The Project Participants:

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Response to the request for review for the CDM project activity "Changshu Haike HFC 23 Decomposition Project" with the registration number 1105

Attention: Kai-Uwe Barani SCHMIDT
Executive Secretary
Secretariat of CDM Executive Board to Kyoto Protocol
Martin-Luther-King-Strasse 8
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December 2, 2007

Dear Mr. Kai-Uwe Barani SCHMIDT,

We were informed that a request for a review of our project "Changshu Haike HFC 23 Decomposition Project" (Registration number 1105) has been initiated by CDM Executive Board. As required by the Board, please find below our responses to the questions, as well as clarification of the issues raised and relevant additional information. We will be grateful for you to forward our answers, clarifications and additional information to the Board.

1. **Issue 1: The PDD states that "In Changshu Haike's case, only one existing production facility dedicated exclusively for HCFC 22 started operation in May 2000. The actual annual production of HCFC 22 production was 7,937.7 tons in 2002, 13,179.3 tons in 2003 and 18,106.5 tons in 2004 respectively". Further**

clarification is required regarding the actual production capacity of the project activity.

Our clarification: we would like to further clarify that the actual production capacity of the HCFC 22 production line that generates waste HFC 23 to be destroyed by this project, is 35 000 tons/year, as approved by the government; Jiangsu Province Foreign Trade and Economic Cooperation Bureau. The approval letter has been checked by JQA as stated on page 15 of the Validation Report. And the actual annual production of HCFC 22 was 7,937.7 tons in 2002, 13,179.3 tons in 2003 and 18,106.5 tons in 2004, respectively, and the production of any year is lower than the approved capacity. In accordance with the methodology AM0001, this project sets the 18,106.5 tons/year produced in 2004 as the maximum annual HCFC 22 production that is eligible for claiming CERs by destroying the generating waste HFC 23.

2. **Issue 2: The PDD states that "Changshu Haike Chemical Co. Ltd is the project owner and operator. This legal entity, a Sino-French Joint Venture, is located within the HCFC 22 facility of Arkema (Changshu) Fluorochemical Co. Ltd to treat HFC 23 gas emission from the HCFC 22 process within Arkema (Changshu) Fluorochemical Co. Ltd HCFC 22 facility, which started the HCFC 22 production in May 2000. Arkema (Changshu) Fluorochemical CO. Ltd proposes to transfer exclusively its total HCFC 22 facility HCF 23 waste gas emission during the CDM project activity to Changshu Haike Chemical Co. Ltd for appropriate destruction and the later (Changshu Haike Chemical Co. Ltd) accepts this transfer". The PP is requested to further clarify what is the meaning of the proposed transfer, the nature of the transfer in terms of physical implications, and whether this transfer implies the modifications of existing facilities or other changes in the facility or its capacity.**

Our clarification: this is a matter related to our company management for operating this proposed CDM project. In fact, this transfer is purely a legal transfer: "Changshu Haike Chemical Co. Ltd" was solely established to operate this proposed CDM project so as to be in compliance with Chinese law, which only allows Chinese entity or Chinese-holding entity to be eligible to conduct CDM projects with foreign partners. "Changshu Haike Chemical Co. Ltd" was established by "Arkema (Changshu) Fluorochemical Co. Ltd" and is dedicated uniquely to the decomposition of waste HFC 23 coming from "Arkema (Changshu) Fluorochemical Co. Ltd" HCFC 22 production facility. This also means that "Changshu Haike Chemical Co. Ltd" thermal oxidizer HFC23 gas inputs will exclusively come from this production facility.

Therefore, "Changshu Haike Chemical Co. Ltd" is the unique and exclusive entity to destroy the HFC 23 emitted from "Arkema (Changshu) Fluorochemical Co. Ltd" HCFC 22 production facility. This means that all HFC 23 emitted by "Arkema (Changshu) Fluorochemical Co. Ltd" HCFC 22 production facility will be delivered to "Changshu Haike Chemical Co. Ltd".

This "transfer of HFC 23" will be done through a dedicated pipe of about 45 meters connecting directly "Arkema (Changshu) Fluorochemical Co. Ltd" existing HFC 23 outlet pipe to "Changshu Haike Chemical Co. Ltd" thermal oxidizer inlet pipe. Therefore, there will be no emission leakage of HFC 23 from the transfer. This has been verified by the DOE.

No modification in the existing facility other than this connecting pipe is needed. Thus, this transfer will have no impact on the HCFC 22 production and no impact on the emission of HFC 23.

3. **Issue 3: The Validation report states that "Through the site-visit, the total annual production of the existing HCFC 22 facility were confirmed to be 7,937.7 tons in 2002, 13,179.3 tons in 2003 and 18,106.5 tons in 2004 respectively, from checking the monthly and daily data sheets, including the inventory of HCFC 22 and the amounts filled in the containers". Further clarification is required in relation to amounts filled in the containers and source, purpose and use of those containers.**

Our clarification: HCFC 22 annual production verification by the DOE was achieved by crosschecking the consistency of the daily production records, the monthly-consolidated reports and the amounts of HCFC 22 stored in **the "containers", which are the storage tanks,** the iso-containers and the disposables. The inventory of HCFC 22 is the quantity of HCFC 22 stored in the storage tanks (Fig.1), in the disposables (Fig.2) and in the iso-containers (Fig.3) ". The storage tanks, Iso-containers and disposables are the necessary parts of the facility for the production, transportation and selling of HCFC 22. The storage tanks are used for intermediate storage. The Iso-containers and disposables are filled for transportation to customers. The plant has three storage tanks with a total capacity of about 1300 MT. Each Iso-container has a capacity of about 18 MT. The number of Iso-containers can vary depending on sales plan. We have two types of disposables: 22.7 kg and 13.6 kg depending **on customers' request.**

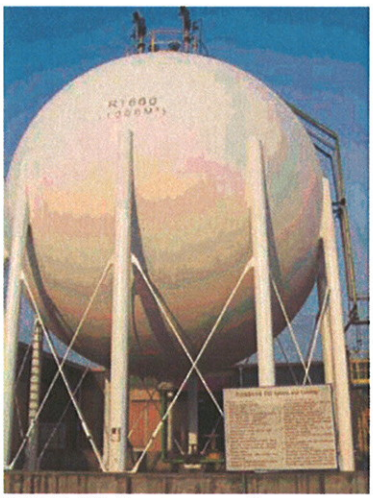

Fig.1: HCFC 22 Storage tank

Fig.2: HCFC 22 Disposable

Fig.3: HCFC 22 Iso-containers

4. **Issue 4: The applied methodology (p.5) includes the following section: "The historical production data of HCFC 22 facility... in each production line and the determination of ... HCFC 22 production capacities ... and the maximum annual HCFC 22 production quantity that is eligible for crediting should be documented transparently in the CDM-PDD." However, the Validation report states page 11 that "several production lines operate" and the PDD in Section B.6.2 includes data of HCFC 22 production totals of all production lines in years 2002-2004, while the number HCFC 22 production lines is not detailed and it does not include production data of each production line. Further clarification is required.**

We would like to clarify that this is solely a misunderstanding in the language used. This paragraph in page 11 of the Validation Report should be read as:

> *"q_HFC23y", quantity of HFC 23 generated in each HCFC 22 production line as mentioned in the methodology, is not listed in B.7.1., because the following conditions are not applicable: (a) not all HFC 23 is destroyed; (b) several production lines operate; and (c) part of the HFC 23 is sold."*

We would like to further confirm that for this proposed CDM project activity, none of these (a), (b) and (c) conditions are applicable:

(1) all HFC 23 generating from the HCFC 22 production line will be destroyed,
(2) there is only one HCFC 22 production line,
(3) no HFC 23 will be sold since there is no such market.

Therefore, in accordance with the methodology, only one quantity of HFC 23 generated in the HCFC 22 production line is listed in B.7.1.

5. **Issue 5: According to the PDD section B.6.2 – Source of HCFC 22 historical production data is: "Provided by Changshu Haike". Further clarification is required on the data provided and its reliability and sources.**

Our clarification: as stated on page 10 of the Annex A "CDM Validation checklist" of the Validation Report, "*HCFC 22 productions during the three years from 2002 to 2004 and until the Site-visit in March 2007 were confirmed through surveying the historical monthly and/or daily data of the factory.*"

The data concerning HCFC 22 production in 2002, 2003 and 2004, listed as "provided by Changshu Haike" in the PDD section B6.2 comes from the detailed historical production records of the plant and have been verified and approved by DOE during site visit. The information is archived and can be checked at any time. Furthermore, the DOE has verified the sales record of HCFC 22 as double-checking, and was able to further confirm the credibility of the production data of HCFC 22 of the production line.

6. **Issue 6: The DOE shall further clarify how they have assessed, verified and validated HCFC 22 historical production data.**

This question will be answered by the DOE

7. **Issue 7: In relation with HCFC 22 production capacities, the applied methodology and the above-referred methodology section requires determination of each production line of HCFC 22 capacity data. However, the PDD does not include information about any production line and does not include any information about any installed capacity.**

Our clarification: as we clarified for issue 4, we apologise for causing this confusion. We confirm again that there is only one production line. And we trust that our clarification of issue 1 also answers the issue of production capacity: the production capacity of HCFC 22 for this proposed CDM project activity eligible for crediting will be limited to 18,106.5 tons/year of HCFC 22, even though the capacity of this production line is 35 000 tons/year.

8. **Issue 8: The DOE shall further clarify how they have assessed, verified and validated data related to each production line capacity of HCFC 22.**

This question will be answered by the DOE

9. **Issue 9: In relation to the maximum eligible value of parameter w that shall be used for monitoring, the PDD in page 17 states that "The cut-off condition, specified in the parameter w in the methodology, is to be checked against the actual situation on an ex-post basis." According to the above PDD declaration, ex-post w value (limited to the methodology maximum w = 3.0) maybe used directly without relation to w = 1.64% baseline maximum eligible value. It is not clear if the eligible value of the parameter w during the monitoring period will be the lower between 1.64% and the post calculations. Further clarification is required.**

Our clarification: as explained in the PDD, in accordance with the methodology and to exclude the possibility of manipulating the production process to increase the quantity of waste, the project annual quantity of eligible HFC 23 waste (Q_HFC23_y) is limited to a fraction (w) of the minimum between:

- the actual production of HCFCs during the year at the plant where the HFC23 waste originates (Q_HCFC_y, only known ex-post),
- the maximum historical annual production of HCFC-22 at this plant between 2002 and 2004 (Q_HCFC22_{Hist} = 18,106.5 tons).

In accordance to the methodology, the value of w is set ex-ante as the lowest of the historical annual values calculated for 2002, 2003, 2004, which is 1.64% (<3%). Thus, we confirm that the value of parameter *w* for this project will be equal to or lower than 1.64% throughout the monitoring period, which is fully consistent with the methodology.

The PDD may have not stated this point clearly and we have improved the language to make this point clearly and fully understandable in the revised PDD version 6.

10. **Issue 10: The DOE shall further clarify how they have assessed and validated the maximum eligible value of parameter w that shall be use for monitoring and whether the determination in the PDD is in line with the applied methodology.**

This question will be answered by the DOE

11. **Issue 11: In relation to the available data for calculation of parameter w, the applied methodology in page 5 includes the following section "If insufficient data is available for the calculation of HFC 23 release for all three most recent years of operation up to 2004, then the default value for w to be used is 1.5%." According to the PDD, section B.6.2, the source of data is: "Provided by Changshu Haike's Internal procedure", which may be regarded as insufficient. Further clarification is required. Further more, if the source and transparency of data is "insufficient", a reduction of the eligible maximum value of parameter w to w = 1.5% may be appropriate.**

Our clarification: the clarifications to issues 1, 7 and 9, we believe, make clear that sufficient data are available for the calculation of HFC-23 historical releases for 2002, 2003 and 2004. All of the historical data for HFC 23 and HCFC 22 are archived in the company and are available for verification at any time. The *w* parameter value has been calculated by "direct measurement of HFC 23", because the tail gas from the HCFC 22 production facility has been historically measured by a vortex flow meter in the facility. Thus, in accordance to the methodology, the case were "insufficient data is available" should not apply. Furthermore, two measurement procedures were available: one from the vortex flow in the facility and one from the laboratory analysis data by gas chromatography. Both these data has been verified and crosschecked by the DOE, which finally validated the PDD figures. Thus, this case is not applicable.

12. **Issue 12: The monitoring plan should include the monitoring of two important parameters as described in the monitoring methodology: the quantity of HCF 23 generated in each HCFC 22 production line, and hourly HCFC 22 production capacity.**

Our clarification: according to our clarification related to issue 4, we reconfirm that this project has only one production line of HCFC 22.

According to the monitoring methodology, the hourly production HCFC 22 capacity of production line is "used to estimate equivalence of HCFC and CFC production". Since the

facility is solely dedicated for HCFC 22 production (see page 9 of PDD), we understand this parameter does not need to be monitored. Similarly registered CDM projects (ie: CDM 1194) have interpreted the methodology in the same way as in this project.

Therefore, we believe that the monitoring plan in the PDD is consistent with the methodology, but are ready to follow the EB new guidance and eventually revise the monitoring plan if required.

13. **Issue 13: The applied methodology in page 9 and 14 includes number for each monitoring parameter. The PDD does not apply any ID number. The Monitoring Plan shall follow the methodology ID numbers of the monitoring parameters.**

Our clarification: according to our understanding on the section B.7.2. of the "Guidelines for completing the Project Design Document (CDM-PDD), and the proposed new baseline and monitoring methodologies (CDM-NM) Version 06.2", we believe that it is not mandatory to use the methodology ID numbers in this description of the monitoring plan. Anyhow, the ID numbers for each monitoring parameter have been added in the revised PDD version 6, according to the Methodology ID numbers of the monitored parameters.

14. **Issue 14: The methodology requires the following parameters to be monitored using meters:**
    - **ID 8 – HFC 23 sold by the facility generating the HFC 23 waste. According to the PDD in page 24, this parameter is based on "Sales record". This way of monitoring of this parameter is different than required by the applied methodology**
    - **ID 9 – Quantity of HCFC 22 produced based on historical production records. According to the PDD in page 17 this parameter is "Provided". This way of monitoring of this parameter is different than required by the applied methodology.**

Our clarification: we would like to further confirm that this project has not sold and will not sell any HFC 23 in the future. Anyway we revised PDD by replacing "Sales record" by "Data sheet to be recorded using weight meters". We regret for this confusion in the language used.

Our clarification on issues 6 and 8 has stated that the Q_HCFC_{Hist}, corresponding to the quantity of HCFC 22 produced in the plant generating the HFC 23 waste was measured and this has been assessed and verified by DOE. We revised this wording by "Data sheet of HCFC 22 output, recorded and archived by the plant" in the PDD version 6.

15. **Issue 15: In the PDD (page 36) Table 3 describes the increase of noise to very high levels and noise reduction measures, which shall be included in the project activity. However, the Monitoring Plan does not include the monitoring of noise level. The monitoring plan should include monitoring the following parameters related to the efficiency of noise reduction measures that are part of the project:**
    - **Air blower of the thermal oxidizer;**
    - **Induced draft fan for waste gas treatment**
    - **Various kinds of water pumps**

Our clarification: it is our understanding that the applied monitoring methodology does not require to monitor the mentioned efficiency measures and report to the Executive Board. Nevertheless, as documented and analysed in the Environmental Impact Assessment report, which has been approved by Changshu and Jiangsu Province Environmental Protection Bureaus, necessary preventive measures will be implemented to ensure the project is fully compliant with the relevant noise standards (i.e.: the National Standard of Noise at the Boundary of Industrial Enterprises - GB12384-90). The efficiency of these noise reduction measures will be inspected and approved by local authority before project start-up.

If the Board makes a new decision, or the Board clarifies, that such environment elements should also be monitored, the PP will follow the new Guidance accordingly.

16. Issue 16: The DOE shall sequentially identify CARs and CLs in the Validation report have no ID number.

This question will be answered by the DOE

17. Issue 17: The DOE shall provide a list of CARs and CLs to facilitate consideration and assessment of the project activity.

This question will be answered by the DOE

18. Issue 18: The DOE shall further clarify why it has closed CL as identified in Validation report page 15: "The measurement procedures, calculations and assumptions used to determine 'w' should be documented transparently in the PDD, whereas it has just been added in the revised methodology." This CL was closed as per the following reason: "The description of the procedures as well as calculations and assumptions used, was added in the PDD, in accordance with the new methodology." However, the only information regarding the source of these values is: "Provided by Changshu Haike's internal procedure". The above statement "Provided by Changshu Haike's internal procedure" cannot be regarded as proper corrective action and the PDD still does not include the following elements initially required by the DOE:

- **Measured procedures**
- **Calculations**
- **Assumptions**
- **"Documented transparently in the PDD"**

This question will be answered by the DOE

19. Issue 19: The Validation report, in its section 3.7 "Environmental Impacts" does not include requirements for noise reduction and monitoring of the relevant data. Further clarification is required.

This question will be answered by the DOE

20. Issue 20: The DOE shall further clarify how they have checked that "the calibration by an external accredited entity, (e.g. The Centre of Metrology Station of Yangzi Petrochemical Co. Ltd)" is deemed appropriate and how they have verified that the external entity is fully qualified for that activity.

This question will be answered by the DOE

21. Issue 21: The DOE shall further clarify how they have ensured that uncertainties are to be addressed in a systematic manner in the documentation.

This question will be answered by the DOE

22. Issue 22: The DOE states in the Validation Report that "Mr. Toshimizu Okada is an assessor of CDM and ISO14001. He has Master of Forest Resources. He has several experiences of CDM project validation and JI project determination including HFC 23 decomposition, small-scale renewable energy, energy efficiency improvement and biomass utilization". However, the grant of sectoral scope as CDM assessor to Mr Okada by JQA is dated on 1st November 2006, just a month before the contractual arrangement of this project activity was signed. In addition, Mr. Okada academic background is in Forest Resources. Further clarification is required as to how Mr. Tomada gained experience in HFC decomposition projects without having been granted the certificate as assessor in the pertinent sectoral scope.

This question will be answered by the DOE

With the above clarification, explanations and additional information, we hope that the CDM Executive Board will be able to approve the registration of our project activity soon.

With our best regards,

Fucai WANG
for Changshu Haike Chemical Co. Ltd

Franck BERNARD
for EDF Trading Limited