VALIDATION REPORT

Upper Horn Investments Ltd.

Guangdong Huizhou LNG Power Generation Project

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Summary:

Upper Horn Investments Ltd. has commissioned SGS to perform the validation of the project Guangdong Huizhou LNG Power Generation Project.

Methodology used: AM0029

Version and Date: 01.1. 19-05-2006

The scope of the validation is defined as an independent and objective review of the project design document, the project's baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against Kyoto Protocol requirements, UNFCCC rules and associated interpretations. SGS has employed a risk-based approach in the validation, focusing on the identification of significant risks for project implementation and the generation of CERs.

The report is based on the findings of document reviews, the stakeholder consultation process and responses from the project participants to the findings raised in this report.

The report and the annexed validation protocol describes a total of 9 findings which include:

- 3 Corrective Action Requests;
- 6 New Information Requests;

All CARs and NIRs were successfully closed out and the project will hence be recommended by SGS for registration with the UNFCCC.

Subject:		
CDM Validation		
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Abbreviations

CAR	Corrective Action Request
CCGT	Combined Cycle Gas Turbine
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
COP/MOP	Conference of Parties / Meeting of Parties
DNA	Designated National Authority
DOE	Designated Operational Entity
EB	Executive Board of the clean development mechanism
EIA	Environmental Impact Assessment
EPA	Environmental Protection Authority
GHG	Greenhouse Gas(es)
GPPG	Guangdong Province Power Grid
IETA	International Emission Trading Association
IPCC	Intergovernmental Panel on Climate Change
LoA	Letter of Approval
MP	Monitoring Plan
MW	Mega Watt
NGO	Non Governmental Organization
NIR	New Information Request
PDD	Project Design Document
SCPG	Southern China Power Grid
UNFCCC	United Nations Framework Convention on Climate Change

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1. Validation Opinion

SGS United Kingdom Ltd has been contracted by Upper Horn Investments Limited to perform a validation of the project: Guangdong Huizhou LNG Power Generation Project in China.

The Validation was performed in accordance with the UNFCCC criteria for the Clean Development Mechanism (CDM) and host country criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

SGS reviewed of the project design documentation, using a risk based approach and conducted follow-up interviews.

By operating natural gas fired combined cycle power plant, the project activity will result in reductions of greenhouse gas emissions that are real, measurable and give long-term benefits to the mitigation of climate change.

In our opinion, the project meets all relevant UNFCCC requirements for the CDM and all relevant host country criteria. The project correctly applies methodology AM0029 version 01.1. It is demonstrated that the project is not a likely baseline scenario. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity.

The total emission reductions from the project are estimated to be 7,677,096t of CO2e over a 7 years crediting period, averaging **1,096,728 tCO2e** annually. The emission reduction forecast has been checked and it is deemed likely that the stated amount is achieved given the underlying assumptions do not change.

The project will hence be recommended by SGS for registration with the UNFCCC.

Signed on Behalf of the Validation Body by Authorized Signatory

Signature: 

Name: Siddharth Yadav

Date: 22nd April 2009

2. Introduction

2.1 Objective

Upper Horn Investments Limited has commissioned SGS to perform the validation of the project: Guangdong Huizhou LNG Power Generation Project in China with regard to the relevant requirements for CDM project activities. Upper Horn Investment Limited is a member of Guangdong Yuedian Group and specialized in overseas financing for Guandong Yudean Group's subsidiaries, the proposed project is one of such subsidiaries, the project participant Guangdong Huizhou LNG Power Co., Ltd fully entrusted Upper Horn Investments Ltd to manage CDM related affairs through contract No.CDM-HZH-061103 (reference /29/). The purpose of a validation is to have an independent third party assess the project design. In particular, the project's baseline, the monitoring plan (MP) and the project's compliance with relevant UNFCCC and host country criteria are validated in order to confirm that the project design as documented is sound and reasonable and meets the stated requirements and identified criteria. Validation is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of Certified Emission Reduction (CER). UNFCCC criteria refer to the Kyoto Protocol criteria and the CDM rules and modalities and related decisions by the COP/MOP and the CDM Executive Board.

2.2 Scope

The scope of the validation is defined as an independent and objective review of the project design document, the project's baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against Kyoto Protocol requirements, UNFCCC rules and associated interpretations. SGS has employed a risk-based approach in the validation, focusing on the identification of significant risks for project implementation and the generation of CERs.

The validation 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.

2.3 GHG Project Description

Guangdong Huizhou LNG Power Generation Project has constructed a Natural Gas (NG) Combined-Cycle Gas Turbine (CCGT) power plant. The proposed project has a capacity of 1083.09 MW (3×361.03 MW) with annual output of 3703.5 GWh. Generated electricity is transmitted to Guangdong Provincial Power Grid (GPPG) which is a part of the Southern China Power Grid (SCPG), consequently displacing power generation from the SCPG where more than 50 percent of the power comes from coal fired power plants, and mitigating the carbon emissions of SCPG. After CDM credits were taken into consideration, the three units have been put into operation in August 2006, January 2007, and June 2007, respectively.

Baseline Scenario:

Due to abundant coal reserves in China, coal fired power has dominated the China's power generating sector. This trend is likely to continue further into the foreseeable future. According to Version 01.1 of AM0029, the economically most attractive baseline scenario alternative with the best financial indicator can be selected as the most plausible scenario. After using the basic levelised cost methodology based on the data available in Design reference cost index for thermal power transmit electricity and transformer electricity projects (2004, 2005 April, China Electrical Power Press), the 600MW sub-critical coal fired power plant is identified to be of the lowest levelised cost, and is then selected as the baseline scenario.

Project Scenario:

The project activity is the construction and operation of a new natural gas fired grid-connected electricity generation plant, and is expected to generate 3703.5 GWh per annum to SCPG, then reduces carbon dioxide through substitution of SCPG's electricity generation which mainly comes from coal fired power plants.

Leakage:

According to AM0029, leakage may result from fuel extraction, processing, liquefaction, transportation, re-gasification and distribution of fossil fuels outside of the project boundary. This includes mainly fugitive CH4 emissions and CO2 emissions from associated fuel combustion and flaring. For this project, leakage emission source was considered fugitive CH4 emissions associated with fuel extraction, processing, liquefaction, transportation, re-gasification and distribution of natural gas used in the project plant and fossil fuels used in the grid in the absence of the project activity. The calculated result of total net leakage effects is -25,961 tCO2 annually, thus this negative leakage is assumed zero as per AM0029.

Environmental & Social Impacts:

According to the Environmental Impact Assessment (EIA) report, the proposed project has no significant negative impacts on the environment, this assessment has been approved by State Environmental Protection Administration of China in October 2001. A local consultation was carried out during the EIA process, no opposite comments were received.

2.4 The Names and Roles of the Validation Team Members

Name	Role	Affiliate
Elton Chen Wu	Lead Assessor	SGS China
Robin Wang	Assessor	SGS China
Sarah Ruan	Assessor	SGS China

3. Methodology

3.1 Review of CDM-PDD and Additional Documentation

The validation is performed primarily as a document review of the publicly available project documents. The assessment is performed by trained assessors using a validation protocol.

A site visit is usually required to verify assumptions in the baseline.

Robin Wang performed the site visit and interviewed project developer and concerned local stakeholders against the checklist prepared by lead assessor, the results are summarized in annex 1 of this report.

3.2 Use of the Validation Protocol

The validation protocol used for the assessment is partly based on the templates of the IETA / World Bank Validation and Verification Manual and partly on the experience of SGS with the validation of CDM projects. It serves the following purposes:

- it organises, details and clarifies the requirements the project is expected to meet; and
- it documents both how a particular requirement has been validated and the result of the validation.

The validation protocol consists of several tables. The different columns in these tables are described below.

Checklist Question	Ref ID	Means of Verification (MoV)	Comment	Draft and/or Final Conclusion
The various requirements are linked to checklist questions the project should meet.	Lists any references and sources used in the validation process. Full details are provided in the table at the bottom of the checklist.	Explains how conformance with the checklist question is investigated. Examples of means of verification are document review (DR) or interview (I). N/A means not applicable.	The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further used to explain the conclusions reached.	This is either acceptable based on evidence provided (OK), or a Corrective Action Request (CAR) due to non-compliance with the checklist question (See below). New Information Request (NIR) is used when the validation team has identified a need for further clarification.

The completed validation protocol for this project is attached as Annex A.1 to this report

3.3 Findings

As an outcome of the validation 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 Assessor shall raise a **New Information Request (NIR)** specifying what additional information is required.

Where a non-conformance arises the Assessor shall raise a **Corrective Action Request (CAR).** A CAR

is issued, where:

I. mistakes have been made with a direct influence on project results;

II. validation protocol requirements have not been met; or

III. there is a risk that the project would not be accepted as a CDM project or that emission reductions will not be verified.

The validation 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 or validation actors. These have no impact upon the completion of the validation or verification activity.

Corrective Action Requests and New Information Requests are raised in the draft validation protocol and detailed in a separate form (Annex A.2). In this form, the Project Developer is given the opportunity to "close" outstanding CARs and respond to NIRs and Observations.

3.4 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.

4. Validation Findings

4.1 Participation Requirements

The host Party for this project is P.R.China. China ratified the Kyoto protocol on 30th August 2002 and has appointed a DNA. CAR1 was raised to request Letter of Approval (LoA). CAR1 was closed out after the LoA (Nr. 164 Dated 13/12/2006) was received.

LoA (Nr. IZ/2007099547, dated 17/10/2007) from annex I Party the Netherlands was made available to SGS in December 2007.

4.2 Project Design

The project is a Natural Gas (NG) Combined-Cycle Gas Turbine (CCGT) power plant using imported LNG project Australia. The project has a capacity of 1083.09 MW (3×361.03 MW) with annual output of 3703.5 GWh. Generated electricity is transmitted to Guangdong Provincial Power Grid (GPPG) which is a part of the Southern China Power Grid (SCPG), consequently displacing power generation from the SCPG where more than 50 percent of the power comes from coal fired power plants, and mitigating the carbon emissions of SCPG.

The project is expected to bring social, environmental and economic benefits, thus contributing to the sustainable development objectives of the Chinese government.

4.3 Baseline Selection and Additionality

The project employs the approved baseline methodology AM0029 “Grid Connected Electricity Generation Plants using Natural Gas” (version 01.1, dated 19 May 2006).

The timeline of the proposed project activity has been provided in the response made by the PP and the revised PDD version 5.0.

1. Meeting was held in Zhuhai City in August 2002, when the project investors was first aware of CDM potential in LNG power generation projects.
2. *“Case Study of Clean Development Mechanism Project of Zhuhai Power Plant Project Phase II”* was initiated in February 2003 by the project investor and completed in November 2003 by an independent third party to evaluate the CDM potential on the natural gas-fired power plant projects in China.
3. Meeting on discussion of CDM implication in natural-gas-fired projects in the management team of project investor was held in February 2004, requiring the CDM consideration in the Huizhou LNG power generation project based on the outcomes of the “Case Study of Clean Development Mechanism Project of Zhuhai Power Plant Project Phase II”.
4. FSR with financial analysis considering the impacts of potential CDM revenue was carried out by Guangdong Electric Power Research Institute, an accredited third party institute, in February 2004**.** The results of the analysis shows that the financial internal return rate (FIRR) can increase from 6.12 percent to 8.18 percent after taking into account of the CER revenue, higher than the investment benchmark of 8 percent, thus the CDM will dramatically increase the financial viability of the proposed project.
5. Shareholder investment decision meeting was held in May 2004. The project investors were aware of the financial innon-viability of the project without CDM revenue and decided to proceed with the project taking into consideration of the potential CDM contribution to the project’s financial internal return rate.
6. The FSR was approved by NDRC on July 13, 2004.
7. Project construction started on **September 23rd, 2004**.
8. Notice was issued by the project entity in March 2005 to establish CDM working team so as to start the CDM project application.
9. June 2005: CDM development workshop was organized by the project owner. The CDM working team discussed the Meth Panel’s recommendation of methodology NM0080 which was reference to by AM0029 and the next-step work plan.

10. September 2005: The directorate approved the "Work Program of starting CDM application for Huizhou LNG project" submitted by the CDM working team.
11. October 2005: CDM Consulting and Service Contract was signed with CDM consulting firm.
12. January 2006: China Industrial and Commercial Bank, Guangdong Branch issued Evidence of CDM consideration in the commercial loan of Guangdong Huizhou LNG project.
13. May 2006: AM0029 was approved
14. Consulting contract of PIN and PDD was signed with Tsinghua University in July 2006.
15. Project Idea Note of the project was submitted to the World Bank in September 2006, after the methodology AM0029 was approved in May 2006.
16. The Version 01 PDD of the Proposed Project was published on UNFCCC website for public commenting from 15/09/2006 to 14/10/2006
17. Letter of Intent was countersigned between the World Bank and the project proponent in Oct 2006.
18. Emission Reductions Purchase Agreement was signed by the project entity and International Bank for Reconstruction and Development (IBRD) in December 2007.

The project started construction on 23/09/2004, which is the start date of the project activity.

Through verifying evidences mentioned above, it is of SGS opinion that incentive of income from CDM has been seriously considered before the project started and continuing and real actions have been taken to secure CDM status for the project in parallel with its implementation and this is in line with the guidance from EB 41, Annex 46, paragraph 5b.

AM0029 requires that the baseline alternatives should include all possible realistic and credible alternatives that provide outputs or services comparable with the Proposed Project, these alternatives need not consist solely of power plants of the same capacity, load factor and operational characteristics (i.e. several smaller plant, or the share of a larger plant may be a reasonable alternative to the Proposed Project activity). Moreover, they should deliver similar services (e.g. peak vs. base load power).

In Sub-step 1a under Section B.4 of the PDD version 03 that was submitted for registration request, fourteen alternatives were included, which are Natural Gas power generation using combined cycle gas turbine (CCGT) without CDM, Natural Gas power generation using single Gas Turbine technology, Light Oil based power plants using CCGT, Coal based power plant with Sub-critical boilers, Coal based power plant with Supercritical boilers, Wind, Nuclear, Hydro Run-of-river, Hydro Daily regulating, Hydro Monthly regulating, Hydro Seasonal regulating, Hydro Yearly regulating, Hydro Multi year regulating and import from Three Gorgers.

All the alternatives mentioned above are in compliance with all applicable legal and regulatory requirements.

Natural Gas power generation using single Gas Turbine technology is not plausible because it is not widely used in SCPG due to the lower thermal efficiency of it than that of the CCGT.

Wind and nuclear are not plausible because they do not deliver outputs and services for peak load.

Hydro Run-of-river, Hydro Daily regulating, Hydro Monthly regulating and Hydro Seasonal regulating are not plausible because they do not deliver outputs and services comparable to the project activity.

Hydro Yearly regulating and Hydro Multi year regulating are not plausible due to their long construction period.

Import from Three Gorgers is not plausible because it does not deliver outputs and services comparable to the project activity with full-year peak regulation capacity.

Five scenarios (the Proposed Project without CDM, 300 MW Coal-fired Sub-Critical, 600MW Coal-fired supercritical, 600MW Coal-fired sub-critical and 180MW Oil fired CCGT) were identified to conduct further investment analysis in the PDD.

The levelised cost comparison of the five scenarios has been done in the PDD to show that the proposed project without CDM is not the baseline alternative with the best financial indicator, ie, levelised cost. The alternative with the lowest levelised cost, which is 600MW Coal-fired sub-critical, is selected as the baseline scenario.

The sensitive analysis of the alternatives has been carried out taking into consideration of the factors including the load factor and fuel cost to demonstrate that the conclusion regarding the financial attractiveness is robust to reasonable variations in the critical assumptions.

It has been validated that the main parameters used to calculate the levelised cost are mainly from *Design reference cost index for thermal power transmit electricity and transformer electricity projects (2004)* issued by China Electrical Power Press, SGS assessor verified the data input used in the levelised cost analysis against this index, and compared the results with other LNG power generation projects and Natural Gas power generation projects which had already been registered as CDM project. It was found that the calculation results are reasonable and reliable.

Through the approaches prescribed in AM0029, the 600 MW sub-critical coal-fired power plant is demonstrated to have the lowest levelised cost among all plausible alternatives, SGS assessor has recalculated the levelised costs by using the spreadsheet against relevant data and assumptions publicly available, including fuel price, O&M costs, operation hour and reviewed the situation of power plants in China, therefore 600 MW sub-critical coal-fired power plant is the economically most attractive baseline scenario.

According to methodology AM0029, the assessment of additionality comprises the following steps:

- Step 1: Benchmark investment analysis
- Step 2: Common practice analysis
- Step 3: Impact of CDM registration

If all 3 steps are satisfied, then the project is considered additional.

NIR4 was raised to ask for transparent and documented evidence used in supporting the additionality claimed in PDD. PP provided copy of meeting minutes dated 26 May 2004 regarding pursuing CDM credits to improve the IRR (6.12%), IRR calculation spreadsheet with related sections of the Feasibility Study Report (FSR), the approval of FSR issued by national authority, loan contract, therefore, the data and information quoted in the discussion about additionality can be verified, NIR4 was closed out.

Following a revision of the PDD, it was noted that step 3 “impact of CDM registration” requested by AM0029 had been removed from the PDD. NIR6 was raised to ask the PDD to come into compliance with AM0029, though this step is no longer required by the latest version of the “Tool for demonstration assessment and of additionality”. NIR6 was closed after the impact of CDM registration was properly discussed in the revised PDD.

8% is selected as benchmark rate of return on the investment according to “*Interim Rules on Economic Assessment of Electrical Engineering Retrofit Projects*”, this rules are based on “*The Methodology and Parameters for Financial Evaluation of Construction projects (2nd Edition)*” published by the Chinese Government, 8% is regarded as a standard benchmark for power plants in China and has been widely applied as a benchmark in the power generation sector, the IRR is demonstrated to be 6.12% without CDM revenue and 8.18% with CDM revenue when CER is sold at EUR9.5/tCO2.

Five factors (Total investment, Gas price, Annual electricity generation, Electricity tariff and Annual O&M costs) are identified for the sensitivity analysis based on the feasibility study report with variation in each parameter between the range of -10% and +10%. Among these factors, IRR is most sensitive to the variation in electricity tariff, it will reach the benchmark of 8% when the electricity tariff increases by 6.4%. However, in China, the electricity tariff is regulated by central government, it is not unlikely to be increased by 6.4 percent unless relevant costs are increased also, such an increase is mainly for mitigating the loss rather than increasing the profit of the power plant.

The calculated IRR might exceed 8% benchmark if annual electricity generation increases by 19%, this is not likely to happen as the load hour has been properly considered in the FSR, electricity from gas-fired power plants is a relatively expensive source of power in China compared to power from coal-fired power plants which dominate the Chinese power grids, buying electricity from LNG plant is not the preference of the grid company when there is electricity deficit. Also the annual electricity generation of the proposed project is constrained by its designed capacity and contracted amount of gas supply.

The price of LNG used in the investment analysis of the Guangdong Huizhou power project in the PDD was estimated according to the pricing clause of the Liquefied Natural Gas(LNG) Sale and Purchase Contract signed between the project owner and the LNG supplier Guangdong Dapeng LNG Company Ltd. (Contract Number: DPLNG-CR-CT-HZ-001)

On page 29 of the contract, it is stated that The LNG price is determined in correlation with the spot crude oil price in the JCC international market and the upper limit of the Free-On-Board price of the JCC crude oil is defined at USD25/barrel.

The price of crude oil has stayed higher than USD25/barrel ever since January 2004 (http://www.tnc.com.cn/news/detail/1/1/d115428.html and http://omrpublic.iea.org/omrarchive/10dec04pri.pdf).

Besides, as per the document of provincial pricing bureau dated 03/09/2007, the approved natural gas price for natural gas power plants is 1.5961 RMB/ m3, higher than the value of gas price used in the IRR analysis of the PDD (1.55RMB/m3). It has been validated that the gas price used in the IRR calculation in the PDD is conservative.

When the gas price drops 10%, the IRR could be 7.94% which is closing to the benchmark 8%, it has been demonstrated that the price of gas price used in the IRR analysis is 1.55RMB/cubic meter, current price is 1.5961 and still increasing/27/, so it is not possible that the gas price will drop to that much therefore the variation of gas price is not likely to increase the IRR to a satisfactory level. Similarly to other factors like total investment, annual O&M costs, because they were estimated by using 2004 price which are lower than current price level due to the inflation, so these costs are not likely to decrease to the level even below 2004's.

In accordance with section 4 of the Notification on Electric Power Tariff Reform by the Office of national council issued on 09/07/2003, newly-built power plants in the China are required to participate in on-grid tariff bidding. The purpose of on-grid tariff bidding is to introduce market competition into the tariff pricing.

Result of pilot operation of on-grid bidding has showed that the tariffs for individual participating power plants could significantly decrease as a result of increased market competition. **(http://www.chinapower.com.cn/article/1000/art1000256.asp)**

The tariff used in the PDD is from the FSR of the project. In China, FSRs are prepared by accredited third parties. Assumptions and data sources for the economic evaluation of a project in the approved FSR are required to be based on relevant national standards and criteria. The FSR for the proposed CDM project was prepared by an independent third party entity accredited by the relevant national authority to carry out feasibility studies for new projects.

The NDRC approved the FSR for the project in July, 2004. In the approval for the FSR of the project, the NDRC requires the project to participate in the on-grid bidding after the power plant has been built. The approval for the FSR of the project has been provided to and validated by SGS.

In China, relevant authority determines bus-bar tariff of projects. Considering the fact that the FSR has been approved by the NDRC and the bus-bar tariff used in the PDD(FSR) has been accepted by the NDRC, it is accepted that the bus-bar tariff is valid and applicable at the time of the investment decision.

It has been validated the tariff is unlikely to increase foreseen by the project owner at the time of investment decision making.

The tariff after the units are put into commercial operation established in page 13 of the PPA signed between the project owner and the grid company is 475RMB/MWh, lower than the value of 489RMB/MWh used in the IRR calculation in the PDD. The current PPA will remain valid till the on-gird tariff bidding become fully effective. Further, the tariff in the sales invoices provided to SGS issued to the grid company by the project owner shows that the actual tariff during commercial operation is lower than that in the PDD. The IRR with CDM income obtained from using the tariff of 475RMB/MWh in the PPA with all other parameters unchanged is 5.11%, lower than the IRR of 6.12% in the PDD.

As has been provided in the response to request for review of the project and further discussed in the PP response to under review of the project, power tariffs for individual power plants participating in on-grid tariff bidding could significantly decrease as a result of increasing market competition.

SGS assessors confirmed the above conclusion through checking the links of http://finance.sina.com.cn/chanjing/b/20070529/07293638473.shtml and http://www.chinapower.com.cn/article/1000/art1000256.asp, as well as Annex 1-3 of response to request for review.

Also, in the PP's response, it has been demonstrated that the isolated consideration of tariff fluctuation may only have limited representativeness for corresponding changes of financial attractiveness of power generation projects considering the current price structure in China. The IRR obtained using the tariff in the PPA and updated O&M and fuels costs in years 2007 and 2008 is 4.25%, lower than the IRR of 6.12% in the PDD. The actual annual O&M costs in year 2007 (173.06 Million RMB) and year 2008 (234.43 Million RMB) used in the IRR calculation have been verified against the audit report issued by a third party (Report No.: Zhonghengxin Audit (2009) No. 1015) provided by the PP. The accreditation certificate for the third party issued by the Treasury Bureau of Guangdong Province has also been provided and verified (Certificate No.: 004740). The comparison of actual O&M costs and LNG price per unit in 2007 and 2008 confirms that the O&M costs of the project are highly unlikely to decrease by 9 percent to bypass the IRR benchmark of 8 percent.

Based on the above information, it is validated that the tariff in the PPA is lower than what was used in the PDD/FSR and that no escalation of tariff is indicated. The relevant information has been provided in version 5.0 of the PDD.

So step 1 of the assessment of additionality is satisfied. Values and parameters used in the IRR calculation spreadsheet are derived from feasibility study report (FSR) dated May 2004 just before the start date of the project implementation, this FSR was prepared by a third party (Guandong Electric Power Institute) who is accredited for such assessment by national authority. SGS assessor has checked values used in the PDD and found they are fully consistent with the FSR.

From 2002 to 2005 when the project was at design stage, there was no gas-fired electricity generating capacity in South China Power Grid, so gas-based power plant is not common practice within the project boundary. Other similar LNG power projects in this region are all in the process of applying as CDM projects at the time of this validation.

CDM revenue can improve the financial performance of the proposed project and help the project overcome the investment benchmark, this was taken into consideration as early as on February 17, 2004, when the project entity had commissioned a revision of the project feasibility study ("*Financial Analysis on Huizhou LNG power plant*", Guangdong Electric Power Design Institute, May 2004). So the step 3 of impact of CDM registration is also satisfied.

4.4 Application of Baseline Methodology and Calculation of Emission Factors

For assessing the applicability criteria of AM0029 for this project, NIR2 was raised to request supporting documents that the natural gas supply in the region would not be constrained by this project. The "*NG Purchase and Sale Contract* "was provided which mentions the Take-or-Pay clause and NG Interruption Regulation when this is a supply constraint, hence, NIR2 was closed.

The Meth Panel clarification AM _CLA_0091 states that "notwithstanding where the natural gas is imported from, this applicability condition is to be implemented by demonstrating, through monitoring, that the full demand of natural gas by the project activity is dedicatedly met with imported gas, and where dedicated imports is not the case, the monitoring should show that satisfying the project activity's demand for natural gas will not lead to a shortages in supplies of the gas to other projects within the country."

The LNG sales and purchase contract signed between the project entity and Dapeng LNG company shows that the full demand of liquefied natural gas by the proposed project is dedicatedly supplied by Dapeng LNG company where the imported Australian LNG is being distributed to contracted users. As per requirement of the clarification, monitoring of sources of LNG supply has been included in the monitoring plan of revised PDD to make sure this applicability is met.

Therefore, according to AM0029 version 1, it is of SGS opinion that the project activity will not constrain LNG supply in the region.

When determining the Operating Margin and Build Margin, it was noted that the value was not as conservative as the one in the guideline issued by Chinese DNA, and the most recent data (2005) of

Chinese grids were not adopted, so NIR3 was raised. NIR3 was closed following the review of the revised PDD in which the most recent data and alternative approach approved by EB were used.

CAR2 was raised to ask inclusion of λ_{Coal} and $NCV_{rawcoal}$ in PDD Section B.6.2, and use of the formula to calculate $EF_{BL,upstream,CH4}$. CAR2 was closed after the revised PDD addressed these correctly.

4.5 Application of Monitoring Methodology and Monitoring Plan

The project is applying monitoring methodology AM0029 "Grid Connected Electricity Generation Plants using Natural Gas" (version 01.1, dated 19 May 2006) which has the same applicability criteria as the baseline methodology.

According to AM0029 if option 1 (BM) or option 2 (CM) are selected to be the emission factor in the baseline, they will be monitored ex post during the first crediting period, CAR3 was raised due to Build Margin was identified but it was not included in the section of monitored parameters in the PDD, CAR3 was closed out after BM was included in section B.7.1 (Data and parameters monitored) of revised PDD.

NIR5 was raised for lack of procedures for training. Details of training procedures have been described in the revised PDD or in separate supporting documents, thus NIR5 was closed out.

In compliance with AM0029 version 01, the following parameters are included in the monitoring plan of the project:

<u>For baseline emission:</u>

Build Margin emission factor for the grid.($EF_{BL,CO2,y}$). This parameter will be from NDRC, or if not available in a timely manner, shall be calculated based on the procedures described in section B.6.1 and the relevant parameters should be monitored ex-post;

Relevant parameters used for calculation of Build Margin emission factor for the grid include:

The amount of fuel i consumed by relevant power sources ($F_{i,j,y}$) from China Energy Statistical Yearbook;

The net calorific value (energy content) per mass or volume unit of a fuel i (NCV_i,) from China Energy Statistical Yearbook;

The oxidation factor of the fuel i ($OXID_i$) from 2006 IPCC Guidelines for National Greenhouse Gas Inventories;

CO2 emission factor per unit of energy of the fuel I ($EF_{CO2,i}$) from 2006 IPCC Guidelines for National Greenhouse Gas Inventories;

The amount of electricity generation by source j in year y ($G_{j\ ,\ y}$) from China Electric Power Yearbook;

Station service power consumption rate of source j in year y ($e_{j,y}$) from China Energy Statistical Yearbook;

Efficiency of most advanced coal-fired power technology that is commercially available ($EE_{coal,adv}$) from Notice on the determination of emission factors of regional power grids by Chinese CDM DNA or other official statistics data;

Efficiency of most advanced oil-fired power technology that is commercially available ($EE_{oil,adv}$) from Notice on the determination of emission factors of regional power grids by Chinese CDM DNA or other official statistics data;

Efficiency of most advanced gas-fired power technology that is commercially available ($EE_{gas,adv}$); from Notice on the determination of emission factors of regional power grids by Chinese CDM DNA or other official statistics data;

Installed capacity of source j in year y in SCPG ($CAP_{j,y}$) from China Energy Statistical Yearbook or other official statistical data;

Electricity supplied to the grid by the project (EGy). This parameter will be monitored by Electricity meter at project boundary with accuracy level of 0.2S. The meters shall be calibrated half a year. Sales receipts will be used for double check.

<u>For project emission:</u>

Annual fuel(s) consumption in project activity ($FC_{LNG,y}$). This parameter will be monitored through flow meters with accuracy of 0.5% continuously both by supplier and project owner for cross-verification. The LNG consumption will be aggregated automatically and recorded daily. Calibration will be carried out every month.

Net Calorific Value(s) of the fuel used in the project activity ($NCV_{f,y}$). The supplier-provided data will be used instead of country specific value once the project is put into operation.

Fuel emission factors for fuel used in the project activity ($EF_{CO2,LNG,y}$). IPCC default value will be used.

Oxidation factor of LNG($OXID_{gas}$). IPCC default value will be used.

Annual quantity of Diesel as startup fuel consumed in project activity($FC_{diesel,y}$). This parameter will be monitored through Diesel flow meter and recorded daily.

Net Calorific Value(s) of the diesel used in the project activity ($NCV_{diesel,y}$). This parameter will be from Chinese Energy Statistical Yearbook or Supplier-provided data if available

Emission factor for diesel consumed as startup fuel in the project activity ($EF_{CO2,diesel,y}$). IPCC default value will be used.

Oxidation factor of diesel($OXID_{diesel}$). IPCC default value will be used.

For Leakage
As shown in the ex-ante determination of emission reductions in Section B.6.3 of the PDD, LEy is zero. As per the Approved Monitoring Methodology AM0029 Version 01, parameters for leakages are not required to be monitored thus are not included in the monitoring plan of the project.

For monitoring of liquefied natural gas source

Liquefied natural gas source will be from relevant documents and data provided by the gas supplier.

4.6 Choice of the Crediting Period

7 years with potential 2 renewals is selected.

4.7 Environmental Impacts

An Environmental Impact Assessment (EIA) has been conducted according to Chinese laws and regulations. The potential impacts have been identified, corresponding measures to protect marine environment, air environment, sound environment, and terrestrial and marine environment have been described in the PDD based on the EIA. The EIA and its approval were received during the site visit. No significant environmental impacts are expected from the project activity. The EIA has been approved by the State Environmental Protection Administration of China in Oct 2001..

4.8 Local Stakeholder Comments

Stakeholder consultation was undertaken as part of the EIA process. The consultation was performed through the distribution of 200 questionnaires; no opposite comment was made in the 178 returned questionnaires. Samples of returned questionnaires were reviewed and found to be in line with relevant descriptions in the PDD.

5. Comments by Parties, Stakeholders and NGOs

In accordance with sub-paragraphs 40 (b) and (c) of the CDM modalities and procedures, the project design document of a proposed CDM project activity shall be made publicly available and the DOE shall invite comments on the validation requirements from Parties, stakeholders and UNFCCC accredited non-governmental organizations and make them publicly available. This chapter describes this process for this project.

5.1 Description of How and When the PDD was Made Publicly Available

The Project Design Document for this project was made available on the SGS website http://www.sgsqualitynetwork.com/tradeassurance/ccp/projects/project.php?id=142 and was open for comments from 15-09-2006 until 14-10-2006. Comments were invited through the UNFCCC CDM homepage.

5.2 Compilation of all Comments Received

Comment Number	Date Received	Submitter	Comment
1	10/11/2006	Carol Grear	PROJECT: China Guangdong Huizhou LNG generation project NAME: CarolGrear EMAIL: CarolGrear@hotmail.com ORGANISATION: Ohio EPA ORGANISATION TYPE: Other Party : NGO CITY: Ohio COUNTRY: USA COMMENT: If the proposed project were registered, It will create a ture lies in CDM world! As a part of the overall Guangdong LNG project, which is a China-Australia Cooperation Project strongly supported by two governments, the proposed project cannot be considered additional. Before my comment is made, some background information of the overall Guangdong LNG project is stated as following to achieve a better comprehension. The history of this project 1.1995, NDRC (National Development and Reform Commission) started to develop natural gas plan and organize LNG pre-study. 2.Oct, 1998, State Council approved Guangdong start LNG pilot importing. 3.Dec, 1999, the State Council approved the 1st LNG project in China – Guangdong LNG Pilot Project Phase I 4.Oct, 2002 by international tendering and approval of

Comment Number	Date Received	Submitter	Comment
			State Council, Australia NWS LNG project was selected as supplier. 5.Oct, 2003, NDRC approved the FSR of Guangdong LNG Pilot Project Phase I. 6.June, 2006, Premier Wen Jiabao of Chinese State Council and Australian Prime Minister John Howard jointly attended the ceremony on the operation of the first-phase Guangdong LNG project. The whole picture of this project (include 14 sub-projects) 1.LNG Terminal and Trunckline Project 2.4 newly-built power plants (Dongbu, Huizhou, Qianwan, Zhujiang), including the proposed project 3.1 conversion power plant (Meishi) 4.4 Town Gas (Shenzhen, Dongguan, Guangzhou, Foshan) 5.HK Customers (HK Electric, HK&China Town Gas) 6.LNG Transportation (COSCO and China Merchant) 7.LNG Ship-building (Shanghai Hudong Ship Yard) The details of the background information can be found from many places, only three of them are list as below: 1) The United States Energy Association (USEA), the website is: http://www.usea.org/OGIF%20Presentations%20for%20the%20website/Topic%2014-%20Chu%20Yanqun-%20CNOOC-%20English.pdf#search=%22%E5%B9%BF%E4%B8%9CLNG%E9%A1%B9%E7%9B%AE%E4%BB%8B%E7%BB%8D%22 2) North West Shelf Australia LNG is Australia, the website is: http://www.australialng.com.au/website.aspx?mp=4&pn=402 3) LNG project reflects closer Canberra ties, from People Daily Online, the website is: http://english.people.com.cn/200606/29/eng20060629_278375.html As mentioned above, the Overall Guangdong LNG project is a pilot one, which is planed and supported by Chinese central government from the very beginning. Nearly all the activities are conducted by the State Council of China and Australia government. Furthermore, this project has been approved by NDRC in 2003, three years from now, and part of it

Comment Number	Date Received	Submitter	Comment
			has been completed. Being a part of the overall project, the proposed LNG power plant will be consequently developed even without CDM revenues. What's more, the Overall Guangdong LNG project is deeply related to the collaboration between China and Australia and symbolizes increasingly close China-Australia ties. The relevant news can be read everywhere, for example, (http://archives.cnn.com/2002/BUSINESS/asia/08/08/aust.chinalng.biz/), (http://www.fmprc.gov.cn/eng/zxxx/t260999.htm), (http://english.gov.cn/2006-06/28/content_321985.htm) The Leaders of two countries express their strong support and high praises for Guangdong LNG project, including the proposed project, some remarks from leaders are list as below: 1) President Hu Jintao "Australia is China\'s ninth largest trading partner and the biggest supplier of wool. Over the years, China has purchased large amounts of iron ore and aluminium oxide from Australia which has such energy and mineral riches. Last year, the two countries signed a 25-year, 25-billion-Australian dollar deal on LNG in Guangdong, thus laying a solid foundation for bilateral energy cooperation." President Hu Jintao\'s Address to the Federal Parliament of the Commonwealth of Australia Building A Better Future Together for the China-Australia Relationship of All-round Cooperation December 27, 2003.Seen from the website: http://au.china-embassy.org/eng/zt/hjtcf/t57097.htm 2) Prime Minister John Howard "China and Australia want to strengthen co-operation ranging from the energy, mining and resources sectors to upstream exploration, new energy, renewable energy, clean energy and safe production" Remarked by John Howard, during a ceremony inaugurated the first liquefied natural gas (LNG) project in South China\'s

Comment Number	Date Received	Submitter	Comment
			Guangdong Province, June 28, 2006. Seen from the website: http://english.people.com.cn/200606/29/eng20060629_278375.html 3) Premier Wen Jiabao “We are willing to continue high-level exchanges with Australia, enhance strategic dialogue, and actively promote free trade negotiations” Said by Premier Wen Jiabao, during a ceremony inaugurated the first liquefied natural gas (LNG) project in South China\'s Guangdong Province, June 28, 2006. Seen from the website: http://english.people.com.cn/200606/29/eng20060629_278375.html It’s shown that since the project began, the leaders of both countries have been keeping an eye on it. Therefore, Guangdong LNG project is easy to be considered a Cooperation Project between two national governments, and then the proposed project consequently will be developed even without CDM revenues. It can also be confirmed by some most latest news: Phase I of Guangdong LNG Pilot Project put into operation on June 28, 2006, Premier Wen Jiabao and his Australian counterpart John Howard pushed the start-up button together during a ceremony at Dapeng Gas Terminal.(http://english.people.com.cn/200606/29/eng20060629_278375.html). My translator also confirmed that the Num 1 unit (390MW) of Huizhou LNG power plant fired on July 21,2006, commissioning on August 15,2006 and put into commercial operation with Grid on September 21,2006.(http://www.gd.gov.cn/govpub/gdyw/020060 8160001.htm,,http://city.hz0752.com/n/200609/3508.shtml) Due to the comprehensive facts mentioned above, it’s no doubt that the proposed LNG power plant can be developed without any help from CDM, and then the proposed project cannot be considered additional. I also suggest the DOE of this project strictly incorporate “Tool for the demonstration and assessment of additionality” to assess the additionality of the proposed project.

Comment Number	Date Received	Submitter	Comment
2	10/10/2006	Ailsa.Brook	PROJECT: China Guangdong Huizhou LNG generation project NAME: Ailsa Brook EMAIL: Ailsa.Brook ORGANISATION: CRROO ORGANISATION TYPE: Other Party : NGO CITY: POLO COUNTRY: Braize COMMENT: The baseline scenarios may be not in compliance with all applicable legal and regulatory requirements: When I read the CDM PDD of Huizhou& Qianwan LNG generation project, I found a few confused problems, which are conflicting compared with some point view in previous PDD using ACM0002 methodology. Some are pointed out as follow: In Page 10 of the CDM PDD of Huizhou& Qianwan LNG generation project: "…According to the version 01 of AM0029, the baseline alternatives with the best financial indicator, i.e. the lowest levelised cost, can be pre selected as the most plausible scenario. Then the 135 MW sub-critical coal-fired power plants have the lowest levelised cost, then the most plausible scenario. The sensitive analysis in the previous table confirms and supports that the 135 MW sub-critical coal-fired power plants is always the least levelised cost alternatives within reasonable variations in the critical assumptions." Some relevant point views are easily found in many registered or validated CDM PDD, only two of them are listed: 1)in the PDD (Page 9 and Page 10) of registered Jilin Tongyu Huaneng 100.05 MW Wind Power Project, http://cdm.unfccc.int/Projects/Validation/DB/1NWSH2PLH2G2ZQRRWHCVMSXZ9P9ILQ/view.html "…However, according to Chinese regulations, coal-fired power plants of less than 135MW are prohibited to be built in the areas covered by the large grids such as provincial grids (from: Notice on Strictly

Comment Number	Date Received	Submitter	Comment
			Prohibiting the Installation of Fuel-fired Generators with the Capacity of 135mw or below issued by the General Office of the State Council, decree no. 2002-6.), and the fossil fuel-fired power units with less than 100MW is strictly regulated for installation 2. For these reasons, the possible alternative baseline scenario of building a 25MW fuel-fired power plant conflicts with Chinese regulations. So, scenario 1) is not feasible as an alternative scenario…" 2)in the PDD (Page 11) of validated Guohua Huitengliang Windfarm Project, http://cdm.unfccc.int/Projects/Validation/DB/UV0KG7BGHK4TNW9L8U5DVJUHSJECCK/view.html "However, according to Chinese regulations, coal-fired power plants of less than 135MW are prohibited for construction in the areas covered by the large grids such as provincial grids. (from: Notice on Strictly Prohibiting the Installation of Fuel-fired Generators with the Capacity of 135mw or below issued by the General Office of the State Council, decree no. 2002-6…)" In these PDD abovementioned, Notice on Strictly Prohibiting the Installation of Fuel-Generators with the Capacity of 135mw or below issued by the General Office of the State Council are frequently referenced. It seems difficult to find this Notice in English just from website, so I can not make sure whether this Notice is really issued or carried out in China, however, if this Notice is really true after verification by DOE, it means that coal-fired power plant with the capacity of 135MW or below is strictly prohibited, then it is not in compliance with all applicable legal and regulatory requirements. According to the AM0029, the project participant may exclude baseline scenarios that are not in compliance with all applicable legal and regulatory requirements in the step of identifying plausible baseline scenarios. So if abovementioned reflected the real case of legal and regulatory requirements, the baseline scenarios identified in the CDM

Comment Number	Date Received	Submitter	Comment
			PDD of Huizhou& Qianwan LNG generation project are not incorrect.

5.3 Explanation of How Comments Have Been Taken into Account

These two comments were immediately forwarded to project proponent to address under finding NIR1, meanwhile, SGS assessors also investigated all information and their sources provided in the comments, after obtaining the responses and clarifications from project proponent, meetings and interview with project developer, participants, relevant expert and government official were organized in Beijing, Shanghai and Guangzhou respectively.

Responses and clarifications of project participant (PP) are as below:

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RESPONSE TO THE PUBLIC COMMENT ON ADDITIONALITY

Two public comments were received during global consultation period of Huizhou LNG power generation project. Comment made by Carol Grear, Ohio Environmental Protection Agency on November 10, 2006, questioned the project's additionality. Second comment made by Ailsa Brook on November 10, questioned the eligibility of 135 MW sub-critical coal-fired power plants as one of the baseline alternatives. Response to the above-mentioned comments is stated below:

Comment 1:

Issue 1: "Overall Guangdong LNG project is a pilot one, which is planed and supported by Chinese central government from the very beginning."

The construction of Huizhou LNG power plant project (Huizhou project) is not a mandatory from the Guangdong LNG program. The planning of Huizhou project was independently carried out by the project investors.

(a) Investment decision of Huizhou project was made by project investors based upon a thorough and cautious review of the project feasibility.

The concept of Huizhou project was formed in 1993, prior to the planning of the Guangdong LNG program at the end of 1996. Given that the availability of gas supply channel was the most highlighted concern at the beginning, several schemes including establishing an exclusive LNG terminal to channel the natural gas to the plant were proposed in the 1995 preliminary study of Huizhou project. The Guangdong LNG terminal and pipeline program formed at the end of 1996, namely the Guangdong LNG program, provided a practical solution and was finally chosen as the gas sourcing channel for the project. The second preliminary feasibility study was conducted soon after the gas supply concern was solved in 1998. In the feasibility study stage, project investors faced financial barrier in the project, thus for a long period they had been seeking various channels to improve the project's financial performance. CDM was first considered by the project investors in February 2004, through commissioning a revision of Financial Assessment to take the potential CDM revenue into account based on a case study for a similar natural gas-fired power generation

project[1] to improve the financial viability of the project. The result of the revision of Financial Assessment thus further supported the project investors' willingness to invest in the project

Thus the above statement demonstrates that the Guangdong LNG program only plays a role of gas supplier in the Huizhou project. Such commercial relationship is also reflected in the condition term of Gas Purchase and Sales Contract, which defines the NDRC's approval of feasibility study of Huizhou project as one of the key preconditions of the gas contract effectiveness[2].

(b) Furthermore, the government has not provided any preferential treatment to the Huizhou project.

In the Feasibility Study (FS) of Huizhou project, project investors appealed for preferential measures, including long-term Electric Power Purchase and Supply Contract, guaranteed on-grid power amount, preferential electricity tariff, as well as lower taxation, which are considered the prerequisites of the investment decision[3].

However, in the FS approval from NDRC dated July 2004, the government denied the request for preferential policy on income tax and required that power generated from the project must participate in the on-grid price bidding[4].

Furthermore, the project has not received any preferential treatment from the government since the commissioning date. Currently, rate of income tax is 33% and Electric Power Purchase and Supply Contract is yearly-based. No guaranteed on-grid power amount and preferential electricity tariff are received[5] in the project.

Issue 2) : Nearly all the activities are conducted by the State Council of China and Australia government.

(a) As LNG supplier for the Guangdong LNG program, Australian LNG Company has never played a role in the investment decision-making of Huizhou project.

The gas supply contract was signed between Huizhou LNG Company and Dapeng LNG Company which is a joint-venture between China and Britain. There is no direct business cooperation between Huizhou LNG power plant and Australian LNG Company. Three major shareholders of Huizhou project are all domestic companies operating under market conditions.

(b) During the selection of the LNG supplier of Guangdong LNG program, a global sourcing was launched and a number of competitors participated. Australian supplier was one of the most qualified candidates and was finally selected as the gas supplier.

During the period of November 2001 to August 2002, CNOOC called for bid in gas supply and transmission. Altogether 6 international LNG companies participated. After a long process of evaluation and negotiation, Australian LNG Company was selected as LNG supplier for the 'Guangdong LNG Program'[6]. Thus, the high

[1] *Case Study of Clean Development Mechanism Project of Zhuhai Power Plant Project Phase II*", Energy Research Institute of the NDRC & Global Climate Change Institute, Tsinghua University, November 2003

[2] Page 10 in《Gas Sales Contract》signed April,2004.

[3] Part 13.3.3 and 13.3.4,<<Feasibility Study of Huizhou LNG Power Plant>> submitted for the Approval of NDRC in July 2003.

[4] National Development and Reform Commission, Fagainengyuan [2004] No. 1370.

[5] 《Power Purchase Agreement》signed in 2006

[6] http://www.cpechina.com/houtai/info_view.asp?id=1930

quality LNG resource with lowest international price was selected by tendering in the Guangdong LNG program.

Issue 3) This project has been approved by NDRC in 2003, three years from now, and part of it has been completed.

This project was approved by NDRC in July 2004[7] and the construction of the project did not start until September 2004[8].

In addition, as early as February 2004, the project entity had commissioned a revision of the FA to take the potential CDM revenue into account based on a case study for a similar natural gas-fired power generation project[9] to evaluate the potential CDM's contribution in mitigating project risk and improving its financial performance.

Issue 4 : Being a part of the overall project, the proposed LNG power plant will be consequently developed even without CDM revenues.

In sum, through the above statement, it is demonstrated that the Guangdong Huizhou LNG Power Generation project has never received any preferential treatment from the government.

The project will not be financially viable thus would not be implemented without taking CDM revenue into consideration to overcome high upfront investment cost and the industry benchmark rate of return.

Comment 2:

The project entity agreed with the Public Comment, made by Ailsa Brook on November 10, 2006, that the 135 MW sub-critical coal-fired power plant should not be included in the baseline alternatives. As a result, alternative scenario of 135 MW sub-critical coal fired power plant has been excluded from the analysis in the PDD.

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Action taken by SGS:

Comments 1 from Carol Grear received on 10/11/2006.

For verifying the justification provided in the PDD as well as above PP's responses and clarifications, three meetings were arranged among the project developer, participants, relevant expert, official and SGS validators.

During first two meetings, PP clarified issues mentioned in the comments and provided supporting documents concerned, the initial "Feasibility Study of Huizhou LNG Power Plant, 2002", its approval "National Development and Reform Commission, Fagainengyuan [2004] No. 1370", "Power *Purchase Agreement"* and the *"Investor Meeting Minutes Reflecting Consideration of CDM 2004-5", "Supplementary Loan Statement from Industrial and Commercial Bank",* were obtained and verified by SGS. The initial Feasibility Study has pointed out that to realize this project, preferential treatment including those such like LNG price, premium electricity tariff as well as lower taxation regulated by national and local government should be pursued, while in the approval from concerned government (National Development and Reform

[7] National Development and Reform Commission, Fagainengyuan [2004] No. 1370.
[8] http://www.china5e.com/news/oil/200409/200409280020.html
[9] *Case Study of Clean Development Mechanism Project of Zhuhai Power Plant Project Phase II*", Energy Research Institute of the NDRC & Global Climate Change Institute, Tsinghua University, November 2003

Commission, Fagainengyuan [2004] No. 1370), this preferential treatment was not granted. The revision of feasibility study (*Financial Analysis on Huizhou LNG power plant", Guangdong Electric Power Design Institute, May 2004)* indicated that CDM credits will help to improve the financial performance of the proposed project, and the corporate document *(Investor Meeting Minutes reflecting consideration of CDM, dated 26 May 2004*) revealed that the investor decided to seek the opportunity to make use of CDM credits to improve the financial result though applicable methodology was not available at that time. A letter from the commercial bank who agreed to provide loan to this project also states that the CDM revenue was taken into account when they decided to finance the project (*Supplementary statement on loan evaluation report of Guangdong Huizhou LNG project, China Industrial and Commercial Bank, Guangdong Branch, January 23, 2006*). Hence, the financial barrier can be justified and it is not removed through government's assistance even if the assistance existed.

To further clarify the political support behind the project, a teleconference was set up between the project developer Guangdong Yudean Group, the vice director of the former Lead Team of Guangdong LNG Program Office and SGS on 2 July, 2007, SGS assessor's concerns over the pilot program of Guangdong LNG projects and its function, extent of political support were satisfactorily clarified during the meeting, the meeting minutes is enclosed with this report (*Meeting Minutes Regarding LNG program*).

Comments 2 from Ailsa Brook received on 10/10/2006.

The comments correctly reflects the situation in China, 135 MW sub-critical coal-fired power plant has been taken out from the baseline alternatives by PP in the revised PDD.

The two international stakeholders comments received during 15-09-2006 and 14-10-2006 have been taken into account as above. SGS concludes that they have been satisfactorily addressed in the revised PDD as well as in the PP's clarifications with the necessary supporting documents and the interview with the government official.

6. List of Persons Interviewed

Date	Name	Position	Short description of subject discussed
7 Nov 2006	Huang Zhisheng	Vice Director of Upper Horn Investment Ltd.	FSR /EIA/Gas supply/Stakeholders consultation
7 Nov 2006	Wang Hui	Project Trading Dept. Manager of Upper Horn Investment Ltd.	FSR /EIA/Gas supply/PDD
7 Nov 2006	Ye Guo	Engineer of Upper Horn Investment Ltd.	FSR /EIA/Gas supply/PDD
7 Nov 2006	Chen Lianqing	General Engineer of Guangzhou Huizhou LNG Power Co. Ltd.	Project construction/ CCGT technology/ EIA/ Stakeholders consultation
7 Nov 2006	Li Yunxiang	Vice Financial Manager of Guangzhou Huizhou LNG Power Co. Ltd.	Project construction/ CCGT technology
7 Nov 2006	Qi Xiaoe	Production & Business Dept Engineer of Guangzhou Huizhou LNG Power Co. Ltd.	Project construction/ CCGT technology
7 Nov 2006	Fang Baolong	Production & Business Dept Engineer of Guangzhou Huizhou LNG Power Co. Ltd.	Project construction/ CCGT technology
7 Nov 2006	Xu Junli	Production & Business Dept Engineer of Guangzhou Huizhou LNG Power Co. Ltd.	Project construction/ CCGT technology
5 Dec 2006	Tengfei	Consultant Tsinghua University	PDD revision/CEF
5 Dec 2006	Zhang Xiaohua	Consultant Tsinghua University	PDD revision/CEF
22 Jan 2007	Nat Pinnoi	WBC	Additionality
18 Jun 2007	Wang Hui, Ye Guo	Upper Horn Investment Ltd	Additionality
2 July 2007	Yao, Wang, Ye, Huang	Upper Horn Investment Ltd Former leader of LNG program	Additionality (see meeting minutes)

7. Document References

Category 1 Documents (documents provided by the Client that relate directly to the GHG components of the project, (i.e. the CDM Project Design Document, confirmation by the host Party on contribution to sustainable development and written approval of voluntary participation from the designated national authority):

/1/ PDD, the following versions have been reviewed,

- Version 1 dated 10 Sep 2006 and made publicly available,
- Version 2 dated 29 January 2007
- Version 3 dated 15/06/2008 for request for registration
- Version 4 dated 06/12/2008 in response to request for review
- Version 5 dated 17/04/2009 in response to corrections requested

/2/ AM0029 Version01.1

/3/ Tool for the demonstration and assessment of additionality Version05

/4/ ACM0002 Version06

/5/ Letter of Approval from Chinese DNA. Number 164, 13/12/2006

/6/ Letter of Approval from Netherlands' DNA. Number IZ/2007099547, 17/10/2007

Category 2 Documents (background documents used to check project assumptions and confirm the validity of information given in the Category 1 documents and in validation interviews):

/7/ Ex-ante Emission Reductions Spreadsheet

/8/ IRR analysis spreadsheets

/9/ Levelised cost calculation spreadsheet

/10/ Meeting minutes regarding LNG program with former government official

/11/ Section 13.3.3 and 13.3.4<<Feasibility Study of Huizhou LNG Power Plant>>, 2002

/12/ Investor Meeting Minutes reflecting consideration of CDM, dated 26 May 2004

/13/ Supplementary statement on loan evaluation report of Guangdong Huizhou LNG project China Industrial and Commercial Bank, Guangdong Branch, January 23, 2006.

/14/ Revision of Financial Assessment as part of updated Feasibility Study Report. Guangdong Electric Power Design Institute, May 2004

/15/ Interim Rules on Economic Assessment of Electrical Engineering Retrofit Projects

/16/ Notification of Emission Factor of Region Power Grid issued by DNA of China on 09/08/2007.

http://cdm.ccchina.gov.cn/web/NewsInfo.asp?NewsId=1889

/17/ Environmental Impact Assessment (EIA) for Guangdong Huizhou LNG project, and the its approval

/18/ Case Study of Clean Development Mechanism Project of Zhuhai Power Plant Project Phase II",

/19/ Initial Financial Assessment (FA) to NDRC, Jul 2003

/20/ China Electric Power Yearbook 2006, China Electric Power Press,

/21/ LNG supply contract reflecting Take-or-Pay term

/22/ China Energy Statistical Yearbook 2006, China Statistics Press, 2007.

/23/ Application of Grid Connection of Electricity Generation and Notification of Grid Tariff, compiled in June 2005.

/24/ 2006 IPCC Guidance for National Greenhouse Gas Inventories

/25/ Design reference cost index for thermal power transmit electricity and transformer electricity projects (2004), 2005 April, China Electrical Power Press.

/26/ Clarification of AM0029 v1.1 applicability conditions (AM_CLA_0091)

/27/ Notice of the Price of Natural Gas from Guangdong Dapeng Company issued by Bureau of Commodity Price of Guangdong Province [粤价 2007 年 190 号文]

/28/ Records of Environmental Development & Carbon Credit Meeting (Aug 2002)

/29/ Contract between Upper Horn Investment and project participant Guangdong Huizhou LNG Power Co., Ltd (No.CDM-HZH-061103).

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A.1 Annex 1: Local Assessment

This checklist is designed to provide confirmation of in-country data and information provided in the Project Design Document for Guangdong Huizhou LNG Power Generation Project.

It serves as a "**reality check**" on the project that is completed by a local assessor from SGS China

Issue	Findings	Source/Means of Verification	Further Action / Clarification / Information Required?
1. Evidence of sufficient LNG supply to project and that the LNG will be supplied preferentially to household user once there is supply constrain.	The gas supply is from Australia and is protected by a long term "Take or Pay" contract. The gas will be primarily supplied to household user as per the "Gas Interruption Regulation".	Contract signed by gas supplier and project proponent. Interviewed with project proponent (PP).	OK, closed.
2. Please provide copy of FSR, (Feasibility Study Report??), and any supporting documents used in this FSR. All data/parameters used in calculation need to be substantiated.	The parameters of 1)Total Investment, 2) Annual average working hours, 3) Electricity Tariff and 4) Gas price between the FSR dated May 2004 and the PDD dated 13 Apr 2007 are consistent with each other.	Interviewed with PP and consultant.	OK, closed.

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Issue	Findings	Source/Means of Verification	Further Action / Clarification / Information Required?
3. On page 9 of PDD, SERC State Electricity Regulation Committee (www.serc.gov.cn) is mentioned but can not locate the data (3623 for 600 MW 3589 for 300 MW unit 2863 for unit below 300 MW) on this web, please provide exact URL.	The data source has been presented without web links. Whereas, in updated PDD dated 13 Apr 2007, these data were updated and data source is from [Design reference cost index for thermal power project (2005), 2006 April, China Electrical Power Press].	FSR dated July 2003 FSR dated May 2004 IRR spreadsheet	OK, closed.
4. Please provide copy of “Interim Rules on Economic Assessment of Electrical Engineering Retrofit Projects” showing the Financial benchmark rate of return (after tax) of Chinese Power Industries is 8%.	The rule and its English translation is provided and verified.		OK, closed.

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Issue	Findings	Source/Means of Verification	Further Action / Clarification / Information Required?
5. Evidence that supports "Several suggestions have been presented in the FAR to address such challenges, meanwhile, considering the huge emission reduction that the proposed project could realize, the project owner recognized CDM could be an effective means" descrebed in Step 3.	Concerned evidences like "Board Decision" dated May 2004, "Research agreement for CDM" dated March 2003, letter from the loan bank dd Jan 2006, were provide and verified.		OK, closed.
6. The BM and OM are different with them in the guideline recently issued by Chinese DNA, please clarify if that guideline will be taken into account.	The updated CEF calculation is followed the guidance of Emission Factor of Region Power Grid issued by DNA of China issued in Dec 2006 which has been updated on 9 Aug 2007	Edition Dec 2006 and Aug 2007 of Guidance issued by DNA of China	OK, closed.
7. On page 18 of PDD, a alternative way in calculating BM has been used as "conservative way", please clarify why this is more conservative.	The BM is recalculated in the revised PDD following the approved alternative of EB		OK, closed.

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Issue	Findings	Source/Means of Verification	Further Action / Clarification / Information Required?
8. Under section B 6.3, the calculation of PEy is not clear, please provide more details.	The consumption of diesel as start up fuel is regards as zero, therefore it is not taken into consideration when estimating PEy, it will be monitored during project implementation.		OK, closed.
9. Please provide copy of the conclusion in the EIA, and approval of EPA.	The copy of EIA and approval of EPA have been provided.	EIA Approval of EPA	OK, closed.
10. Please provide more details about the CDM manual to be formulated, will internal audit and GHG reporting issues be addressed in that manual?	More details are provided in the new PDD.		OK, closed.

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A.2 Annex 2: Validation Protocol

Table 1 Participation Requirements for Clean Development Mechanism (CDM) Project Activities (Ref PDD, Letters of Approval and UNFCCC website)

Requirement	Reference	Comments	Conclusion
1. All Parties (listed in Section A3 of the PDD) have ratified the Kyoto protocol and are allowed to participate in CDM projects	Marrakech Accords, CDM Modalities §30	China is listed as host country. China has ratified the Kyoto Protocol on 30 August 2002 and has appointed a DNA. Refer to http://unfccc.int/files/essential_background/kyoto_protocol/status_of_ratification/application/pdf/kpstats.pdf http://cdm.unfccc.int/DNA	OK
2. The project shall assist Parties included in Annex I in achieving compliance with part of their emission reduction commitment under Art. 3 and be entered into voluntarily.	Marrakech Accords, CDM Modalities §29 and §30	No participant from Annex 1 was identified in the initial PDD. In the final PDD, the International Bank for Reconstruction and Development (IBRD) as trustee of the Netherlands Clean Development Mechanism Facility is identified. LoA from the Netherlands has been obtained. Required information is available in LoA Nr. IZ/2007099547, date 17/10/2007. and LoA from the Netherlands' DNA is presented.	OK

Requirement	Reference	Comments	Conclusion
3. The project shall assist non-Annex I Parties in achieving sustainable development and shall have obtained confirmation by the host country thereof, and be entered into voluntarily	Marrakech Accords, CDM Modalities §29 and §30 Kyoto Protocol Art. 12.2, Marrakech Accords, CDM Modalities §40a	China is listed as host country. No Letter of Approval has been provided yet.	CAR1 OK. LoA of China is received.
4. Parties, stakeholders and UNFCCC accredited NGOs shall have been invited to comment on the validation requirements for minimum 30 days, and the project design document and comments have been made publicly available	Marrakech Accords, CDM Modalities, §40	PDD has been made publicly available from 15-09-2006 until 14-10-2006 and comments were invited through the UNFCC website. Two comments were received and forwarded to client to address, refer to: www.sgsqualitynetwork.com/tradeassurance/ccp/projects/project.php?id=142 2 of comments received and forwarded to PP for addressing.	NIR1 Closed out.
5. The project design document shall be in conformance with the UNFCCC CDM-PDD format	Marrakech Accords, CDM Modalities, Appendix B, EB Decisions	Project has used newest version 3 of the PDD template.	OK
6. The project participants shall submit a letter on the modalities of communication (MoC) before submitting a request for registration	EB-09 F_CDM_REG form	MoC has been received at last stage of validation.	OK
7. For AR projects, the host country shall have issued a communication providing a single definition of minimum tree cover, minimum land area value and minimum tree height. Has such a letter been issued and are the definitions consistently applied throughout the PDD?		N/A	

Table 2 PDD

Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
A. General Description of Project Activity					
A.1. Project Title					
A.1.1. Does the used project title clearly enable to identify the unique CDM activity?	1	DR	Yes, the title "Guangdong Huizhou LNG Power Generation Project" is unique and reflecting the location and project features.	OK	OK
A.1.2. Are there an indication of a revision number and the date of the revision?	1	DR	Yes, mentioned in PDD A.1.	OK	OK
A.1.3. Is this in consistency with the time line of the project's history?	1	DR	Yes, it is.	OK	OK
A.2. Description of the Project Activity					
A.2.1. Is the description delivering a transparent overview of the project activities?	1	DR	Yes. The description of the project activity in Section A.2. of the PDD is delivering a transparent overview of the project activities.	OK	OK
A.2.2. Is all information provided in compliance with actual situation or planning?	1	DR I	Yes, this is confirmed through on-site visit and reviewing relevant documents.	OK	OK
A.2.3. Is all information provided consistent with details provided in further chapters of the PDD?	1	DR	Pending on close of CARs NIRs.	Pending	OK
A.3. Project Participants					
A.3.1. Is the table required for the indication of project participants correctly applied?	1	DR	Yes. The table in Section A.3 of the PDD is correctly applied. China is indicated as the host party and the Netherlands is indicated as the Annex I party.	OK	OK
A.3.2. Is all information provided in consistency with details provided by further chapters of the PDD (in particular annex 1)?	1	DR	Yes, they are in consistency.	OK	OK

Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
A.4. Technical Description of the Project Activity					
A.4.1. Does the information provided on the location of the project activity allow for a clear identification of the site(s)? Are the latitude and longitude of the site indicated (decimal points)	1 11 14	DR	Yes, the information provided on the location of the project activity allow for a clear identification of the sites. The latitudes and longitudes of the two sites are provided as below: Longitude 114°36′16″degrees east and latitude 22°45′34″ degrees north. The project site is 214 km away from Guangzhou and 48 km from Huizhou and 4 km east of Huiyang Town.	OK	OK
A.4.2. Do the project participants possess ownership or licenses which will allow the implementation of the project at that site / those sites?	1 11 14	DR	Yes, based on the approval issued by official authority, the project owner is Guangdong Huizhou LNG Power Co., Ltd.	OK	OK
A.4.3. Is the category(ies) of the project activity correctly identified?	1	DR	Yes, the category is correctly identified as Scope 1: Energy industries (renewable -/ non-renewable sources) - Electricity generation from renewable energy.	OK	OK
A.4.4. Does the project design engineering reflect current good practices?	1 11 14	DR	Yes, CCGT is a sound technology, project will generate electricity from renewable sources, which is environmentally safe and sound.	OK	OK
A.4.5. Does the description of the technology to be applied provide sufficient and transparent input to evaluate its impact on the greenhouse gas balance and is the explanation how the project will reduce greenhouse gas emission transparent and suitable?	1 11 14	DR	Yes. The project will use LNG, which is considered as clean energy, to generate electricity supply to South China Power Grid, where most electricity is generated by coal-fired power plants. Thus, CO2 emission can be reduced.	OK	OK
A.4.6. Is all information provided in compliance with actual situation or planning as available by the project participants?	1	DR I	Pending on site visit.	Pending	OK

Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
A.4.7. Does the project use state of the art technology or would the technology result in a significantly better performance than any commonly used technologies in the host country?	1 11 14	DR I	Project appears to be standard CCGT technology although technical barrier was mentioned. The gas turbine and steam turbine are jointly produced by domestic producer and Mitsubishi. The recovery boiler is domestic made.	OK	OK
A.4.8. Is the project technology likely to be substituted by other or more efficient technologies within the project period?	1	DR	Operational life time of 20 years which is not unreasonable assuming proper operation and maintenance	OK	OK
A.4.9. Does the project require extensive initial training and maintenance efforts in order to work as presumed during the project period?	1 11	DR	Yes, extensive initial training for safe operation and maintenance is foreseen.	OK	OK
A.4.10. Does the project make provisions for meeting training and maintenance needs?	1	DR	A CDM Monitoring manual will be formulated according to PDD, but training is not mentioned. See B.12.3	NIR5	OK
A.4.11. Is a schedule available on the implementation of the project and are there any risks for delays?	1	DR	A feasible implementation schedule has been provided in PDD.	OK	OK
A.4.12. Is the table required for the indication of projected emission reductions correctly applied?	1 7	DR	Yes, spreadsheet used for the calculation has been verified.	OK	OK
A.5. Public Funding					
A.5.1. Does the information on public funding provided conform with the actual situation or planning as presented by the project participants?	1 11 14	DR I	No indication that public funding is used, to be confirmed by local assessment.	Pending	OK
A.5.2. Is all information provided consist with details provided by further chapters of the PDD (in particular annex 2)?	1	DR	Yes, information is consistent through out the PDD.	OK	OK

Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
A.5.3. In case of public funding from Annex I Parties is it confirmed that such funding does not result in a diversion of official development assistance	1	DR I	No indication that public funding from Parties included in Annex I is involved, to be confirmed by local assessment.	Pending	OK
B. Baseline and Monitoring Methodology					
B.1. Choice and Applicability					
B.1.1. Is the baseline methodology previously approved by the CDM Methodology Panel?	1 2	DR	The Project uses AM0029: "Methodology for Grid Connected Electricity Generation Plants using Natural Gas", version 01.1, Valid from 19 May 06 to 01 Nov 07valid from 19/05/2006 to 13/12/2007, Requests for registration can be submitted until 01 Jul 08 23:59, refer to http://cdm.unfccc.int/methodologies/DB/WW4I82DG7LJUQE5E5YGT1NZE4PNS60/view.html	OK	OK
B.1.2. Is the baseline methodology the one deemed most applicable for this project?	1 2	DR	AM0029 is the only applicable methodology for the proposed project: LNG CCGT.	OK	OK

Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
B.1.3. Is the choice of the methodology correctly justified by the PDD and is the project in conformance with all applicability criteria of the applied methodology?	1 2	DR	Yes, the applicability criteria are discussed in PDD Section B.2 which covers: • The project activity is the construction and operation of a new natural gas fired grid-connected electricity generation plant. • The geographical/ physical boundaries of the baseline grid can be clearly identified and information pertaining to the grid and estimating baseline emissions is publicly available. • Natural gas is sufficiently available in the region or country, e.g. future natural gas based power capacity additions, comparable in size to the project activity, are not constrained by the use of natural gas in the project activity. Project meets first two applicability criteria listed in the methodology. For the last criteria (the 3rd), PDD says project will use LNG imported from Australia and be protected by long-term contracts with strict supply and off-take obligations, this should be justified by concerned contract/supporting document. Discuss the conformance with each criterion. Check evidence received in particular when quantitative criteria have to be met.	NIR2	OK
B.2. Project Boundary					
B.2.1. Are all emission sources and gasses related to the baseline scenario, project scenario and leakage clearly identified and described in a complete manner?	1 2	DR	Relevant emission sources are described in section 3 according to AM0029 and project situation.	OK	OK

Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
B.2.2. In case of grid connected electricity projects: Is the relevant grid correctly identified in accordance with EB guidance and the underlying methodology?	I,2,3,16	DR	Yes, the grid is correctly identified in accordance with ACM2, EB guidance and Notification of Emission Factor of Region Power Grid issued by DNA of China.	OK	OK
B.2.3. Are the project's spatial boundaries (geographical) and the project's system boundaries (components and facilities used to mitigate GHGs) clearly defined?	1,2,3	DR	Yes. Project site and all power plants connected physically to the South China Grid (Regional) have been defined as project boundary which is according to the methodology.	OK	OK
B.3. Identification of the Baseline Scenario					
B.3.1. Does the PDD discuss the identification of the most likely baseline scenario? Does the PDD follow the steps to determine the baseline scenario required by the methodology and is the application of the methodology and the discussion and determination of the chosen baseline transparent?	1,2,3	DR	After providing all possible generation technologies within SCPG, the PDD has identified four plausible baseline scenarios and has analyzed the feasibility of them. Accoring to AM0029, the economically most attractive baseline scenario alternative using investment analysis, i.e the levelized cost of electricity production in $/kWh, is correctly followed, and the sensitivity analysis has been performed for all alternatives. References are provided in PDD as well as validated based on knowledge of validator and similar registered CCGT projects .	OK	OK
B.3.2. Does the application consider all potential realistic and credible baseline scenarios in the discussion taking into account relevant national and/or sectoral policies, macro-economic trends and political aspirations??	1,2,3	DR	Yes, all possible generation technologies within SCPG has been analysed in PDD section B4, Sub-step 1a.	OK	OK
B.3.3. Is the choice of the baseline compatible with the available data?	1,2,25	DR	Data are derived from "Design reference cost index for thermal power transmit electricity and transformer electricity projects (2004), 2005 April, China Electrical Power Press", verified against statistics publicly available to assessor and similar CCGT projects already registered as CDM projects.	OK	OK

Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
B.3.4. Is conservativeness addressed in the way of identifying the baseline?	1,2,	DR	Yes, the identified baseline scenario alternative is also the lowest emission rate among the alternatives that are the most financially and/or economically attractive.	OK	OK
B.3.5. Does the selected baseline represent the most likely scenario among other possible and/or discussed scenarios?	1,2	DR	Yes, the identified baseline scenario alternative is also the lowest emission rate among the alternatives that are the most financially and/or economically attractive.	OK	OK
B.4. Additionality					
B.4.1. Does the PDD clearly demonstrate the additionality using the approach as given by the methodology and by following all the required steps?	1 2	DR	The initial PDD followed the required steps in the methodology, but the revision deleted the step 3 “impact of CDM registration” which is required by AM0029 Version 1.01.	NIR6	OK
B.4.2. In case of using the additionality tool: Is the ‘Additionality Tool’ used in the PDD latest version? If an earlier version has been used, do the changes impact the discussion in the PDD? Are all steps followed in a transparent manner?	1,2	DR	According to AM0029, the assessment of additionality comprises 3 steps, the latest version of additionality tool (V5) is used when completing step 1.	OK	OK
B.4.3. Is the discussion on additionality and the evidence provided consistent with the starting date of the project If the project has started before the validation is it discussed how the CDM was taken into account in the decision to go ahead with the project activity	1,12,13,14,19	DR I	The construction started in Sep 2004, before that, at time of feasibility study in 2003, PP realized the investment barrier and started seeking carbon credits, the PP commissioned a revision of the project feasibility study (“Financial Analysis on Huizhou LNG power plant”, Guangdong Electric Power Design Institute, May 2004) which revealed that carbon credits can significantly improve the financial performance. Pending on NIR1, see point 4 in Table 2 above.	Pending	OK

Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
B.4.4. Is the discussion on additionality consistent with the identification all potential realistic and credible baseline scenarios	1,2	DR	According to AM0029, the assessment of additionality comprises 3 steps, the latest version of additionality tool (V5) is used when completing step 1.	OK	OK
B.4.5. Do the identified alternative include technologies and practices that include outputs (e.g) cement or services comparable with the proposed CDM project activity	1,2	DR	Yes, 4 comparable existing technologies have been identified.	OK	OK
B.4.6. If an investment analysis has been used, has it been shown that the proposed project activity is economically or financially less attractive than at least one other alternative without the revenue from the sale of CERs?	1 11 14	DR	Relevant documents like FRS and its approval which are used in supporting the additionality of project shall be made available to validator.	NIR4	OK
B.4.7. If a barrier analysis has been used, has it been shown that the proposed project activity faces barriers that prevent the implementation of this type of proposed project activity but would not have prevented the implementation of at least one of the alternatives?	1 2	DR	Barrier analysis is not applicable under AM0029.	OK	OK
B.4.8. Has it been shown that the project is not common practice?	1 2	DR	The common practice analysis reveals that the proposed project is one of the first LNG CCGT power plants in SCPG, other similar projects in this region are in the process for applying CDM registration.	OK	OK
B.4.9. Is it demonstrated/justified that the project activity itself is not a likely baseline scenario	1 2	DR	Pending close out of NIR4	Pending	OK

Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
B.5. Application of the Baseline Methodology					
B.5.1. Has the approved methodology been applied correctly for determining **baseline emissions**?	1,2,	DR	The baseline emission factor of the first crediting period is determined from the 3 options as stipulated in AM0029. BM has been approved to be the lowest emission factor thus is selected. See NIR3 in B.6.2.	Pending on close of NIR3	OK
B.5.2. Has the approved methodology been applied correctly for determining **project emissions**?	1,2,7,16,	DR	Yes, the project emissions are determined in accordance with AM0029.	OK	OK
B.5.3. Has the approved methodology been applied correctly for determining **leakage**?	1,2	DR	Please correct bellows issues in section B.6.3. 1. The calculation of $EF_{BL,upstream,CH4}$ is not according to the equation. 2. Please provide the reference of parameter λ_{Coal} ,	CAR2	OK
B.5.4. Where applicable, has the approved methodology been applied correctly for the **direct calculation of emission reductions**	1,2	DR	Not applicable.	OK	OK
B.5.5. Have all the methodological choices been explained, have they been properly justified and are they correct	1,2	DR	Yes, for AM0029, this is mainly concerning the determination of baseline emission factor, see B.5.1 above.	OK	OK
B.5.6. Are uncertainties in the GHG emissions estimates properly addressed in the documentation?	1,2	DR	Yes, conservative approach is used where uncertainty occurs.	OK	OK
B.6. Ex-ante Data and Parameters Used					
B.6.1. Are the data provided in compliance with the methodology?	1,2,7,16	DR	Yes, all data are derived from official sources and have been used in other CDM projects.	OK	OK

Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
B.6.2. Is all the data derived from official data sources or replicable records and have these been correctly quoted?	1,4	DR	The determined OM and BM are higher than that in the recent guideline issued by Chinese DNA, please clarify.	NIR3	OK
B.6.3. Is the vintage of the baseline data correct?	1,4	DR	Yes, 2006 vintage is the most recent data.	OK	OK
B.7. Calculation of Emissions Reductions					
B.7.1. Has the approved methodology been applied correctly for determining **emission reductions**?	1,2	DR	Yes, equations are provided in PDD based on AM0029.	OK	OK
B.7.2. Are the emission reduction calculations documented in a complete and transparent manner?	1,7	DR	Yes, a spreadsheet is provided for validation.	OK	OK
B.7.3. Have conservative assumptions been used to calculate emission reductions?	1,7	DR	Yes.	OK	OK
B.7.4. Is the projection based on provable input parameter?	1,7	DR	Yes, parameters are from official sources.	OK	OK
B.7.5. Is the projection based on same procedures as used for later monitoring or acceptable alternative models?	1,7	DR	Yes.	OK	OK
B.7.6. Is the calculation of the emission reduction correct?	1,7	DR	Yes, the spreadsheet has been checked and found in good order.	OK	OK
B.8. Emission Reductions					
B.8.1. Will the project result in fewer GHG emissions than the baseline scenario?	1	DR	Yes.	OK	OK
B.8.2. Is the form/table required for the indication of projected emission reductions correctly applied?	1	DR	Yes, provided in PDD section A.4.4	OK	OK
B.8.3. Is the projection in line with the envisioned time schedule for the project's implementation and the indicated crediting period?	1	DR	Yes.	OK	OK

Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
B.9. Monitoring Methodology					
B.9.1. Does the monitoring methodology provide a consistent approach in the context of all parameter to be monitored and further information provided by the PDD? Are all parameters and data that is available at validation consistent with the approved methodology	1,2	DR I	Parameters are consistent in PDD section B.7. See CAR3 in B.10.1 below	Pending.	OK
B.9.2. Does the monitoring methodology apply consistently the choice of the option selected for monitoring both of project and baseline emissions?	1,2	DR	Parameters are consistent in PDD section B.7. See CAR3 in B.10.1 below	Pending	OK
B.10. Data and Parameters Monitored					
B.10.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for estimation or measuring the emission reductions within the project boundary during the crediting period?	1,2	DR	Methodology specifies that if option 1 (BM) is selected for determination of baseline emission, it will be estimated ex post as described in ACM0002, thus, related data of grid need to be monitored as well.	CAR3	OK
B.10.2. Are the choices of project GHG indicators reasonable and in conformance with the requirements set by the approved methodology applied?	1,2	DR	Pending close of CAR3 above.	Pending	OK
B.10.3. Will it be possible to determine the specified project GHG indicators?	1,2	DR	Pending close of CAR3 above.	Pending	OK
B.10.4. Is the information given for each monitoring variable by the presented table sufficient to ensure the verification of a proper implementation of the monitoring plan?	1,2	DR	Pending close of CAR3 above.	Pending	OK

Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
B.10.5. Is the information given for each monitoring variable by the presented table sufficient to ensure the delivery of high quality data free of potential for biases or intended or unintended changes in data records?	1,2	DR	Pending close of CAR3 above.	Pending	OK
B.10.6. Is the monitoring approach in line with current good practice, i.e. will it deliver data in a reliable and reasonably acceptable accuracy?	1,2	DR	Pending close of CAR3 above.	Pending	OK
B.10.7. Are all formulae used to determine project emission clearly indicated and in compliance with the monitoring methodology.	1,2	DR	Yes.	OK	OK
B.11. Quality Control (QC) and Quality Assurance (QA) Procedures					
B.11.1. Is the selection of data undergoing quality control and quality assurance procedures complete?	1,2	DR I	Yes, brief description is available in PDD B.7.2, a manual will be formulated by project owner.	OK	OK
B.11.2. Is the belonging determination of uncertainty levels done correctly for each ID in a correct and reliable manner?	1,2	DR I	The uncertainty levels are well addressed as applicable.	OK	OK
B.11.3. Are quality control procedures and quality assurance procedures sufficiently described to ensure the delivery of high quality data?	1,2	DR I	Yes, they are addressed to the requirements of methodology.	OK	OK
B.11.4. Is it ensured that data will be bound to national or internal reference standards?	1,2	DR I	Yes, national standard or international stand will apply as applicable.	OK	OK
B.11.5. Is it ensured that data provisions will be free of potential conflicts of interests resulting in a tendency of overestimating emission reductions?	1,2	DR I	Yes, data will be directly monitored in an objective manner.	OK	OK
B.12. Operational and Management Structure					
B.12.1. Is the authority and responsibility of project management clearly described?	1	DR	Yes, authority and responsibility are briefly discussed in section B.7.2	OK	OK

Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
B.12.2. Is the authority and responsibility for registration, monitoring, measurement and reporting clearly described?	1	DR	Yes, authority and responsibility are allocated to relevant staffs as per PDD section B.7.2	OK	OK
B.12.3. Are procedures identified for training of monitoring personnel?	1	DR	A CDM Monitoring manual will be formulated according to PDD, but training is not mentioned.	NIR5	OK
B.13. Monitoring Plan (Annex 4)					
B.13.1. Is the monitoring plan developed in a project specific manner clearly addressing the unique features of the CDM activity?	1	DR	Information is provided in PDD section B.7.2. No additional information in Annex 4.	OK	OK
B.13.2. Does the monitoring plan completely describes all measures to be implemented for monitoring all parameter required, including measures to be implemented for ensuring data quality?	1	DR	Information is provided in PDD section B.7.2. No additional information in Annex 4.	OK	OK
B.13.3. Does the monitoring plan provide information on monitoring equipment and respective positioning in order to safeguard a proper installation?	1	DR	Information is provided in PDD section B.7.2. No additional information in Annex 4.	OK	OK
B.13.4. Are procedures identified for calibration of monitoring equipment?	1	DR I	Yes, calibration procedures are mentioned under relevant parameters in PDD section B.7.	OK	OK
B.13.5. Are procedures identified for maintenance of monitoring equipment and installations?	1	DR	Information is provided in PDD section B.7.2.	OK	OK
B.13.6. Are procedures identified for day-to-day records handling (including what records to keep, storage area of records and how to process performance documentation)	1	DR	A CDM Monitoring manual will be formulated according to PDD.	OK	OK
B.13.7. Are procedures identified for dealing with possible monitoring data adjustments and missing data allowing redundant reconstruction of data in case of monitoring problems??	1	DR	Yes, calibration and the manual will deal with this issue.	OK	OK

Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
B.13.8. Are procedures identified for internal audits of GHG project compliance with operational requirements where applicable?	1	DR I	Yes, a CDM workgroup will be established and procedures are identified	OK	OK
B.13.9. Are procedures identified for project performance reviews before data is submitted for verification, internally or externally?	1	DR I	Yes, a CDM workgroup will be established and procedures are identified	OK	OK
B.14. Baseline Details					
B.14.1. Is there any indication of a date when determine the baseline?	1	DR	Yes, mentioned in PDD section B.8	OK	OK
B.14.2. Is this in consistency with the time line of the PDD history?	1	DR	Yes.	OK	OK
B.14.3. Is all data required provided in a complete manner by annex 3 of the PDD?	1	DR	Yes, the data sources and calculation methods are presented there.	OK	OK
***C.* Duration of the Project / Crediting Period**					
C.1.1. Are the project's starting date and operational lifetime clearly defined and reasonable?	1	DR	Yes, CDM crediting period will only start after the registration. Project start date is the date of construction, 20 years of life time is deemed reasonable.	OK	OK
C.1.2. Is the assumed crediting time clearly defined and reasonable (renewable crediting period of max 7 years with potential for 2 renewals or fixed crediting period of max. 10 years)?	1	DR	Yes, CDM crediting period will only start after the registration, 7 years with potential 2 renewals is selected.	OK	OK
C.1.3. Does the project's operational lifetime exceed the crediting period	1	DR	Yes, 7 years vs 20 years.	OK	OK
D. Environmental Impacts					
D.1.1. Does the project comply with environmental legislation in the host country?	1,17	DR	Yes, an EIA has been conducted, and project has obtained the approval from EPA.	OK	OK

Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
D.1.2. Has an analysis of the environmental impacts of the project activity been sufficiently described?	1,17	DR	Yes, it is described in PDD section D.	OK	OK
D.1.3. Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, is an EIA approved?	1,17	DR	Yes, an EIA has been conducted, and project has obtained the approval from EPA.	OK	OK
D.1.4. Will the project create any adverse environmental effects?	1,17	DR	Based in the EIA and approval from EPA, the adverse environmental effects are insignificant.	OK	OK
D.1.5. Are transboundary environmental impacts considered in the analysis?	1,17	DR	Impacts are not considered significant.	OK	OK
D.1.6. Have identified environmental impacts been addressed in the project design?	1,17	DR	Yes.	OK	OK
E. Stakeholder Comments					
E.1.1. Have relevant stakeholders been consulted?	1,17	DR	Yes, the consultation was conducted during EIA process.	OK	OK
E.1.2. Have appropriate media been used to invite comments by local stakeholders?	1,17	DR	Yes, 200 questionnaires have been distributed and 178 were returned.	OK	OK
E.1.3. If a stakeholder consultation process is required by regulations/laws in the host country, has the stakeholder consultation process been carried out in accordance with such regulations/laws?	1,17	DR	Yes, the consultation was conducted during EIA process, it has approved by EPA.	OK	OK
E.1.4. Is the undertaken stakeholder process described in a complete and transparent manner?	1,17	DR	Yes, it is described in PDD section D.	OK	OK
E.1.5. Is a summary of the stakeholder comments received provided?	1,17	DR	Yes, it has been reviewed by SGS.	OK	OK
E.1.6. Has due account been taken of any stakeholder comments received?	1,17	DR	No negative comment received.	OK	OK

A.3 Annex 3: Overview of Findings

Date:Nov 1, 2006 Raised by: Elton CHEN WU

No.	Type	Issue	Ref
1	CAR1	China is listed as host country. No Letter of Approval has been provided yet.	Table 1. 3
Date: 206-11-13 [Comments] Chinese government has approved of this project's application in Nov 9th,2006, which can be found at the following web: http://cdm.ccchina.gov.cn/web/index.asp. The Letter of Approval refers to the attachment.			
Date:09-07-2007 E. Chen [Acceptance and close out] LoA has been received, CAR1 closed out.			

Date: Nov 1,2006 Raised by: Elton CHEN WU

No.	Type	Issue	Ref
2	NIR1	Two comments have been received during PDD was published for stakeholder comments and then forwarded to PP for addressing, please provide the clarification.	Table 1. 4
Date: 2007-5-27 [Comments] Please refer to "Huizhou LNG ResponsePublicComment 16May07-Final", which we've submitted to you before.			
Date:09-07-2007 E. Chen [Acceptance and close out] Responses to the comments have been reviewed. For the comment regarding the size of coal fire plant in the baseline, it has been taken into consideration in the revision of PDD. For the comment regarding the additionality, PP clarified that no particular political support which would clear barriers identified in the PDD through submitting response to the comment and relevant supporting documents, further investigation has been carried out through interviewing and setting up meeting with PP, local official(former member of committee of LNG pilot project), it is concluded that the project did not get that much political support the comment claimed, the additionality analysis in the PDD is acceptable, NIR closed out.			

Date: Nov 1,2006 Raised by: Elton CHEN WU

No.	Type	Issue	Ref
3	NIR2	Please provide supporting documents that natural gas supply in the region will not be constrained by the use of natural gas in this project.	B.1.3
Date: Nov 6,2006 [Comments]			
Date: Nov 10,2006 E. Chen [Acceptance and close out] The NG long-term strict supply without result in significant leakage confirmed by local assessment based on received《NG Purchase and Sale Contract》 which referred to Take or Pay Clause and NG Interruption Regulation when this is a supply constraint. NIR is closed.			

Date: Nov 1, 2006 Raised by: Elton CHEN WU

No.	Type	Issue	Ref
4	NIR3	It is noted that the determined OM and BM are higher than that in the recent guideline issued by Chinese DNA, please clarify.	B.6.2
Date: 2007-5-27 [Comments] We have amended accordingly. The OM and BM applied is the one newly issued by the China NDRC in Dec,2006.			
Date:09-07-2007 [Acceptance and close out] Please consider using the most updated data of Chinese grid (2006 version) to recalculate the emission factor of grid.			
Date: 2007-8-16 [PP Comments] The newest available data resource issued by the China NDRC in August 07 has been			

applied in the latest PDD.
Date: 7 Sep 2007 E. Chen [Acceptance and close out] The most recent data(2005) of Chinese grid as well as the guideline issued by Chinese DNA has been observed when calculating OM and BM in the new PDD, NIR closed out.

Date: Nov 1, 2006 Raised by: Elton CHEN WU

No.	Type	Issue	Ref
5	CAR2	The calculation of $EF_{BL,upstream,CH4}$ in B.6.3 is not according to the equation, and parameterλ_{Coal} and $NCV_{rawcoal}$ need to be included in B.6.2.	B.5.3
Date: 2007-5-27 [Comments] We'v amended accordingly in the new version of PDD.			
Date:09-07-2007 E. Chen [Acceptance and close out] This has been solved after adoption of new version of PDD. CAR closed out.			

Date: Nov 1, 2006 Raised by: Elton CHEN WU

No.	Type	Issue	Ref
6	NIR4	Please provide the relevant documents like FRS, revision of FA, which are used in supporting the additionality of project.	B.4.6
Date: [Comments] Enclosed.			
Date: Nov 10,2006 E. Chen [Acceptance and close out] Relevant documents including FSR and its revision, loan contract, early consideration of CDM credits have been received/verified during site visit, NIR is closed.			

Date: Nov 1, 2006 Raised by:Elton CHEN WU

No.	Type	Issue	Ref
7	CAR3	According to AM0029 if option 1 (BM) is selected, it need to be monitored ex post.	B.10.1
Date: 2007-8-16 [Comments] It has been amended by the way of adding the BM monitoring method in the B.7. .			
Date: 7 Sep 2007 E. Chen [Acceptance and close out] Parameter of calculating BM has been included in the new PDD, CAR closed out.			

Date: Nov 1, 2006 Raised by: Elton CHEN WU

No.	Type	Issue	Ref
8	NIR5	Please provide training procedure for monitoring staff.	B.12.3
Date: [Comments] Huizhou LNG plant has supplied many kinds of training to her employees, such as the training of quality control in terms of GB/T 19001 (correspond to the ISO 9001), the training of safe and enviroment in terms of GB/T 24001, GB/T 28001 and NOSA System etc. Whant's more, Huizhou plant has attained the certificates of GB/T 19001, 24001, 28001 and NOSA. As for the monitoring staff, they have also attended the relative training regarding natural gas and the electricity measure besides the foresaid training. The futher detail refers to the attachment "training contract and training records".			
Date:09-07-2007 E. Chen [Acceptance and close out] Training procedure has been provided in the revised PDD. NIR closed out.			

Date: Jul 29 2007 Raised by: Elton CHEN WU

No.	Type	Issue	Ref
9	NIR6	Please include "Step 3: Impact of CDM registration" in the additionality analysis as per AM0029, though it was excluded in the version 3 of additionality tool.	3.1
Date: 2007-8-16 [Comments] We include "Step 3: Impact of CDM registration" in the newest PDD.			
Date: 07 Sep 2007 E. Chen [Acceptance and close out] Step 3 has been included as per requirement in AM0029 Version 1.1, NIR			

closed out.

A.4 Annex 4: Team Members Statements of Competency

Statement of Competence

Name: Elton Chen 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: Siddharth Yadav Date: 10th June 2007

Statement of Competence

Name: Robin Wang 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 Date: 23rd June 2007

Statement of Competence

Name: Sarah Ruan 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 Date: 1st May 2007

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