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执行蒙特利尔议定书  
多边基金执行委员会  
第五十七次会议  
2009年3月30日至4月3日，蒙特利尔

增编

项目提案：中国

印发本增编是为提交以下请求发放第 56/62 号决定所核准资金的申请：

化工生产

- 氟氯化碳生产淘汰行业计划：2009 年度方案

世界银行

## 氟氯化碳生产淘汰方案：2009 年度方案和 2008 年度工作方案的核查

### 项目说明

#### 引言

1. 《中国氟氯化碳生产行业淘汰计划协定》要求，年度方案须提交给该方案之前一年的最后一次会议审查。根据这一《协定》，世界银行 2008 年 11 月向第五十六次会议提交了中国氟氯化碳生产行业淘汰计划的 2009 年度方案。在根据第 56/13 号决定解决了《协定》的 2009 后的监测问题后，执行委员会决定“核准中国氟氯化碳生产关闭方案的 2009 年工作方案，供资额为 750 万美元以及给世界银行的 562,500 美元的机构支助费用，同时指出：世界银行将向执行委员会第五十七次会议提交关于供资以及支助费用的申请，同时并提交关于 2008 年度方案执行情况的核查报告。”（第 56/62 号决定）。

2. 因此，世界银行向第五十七次会议提交 2008 年中国氟氯化碳生产淘汰方案执行情况的核查报告，以及请求发放 750 万美元和 562,500 美元以执行 2009 年度方案的申请。为了节省，仅附上了核查的概要，如有要求，可向执行委员会成员提供核查报告的全文。

#### 中国 2008 年氟氯化碳生产的核查

3. 核查于 2009 年 2 月 21 日至 22 日进行，进行核查的小组由具有技术和财务专门知识的三名人士组成，为首的是顾问 Vogelsberg 先生，一些年来他曾代表世界银行对中国的氟氯化碳工厂进行核查。核查组访问了在浙江省衢州市的氟氯化碳工厂：浙江巨化股份有限公司氟聚厂。报告载有结论概要和 4 份附件。结论概要提供了核查组关于 2008 年工作方案在实现《协定》规定的目标方面的业绩的全面评估。

4. 核查报告的全面评估认为，中国遵守了《协定》规定的 2008 年度氟氯化碳生产指标，各类氟氯化碳的实际生产总量为 547.81 ODP 吨，即较《协定》规定的 2008 年允许的最高生产量低 2.19 ODP 吨。2008 年没有生产 CFC-13。核查报告表示，经完成 2007 年的突击生产后，所有 6 家工厂均已关闭，生产线被拆除，主要设备被销毁，但浙江巨化股份有限公司氟聚厂的一条 CFC-11/CFC-12 生产线（SRI#B14）不在此列，该生产线已改造为周期性生产车间，主要生产 HCFC-22，与此同时，在有许可证的情况下于 2008 年和 2009 年生产每年不超过 550 ODP 吨供计量吸入器使用的 CFC-12。

5. 附件一开头部分全面介绍了 2007 年 7 月 23 日开始生产 HCFC-22 的巨化设施。附件指出，2008 年年中，HCFC-22 的市场疲软，2008 年的 HCFC-22 生产于 2008 年 7 月 22 日停止。附件说明了巨化设施氟氯化碳突击生产的情况。2008 年的 CFC-11 和 CFC-12 的生产，是在两次突击生产中进行的，即从 2008 年 3 月 24 日至 2008 年 4 月 9 日以及从 2008 年 12 月 5 日至 2008 年 12 月 11 日，总共 22 个作业日。

6. 附件一还提供关于 2008 年销售的所有用于计量吸入器的各类氟氯化碳的资料。附件按公司作了概括，包括：购买数量，购买者名称和地址，发票日期和序号以及交货的记录。只有 6 家买主，其中包括 5 名国内经销商（不是计量吸入器制造商本身）和一名向俄

罗斯出口供计量吸入器用途的出口商。氟氯化碳生产核查组检查并确认，对向上述经销商的销售的所有数据均完整无误。

7. 附件二以执行委员会核准的格式列出巨化设施的结果，这些结果涉及以下按月份列出的数据：生产能力、产品组合、生产配额和氟氯化碳的实际生产、原料消耗比和原料的库存变化，以及生产天数。为便利查证一致性，提供了关于淘汰方案开始以来的这些参数的比较数据。这些数据还包括关于生产结束日期、拆除日期和经检查的拆除证据的资料。

8. 附件三载有对 2008 年的计量吸入器用途的各类氟氯化碳销售的核查。附件三列出了各项购买，并提供了关于发票显示的 CFC-11 和 CFC-12 购买以及交货记录的资料。

9. 附件四载有核查组财务专家提交的财务审计结果。审计的重点是核查自审查购买、原材料的消费和销售的过程中获得的氟氯化碳生产量。报告提供了各个工厂的四氯化碳、氢氟酸和 CFC-113a 消费和氟氯化碳生产的审计结果。

## 秘书处的评论和建议

### 评论

#### 参照消耗臭氧层物质生产淘汰准则对 2008 年核查的全面评估

10. 对 2008 年工作方案执行情况的核查，由过去几年从事这一工作的同一小组进行。根据执行委员会核准的准则和办法进行了核查。依照核准的格式提交了核查的结果，同时并提供了充分的文件，以便跟踪和核实氟氯化碳的生产、储存以及原料的用途。氟氯化碳生产核查的结果确认，2008 年中国生产的氟氯化碳少于 550 ODP 吨。

#### 计量吸入器用途核查

11. 核查组试图核实所有生产都只是用于计量吸入器和核准的必要用途，因为这是执行委员会与中国政府之间生产加快淘汰协定的一项要求。初期使用的办法是审查生产商的销售记录。

12. 但氟氯化碳生产核查组表示，核查组无法核证巨化所生产的 547.81 ODP 吨的计量吸入器等级的氟氯化碳是卖给了计量吸入器制造厂家，但证实了这些氟氯化碳卖给了 6 个经销商或储存了起了。无法核证最终用户的原因是，在所生产的 547.81 ODP 吨中，233.37 ODP 吨被储存起来，321.94 ODP 吨卖给了经销商、而不是直接卖给计量吸入器的制造商。根据核查报告，氟氯化碳的生产商巨化没有直接卖给计量吸入器制造商的原因是，如果氟氯化碳没有经过仔细检查并 100% 地消费，制造商就不按发票付款。

13. 在秘书处向世界银行提出这一问题时，中国政府嗣后通过世界银行确认，中国政府为经销商颁发了购买 211.94 ODP 吨的许可证，目的完全是通过其氟氯化碳销售管理机制用于国内计量吸入器市场，剩下的出口作了必要用途。但这一点没有得到核查组的证实，因为没有向其提供许可证。世界银行表示，中国政府打算利用这一办法核查明年的氟氯化

碳销售情况，届时中国将提交协定的最后一次付款。谨建议执行委员会要求核查组继续审查生产商的销售记录以及 2008 和 2009 两年颁发的计量吸入器用途许可证，并向 2010 年执行委员会的第一次会议作出报告。

14. 根据第 49/30 号决定所允许的，卖给经销商的 321.94 ODP 吨中的 110 ODP 吨剩余部分出口到俄罗斯联邦，用于核准的计量吸入器必要用途（第十九次缔约方会议第 XIX/13 号决定，附件 A）。

### 储存

15. 核查报告称，在所生产的 547.81 ODP 吨中，233.37 ODP 吨于 2008 年在巨化设施中加以储存。销售这些数量的许可证尚未颁发，因此，对计量吸入器的用途现时还无法核证。如果是在 2009 年使用，明年可以核查这些数量，但如果储存的数量没有在 2009 年使用，便会出现问题，因为 2009 年是协定的最后一年。

### 未及时提交

16. 尽管中国与执行委员会之间的加快淘汰协定允许至少在有关执行委员会会议之前的 30 天提出独立的核查报告（UNEP/OzL.Pro/ExCom/44/73 号文件，附件十七，第 5 段，条件 b），但这意味着秘书处没有时间对核查报告进行审查，特别是如果秘书处本身像去年一样又提出未决问题时。这一问题直到本次会议前两周工作结束时才得到解决。提交执行委员会审议的文件考虑了业已提交年度付款申请的这一情况。为了解决将于 2010 年提交的最后一次付款申请可能产生的问题，谨建议执行委员会考虑敦促中国尽一切努力在 2010 年尽早提交核查报告。

### **建议**

17. 谨建议执行委员会：

- (a) 请中国政府 and 世界银行作为将要提交 2010 年第一次会议的核查报告的一部分，列入对 2008 年和 2009 年向计量吸入器制造商销售氟氯化碳的许可证的审查；
- (b) 敦促中国政府 and 世界银行尽一切努力在 2010 年尽早提交核查报告，以便在向执行委员会呈交文件之前解决任何可能出现的问题；以及
- (c) 鉴于核查结果表明中国实现了氟氯化碳生产行业协定确定的 2008 年氟氯化碳生产的减产指标，向世界银行发放 750 万美元和 562,500 美元的相关支助费用，用于执行中国氟氯化碳生产行业协定的 2009 年工作方案。

# **CHINA CFC PRODUCTION PHASE-OUT PROGRAM**

## **2008 VERIFICATION REPORT**

February 23 2009

### **Inspection Team**

F.A. Vogelsberg: Mission Leader and primary text preparation - Annex I  
Hua Zhangxi: Data Summary - Annex II (Gradual Closure and Complete Closure),  
and Annex III (Verification of sales of CFCs for MDI uses in 2008)  
Wu Ning: Financial Verification of CFC Production for China in 2007- Annex IV

### **Assisted and Accompanied By**

Lin Nanfeng: (FECO/MEP)

### **Inspection Mission Time**

February 21-22 2009

### **Enterprises Visited**

Zhejiang Juhua Fluoro-Chemical Co. Ltd- Quzhou City, Zhejiang Province,

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### **Report Format and Contents**

- ◆ Verification conclusions for CFC Production in China for 2008.
- ◆ Annex I – Report for visit to Juhua Fluoro-chemical Co.Ltd
- ◆ Annex II - CFC production verification tables for gradual closure for the enterprise visited and inspected.
- ◆ Annex III – Verification of CFC sales for MDI uses in 2008
- ◆ Annex IV– Financial verification of CFC Production for China in 2008

## Verification Conclusion with respect to China's CFC Production in 2008

In accordance with the "CFCs/CTC/halon Accelerated Phase-out Plan in China", the maximum allowable CFCs production in 2008 is 550 ODP tonnes, which is specifically assigned for MDI uses. In 2007, based upon the assessment of SEPA (Now MEP) on technical and economic status of all CFC producers, Chinese Government approved that the CFC production line of Zhejiang Juhua Fluoro-chemical Co. Ltd (Juhua, SRI B14) could be retrofitted as the sole plant for production of HCFC-22 or CFC-11/12. In 2008, Chinese Government issued quota for production of 550 ODP tonnes of CFCs to Juhua.

The verified total production of CFCs in China 2008 is 547.81 ODP tonnes, or 2.19 ODP tonnes lower than the maximum allowable CFC production in 2008. The following is the breakdown in accordance with product varieties

Type of CFC product for MDI uses	Total production of CFCs for MDI uses		Stock of CFCs for MDI uses in 2008 (MT)		
	ODS (MT)	ODP (tonnes)	Opening Jan 1, 2008*	Closing Dec 31, 2008	Change
CFC-11	143.000	143.000	0	135.312	+135.312
CFC-12	404.810	404.810	0	90.299	+ 90.299
Total	547.810	547.810			

\* Remark: The original CFC plant was closed in June 2007. Then the plant was retrofitted to a CFC-11/12 & HCFC-22 swing plant. The CFC production of the retrofitted plant started in 2008. It is a new start specifically for producing CFC-11/12 for MDI uses only. Therefore, the opening stocks for both CFC-11 and CFC-12 of 2008 are "0" that differ with the closing stocks of CFCs for general use of June 30, 2007.

CTC consumption for producing 143.000 MT of CFC-11 in 2008 is 170.354 MT. The average CTC/CFC-11 ratio is 1.191 (theoretical 1.12) that is close to the historical normal ratio of Juhua.

CTC consumption for producing 404.810 MT of CFC-12 in 2008 is 595.266 MT. The average CTC/CFC-12 ratio is 1.347 (theoretical 1.272) that is close to the historical normal ratio of Juhua.

HF consumption for producing 143.000 MT of CFC-11 in 2008 is 22.723 MT. The average HF/CFC-11 ratio is 0.159 (theoretical 0.145) that is close to the historical normal ratio of Juhua.

HF consumption for producing 404.810 MT of CFC-12 in 2008 is 145.597 MT. The average HF/CFC-12 ratio is 0.360 (theoretical 0.331) that is close to the historical normal ratio of Juhua.

The production of CFC-11 and CFC-12 in 2008 in Juhua was carried out in two campaigns, from March 24 2008 to April 9 2008 and from December 5 2008 to December 11 2008. Total operational days were 22.

The verification process as well as the assessment and findings are described in Annex I to the Verification Report.

All the verified monthly production data and raw material consumption data are recorded in the corresponding Section D2 of Annex II to the Verification Report.

In 2009, 7.5 MT (excluding the loss of 0.188 MT) of MDI grade CFC-11 were sold out and delivered to 3 purchasers and 314.44 MT (excluding the loss of 0.071 MT) of MDI Grade CFC-12 were sold out and delivered to 5 purchasers. The detailed sales information of CFC-11 and CFC-12 for MDI uses in 2008 is recorded in Annex III to the Verification. Report

The financial verification results are described in Annex IV to the Verification Report.

## **ANNEX I**

### **Report for visit to Juhua Fluoro-chemical Co. Ltd**

#### **General Overview**

The CFC11/12 plant shutdown on June 9, 2007, since SEPA (now MEP) had selected Juhua as the most viable operation to produce limited quantities of CFC-11/12 for MDIs' from January 1, 2008 to December 31, 2009 ; the plant was not decommissioned but instead reconfigured to become a "swing" plant capable of CFC-11/12 or HCFC-22 production. Any production of CFCs after January 1, 2010 will require approval by the Parties to the Montreal Protocol. The reconfiguration was done by July 23, 2007 but actual operation producing HCFC-22 did not occur until August 13, 2007, even though the original design was capable of the higher pressure required for HCFC-22. It was necessary to make several process changes including modification to the distillation column's internals to accommodate refining HCFC-22.

The HCFC-22 market become very soft in mid 2008 and the production of HCFC-22 for year 2008 ceased on July 22, 2008.

Two CFC-11/12 campaigns were carried out in 2008. The first campaign was started March 24 at 6 AM and run continuously until shutdown April 9 at midnight; a total of 10 operational days. The second campaign started December 5, 2008 at 8 AM and was terminated December 11 at 9:30 PM; a total of 6 operational days. Therefore, a total of 22 operational days were devoted to CFC production. HCFC-22 was produced for 124 operational days. The plant was essentially down for more than one half of 2008 or 218 days except a few days in August when 46.8 MT of HF was fed to the production system in an attempt to produce HFC-32; however, not ready for commercial production yet.

#### **Verification Procedures**

CTC transferred from the CMs Plant was verified as 715.62 MT by CFC Verification Team as well as by the CTC Verification Team two days before the CFC verification. Transfer slips were generated for each CTC movement to the CFC plant and these were verified as correct.

HF transferred to the CFC-11/12 & HCFC-22 swing plant for all uses (including CFC-11/12, HCFC-22 and test run on HFC-32) were verified. By backing out HF used for HCFC-22 and the HFC-32 test run, we verified the amount used to produce CFC-11/12.

Between the last production in 2007 on June 9 and the first CFC campaign in 2008 starting March 24, CFC-11 and CFC-12 inventories were determined to be 0.188 MT and 0.071 MT less respectively. The plant reported 2008 CFC production incorrectly subtracted these handling losses from 2008 official production as documented by the product transfer slips. Our verification figures added these adjustments back to 2008 production. Therefore, verified CFC-11 and CFC-12 production is 143.0 MT and 404.81 MT respectively, for a total of 547.81 ODP tonnes vs their 550 ODP tonnes quota for MDI uses. CFC production for the two 2008 campaigns were verified by summing the transfer slips.

Operating and idle days for the plant was verified by checking its control room log sheets for the year.

#### **Confirmation of sales to MDI application**

As requested by our TOR all sales of CFCs in 2008 were summarized by the company, including amount purchased, name and address of the purchasers, date and serial number of the invoice and delivering record. There are only six customers, including five domestic dealers (not the MDI producers themselves) and one exporter to Russia for their MDI uses. The CFC Production Verification Team checked and confirmed all the sale data to the above-mentioned dealers are complete and correct.

The reason Juhua does not sell directly to MDI manufacturers is related to payment terms demanded by the MDI manufacturers, who do not pay their invoices until the CFCs are checked analytically and 100 % consumed. The CFC dealers are willing to accept these extended payment terms.

The CFC Production Verification Team is not in the position to verify that all of Juhua's MDI grade CFCs sold to the dealers was actually used exclusively for MDI production.