

(1) Site contains 2 swing plants. Actual capacity of each is 11,826 Tons/year of CFC-11/12 (minimum relation 12/11 = 9/1)

(2) Include HF production for both CFC 11/12 and HCFC-22.

(3) Production of HF at the site was discontinued from December 2001.

Ex-Com Form 3

3. Questionnaire for ODS production Phase Out Verification (Including Gradual Closure)

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

CFC-11	**Baseline year (aver. 95-97)**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000 (2)**	**2001**	**2002**	**2003**	**2004**	**2005**
Quota (1)	11,232	None	None	None	None	None	None	None	None	TOTAL CFCS: 22,000 MT		
Opening stock at beginning of year		143	164	142	78	157	212	175	175	322	82	
Production	2,586	2,411	3,051	2,297	1,020	1,225	1,307	851	757	1,291	1,177	
Purchases					167							
Sales	2,604	2,397	3,068	2,349	1,100	1,173	1,342	838	603	1,534	662	
Loss (Surplus)		(7)	5	13	7	(3)	3	(13)	(7)	3	(4)	
Closing stock at end of year		164	142	78	157	212	175	175	322	82	593	
CFC-12	**Baseline year (aver. 95-97)**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000(2)**	**2001**	**2002**	**2003**	**2004**	**2005**
Quota (1)	11,232	None	None	None	None	None	None	None	None	TOTAL CFCS: 22,000 MT		
Opening stock at beginning of year		751	236	398	212	1,095	273	405	316	271	361	
Production	7,714	9,473	7,156	6,513	4,659	4,305	6,238	5,790	4,894	7,402	6,867	
Purchases					668							
Sales	7,880	9,983	6,994	6,663	4,426	5,134	6,105	5,860	4,918	7,310	5,367	
Loss (Surplus)		5	(0)	36	18	(7)	1	(19)	(21)	(2)	(19)	
Closing stock at end of year		236	398	212	1,095	273	405	316	271	361	1,842	

(1) Total CFC production baseline

(2) Quota includes 10% additional allowance for basic needs of Art V Countries

Ex-Com Form 3 (contd.)

Annual HF/CFC ad CTC/CFC ratios

Ratio	**Baseline year (aver. 95-97)**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**
CFC-11											
HF/CFC-11 ratio	0.1622	0.1603	0.1626	0.1638	0.1636	0.1654	0.1665	0.1643	0.1661	0.1661	0.1665
CTC/CFC-11 ratio	1.1850	1.1816	1.1821	1.1912	1.1971	1.1999	1.1999	1.1742	1.1694	1.1539	1.1676
CFC-12											
HF/CFC-12 ratio	0.3686	0.3643	0.3693	0.3721	0.3686	0.3689	0.3687	0.3725	0.3757	0.3772	0.3780
CTC/CFC-12 ratio	1.3367	1.3554	1.3009	1.3539	1.3576	1.3523	1.3285	1.3324	1.3242	1.3116	1.3265

Operational days per year

Type of production	**Baseline year (aver. 95-97)**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**
CFC-11		310	303	296	219	226	232	265	217	312	262
CFC-12		310	303	296	219	226	232	265	217	312	262

DETAILED REPORT ON THE AUDIT

DETAILED REPORT ON THE AUDIT

1. Audit team, dates of location audit, broad verification steps

The audit was undertaken in line with the Guidelines of Executive Committee for verification of ODS production phase out (UNEP/Ozl.Pro/ExCom/32/33, dated 24th October 2000).

a. Location audit team

Mr. V. K. Trehan, Ess Jay Consultants

Mr. Hitesh Mahajan, Ess Jay Consultants

The following persons from the Government of Mexico and UNIDO accompanied the audit team to ensure that the right process was conducted in terms of ExCom Guidelines for verification of CFC production phase-out and the Agreement:

Mr. A. Sanchez-Guevara, Ozone Protection Unit Coordinator, SEMARNAT

Dr. T. Gróf, Unit Chief, Multilateral Environmental Agreement Branch, UNIDO

Mr. Rodrigo Serpa Fonnegra, Multilateral Environmental Agreement Branch, UNIDO

UNIDO prepared a Terms of Reference for the verification mission. The Auditor was selected in an open international bidding process performed according to UNIDO's financial rules and based on the Terms of Reference. Prior to the field visit UNIDO made available to the selected Auditor the Production Sector Closure Agreement, the Guidance Document UNEP/Ozl.Pro/ExCom/32/33, dated 24th October 2000, the results and data of the previous audit, the baseline information and annual data reported by the enterprise.

Cydsa / Quimobásicos made duly completed the Questionnaire prepared by UNIDO and Ess Jay Consultants in line with UNEP/Ozl.Pro/ExCom/32/33, dated 24th October 2000 and returned it to the auditor prior to the site inspection.

During the site visit, the enterprise made available to the team of auditors (one technical expert and one chartered accountant) the required managers and experts who answered all queries in an open and professional way. Access was provided to all premises of the Plant and to all documents, daily production logs, sales and financial records requested by the auditors for the purpose of the audit and validation of the data provided by the Plant in the Questionnaire.

b. Dates of Audit:

The Audit was undertaken on 11th, 12th, 13th and 14th of January 2005 (three and a half days on site).

c. Broad methodology adopted for audit:

Plant round was taken for precise understanding of operations and record keeping. The system of measurement for raw material receipt, issues, production, sales and closing stock was reviewed. The following operational and statutory records were examined:

- Raw material purchase and issue records
- Daily Production logs and production records
- Process parameters records
- Quality control records
- Stock transfer and record for storage of stocks at strategic location (storage on contractual basis outside the Plant), consignment storages, storages at all points of sales (Monterrey and Mexico City).
- Stock register in value as per books of accounts for the year 2003 to check the opening stock and also Audited Balance Sheet for the year 2003 for cross checking.
- Sales Invoices
- Monthly VAT returns filed with revenue authority for claim of IVA, which gives the monthly purchase of raw materials and sales of finished goods.
- Import quotas issued for CTC and HF and actual import entered into Mexico based on the records of Customs.

The verification of the data provided by the enterprise is annexed as a part of this report**.**

- Random dates (in March, May, August & December) were selected in CFC and HCFC plants for studying in- process parameters, laboratory and analytical records.
- Volume and value of opening and closing stock was verified.
- Verified purchase invoices (all invoices for CTC and HF in the year 2004), on randomly selected dates, incoming and issues from plant stores were checked.

- On randomly selected dates (in March, May, August & December) Hourly production records were integrated to arrive at daily production.
- From the filled stocks samples from CFC and HCFC were taken for vapour pressure, weight and gas chromatography analysis.

2. Verification of Plant records and process adopted

a. Overview

A brief presentation was made by the enterprise about the systems of operations and maintenance. Plant visit was taken for precise understanding of operations and record keeping in various Departments.

Each department is maintaining material accounting records, and the final consumption of raw materials is arrived through purchase, opening and closing stock at the enterprise level. The overall method of record keeping is found satisfactory. Entries in books of account are matching with the plant records which was ascertained through random verification.

The enterprise has two plants located in the same premise. One plant (Plant 1) was commissioned in 1963 and the other (Plant 2) was commissioned in 1983. Each plant has the capacity to produce 11,826 Tonnes / year of CFC11/12. Both plants have a common control room with sophisticated PLC based control system. The hazardous material handled in the plant's equipment and pipelines are located in a closed chamber connected to a central absorption system to handle any emergency safely. Though each plant can be operated in both the modes of CFC-11/CFC-12 or HCFC-22, from 1995 the old plant operates solely on HCFC-22 and the new plant on CFC-11/CFC-12. The feedback from the Plant personnel was that swing-over time is 15 days to get the right quality material. Based on the requirement and economics of operation the enterprise decided to operate the plants without swinging over. The Plant 2, which was operating on CFC-11/CFC-12 in 2004, has produced 8,044 MT. This is about 68% of capacity utilization of this plant. (8,044 /11,826).

The plant is ISO 9001 and ISO 14001 certified. Both plants are very well maintained. CFC-11 and CFC-12 are co-produced from CTC and HF reaction from a single reactor. The ratio of CFC-11 and CFC-12 can be varied as per requirement of production. The enterprise has taken trials for production of CFC-12 only, by recycling CFC-11.

The raw material storage of HF (Hydrofluoric Acid) is common for both the plants. However, flow meters are installed to measure the quantity sent to each plant. HF handling is carried out in an enclosed chamber. HF sensors are installed at various points for sounding alarm signals to detect leakage for timely action. The plant manufacturing CFCs was audited in detail. The methodology adopted and the process verification along with the copies of documents are listed below:

b. 2004 Opening Stock Verification

The closing stock of December 2003 was verified for CFC-11 and CFC-12. The stock records for the stocks in the plant warehouse were checked. Balance Sheet & Statement of operations Account duly audited by an external auditor for the year ending December 2003 was checked and co-related with inventory valuations (both in quantity and value) with the stock records as per the company's books of account. The financial records verified for CFC-11 and CFC-12 for the month of December 2003 are the Audited balance sheet, stock register and last year's data audited by Ess Jay Consultants. Based on these financial records and verification of raw material purchases, issues and inventory, the following are the accepted stock values in tons.

Attached as **Annexure 1** is the audited Balance Sheet for the year 2003 showing the inventory valuations as on January 1, 2004.

Opening Stock of raw material CTC in Jan. 2004	=	27 MT
Opening Stock of raw material HF in Jan. 2004	=	8.5 MT
Opening Inventory of CFC-11 in Jan.2004	=	82 MT
Opening Inventory of CFC-12 in Jan.2004	=	361 MT

c. 2004 Raw Material (RM) Verification

Both the major raw materials HF and CTC used for manufacturing of CFC-11/CFC-12 are procured from outside. The material procured is unloaded in raw material tanks, but if there is no space, the cargo is not unloaded but kept waiting; the stock at any given point of time includes stock in raw material tanks and the cargo waiting to be unloaded.

The list of total raw material (CTC and HF) purchases was taken from the finance department based on the approved quota from Government of Mexico to import the same. All the invoices for import of raw materials were checked; the quantity on the invoices was cross checked with the purchase figure in the purchase account and also the amount shown in the VAT returns submitted by the company to Revenue Authorities to claim IVA back from the Government and were found to be consistent. The system for raw material consumption accounting was also reviewed and found satisfactory.

The monthly consumption is calculated as the difference in inventory and purchases during the month. The allocation of raw material consumption combined for CFC-11 & CFC-12 is done by readings on flow meters. The allocation of raw material consumption between CFC-11 and CFC-12 is done by way of norms. The monthly raw material accounting report for the entire year is enclosed as **Annexures 2A** & **2B.**

Total Purchase of CTC in the year 2004	= 11,219 MT
Total Purchase of HF in the year 2004	= 7,356 MT

d. CFC Production Verification**:**

The hourly feeds on the randomly selected days (26th March, 21st May, 22nd August and 30th December 2004), was integrated on a day-basis to verify the daily production, which is stocked in a 'day tank' and found to be consistent with records.

The daily production is recorded by reading the level gauge installed in day tanks. The day tanks have a level measurement facility and with the help of a pre-calibrated level-to-weight chart for each tank, production is calculated for every shift. Daily production is recorded by

cumulating such records for all three shifts of the day. Each product has two-day tanks and before transferring to the main tank, quality is approved by quality control lab.

All final records are based on month-end accounting. The monthly reported production comes from inventory difference in the day tanks, main tanks and the material transferred from plant to filling station. This is counted as gross production. Saleable filled stock is counted as net production and difference is considered as losses/ surplus.

Gross production is measured at the main tank and net production on the sales and final inventory. The enterprise has a good recovery system in the filling station for CFC-12 and HCFC-22, which ensures losses of only insignificant quantity (0.29%). The Plant has an excellent recovery system of residual gases in the filling pipeline, returned packages for refilling and the sampling point. Such gases, which are sucked back, are accounted as part of production.

On these dates, (26th March, 21st May, 22nd August and 30th December 2004) verification of process parameters and quality analysis data were checked and found satisfactory. Sample sheets of production logbook, quality records are included as Annexures 3A & 3B.

The raw material consumption norms for HF and CTC were verified and found to be consistent in 2004 over the months except for the month of January 2004 which was due to the low number of operating days. The raw material consumption norms for the year are comparable to the past years.

Raw Material Consumption ratio

Raw Material	CFC-11	CFC-12
Carbon tetrachloride (tones / ton of product)	1.1676	1.3265
Hydrogen fluoride (tones / ton of product)	0.1665	0.3780

The norms are comparable to good plants in the world. The trends of production plotted with CTC and HF consumption over the months in 2004 is shown graphically at the end of the Ex-Com Form 4.

e. Production to packaging transfer

Based on requirement, various packages are filled and transferred to the warehouse immediately. No stock is maintained in the filling station. The packaging bottles and cylinders are first evacuated and filled with the required gas. The system is connected for recovery of held up gas in tubes and pipelines. The following non-returnable packagings are used:

Jugs - 15 lbs, 30 lbs & 50 lbs
Bottles / cans 340gms, 1kg

The recycled packaging materials are cylinders, tonners and ISO container for filling bulk quantities. The process for filling bulk containers is the same except that the packaging are cleaned, inspected and painted if needed. The enterprise's products brand name is Genetron. However, for export purpose, generic packaging is also used. The filling system is semi-automatic. Records of filled material with different packaging are maintained on daily basis and entered in the system on the next day. The cumulative figure at the end of the month gives the total quantity of material filled during the month. This figure is used for calculating the monthly net production. A sample review of the system of record keeping for filled material was carried out at stores and filling station and found matching.
Samples of filled material were taken, one each of CFC-11, CFC-12 and HCFC-22. The pressure, weight and gas chromatography analysis was done and found the result matches the characteristics of the product. A copy of the GC analysis is enclosed as **Annexure 4.**

f. Sales and Closing Stock

The actual invoices raised in the month are accounted as sales. The monthly statement of sales is enclosed as **Annexure 5 (**Month wise break-up of productwise CFC sales for Domestic and Export markets). Verification was done by randomly selecting invoices and verifying their accounting in sales register and also the VAT return. Closing Stock of raw materials and finished goods are computed and verified based on data given and verified as per the stock records and the un-audited balance sheet prepared by the company. The closing stock figures in financial records were then crosschecked with the quantities audited by the technical consultant. The

same are shown in **Annexure 6** (Monthly plant report, quantity and value of closing stock as per un-audited balance sheet)**.**

Closing Stock of raw material CTC in Dec 2004	=	763 MT
Closing Stock of raw material HF in Dec 2004	=	278 MT
Closing Inventory of CFC-11 in Dec 2004	=	593 MT
Closing Inventory of CFC-12 in Dec 2004	=	1,842 MT

g. VAT Returns

The company files VAT returns on a monthly basis with the Revenue Authorities. An external auditor duly audits this every month. The return is being filed to claim IVA (the difference between tax paid and tax collected) from Government for extra taxes paid by the company. The data confirms the sales (both domestic and exports), purchases (both domestic and imports) made by the company during the month**.** The month of November 2004 was chosen for detailed verification of all the sales invoices to check the authenticity of the data. The VAT return for the month of November 2004 was checked by us during the course of the audit and found that the data for purchase and sales were matching with the figures shown in the books of accounts. Copy of the duly audited monthly VAT returns for the month of January to November 2004 as **Annexure 7** is attached. (Till the date of audit, the December 2004 VAT return was not audited by the external auditor)

Annexure 8 shows the checklist of the audit process followed in keeping with the Guidelines and step taken in addition to the Guidelines.

ANNEXURES

(1 to 8)

Annexure 8

a. Check list of the audit process with the Guideline

Sl.	Verification steps	Check by Ess Jay Consultants	Ess Jay Consultants observation
1	Confirm production and raw material consumption from production logs	Done	Production logs and financial records (purchase account, import licence etc.)
2	Verify sales and procurement of ODS products against financial records	Done	Sample verification done with the sales accounts, VAT return, Import of raw materials
3	Verify stock at the beginning and the end of year against financial records	Done	Found satisfactory and also confirmed the same with the audited balance sheet.

b. Steps to be included in the audit

Sl.	Verification steps	Check by Ess Jay Consultants	Ess Jay Consultants observation
1	Review system of record for adequacy	Done	Daily, Monthly record keeping is satisfactory
2	Observe plant condition and apparent operational status	Done	Well maintained plant
3	Audit daily production records and key feedstock consumption data	Done	Daily production logs verified to check process parameters and corresponding quality reports
4	Confirm monthly and annual production production = sales - change in inventory	Done	Matches
5	Confirm cumulative inventory change of ODS product corresponds to annual production	Done	Checked and found correct as per above report
6	Confirm cumulative inventory change of key raw material is consistent with production both overall and per campaign	Done	Very Consistent
7	Integrate hourly in-plant flow rate data over time to get an independent value for production	Done	Flow rate data compared with the daily production and found OK
8	Compare the changes in reported feed and product tank levels, integrated with the appropriate correction factor to report raw material usage and CFC production	Done	Raw material consumption accounting is on monthly basis.
9	On a spot basis, rationalize hourly plant logs with raw material consumption and production.	Done	System not in place
10	Review logs for periods of high hourly throughput and compare to reported production. Investigate any possible inconsistency	Done	Found consistent
11	Review hourly plant logs during non-campaign time periods to verify non-production	Done	Found consistent
12	Monthly VAT returns made by plant were audited	Done	Found satisfactory, through monthly VAT returns sales, (domestic & exports) & purchase checked against book of account.

c. Steps taken in addition to the requirements of the Guideline

13	Sampling for analysis, CFCs & HCFC-22	Done	Purity, Product verification, satisfactory