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# VERIFICATION AND CERTIFICATION REPORT

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**Zhejiang Juhua Co., Ltd.**

**Sixth Verification of**

**HFC23 Decomposition Project of  
Zhejiang Juhua Co., Ltd, P.R.China**

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**SGS Climate Change Programme**

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Project Title:	Organisational Unit:
HFC23 Decomposition Project of Zhejiang Juhua Co., Ltd, P.R.China	SGS United Kingdom Limited
Revision Number:	Client:
024	Zhejiang Juhua Co., Ltd

**Summary:**

SGS United Kingdom Ltd has performed the 6th periodic verification of the CDM project 'HFC23 Decomposition Project of Zhejiang Juhua Co., Ltd, P.R. China', UNFCCC reference number 0193. The verification includes confirming the implementation of the approved monitoring plan and the application of the monitoring methodology as per AM0001 Version03. A site visit was conducted to verify the data submitted in the monitoring report.

Zhejiang Juhua Co., Ltd has installed an incineration facility to decompose HFC23 generated from the registered HCFC22 production line No.2-703 using a superheated steam decomposition technology, HFC23 is destructed at a temperature higher than 800°C. The off-gas is cooled down and neutralized before being vented to the atmosphere.

Prior to this verification, five monitoring reports have successfully completed the verification processes and the CERs have been issued against the issuance requests.

A revision to the Monitoring Plan concerning reflection of 'weekly zero-check' instead of 'weekly calibration' and inclusion of monitoring of emission factor for waste transport has been approved by the EB on 5 Nov 2007.

SGS confirms that the project is implemented in accordance with the validated Project Design Document and approved Monitoring Plan. The monitoring system is in place and the emission reductions are calculated without material misstatements. Our opinion relates to the projects GHG emissions and the resulting GHG emission reductions reported and related to the valid project baseline and monitoring and its associated documents. Based on the information seen and evaluated we confirm that the implementation of the project has resulted in 1577196 tCO<sub>2e</sub> during period 1<sup>st</sup> Aug 2007 up to 31<sup>st</sup> Oct 2007.

Subject:	<b>Indexing Terms</b>
CDM Project Verification	
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## Abbreviations

CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
COP/MOP	Conference of Parties / Meeting of Parties
DCS	Distributed Control System
DNA	Designated National Authority
DOE	Designated Operational Entity
EB	Executive Board of the clean development mechanism
GC	Gas Chromatograph
GHG	Greenhouse gas
GWP	Global Warming Potential
IETA	International Emission Trading Association
IPCC	Intergovernmental Panel on Climate Change
MP	Monitoring Plan
MR	Monitoring Report
MT	Metric Ton
NIR	New Information Request
PDD	Project Design Document
PP	Project Participants
SGS	Société Générale de Surveillance
UNFCCC	United Nations Framework Convention on Climate Change

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## 1. Introduction

### 1.1 Objective

SGS United Kingdom Ltd has been contracted by Zhejiang Juhua Co., Ltd. to perform an independent verification of its CDM project 'HFC23 Decomposition Project of Zhejiang Juhua Co., Ltd, P.R.China'. CDM projects must undergo periodic audits and verification of emission reductions as the basis for issuance of Certified Emission Reductions (CERs).

The objectives of this verification exercise are, by review of objective evidence, to establish that:

- The emissions report conforms with the requirements of the monitoring plan in the registered PDD and the approved methodology; and
- The data reported are complete and transparent.

### 1.2 Scope

The scope of the verification is the independent and objective review and ex post determination of the monitored reductions in GHG emission by the project activity. The verification is based on the validated and registered project design document and the monitoring report. The project is assessed against the requirements of the Kyoto Protocol, the CDM Modalities and Procedures and related rules and guidance.

SGS has, based on the recommendations in the Validation and Verification Manual, employed a risk-based approach in the verification, focusing on the identification of significant reporting risks and the reliability of project monitoring.

The verification is not meant to provide any consulting towards the Client. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the project design.

### 1.3 Project Activity and Period Covered

This engagement covers emissions and emission reductions from anthropogenic sources of greenhouse gases included within the project boundary of the following project and period.

Title of project activity:	HFC23 Decomposition Project of Zhejiang Juhua Co., Ltd, P.R. China
UNFCCC registration No:	0193
Monitoring period covered in this report	1 Aug 2007 – 31 Oct 2007
Project Participants	Zhejiang Juhua Co., Ltd JMD Greenhouse-Gas Reduction Co., Ltd. JGC Corporation Marubeni Corporation Daioh Construction Co., Ltd.
Location of the project activity:	Quzhou City, Zhejiang Province, China

Zhengjiang Juhua Co., Ltd has installed an incineration facility to decompose HFC23 generated from the registered HCFC22 production line No.2-703. Superheated steam decomposition technology is adopted for HFC23 decomposition, the technology supplier is JMD Greenhouse-Gas Reduction Co., Ltd. HFC23 is sent to the incineration system and destructed at a temperature higher than 800°C. The off-gas is cooled down and neutralized before being vented to the atmosphere.

## 2. Methodology

### 2.1 General Approach

SGS's approach to the verification is a two-stage process.

In the first stage, SGS completed a strategic review and risk assessment of the projects activities and processes in order to gain a full understanding of:

- Activities associated with all the sources contributing to the project emissions and emission reductions, including leakage if relevant;
- Protocols used to estimate or measure GHG emissions from these sources;
- Collection and handling of data;
- Controls on the collection and handling of data;
- Means of verifying reported data; and
- Compilation of the monitoring report.

At the end of this stage, SGS produced a Periodic Verification Checklist which, based on the risk assessment of the parameters and data collection and handling processes for each of those parameters, describes the verification approach and the sampling plan.

Using the Periodic Verification checklist, SGS verified the implementation of the monitoring plan and the data presented in the Monitoring Report for the period in question. This involved a site visit and a desk review of the monitoring report. This verification report describes the findings of this assessment.

### 2.2 Verification Team for this Assessment

Name	Role	SGS Office
Qi Yang	Lead Assessor	SGS China

### 2.3 Means of Verification

#### 2.3.1 Review of Documentation

The validated PDD, the monitoring report submitted by the client and additional background documents related to the project performance were reviewed.

#### 2.3.2 Site Visits

As part of the verification, the following on-site inspections have been performed.

<b>Location:</b> : Zhejiang Juhua Co., Ltd	<b>Date:</b> 16 <sup>th</sup> – 17 <sup>th</sup> November 2007
<b>Coverage</b>	<b>Source of Information / Persons Interviewed</b>
An interview with project participants, including review of key physical components, monitoring and operation status in this monitoring period.	Mr. Chen Kefeng, Juhua CDM project manager
A review of DCS archiving, operation logs, event records and monthly statistics.	Mr. Zhang Xueliang, Juhua CDM monitoring manager
Collection of Calibration Certificates/Records of measurement instruments.	Ms. Chen Zilan, Juhua process engineer
Inspection on established practices.	Ms. Zhang Yanmei, Juhua process engineer
	Mr. Yu Feng, Juhua process engineer Mr. Wen Da, Juhua metering supervisor
	Mr. Hiroshi Shimizu, JMD Project Manager
	Mr. Koji Akiyoshi, JGC Operation Engineer

## **2.4 Reporting of Findings**

As an outcome of the verification process, the team can raise different types of findings

In general, where insufficient or inaccurate information is available and clarification or new information is required the team shall raise a New Information Request (NIR) specifying what additional information is required.

Where a non-conformance arises the team shall raise a Corrective Action Request (CAR). A CAR is issued, where:

- I. the verification is not able to obtain sufficient evidence for the reported emission reductions or part of the reported emission reductions. In this case these emission reductions shall not be verified and certified;
- II. the verification has identified misstatements in the reported emission reductions. Emission reductions with misstatements shall be discounted based on the verifiers ex-post determination of the achieved emission reductions

The verification process may be halted until this information has been made available to the assessors' satisfaction. Failure to address a NIR may result in a CAR. Information or clarifications provided as a result of an NIR may also lead to a CAR.

Observations may be raised which are for the benefit of future projects and future verification actors. These have no impact upon the completion of the verification activity.

Corrective Action Requests and New Information Requests are detailed in Periodic Verification Checklist. The Project Developer is given the opportunity to "close" outstanding CARs and respond to NIRs and Observations.

## **2.5 Internal Quality Control**

Following the completion of the assessment process and a recommendation by the Assessment Team, all documentation will be forwarded to a Technical Reviewer. The task of the Technical Reviewer is to check that all procedures have been followed and all conclusions are justified. The Technical Reviewer will either accept or reject the recommendation made by the assessment team.



### 3. Verification Findings

#### 3.1 Project Documentation and Compliance with the Registered PDD

The project has been registered on 3 March 2006 with the crediting period as from 1 Aug 2006 to 31 Jul 2013. The present 6th verification covers the period from 1 Aug 2007 to 31 Oct 2007, which is coherent with last monitoring period.

The project was registered against AM0001 Ver03. The monitoring methodology has been correctly applied and the documents for this periodic verification are complete and transparent. QA/QC procedures stipulated in the approved Monitoring Plan have been strictly followed.

During site visit, no change was observed on the physical and spatial configuration of the project. To date of this report, the project boundary has been always consistent with the registered PDD.

No finding was raised in this regard.

#### 3.2 Monitoring Results

##### 3.2.1 $q_{HFC23y}$

HFC23 flow is measured by mass flow meters in series at the entrance of the incineration system. The DCS is recording every second reading of the two functioning meters and automatically takes the lower reading for the  $q_{HFC23}$  accumulation. An auto-alarm system is adopted which calculates the difference between the two flow meters in series on a continuous basis and will alarm automatically once the difference surpasses the alarm point of twice of the uncertainty of the meter. In case an alarm occurs, this series of flow meters will be suspended immediately and prompt investigation will be carried out and it will not be put back into operation until the reason is found and problem (if any) solved. The conservativeness of the  $q_{HFC23}$  is thus guaranteed by the auto-alarm system and the procedure on alarm occurrence.

For the HFC23 mass flow meters, weekly zero-checks were conducted strictly as per the approved MP, records and screen dumps of the zero-checks were obtained and verified. All the meters were in good condition. (Full calibration of the meters was conducted in June 2007 during last monitoring period.)

The reported  $q_{HFC23}$  is verified by checking the monthly screen dumps, HFC23 flow curves in DCS and the CDM operation statistics. Consistency is found among all these evidences.

No findings were raised on this parameter.

##### 3.2.2 $P_{HFC23y}$

Samples are taken from the HFC23 feed pipe to the incinerator and analysed in in-house lab by GC.

Monthly calibration of the GC was performed as per AM0001. It is also established by Juhua that in the case a sample is found inadequate / abnormal, samples from the same gas bag will be reanalysed immediately, so there is less risk of a failure to collect the necessary data.

The reported weekly  $P_{HFC23y}$  were verified against original chromatograms and found ok.

No findings were raised on this parameter.

##### 3.2.3 $ND_{HFC23y}$

Samples are taken at the stack of HFC23 incineration facility and analysed in in-house lab by GC.

Monthly calibration of the GC was performed as per AM0001. It is also established by Juhua that in the case a sample is found inadequate / abnormal, samples from the same gas bag will be reanalysed immediately, so there is less risk of a failure to collect the necessary data.

**The HFC23 decomposition facility in this project actually consists of 8 identical incinerators in parallel so that the HFC23 incineration can be continuously operated when one or some of the incinerators stop.**

**We have confirmed that the analysis of HFC23 in effluent gas was performed at each time when any of the 8 incinerators stops as stated in the monitoring report and verification report. In this monitoring period, the HFC23 incineration was continuous (no stoppage of HFC23 incineration), wherein there have been 78 stops of individual incinerator for regular alternation or maintenance, and all the 78 chromatograms have been verified during onsite visit and the results are all Not Detected. The test is weekly performed for normal operation period and at every time when the incinerator stops. There has not been stoppage of HFC23 incineration in this monitoring period.**

The results of the analysis are all N.D. (Not detected). When the result is 'N.D.', the detection limit of the GC is taken for calculation.

The reported HFC23 content in tail gas was verified against original chromatograms and found ok.

No findings were raised on this parameter.

### 3.2.4 Q\_HCFC22y

HCFC22 production is measured by using mass flow meter, meter readings by shift is taken as raw record and is used to generate the daily data then monthly statistics.

The flow meter is calibrated monthly as per AM0001. Internal check of the HCFC22 production is conducted by both HCFC22 plant and HFC23 decomposition plant.

The reported Q\_HCFC22 was checked by verifying the raw records and monthly statistics and no error was found.

As per the registered PDD, the annual cap of HCFC22 production that is eligible for claiming CERs is 16517MT. The actual accumulated HCFC22 production of this project year (1 Aug 2007 - 31 Jul 2008) is 4494.9MT of which 4494.9MT is from this monitoring period.

It is verified and confirmed that this quantity is within the producing capacity of the registered HCFC22 unit (daily capacity is a technical characteristic of the HCFC22 facility, it is not to be acquired from calculation like simply picking up the production quantity of a certain year and dividing it by 365, actual production in that year was in fact depending on various factors during the specific year).

No findings were raised on this parameter.

### 3.2.5 HFC23\_soldy

The HFC23 flow is directly sent to incineration plant without any storage facility or side way to date of this report. The HCFC22 production in this monitoring period is also consistent with the actual HFC23 generation /destruction in this monitoring period.

No intent of selling HFC23 was observed as there is no market in China for HFC23.

It is confirmed that no HFC23 was sold in this monitoring period.

No findings were raised on this parameter.

### 3.2.6 Check Against Cap Requirements

$$*Q\_HFC23y = q\_HFC23 * P\_HFC23$$

$$Q\_HFC23y = w * Q\_HCFC22$$

The annual cap of HCFC22 production that is eligible for claiming CERs is 16517MT as per PDD, and accumulated HCFC22 production in this project year (1 Aug 2007 - 31 Jul 2008) is 4494.9MT, which is within the eligible annual cap. The second cap is the emission rate 'w' (ratio of HFC23 generation to HCFC22 production) which is 3% as per PDD, thus the eligible HFC23 for claiming CERs in this monitoring period is  $4494.9 * 3\% = 134.8470\text{MT}$  (**Q\_HFC23y**).

The actual generated and destructed HFC23 in this monitoring period is  $141.41405 * 99.25035\% = 140.35395\text{MT}$  (**\*Q\_HFC23y**), hence, it was capped to be 134.8470MT for calculating emission reductions in this monitoring period.

The reported values and subsequent CER calculation is found ok.

No findings were raised in this regard.

### **3.2.7 Q\_Power**

The electricity consumption by the CDM plant is measured by electricity meter and meter readings are recorded in the operation log.

The electricity meter is calibrated monthly as per AM0001.

The reported value is verified and found consistent with the operation log.

No findings were raised on this parameter.

### **3.2.8 Q\_Steam**

Steam consumption is measured by flow meter and recorded automatically by DCS.

The flow meter is calibrated monthly as per AM0001.

The reported value is verified and found consistent with the DCS data.

No findings were raised on this parameter.

### **3.2.9 Q\_Sludge**

The transported sludge is measured by truck scale and recorded in the weighbridge logs.

The truck scale is calibrated monthly as per AM0001.

The reported value is verified and found consistent with the weighbridge logs.

No findings were raised on this parameter.

### **3.2.10 E\_Power**

According to the PDD, this parameter is to be calculated with actual coal consumption rate from the Juhua Thermal Power Plant (JTPP) and IPCC default values.

NIR1 was raised asking reflection of monthly monitoring results and the weighted average in Appendix 9 of the MR, NIR1 was closed out with required information presented in the revised MR version 2 and the reported value was verified against the monthly raw coal consumption and production data from JTPP and found ok.

### **3.2.11 E\_Steam**

According to the PDD, this parameter is to be calculated with actual coal consumption rate from the Juhua Thermal Power Plant (JTPP) and IPCC default values.

NIR1 was raised asking reflection of monthly monitoring results and the weighted average in Appendix 10 of the MR, NIR1 was closed out with required information presented in the revised MR version 2 and the reported value was verified against the monthly raw coal consumption and production data from JTPP and found ok. There had been a typing error on the average coal consumption in MR Ver01 (0.1024 instead of 0.1124 as verified value).

### **3.2.12 E\_Sludge**

According to the revised MP approved on 5 Nov 2007, E\_Sludge is yearly revaluated with distance, truck load, average fuel consumption and IPCC default values of diesel.

The reported value is verified against the actual transportation circumstance and found ok. This parameter has a minimal impact on ER calculation.

No findings were raised on this parameter.

### **3.2.13 Check of operating temperature**

**SGS assessor has checked the temperature curve archived in DCS for the entire monitoring period with the event log of stop of incinerator, and confirmed that the temperature in normal incineration was above 800°C.**

**In addition, it has been confirmed at the preliminary verification stage for this project in Aug 2006 that an interlock system is in place that if the incineration temperature drops to lower than 850°C,**

the HFC23 flow to the incinerator is cut off automatically to safeguard ~~guarantee~~ a complete decomposition of HFC23.

### **3.3 Remaining Issues, CAR's, NIR's from Previous Validation or Verification**

No remaining issues, CARs or NIRs from previous verification process.

### **3.4 Project Implementation**

Project was implemented and equipment installed as described in the registered PDD; the incineration is stable with expected performance.

### **3.5 Completeness of Monitoring**

The reporting procedures reflect the content of the monitoring plan. The monitoring mechanism is effective and reliable.

### **3.6 Accuracy of Emission Reduction Calculations**

The calculation of emission reductions is found to be correct. One NIR was raised, the response to the NIR was satisfactory and these were closed. The details of the reported and the verified values for all parameters are listed in section 4.

### **3.7 Quality of Evidence to Determine Emission Reductions**

All parameters used for the determination of the Emission Reductions are discussed above in section 3.2 above. All the data recorded is in compliance with the final monitoring report.

### **3.8 Management System and Quality Assurance**

CDM activity was managed as per registered PDD and QA/QC procedure for each parameter was strictly followed according to the approved monitoring plan.

### **3.9 Data from External Sources**

The external data for this project are:

(1) Regulation and legislation on HFC23 emission in China

It is to be surveyed continuously. To date of this report, there has not been any restriction on HFC23 emission in China. Thus the B\_HFC23y remains as 0.

(2) GWP\_HFC23 as 11700 per AM0001.

(3) EF as 0.62857 per AM0001.

#### 4. Calculation of Emission Reductions

<i>Parameter</i>	<i>Reported Value</i>	<i>Verified Value</i>
[1] q_HFC23 (MT)	141.41405	141.41405
[2] P_HFC23 (%)	99.25035%	99.25035%
[3] *Q_HFC23 ([1]*[2]) (MT)	140.35395	140.35395
[4] Q_HCFC22 (MT)	4494.90	4494.90
[5] Q_HFC23 (w*[4]) (MT)	134.8470	134.8470
[6] B_HFC23 (MT)	0	0
[7] HFC23 sold (MT)	0	0
[8] ND_HFC23 (MT)	0.0006583	0.0006583
[9] Q_Power (kwh)	381720	381720
[10] Q_Steam (MT)	110.201	110.201
[11] Q_Sludge (MT)	824.02	824.02
[12] E_Power (tCO <sub>2</sub> /kwh)	0.00099943	0.00099948
[13] E_Steam (tCO <sub>2</sub> /tsteam)	0.295	0.3237
[14] E_Sludge (tCO <sub>2</sub> /tslug)	0.000668339	0.000668339

$$\begin{aligned}
 ER_y &= (Q_{HFC23_y} - B_{HFC23_y}) * GWP_{HFC23} - E_{DP_y} - L_y \\
 &= (Q_{HFC23_y} - B_{HFC23_y}) * GWP_{HFC23} - (ND_{HFC23_y} * GWP_{HFC23} + *Q_{HFC23_y} * EF) - \\
 &\quad (Q_{Power_y} * E_{Power_y} + Q_{Steam_y} * E_{Steam_y} + Q_{Sludge_y} * E_{Sludge_y}) \\
 &= (134.8470-0)*11700 - (0.0006583*11700+140.35395*0.62857) - \\
 &\quad (381720*0.00099948+110.201*0.3237+824.02*0.000668339) \\
 &= \mathbf{1577196} \text{ tCO}_2\text{e}
 \end{aligned}$$

## 5. Recommendations for Changes in the Monitoring Plan

No recommendation.

## 6. Overview of Results

### Assessment against the Provisions of Decision 17/CP.7:

Is the project documentation in accordance with the requirements of the registered PDD and relevant provision of decision 17/CP.7, EB decisions and guidance and the COP/MOP?

*Yes. The results of the compliance assessment are recorded in the verification checklist which is used as an internal report only.*

Have on-site inspections been performed that may comprise, inter alia, a review of performance records, interviews with project participants and local stakeholders, collection of measurements, observations of established practices and testing of the accuracy of monitoring equipment?

*Yes. Qi Yang visited the site and undertook interviews, collected data, audited the implementation of procedures, checked calibration certificates and checked data, inter alia.*

*The results of the site visits are recorded in the verification checklist which is used as an internal report only.*

*The evidences have been checked and collected. The revised monitoring report is attached with this verification report.*

Has data from additional sources been used? If yes, please detail the source and significance.

*Yes, external data for this project are: (1) Regulation and legislation on HFC23 emission in China and to date of this report, there has not been any restriction on HFC23 emission in China (2) GWP\_HFC23 as 11700 per AM0001 (3) EF as 0.62857 per AM0001.*

Please review the monitoring results and verify that the monitoring methodologies for the estimation of reductions in anthropogenic emissions by sources have been applied correctly and their documentation is complete and transparent.

*Yes. The monitoring methodology has been correctly applied and the monitoring report and supporting references are complete and transparent.*

Have any recommendations for changes to the monitoring methodology for any future crediting period been issued to the project participant?

*No.*

Determine the reductions in anthropogenic emissions by sources of greenhouse gases that would not have occurred in the absence of the CDM project activity, based on the data and information using calculation procedures consistent with those contained in the registered project design document and the monitoring plan.

*The data used in anthropogenic emission reduction calculation is consistent with those contained in the registered PDD and approved monitoring plan. The emission reduction was 1577199 tCO<sub>2</sub> for the period 01/08/2007 to 31/10/2007 as per the estimation made in the registered PDD. The actual emission reduction has been verified as **1577196** tCO<sub>2</sub> for the same period.*

Identify and inform the project participants of any concerns related to the conformity of the actual project activity and its operation with the registered project design document. Project participants shall address the concerns and supply relevant additional information.

*Yes, one NIR was raised and addressed by PP, please refer to section 3.2 for details.*

Post monitoring report on UNFCCC website

*Yes, the monitoring report is available at ref. 0193 on UNFCCC website*  
<http://cdm.unfccc.int/Projects/DB/DNV-CUK1135255248.44/iProcess/SGS-UKL1194429189.62/view>

## 7. Verification and Certification Statement

SGS United Kingdom Ltd has been contracted by Zhejiang Juhua Co., Ltd to perform the verification of the emission reductions reported for the CDM project 'HFC23 Decomposition Project of Zhejiang Juhua Co., Ltd, P.R. China', UNFCCC reference number 0193 in the period 1<sup>st</sup> August 2007 – 31<sup>st</sup> October 2007.

The verification is based on the validated and registered project design document and the monitoring report for this project. Verification is performed in accordance with section I of Decision 3/CMP.1, and relevant decisions of the CDM EB and CoP/MoP. The scope of this engagement covers the verification and certification of greenhouse gas emission reductions generated by the above project during the above mentioned period, as reported in 'Monitoring Report of HFC23 Decomposition Project of Zhejiang Juhua Co., Ltd, P.R. China', Version ~~32~~ dated ~~31<sup>st</sup> January~~ ~~November~~ 2008~~7~~.

The management of the Zhejiang Juhua Co., Ltd is responsible for the preparation of the GHG emissions data and the reported GHG emissions reductions on the basis set out within the project Monitoring Report Version ~~32~~ dated ~~31<sup>st</sup> November~~ ~~January~~ 2008~~7~~. Calculation and determination of GHG emission reductions from the project is the responsibility of the management of the HFC23 Decomposition Project of Zhejiang Juhua Co., Ltd, P.R. China. The development and maintenance of records and reporting procedures are in accordance with the monitoring report.

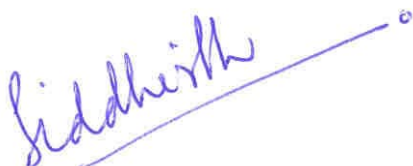
It is our responsibility to express an independent GHG verification opinion on the GHG emissions and on the calculation of GHG emission reductions from the project for the period 1<sup>st</sup> August 2007 to 31<sup>st</sup> October 2007 based on the reported emission reductions in the Monitoring Report Version ~~032~~ dated ~~17-31 Jan~~ ~~Nov~~ 2008~~7~~ for the same period.

Based on an understanding of the risks associated with reporting GHG emissions data and the controls in place to mitigate these, SGS planned and performed our work to obtain the information and explanations that we considered necessary to provide sufficient evidence for us to give reasonable assurance that this reported amount of GHG emission reductions for the period is fairly stated.

SGS confirms that the project is implemented as described in the validated and registered project design documents. Based on the information we have seen and evaluated, we confirm the following:

Name and Reference Number of Project	HFC23 Decomposition Project of Zhejiang Juhua Co., Ltd, P.R. China. UNFCCC Reference Number: 0193
Registered PDD and Approved Methodology used for Verification	PDD Version 3 dated 23 <sup>rd</sup> November 2005 and registered as CDM Number 0193 with AM0001 Version 3
Applicable period	1 <sup>st</sup> August 2007 – 31 <sup>st</sup> October 2007
Total GHG emission reductions verified	<b>1,577,196 tCO<sub>2</sub>e</b>

**Signed on behalf of the Verification Body by Authorized Signatory**



Signature:

Name: Siddharth Yadav

Date: ~~41<sup>st</sup> 19<sup>th</sup> December~~ ~~February~~ 2008~~7~~



## 8. Document References

- /1/ Monitoring Report of HFC23 Decomposition Project of Zhejiang Juhua Co., Ltd, P.R. China, Version 32 dated 31<sup>st</sup> January November 20087
- /2/ 'HFC23 Decomposition Project of Zhejiang Juhua Co., Ltd, P.R. China', PDD Version 3 dated 23<sup>rd</sup> November 2005 and registered as CDM Reference Number 0193
- /3/ Revised Monitoring Plan, approved on 5<sup>th</sup> November 2007
- /4/ AM0001 Version 3

**9. Annex 1: Overview of Findings**

**Annex 1: Overview of Findings**

Date: 16<sup>th</sup> Nov 2007

Raised by: Qi Yang

No.	Type	Issue	Ref
1	NIR1	<i>Please reflect monthly monitoring results and weighted average of E_Power and E_Steam in Appendix 9 and 10 of the MR.</i>	3.10 3.11

Date: 17<sup>th</sup> Nov 2007

[Comments]: *The monthly monitoring results and weighted average of E\_Power and E\_Steam are reflected in Appendix 9 and 10 of the MR (Version 02).*

Date: 30 Nov 2007 Qi Yang

[Acceptance and close out]: **NIR closed out** with required information presented and verified as correct. ER calculation is revised due to the typing error on average coal consumption for steam.

## Annex 2: Statement of Competence of the verification team

### Statement of Competence

Name: Qi Yang

SGS Affiliate: China

#### Status

- Product Co-ordinator
- Operations Co-ordinator
- Technical Reviewer
- Expert

#### Validation

#### Verification

- Local Assessor
- Lead Assessor
- Assessor
- / Trainee Lead Assessor

#### Scopes of Expertise

1. Energy Industries (renewable / non-renewable)
2. Energy Distribution
3. Energy Demand
4. Manufacturing
5. Chemical Industry
6. Construction
7. Transport
8. Mining/Mineral Production
9. Metal Production
10. Fugitive Emissions from Fuels (solid, oil and gas)
11. Fugitive Emissions from Production and Consumption of Halocarbons and Sulphur Hexafluoride
12. Solvent Use
13. Waste Handling and Disposal
14. Afforestation and Reforestation
15. Agriculture

Approved Member of Staff by Elton Chen Wu Date: 23/06/2007

## CURRICULUM VITAE (CV) FOR PROFESSIONAL STAFF

Position on the team: CDM Lead Assessor

Name of Company: SGS-CSTC Standard Technical Services Co., Ltd

Name of Staff: Qi YANG

Date of Birth: Sep 1980

Years with Firm/Entity: 1.5 Nationality: Chinese

Detailed Tasks Assigned: Validation and Verification for CDM/Voluntary projects

### Education:

**09/2002-07/2005 Master in Environmental Science and Technology (Double Master)  
Tongji University** (Shanghai, China) & **National Agricultural Institute** (INA, France)

#### Major courses:

Reaction engineering, reaction kinetics, modelization, hydraulics and pump engineering, water and waste water treatment, waste management: landfill, incineration, composting; remediation of polluted soil, water resource management, environmental economics etc.

#### Projects and internships:

- 01-06/2005 Research on methane oxidation by landfill cover soil  
Entity: Tongji University, Shanghai
- 07-11/2004 Integrated management of leachate in a MSW landfill (Thesis selected in the 20 Best papers of Veolia Group Global in 2004)  
Entity: Paris Civil Engineering Company (REP, Paris)
- 03-05/2004 Impact assessment of the joint project of the expressway A86  
Entity: National Institute of Bridge and Highway (ENPC, France)

#### Publications:

1. Treatment of leachates by evaporation in vacuum. *Environmental Engineering*. 2006/2
2. Simulated study on methane oxidation in landfill cover soil. *Acta Scientiae Circumstantiae*. 2006 (Top 5 Chinese Journal in environmental domain)
3. Effects of Soil Factors on Methane Oxidation Capacity in Landfill Cover Soil. *Journal of Tongji University - Natural Science*. 2007/6

**09/1998-06/2002 Bachelor in Environmental Engineering – Tongji University** (Shanghai)

#### Major courses:

Higher mathematics, physics, physical chemistry, chemical engineering basis, analytic chemistry, descriptive geometry, project budgeting, water treatment, electrotechnics, etc.

#### Projects:

Design of a waste water treatment plant for industrial effluents from a coke plant

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