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COMITÉ EJECUTIVO DEL FONDO MULTILATERAL
PARA LA APLICACIÓN DEL
PROTOCOLO DE MONTREAL
Trigésima novena Reunión
Montreal, 2 al 4 de abril de 2003

PROPUESTA DE PROYECTO: CHINA

Este documento consta de los comentarios y recomendaciones de la Secretaría del Fondo sobre la siguiente propuesta de proyecto:

Otros

- Plan sectorial de tabaco: programa de trabajo anual para 2003 — ONUDI

Agente de procesos

- Plan sectorial de eliminación de SAO en aplicaciones de agentes de procesos químicos y producción de tetracloruro de carbono en China: programa anual para 2003 — Banco Mundial

Producción

- Sector de producción de CFC: programa anual para 2003 — Banco Mundial

PLAN SECTORIAL DE TABACO: PROGRAMA DE TRABAJO ANUAL PARA 2003

DESCRIPCIÓN DEL PROYECTO

Informe de ejecución 2002 y plan de trabajo 2003 como parte del plan sectorial de tabaco para eliminación de CFC-11 en China (segunda partida)

Antecedentes

1. En su 32ª Reunión, se aprobó un acuerdo concertado entre el Gobierno de China y el Comité Ejecutivo para la ejecución del plan sectorial de tabaco en la eliminación de CFC-11 de China (plan sectorial) y se asignó una suma de $ EUA 2 millones a la ONUDI para la ejecución del programa de trabajo para 2001. Se pidió también a la ONUDI que informara a una futura reunión del Comité Ejecutivo acerca del uso de los fondos asignados como costos de apoyo lo cual sería nuevamente examinado en un plazo de dos años (Decisión 32/69).

2. En su 36ª Reunión, el Comité Ejecutivo aprobó una suma de $ EUA 2 millones para la ONUDI como segunda partida de la ejecución del plan sectorial de tabaco para eliminación de CFC-11 en China y pidió a la ONUDI que informara sobre el uso de los fondos asignados como costos de apoyo junto con el programa de trabajo para el año 2003 (Decisión 36/46).

3. El Gobierno de China ha sometido a la consideración del Comité Ejecutivo en su 39ª Reunión, un informe sobre la marcha de las actividades en la ejecución del programa de trabajo para 2002 junto con una solicitud por una suma de $ EUA 2 millones para la ejecución del programa de trabajo anual correspondiente al año 2003.

Informe sobre la marcha de las actividades de ejecución del programa de trabajo para 2002

4. Al principio de 2002, las cuotas de consumo de CFC-11 fueron determinadas para cada empresa, de conformidad con una cuota de consumo total para 2002 en el sector del tabaco y la producción anual de la empresa. Al cierre de diciembre de 2002, de conformidad con las estadísticas mensuales de consumo de CFC-11 notificadas por las empresas, el consumo total de CFC-11 fue de 796 toneladas, 84 toneladas menos que el nivel de consumo de CFC-11 establecido en el plan sectorial.

5. Se invitó a las empresas admisibles de expansión de tabaco a eliminar su cuota del CFC-11 para 2002 mediante un sistema de licitación pública. La licitación tuvo lugar en marzo de 2002; se presentaron a licitación quince empresas que deseaban desmantelar su equipo CFC-11 (se informó plenamente a la ONUDI acerca del proceso de licitación y se han examinado todos los documentos correspondientes).

6. En marzo de 2002, la Administración de Monopolio del Tabaco Estatal (STMA) y la Administración Estatal de Protección del Medio Ambiente (SEPA) examinaron las licitaciones y seleccionaron a las diez siguientes compañías para desmantelar su equipo de expansión de tabaco a base de CFC-11 (se firmaron los contratos con estas empresas en mayo de 2002):

Plan sectorial Núm.	Nombre de la empresa	Equipo		Consumo de CFC-11 (toneladas)
		Unidades de expansión	Fecha instalada	
7	Kaifeng Cigarette Factory	1	Agosto 1992	5.3
21	Wuhan Tobacco Group Co., Ltd.	1	Abril 1992	0.3
25	Guangshui Cigarette Factory	1	Junio 1992	6.8
27	Xiangfan Cigarette Factory	1	Marzo 1992	0.2
32	Bangpu Cigarette Factory	1	Dic 1992	0.4
35	Longyan Cigarette Factory	2	Sep 1992, Abr 1995	66.8
37	Zhangjiakou Cigarette Factory	1	Junio 1991	12.5
38	Huaiyin Cigarette Factory	1	Dic 1990	3.3
39	Xuzhou Cigarette Factory	1	Enero 1991	12.9
52	Hangzhou Cigarette Factory	1	Agosto 1990	11.4
Total		11		119.9

7. Se proporcionó asistencia técnica a las empresas para mejorar la gestión técnica de su programa actual de expansión de tabaco a base de CFC-11; cuyo resultado fue una reducción adicional del consumo de CFC-11 de 84 toneladas.

8. Por consiguiente, la ejecución del programa de trabajo para 2002 llevó a la eliminación de 200 toneladas de CFC-11.

9. Se emprendieron en 2002 las siguientes actividades de asistencia técnica:

a) Continuación del estudio para el establecimiento de un mecanismo de gestión del comercio (esta actividad se inició en 2001). Una vez completado el estudio, STMA expedirá una prohibición de importación y/o exportación de tabaco expandido con CFC-11 y/o cigarrillos que utilizan tabaco expandido a base de CFC;

b) El estudio de la optimización del transporte de tabaco expandido por ferrocarril y por carretera con la participación de expertos y técnicos de empresas de expansión de tabaco en base a los datos recopilados, se propusieron cambios en los procedimientos de embalaje y transporte;

c) El estudio de 58 empresas implicadas en el proceso de expansión del tabaco a base de CFC-11 para analizar las ventajas e inconvenientes de los distintos enfoques y para proponer el enfoque de mejor relación de costo a eficacia para expansión del tabaco;

d) La asistencia técnica para atender a asuntos relacionados con un consumo superior de CFC-11 por comparación con los niveles normales en las siguientes siete empresas: Shijiazhuang, Fuyang, Lanzhou, Zhumadian, Zhangjiakou, Zhanjiang, y Sanxia. Basado en el trabajo realizado por los expertos y en la experiencia adquirida en 2001, la producción de tabaco expandido por unidad de CFC-11 utilizado aumentó en estas empresas. Subsiguientemente se introdujeron modificaciones al “Manual de equipo de expansión de tabaco con CFC-11” que fue preparado en 2001 y se distribuirá entre las empresas de tabaco.

10. Además, el proceso del equipo a base de CFC que fue desmantelado en 2002 había sido adecuadamente anotado con notario y registrado (se tomaron cintas vídeo y fotografías). Respecto a cada pieza de equipo desmantelado, estaban en el emplazamiento para supervisión representantes del grupo de trabajo especial para el plan sectorial de tabaco, oficina de cooperación económica extranjera del SEPA, oficiales provinciales del STMA, Dirección de protección del medio ambiente local y Oficina notarial local. En muchas ocasiones estuvieron también presentes los expertos de la ONUDI.

Informe sobre el uso de la financiación asignada a costos de apoyo

11. En virtud de la Decisión 32/69 en la que, entre otros elementos, se pedía a la ONUDI que informara a una futura reunión sobre el uso de los fondos asignados a costos de apoyo, que sería examinado nuevamente en un plazo de dos años, la ONUDI presentó un informe sobre el uso de los costos de apoyo al plan sectorial de tabaco para eliminación de CFC-11 en China a fin de que fuera considerado por el Comité Ejecutivo en su 39ª Reunión. Se adjunta al presente documento este informe.

Programa de trabajo anual para 2003

12. Las actividades principales por ejecutar en el programa de trabajo para 2003 son:

a) Expedición de nuevas cuotas de CFC-11 por parte del Gobierno de China para un consumo total de 700 toneladas de CFC en 2003 (las empresas deben cumplir con las cuotas de consumo establecidas o recibirán sanciones mediante una cuota reducida en 2004). Se invitó a las restantes 31 empresas calificadas a presentar sus cuotas mediante un mecanismo de licitación pública. Se abrirá la licitación en abril de 2003;

b) El estudio de las especificaciones técnicas y del control de calidad del tabaco expandido producido mediante tecnologías de alternativa sin CFC-11. En la actualidad, varias empresas han instalado equipo de expansión de tabaco mediante CO_2 y/o secado neumático con agua caliente; sin embargo, no hay ninguna norma técnica establecida para la producción de tabaco expandido mediante estas alternativas. Por consiguiente, en el estudio se propone establecer un conjunto de especificaciones técnicas para el tabaco expandido que facilitará la conversión de las empresas restantes que están todavía utilizando CFC-11;

c) La evaluación de la tecnología de expansión por secado neumático a alta temperatura para la expansión de tabaco a fin de asegurarse de su viabilidad y rentabilidad como tecnología de sustitución para la expansión del tabaco a base de CFC;

d) Evaluación de la recientemente instalada unidad de expansión de tabaco a base de CO_2 en Xuzhou, con una capacidad de producción de 1 140 kg/hr;

e) Programas de información, divulgación, toma de conciencia y capacitación, incluidos cursos de capacitación para personal del SEPA y STMA en gestión y

ejecución de proyectos; capacitación en el puesto de trabajo sobre el uso de tecnologías de expansión por secado neumático a alta temperatura; reuniones con representantes de las fábricas de cigarrillos sobre otorgamiento de licencias y ajustes de las cuotas de consumo de CFC-11; cursos sobre desmantelamiento del equipo a base de CFC para empresas que ganaron el proceso de licitación en 2003).

13. En la tabla siguiente se indican las actividades por ejecutar en 2003 y los resultados propuestos:

Blanco de eliminación deCFC-11			
Consumo a principio de 2003 (toneladas PAO)	Blanco de eliminación en 2003 (toneladas PAO)	Consumo al cierre de 2003 (toneladas PAO)	Resultados
796	180	616	180 toneladas de CFC-11 eliminadas
Imposición de la política			
Medidas de política		Resultados	
Otorgamiento de licencias para cuotas de CFC-11 en 2003		Expedición e imposición de las cuotas (diciembre de 2003)	
Actividades a nivel de empresa			
Actividad	Resultados		
Cierre del equipo de expansión a base de CFC-11 (53 líneas de producción)	1. Proceso de licitación para seleccionar las líneas de producción por cerrar completadas. 2. Contratos firmados (mayo de 2003). 3. Desmantelamiento realizado de las líneas de producción. 4. Informes sobre procesos de desmantelamiento y presentación de terminación de proyecto.		
Actividades de asistencia técnica			
Actividad	Resultados		
Información, toma de conciencia y capacitación	Capacitación y textos publicitarios al mes de diciembre de 2003.		
Estudio de especificación técnica del tabaco ampliado producido mediante tecnologías sin CFC-11	Presentación de un estudio al mes de diciembre de 2003.		
Evaluación de la tecnología de expansión por secado neumático a alta temperatura	Presentación de un informe de evaluación al mes de diciembre de 2003.		
Viabilidad de proporcionar tabaco expandido a partir del centro reciente de expansión a base de CO_2	Presentación de un estudio al mes de diciembre de 2003.		

COMENTARIOS Y RECOMENDACIONES DE LA SECRETARÍA

COMENTARIOS

14. La Secretaría examinó el informe sobre la marcha de las actividades de ejecución del programa de trabajo para 2002, presentado por la ONUDI, comparándolo con el acuerdo entre el Gobierno de China y el Comité Ejecutivo y sobre la estrategia de eliminación en el sector del tabaco. La Secretaría tomó nota de que mediante las actividades ejecutadas en 2002, el consumo de CFC-11 para expansión del tabaco había disminuido en 200 toneladas PAO, 84 toneladas PAO más que la cantidad convenida.

15. La Secretaría tomó también nota de la ejecución de actividades de asistencia técnica realizadas en 2002, en particular, la asistencia proporcionada a las empresas para mejorar las operaciones actuales de expansión a base de CFC-11 que contribuyeron a una reducción adicional de 84 toneladas de consumo de CFC-11.

16. En relación con el programa de trabajo para 2003, la Secretaría tomó nota de que el blanco de eliminación de CFC-11 de 180 toneladas PAO estaba en consonancia con el acuerdo.

17. La Secretaría pidió una aclaración relativa a las cuotas de producción y a la fecha de cierre de siete empresas establecidas después de julio de 1995 y que, por consiguiente, no eran admisibles para ser financiadas por el Fondo Multilateral. ONUDI informó que el Gobierno de China se había comprometido a desmantelar todo el equipo a base de CFC-11 en empresas no admisibles en el momento de la puesta en servicio de los nuevos sistemas de expansión sin CFC, también se habían expedido cuotas de consumo para estas empresas. Ha de señalarse que el total de consumo de CFC-11 en el plan sectorial incluye el consumo de todas las empresas.

RECOMENDACIÓN

18. El Comité Ejecutivo pudiera considerar la aprobación del programa de trabajo para 2003 del Plan sectorial de tabaco para eliminación de CFC-11 en China y asignar una suma de $ EUA 2 millones para su ejecución, y de $ EUA 150 000 por concepto de costos de apoyo del organismo, calculados en base al nuevo régimen administrativo adoptado por el Comité Ejecutivo en su 38ª Reunión (Decisión 38/68).

Anexo: Informe sobre el uso de la financiación asignada a costos de apoyo en la forma presentada por la ONUDI

1. Conforme a la Decisión 32/69 (UNEP/Ozl. Pro/ExCom/32/44) se pidió a la ONUDI que "informara a una futura reunión del Comité Ejecutivo sobre el uso del finaciamento asignado a los costos de apoyo, que serían revisado en dos años".

2. Para la ejecución del proyecto mencionado, se asignaron el 9% del total de la suma aprobada como costos de apoyo del organismo según el programa de pagos anuales al programa convenidos en el Anexo XIII (UNEP/Ozl. Pro/ExCom/32/44): desde 2001 a 2003 $EUA 2,0 millones al año, 2004 $EUA 1,8 millones, 2005 $EUA 1,7 millones y 2006 $EUA 1,5 millones.

3. El servicio financiero de la ONUDI ha examinado los costos de apoyo relacionados con la ejecución del proyecto.

4. En la tabla adjunta se indican los costos reales de apoyo para los años 2001 y 2002. Se utilizan los costos de apoyo para cinco rubros principales: i) costos directos de coordinación; ii) costos directos de personal de ejecución; iii) apoyo a adquisiciones y contratos; iv) servicios centrales de apoyo y v) costos de misión.

EL USO ESTIMADO DE LA FINANCIACIÓN ASIGNADA A COSTOS DE APOYO (MPCPR00165)

		2001	2002	Total
1	**Costos directos de la dependencia de coordinación incluso:**	**2,000**	**2,000**	**4,000**
	Gestión	1,500	1,500	
	Asistente de programa	500	500	
2	**Costo directo del personal de ejecución, en la dependencia del Protocolo de Montreal de la ONUDI**			
		39,853	**39,853**	**79,706**
	Administrador de programar			
	a. Examen de TOR, lista de empresas etc.	9,000	9,000	
	b. Viajes para supervisión del proyecto y arreglo de talleres de sensibilización	25,573	25,573	
	c. Evaluación nacional y tareas administrativas	3,780	3,780	
	Secretaria	1,500	1,500	
3	**Compras y contratos**	**7,300**	**7,300**	**14,600**
	Oficial de contrato	6,300	6,300	
	Secretaria	1,000	1,000	
4	**Asignación de servicios centrales de apoyo**	**12,700**	**12,700**	**25,400**
	Servicios de personal	2,700	2,700	
	Servicios financieros	9,000	9,000	
	Servicios generales, incluidos los costos de comunicaciones	1,000	1,000	
5	**Asignación de costos de misión**	**120,000**	**120,000**	**240,000**
	SEPA	60,000	60,000	
	Consultor de misión ONUDI	60,000	60,000	
	TOTAL	**181,853**	**181,853**	**363,706**

PLAN SECTORIAL PARA ELIMINACIÓN DE SAO EN APLICACIONES DE AGENTES DE PROCESOS QUÍMICOS Y PRODUCCIÓN DE TETRACLORURO DE CARBONO EN CHINA: PROGRAMA ANUAL PARA 2003

DESCRIPCIÓN DEL PROYECTO

Antecedentes

19. En su 38ª Reunión de noviembre de 2002, el Comité Ejecutivo aprobó el acuerdo con la República Popular de China para eliminar la producción y consumo de CFC y el consumo de CFC-113 (fase I) al nivel de financiación de $EUA 65 millones. La ejecución de este acuerdo por parte de China permitirá cumplir con el calendario de eliminación del Protocolo de Montreal para la producción y consumo de CTC. En la Tabla 2 del acuerdo se resumen el calendario de eliminación y de desembolsos que se reproduce a continuación:

Producción y consumo admisible de CTC en virtud de este acuerdo (toneladas PAO)

		Línea de base[1/]	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
1.	Suma máx. admisible de producción e importaciones de CTC	86,280	64,152	64,152	61,514	54,857	38,686	32,044	26,457	23,583	17,592	11,990
2.	Materia prima CTC	N/A	55,319	45,400	45,333	39,306	28,446	21,276	15,129	11,662	5,042	-
3.	Consumo máx. admisible de CTC para otras aplicaciones PA[2/]	N/A	N/A	7,389	7,832	8,302	8,800	9,328	9,888	10,481	11,110	11,997
4.	Consumo máx. admisible de CTC en aplicaciones PA del Apéndice 1	3,825	4,347	5,049	5,049	5,049	493	493	493	493	493	220
5.	Otros usos no identificados	N/A	N/A	6,314	3,300	2,200	947	947	947	947	947	-
6.	Consumo máx. admisible de CFC-113 en el sector PA	17.2	17.2	17.2	17.2	14	14	10.8	8.4	0	0	0
7.	**APOYO DEL FONDO MULTILATERAL (en millares de $EUA)**											**Total $**
8.	Financiación del MLF			2,000	20,000[3/]	16,000[3/]	2,000[3/]	16,000[3/]	5,000[3/]	3,000[3/]	1,000[3/]	65,000
9.	Costos de apoyo del organismo			150	1,500	1,200	150	1,200	375	225	75	4,875

[1/] La línea de base incluye el promedio de consumo de CTC del período 1998-2000.
[2/] Aplicaciones en el Apéndice IV.
[3/] Sujeto a consideración del calendario de desembolso en la 39ª Reunión del Comité Ejecutivo.

Presentación del Banco Mundial

20. El programa anual propuesto para 2003 (adjunto) cubre tanto la eliminación del consumo y de producción de CTC en el año del plan, aunque el plan para el sector de producción está programado para ser presentado al Comité Ejecutivo a finales del año después de completada la auditoría técnica del sector de producción de CTC en China. La presentación cubre los blancos por lograr y las actividades del programa por aplicar a niveles de gobierno y de empresas así como la asistencia técnica prevista.

21. El programa anual establece 3 blancos de conformidad con el acuerdo: producción máxima de CTC e importaciones por un valor de 61 514 toneladas PAO (hilera 1 de la Tabla 2); máximo consumo de CTC en el sector de agentes de procesos (5 aplicaciones controladas según el acuerdo) por una suma de 5 049 toneladas PAO (hilera 4 de la Tabla 2); y consumo máximo de CFC-113 en el sector de agentes de proceso por un valor de 17,2 toneladas PAO (hilera 6 de la Tabla 2). Ejecución del plan anual para 2003, se eliminarán, por consiguiente, 2 638 toneladas PAO de la producción de CTC, sin embargo no hay ninguna eliminación de consumo de CTC en el sector de agentes de proceso.

22. Entre las actividades por ejecutar a nivel de gobierno se incluyen el establecimiento de un sistema de cuotas de producción y de consumo de CTC a más tardar el 30 de junio de 2003, y la asignación de una cuota inicial a productores y consumidores; la publicación de una circular prohibiendo nuevas líneas de producción de CTC o ampliación de las existentes y un control de la producción involuntaria de CTC como producto secundario; y establecimiento de un mecanismo de notificación y de verificación para supervisar la aplicación del sistema de cuotas.

23. Entre las actividades a nivel de empresa se incluirán: la expedición de cuotas de producción y consumo de CTC en las empresas para asegurar que no se exceden de los blancos admisibles de producción y de consumo. Se ofrecerán contratos a las empresas que producen caucho clorinado (CR) y parafinas clorinadas (CP), ya sea para el cierre o para conversiones. En cuanto a las empresas que producen poliolefina, clorosulfurada (CSM), Ketotifen y resinas a base de fluoropolimeros (PTTE), los preparativos se iniciarán en 2003 para la eliminación mediante tecnologías de alternativa o controles de emisiones.

24. En virtud del programa de asistencia técnica del año, en el plan anual se prevé ampliar el sistema de información de gestión para que cubra la producción y consumo de CTC; explorar tecnologías de alternativa para CTC en virtud de diversas aplicaciones y capacitar a personas de distintas profesiones, incluidos los auditores, para administrar el programa de eliminación de la producción y consumo de CTC .

25. La presentación contiene dos anexos: el Anexo I es una lista de productores de CTC y el Anexo II incluye información acerca de los usuarios de CTC (agentes de procesos) lo cual incluye un desglose según las aplicaciones de consumo de CTC y de CFC-113 entre 1997-99, número de empresas, lista de empresas admisibles y consumo de CTC por empresas en el período entre 1997-99.

26. El Banco Mundial solicita una suma de $EUA 20 millones para la ejecución del programa de trabajo anual para 2003 y de $EUA 1,5 millones como costos de apoyo del organismo.

COMENTARIOS Y RECOMENDACIÓN DE LA SECRETARÍA

COMENTARIOS

27. La Secretaría remitió sus comentarios sobre la presentación del Banco Mundial y recibió aclaraciones del Banco respecto a sus comentarios. Los comentarios presentados a continuación corresponden a la respuesta del Banco Mundial.

28. Según lo indicado en el párrafo 3 precedente, el programa anual solamente establece tres blancos en el año 2003. Sin embargo, el acuerdo establece también "máximo consumo admisible de CTC para otras aplicaciones de agentes de procesos" (7 832 toneladas PAO), y techo de consumo para materia prima de CTC (45 333 toneladas PAO), y otros usos no identificados (3 300 toneladas PAO). Estos se incluyen en las hileras 3, 2 y 5 de la Tabla 2 del acuerdo.

29. El Banco Mundial arguyó que el acuerdo reflejaba lo que pudiera supervisarse y que era imposible en esta etapa supervisar y verificar el consumo para "otras aplicaciones" en la hilera 3 y "otros usos no identificados" en la hilera 5. El Banco indicó también que la hilera 1 de la Tabla 2 establece el límite general de suministro de CTC, sugiriendo que esto proporcionaría un control adecuado para el consumo de CTC en China.

30. La Secretaría opina que estas tres hileras del acuerdo son techos de consumo que China no debería exceder y que, por consiguiente, representarían parte de los compromisos que China ha asumido concertando el acuerdo con el Comité Ejecutivo. A pesar de la importancia del límite de suministro general previsto en la hilera 1, el consumo en las hileras 3 y 5 no debería permitirse que fluctúe libremente dentro del límite establecido puesto que el acuerdo establece un límite de crecimiento anual del 6% en la hilera 3 para otras aplicaciones PA e insta a una reducción significativa en 2003 en la hilera 5 (3 014 toneladas PAO) en otros usos no identificados.

<u>Información inadecuada sobre el programa de actividades para 2003</u>

31. En el programa anual de 2003 no se incluyen detalles adecuados sobre las actividades por ejecutar durante el año. En primer lugar, la preparación del plan sectorial de producción de CTC se completará hacia fines del año después de completada la auditoría técnica de producción de CTC. En segundo lugar, las tecnologías de alternativa para algunas de las aplicaciones de PA están todavía en estudio por parte del Gobierno de China. Sin embargo, es importante prever en los programas anuales futuros un plan detallado de acción creíble por ejecutar en el año del plan lo cual debería:

a) establecer claramente las medidas particulares por desarrollar durante el año e indicar el uso actual para el cual se establecerá la financiación solicitada;

b) proporcionar un elevado nivel de confianza de que las medidas permitirán satisfacer los blancos requeridos;

c) permitir los blancos de consumo, el progreso con las actividades designadas y los gastos de los fondos de aquí en adelante por supervisar y verificar, según corresponda.

Indicadores para supervisión y verificación

32. Mediante cualquier medida, el plan sectorial es un programa difícil de aplicar y de supervisar, en primer lugar abarca tanto el consumo como la producción de CTC, en segundo lugar la eliminación del consumo de CTC implicaría una serie de opciones técnicas algunas de las cuales son un reto en cuanto a la supervisión, tales como la atenuación de las emisiones. El Banco Mundial se compromete como parte de su responsabilidad a título de organismo de ejecución en el Apéndice I del acuerdo a "asegurar que los desembolsos entregados a China se basan en el uso de los indicadores".

33. En la presentación no se proporciona un análisis de la supervisión del programa que debería incluir los indicadores que el Banco desea utilizar para supervisar y verificar tanto la eliminación de la producción como del consumo de CTC. Estos indicadores constituyen una parte esencial del programa anual que proporciona una medida transparente y creíble del éxito del plan sectorial y, por consiguiente, para la financiación continua del plan año tras año.

34. Respecto al programa detallado de actividades para 2003 y a los indicadores de desempeño, el Banco Mundial informó que estaba colaborando con el Gobierno de China acerca de tales elementos y preveía presentar un plan sectorial en julio del año en curso.

Distribución de las partidas de financiación anuales

35. En la Decisión 38/60 por la que se aprobó el acuerdo con China se pedía al Comité Ejecutivo que considerara en su 39ª Reunión la distribución de las partidas de financiación anuales para el proyecto. En consonancia con la decisión, el Comité Ejecutivo pudiera tener en cuenta que la financiación total que China recibirá durante 2003 a 2005 representará el 62 por ciento de los fondos totales aprobados en principio para el acuerdo. Sin embargo, se prevé que China elimine el 85 por ciento de la producción y consumo de CTC al mes de enero de 2005 a fin de lograr el cumplimiento.

RECOMENDACIONES

36. La Secretaría recomienda que el Comité Ejecutivo pudiera considerar:

a) Aprobar el programa anual para 2003 respecto a la producción y consumo de CTC al nivel de financiación solicitada de $EUA 20 millones y de $EUA 1,5 millones por concepto de costos de apoyo del Banco Mundial.

b) Pedir a la Secretaría y al Banco Mundial que junto con el Gobierno de China propongan a la 40ª. Reunión del Comité Ejecutivo un sistema de supervisión y ejecución del acuerdo.

c) Pedir al Banco Mundial que proporcione en sus programas de trabajo anuales futuros suficiente información acerca de los blancos y actividades previstos a fin de:

i) establecer claramente las medidas particulares por realizar durante el año e indicar el uso real para el cual se solicita la financiación;

ii) proporcionar un elevado nivel de confianza de que estas medidas permitirán satisfacer los blancos requeridos; y

iii) facilitar los blancos de consumo, el progreso en relación con las actividades designadas y los gastos de los fondos que han de ser supervisados y verificados, según corresponda.

SECTOR DE PRODUCCIÓN DE CFC: PROGRAMA ANUAL PARA 2003

DESCRIPCIÓN DEL PROYECTO

37. De conformidad con el arreglo en virtud del Acuerdo sobre el Plan sectorial de producción de CFC de China, el Banco Mundial sometió el programa anual para 2003 de la eliminación del sector de producción de CFC en China a la consideración de la 38ª Reunión en noviembre de 2002 y el Comité Ejecutivo decidió "aprobar el programa de trabajo para 2003 como parte del programa de cierre de la producción de CFC en China y retirar los fondos solicitados hasta que el Banco Mundial haya sometido a la consideración de la 39ª Reunión un informe satisfactorio de verificación sobre la ejecución del programa anual para 2002" (Decisión 38/44).

38. Según lo solicitado, el Banco Mundial somete a la consideración de la 39ª Reunión el informe de verificación sobre la ejecución del programa de eliminación de la producción de CFC en China para 2002 (adjuntado sin la parte de datos), en el que se incluye la verificación de 7 plantas de producción que estaban produciendo en virtud del sistema de cuotas del programa anual para 2002 (señalados por números del informe de auditoría SRIC A8, A10, A13, A14, B8, B12, y B14).

39. El informe comprende 4 partes. La Parte 1 es un resumen de las conclusiones principales acerca de parámetros tales como la producción total, el consumo general como materia prima y una evaluación general sobre el logro del blanco en el plan anual para 2002. La Parte 2 es una descripción, planta por planta, del proceso de verificación y análisis de las conclusiones. Empieza con una evaluación del seguimiento que había sido realizado por la planta industrial sobre las mejoras propuestas en la última auditoría, continúa con comentarios sobre la calidad de mantenimiento de registros y se analizan los detalles de la metodología y los registros utilizados para verificar la producción de CFC y el consumo como materia prima. La Parte 2 concluye con la identificación de las cuestiones y con las conclusiones.

40. En la Parte 3 se presentan las conclusiones en el formato aprobado por el Comité Ejecutivo y se refiere a los datos de capacidad de producción, mezcla de productos, cuotas de producción y producción real de CFC, relación de consumo como materia prima y consumo actual y días de funcionamiento. Por último en la Parte 4 se incluye una auditoría financiera de las plantas industriales como esfuerzo para confirmar los resultados de la auditoría material de la planta industrial.

41. En la evaluación general de la verificación se indica que China cumplió con el blanco anual establecido en el acuerdo para el año 2002, con una producción total real de 32 898,5 toneladas PAO que quizás equivalen a lo establecido en el acuerdo de 32 900 toneladas PAO. Con el informe de verificación, el Banco mundial solicita la entrega de $ EUA 13 millones para el programa de 2003 y el correspondiente costo de apoyo de $ EUA 975 000, a una tasa del 7,5 por ciento del nivel de financiación del programa anual para 2003.

42. En respuesta a la solicitud del Comité Ejecutivo de "proporcionar información sobre la vigilancia financiera ejercida del programa de asistencia técnica, especialmente la frecuencia de

notificación financiera y la institución que realizó la auditoría", el Banco Mundial proporcionó la siguiente información:

Supervisión del Banco Mundial

- Todas las actividades de asistencia técnica (TA) propuestas en un programa anual se iniciarían durante el año. Las propuestas adicionales pueden incluirse si así lo decide China.

- Todas las propuestas de asistencia técnica requieren la aprobación de las atribuciones por parte del Banco.

- Se recibieron del Banco trimestralmente los informes sobre la marcha de las actividades.

- La adquisición por parte del Banco Mundial y las transacciones para estudio de especialistas financieros por lo menos una vez al año. Esto se realiza de modo representativo pero cuando el número de transacciones es pequeño, se incluyen en el examen todos los contratos. El especialista en adquisiciones examina el proceso de designación de consultores y el especialista financiero se concentra en la uniformidad de las declaraciones de gastos.

Auditorías nacionales

43. La Oficina de Auditoría Nacional de China (CNAC) ha sido designada por el Gobierno de China y por el Banco Mundial como institución nacional para realizar las auditorías, incluido el componente de asistencia técnica y se ejecutan las auditorías una vez al año en el primer semestre del año. Se presenta un informe de auditoría de la CNAC al Banco Mundial a más tardar el 30 de junio.

COMENTARIOS Y RECOMENDACIONES DE LA SECRETARÍA

COMENTARIOS

La evaluación general de la verificación para 2002 atendiendo a las directrices de verificación para la eliminación de la producción de SAO

44. La verificación de la ejecución del programa de trabajo para 2002 se conforma a las mismas directrices y metodología aplicadas en el ejercicio de verificación para 2001 y prevé un debate pleno de las cuestiones señaladas durante la verificación anterior y un seguimiento año por año sobre aquellas cuestiones, para asegurar la mejora. Se presentan los resultados de la evaluación de conformidad con los formatos aprobados y con el apoyo de documentación adecuada que permite seguir la pista y convalidar la producción de CFC y el consumo como materia prima.

Cuestiones relacionadas con el cumplimiento de las cuotas de producción

45. En sus comentarios sobre el informe de verificación de la producción de CFC para 2001, la Secretaría se hizo eco de las inquietudes del equipo de verificación acerca del margen estrecho entre la producción notificada por algunos productores y sus cuotas asignadas. Se informó acerca de inquietudes similares por parte del equipo respecto a la verificación de 2002 a pesar del hecho de que SEPA había instaurado un sistema de inspección sobre el terreno por parte de productores colegas en las plantas industriales remanentes. Por ejemplo, Jiangsu Changsu 3F Refrigerant Co. Ltd. informó acerca de la producción de 3034,74 TM de CFC-12 por comparación con una cuota de 3 035 TM. Sin embargo, la empresa tenía un depósito en proceso aproximado de 60 TM de CFC-12 y pudiera no presentar al equipo de verificación los niveles de inicio y terminación para estos depósitos después de que aludió que la producción para 2002 estaba dentro de un margen de 0,26 TM de su cuota. El equipo de verificación solicitó que la empresa debería conservar las lecturas de recibo del proceso y de depósitos del proceso para el principio y el fin de cada año de producción y certificar que estos datos eran fidedignos. El equipo recomendó también que cesara la producción de unas pocas toneladas menos que la cuota oficial para suprimir la sospecha respecto a los datos notificados.

46. La Secretaría, de conformidad con la información que proporcionó al Comité Ejecutivo en su 36ª Reunión, no ha incluido los datos que forman parte del informe de verificación presentado a la 39ª reunión. Sin podrían disponer de los datos los miembros del Comité que lo solicitaran.

RECOMENDACIONES

47. La Secretaría recomienda que el Comité Ejecutivo entregue al Banco Mundial la suma de $ EUA 13 millones para la ejecución del programa de trabajo para 2003 del programa de eliminación de la producción de CFC en China así como la suma de $ EUA 975 000 por concepto de costos de apoyo del Banco Mundial.

Sector Plan for Phaseout of ODS in Phase One of Chemical Process Agent Applications and Carbon Tetrachloride Production in China

2003 ANNUAL PROGRAM

March 7, 2003

Data Sheet

Country	China
Year of plan	2003
# of years completed	0
# of years remaining under the plan	7
Target ODS consumption of the preceding year	0
Target ODS consumption of the year of plan	0
Target ODS Production of the year of plan	2,638 ODP Tons CTC
Level of funding requested	$20 million

National Implementing operating agency	State Environment Protection Administration
International implementing agency	The World Bank

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2003 ANNUAL PROGRAM FOR SECTOR PLAN FOR PHASEOUT OF ODS IN CHEMICAL PROCESS AGENT APPLICATIONS AND CARBON TETRACHLORIDE PRODUCTION IN CHINA

Introduction

1. At its 38th meeting, the ExCom approved funding of $65 million for the first phase of China's Process Agents sector and CTC production sector plans. US$2 million was provided at approval, and an amount of US$20 million has been allocated for 2003; this is expected to be reviewed and approved at the first meeting of the ExCom in March 2003.

2. This first Annual Program covers activities in both sectors in 2003, applying the funding received in both 2002 and 2003. The CTC Production Sector Plan is proposed to be submitted to the last ExCom meeting of 2003. Phaseout activities will start immediately after provision of funding following approval of the Annual Program.

Annual Phaseout Targets and Funding Level

3. ***Phaseout obligations.*** The agreed phaseout targets and corresponding funding for this phase of the PA and CTC Production sectors is as follows:

Table 1: Allowable CTC Production, ODS Consumption in P.A. and Agreed funding

	ODP Tons			US$ million
Year	Maximum allowable sum of production and imports of CTC	Maximum allowable CTC consumption in PA Sector (25 applications)	Maximum allowable CFC-113 consumption in the PA Sector (25 applications)	Agreed funding
Baseline/1	86,280	3,825	17.2	
2002	64,152	5,049	17.2	2
2003	61,514	5,049	17.2	20
2004	54,857	5,049	14	16
2005	38,686	493	14	2
2006	32,044	493	10.8	16
2007	26,457	493	8.4	5
2008	23,583	493	0	3
2009	17,592	493	0	1
2010	11,990	220	0	
			Total :	65

/1: For consumption, average of 1998-2000; for CTC Production, 2000 data)

4. Accordingly, the targets for the 2003 Annual Program are as follows:

   a) Total CTC production and imports will not exceed 61,514 ODP Tons (55,921.8 MT)

   b) Total CTC consumption in the PA sector (25 applications) will not exceed 5,049 ODP Tons (4,590 MT); and

c) Total CFC-113 consumption in the PA sector (25 applications) will not exceed 17.2 ODP Tons (21.5 MT).

Activities to be covered in the 2003 annual program

5. The implementation modalities for Annual Programs are contained in the Sector Plan document. The Process Agents Sector Plan has already been finalized, and the CTC Production Sector Plan will be prepared in 2003. However, the required activities for meeting the 2003 targets for CTC production are included in this Annual Program. This Program will support the following activities, which are further described in the sections that follow:

(a) Establishment of CTC production quota systems;
(b) Issue of CTC production quotas;
(c) Establishment of consumption quota system for the PA Sector;
(d) Issue of CTC and CFC-113 consumption quotas to PA (25 applications) enterprises;
(e) Initial steps for introducing substitute technologies for manufacture of CR and CP-70, and
(f) Technical assistance activities.

Programmed Activities During the Year

6. ***Policy actions.*** The following policy measures will be initiated by the Government. These actions are necessary to implement of the annual program and for the success of the sector plan.

(a) Quota system for CTC production: A system to limit production of CTC will be established immediately (not later than June 30,2003) ahead of preparation of the CTC Production Sector Plan. Annual reporting will be required from the producers. A draft regulation establishing this quota system will be prepared and reviewed with the World Bank and will be promulgated as soon as possible. Following promulgation, production quotas will be issued to CTC producers to ensure that total production in 2003 does not exceed the allowed maximum. As imports of CTC have already been banned from April 1, 2000, there will be no imports of CTC.
(b) A circular banning establishment of new CTC production lines and expansion of existing CTC production lines will be issued and declared effective not later than June 30, 2003. This circular will also impose controls on any involuntary production of CTC produced as a by-product in other processes.
(c) Quota system for ODS consumption in PA: For enterprises using ODS in 1999, consumption quotas will be assigned based on those consumption levels. A draft regulation establishing this quota system will be prepared and reviewed with the World Bank and will be promulgated as soon as possible (not later than June 30, 2003). Following promulgation, consumption quotas will be issued to the enterprise to limit consumption of CTC/CFC-113 as applicable, to ensure that total consumption in 2003 does not exceed the allowed maximum.
(d) Annual reporting and verification: Annual verification of production and consumption has to be conducted. The quota regulation will therefore include a requirement for regular reporting for verification. The enterprises will be required to report the status of implementation of contracted phaseout quarterly. Monitoring and supervision of

implementation of the annual program activities will be taken up by SEPA and the World Bank.

7. ***Enterprise-level activities.*** There will be four types of activities at the enterprise level: production quotas for CTC producers, and emissions control, conversions, and closures for PA enterprises. All these activities will be based on assignment of quotas.

1. *Production Quotas for CTC producers:* Quotas will be assigned to all producers to ensure that the maximum allowable production limit of 61,514 ODP Tons in 2003 is not exceeded.
2. *Consumption quotas for PA enterprises:* Quotas will be assigned to each of the participating PA enterprises to ensure that the maximum allowable consumption limits of 5,049 ODP Tons of CTC and 17.2 ODP Tons of CFC-113 in 2003 are not exceeded. Enterprises without production in 1999 will be allocated zero quotas.
3. *Phaseout Contracts (CR and CP-70):*
   (a) *Closure:* For enterprises targeted for closure in 2003, contracts will be signed as soon as possible. All the closing production facilities will also be dismantled within the year where applicable. Enterprises who had no production in 1999 (and have 'zero' quota) will all be closed in the year. Some other enterprises may also be closed in the year.
   (b) *Conversion:* Other producers who wish to receive MLF funding for conversion will sign conversion contracts during 2003.
   (c) All remaining enterprises will be required to opt for either closure or conversion in 2004.
4. *Preparation for other options (CSM, Ketotifen and PTFE):* Preparation of activities for substitute technologies and emission control in CSM, Ketotifen and PTFE will be initiated in the year.

8. ***Technical assistance (TA) activities***. TA activities are essential to the success of the phaseout objective. All terms of references and detailed work programs will have to be agreed with the World Bank before implementation. All activities are expected to be completed within two years. 2003 TA activities will include:

a) *Extension of the Management Information System (MIS) to include ODS Phaseout in PA and CTC Production.* The MIS is an important tool in the management and supervision of all phaseout activities. It is used to monitor ODS phaseout and closure activities. It is also the basic instrument to generate progress reports on the implementation of the ODS phaseout required for SEPA management, the ExCom, and the World Bank. This system will be extended to cover the first phase of the PA sector and CTC Sector Plans.

b) *Investigation of substitute technologies.* Substitute technologies have only recently started emerging globally. Due to lack of widespread experience with these technologies, especially in developing country circumstances, it is necessary to investigate and evaluate such substitute technologies, including processes, main equipment, technical transfer and production costs, etc. Following investigations and field surveys, China will choose the most optimal, cost-effective and mature

substitute technologies to meet domestic demands for PA-related products. The 2003 Annual program will provide important support for investigating and developing substitute technologies for CP-70 and CR and PTFE in China. In addition, feasibility studies will also be undertaken on emission control of CSM and Ketotifen.

c) *Investigation of Conversion of CTC to other (non-ODS) Products:* it is necessary to investigate and evaluate technologies to convert CTC to other (non-ODS) substances, including processes, main equipment, technical transfer and production costs, etc. Following investigations and field surveys, after this TA is completed, China expects to propagate the most optimal, cost-effective and mature technologies to willing CTC producers.

d) *Training of personnel involved in implementation of phaseout activities.* To implement the phaseout plan effectively, it is necessary to provide training to: (i) CTC producers; (ii) ODS consumers in the PA Sector; and (iii) auditors. Training is needed to prepare enterprises to bid in the following years, to train government officials to properly supervise ODS PA consumption, and to refine operating procedures of the sector phaseout approach. This type of training will need to be repeated every year in the first few years of implementation.

e) *Other activities.* Other TA activities that are identified in the course of the year will be taken up as necessary.

9. The above targets, policy initiatives, enterprise-level and technical assistance activities are summarized in Tables 2 - 4 below.

Table 2: Targets under 2003 Annual Program

(Lines refer to Decision 38/60, Annex XIII, Table 2 of UNEP/OzL.Pro/ExCom/38/70))

Target I	**Maximum Allowable sum of production and Imports of CTC (line 1)**						
Indicators	Sub-sector	**2002** (Preceding Year)	**2003** (year of Program)	**Reduction**	**Funding** $ million	**Key actions required**	**Key dates**
		(ODP Tons)					
Supply of CTC	Import	0	0			None; imports banned on April 1, 2000	N/A
	Production	64,152	61,514	2,638	t.b.d.	1. Issue of CTC production quotas.	1. By June 30, 2003
	Total - Line 1	64,152	61,514	2,638	t.b.d.		
Target II	**Maximum Allowable CTC Consumption in the PA Sector (line 4)**						
Indicators		**2002** (Preceding Year)	**2003** (year of Program)	**Reduction**	**Funding** $ million		
		(ODP Tons)					

Consump-tion of CTC	Various enterprises	5,049	5,049	0	t.b.d.	1..Issue of CTC consumption quotas.	1. By June 30, 2003
	Total - Line 4	5,049	5,049	0	t.b.d.		
Target III	**Maximum Allowable CFC-113 Consumption in the PA Sector (line 6)**						
Indicators		**2002** (Preceding Year)	**2003** (year of Program)	**Reduction** (ODP Tons)	**Funding** $ million		
Consumption of CFC-113	PTFE Production	17.2	17.2	0	t.b.d.	1. Issue of CFC-113 consumption quotas.	1. By June 30, 2003
	Total - Line 6	17.2	17.2	0	t.b.d.		

Table 3: Government Action

Policy/Activity Planned			
Initiatives	Funding Requested	Actions Required	Key Dates
1. Policies to control CTC Production	N/A	1. Issue Regulation on Ban on new Production lines or expansion of existing lines for CTC production and control of involuntary production. 2. Establish CTC production quota system and issue Quotas. 3. Issue Production quotas	1. June 2003 2. July 2003 3. July 2003
2. Policies to control CTC and CFC-113 consumption		1. Establishment of CTC consumption quotas for PA consumers 2. Establishment of CFC-113 consumption quotas for PA consumers 3. Issue consumption quotas for PA consumers.	1. June 2003 2. June 2003 3. July 2003

Table 4: Technical assistance activities

Proposed Activity	Target group	Funding (US$ Million)	Actions Required	Key Dates
1. Extension of MIS to this sector	Government and domestic implementing agency	0.02	1. TOR to be agreed with the Bank 2. Selection of contractors 3. Contract signing with contractor 4. Set up MIS in PMO	1. Start preparatory work at the end of 2002 2. May 2003 3. June 2003 4. Operational by December 2003
2. Investigation of substitute technologies	Enterprises and research institutes	0.09	1. TOR to be agreed with the Bank 2. Selection of contractor 3. Contract signing 4. Basic information gathering in China 5. Investigation abroad 6. Seminar to discuss strategy 7. Final report	1. May 2003 2. July 2003 3. August 2003 4. August– Nov. 2003 5. Dec.2003-April 2004 6. May – July 2004 7. No later than end of 2004

3. Investigation into conversion of CTC production into non-ODS production	Government and research institutes	0.09	1. TOR to be agreed with the Bank 2. Selection of contractor 3. Contract signing 4. Basic information gathering in China 5. Investigation abroad 6. Seminar to discuss strategy 7. final report	1. May 2003 2. July 2003 3. August 2003 4. August– Nov. 2003 5. Dec.2003-April 2004 6. May – July 2004 7. No later than end of 2004
4. Training of personnel involved in implementation of phaseout activities.	Government enforcement agencies	0.10	1. TOR to be agreed with World Bank 2. Training on supervision of ODS PA production, bidding system, management of ODS consumption quota, annual reporting and verification system	1. May 2003 2. Start no later than mid-2003. Schedule to be detailed in TOR
5. Other TA		0.10		
TOTAL for phaseout activities		**0.40**		

Annex I: List of CTC producers at present

(not yet verified by audit)

CTC Producers

1. Zhejiang Quhua Fluro Chemicals Co. Ltd.
2. Jiangsu Meilan Fluro Chemicals Co. Ltd.
3. Changshou Chemical Industry Factory
4. Chongqing Tianyuan Chemical Industry Plant
5. Sichuan Honghe Fine Chemical Industry Co. Ltd
6. Sichuang, Luzhou Xinfu Chemical Industry Co. Ltd.
7. Sichuan Luzhou Chemicals Factory
8. Shanghai Chlorine-Alkali Chemical Industry Co. Ltd.

Distillation plants

9. Chongqing Tiansheng Chemical Industry Co. Ltd
10. Zhejiang Quzhou Jiuzhou Chemical industry Co. Ltd

Annex II: Information on PA enterprises

A. ODS Consumption in approved Process Agent Applications, 1997-1999

ODS used	Application No.	Product	Annual consumption of ODS, t/a		
			1997	1998	1999
CTC	C3	CR	1,290	1,154	1,142
	C7	CSM	710	720	827
	C12	CP-70	900	819	1,007
	C17	Ketotifen	8.64	11.75	10.35
CFC-113	C9	PTFE	5.62	5.85	21.52
Total ODS tons			2,915	2,713	3,008
Total ODP tons			3,204	2,980	3,302

B. Enterprises using ODS for Process Agent Applications

Application Number (from X/14)	C3	C7	C9	C12	C17	Totals
Name of Application	CR	CSM	PTFE	CP-70	Ketotifen	
Name of ODS Used	CTC	CTC	CFC-113	CTC	CTC	
Total Number of Production Lines (Number of enterprises in brackets)	7(7)	3(3)	6(6)	12(10)	1(1)	29(27)
With production in 1999, and eligible	7(7)	1(1)	5(5)	9(7)	1(1)	23(21)
No production in 1999, but eligible	-	2(2)	-	2(2)	-	4(4)
With production, but not eligible	-	-	1(1)	1(1)	-	2(2)

C. Eligible enterprises

Enterprise name	Product
Shanghai Chlor-Alkali Chem. Co Ltd	CR
Haotian Chem Co Ltd.	CR
Wuxi Chem Group Co Ltd	CR
Zhejiang Xin-an Chem. Group Co Ltd	CR, CP-70
Jiangyin Fasten Co Ltd	CR, CP-70
He-nan Puyang oilfield CR Factory	CR
Shangyu Qimin Chemical Co., Ltd	CR
Huanghua City Jinghua Chem. Co., Ltd.	CP-70
Shenyang Chem. Co Ltd.	CP-70
Longchang Shouchang Chem Co Ltd	CP-70
Longchang Shenghua Chem Factory	CP-70
Chongqing Tianyuan Chemical General Factory	CP-70
Longyou Lude Pesticide Chem Co Ltd	CP-70
Dalian city Jiangxi Chem Ind Head Co.	CP-70

Harbin Yibin Chem Ind. Co Ltd	CP-70
Shanxi Fenyang Catalyst Factory	CP-70
Jilin Chem. Ind. Co Ltd	CSM
Hongjiang Chemical Company	CSM
Jiaohe Organic Chemical Factory	CSM
Shanghai 3F New Materials Share Co Ltd	PTFE
Chenguang Chem Research Institute	PTFE
Jinan 3F Chemical Co Ltd	PTFE
Jiangsu Meilan Chemical Co Ltd	PTFE
Fuxin Fluor-chemical Co Ltd	PTFE
Zhejiang Huahai Pharm Group Co Ltd	Ketotifen

D. Consumption of CTC and CFC 113

CR producers (CTC)	1997	1998	1999
	ODS consumption (T/A)		
Shanghai Chlor-Alkali Chem. Co Ltd	144	115	161
Haotian Chem Co Ltd.	281	252	199
Wuxi Chem Group Co Ltd	370	284	345
Zhejiang Xin-an Chem. Group Co Ltd	121	162	142
Jiangyin Fasten Co Ltd	300	247	152
He-nan Puyang oilfield CR Factory	29.2	12	13
Shangyu Qimin Chemical Co., Ltd	45.05	81.77	130.35
Sub-Total	1,290	1,154	1142
CP 70 (CTC)			
Huanghua City Jinghua Chem. Co., Ltd.	21.4	23.1	72.6
Zhejiang Xin-an Chem. Group Co Ltd	61	73	85
Jiangyin Fasten Co Ltd	280	243	240
Shenyang Chem. Co Ltd.	159.7	89.13	31.5
Luzhou Longmatanqu Hongyuan Chem	0	0	75
Longchang Shouchang Chem Co Ltd	78	67	67
Longchang Shenghua Chem Factory	33.6	65	83.4
Chongqing Tianyuan Chemical General	0	0	0
Longyou Lude Pesticide Chem Co Ltd	49	51	45
Dalian city Jiangxi Chem Ind Head Co.	198.4	188.3	287
Harbin Yibin Chem Ind. Co Ltd	18.8	19.3	20.1
Shanxi Fenyang Catalyst Factory	0	0	0
Sub-Total	900	819	1007
CSM (CTC)			
Jilin Chem. Ind. Co Ltd	710	720	827
PTFE (CFC-113)			
Shanghai 3F New Materials Share Co Ltd	0.25	1.75	3.5
Chenguang Chem Research Institute	0	0	7.92
Shanghai Tianyuan Group Fluor-chem.	0	0	0
Jinan 3F Chemical Co Ltd	4.37	3.1	4.1

Jiangsu Meilan Chemical Co Ltd	0	0	5
Fuxin Fluor-chemical Co Ltd	1	1	1
Subtotal	5.6	5.9	21.5
Ketotifen (CTC)			
Zhejiang Huahai Pharm Group Co Ltd	8.6	11.8	10.5

Neeraj Prasad
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CHINA CFC PRODUCTION PHASE-OUT PROGRAM
2002 VERIFICATION REPORT
February 4, 2003

Inspection Team

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Assisted and Accompanied By

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Inspection Mission Time Frame

January 16-30, 2003

Plants Covered in Visitation Order

Guangdong Xiansheng Chemical Co. Ltd – Guangdong Province, Zencheng City
Zhejiang Chemical Industry Research Institute – Zhejiang Province, Hangzhou City
Zhejiang Linhai Limin Chemical Plant – Zhejiang Province, Linhai City
Zhejiang Dongyang Chemical Plant – Zhejiang Province, Dongyang City
Zhejiang Juhua Fluoro-chemical Co. Ltd – Zhejiang Province, Quzhou City
Jiangsu Changsu * 3F Refrigerant Co. Ltd. – Jiangsu Province, Changshu City
Jiangsu Meilan Electro-chemical Co. Ltd – Jiangsu Province, Taizhou City

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

Report Format and Contents

Summary: Verification Conclusions for CFC Production in China for year 2002.
Annex I – Complete text describing the mission's verification efforts for each of seven enterprises' year 2002 production. (Lead author: F.A. Vogelsberg)
Annex II – CFC production verification 2002 Tables (lead author: Hua Zhangxi)
Annex III - Financial Verification of CFC Production in China in 2002 (Lead author: Wu Ning)

Summary: Verification Conclusions with respect to China's CFC Production in 2002

There was no complete closure project in China CFC Production Sector 2002. Therefore, there were still seven enterprises producing CFC products in China 2002, same as that in 2001. The verified overall national production of CFCs in 2002 is 32,895.5 tons (ODP). The following table is the breakdown in accordance with various types of product.

Type of CFC Product	Number of Producers	Total Production (in tons)	
		ODS	ODP
CFC-11	3	15,770.5	15,770.5
CFC-12	6	14,755	14,755
CFC-13	1	27.0	27.0
CFC-113	1	2,750	2,200
CFC-114	1	29.0	29.0
CFC-115	2	190	114
Overall National			32,895.5

The total consumption of CTC for the production of 15,770.5 tons of CFC-11 product is 18,950.9 tons; and the overall average CTC/ CFC-11 ratio is 1.202. Among the three CFC-11 producers, the producer that had the lowest CTC/ CFC-11 ratio (1.209) is Jiangsu Changsu 3F Refrigerant Co. Ltd.SRI# A 10); while the highest ratio (1.309) is Jiangsu Meilan Electro-chemical Plant (SRI# A 8) .

The total consumption of HF for the production of 15,770.5 tons of CFC-11 product is 2,530.3 tons; and the overall average HF/ CFC-11 ratio is 0.160. Among the three CFC-11 producers, the producer that had the lowest HF/ CFC-11 ratio (0.158) is Jiangsu Changsu 3F Refrigerant Co. Ltd. (SRI# A10); and the highest ratio (0.186) is Jiangsu Meilan Electro-chemical Plant (SRI# A 8).

The total consumption of CTC for the production of 14,755 tons of CFC-12 product is 20,152 tons; and the overall average CTC/ CFC-12 ratio is 1.366. Among the six CFC-12 producers, the producer that had the lowest CTC/ CFC-12 ratio (1.313) is Jiangsu Changsu 3F Refrigerant Co.Ltd. (SRI# A 10); while the highest (1.413) is Zhejiang Dongyang Chemical Plant. (SRI# B 12)

The total consumption of HF for the production of 14,755 tons of CFC-12 product is 5,685.1 tons; and the overall average HF/ CFC-12 ratio is 0.385. Among the six CFC-12 producers, the producer that has the lowest HF/ CFC-12 ratio (0.363) is Zhejiang Dongyang Chemical Plant. (SRI# B 12) and the highest (0.416 is Jiangsu Meilan Electro-chemical Plant (SRI# A8).

A detailed summary of China CFC production in 2002 as well as the raw material consumption is attached in the next page.

SUMMARY OF CHINA CFC PRODUCTION IN 2002

CFC-11

SRI #	Name of Enterprise	Production (ODS)	Production (ODP)	CTC Consumption	HF Consumption	Ratio CTC/ CFC-11	Ratio HF/ CFC-11
A 8	Jiangsu Meilan Electro-chemical Plant	1,049.7	1,049.7	1,374.0	195.3	1.309	0.186
A 10	Jiangsu Changsu 3F Refrigerant Co. Ltd.	10,231.9	10,231.9	12,156.3	1,618.9	1.187	0.158
B 14	Zhejiang Juhua Fluoro-chemical Co. Ltd.	4,489.0	4,489.0	5,420.6	716.1	1.208	0.160
	Overall	15,770.5	15,770.5	18,950.9	2,530.3	1.202	0.160

CFC-12

SRI #	Name of Enterprise	Production (ODS)	Production (ODP)	CTC Consumption	HF Consumption	Ratio CTC/ CFC-12	Ratio HF/ CFC-12
A 8	Jiangsu Meilan Electro-chemical Plant	1,314.7	1,314.7	1,836.6	546.9	1.397	0.416
A 10	Jiangsu Changsu 3F Refrigerant Co. Ltd.	3,034.7	3,034.7	3,984.7	1,239.6	1.313	0.408
A 13	Guangdong Xiansheng Chemical Co. Ltd.	620.9	620.9	825.3	251.4	1.329	0.405
B 8	Zhejiang Linhai Limin Chemical Plant	886.9	886.9	1,225.5	361.5	1.382	0.408
B 12	Zhejiang Dongyang Chemical Plant	1,740.7	1,740.7	2,459.3	689.0	1.413	0.396
B 14	Zhejiang Juhua Fluoro-chemical Co. Ltd.	7,157.0	7,157.0	9,820.7	2,596.6	1.372	0.363
	Overall	14,755.0	14,755.0	20,152.0	5,685.1	1.366	0.385

CFC-13

SRI #	Name of Enterprise	Production (ODS)	Production (ODP)	CFC-12 Cons'ption	Ratio CFC-13/CFC-12
B 8	Zhejiang Linhai Limin Chemical Plant	27.0	27.0	74.7	2.765

CFC-113

SRI #	Name of Enterprise	Production (ODS)	Production (ODP)	PCE Consumption	HF Consumption	Ratio PCE/ CFC-113	Ratio HF/ CFC-113
A 10	Jiangsu Changsu 3F Refrigerant Co. Ltd.	2,750.0	2,200.0	2,737.5	1,259.1	0.995	0.458

CFC-114

SRI #	Name of Enterprise	Production (ODS)	Production (ODP)	CFC-113 Consumption	HF Consumption	Ratio CFC-113/ CFC-114	Ratio HF/ CFC-114
B-11	Zhejiang Chemical Research Institute	29.0	29.0	34.8	4.4	1.202	0.153

CFC-115

SRI #	Name of Enterprise	Production (ODS)	Production (ODP)	CFC-113 Consumption	HF Consumption	Ratio CFC-113/ CFC-115	Ratio HF/ CFC-115
A-10	Jiangsu Changsu 3F Refrigerant Co. Ltd.	100.0	60.0	176.8	67.0	1.768	0.670
B-11	Zhejiang Chemical Research Institute	90.0	54.0	52.2	32.5	1.341*	0.362
	Overall	190.0	114.0	228.9	99.6	1.560*	0.524

*Zhejiang Chemical Research Institute made use of 68.5 tons of CFC 113a, which is a non-ODS obtained from their HCFC 123 unit, as part of feedstock for CFC 115 production. This amount has been incorporated to the ratio calculation.

ANNEX I

Friday/Saturday January 17, 18 – Guangdong Xiansheng Chemical Co. Ltd

3000 TPA CFC-12

General

As this was the 4th year of data inspection, it has become a rather simple process since the enterprise has upgraded their record keeping based on prior suggestions from our Team. This plant agreed to be closed with compensation by 2003 and while the official closure documentation will occur later it was logical and efficient to verify the closure activity during this mission.

Verification of Year 2002 Data

In 2002, the CFC (mainly for CFC11/12) producers used a new SEPA generated reporting form with the site supervisors oversight system that insures high quality and reliable data. This was our first view of this new form coupled with the inspector oversight.

The form is generated daily during periods of production or sales and covers the following: daily CFC production, MTD production, raw materials inventory as well as receipts or purchases, raw material use, CFC sales and CFC inventory. The form is signed each day by; financial director, warehouse manager, statistics manager (production) and the materials receiver (production). Two inspectors from different competitive companies hired by SEPA are resident on the plant site for all periods of operation.

They are paid by SEPA, who also covers their living expenses. Both inspectors sign the daily form. If the plant is to be shutdown for any period, the inspectors seal and lock key raw material valves as well as production valves and remove same when they return to the site for production resumption.

Guangdong Xiansheng Chemical did not operate in 2002 until March; at which time the outside inspectors began their plant residency, and stayed even for the non-production periods in August, October and November.

The plant operated a total of 115 days over seven months of operation in 2002, producing 620.9MT of CFC-12 vs their quota of 622MT.

Monthly cylinder filling records were verified as accurate for the seven operating months. The two reactor log sheet sets were examined to verify the AHF and CTC feed rates as well as operating days. Raw material weight tank feed rates are recorded every ½ hour and these values totaled for each shift, each day and each fiscal month. These values agree with reported raw material consumptions and CFC-12 production.

As in the past, Wu Ning concentrated on the financial records while the rest of the Team examined production records. The Team is fully satisfied with the quality and accuracy of Guangdong Xiancheng's year 2002 data.

It is rewarding to note that raw material efficiencies were better in 2002 vs 2001 for both CTC and AHF.

Plant Closure

The last CFC production occurred December 26, 2002. Plant dismantlement started December 28th and was completed on January 2, 2003. All work was done by plant personnel, witnessed by SEPA and local EPB officials. All equipment was removed from the process building and destroyed so it could not be reused. The three large 300 MT (each 7 m^3 ø) CTC storage tanks were emptied and holes were cut in the tank sides. The two-day CFC-12 receivers and large CFC-12 storage tank were emptied and holes cut in the tanks. The plants 770MT of CFC-12 inventory has all been stored in tonne and ½ tonne cylinders. At 2002 sales rate, this inventory could exceed 3 years sales from this enterprise.

Total plant employment was 40 persons; eighteen were terminated at the end of 2002 and compensated one-year's salary plus one additional month's salary for each year's service. The remaining 22 will stay on for the foreseeable future. We viewed video made during the plant dismantlement and took a complete set of photographs to document the current dismantled state.

The local EPB will issue the enterprise a dismantlement certificate in February and the scrap metal will be disposed of after the February Spring Festival.

Sunday, January 19 – Zhejiang Chemical Industry Research Institute

150 TPA CFC-114/115

General

Readers of last year's report will recall that several issues in 2001 required clarification. Also, we suggested that future verification would be enhanced if they maintained a bound notebook for daily cylinder filling records; this has been done for 2002. There were no unusual situations to deal with in this year's data review.

Verification of year 2002 Production

The plant only operated eight months in 2002 (January – August) and remained shutdown for the last four months of 2002. The prior mentioned special SEPA form and inspector system are not used at this small production plant.

Cylinder filling records are now kept in a bound notebook and provide excellent detail on each cylinder filled, including: date, cylinder number, product grade/purity, date sampled/date accepted by warehouse, tare weight, starting cylinder weight (any heel adds to tare but is not new production, gross weight, net weight and cumulative net weight (new production).

CFC-114 was only produced in four of the eight operating months (May-August)

All cylinder filling records were found to be accurate.

Transfer records for raw material consumptions were also examined and found to be correct as reported. When producing CFC-114 for sales, rather than as an intermediate for CFC-115, they use a factor to allocate raw material split between CFC-114 and CFC-115. Therefore, the only meaningful figures are total CFC-113 and total AHF for combined CFC-114/115 production.

Readers of last year's report will recall that in 2001 the enterprise started using a by-product of HCFC-123 production, CFC-113a, a non-ODS, as partial feedstock; this practice

continues. We were satisfied that all records for raw materials consumption were accurately reported.

The overall yield of CFC-113 and CFC-113a to CFC-114 and CFC-115 were 91.3% and 90.5% respectively; reasonable values. AHF is fed in excess to drive CFC-113 conversion, hence AHF yields are not of value in evaluating this plant's performance.

The enterprise produced essentially 100% of their SEPA agreed 2002 quota. 28.974MT of CFC-114 and 89.996MTof CFC-115,vs.29MT and 90MT respectively.

Reactor log sheets were examined and found to accurately reflect reported operating days and production rates.

Wu Ning spent his day at the downtown office examining financial records. The other three-team members concentrated on the plant records located at the plant.

The Team is fully satisfied that Zhejiang Chemical Research Institute data as reported is accurate.

Monday/Tuesday January 20-21 – Zhejiang Linhai Limin Chemical Plant

3,000TPA CFC-112 (2 Reactors; only one operating at a given time)

100 TPA CFC-13

15,000 TPA HCFC-22 (prior reported capacity was 10,000 TPA)

General

Linhai Limin and SEPA agreed to compensation for plant closure in China's Production Sector CFC program for year 2003; hence, the plant was shutdown at year-end 2002 and dismantled in early 2003. Official closure documentation will follow later but for efficiency reasons our Team verified the closure during this current mission.

Verification of Year 2002 Data

As mentioned in this mission's first plant visit at Xiansheng Chemical, Linhai Limin also utilized the newly instituted SEPA inspector form and hosted two competitive inspectors for all production periods in 2002.

Verification for CFC-12

CFC-12 cylinder filling records for every day of each of eleven operating months were reconciled against the plant's official reported production and the new SEPA form for each month and found to be correct for all months in 2002. CFC-12 production also includes material to be used as feedstock for CFC-13 production. This material transferred from the CFC-12 plant to the CFC-13 unit was verified as accurate.

AHF is purchased in cylinders for the site's CFC-12 and other fluorine based operations. Cylinder weights are the basis of consumption in the various plants. Reported AHF use for CFC-12 production agreed with reported figures for all months of 2002.

CTC is purchased primarily in bulk. The supplier ships to Linhai via rail car and the plant off-loads the tank cars to tank trucks for movement to the plant's 300MT CTC bulk storage. At plant closure, when remaining CTC was collected and sold, it became apparent that the official paper inventory figure was 16.202 MT greater than the actual. This approximately 16MT loss over the past three years (last time actual vs paper inventory were reconciled)

amounts to a handling loss of 0.03% of the 5356 MT of CTC handled over these last three years; a perfectly acceptable loss rate.

CTC transfers from the warehouse (bulk storage tank) to the production day tank are recorded on a transfer slip signed by persons involved in the transfer. All transfers were totaled for each of the operating months and found to be correct.

CFC-12 transfers to the CFC-13 unit are documented by transfer slips generated for each transaction and signed by the persons involved in the transfer. All transactions were checked for each month and found to be correct.

Therefore, the net 2002 CFC-12 production of 886.892MT was verified as correct vs.their 2002 quota of 887MT.

Verification of CFC-13 Data

As mentioned above, all transfers of CFC-12 for the CFC-13 disproportionation reactor were verified as correct. This is the only raw material for CFC-13 production.

All CFC-13 is typically loaded into 35kg or 8kg cylinders and these filling records were checked for every day and each month and found to be in 100% agreement with reported CFC-13 production of 26.999MT vs their 2002 quota of 27MT. The 74.659MT of CFC-12 feed stock corresponds to a CFC-12/CFC-13 ratio of 2.765 and is typical of their inefficient technology. The year 2001 ratio was 2.771.

Based on our examination of raw material transfer and product cylinder filling records we were satisfied that reported operating days were realistic for the Linhai Limin site.

As at all inspections, Wu Ning concentrated on the financial records while the rest of our Team dealt with production plant records. The Team is fully satisfied that Zhejiang Linhai Limin Chemical's 2002 reported data is accurate.

Plant Closure

The last CFC-12 production for this site was December 22. Plant dismantlement was carried out by plant forces with the help of a rented hoist, from January 2 through January 5. Twenty (20) MT of scrap metal was sold for 19,600RMB. They destroyed one of two raw gasholders, both CFC-12 reactors, product receivers, distillation columns, distillation column reboilers, as well as piping and controls.

All plant personnel associated with CFC-12 production will remain employed in continuing and expanding activity at this site. While we were examining the former CFC-12 building they were installing glass- lined vessels in the vacant space as part of a new, fine chemical facility now under construction.

The two original CFC-12 reactors were integrated into the two HCFC-22 buildings and CFC-12 refining was a separate structure. Photos were taken to show where the removed CFC-12 equipment had been housed.

The dismantlement was viewed by SEPA and the local EPB officials and fully recorded on video and still photographs, which we examined.

CTC was stored in one of 3 – 300MT bulk tanks (two were chloroform service). The CTC tank has been put into chloroform service. Remaining CTC has since been sold.

Wednesday, January 22 – Zhejiang Dongyang Chemical Plant

5,000 TPA CFC-12

8,000 TPA HCFC-22

20,000 TPA AHF

General

This is our team's fourth visit to Dongyang Chemical for annual production data review; the last visit was January 30, 2002. One notable change at this site is they are now operating a HFC- 227ea plant of about 1000MT/yr capacity; likely used as halon replacement.

In spite of our prior reviews, we still spent excessive time getting them to provide appropriate documents.

Verification of Year 2002 Data

We examined the daily cylinder filling records and verified the total monthly production records for CFC-12 to be accurately reported for the plant's eleven operating months (no production in December). Total CFC-12 produced was 1740.73MT vs.their 2002 quota of 1741MT. The daily cylinder filling records are available to us but time would not permit adding all such figures for each month, hence we relied on the fact that all necessary key data is documented on daily and monthly forms signed by appropriate plant personnel and the special inspectors hired and paid for by SEPA. The form used at this site contains the following information: starting CTC inventory, CTC purchases, CTC used, CTC ending inventory in bulk plant storage, similar data for AHF, total beginning CFC-12 inventory, CFC-12 produced for the day, MTD CFC-12 produced, CFC-12 daily sales, CFC-12 transferred from production to warehouse, and total plant CFC-12 inventory.

They maintain a bound notebook showing CTC inventory, purchases, daily transfers to production and consumption for the month. Monthly CTC transferred to production slips are also generated from this bound book to officially record monthly figures. Identical records are kept for AHF. Monthly CTC and AHF consumption figures were verified as accurate.

They have two CFC-12 reactor sets, operate three shifts per day and record raw material feed rates every ½ hour. A representative number of log sheets were examined and we are fully satisfied they are "real time" records that accurately reflect plant operating rates, downtime and total number of operating days as reported to SEPA.

The Team that inspected the production data is fully satisfied that Zhejiang Dongyang Chemicals reported 2002 data is accurate and complete.

Wu Ning's financial records analysis found everything in order.

Thursday, January 23 – Zhejiang Juhua Fluoro-chemical Co. Ltd.

12,000 TPA CFC-11/CFC-12

15,000 TPA AHF (increased from 10,000 TPA in past year)

70,000 TPA Chloromethanes – nominal 20,000 TPA CTC (expanded from 30,000 TPA and 14,000 TPA respectively last year)

General

Our last team visit to Juhua was January 29, 2002. As noted above a significant change at this site is the 50% increase in AHF capacity and a more than 2X expansion in chloromethanes; primarily chloroform for HCFC-22 manufacture. They have constructed a second HCFC-22 line bringing merchant market capacity to 19,500 TPA (excludes the Russian JV HCFC-22 capacity of about 6,000MT which is dedicated to PTFE).

Verification of Year 2002 Data for CFC-11/12

CFC-11 product is transferred to two different warehouse accounts; one for bulk railcar and tank truck shipments and the other for drums. All daily transfer slips for each report form is filled out and signed by the SEPA inspectors hired from the competitive producers staff. All of these records were found to be in order and properly signed.

Reconciliation of the site's CTC figures was made easier in 2002 since they did not have any outside purchases. CTC is transferred from the warehouse bulk storage to one of three-day tanks in the CFC plant. They never transfer into the tank that is active plant feed making it possible to use CTC day tank level changes to generate a daily CTC transfer slip. All CTC transfers were checked for each month and found to be correct as reported. Juhua produced 16,993MT of CTC in 2002.

AHF is transferred from the HF plant via pipeline and the daily transfers are measured by a mass flow meter in the CFC production unit. All daily AHF transfer slips were totaled for each month and found to be exactly as reported to SEPA. The expanded HF plant produced 16,080MT of AHF, just slightly above rated capacity. They purchased 912MT of AHF in 2002 to meet internal and external needs.

Their 11,646MT of CFC-11/12 production in 2002 represents 97% of their 12,000MT rated capacity. They operated 319 days, for a plant "in-time" of 87.3%; quite good and realistic for this well designed and maintained plant.

They reported year 2002 CFC-11 production as 4488.99MT vs their 4489MT quota. They reported 7157MT of CFC-12 production in 2002 vs. their 7157 MT quota. Because they were so close to quota, we examined year-end 2001 and year-end 2002 product receiver levels since it is obvious that they use these tanks as cushion or safety valve to stay within their yearly quota.

Readers of last year's mission report may recall that we raised concern about the large intermediate inventory that is not counted as production until accepted by the warehouse; about 700MT of CFC-11/12 in 2001. In November 2002, they transferred 218MT of CFC-11 and 298MT of CFC-12 from intermediate to finished product inventory.

All daily CFC-12 transfer slips were reconciled against official reported figures for all months and found to be correct.

The plant has an excellent set of records to document all finished product packaging and transfer to the warehouse account. Cylinder sheets are filled out each day showing: cylinder number, volume, pressure, tare weight, gross weight and net weight. As mentioned in past reports they fill cylinders to exact net weights of 450kg, 900kg, 500kg, 1100kg and DAC's of 12.6kg and 22.7kg for export. Returnable cylinders daily filling sheets are used to generate a daily total cylinder filling transfer sheet. Bulk shipments, drums and DAC's are entered into a separate daily transfer sheet. These figures are then entered into a fluorocarbon plant daily

activity report showing methyl chloride, methylene chloride, CFC-11, CFC-12, and HCFC-22 packaged and transferred to the warehouse for the day.

Their combined "in process' or intermediate stocks of CFC-11/12 were 0.1 m^3 lower at year end 2002 than at the end of 2001, which is cutting it very close for this size plant. We cautioned them again about operating so close their legal limits.

We examined the SEPA report terms for each month end and saw that they were all signed by appropriate plant personnel and SEPA hired competitive inspectors.

Wu Ning concentrated his activities on the financial records and found all to be in order.

The team is fully satisfied that Juhua reported 2002 data is accurate.

Saturday/Sunday – January 25-26 – Jiangsu Changsu 3F Refrigerant Co. Ltd.

10,000 TPA CFC-11

5,000 TPA CFC-12

4,000 TPA CFC-113

400 TPA CFC-115

General

While this site has responded to past concerned and kept better records. Some Financial Dept. dictated changes in how to handle in-process raw materials at month end complicated reconciliation, particularly in the CFC-113 and CFC-115 plants.

Verification of Year 2002 CFC Production

As in the past Mr. Wu Ning conducted the financial review while Messers Vogelsberg, Hua and Chang (SEPA) verified plant production records for 2002. As mentioned in our prior reports 3F keep extensive records, which allow several avenues to cross check, their data.

CFC-113

3F produces CFC-113 for; merchant sales, Zhejiang Chemical Research (ZRC) for conversion to CFC-114/115, internal conversion to CFC-115, feedstock for internal CTFE polymer and conversion to non-ODS CFC-113a as a pesticide feedstock.

CFC-113 was produced ten months, Jan – Oct in 2002 producing 2750MT equal to their 2002 quota.

All CFC-113 drum-filling records were examined for each month and found to be correct as reported.

CFC-113 transfers from the warehouse to the CFC-115 plant for the five operating months (June – October) were found to be correct. This was a clumsy exercise for 2002 since the financial department dictated a change in accounting in August. Prior to August, transfer of CFC-113 from the warehouse could be reconciled to CFC-113 consumed by adding the starting CFC-113 inventory to new transfers and subtotaling unused CFC-115 plant inventory of CFC-113. In August any unused CFC-113 was treated as used, forcing additional data adjustment to get actual monthly consumption figures. Monthly CFC-113 consumption figures reported were incorrect but the five-month's totals were accurate.

CFC-113 unutilized in CTFE and to be isomerized to non-ODS CFC-113a was lumped together in their report to SEPA. Reconciliation was complicated by beginning and ending inventories of unused CFC-113 feedstock that had to be added and subtracted respectively to get actual monthly consumption for CTFE and CFC-113a. The August financial change to "in-process" inventories of raw materials further complicated this exercise.

October and November reported site figures for CFC-113 use in CTFE are incorrect individually but correct for the two month use when added together. This occurred because they produced more CFC-113 in October to be used in November for feedstock uses, but, than incorrectly reported the use as occurring in October, when in reality it occurred in November.

In examining AHF, use for CFC-113 production we found that the February/March two month total to be correct but 7160 kg was shifted from March to February after they found an error in the financial record.

Perchlorethylene is transferred to the CFC-113 plant via pipeline and level changes converted to weight and entered into a bound notebook. These figures were compared to the official transferred figures entered into the monthly report and found to be correct for all months.

The CFC-113 transferred (sold) to ZCR were checked at ZCR and found to be correct and 3F's report mirrored these data. The net CFC-113 production as quota ODS is; total CFC-113 minus CFC-113 to ZCR minus CFC-113 converted to CTFE minus CFC-113 converted to CFC113a. The net monthly figures were found to be correct as reported.

CFC-115

This facility operated only five months, June – October and reported exactly 100.000MT production vs their quota of 100MT. This closeness to quota is not credible and more on this issue of producing within just a few kilograms of quota will be discussed later

The AHF transfers to CFC-115, as well as, CFC-113 transfers for feedstock were found to be correct as reported.

The statistical person keeps a bound notebook covering CFC-115 production and we examined the data, which is reproduced below:

MT

	CFC-115 IN PROCESS	**CFC-115 IN CYL NOT ACCEPTED BY WAREHOUSE**	**OFFICIAL CFC-115 PRODUCED**
June	4.858	7.142	12
July	0.858	2.284	19.42
August	1.858	3.254	24.000
September	0.358	1.284	27.500
October	0	0	22.358
			100.000

They claim that at the end of a campaign estimated process holdup is only 60kg, which is stored in the final vessel and used to restart the plant in the next year.

In defense of their number, being exactly equal to their quota they stated that the competitive inspectors are satisfied; though they have no documentation showing specific ending 2001 and ending 2002 in-process inventory.

CFC-11

3F operated all twelve months to produce 10,231.879MT vs their quota of 10, 232MT for 2002.

All monthly CFC-11 drum filling and transferred record to the warehouse were added and found in agreement with stated official figures.

Each of two CFC-11 reactors feed into one of two-day receivers on each line; each receiver has a capacity of 3 m^3 (≈ 3MT). It is noted that the third CFC-11 reactor was removed in 2001 since they did not need its capacity. While the above-mentioned day receivers have, sight glasses there is no recorded beginning and ending inventory for their nominal 12m^3 storage space. Since they were within 120 kg of their 2002 quota (0.01%) they need to have a certified record of this inventory if they expect their report to be credible to anyone familiar with CFC plant technology. Again, they claim the competitive inspectors were satisfied.

The same bound notebook with perchlorethylene daily transfers also contains daily records of CTC to CFC-11 and CTC to CFC-12. The records for CFC-11 use of CTC were reconciled with the monthly report sheet where starting and ending CTC inventories are used to calculate actual consumption by adjusting the monthly new CTC transferred into the plant. These data were found to be correct for each month.

AHF transfers are documented on individual transfer slips and entered into above mentioned bound notebook. All AHF transfers were examined along with the inventory adjustments and consumption of AHF as reported and found to be accurate.

CFC-12

Examined CFC-12 cylinder filling and transfer records for each of the ten operating months (January – October) and found that the 3034.74MT of CFC-12 production was reported correctly vs their 2002 quota of 3035MT.

The bound book CTC figures were reconciled with inventory adjustments on the monthly report and verified that reported CTC consumption was correctly reported.

The AHF figures are handled the same as in the CFC-11 plant and were checked and found to be correct.

The CFC-12 plant's two reactors feed into a single distillation train which in turn feeds into three day finished product receivers, each at 5 m^3 capacity or a total of 15 m^3 for all three. They also have three 15m^3 bulk tanks (45m^3 total). Therefore, their combined maximum capacity for in-process (non-cylinder stock) is 60 m^3 or about 60MT of CFC-12. We asked to see starting and ending levels for these storages since they claimed 2002 production that was within 0.26MT of their quota. They claim they do not have these records but that the competitive inspectors checked these levels before and after 2002 CFC-12 production and were satisfied with the readings; presumably no greater inventory at year end 2002 than at the start of the production year.

Summary for 3F

We can find no errors in production data reporting, hence we accept their reported CFC-113, CFC-115, CFC-11 and CFC-12 production for 2002 as correct. However, their credibility is in serious question in anyone's mind that understands CFC plant operation. In the future, they must have process receiver and process storage level reading (converted to MT) for beginning and ending of each production year. These data must be certified as real and maintained on site for examination by any parties checking official reported production figures.

In addition, it would seem to be prudent to cease production a few tonnes short of the official quota to remove suspicion from their reported figures.

Wu Ning found all financial records to be in order.

While examining CTC figures, we noted that while 3F is a purchaser of CTC that they produced 19.5MT of CTC over a two- month period by chlorinating methylene chloride in their HCFC-141b plant. This was presumably done to see if they could lower their cost for CTC (averaged price for domestic supply, 4700 RMB/MT or 26¢/lb; while the import price was 3174 RMB/MT or 17.6¢/lb. In year 2000.)

Monday January 27 – Jiangsu Meilan Electro-chemical Co. Ltd.

3,000 TPA CFC-11

3,000 TPA CFC-12

20,000 TPA HCFC-22

16,000 TPA AHF

70,000 TPA Chloromethanes (expanded from 30,000 TPA in 2002; typically 3-5% CTC)

General

Our last verification was February 5, 2002. The only significant plant change is the expansion of their methanol based chloromethane unit from 30,000 to 70,000 TPA.

Verification of 2002 Production Data

Operated eight month in 2002 (February – June, September, and November – December) for both CFC-11 and CFC-12.

They generally package CFC-12 into exact net weight cylinders of 350, 450, 500, 1000 and 1100 kg. However, they have a few 160, 460, 600 and 780 kg cylinders. All such fillings are noted in a daily cylinder filling record, which can be used to tabulate monthly production; with one important notation. About once/month, they fill client cylinders (usually quite small) and note the weight on the filling log sheet but since those are not owned cylinders they do not list them separately on the log sheet. However, payment and weight information is available in the financial records and we cross-checked.

In addition to the above filling log records the CFC-12 distillation shift log sheets can be examined where the shift's CFC-12 production is noted. There are two-day production receivers that are alternately filled and drained to obtain the shift's production. We verified CFC-12 production using a combination of the above records. Since there was no production in July and August they used the three-month period of June – August to package the 257.5MT of

June reported production. Only 497.794Mt of December's production of 176.1MT was packaged by year-end.

We found their reported official production to be correctly stated.

To verify CFC-11 production for 2002 we used the reactor/distillation log sheets. While this requires examining about 90 pages per month, it also verifies that their plant records are real and unaltered. We added monthly log reported CFC-11 production figures for each shift and verified their reported figures (they actually over reported March production by 30kg.)

AHF for both CFC-11 and CFC-12 production is transferred via a pipeline to a weigh tank, then a transfer slip is created for each transfer which are totaled to obtain monthly figures. Their reported AHF transfers to both the CFC-11 and CFC-12 plants were found to be correct as reported.

CTC is transferred via pipeline to a weigh tank in the warehouse and then sent to day tanks in either the CFC-11 or CFC-12 plant. A transfer slip is created for each transfer. At month end, the plant measures the amount of unused CTC and a credit slip created. This figure is subtracted from the month's transfers to obtain the net consumption. In the next month, the previous month's unused CTC is added to new transfers and unused CTC is subtracted to obtain the month's CTC consumption. We examined all CTC transfers and inventories and found reported CTC consumptions to be correct for both CFC-11 and CFC-12.

We are fully satisfied that Meilan's 2002 production data is correct as reported.

Wu Ning also found financial records to be in order.

It was noted that of the 3,081.42MT of CTC added to plant-stocks in 2002 only 814.56MT came from their chloromethane plant.

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

General Comment from Overall 2002 Verification

As in 2001, four companies exported CFC-12 in 2002, most in DAC's:

Dongyang - 454.67, Juhua-2,372.1MT, 3F-559.8MT and Meilan-105.6MT. The total of 3,492.1MT in 2002 vs 2,692MT of exported 12 in 2001 suggest that conversion in China away from CFC-12 is occurring more rapidly than expected since total CFC-12 domestic sales were only 9,762MT in 2002.