NACIONES UNIDAS

EP

Programa de las Naciones Unidas para el Medio Ambiente

Distr.
LIMITADA

UNEP/OzL.Pro/ExCom/45/38
8 de marzo de 2005

ESPAÑOL
ORIGINAL: INGLÉS

COMITÉ EJECUTIVO DEL FONDO MULTILATERAL
PARA LA APLICACIÓN DEL
PROTOCOLO DE MONTREAL
Cuadragésima Quinta Reunión
Montreal, 4 al 8 de abril de 2005

PROPUESTAS DE PROYECTOS: MÉXICO

Este documento consta de los comentarios y recomendaciones de la Secretaría del Fondo sobre las siguientes propuestas de proyectos:

Eliminación

• Plan nacional de eliminación de CFC: 2ª partida	ONUDI y Banco Mundial

Producción

• Plan sectorial de eliminación del sector de producción de CFC-11 y CFC-12: 3ª partida	ONUDI

HOJA DE EVALUACIÓN DE PROYECTOS (PROYECTOS MULTIANUALES) MÉXICO

TÍTULO DEL PROYECTO	ORGANISMO BILATERAL/DE EJECUCIÓN
Plan nacional de eliminación de CFC: 2ª partida	ONUDI y Banco Mundial

ORGANISMO NACIONAL DE COORDINACIÓN:	SEMARNAT

DATOS ÚLTIMOS NOTIFICADOS DE CONSUMO DE SAO A LOS QUE ATIENDE EL PROYECTO

A: DATOS DEL ARTÍCULO 7 (Toneladas PAO, 2003, al mes de mayo de 2004)

Anexo A Grupo I, CFC	1,989		

B: DATOS DEL SECTOR EN EL PROGRAMA DE PAÍS (Toneladas PAO, 2003, al mes de mayo de 2004)

SAO	Aerosoles	Espumas	Fab. Ref.	Servicio Ref.	Agente de procesos	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

Consumo remanente de CFC de financiación admisible (Toneladas PAO)	n/a

PLAN ADMINISTRATIVO ANUAL EN CURSO: Fondo total 5 351 350 $EUA: eliminación total de 40 ton. PAO

DATOS DE PROYECTO		**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**Total**
CFC (Toneladas PAO)	Límite de Protocolo de Montreal	4 625	2 312	2,312	694	694	694	0	n.a.
	Límite de consumo anual	4 403	2 205	150	50	50	50	0	n.a.
	Demanda total (referencia)	1 932	1 667	1,190	725	425	195	140	6 274
	Eliminación anual con proyectos en curso	40	165	77	15	0	0	0	297
	Eliminación anual de nuevo análisis	0	100	400	450	300	230	55	1535
	Eliminación anual no financiada	0	0	0	0	0	0	0	0
CONSUMO TOTAL DE SAO POR ELIMINAR		40	265	477	465	300	230	55	1832
Costo final del proyecto ($EUA):									
Fondos para ONUDI		3 517 000	4 478 000	299,500	0	0	0	0	8 294 500
Fondos para el Banco Mundial		0	500 000	0	0	0	0	0	500 000
Financiación total del proyecto		3 517 000	4 978 000	299 500	0	0	0	0	8 794 500
Costo final de apoyo		0	0	0	0	0	0	0	0
Costo de apoyo para ONUDI		263 775	335 850	22,463	0	0	0	0	622 088
Costo de apoyo para el Banco Mundial		0	37 500	0	0	0	0	0	37 500
Costo total de apoyo		263 775	373 350	22 463	0	0	0	0	659 588
COSTO TOTAL PARA EL FONDO MULTILATERAL ($EUA)		3 780 775	5 351 350	321 963	0	0	0	0	9 454 088
Relación de costo a eficacia final del proyecto ($EUA/kg)									5,26

*Los datos de consumo de 2004 son provisionales

SOLICITUD DE FINANCIACIÓN: Aprobación de la financiación para la 2ª partida (2005) según lo indicado supra.

RECOMENDACIÓN DE LA SECRETARÍA	**Consideración particular**

DESCRIPCIÓN DEL PROYECTO

1. La ONUDI presenta a la 45ª Reunión del Comité Ejecutivo, en nombre del Gobierno de México, una solicitud para la segunda partida del Plan nacional de eliminación de CFC de México. Acompaña a la solicitud un documento en dos partes, con los subtítulos "Parte 1: logro del programa anual anterior" y "Parte 2: programa anual de aplicación; segunda partida".

2. El Acuerdo para el Plan nacional de eliminación de CFC de México fue originalmente aprobado en la 42ª Reunión del Comité Ejecutivo en 2004, con un nivel correspondiente de financiación de 8 794 500 $EUA. En este plan, el Gobierno de México deseaba lograr una eliminación de su consumo de CFC correspondiente al 3,2% de su línea de base en 2006, del 1,1% en 2007 y una completa eliminación a finales de 2009, empezando a un nivel de consumo de 4 403 toneladas PAO en 2004.

3. En el Acuerdo concertado entre el Comité Ejecutivo y México se prevé que el Comité Ejecutivo no proporcionará los fondos conforme al Calendario de Aprobación de la Financiación a no ser que el país satisfaga las siguientes condiciones:

a) Que el país haya satisfecho el objetivo para el año aplicable;

b) Que el cumplimiento del objetivo haya sido independientemente verificado;

c) Que el país haya fundamentalmente completado todas las medidas indicadas en el último programa anual de aplicación; y

d) Que el país haya presentado y recibido el apoyo del Comité Ejecutivo para un programa anual de aplicación correspondiente al año en el que se solicita los fondos.

4. La ONUDI notificó los datos preliminares de consumo en 2004 que estaban muy por debajo del consumo máximo admisible para 2004. La ONUDI informó a la Secretaría que por ser la fecha de presentación a principios de febrero de 2005 no había sido posible presentar una auditoría de verificación.

5. La ONUDI notificó lo relativo al progreso en la ejecución del programa anual de aplicación para 2004. La comparación entre las actividades previstas en el último programa anual de aplicación aprobado en 2004 y las actividades realizadas muestra grandes discrepancias. No se han realizado ni la campaña de sensibilización prevista para 2004 ni los programas de capacitación de técnicos de refrigeración. Las actividades previstas para 2004 tenían gastos asociados de 3 517 000 $EUA, de los cuales 435 251 $EUA (12,4%) ya habían sido de hecho comprometidos o gastados al mes de febrero de 2005.

6. La ONUDI incluía, al presentar la solicitud de financiación del Plan nacional de eliminación de CFC de México, la 2ª partida del programa anual de aplicación para 2005. En el programa anual de aplicación presentado por la ONUDI en nombre de México, se sigue en principio el formato que figura en el Acuerdo concertado entre México y el Comité Ejecutivo. De los 4 978 000 $EUA previstos para el programa de 2005, se asignaba una suma de

1 378 000 $EUA (27,7%) para un proyecto nacional de capacitación de técnicos de servicio, una suma de 2 500 000 $EUA (50,2%) para un proyecto nacional de recuperación y reciclaje de refrigerantes y una suma de 500 000 $EUA (10,0%) para un programa de incentivos en materia de readaptación y sustitución de enfriadores a ejecutar por el Banco Mundial. Es necesario tener en cuenta varias características de las diversas actividades:

a) El proyecto nacional para capacitación de técnicos de servicio previsto en 2005 es una continuación de un programa de 2004. En 2004, la financiación prevista para esta actividad era de 1 928 300 $EUA, de los cuales solamente se había desembolsado el 14%. La financiación total prevista para esta actividad particular en 2004 y en 2005 se eleva al 37,6% de los fondos totales aprobados en principio para el plan nacional. En el documento de proyecto y en el plan anual no se especifican los detalles de las actividades a las que estaban destinados estos fondos.

b) El proyecto nacional de recuperación y reciclaje de refrigerantes para 2005 es una continuación del programa de 2004. En 2004, la financiación prevista para esta actividad era de 600 000 $EUA, de los cuales solamente se había desembolsado el 3,1%. La financiación total prevista para esta actividad particular en 2004 y en 2005 se eleva al 35,2% de los fondos totales aprobados en principio para el Plan Nacional. En el documento de proyecto y en el plan anual no se especifican los detalles de las actividades a las que estaban destinados estos fondos.

c) El componente de enfriadores a ejecutar por el Banco Mundial es la segunda fase de un proyecto aprobado por la 28ª Reunión del Comité Ejecutivo y en el proyecto se sigue un modelo utilizando la experiencia de esta primera parte. En la primera fase se preveía atender a diez enfriadores y eliminar 5 toneladas de CFC. En la primera fase se logró más de lo originalmente planificado, atendiendo a 12 enfriadores y eliminándose 7,8 toneladas PAO. Para la segunda fase, cinco propietarios de enfriadores ya habían sido identificados y se seguían deliberaciones con otros varios. El Banco Mundial señaló una serie de actividades de organización por realizar en el marco del proyecto, tales como evaluación de proyectos, selección de equipo, gestión de las finanzas y asegurarse del reciclaje de los CFC y de la destrucción del equipo. El Banco Mundial no se mencionaba originalmente en el Acuerdo entre México y el Comité Ejecutivo. A solicitud de la Secretaría, la ONUDI proporcionó por escrito una solicitud del Gobierno de México declarando el deseo de que el componente de enfriadores fuera ejecutado por el Banco Mundial. En base a la propuesta presentada por el Banco Mundial a la 41ª Reunión, el Comité Ejecutivo respaldó mediante su decisión 42/10 que la ejecución de esta actividad sería reanudada como parte del plan nacional de aplicación del país.

COMENTARIOS Y RECOMENDACIÓN DE LA SECRETARÍA

COMENTARIOS

7. En la fecha de redacción del presente documento, se consideraba que no se habían cumplido tres de las cuatro condiciones previas para la aprobación de las partidas anuales según lo indicado en el párrafo 3 precedente, a saber, la condición de verificación, la ejecución del programa anual del año anterior y la presentación para el año en curso de un programa de aplicación anual que reuniera condiciones para su aprobación. Se examinan en los párrafos siguientes las cuestiones relacionadas con estas condiciones que todavía no han sido satisfechas:

a) *Verificación del consumo:* La verificación de los objetivos de consumo requiere en el caso de México por ser país productor de CFC, la verificación de la producción, de las importaciones y de las exportaciones. Por razón de algunas de las características en el Acuerdo del sector de producción, México está almacenando en reserva una gran cantidad de su producción para uso futuro; las adiciones al almacén de reserva son según las definiciones del Protocolo de Montreal parte del consumo en el año en que se producen. La ONUDI, siendo también responsable del proyecto del sector de producción en México, pudo presentar un informe para las cifras de producción en 2004 incluida su verificación. Los objetivos de eliminación en el sector de producción y consumo están bien coordinados, por lo que la cuestión de satisfacer los objetivos del sector de producción así como los datos detallados de ventas y exportación de CFC no verificados que figuran en el informe de producción constituyen una indicación de que también se han satisfecho los objetivos en el sector de consumo.

b) *Aplicación del programa anual del año anterior:* Los desembolsos muy escasos del programa de aplicación anual para 2004 así como el contenido de la notificación indican que el país no ha completado esencialmente todas las medidas requeridas. En el estudio teórico ampliado sobre la evaluación de los planes nacionales de eliminación, el funcionario superior de evaluación señala que “el desembolso está vinculado y debería estar vinculado a actividades significativas indicadas en los programas anuales, y la carga frontal en la mayoría de los acuerdos no debería tener como resultado que se apresuren los gastos para actividades con gran necesidad de equipo que estén insuficientemente preparadas.” La Secretaría desearía señalar que la decisión de México y de la ONUDI de considerar atentamente y proseguir lentamente con los gastos de los fondos para eliminación de CFC probablemente constituyen en la situación de México el modo más apropiado de seguir adelante.

c) *Programa de aplicación anual del año en curso ya preparado para su aprobación:* El programa anual de aplicación para 2005 tiene dos componentes: un componente, ejecutado por el Banco Mundial, está destinado a enfriadores, el otro, ejecutado por la ONUDI, corresponde al sector de servicio de refrigeración y a sistemas de refrigeración de tamaño pequeño y mediano.

i) Se trató de obtener la aprobación del componente de enfriadores del proyecto, ejecutado por el Banco Mundial, como proyecto independiente hace 18 meses a título de segunda fase de un proyecto en curso. La segunda fase se ha interrumpido después de la 41ª Reunión. La descripción del proyecto es detallada y es obvio, tanto a partir de la experiencia anterior en la ejecución como a partir de la documentación presentada a la Secretaría, cuáles son las actividades previstas, quién es responsable de su ejecución y quiénes serán los beneficiarios. La Secretaría recomienda la aprobación de esta actividad sin ninguna condición adicional.

ii) En la fecha de redacción de este documento, el otro componente del programa anual de aplicación a ejecutar por la ONUDI y destinado al sector de servicio de refrigeración está menos fundamentado con documentos. La Secretaría opina que el segundo programa anual de aplicación representa un hito importante, puesto que el país y el organismo tenían la oportunidad de debatir acerca de los asuntos, completar las lagunas de información y actualizar y completar la estrategia del plan original durante el primer año de aplicación con el beneficio de conocer exactamente cuales eran los fondos disponibles. Por consiguiente, en el programa presentado debería incluirse lo siguiente:

- en relación con el plan general de eliminación (tanto cuanto no esté ya incluido en la propuesta de proyecto) información exacta acerca de las obligaciones de los interesados en el proceso de aplicación, incluida la descripción de responsabilidades. También debería proporcionarse una versión breve de una evaluación general consistente en varias actividades posibles y su aporte a la eliminación completa, así como una lista de todas las actividades previstas hasta 2010, sus requisitos aproximados de financiación, una explicación de cuestiones de gestión de la aplicación tales como quiénes son los beneficiarios, cuánto apoyo habrían de recibir así como un calendario preliminar de fechas de aplicación; y

- en relación con la planificación anual, la lista de actividades previstas y sus requisitos de financiación previstos así como hitos y fechas de terminación de cada actividad, características del grupo de beneficiarios tales como lugar, tamaño, método de identificación de los beneficiarios y beneficios de la entrega.

8. Dado que quedan 3 081 millones $EUA de fondos en las cuentas de la ONUDI relacionados con la partida del último año, lo que equivale al 88% de la financiación original, la Secretaría opina que no debería desembolsarse ninguna clase de fondos por la ONUDI antes de que se haya presentado un programa de aplicación anual suficiente.

RECOMENDACIÓN

9. En vista de las explicaciones presentadas, el Comité Ejecutivo pudiera considerar el aplazamiento de su consideración de la solicitud para la partida del plan nacional de eliminación de CFC en México correspondiente a 2005 hasta que se hayan satisfecho las condiciones especificadas en el Acuerdo concertado entre México y el Comité Ejecutivo.

10. Por otro lado, el Comité Ejecutivo pudiera considerar:

a) tomar nota con beneplácito de que México ha informado que el consumo actual en el país era esencialmente inferior a 4 403 toneladas PAO determinadas como el consumo máximo admisible para 2004 en el Acuerdo;

b) decidir una enmienda del Acuerdo concertado entre México y el Comité Ejecutivo a fin de incluir al Banco Mundial como organismo de ejecución cooperante según lo solicitaba México;

c) aprobar una financiación de 4 978 000 $EUA para la segunda partida del plan nacional de eliminación de CFC de México en la forma siguiente:

i) 500 000 $EUA más 37 500 $EUA de costos de apoyo para el Banco Mundial, que han de utilizarse específicamente para una actividad de enfriadores en México; y

ii) 4 478 000 $EUA más 335 850 $EUA de costos de apoyo para la ONUDI.

d) tomar nota de que el desembolso de los fondos aprobados para la ONUDI en virtud del subpárrafo ii) precedente no debería iniciarse hasta que se hayan cumplido, según el Acuerdo concertado entre la Secretaría y la ONUDI, las siguientes condiciones:

i) Verificación del consumo de 2004 y de que se ha completado la eliminación anual correspondiente mediante el suministro de un informe adecuado de verificación; y

ii) Presentación de un programa de aplicación anual satisfactorio para 2005 teniéndose en cuenta el traspaso de fondos de la primera partida, incluida una descripción detallada de las responsabilidades de los diversos interesados en la aplicación así como una lista detallada de esas actividades.

e) pedir a la Secretaría que informe al Comité Ejecutivo en su 46ª Reunión acerca del progreso logrado como parte del informe sobre la ejecución de proyectos aprobados con requisitos de notificación específicos.

PLAN SECTORIAL PARA ELIMINACIÓN DEL SECTOR DE PRODUCCIÓN DE CFC-11 Y DE CFC-12: INFORME DE AUDITORÍA 2004 Y PROGRAMA ANUAL DE APLICACIÓN 2005

Antecedentes

11. El Comité Ejecutivo en su 40ª Reunión de 2003 aprobó en principio un total de 31,85 millones $EUA para la aplicación del Acuerdo relativo al sector de producción de CFC de México, y se desembolsó la primera partida de 5,3 millones $EUA del proyecto. En el marco del Acuerdo, el Gobierno de México se compromete a una doble condición de un nivel máximo de producción total de CFC de 22 000 toneladas para el período 2003-2005, y al mismo tiempo a no exceder del límite máximo admisible de producción especificado en el Acuerdo para cada uno de los tres años. Subsiguientemente el Comité Ejecutivo entregó la partida de financiación correspondiente a 2004 de 10,7 millones $EUA en su 42ª Reunión después de verificar satisfactoriamente la producción de CFC en 2003 que confirmaba que el país produjo 8 694 toneladas de CFC-11 y CFC-12 en 2003 y, por consiguiente, satisfacía las dos condiciones especificadas en el Acuerdo.

12. En la tabla siguiente se presentan los elementos esenciales del Acuerdo.

País	México
Título del proyecto:	Plan sectorial de eliminación del sector de producción de CFC-11 y de CFC-12
Año del plan	2005
No. de años completados	2
No. de años remanentes en virtud del plan	2
Producción máxima admisible de CFC en el período 2003-05	22 000 toneladas
Máxima producción anual admisible de CFC en 2003 y en 2004	12 355 toneladas
Producción actual de CFC en 2003	8 694 toneladas
Producción actual de CFC en 2004	8 044 toneladas
Máxima producción admisible propuesta en 2005	5 262 toneladas
Financiación total aprobada en principio para el plan de eliminación de CFC	31,85 millones $EUA
Financiación total entregada al mes de diciembre de 2004	16 millones $EUA
Nivel de financiación solicitada para el plan anual 2005	4,0 millones EUA

13. Conforme a las condiciones del Acuerdo de que la entrega de las partidas de financiación subsiguientes a 2003 exigirán la presentación por parte de la ONUDI de la verificación independiente de que la producción en el año anterior se mantenía dentro de los requisitos del

Protocolo de Montreal y de los límites de producción total admisible según el Acuerdo, junto con un programa de trabajo para el año pertinente, ONUDI presenta la verificación de la producción de CFC en 2004 en México y el programa de trabajo anual para 2005 a un nivel de financiación de 4,0 millones $EUA más 300 000 $EUA como costos de apoyo.

Verificación de la producción de CFC en 2004 en México

14. Se realizó la verificación en enero de 2005 a cargo de Ess Jay Consultants, la misma empresa de consultoría que había realizado la verificación de 2003. En el informe se incluía un resumen ejecutivo, el informe mismo y los datos presentados en el formato prescrito en las directrices para verificar la eliminación de producción de SAO aprobadas por el Comité Ejecutivo el año 2000. En el informe se describía en primer lugar una reseña breve de la planta industrial de CFC Quimobasicos, que tenía dos unidades de producción con una capacidad para producir CFC y HCFC-22. Sin embargo, debido a la insuficiente demanda de CFC y al modo relativamente prolongado y no económico de conmutar entre las dos series de productos, solamente una de las plantas industriales había continuado produciendo CFC después de 1995 mientras que la otra se dedicaba a la producción de HCFC-22. El equipo de verificación cubría solamente la unidad que había sido dedicada a la producción de CFC, y visitó solamente la planta de HCFC para confirmar que producía HCFC. Se informó que la planta industrial estaba continuando sus ensayos en 2004 para producir solamente CFC-12 mediante el reciclaje de CFC-11, supuestamente por razón de la disminución de la demanda de CFC-11.

15. Se informó que el equipo de verificación tenía acceso a todos los locales de la planta industrial y a los documentos necesarios para el ejercicio, incluidos los registros de la compra de materiales en bruto y de su publicación; los cuadernos de producción diaria; la transferencia de reservas y los registros de almacenamiento; las facturas de venta; los réditos VAT mensuales presentados a las autoridades de impuestos y las cuotas de importación y las importaciones reales de CTC y HF. Los auditores seleccionaron aleatoriamente varios días en los 4 meses del año como muestras para la verificación. El equipo inició la auditoría anotando las reservas iniciales en depósito de CFC-11 y de CFC-12, y los volúmenes de CTC y HF para materia prima, en los registros financieros y registros de almacenamiento correspondientes al año 2004. Seguidamente se describía en el informe la verificación del consumo de materiales en bruto verificándose la lista de compras del Departamento de finanzas y mediante verificación cruzada con un número determinado de facturas. Había una descripción del proceso de la producción y de los movimientos diarios del producto acabado en la planta, del registro de la producción real, de la producción neta y de las pérdidas por rellenado. Se verificó también la relación del consumo de materiales en bruto por comparación con los registros de antecedentes y las normas de la industria y se notificó que era aceptable.

16. Se realizó seguidamente un examen del empaquetado o embalaje de los CFC y una descripción del proceso seguido en la planta. Se hizo una verificación de muestra de los registros de contabilidad de los bultos, una verificación del peso de los distintos bultos y de la calidad del gas mediante una cromatografía de gases. Mediante la verificación se examinaron por último los registros de ventas y las reservas al cierre de productos CFC y materia prima. En el informe se

incluían también siete anexos con ejemplares de los registros originales que habían sido examinados.

17. Los resultados de la verificación fueron que Quimobasicos produjo 8 044 toneladas de CFC en 2004 desglosados en 1 177 toneladas de CFC-11 y 6 867 toneladas de CFC-12. Esto era inferior al nivel máximo admisible de producción anual de 12 355 toneladas, y después de deducir las 8 694 toneladas producidas en 2003 y las 8 044 toneladas producidas en 2004 del total máximo admisible de producción de 22 000 toneladas para 2003-2005, la producción máxima restante admisible para 2005 sería de 5 262 toneladas. En la planta se registraban 23 toneladas de pérdidas por llenado pero se contabilizaban las pérdidas en la producción total admisible. El total de ventas de CFC por la planta industrial en 2004 era de 6 029 toneladas, desglosadas en 1 049 toneladas para ventas nacionales y 4 980 toneladas para exportación.

18. Los datos recopilados por el equipo de verificación se presentan en el formato de las directrices para verificar la eliminación de la producción de SAO que incluye la producción mes por mes de CFC y HCFC-22, el número de días de producción, las relaciones de consumo de materia prima a producción de CFC y de HCFC-22, cambio de inventario en CTC y HF para materia prima como modo de convalidar la producción de CFC.

Programa de trabajo para 2005

19. En el programa de trabajo para 2005 se incluyen tres partes, un resumen del proyecto, los logros en relación con el programa de trabajo anual para 2004 y los objetivos y actividades del programa de trabajo para 2005. En el resumen del proyecto se incluye el objetivo y el nivel de financiación del programa de trabajo para 2005. Un nivel máximo de producción admisible de 5 262 toneladas de CFC es el objetivo en el programa anual para 2005 después de deducir las producciones reales en 2003 y en 2004 de la producción máxima admisible de 22 000 toneladas para los tres años 2003-2005, según lo establecido en el acuerdo. La aplicación del programa de 2005 requiere un nivel de financiación de 4,0 millones $EUA y 300 000 $EUA como costos de apoyo.

20. En el programa de trabajo para 2004 se informaba el logro de un total de producción de CFC de 8 044 toneladas por Quimobasicos, que era un valor inferior a la producción máxima anual admisible de 12 355 toneladas prescrita en el Acuerdo. De los 10,7 millones $EUA desembolsados en el programa de trabajo para 2004, se desembolsaron 10,6 millones $EUA a título de compensación a Quimobásicos y el saldo se asignó a actividades de asistencia técnica a ejecutar por el Gobierno. Había varias medidas de política que se preveían y se aplicaron en 2004 para facilitar la aplicación de la eliminación de producción de CFC. En esto se incluía un sistema de cuotas de producción jurídicamente vinculantes para productores de CFC que se introdujo en enero de 2004. En la misma fecha, el Gobierno inició el proceso de introducir una reglamentación detallada para prohibir gradualmente el uso de CFC en todos los sectores y la producción e importación de equipo con CFC. El Gobierno estaba fomentando un acuerdo entre los importadores para suprimir las importaciones de CFC y el uso de CFC almacenado entre 2003-2005.

21. En el programa se continuó supervisando la producción de Quimobasicos mediante notificación obligatoria de los productores de CFC a la Dependencia Nacional del Ozono, visitas

periódicas de funcionarios del Gobierno a productores de CFC y cláusulas de sanciones por excederse de la cuota de producción o por proporcionar información falsa. Continuó en 2004 una serie de actividades de asistencia técnica iniciadas en 2003, incluidas las campañas de sensibilización del público, capacitación de comerciantes de CFC y de funcionarios de aduanas y establecimiento de un sistema de gestión de la información.

22. El objetivo de 2005 de un nivel máximo de producción admisible de 5 262 toneladas se aplicará mediante una cuota de producción de CFC obligatoria introducida en enero de 2004 y el control de la importación de CTC. La planta industrial desea completar la cuota a mediados del año y conmutar a la producción de HCFC después de eso. En base a la relación de consumo de CTC a la producción de CFC-11 y de CFC-12, el Gobierno de México autorizará una máxima cuota de importación de CTC de 9 300 toneladas en 2005. Del total de 4,0 millones $EUA que se solicitan para 2005, se desembolsará una suma de 3,81 millones $EUA a Quimobasicos para mantener la cuota de producción y el saldo de 0,19 millones $EUA se asignará a actividades de asistencia técnica. En el programa se proponen una serie de actividades de asistencia técnica incluidos el establecimiento de un sistema de gestión de la información de SAO y actividades que asistirían en la aplicación del plan nacional de eliminación de CFC. El programa de trabajo de 2005 concluye con un calendario y costos estimados de las actividades de asistencia técnica para 2005 y 2006.

Comentarios

23. En el programa de trabajo para 2005 se propone que 5 262 toneladas sea la producción máxima admisible de CFC en México, que es la cuota remanente de las 22 000 toneladas para la duración de 3 años de 2003-05 después de deducida la producción real en 2003 y 2004.

24. Se señaló que el Gobierno de México está planificando nuevas medidas de política para 2005 que incluyen la prohibición gradual de CFC en todos los sectores, la prohibición del equipo que contiene CFC y la prohibición de importaciones de CFC. Las iniciativas facilitarían el proyecto de cierre de producción de CFC así como el programa nacional de eliminación de CFC que está también en vías de ejecución.

25. Se realizó la verificación de la producción de CFC en 2004 en Quimobasico de conformidad con las directrices del Comité Ejecutivo sobre verificación de la eliminación de producción de SAO e incluye una descripción razonable de la metodología y la documentación examinada para confirmar el logro de los objetivos de reducción anual de la producción. La verificación actual cumplía también con la decisión del Comité Ejecutivo al aprobar el programa anual para 2004 y se incluía un consultor financiero en el equipo de auditoría.

26. De conformidad con la práctica de presentar los informes de verificación de la eliminación de la producción de CFC, la Secretaría incluye sólo los datos agregados y no los anexos ni los datos mensuales de producción, ni el consumo de materia prima. Sin embargo, pueden disponer de los anexos y de los datos mensuales los miembros del Comité Ejecutivo que los soliciten.

Recomendaciones

27. La Secretaría recomienda que teniendo en cuenta la verificación satisfactoria indicando que con el programa de cierre de la producción de CFC de México se había logrado el objetivo de reducción de producción de CFC en 2004 según lo establecido en el Acuerdo, el Comité Ejecutivo pudiera aprobar el programa de trabajo para 2005 del Acuerdo de eliminación de la producción de CFC en México por un valor de 4,0 millones $EUA y de 300 000 $EUA como costos de apoyo para la 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

TABLE OF CONTENTS

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