
VERIFICATION AND CERTIFICATION REPORT

Gaisi Peony Carbon Capital S.a.r.l.

**Nanjing Jinling Grid Connected
Natural Gas Combined Cycle Power
Plant Project**

(UNFCCC Ref. No.: 3008)

MP3: From 01/12/2010 to 31/12/2010 (Both days inclusive)

SGS Climate Change Programme

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SGS United Kingdom Limited		Gaisi Peony Carbon Capital S.a.r.l.	
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Summary:			
SGS United Kingdom Ltd has performed the third periodic verification of the CDM project Nanjing Jinling Grid Connected Natural Gas Combined Cycle Power Plant Project with UNFCCC Ref. 3008. The verification includes confirming the implementation of the monitoring plan of the registered PDD version 06.4 dated 21/04/2010 and the application of the monitoring methodology as per AM0029, version 03 dated 16/05/2008. A site visit was conducted to verify the data submitted in the monitoring report. SGS confirms the following has been reviewed: (a) The registered PDD, including the monitoring plan and the corresponding validation report; (b) Monitoring Report and ER calculation spreadsheet; (c) The applied monitoring methodology; (d) Relevant decisions, clarifications and guidance from the CMP and the CDM Executive Board; (e) All information and references relevant to the project activity's resulting in emission reductions The project is a natural gas fired grid-connected electricity generation project, serving as a peak-load regulating power plant of the grid. The total installed capacity is 780MW, and involves the installation of two sets of 390MW gas-steam combined cycle generation system. The electricity generated by the project is supplied to the Jiangsu Power Grid, a sub-grid of the East China Power Grid (ECPG). SGS confirms that the project is implemented in accordance with the validated and registered Project Design Document. 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 and registered 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 54,864 tCO₂e emission reductions during period 01/12/2010 up to 31/12/2010.			
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CDM Verification			
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Abbreviations

CAR	Corrective Action Request
CERs	Certified Emission Reductions
CL	Clarification Request
CO ₂	Carbon Dioxide
CO ₂ e	Carbon Dioxide Equivalent
EB	Executive Board
ECPG	East China Power Grid
EF	Emission Factor
FAR	Forward Action Request
GHG	Greenhouse Gas(es)
MR	Monitoring Report
MP	Monitoring Plan
NCV	Net Calorific Value
NG	Natural Gas
PDD	Project Design Document
PP	Project Participant
SGS	SGS United Kingdom Ltd
UNFCCC	United Nations Framework Convention on Climate Change
VVM	Validation and Verification Manual

Table of Content

1. Introduction.....	5
1.1 Objective	5
1.2 Scope	5
1.3 Project Activity and Period Covered.....	5
2. Methodology.....	6
2.1 General Approach.....	6
2.2 Verification Team for this Assessment	6
2.3 Means of Verification	6
2.3.1 Review of Documentation.....	6
2.3.2 Site Visits.....	7
2.4 Reporting of Findings.....	7
2.5 Internal Quality Control	8
3. Verification Findings	9
3.1 Project Implementation - General.....	9
3.2 Remaining Issues, CAR's, FAR's from Previous Validation or Verification.....	10
3.3 Compliance of the monitoring plan with the monitoring methodology.....	10
3.4 Completeness of Monitoring.....	10
3.5 Accuracy of Equipment	12
3.6 Accuracy of Emission Reduction Calculations	13
3.7 Quality of Evidence to Determine Emission Reductions	13
3.8 Management System and Quality Assurance	13
3.9 Data from External Sources	14
4. Calculation of Emission Reductions	16
5. Recommendations for Changes in the Monitoring Plan	17
6. Overview of Results.....	18
7. Verification and Certification Statement	20
8. Document References	21
9. Findings Overview.....	23
10. Statement of Competence	24
11. Photographic Evidence	29

1. Introduction

1.1 Objective

SGS United Kingdom Ltd has been contracted by Gaisi Peony Carbon Capital S.a.r.l. to perform an independent verification of its CDM project Nanjing Jinling Grid Connected Natural Gas Combined Cycle Power Plant Project. 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:	Nanjing Jinling Grid Connected Natural Gas Combined Cycle Power Plant Project
UNFCCC Registration Number:	3008
Monitoring Period Covered in this Report	From 01/12/2010 to 31/12/2010
Project Participants	Huaneng Nanjing Jinling Power Generation Co., Ltd (China) Gaisi Peony Carbon Capital s.a.r.l (United Kingdom of Great Britain and Northern Ireland)
Location of the Project Activity:	Longtan County, Qixia District, Nanjing City, Jiangsu Province, China

The project is a natural gas fired grid-connected electricity generation project, serving as a peak-load regulating power plant of the grid. The total installed capacity is 780MW, and involves the installation of two sets of 390MW gas-steam combined cycle generation system. The electricity generated by the project is supplied to the Jiangsu Power Grid, a sub-grid of the East China Power Grid (ECPG).

This is the third periodic verification of the emission reductions achieved by the project covering the period from 01/12/2010 to 31/12/2010.

2. Methodology

2.1 General Approach

SGS' 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

Verification Team	Role
Karen Tong	Lead Assessor/Team Leader
Yi Liao	Sectoral Scope Expert(TA 1.1)
Shute Li	Local Assessor

Technical Review Team	Role
Joe Sun	Technical Reviewer
Jumson Fu	Sectoral Scope Expert(TA 1.1)

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. A complete list of all documents reviewed is attached in section 8 of this report.

2.3.2 Site Visits

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

Location: Longtan County, Qixia District, Nanjing City, Jiangsu Province, China	
Date: 15/12/2011-16/12/2011	
Coverage:	Source of Information / Persons Interviewed
1. Assessment of the implementation and operation of the project activity as per the registered PDD;	Ms. Zhang Li, Gaisi Peony Carbon Capital S.a.r.l.
2. Review of information flows for generating, aggregating and reporting the monitoring parameters;	Mr. Frank Li, Gaisi Peony Carbon Capital S.a.r.l.
3. Interviews with relevant personnel to confirm that the operational and data collection procedures are implemented in accordance with the monitoring plan.	Mr. Jiang Hongjun, Huaneng Nanjing Jinling Power Generation Co., Ltd.
4. A cross-check between information provided in the monitoring report and data from other sources such as plant log books and sales receipts;	Ms. Zhao Shuxian, Huaneng Nanjing Jinling Power Generation Co., Ltd.
5. A check of the monitoring equipments including calibration performance and observations of monitoring practices against the requirements of the PDD and the selected methodology;	Mr. You Xiaojun, Huaneng Nanjing Jinling Power Generation Co., Ltd.
6. Review of calculations and assumptions made in determining the GHG data and emission reductions;	Mr. Xiaodong Li, Huaneng Nanjing Jinling Power Generation Co., Ltd.
7. Identification of quality control and quality assurance procedures in place to prevent or identify and correct any errors or omissions in the reported monitoring parameters.	

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 Clarification Request (CL) 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. Non-conformities with the monitoring plan or methodology are found in monitoring and reporting, or if the evidence provided to prove conformity is insufficient;
- II. Mistakes have been made in applying assumptions, data or calculations of emission reductions which will impair the estimate of emission reductions;
- III. Issues identified in a FAR during validation to be verified during verification have not been resolved by the project participants.

The verification process may be halted until this information has been made available to comply with the requirements of the CDM Executive Board. Failure to address a CL may result in a CAR. Information or clarifications provided as a result of a CL may also lead to a CAR.

A clarification request (CL) will be raised if information is insufficient or not clear enough to determine whether the applicable CDM requirements have been met. All CARs and CLs raised during verification shall be resolved prior to submitting a request for issuance.

Corrective Action Requests and Clarification requests are raised in the Periodic Verification Checklist. The Project Developer is given the opportunity to “close” outstanding CARs and respond to CLs and FARs.

Forward Action Requests (FARs) may be raised during verification for actions where the monitoring and reporting require attention and/or adjustment for the next verification period. FARs 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.

All CARs, CLs and FARs for this verification period are included in this report.

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 Implementation - General

The project was registered as a CDM project on 05/08/2010. This is the third periodic verification of the project covering the period from 01/12/2010 to 31/12/2010 within the first crediting period (05/08/2010 to 04/08/2017). The start date of this monitoring period is next to the end date of last monitoring period 01/09/2010 to 30/11/2010 (/1/).

As per the technology description in the registered Project Design Document (PDD, /2/), the project involves the installation of two sets of 390MW gas-steam combined cycle generation system (GE-109FA), with the total installed capacity of 780MW and this is not changed compared with the second monitoring period. Through the onsite visit, it has been confirmed that all required physical components of the project activity have been installed and operated as per the description in the registered PDD (/2/). Two sets of 390MW gas-steam combined cycle generation systems were in place. The first unit was put into operation on 31/12/2006 and the second unit was on 05/03/2007. The specifications of the gas turbine, heat recovery steam generator, and steam turbine and electricity generator on the nameplates (/4/) have been checked and confirmed to be consistent with those mentioned in section A.4.3 of the PDD. Thus, it was confirmed that till the end of the third monitoring period, the project has been implemented and operated as per the registered PDD.

As per the project boundary description in the registered PDD, the project generates electricity using natural gas and the electricity generated is supplied to the Jiangsu Power Grid, a sub-grid of the East China Power Grid (ECPG). It is verified that the electricity generated is supplied to the ECPG through the Longwangshan Sub-station. The use of the name "Longtan Substation" in the registered PDD was a typing mistake, which was verified by the SGS assessment team during the first periodic verification of the project and noted by the client in the MR (foot note 1, page 4).

According to the section A.4 and the foot note 1 of the MR Version 1.0, the project supplies electricity via two 220kv transmission lines to the 500kv Longwangshan substation linking to the Jiangsu Grid. As verified during the site visit, the connected substation of the project was changed. **CL #1 was raised for clarification of this.**

The on site visit of this monitoring period was carried from 15/12/2011 to 16/12/2011. During the site visit, it was verified that the connected substation of the project was changed to be 220kv Xidu Substation. As interviewed with the project owner, the change was according to the arrangement of the Jiangshu Grid Company. This was confirmed by reviewing provided Jiangsu Power Dispatching Communication Centre Document (No.Diandiao[2010]294,/31/),dated 21/12/2010.

Further, certification was issued by Jiangsu Power Dispatching Communication Centre on 27/04/2011 (Jiangsu Power Dispatching Control Centre Document,/32/), in which it was stated that the change was from 27/01/2011 onwards which occurred after the (third) monitoring period(01/12/2010 to 31/12/2010). Thus the change has no impact on this monitoring period. **CL #1 was closed out.**

As per the Tool to calculate the emission factor for an electricity system, the latest year for which information is available shall be applied. Due to the latest information available for the year 2010, the $EF_{grid,BM,y}$ and $EF_{BL,upstream,CH4}$ of the project in the MR version 2.0 were recalculated and the values of $EF_{grid,BM,y}$ and $EF_{BL,upstream,CH4}$ were updated to be 0.6889 t CO₂e/MWh and 0.004876 t CH₄/MWh respectively. The updates are in compliance with the requirement of the EB and were accepted by the assessment team.

As verified by interviewing with the project owner and the operational log, the project had a smooth operation and the monitoring system worked properly during this monitoring period and no abnormal situation occurred. The emission reduction was 88,696 tCO₂e emission reductions for the period 01/12/2010 to 31/12/2010 as per the estimation made in the registered PDD while the actual emission reduction has been verified as 54,864 tCO₂e emission reduction for the same period. The emission reduction in this monitoring period was lower than the estimation in the registered PDD which was mainly caused by the decrease of the baseline emission factor compared with that in the registered PDD.

3.2 Remaining Issues, CAR's, FAR's from Previous Validation or Verification

This is the third periodic verification of the project. The validation report of the project (/7/) and the verification reports of previous monitoring periods (/6/) have been reviewed and no open issue was found.

3.3 Compliance of the monitoring plan with the monitoring methodology.

The project was registered against the approved monitoring methodology AM0029, Baseline Methodology for Grid Connected Electricity Generation Plants using Natural Gas" and "Monitoring methodology for grid connected generation plants using non-renewable and less GHG intensive fuel" (Version 03, 16/05/2008, /8/). In accordance with VVM version 01.2 paragraphs 199-203 (/30/), it is verified that the monitoring plan in the registered PDD is in compliance with the methodology AM0029 version 03. All the required parameters have been included in the monitoring plan of the PDD. QA/QC procedures have been interpreted in the registered monitoring plan. Therefore, it is confirmed that the monitoring plan in the registered PDD is in compliance with the monitoring methodology.

3.4 Completeness of Monitoring

Monitoring of reductions in GHG emissions resulting from the registered project has been implemented in accordance with the monitoring plan contained in the registered PDD version 06.4 dated 21/04/2010. The monitoring mechanism is effective and reliable.

As per the monitoring plan in the registered PDD, the net amount of NG consumed by the project ($FC_{f,y}$), the net calorific value per volume unit of natural gas ($NCV_{f,y}$), and the emission factor of natural gas ($EF_{CO_2, f, y}$) needs to be monitored for the calculation of project emissions. The electricity supplied to the grid by the project activity ($EG_{P,J,y}$) and Build margin emission factor of ECPG ($EF_{grid,BM,y}$), needs to be monitored for the calculation of baseline emissions. Additional parameter, the emission factor of natural gas ($EF_{CO_2, f, y}$) and the build margin emission factor of ECPG ($EF_{grid,BM,y}$) are sourced from external data for leakage calculation of the project and they are discussed in section 3.9 below.

3.4.1 Project Emission Parameters

$FC_{f,y}$: The net amount of NG consumed by the project;

As per page 81 of the registered PDD, the total net amount of natural gas (NG) consumed by the project will be monitored by both supplier and project owner for cross-verification. The natural gas consumption will be aggregated automatically and recorded daily.

Through the onsite visit, it is confirmed that the net amount of NG consumed by the project is continuously monitored by two ultrasonic flow meters installed at the supplier side (SN: 03-110136 and 03-110137) and two orifice plate flow meters (SN: 0139940 and 0139943) at the project side. The output of the flow meters is automatically converted to be the data under standard condition and then automatically aggregated by computer system. Designated person in the project site and the gas supplier read and record the gas consumption daily. Every day the supplier sends the reading record of the gas consummated the day before to the project owner. The project owner verifies the provided data against the reading value of their own. The confirmed meter reading at the supplier side is taken for billing purpose between the supplier and the project owner. Monitoring records of this monitoring period have been provided to the assessment team for verification.

The data recorded in the daily reports by the project owner (/13/) and the gas suppliers (/14/) were used to calculate the net amount of NG consumed by the project in this monitoring period. The data at the project site was 0.19% higher than the data from the gas supplier, which was deemed reasonable considering that it was within the uncertainty of the monitoring equipments. Conservative values between the record of the supplier and the project owner (larger one) have been applied in calculating the project emission of the project. The daily reports of the meter reading of the project owner and of the gas supplier side in this monitoring period were checked by the assessment team and it was confirmed the calculated amount in this monitoring period both at the project site and supplier end were correct. The sales receipts of the gas consumption were also checked for assurance. The calculation of the total net amount of natural gas consumed by the project in the MR Version 2.0 (/3/) and ER calculation spreadsheet (/24/) was verified to be correct.

NCV_{t,y} : The net calorific value per volume unit of natural gas

As per page 82 of the registered PDD the net calorific value per volume unit of natural gas from NG test reports issued by the NG supplier was applied. The NG test reports (/15/) are provided by the supplier fortnightly and the data are under normal conditions. The fortnightly NCV data from the gas supplier was used to calculate the weighted average value of this monitoring period. The values in the MR version 2.0 and spreadsheet were checked against the reports issued by the NG supplier and consistency was observed. The weighted average calculation process was also verified to be correct.

3.4.2 Baseline Emission Parameters

EG_{PJ,y} : Electricity supplied to the grid by the project activity

As per the monitoring plan in the registered PDD, the electricity supplied to the grid by the project activity (EG_{PJ,y}) is derived from the directly measured data of the electricity sold to the grid by the project (EG_{out,y}) and the electricity imported from the grid by the project (EG_{in,y}). The electricity sold to ECPG (EG_{out,y}) is monitored by two sets of meters installed at the two 220kv transmission lines connected to the grid; each set consists of one main meter and one backup meter. The readings of the main meters are taken for billing purpose between the project owner and Grid Company as well as for CDM purposes, while the readings of the backup meters only serve for emergency situations. The two sets of meters are bi-directional meters and can measure both the electricity sold to the grid by the project and the electricity imported from the grid by the project through the 220KV line. There is another set of metres installed at the 110kV line linked to Dongyang substation of Jiangsu Grid in the project side. This set of meters is one directional meters measuring only electricity imported from the grid, one main meter and one backup meter were installed. The readings of the main meters are taken for billing purpose between the project owner and Grid Company as well as for CDM purposes, while the readings of the backup meters only serve for emergency situations.

In conclusion, the electricity sold to the grid (EG_{out,y}) is measured by two main meters (SN: 96347828 and SN: 96348243) and two backup meters (SN: 96348248 and 96348247) installed at the project site of the two 220kV transmission lines connected to the 500kV Longwangshan substation of Jiangsu Grid. The electricity imported from the grid by the project (EG_{in,y}) is monitored by the same meters as EG_{out,y} and the meters (SN:96348211 and SN:96347836) installed at the 110kV line. The line diagram of the project has been provided to confirm the above description (/9/). This is also verified to be in line with the requirements of the PPA signed between the project company and the Jiangsu Grid (/5/).

The readings of the main meters are recorded daily and the data are aggregated monthly into monthly report (/11/). Based on the readings of the main meters on the agreed transaction date of each month, the Grid Company issued electricity transaction note (ETNs, /12/) indicating the amount of monthly electricity sold to and imported from the grid by the project. After confirming the data in the ETNs, sale invoices for the electricity sold and imported are issued by the Project Company and Grid Company respectively.

Data of electricity sold to and imported from the grid in the monthly report recorded by the Project Company were provided for verification. The data in the commercial receipts including ETNs and sale invoices of corresponding period were used for cross check. More conservative data after cross checking was adopted for the calculation of emission reductions.

The amount of electricity supplied to the grid by the project activity (EG_{PJ,y}) from 01/12/2010 to 31/12/2010 reported in the Monitoring Report version 2.0 and ER calculation spreadsheet was found to be consistent with the monthly reports and commercial receipts. Data in the daily report was also checked for assurance.

3.4.3 Leakage Parameter

As per the applied methodology, the following leakage emission sources shall be included in the leakage of the project and shall be calculated as below:

$$LE_y = LE_{CH_4, y} + LE_{LNG, CO_2, y}$$

Where:

LE_y: = Leakage emissions during the year y in tCO₂e;

LE_{CH₄, y}: = Leakage emissions due to fugitive upstream CH₄ emissions in the year y in t CO₂e;

$LE_{LNG,CO_2,y}$: Leakage emissions due to fossil fuel combustion/electricity consumption associated with the liquefaction, transportation, re-gasification and compression of LNG into a natural gas transmission or distribution system during the year y in t CO₂e.

As verified during the site visit and interviewing with the project owner and the fuel supplier, it is confirmed that the project only utilized the natural gas (No LNG) in this monitoring period. Therefore, the leakage from the leakage emissions due to fossil fuel combustion/electricity consumption associated with the liquefaction, transportation, re-gasification and compression of LNG into a natural gas transmission or distribution system was zero in this monitoring period. Thus, $LE_{LNG, CO_2, y} = 0$ tCO₂e

According to the registered PDD, only leakage emissions from using natural gas ($LE_{CH_4,y}$) are considered, The leakage of this monitoring period is calculated following the formula in the PDD.

$$LE_{CH_4,y} = (FC_{t,y} \times NCV_y \times EF_{NG,upstream,CH_4} - EG_{PJ,y} \times EF_{BL,upstream,CH_4}) \times GWP_{CH_4}$$

$$= (34,819,792.68 \text{ Nm}^3 \times 0.034184 \text{ GJ/Nm}^3 \times 0.000296 \text{ tCH}_4/\text{GJ} - 176,572.132 \text{ MWh} \times 0.004876 \text{ t CH}_4/\text{MWh}) \times 21 = -10,681 \text{ tCO}_2\text{e}$$

$$LE_y = LE_{CH_4,y} + LE_{LNG,CO_2,y} = -10,681 \text{ tCO}_2\text{e} + 0 = -10,681 \text{ tCO}_2\text{e}$$

Please refer to section 3.9 below for the monitoring of $EF_{BL,upstream,CH_4}$ of the project during this monitoring period.

3.5 Accuracy of Equipment

As per the monitoring plan in the registered PDD, the metering equipment will be properly calibrated for accuracy in compliance with relevant industrial standards in China. The calibration certificates of the meters mentioned in section 3.4 were provided and reviewed by the verification team. It was confirmed that the meters have been calibrated as per the relevant industrial standards in China and were valid during this monitoring period.

According to the national standard of JJG 1055-1997 Calibration of AC Watt-hour Meters at Place of Installation, the six electricity meters have been calibrated by the Jiangsu Electric Power Research Institute Corporation Limited (/16/) which was accredited by the China National Accreditation Service for Conformity Assessment to carry out calibration of electricity meters (/17/). Through reviewing this standard, it was ascertained that the calibration frequency of the electricity meters was in compliance with the applied standard.

According to National Standard JJG882-2004 Verification Regulation of the Pressure Transmitter (/15/), the flow meters at the project site were calibrated by the Metrology Central Laboratory of Jiangsu, SPC (/18/) which was accredited by Metrology Office of State Power Corporation to carry out calibration of flow meters (/19/). As per the national standard JJG1030-2007 Verification Regulation of Ultrasonic Flow Meter (/16/), the flow meters at the gas station were calibrated by the Nanjing Branch of National Station of Petroleum & Natural Gas Flow Measurement (/20/) which was accredited by General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China to carry out calibration of flow meters (/21/). Through reviewing the two national standards, it was verified that the calibration frequency of the flow meters was in accordance with the applied national standards.

The accuracy of the monitoring equipment was confirmed to be consistent with those in the calibration certificates and was in consistency with related national standards. Details of the meters were summarized in table 1 below.

Table 1, Information of the monitoring equipments

Parameter s	Monitoring equipment	Position	Accuracy Level	Serial Number	Calibration Date	Validity	Calibration Frequency for this monitoring period
EG _{PJ,y}	Electricity Meter (main)	Project site on 220kV line 1	0.2S	96347828	27/10/2010	26/01/2011	Once every three month.
	Electricity Meter (backup)	Project site on 220kV line 1	0.2S	96348248	27/10/2010	26/01/2011	Once every three month.
	Electricity Meter (main)	Project site on 220kV line 2	0.2S	96348243	27/10/2010	26/01/2011	Once every three month.
	Electricity Meter (backup)	Project site on 220kV line 2	0.2S	96348247	27/10/2010	26/01/2011	Once every three month.
	Electricity Meter (main)	Project site on 110kV line	0.2S	96348211	27/10/2010	26/01/2011	Once every three month.
	Electricity Meter (backup)	Project site on 110kV line	0.2S	96347836	27/10/2010	26/01/2011	Once every three month.
FC _{f,y}	Flow meter	Project site	0.25	0139940	30/07/2010	29/06/2011	Annually
	Flow meter	Project site	0.25	0139943	30/07/2010	29/06/2011	Annually
	Flow meter	Gas Supply Station	1.0	03- 110136	03/02/2010	02/02/2012	Biennially
	Flow meter	Gas Supply Station	1.0	03- 110137	03/08/2010	02/08/2012	Biennially

3.6 Accuracy of Emission Reduction Calculations

The calculation of emission reductions is found to be correct. The calculation of emission reductions in the MR Version 2.0 and ER calculation spreadsheet (/22/) is found to be correct. The details of the reported and the verified values for all parameters are listed in section 4, 'Calculation of Emission Reductions'.

3.7 Quality of Evidence to Determine Emission Reductions

Critical parameters used for the determination of the Emission Reductions are discussed in section 3.4 above. All the data recorded is in compliance with the Monitoring Report.

3.8 Management System and Quality Assurance

In order to verify data quality, the Company involved in the project works in accordance with a quality assurance procedure as defined in the CDM monitoring manual (/23/), which establishes the operational and

management structure implemented. A dedicated CDM team was established with detailed responsibilities allocated. QA/QC procedures have been established and followed. The monitoring staffs were training and the training records was provided to the verification team (/24/). The staffs were interviewed and found capable of their job.

3.9 Data from External Sources

3.9.1 $EF_{grid,BM,y}$: Build margin emission factor of ECPG

As per page 74 of the registered PDD, and page 63 of the Validation Report, Option 1 (the build margin, calculated according to “Tool to calculate the emission factor for an electricity system”) was selected as the $EF_{BL, CO_2, y}$ for the project.

As per the monitoring plan of the registered PDD, the building margin emission factor of ECPG needs to be ex post updated annually based on publicly available data following the steps defined in the “Tool to calculate emission factor for an electricity system” version 01.1 for the first crediting period (/25/).

Version 1.0 of the MR is dated on 25/10/2011, latest publicly available data at that time (25/10/2011) were applied for calculating the Build margin emission factor of ECPG ($EF_{grid,BM,y}$). The calculated $EF_{grid,BM,y}$ is 0.6622tCO₂e/MWh.

In version 2.0 of the MR the latest publicly available data, such as China Electric Power Yearbook 2008 – 2011 (/27/) and China Energy Statistic Yearbook 2008-2011 (/26/) etc. were available and were applied for calculating the Build margin emission factor of ECPG ($EF_{grid,BM,y}$) by the client in compliance with the requirement of the “Tool to calculate the emission factor for an electricity system”. The calculated $EF_{grid,BM,y}$ is 0.6889tCO₂e/MWh. The calculation process has been checked by the verification team and confirmed to be consistent with the “Tool to calculate emission factor for an electricity system” version 01.1.

The Build margin emission factor of ECPG calculated by the DNA of China (National Development and Reform Committee) (/28/) which is publicly available on the website has been obtained and used for cross checking. The reported building margin emission factor in the MR Version 2.0 is consistent with the value published by the DNA of China.

3.9.2 $EF_{CO_2, f, y}$: the emission factor of natural gas;

As per the registered monitoring plan, $EF_{CO_2, f, y}$ shall be determined applying supplier-provided data, local data, and country-specific values; in this order of preference. As verified and confirmed by interviewing with the project owner during site visit, the supplier-provided data and local data are unavailable for this monitoring period. After checking the value (0.0543 tCO₂/GJ) issued by Chinese DNA (/28/), it was found that it is lower than the value (0.0561 tCO₂/GJ) in the registered PDD. For the sake of conservativeness, the value in the registered PDD was used for the calculation of project emission of this monitoring period.

It was confirmed by the assessment team that, the determination of the parameter during this monitoring period is in compliance with the registered monitoring plan and the applied methodology.

3.9.3 $OXID$: the oxidation factor of natural gas

As per the applied methodology and the registered PDD, IPCC current default (100%) is correctly applied in the MR Version 2.0 (/29/).

3.9.4 $EF_{NG,upstream,y}$

$EF_{NG,upstream,y}$: Emission factor for upstream fugitive methane emissions of natural gas from production, transportation, distribution, in t CH₄ per GJ fuel supplied to final consumers (0.000296 tCH₄/GJ) used in the MR version 2.0 is sourced from the IPCC default value and is fixed in the registered PDD.

3.9.5 $EF_{BL,upstream,CH_4}$: Emission factor for upstream fugitive methane emissions

As per the registered PDD, the emission factor for upstream fugitive methane emissions occurring in the absence of the project activity in t CH₄ per MWh electricity generation in the project plant ($EF_{BL,upstream,CH_4}$) should be calculated consistent with the baseline emission factor. The calculated $EF_{BL,upstream,CH_4}$ in version

1.0 of the MR is 0.004789 t CH₄/MWh. In version 2.0 of the MR, latest data available were applied for calculating the Emission factor for upstream fugitive methane emissions ($EF_{BL,upstream,CH_4}$) by the client. The calculation of the parameter in the ER calculation spreadsheet and MR version 2.0 has been checked and it has been confirmed that this emission factor for upstream fugitive methane emissions (0.004876t CH₄/MWh) is calculated using the same process as that of the baseline emission factor and the data used in the calculation are consistent with the sources.

3.9.6 GWP_{CH_4}

Global warming potential of methane (21) used in the MR Version 2.0 is consistent with the PDD and IPCC default value.

4. Calculation of Emission Reductions

Parameters	Reported Value in MR version 1.0	Verified Value in version 2.0
$EG_{PJ,y}$	176,572.132 MWh	176,572.132 MWh
$EF_{BL,CO_2,y}$	0.6622tCO ₂ e/MWh	0.6889tCO ₂ e/MWh*
$FC_{f,y}$	34,819,792.68 m ³	34,819,792.68 m ³
NCV_y	0.034184 GJ/m ³	0.034184 GJ/m ³
$EF_{CO_2,f,y}$	0.0561 t CO ₂ /GJ	0.0561 t CO ₂ /GJ
$OXID_f$	100%	100%
$EF_{NG,upstream,CH_4}$	0.000296 tCH ₄ /GJ	0.000296 tCH ₄ /GJ
$EF_{BL,upstream,CH_4}$	0.004789 t CH ₄ /MWh	0.004876 t CH ₄ /MWh*
GWP_{CH_4}	21 t CO ₂ e/t CH ₄	21 t CO ₂ e/t CH ₄

*please refer to section 3.9.1 and 3.9.5 of the report for the reason of the difference.

The baseline emission of this monitoring period is calculated following the formula in the PDD.

$$BE_y = EG_{PJ,y} \times EF_{BL,CO_2,y} = 176,572.132 \text{ MWh} \times 0.6889 \text{ tCO}_2\text{e/MWh} = 121,640 \text{ tCO}_2\text{e}$$

The project emission of this monitoring period is calculated following the formula in the PDD.

$$PE_y = FC_{f,y} \times COEF_{f,y} = FC_y \times NCV_y \times EF_{CO_2,f,y} \times OXID_f = 34,819,792.68 \text{ Nm}^3 \times 0.034184 \text{ GJ/Nm}^3 \times 0.0561 \text{ t CO}_2\text{/GJ} \times 100\% = 66,776 \text{ tCO}_2\text{e}$$

The leakage of this monitoring period is calculated following the formula in the PDD.

$$LE_y = LE_{CH_4,y} + LE_{LNG,CO_2,y}$$

As verified the project only utilized the natural gas in this monitoring period. Therefore, the leakage from the leakage emissions due to fossil fuel combustion/electricity consumption associated with the liquefaction, transportation, re-gasification and compression of LNG into a natural gas transmission or distribution system was zero in this monitoring period. Thus, $LE_{LNG,CO_2,y} = 0 \text{ tCO}_2\text{e}$.

$$LE_{CH_4,y} = (FC_{f,y} \times NCV_y \times EF_{NG,upstream,CH_4} - EG_{PJ,y} \times EF_{BL,upstream,CH_4}) \times GWP_{CH_4}$$

$$= (34,819,792.68 \text{ Nm}^3 \times 0.034184 \text{ GJ/Nm}^3 \times 0.000296 \text{ tCH}_4\text{/GJ} - 176,572.132 \text{ MWh} \times 0.004876 \text{ t CH}_4\text{/MWh}) \times 21 = -10,681 \text{ tCO}_2\text{e}$$

$$LE_y = LE_{CH_4,y} + LE_{LNG,CO_2,y} = -10,681 \text{ tCO}_2\text{e} + 0 = -10,681 \text{ tCO}_2\text{e}$$

Therefore, as per the methodology, $LE_y = 0 \text{ tCO}_2\text{e}$ as the total net leakage effects are negative ($LE_y < 0$).

The ER calculation in this monitoring period covering the period from 01/12/2010 to 31/12/2010 is consistent with the registered PDD.

$$ER_y = BE_y - PE_y - LE_y$$

$$= 121,640 \text{ tCO}_2\text{e} - 66,776 \text{ tCO}_2\text{e} - 0 \text{ tCO}_2\text{e}$$

$$= 54,864 \text{ tCO}_2\text{e}.$$



5. Recommendations for Changes in the Monitoring Plan

No recommendation for the changes in the monitoring plan is made in this (3rd) monitoring period.

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. The assessment team 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 visit 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.

$EF_{grid,BM,y}$: Build margin emission factor of ECPG is ex-post calculated using the Tool to calculate emission factor for an electricity system based on the publicly available data. The significance is high but the uncertainty is low.

$EF_{CO_2, f, y}$: the emission factor of natural gas is using the conservative data between the Chinese DNA and data in the registered PDD. The significance is high but the uncertainty is low.

$OXID_i$: the oxidation factor of natural gas applies the IPCC default value. The significance is high but the uncertainty is low.

$EF_{NG,upstream,y}$: Emission factor for upstream fugitive methane emissions of natural gas from production, transportation, distribution, in t CH₄ per GJ fuel supplied to final consumers applies the IPCC default value. The significance is low and the uncertainty is low.

$EF_{BL,upstream,CH_4}$: the emission factor for upstream fugitive methane emissions occurring in the absence of the project activity in t CH₄ per MWh electricity generation in the project plant ($EF_{BL,upstream,CH_4}$) is ex-post calculated using the same process as that of the baseline emission factor based on the publicly available data. The significance is low and the uncertainty is low.

GWP_{CH_4} : Global warming potential of methane applies IPCC default value. The significance is low and the uncertainty is low.

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 monitoring plan. The emission reduction was 88,696 tCO₂e for the period 01/12/2010 to 31/12/2010 as per the estimation made in the registered PDD. The actual emission reduction has been verified as 54,864 tCO₂e 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.

No such non conformity of the actual project activity and its operation with the registered project design document has been observed.

Post monitoring report on UNFCCC website

Yes, the Monitoring Report is available at ref. 3008 on the UNFCCC website

<http://cdm.unfccc.int/Projects/DB/TUEV-RHEIN1254272878.14/view>

7. Verification and Certification Statement

SGS United Kingdom Ltd has been contracted by Gaisi Peony Carbon Capital S.a.r.l. to perform the verification of the emission reductions reported for the CDM project Nanjing Jinling Grid Connected Natural Gas Combined Cycle Power Plant Project with UNFCCC Reference Number 3008 in the period from 01/12/2010 to 31/12/2010.

The verification is based on the validated and registered PDD 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 the Monitoring Report Version 2.0 dated 16/10/2012.

The management of Gaisi Peony Carbon Capital S.a.r.l. is responsible for the preparation, calculation and determination of GHG emission reductions from the project is the responsibility of the management of the Nanjing Jinling Grid Connected Natural Gas Combined Cycle Power Plant Project. 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 from 01/12/2010 to 31/12/2010 based on the reported emission reductions in the Monitoring Report Version 2.0 dated 16/10/2012 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:

Project Title:	Nanjing Jinling Grid Connected Natural Gas Combined Cycle Power Plant Project
UNFCCC Reference Number:	3008
Registered PDD and Approved Used for Verification:	Registered PDD version 06.4 dated 21/04/2010
Methodology Used for Verification:	AM0029, version 03 dated 16/05/2008
Applicable Period:	From 01/12/2010 to 31/12/2010
Total GHG Emission Reductions Verified:	54,864tCO ₂ e

Signed on behalf of the Verification Body by Authorized Signatory

Signature:



Name: Siddharth Yadav

Date: 30/11/2012

8. Document References

/1/ Project information on UNFCCC website
<http://cdm.unfccc.int/Projects/DB/TUEV-RHEIN1254272878.14/view>

/2/ PDD Version 06.4 dated 21/04/2010

/3/ Monitoring Report for this monitoring period version 1.0 dated 25/10/2011 and Version 2.0 dated 16/10/2012.

MR Version	Date of Revision	Main changes reason for Revision
Version 1.0	25/10/2011	The first version published on UNFCCC website
Version 2.0	16/10/2012	Revised according to DOE's comments and the latest build margin baseline emission factor was applied.

/4/ Photos of the nameplates of the main equipments

/5/ Grid connection agreement and power purchase agreement signed with the grid company.

/6/ Verification reports for "Nanjing Jinling Grid Connected Natural Gas Combined Cycle Power Plant Project"

Monitoring period	Version	Dated
05/08/2010 to 31/08/2010	0	06/01/2011
01/09/2010 to 30/11/2010	0	16/02/2011

/7/ Validation report version 06.1 dated 22/04/2010

/8/ AM0029 Version 03 dated 16/05/2008

/9/ The line diagram of the project

/10/ The daily report of electricity sold to and imported from the grid for this monitoring period from 01/12/2010 to 31/12/2010

/11/ The monthly report of electricity sold to and imported from the grid from 01/12/2010 to 31/12/2010

/12/ The ETN and invoice of electricity sold to and imported from the grid from 01/12/2010 to 31/12/2010

/13/ The daily report of natural gas from the project owner for this monitoring period from 01/12/2010 to 31/12/2010

/14/ The daily report of natural gas the gas supplier for this monitoring period from 01/12/2010 to 31/12/2010

/15/ JJG882-2004 Verification Regulation of the Pressure Transmitter,

/16/ JJG1030-2007 Verification Regulation of Ultrasonic Flow Meter,

/17/ NG test report from the gas supplier for this monitoring period from 01/12/2010 to 31/12/2010

/18/ Calibration certificates of electric meters issued by Jiangsu Electric Power Research Institute Corporation Limited dated 27/10/2010.

/19/ Accreditation certificate for Jiangsu Electric Power Research Institute Corporation Limited issued by China National Accreditation Service for Conformity Assessment dated 28/12/2006, valid to 27/12/2011.

/20/ Calibration certificates of the two flow meters used by the project
Certificate No.: JL-YL-2010-0980 and JL-YL-2010-0981

/21/ Accreditation certificate of the calibrator

Certificate No.: 2007 Metro No.: 3200301 valid from 02/11/2007 to 01/11/2012

/22/ Calibration certificates of the two flow meters used by the gas station

Certificate No.: GM2010038 and GM2010269

/23/ Accreditation certificate of the calibrator.

Certificate No.: (State) Metro (2008) 00060 valid from 01/04/2008 to 31/03/2013

/24/ ER calculation spreadsheet version 1.0 dated 25/10/2011 and version 2.0 dated 16/10/2012

- /25/ CDM monitoring manual of the project
- /26/ Training record of the project
- /27/ "Tool to calculate emission factor for an electricity system" version 01.1 dated 29/07/2008
- /28/ China Energy Statistical Yearbook 2008- 2011
- /29/ China Electric Power Yearbook 2008- 2011
- /30/ 2012 Baseline Emission Factors for Regional Power Grids in China, published by China DNA, on 15/10/2012
(<http://cdm.ccchina.gov.cn/WebSite/CDM/UpFile/File2975.pdf>)
- /31/ 2006 IPCC for National Green House Gas Inventories
- /32/ Validation and Verification Manual Version 01.2 dated 30/07/2010
(the updated one is Clean Development Mechanism Validation and Verification Standard version 02.0, dated 25/11/2011)
- /33/ Jiangsu Power Dispatching Communication Centre Document (No.Diandiao[2010]294
- /34/ Jiangsu Power Dispatching Control Centre Document dated 27/04/2011

9. Findings Overview

	CARs	CLs	FARs
Total Number raised	0	1	0

Date:	27/12/2011	Raised by:	The assessment team.		
Type:	CL	Number:	CL #1	Reference:	Section 2 5.1
Lead Assessor Comment:				Date: 27/12/2011	
According to the section A.4 and the foot note 1 of the MR version 1.0, the project supplies electricity via two 220kv transmission lines to the 500kv Longwangshan substation linking to the Jiangsu Grid. As verified during site visit, the connected substation of the project was changed. Please clarify.					
Project Participant Response:				Date: 19/10/2012	
The change in connected substation would not impact the applicability of the methodology, the project scale and additionality. • The connected substation of the Project was changed from 550kv Longwangshan Substation to 220kv Xidu Substation from 27/01/2011 onwards, which occurred after the (third) monitoring period. • 220kv Xidu Substation is also linked to the Jiangsu Grid, a sub-grid of the ECPG. There is no change in project boundary.					
Documentation Provided as Evidence by Project Participant:					
1. "Jiangsu Power Dispatching Communication Centre Document" (No.Diandiao[2010]294)					
2. "Jiangsu Power Dispatching Control Centre Document" dated 27/04/2011					
Information Verified by Lead Assessor:					
The on site visit of this monitoring period was carried from 15/12/2011 to 16/12/2011. During site visit, it was verified that the connected substation of the project was changed to be 220kv Xidu Substation. As interviewed with the project owner, the change was according to the arrangement of the Jiangshu Grid Company. This was confirmed by reviewing provided Jiangsu Power Dispatching Communication Centre Document" (No.Diandiao[2010]294),dated 21/12/2010.					
Further, certification was issued by Jiangsu Power Dispatching Communication Centre on 27/04/2011 (Jiangsu Power Dispatching Control Centre Document) , in which it was stated that the change was from 27/01/2011 onwards which occurred after the (third) monitoring period(01/12/2010 to 31/12/2010). Thus the change has no impact on this monitoring period. CL #1 was closed out.					
Reasoning for not Acceptance or Acceptance and Close Out:					
As verified the change is since 27/01/2011, not in this monitoring period. Thus the change has no impact on this monitoring period. CL #1 was closed out.					
Acceptance and Close out by Lead Assessor: Karen Tong				Date: 29/10/2012	

10. Statement of Competence

Statement of Competence

Name: Karen Tong

Status

- Lead Assessor	x	- Expert	x
- Assessor	x	- Financial Expert	
- Local Assessor	China	- Technical Reviewer	

Scopes of Expertise

1. Energy Industries (renewable / non-renewable)	x
Technical Area(s): TA 1.2 Energy generation from renewable energy sources	
2. Energy Distribution	
Technical Area(s):	
3. Energy Demand	
Technical Area(s):	
4. Manufacturing	
Technical Area(s):	
5. Chemical Industry	
Technical Area(s):	
6. Construction	
Technical Area(s):	
7. Transport	
Technical Area(s):	
8. Mining/Mineral Production	
Technical Area(s):	
9. Metal Production	
Technical Area(s):	
10. Fugitive Emissions from Fuels (solid, oil and gas)	
Technical Area(s):	
11. Fugitive Emissions from Production and Consumption of Halocarbons and Sulphur Hexafluoride	x
Technical Area(s): TA 11.2 GHG capture and destruction	
12. Solvent Use	
Technical Area(s):	
13. Waste Handling and Disposal	
Technical Area(s):	
14. Afforestation and Reforestation	
Technical Area(s):	
15. Agriculture	
Technical Area(s):	

Approved Member of Staff by: Siddharth Yadav Date: 06/02/2012

Statement of Competence

Name: Shute
Li

Status

- Lead Assessor	x	- Expert	x
- Assessor	x	- Financial Expert	
- Local Assessor	China	- Technical Reviewer	x

Scopes of Expertise

1. Energy Industries (renewable / non-renewable)	x
Technical Area(s): TA 1.2 Energy generation from renewable energy sources	
2. Energy Distribution	
Technical Area(s):	
3. Energy Demand	
Technical Area(s):	
4. Manufacturing	
Technical Area(s):	
5. Chemical Industry	
Technical Area(s):	
6. Construction	
Technical Area(s):	
7. Transport	
Technical Area(s):	
8. Mining/Mineral Production	
Technical Area(s):	
9. Metal Production	
Technical Area(s):	
10. Fugitive Emissions from Fuels (solid, oil and gas)	
Technical Area(s):	
11. Fugitive Emissions from Production and Consumption of Halocarbons and Sulphur Hexafluoride	x
Technical Area(s): TA 11.2 GHG capture and destruction	
12. Solvent Use	
Technical Area(s):	
13. Waste Handling and Disposal	x
Technical Area(s): TA 13.1: Waste handling and disposal	
14. Afforestation and Reforestation	
Technical Area(s):	
15. Agriculture	
Technical Area(s):	

Approved Member of Staff by: Siddharth Yadav Date: 01/08/2012

Statement of Competence

Name: Yi
Liao

Status

- Lead Assessor	x	- Expert	x
- Assessor	x	- Financial Expert	
- Local Assessor	China	- Technical Reviewer	

Scopes of Expertise

1. Energy Industries (renewable / non-renewable)	x
Technical Area(s): TA 1.1 Thermal energy generation from fossil fuels and biomass including thermal electricity from solar	
TA 1.2 Energy generation from renewable energy sources	
2. Energy Distribution	
Technical Area(s):	
3. Energy Demand	
Technical Area(s):	
4. Manufacturing	
Technical Area(s):	
5. Chemical Industry	
Technical Area(s):	
6. Construction	
Technical Area(s):	
7. Transport	
Technical Area(s):	
8. Mining/Mineral Production	
Technical Area(s):	
9. Metal Production	
Technical Area(s):	
10. Fugitive Emissions from Fuels (solid, oil and gas)	
Technical Area(s):	
11. Fugitive Emissions from Production and Consumption of Halocarbons and Sulphur Hexafluoride	
Technical Area(s):	
12. Solvent Use	
Technical Area(s):	
13. Waste Handling and Disposal	x
Technical Area(s): TA 13.1: Waste handling and disposal	
14. Afforestation and Reforestation	
Technical Area(s):	
15. Agriculture	
Technical Area(s):	

Approved Member of Staff by: Siddharth Yadav Date: 15/02/2012

Statement of Competence

Name: **Joe Sun**

Status

- Lead Assessor	☐	- Expert	☐
- Assessor	☐	- Financial Expert	☐
- Local Assessor	☐	- Technical Reviewer	☒

Scopes of Expertise

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

Approved Member of Staff by: **Siddharth Yadav** Date: **11/09/2012**

Statement of Competence

Name: **Jumson Fu**

Status

-	Lead Assessor	☐	-	Expert	☒
-	Assessor	☐	-	Financial Expert	☐
-	Local Assessor	☐	-	Technical Reviewer	☐

Scopes of Expertise

1. Energy Industries (renewable / non-renewable)	☒
Technical Area(s): TA 1.1 Thermal energy generation from fossil fuels and biomass including thermal electricity from solar	
2. Energy Distribution	☐
Technical Area(s):	
3. Energy Demand	☐
Technical Area(s):	
4. Manufacturing	☐
Technical Area(s):	
5. Chemical Industry	☐
Technical Area(s):	
6. Construction	☐
Technical Area(s):	
7. Transport	☐
Technical Area(s):	
8. Mining/Mineral Production	☐
Technical Area(s):	
9. Metal Production	☐
Technical Area(s):	
10. Fugitive Emissions from Fuels (solid, oil and gas)	☐
Technical Area(s):	
11. Fugitive Emissions from Production and Consumption of Halocarbons and Sulphur Hexafluoride	☐
Technical Area(s):	
12. Solvent Use	☐
Technical Area(s):	
13. Waste Handling and Disposal	☐
Technical Area(s):	
14. Afforestation and Reforestation	☐
Technical Area(s):	
15. Agriculture	☐
Technical Area(s):	

Approved Member of Staff by: **Siddharth Yadav** Date: **15/02/2012**

11. Photographic Evidence

Unique reference number: 96347828

Parameter: EG_{PJ,y}

Name of equipment: Electricity Meter

Date: 15/12/2011



Unique reference number: 96348248

Parameter: EG_{PJ,y}

Name of equipment: Electricity Meter

Date: 15/12/2011

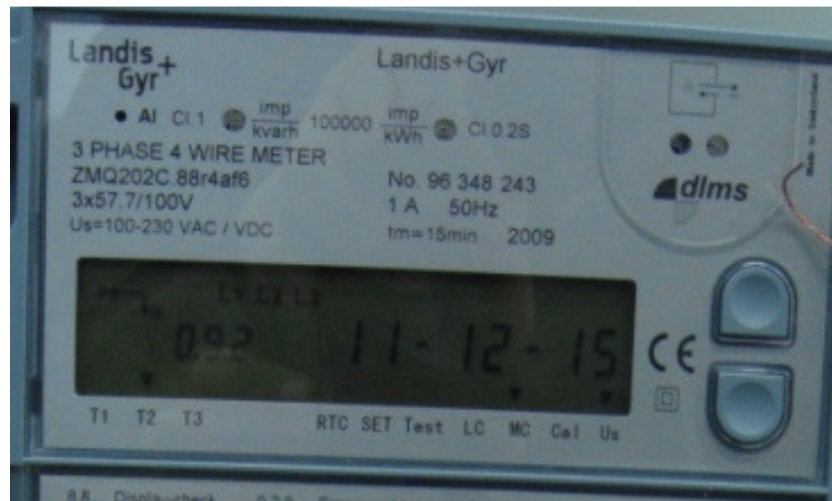


Unique reference number: 96348243

Parameter: EG_{PJ,y}

Name of equipment: Electricity Meter

Date: 15/12/2011



Unique reference number: 96348247

Parameter: EG_{PJ,y}

Name of equipment: Electricity Meter

Date: 15/12/2011



Unique reference number: 96348211

Parameter: EG_{PJ,y}

Name of equipment: Electricity Meter

Date: 15/12/2011



Unique reference number: 96347836

Parameter: EG_{PJ,y}

Name of equipment: Electricity Meter

Date: 15/12/2011



Unique reference number: 0139940

Parameter: FC_{f,y}

Name of equipment: Flow meter in the project site

Date: 15/12/2011

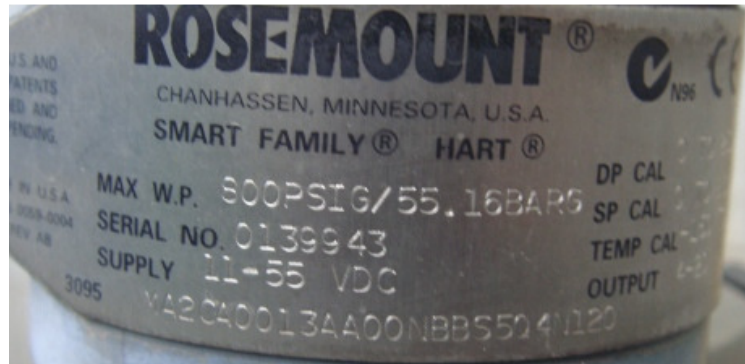


Unique reference number: 0139943

Parameter: $FC_{f,y}$

Name of equipment: Flow meter in the project site

Date: 15/12/2011



Unique reference number: 03-110136

Parameter: $FC_{f,y}$

Name of equipment: Flow meter in the gas station

Date: 17/01/2011*



Unique reference number: 03-110137

Parameter: $FC_{f,y}$

Name of equipment: Flow meter in the gas station

Date: 17/01/2011*



*The flow meters installed in the gas station are owned and operated by the gas supplier and photograph was not allowed during site visit. After checking the nameplates of the flow meters, it was confirmed that the meters same as previous. The pictures taken during the second period verification were attached here.

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