VALIDATION REPORT

FUJIAN JINJIANG LNG POWER GENERATION PROJECT IN CHINA

REPORT NO. 2008-0620

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DET NORSKE VERITAS

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VALIDATION REPORT

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Project Name: Fujian Jinjiang LNG Power Generation Project
Country: China
Methodology: AM0029
Version: version 1.1
GHG reducing Measure/Technology: Natural gas for power generation
ER estimate: 2 730 816 tCO_2/year
Size
☒ Large Scale
☐ Small Scale
Validation Phases:
☒ Desk Review
☒ Follow up interviews
☒ Resolution of outstanding issues
Validation Status
☐ Corrective Actions Requested
☐ Clarifications Requested
☒ Full Approval and submission for registration
☐ Rejected

In summary, it is DNV's opinion that the Fujian Jinjiang LNG Power Generation Project in China, as described in the PDD, version 03 dated 25 June 2008, meets all relevant UNFCCC requirements for the CDM and all relevant host Party criteria and correctly applies the baseline and monitoring methodology AM0029. DNV thus requests the registration of the project as a CDM project activity.

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Fujian Jinjiang LNG Power Generation Project in China

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Abbreviations

BM	Build Margin
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CL	Clarification request
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
DNV	Det Norske Veritas
DNA	Designated National Authority
DRC	Development and Reform Commission
ECPG	East China Power Grid
EF	Emission Factor
EIA	Environmental Impact Assessment
EPB	Environmental Protection Bureau
GHG	Greenhouse gas(es)
IPCC	Intergovernmental Panel on Climate Change
LoA	Letter of Approval
MP	Monitoring Plan
NCV	Net Calorific Value
NDRC	National Development and Reform Commission
NGO	Non-governmental Organisation
ODA	Official Development Assistance
OM	Operating Margin
PP	Project participant
PDD	Project Design Document
SCE	Standard coal equivalent
UNFCCC	United Nations Framework Convention on Climate Change

TABLE OF CONTENTS

1 EXECUTIVE SUMMARY – VALIDATION OPINION 1

2 INTRODUCTION 2
2.1 Objective 2
2.2 Scope 2

3 METHODOLOGY 3
3.1 Desk Review of the Project Design Documentation 3
3.2 Follow-up Interviews with Project Stakeholders 6
3.3 Resolution of Outstanding Issues 7
3.4 Internal Quality Control 10
3.5 Validation Team 10

4 VALIDATION FINDINGS 11
4.1 Participation Requirements 11
4.2 Project Design 11
4.3 Baseline Determination 12
4.4 Additionality 15
4.5 Monitoring 1
4.6 Estimate of GHG Emissions 2
4.7 Environmental Impacts 4
4.8 Comments by Local Stakeholders 4
4.9 Comments by Parties, Stakeholders and NGOs 4

Appendix A: Validation Protocol
Appendix B: Certificates of Competence

VALIDATION REPORT

1 EXECUTIVE SUMMARY – VALIDATION OPINION

Det Norske Veritas Certification AS (DNV) has performed a validation of the "Fujian Jinjiang LNG Power Generation Project" in China. The validation was performed on the basis of UNFCCC criteria for the Clean Development Mechanism and host Party criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

The review of the project design documentation and the subsequent follow-up interviews have provided DNV with sufficient evidence to determine the fulfilment of stated criteria.

The host Party is China and the Annex I Party is the United Kingdom. Both Parties fulfil the participation criteria and have approved the project and authorized the project participants. The DNA from China confirmed that the project assists in achieving sustainable development /2/.

The project correctly applies the baseline and monitoring methodology AM0029 "Methodology for Grid Connected Electricity Generation Plants using Natural Gas and Grid Connected Electricity Generation Plants using Non-Renewable and Less GHG Intensive Fuel", version 01.1.

By generating electricity using natural gas, the project activity displaces more CO_2 intensive grid electricity, thereby resulting in reductions of CO_2 emissions that are real, measurable and give long-term benefits to the mitigation of climate change. It has been 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. A financial analysis carried out in accordance with the "Tool for the demonstration and assessment of additionality" demonstrates that the project is not economically attractive in absence of CDM benefits. Given the provisions in the PPA and the fact that the power plant is expected to be operated as peak load power plant, it is reasonable to assume that the load factor for the power plant is only 44.4% for the first 8 years and 38.8% for the remaining years.

The total emission reductions from the project are estimated to be on the average 2 730 816 *tCO_2e per year over the selected 7-year crediting period. The emission reduction forecast has been checked and it is deemed likely that the stated amount is achieved given that the underlying assumptions do not change.*

The monitoring plan will give opportunity for real measurements of achieved emission reductions. The monitoring methodology has been correctly applied. Adequate training and monitoring procedures have been implemented.

In summary, it is DNV's opinion that the "Fujian Jinjiang LNG Power Generation Project" in China, as described in the PDD, version 03 dated 25 June 2008, meets all relevant UNFCCC requirements for the CDM and all relevant host Party criteria and correctly applies the baseline and monitoring methodology AM0029, version 01.1. DNV thus requests the registration of the project as a CDM project activity.

2 INTRODUCTION

Cambridge Funds Investment Co., Ltd has commissioned Det Norske Veritas Certification AS (DNV) to perform a validation of the "Fujian Jinjiang LNG Power Generation Project" in China (hereafter called "the project"). This report summarises the findings of the validation of the project, performed on the basis of UNFCCC criteria for the CDM, as well as criteria given to provide for consistent project operations, monitoring and reporting. UNFCCC criteria refer to Article 12 of the Kyoto Protocol, the CDM modalities and procedures, and the subsequent decisions by the CDM Executive Board.

2.1 Objective

The purpose of a validation is to have an independent third party assess the project design. In particular, the project's baseline, monitoring plan, and the project's compliance with relevant UNFCCC and host Party criteria are validated in order to confirm that the project design, as documented, is sound and reasonable and meets the identified criteria. Validation is a requirement for all CDM projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of certified emission reductions (CERs).

2.2 Scope

The validation scope is defined as an independent and objective review of the project design document (PDD). The PDD is reviewed against the criteria stated in Article 12 of the Kyoto Protocol, the CDM modalities and procedures as agreed in the Marrakech Accords, and the relevant decisions by the CDM Executive Board, including the approved baseline and monitoring methodology AM0029. The validation team has, based on the recommendations in the Validation and Verification Manual employed a risk-based approach, 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 project participants. However, stated requests for clarifications and/or corrective actions may have provided input for improvement of the project design.

3 METHODOLOGY

The validation consisted of the following three phases:

I a desk review of the project design documents

II follow-up interviews with project stakeholders

III the resolution of outstanding issues and the issuance of the final validation report and opinion.

The following sections outline each step in more detail.

3.1 Desk Review of the Project Design Documentation

The following table lists the documentation that was reviewed during the validation:

/1/ Beijing Keji Consulting Ltd, Project Design Document for Fujian Jinjiang LNG Power Generation Project, Version 01 dated 28 June 2007, version 02 dated 8 April 2008 and version 03 dated 25 June 2008

/2/ Letter of Approval issued by DNA of China on 27 November 2007.

/3/ Letter of Approval issued by DNA of the United Kingdom 7 March 2008.

/4/ Letter of Approval issued by DNA of the United Kingdom 13 June 2008

/5/ Fujian Electric Power Reconnaissance and Design Institute, The feasibility study report of Fujian Jinjiang LNG Power Generation Project of November 2004 and the approval letter for the feasibility study report issued by the National Development and Reform Commission on 20 December 2005（NDRC Energy [2005] No2691）

/6/ China Huanqiu Engineering Co., The EIA of Fujian Jinjiang LNG Power Generation Project for 3 sets dated 8 October 2003 and the approval letter of the EIA issued by Environmental Protection Bureau of Fujian on 10 October 2003 (FEPB surveillance [2003] No72)

Xiamen University and EIA Center, The EIA of Fujian Jinjiang LNG Power Generation Project for additional 1 set, 13 January 2007 and the approval letter or the EIA issued by Environmental Protection Bureau of Fujian on 26 March 2007

/7/ CDM Executive Board, Baseline and monitoring methodology AM0029 - Methodology for Grid Connected Electricity Generation Plants using Natural Gas and Grid Connected Electricity Generation Plants using Non-Renewable and Less GHG Intensive Fuel, version 01.1

/8/ International Emission Trading Association (IETA) & the World Bank's Prototype Carbon Fund (PCF), *Validation and Verification Manual*. http://www.ieta.org/ieta/www/pages/index.php?IdSiteTree=1146

/9/ CDM Executive Board, Consolidated baseline and monitoring methodology ACM0002 - Consolidated methodology for grid-connected electricity generation from renewable sources, Version 06

/10/ China NDRC, The emission factor calculation for each power grid of China, published on 9 August 2007, NDRC official website:

http://cdm.ccchina.gov.cn/web/NewsInfo.asp?NewsId=2184

/11/ Chinese DNA's guidance for the determination of grid boundaries and emission factors, http://cdm.ccchina.gov.cn/WebSite/CDM/UpFile/File1053.pdf

/12/ China Electric Power Yearbook 2002, 2003, 2004, 2005 and 2006

/13/ China Energy Statistical Yearbook 2004, 2005 and 2006

/14/ 2006 IPCC Guidelines for National Greenhouse Gas Inventories

/15/ CDM Executive Board, Guidance for request for deviation titled "Application of AM0005 and AMS-I.D in China" (http://cdm.unfccc.int/Projects/Deviations)

/16/ China NDRC, The statistics by State Electricity Regulatory Commission (SERC) on newly built thermal plants in 10th "Five-Year Plan" period 2000-2005, and NDRC official website http://cdm.ccchina.gov.cn/WebSite/CDM/UpFile/2006/20061215144747182.pdf

/17/ China Institute of Power Planning and Design, Thermal Power Engineering Design Reference Cost Index", 2005 Edition

/18/ State Power Corporation of China, Interim Rules on Economic Assessment of Electrical Engineering Retrofit Projects. Beijing: China Electric Power Press, 2003

/19/ CDM Executive Board: Tool for the demonstration and assessment of additionality, version 04

/20/ Fujian Jinjiang Gas Power Co., Ltd. General Outline of Production Readiness, 20 September 2006

/21/ Summary of stakeholder forum for Fujian Jinjiang LNG Power Generation Project on July 20-21, 2005

/22/ Stakeholder registration records participating in project stakeholder forum. And 54 copies of Questionnaires of stakeholder consultation during 20 July 2005

/23/ Letter relating to Grid Access for Fujian Jinjiang LNG Power Generation Project by Fujian Electric Power Co. Ltd., 30 June 2003

/24/ Agreement of purchasing and selling electricity between Fujian Jinjiang Gas Power Co. Ltd. and Fujian Electric Power Co. Ltd.

/25/ Part 2 of equipment purchasing agreement for Fujian Jinjiang LNG Power Generation Project --- Technology agreement, August 2006

GE letter of Support Regarding Performance Guarantees for the Power Train Shaft for the Fujian Jinjiang LNG Power Plant, 6 March 2006

/26/ Parties to the Kyoto Protocol, http://maindb.unfccc.int/public/country.pl?group=kyoto

/27/ General opinion regarding the application of power technology of gas turbine http://www.chinapower.com.cn/article/1025/art1025680.asp

/28/ The Notice on mid-long term specific plan for energy-saving issued by NDRC in 2004 http://www.ndrc.gov.cn/hjbh/jnjs/t20050711_45823.htm

/29/ Presentation on the promoting of construction of power plant which uses energy storage through water pumping in East China Region, by experts from the Reconnaissance and Design Institute of East China,

http://www.zjwater.gov.cn/pages/document/39/document_172.htm

/30/ Zhang Tianming (vice director general of Fujian Water Resource Department), The issue and relevant countermeasure for water resource development and management in Fujian
http://www.hwcc.com.cn/newsdisplay/newsdisplay.asp?Id=146835

/31/ The Notice on relevant requirements regarding the project planning and construction of coal fired power plants" issued by NDRC of China (file No. NDRC-Energy [2004]864)
http://www.chinavalue.net/wiki/showcontent.aspx?titleid=61239

/32/ Construction permit letter of the project by the Zhejiang supervising Co. for power construction on 19 April 2007

/33/ The decision of Temporary shareholder meeting of Fujian Jinjiang Gas Power Co.,Ltd 21 March 2005

/34/ Notification on establishing CDM leading team and professional team by Fujian Jinjiang Gas Power Co.,Ltd., 25 September 2006

/35/ About the favourable policy of Xiamen city on April 2004
http://www.huaxia.com/gd/csdh/xm/00258615.html

/36/ Fujian provincial electricity development macro-plan in the eleventh five-year http://www.fujian.gov.cn/zwgk/ghxx/zxgh/200708/t20070807_22271.htm

/37/ Safety Management Rules on Nuclear Power Generation, Ministry of Power Industry

/38/ The Purchasing Agreement of Natural Gas between Fujian jinjiang gas power Co. Ltd. and CNOOC Fujian LNG Co. Ltd. of 20 August 2005

/39/ Revised and Iterate Contract for Purchase and Sale of LNG, between Fujian jinjiang gas power Co. Ltd. and CNOOC Fujian LNG Co. Ltd. on 27 July 2007

/40/ Boiler technology agreement, July 2007

/41/ Confirmation letter regarding the feasibility study report of Fujian Jinjiang LNG Power Generation Project in November 2004 issued by Fujian Electric Power Reconnaissance and Design Institute, 25 April 2008.

/42/ Methodology Panel: Clarification on applicability criteria of AM0029 v1.1 (AM_CLA_0091 by Meth Panel),
http://cdm.unfccc.int/UserManagement/FileStorage/AM_CLAR_6869E5NXF2D4KK62WGK7LZXIWI6CDW

/43/ Response letter regarding Fujian LNG upstream resources from CNOOC Fujian LNG Co. Ltd.on 25 Dec 2007

/44/ Minutes of the meeting on the feasibility demonstration on CDM development for Fujian Jinjiang LNG power plant project and the name list of attendances 10 March 2005

/45/ Letter to Economic and Trade Commission of Fujian Province for Requesting Instruction on Ensuring Smooth Implementation of Jinjiang LNG Project by Using CDM by Fujian Jinjiang Gas Power Co., Ltd 17 November 2005

/46/ Response letter by Economic and Trade Commission of Fujian Province on Ensuring

Smooth Implementation of Jinjiang LNG Project by Using CDM 28 November 2005

/47/ Notice of Attendance of '6.18' Project Meeting by Fujian Science and Technology Association on 13 August 2006

Certification Letter of Attendance of'6.18' Project Meeting by Fujian Coal Industry Group Co., Ltd. on 28 May 2008

/48/ Statement by Zhejiang Electric Power Project Management Ltd dated 21 June 2008

/49/ Decision of the Shareholder Meeting of Fujian Jinjiang Gas Power Co, Ltd. on 10 Aug. 2006

/50/ Approval Letter of Fujian LNG Overall Project Issued by the National Development and Reform Commission (NDRC Energy [2004] 3076)

/51/ State Council's Decisions on the Reform of the Investment System (GUOFA[2004] 20)

/52/ State Council of the People's Republic China, Rules of Dispatching and Management of the Power Grid, http://www.mwr.gov.cn/zcfg/fb/19931101000000314195.aspx

/53/ National People's Congress of the People's Republic China, Electric Power Law of the People's Republic of China, http://www.mwr.gov.cn/zcfg/fb/19960401000000514190.aspx

/54/ Fujian Provincial Pricing Administration and Fujian Economic and Trade Committee, Approval Regarding On-grid Power and Tariff of LNG Power Projects in Fujian

/55/ Fujian Economic and Trade Committee, Statement on Issues Regarding the On-grid Electricity of Jinjiang LNG Power Plant

/56/ Fujian Power Dispatching and Communication Center, Statement on Issues Regarding Electricity Dispatching in Jinjiang LNG Power Plant

3.2 Follow-up Interviews with Project Stakeholders

From 3 to 5 December 2007, DNV performed interviews with the project developers to resolve the issues identified during the desk review of the project design document. The representatives of Beijing Keji Consulting Ltd, Fujian Jinjiang Gas Power Co., Ltd and local government and resident were interviewed.

Table below shows the list of issues discussed during the interviews:

	Date	Name	Organization	Topic
/57/	2007-12-03 to 2007-12-05	Mr. Shawn Lee General Manager Mr. Huiming Liu Vice General Manager Mr. Lianfeng Zhou Deputy Chief Economist and	Fujian Jinjiang Gas Power Co., Ltd.	- Project background information. - Project technology, operation, maintenance and monitoring capability. - Project additionality - Project monitoring and management plan. - Project approval status

		Financial Manager Mr. Miaodong Lee Planning and Economic Manager		(incl. EIA approval, CDM project approval status) - Stakeholder consultation process.
/58/	2007-12-03 to 2007-12-05	Ms. Zhifang Zhao Manager of Technology Department Ms. Shan Lee Vice Manager of External Cooperation Department	Beijing Keji Consulting Ltd.	- Applicability of selected methodology - Baseline determination - Emission reductions calculation. - Monitoring plan.
/59/	2007-12-03 to 2007-12-05	Mr. Wenyi Chen Director General of Jinjiang EPB Mr. Jianxin Huang Vice Director General of Jinjiang EDB	Jinjiang Environment Protection Bureau Jinjiang Economic Development Bureau	- Project approval status (incl. EIA approval, CDM project approval status)
/60/	2007-12-03 to 2007-12-05	Mr. Yongge Cai Village Branch Secretary Mr. Binghuang Pan Village Director Assistant Mr. Langtao Guo Vice-Village Branch Secretary	Shizhen Village	- Stakeholder consultation process.

3.3 Resolution of Outstanding Issues

The objective of this phase of the validation was to resolve any outstanding issues which needed be clarified prior to DNV's positive conclusion on the project design. In order to ensure transparency a validation protocol was customised for the project. The protocol shows in a

transparent manner the criteria (requirements), means of verification and the results from validating the identified criteria. The validation protocol serves the following purposes:

- It organises, details and clarifies the requirements a CDM project is expected to meet;
- It ensures a transparent validation process where the validator will document how a particular requirement has been validated and the result of the validation.

The validation protocol consists of three tables. The different columns in these tables are described in the figure below. The completed validation protocol for the "Fujian Jinjiang LNG Power Generation Project" is enclosed in Appendix A to this report.

Findings established during the validation can either be seen as a non-fulfilment of CDM criteria or where a risk to the fulfilment of project objectives is identified. Corrective action requests (CAR) are issued, where:

i) mistakes have been made with a direct influence on project results;
ii) CDM and/or methodology specific 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 certified.

A request for clarification (CL) may be used where additional information is needed to fully clarify an issue.

Validation Protocol Table 1: Mandatory Requirements for CDM Project Activities		
Requirement	***Reference***	***Conclusion***
The requirements the project must meet.	*Gives reference to the legislation or agreement where the requirement is found.*	This is either acceptable based on evidence provided (**OK**), a **Corrective Action Request (CAR)** of risk or non-compliance with stated requirements or a request for **Clarification (CL)** where further clarifications are needed.

Validation Protocol Table 2: Requirement checklist				
Checklist Question	***Reference***	***Means of verification (MoV)***	***Comment***	***Draft and/or Final Conclusion***
The various requirements in Table 2 are linked to checklist questions the project should meet. The checklist is organised in different sections, following the logic of the large-scale PDD template, version 03 - in effect as of: 28 July 2006. Each section is then further sub-divided.	*Gives reference to documents where the answer to the checklist question or item is found.*	*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). A request for clarification (CL) is used when the validation team has identified a need for further clarification.*

Validation Protocol Table 3: Resolution of Corrective Action and Clarification Requests			
Draft report clarifications and corrective action requests	***Ref. to checklist question in table 2***	***Summary of project owner response***	***Validation conclusion***
If the conclusions from the draft Validation are either a CAR or a CL, these should be listed in this section.	*Reference to the checklist question number in Table 2 where the CAR or CL is explained.*	*The responses given by the project participants during the communications with the validation team should be summarised in this section.*	*This section should summarise the validation team's responses and final conclusions. The conclusions should also be included in Table 2, under "Final Conclusion".*

Figure 1 Validation protocol tables

3.4 Internal Quality Control

The draft validation report including the initial validation findings underwent a technical review before being submitted to the project participants. The final validation report underwent another technical review before requesting registration of the project activity. The technical review was performed by a technical reviewer qualified in accordance with DNV's qualification scheme for CDM validation and verification.

3.5 Validation Team

Role/Qualification	*Last Name*	*First Name*	*Country*
Team Leader/ GHG Auditor	Ma	Jiandong	China
Team Member/ CDM Validator	Sun	Shuyong	China
Team Member/GHG Auditor	A	Qingxing	China
Technical Reviewer	Chandrashekara	Kumaraswamy	India
Sector Expert	Lehmann	Michael	Norway

The qualification of each individual validation team member is detailed in Appendix B to this report.

4 VALIDATION FINDINGS

The findings of the validation are stated in the following sections. The validation criteria (requirements), the means of verification and the results from validating the identified criteria are documented in more detail in the validation protocol in Appendix A.
The final validation findings relate to the project design as documented and described in the revised and resubmitted PDD, version 03 dated 25 June 2008

4.1 Participation Requirements

The project participants are Fujian Jinjiang Gas Power Co., Ltd. from the host Party China and Cambridge Funds Investment Co., Ltd. and Natsource Europe Ltd. from the Annex I Party the United Kingdom. Both participating Parties fulfil all the requirements to participate in the CDM.

The DNA of China has issued the Letter of Approval (LoA) /2/ on 27 November 2007, authorizing Fujian Jinjiang Gas Power Co., Ltd. as a project participant and also confirming that the project assists in achieving sustainable development.

The DNA of the United Kingdom has also issued a LoA /3/ on 7 March 2008, authorizing Cambridge Funds Investment Co., Ltd., and on 13 June 2008, authorizing Natsource Europe Ltd /4/ as project participants

The validation did not reveal any information indicating that the project can be seen as a diversion of official development assistance (ODA) funding towards China.

4.2 Project Design

The project activity “Fujian Jinjiang LNG Power Generation Project” is a power generation project using liquid natural gas (LNG). The project has an installed capacity of 1516 MW (4 x 379 MW). Power will be generated in four combined cycle gas turbines which will be produced domestically, representing state of the art technology (transferred from GE technology) /25/. The technology is deemed to reflect current good practice. The project system consists of gas and steam turbines (Harbin Power Equipment Co., Ltd.), waste heat recovery boilers (from Hangzhou boiler group) and generators. The project activity is expected to deliver 5942.7 GWh of energy to the regional power grid per annum at a plant load factor of 44.4% for the first 8 years and 5199.9 GWh of energy at a plant load factor of 38.8% for the other years of the project operation lifetime /24/. The electricity generated will be fed into the East China Power Grid (ECPG).

It is confirmed that the proposed project activity fulfils the Chinese domestic regulations and policy of promoting sustainable development. The project is in line with specific CDM requirements and the confirmation thereof by the DNA of China was issued on 27 November 2007.

The project activity’s starting date is 19 October 2006 which is the date of execution of the equipment purchase contract. The permission to start construction was granted on 26 April 2007 /32/.

The project assumes a renewable crediting period of seven years, starting on 1 March 2009. The designed operation life of the project is 20 years /5/.

The project’s power generation will replace the power generated by the existing power plants and likely capacity additions in the ECPG resulting in an estimated emission reduction of 2 730 816 tCO_2 annually.

4.3 Baseline Determination

The project applies the approved baseline methodology AM0029, version 01.1. entitled *Methodology for Grid Connected Electricity Generation Plants using Natural Gas and Grid Connected Electricity Generation Plants using Non-Renewable and Less GHG Intensive Fuel* /7/. The application of the baseline methodology is justified as it has been demonstrated that:

- It is a new power plant generating electricity with natural gas with no auxiliary fuels /40/.
- The electricity generated will be supplied to the ECPG, of which the geographic and system boundaries could be clearly defined /11/.
- Natural gas is sufficiently available in the region as discussed below.

As per the Meth Panel's clarification on applicability criteria of AM0029 v1.1 (AM_CLA_0091) /42/ "as indicated in the footnote to the applicability condition in question, this condition is required to ensure the project activity does not displace natural gas that would otherwise be used elsewhere in an economy of the country or region, thus leading to possible leakage. 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.". In other words, AM0029 allows demonstrating that that the project activity will not constrain future natural gas capacity additions by demonstrating that the full demand of the natural gas by the proposed project is dedicatedly met with imported gas. DNV was able to verify that the project meets these criteria and that the consumption of natural gas by the proposed project will not constrain future natural gas capacity additions as required by AM0029:

a) The full demand of natural gas by the proposed project is dedicatedly met and supplied under the long-term take or pay contract signed on 20 August 2005 /38/ by CNOOC Fujian LNG Co., Ltd, by which the liquefied natural gas is imported from Togguh Gas Field of Indonesia, from which 2.6 million tons of LNG per year will be provided since the beginning of 2009 to the Fujian LNG Terminal, which is owned and operated by CNOOC Fujian LNG Co., Ltd, according to the letter regarding the upstream resources of Fujian LNG issued by CNOOC Fujian LNG Co., Ltd on 25 Dec 2007 /43/ and the feasibility study report issued by Fujian Electric Power Reconnaissance and Design Institute in November /5/.

b) The full demand of natural gas by the proposed project is planned to be imported for 25 years from the Togguh Gas Field of Indonesia /43//5/. According to the independent third-party assessment, the explored reserve of Togguh Gas Field is 14.4Tcf (408.9 billion m^3), which can sufficiently support a LNG factory with the production capacity of 30 million tones per year for 20 years /43//5/. Thus, the full demand of LNG by the project is considered to be met continuously with imported gas.

c) As per the feasibility study report /5/, only imported LNG is designed to be used for the project.

d) According to the Survey of Fujian Province Natural Gas Supply and Demand Analysis by Fujian Energy Research Association on 10 April 2008, it was found that the supply capacity of natural gas in the Fujian province will reach 5.0 million tons of LNG per year from 2012, in order to allow the future additional demand of natural gas to be met steadily.

e) For imports from Indonesia as non Annex I Party, according to the Meth Panel clarification AM_CLA_0091, except the leakage addressed by the baseline methodology, the consumption of the natural gas will not lead to any leakage effects.

As above demonstrated, the consumption of natural gas by the proposed project will not constrain future natural gas capacity additions as required by AM0029 v1.1.

1. Identify plausible baseline scenarios.

The PDD has identified plausible baseline scenarios in compliance with the baseline methodology AM0029, including:

(1) The project activity not implemented as a CDM project;
■ The project activity not implemented as a CDM project is a plausible and eligible baseline scenario, i.e. Natural Gas power generation using combined cycle gas turbine (CCGT) without CDM.

(2) Power generation using natural gas, but technologies other than the project activity;
■ A simple cycle gas turbine has a rated capacity of 100-300MW and relatively lower thermal efficiency of only 38% ~ 39.5% while the CCGT has reached capacities greater than 300MW and the efficiency of CCGT is more than 55% /27/. Therefore, this alternative is not considered a plausible baseline alternative.

(3) Power generation technologies using energy sources other than natural gas;
■ According to the main tasks for Power Development Plan in the Eleventh five years for the Fujian Province /36/, gas fired power plant, nuclear power plant, coal fired power plant, hydropower plant and wind power plant will be considered for construction in the near future.
■ Among the renewable energy options with comparable capacity or electricity generation, only pumped storage hydropower project can provide peak load regulation service as the proposed project. However, the limited hydro resources in the project boundary have been largely exploited /30/ and the remaining will have low utilization hours, less installed capacity and are difficult to develop /30/. Hence, it is not a plausible baseline alternative that the electricity generated by the project activity would be generated from renewable resources.
■ As nuclear power plants can not be operated as peak regulation /37/ like the proposed project services, electricity generation from nuclear power plants is not considered a plausible baseline alternative.
■ According to the Chinese relevant law and regulation/31/, the unit capacity selected for coal-fired power construction should be 600MW and above in China. Coal fired power plant can be operate as peak load and are thus comparable to the proposed project. Therefore, 600 MW coal fired sub-critical and super-critical power plants are considered a plausible baseline alternative.

(4) Import of electricity from connected grids, including the possibility of new interconnections.
■ The import of electricity from the Central China Power Grid (CCPG) to the East China Power Grid ECPG /12/ is not considered a plausible baseline alternative. Due to safety, economy, and stability concerns /29/, the electricity export from the CCPG is basically used for base load but not for peak load.

In conclusion, there are three alternatives which are realistic and credible,

- Natural Gas /CCGT_ The proposed project activity not implemented as a CDM

project

- Coal /Sub critical_ Sub critical coal-fired power plant with a unit capacity of 600 MW
- Coal /Supercritical_ Super critical coal-fired power plant with a unit capacity of 600 MW.

2. Identify the economically most attractive baseline scenario alternative.

The economically most attractive baseline scenario alternative is identified using a levelized cost analysis. The levelized costs of electricity production for the proposed project not undertaken as a CDM project, a 600MW sub critical coal-fired power plant and a 600MW super critical coal-fired power plant are calculated using the formula in the *Projected Costs of Generation Electricity* published by IEA, and based on the data from the *China Institute of Power Planning and Design, Thermal Power Engineering Design Reference Cost Index", 2005 Edition* /17/, resulting in 0.3852 RMB/kWh, 0.2423 RMB/kWh and 0.2447 RMB/kWh. The 600 MW subcritical coal-fired power plant has the lowest levelized cost of 0.2423 RMB/kWh, taken as the most attractive baseline scenario alternative.

The sources of the data used in the calculation and the calculation process have been verified by DNV.

To further demonstrate the financial attractiveness of the 600 MW sub-critical coal-fired power plant is robust to reasonable variations in the critical assumptions for the alternatives (i.e. fuel cost and the load factor), a sensitivity analysis has been conducted. The sensitivity analysis confirms that the construction of a 600 MW sub critical coal-fired power plant is likely to remain the most economically scenario under the reasonable variations of the assumptions. Even if the assumed operating hours of the proposed project are increased to 5000 hours as assumed for coal fired power plants, the levelized costs of the project remains highest with 0.35 RMB/kWh.

Hence, the construction of a 600 MW sub critical coal-fired power plant is identified as the most likely baseline scenario.

The spatial extent of the project boundary includes the project site and the spatial extent of the grid electricity system considered for determining the grid emission factor are all power plants connected physically to the ECPG which is selected in accordance with ACM0002.

Emission sources and gases included in the project boundary are:

	GHGs involved	*Description*
Baseline emissions	CO_2	*CO_2 from power generation in baseline, main emission source.*
Project emissions	CO_2	*On site fuel combustion due to the project activity.*
Leakage	CH_4	*Fugitive CH_4 emissions associated with fuel extraction, processing, liquefaction, transportation, regasification and distribution of natural gas used in the project plant and fossil fuels used in the grid in the absence of the project activity.*

4.4 Additionality

The additionality of the project is demonstrated through the steps outlined in AM0029, version 01.1, and by applying the "Tool for demonstration and assessment of additionality" version 04 /19/ as guidance.

Evidence was provided that demonstrates that the incentives from the CDM were seriously considered in the decision to proceed with the project activity. On 10 March 2005 a meeting for discussing the feasibility for CDM development took place including Jinjiang Economic Development Bureau, Jinjiang Environmental Bureau, Jinjiang Science & Technology Bureau, Jinjiang Meteorological Bureau, the People's Government of Jinjing town, Fujian Coal Industry Group Co.,Ltd, Fujian Jinjiang Gas power Co.,Ltd. and Beijing Keji consulting Co. /44/. After discussing the feasibility, it was noted that the prospective revenues from the CDM development could make the project feasible.

On 21 March 2005 the a shareholder meeting was held at which it has been stated that the CDM activity will be done if the relevant methodology proposed for gas fired power plants would be approved /33/.

On 17 November 2005 the project owner put in a request for instruction on ensuring smooth implementation of the Jinjiang LNG Project by using CDM to the Economic and Trade Commission of Fujian Province /45/. After that, the relevant government body gave the instructions for CDM development in the implementation of the LNG power project./46/

On 15 August 2006, the project owner attended a meeting about CDM presentation and training by Tsinghua University experts./47/

In the General Outline of Production Readiness edited on 20 September 2006, it is stated that CDM work is enhanced for alleviating the financial pressure /20/.

On 25 September 2006 the team for CDM development was established and each member's responsibility was designated /34/.

Finally, on 19 October 2006 the project started with the execution of the equipment purchase contract.

DNV has verified the above mentioned evidences documenting that the CDM was seriously considered in the decision to proceed with the project activity.

Step 1. Benchmark investment analysis

The project generates financial and economic benefits through the sales of electricity other than CDM-related income. Therefore the simple cost analysis (Option I) is not applicable. A benchmark analysis (Option III) was chosen to assess the financial viability of the project activity. The benchmark IRR has been selected as 8%. This is in line with the document Interim Rules on Economic Assessment of Electrical Engineering Retrofit Projects /18/, issued by State Power Corporation of China in 2003. Based on the data from the project's Feasibility Study Report /5/, the project IRR is 5.61% for a 20 year operation time period without CER revenues which shows that the project is not financially attractive compared to the benchmark in the absence of CDM benefits.

The input parameters used in the financial analysis are taken from the feasibility study report (FSR) developed in November 2004 by Fujian Electric Power Reconnaissance and Design Institute and approved by the National Development and Reform Committee (NDRC) on 20

December 2005 /5/. The input parameters used in the financial analysis can thus be considered information provided by an independent and recognised source.

DNV compared the input parameters for the financial analysis included in the PDD with the parameters stated in the FSR and the power purchase agreement (PPA) and was able to confirm that the values applied are consistent with the value stated in the FSR and PPA.

Because the permission to start construction was granted on 26 April 2007 only and thus more than two years apart after the date at which the FSR was finalized (November 2004), upon DNV's request, the project participants provided a written confirmation by the technology institute which has carried out the FSR that the input parameters used to develop the FSR have not materially changed between the finalization of the FSR and the time the construction permit was granted /41/. Hence, the input parameters of the FSR are representative for the economic situation of the project at the time of the final investment decision.

The input parameters used in the financial analyses were compared with the data reported for other similar proposed CDM projects in the region, i.e. other natural gas power projects in the East China region, by comparing e.g. investment costs per MW, electricity tariff, etc. Moreover, the assumed price for natural gas produced from LNG imported from Indonesia was compared the price of natural gas produced from LNG in the region. By in addition applying our sectoral competence, DNV was able to confirm that the input parameters used in the financial analysis are reasonable and adequately represent the economic situation of the project.

Five factors are considered in the sensitivity analysis: total investment, annual output, natural gas price, electricity tariff and annual operation and maintenance (O&M) cost.

The IRR would reach the benchmark if the static total investment should be decreased by 17.65%, but according to the China Statistical Yearbook, the Static Investment Price Index from 2004 to 2006 is increasing continuously, so the static investment based on the SIP index has little possibility of reduction. Moreover, the supervisor of the project, Zhejiang Electric Power Project Management Ltd., which is qualified as Grade A in the field of power generation, construction, equipment and is responsible for supervising the process, quality and safety of the project and auditing the actual investment cost has provided a statement on the actual costs spent so far /48/. This statement confirmed that by the end of May 2008, the actual investment cost used by the project is 1464.09 Million RMB, 3487.89 Million RMB will be expected to be used for remaining works, and the total investment cost will be 4951.98 Million RMB while estimated total investment cost was expected to be 4981.30 Million RMB in FSR.

The power delivered to the grid is determined by the installed capacity and operating hours. According to the PPA the operating hours may vary by ±5% for the first 8 years and ±7 % for the remaining operational years /24/. The IRR will reach benchmark if the annual power output would increase 20.5%. Given the provisions in the PPA and the fact that the power plant is expected to be operated as peak load power plant, it is reasonable to assume that the operating hours will increase by more than 20%. However, the assumed load factor for the power plant is only 44.4% for the first 8 years and 38.8% for the remaining years, DNV has below further investigated whether it is possible that the operational hours are possible to increase by more than 20%. Moreover, the verifying DOE should check that the project is implemented as planned and with annual operating hours as stated in the PDD.

The operating hours of the power plant is shown to be strictly regulated and limited by the national and local government for the safe operation of the power grid, and not subject to

negotiation between the project owner and electric power company. The information provided to and reviewed by DNV demonstrated the following:

a) The Electric Power Law of the People's Republic of China /53/ issued in 1995, which is still valid and applied, to ensure the safe operation of the electric grid stipulates that the power grid must be in operation under unified dispatch, which is regulated by the State Council of the People's Republic of China.

b) According to the Rules of Dispatch and Management of the Power Grid /52/ issued by the State Council in 1993, which is still valid and applied, the power grid management administrative authorities are responsible for the planning and regulating of the electric power generation and distribution in the country or the region. The plans of the power generation will be submitted to the national electric power regulatory departments for legal registration. The entities responsible for power grid dispatch must be enforced to implement the plans approved by the government. The power plants must be operated according to the approved plans.

c) As per requirements of the Rules of Dispatch and Management of the Power Grid, the approval letter regarding the electric power generation has been issued by the Fujian Economic and Trade Committee /54/, the electric power administrative authorities of the Fujian province, on 19 August 2005, the permitted operation hours annually for the Fujian LNG power projects (Putian, Jinjiang and Xiamendongbu are included) have been approved as follows: The operating hours of all the three LNG power plants are based on 4000 hours level and fluctuate within 3800-4200 hours during the first 8 years, for the remaining years the operating hours is based on 3500 hours and fluctuated within 3250-3750 hours.

If the price of natural gas would decrease by 10.1% the IRR of project will reach the benchmark. However, according to the Revised and Iterate Contract for Purchase and Sale of LNG /39/, the actual price of LNG has be increased significantly compared to the gas price for investment analysis /38/. Hence, the price of natural gas assumed for the IRR analysis and applicable at the time of the investment decision is conservative and the natural gas price is not likely to decrease.

If the power tariff increases by 6.5%, the IRR will reach the benchmark. According to the Feasibility Study Report of the project /5/, the average power price in Fujian Power Grid 2003 is 0.348RMB/kWh (including tax) while the grid tariff of the project assumed for the project is 0.4508RMB/kWh (including tax), the tariff of the project is thus higher than the average grid tariff in the Fujian province. Hence, it is unlikely for the power price of the project to increase significantly. The PPA /24/ does not indicate any tariff, but states that the actual tariff will be set by the local price administration when the Project is fully operational which is expected in 2009.

The IRR will cross the benchmark if the O&M cost will decrease by 5.23%. However, as the largest proportion (85%) of the O&M costs are the LNG costs, such a decrease is unlikely.

In conclusion, the investment analysis and sensitivity assessment demonstrate that the proposed project activity is unlikely to be the most financially attractive option.

Step 2. Common practice analysis

Natural gas power plants with similar scale in east China region are listed in the common practice analysis in the PDD. The source of the information has been verified by DNV. Among these projects, only one project is not applying for CDM registration, This project is the the Fujian Xiamendongbu CCGT power project which is totally invested by an international company, East Asia Power (EAP) China, which is owned by RGM International, a multinational corporation with the head office in Singapore. This power plant enjoys benefits in Fujian Province /35/ such as tax holidays and reduced taxes which significantly improve the project's economic viability. Hence, these benefits are is likely to make the Fujian Xiamendongbu CCGT power project more financially attractive than the proposed project.

Step 3. Impact of CDM registration:

The investment analysis done in year 2004 indicated that the IRR for total investment of the project is 5.61% which is lower than the benchmark. The project IRR will increase to 9.21% with the CDM revenues, thus increase the financial return and directly reduce investment risk.

In DNV's opinion, it is sufficiently demonstrated that the project is not a likely baseline scenario and that emission reductions are hence additional.

4.5 Monitoring

The proposed project applies the approved monitoring methodology AM0029, version 01.1, entitled *Methodology for Grid Connected Electricity Generation Plants using Natural Gas and Grid Connected Electricity Generation Plants using Non-Renewable and Less GHG Intensive Fuel* /7/. The selected monitoring methodology is justified to be applicable for the project.

4.5.1 Parameters determined ex-ante

The build margin emission factor (BM), combined margin emission factor (CM) and the emission factor of the technology (and fuel) identified as the most likely baseline scenario were determined ex-ante based on the most recent information available to identify the combined margin as the lowest emission factor among the three as the baseline emission factor options stipulated by AM0029. More detailed information is provided in section 4.6 of this report. The actual combined margin emission factor applied for the ex-post determination of emission reductions will be updated ex-post.

4.5.2 Parameters monitored ex-post

The following are the main data and parameters that will be monitored in accordance with AM0029:

1) EF_y The combined margin emission factor.
Calculated *ex-post* as per ACM0002 based on the latest statistics available from the DNA of China
2) $FC_{f,y,}$ Annual quantity of fuel "f" consumed in project activity.
The natural gas flow will be monitored continuously both by the supplier and the project owner. The natural gas consumption will be recorded monthly.
3) $NCV_{f,y,}$ Net Calorific Value of fuel "f"
The value will be according to the report from the natural gas supplier and the details are based on the relevant terms in the Purchase Agreement and will be collected fortnightly.

4) $OXID_{f,}$ Oxidation factor
IPCC default value
5) $EF_{CO2,f,y,}$ Emission factor for fuel "f"
EF_{CO2} of natural gas will use supplier-provided data or local data or country-specific values, EF_{CO2} of fuel other than natural gas will apply IPCC default value.
6) $COEF_{y,}$ CO_2 emission coefficient
Calculated, $COEF_{f,y} = \sum NCV_y * EF_{CO2,f,y} * OXID_f$
7) EG_y, Electricity supplied to the grid by the project.
The electricity supplied to the grid by the project will be measured continuously and recorded monthly. This data will be cross checked against the sales receipt from the grid company.
8) $PE_{y,}$ Project emission due to combustion of fuel
Calculated, $PE_y = \sum_f FC_{f,y} * COEF_{f,y}$

4.5.3 Management system and quality assurance

The project's monitoring plan includes:

- A description of the responsibilities and authorities for project management,
- Procedures for monitoring and reporting, and QA/QC procedures,
- A description of the installation of metering equipment,
- Procedures for the calibration of metering equipment,
- A description of training and maintenance needs.

Detailed procedures have been elaborated and are in place. These will be maintained and implemented to enable subsequent verification of emission reductions.

4.6 Estimate of GHG Emissions

The GHG emission reduction calculations are in accordance with the formulae given in the baseline and monitoring methodology AM0029, version 01.1.

1) Baseline emissions

In line with the methodology, the emission factor of the first crediting period is determined as the least of the following 3 options:

Option 1: The build margin, calculated according to ACM0002; and
Option 2: The combined margin, calculated according to ACM0002, using a 50/50 OM/BM weight.
Option 3: The emission factor of the coal based sub critical power plant which has been identified as the baseline scenario.

Calculation of the BM emission factor

The BM calculation is derived from the China Power Electric Power Yearbooks 2004, 2005, and 2006 /12/. Because plant specific fuel consumption and electricity generation data is not publicly available in China, the EB guidance on the request for deviation titled "Application of AM0005 and AMS-I.D in China" /15/ has been applied as follows:

- The capacity addition from the years 2004 to 2005 is chosen and reach 20% of total installed capacity /12/

- The weight of installed capacity additions for thermal power plant is accounted for 92.53% of total installed capacity additions /12/.
- The standard coal consumption of 343.33gSCE/kWh is used to determine the BM emission factor, which is deemed conservative. The coal consumption efficiency of 343.33 g SCE/kWh is defined as the best technology commercially available in China by the DNA of China /16/.
- The local net calorie value of each kind of fuel, the local carbon content of each kind of fuel and the IPCC 2006 default value of carbon oxidization factor are used to calculate the BM. /14/
- The BM is calculated as 0.8672 tCO_2/MWh

Calculation of the OM emission factor and CM emission factor

The simple OM emission factor calculation method is selected because low cost must run projects constitute less than 50% of the total grid generation and data is not available for applying the dispatch data analysis.

The aggregated generation and fuel consumption data are used as more disaggregated data are not available in the ECPG. Country specific data for the net calorific value (NCV_i) of each type of fossil fuel, which can be obtained from the China Energy Statistical Yearbook /13/, the IPCC 2006 default values /14/ for the oxidation factor of each type of fossil fuel and the total electricity delivered to the ECPG selected are deemed reasonable. Vintage data for the years 2003, 2004 and 2005 are used for the OM emission factor calculation, which are the most recent data available. The OM emission factor is derived from the China Energy Statistical Yearbooks 2004, 2005, and 2006 /13/. The OM is calculated to be 0.9421 tCO_2/MWh as a generation-weighted average for the three years,

The weights ω_{OM} and ω_{BM} are selected as 0.5 and 0.5, respectively, as stipulated by AM0029. The combined margin is 0.90465 tCO_2/MWh.

The calculation of the fuel emission factor of the technology identified as the most possible baseline scenario of the project

$EF_{CO2,Option3}=COEF_{Coal} \times PSCC_{BL}$ =0.9314 tCO_2/MWh

$COEF_{Coal}$ is the emission coefficient of coal in tCO_2/tce

$PSCC_{BL}$ is the coal consumption intensity per unit of electricity supply of the most possible baseline scenario,

The lowest emission factor among the three options is the BM emission factor (0.8672 tCO_2/MWh), which is selected to be the baseline emission factor. Therefore, baseline emissions are calculated as $BE_y = EGP_{J,y} * EF_{BL,co2,y}$=5 942 720 MWh*0.8672 tCO_2/MWh =5 153 527tCO_2/year.

2) Project emissions

$COEF_{f,y} = NCV_{f,y} \cdot EF_{CO2,f,y} \cdot OXID_f$ =34 402kJ/m^3x56.1 tCO_2/TJ=1.93 tCO_2/ m^3

$PE_y = FC_{f,y} \times COEF_{NG}$ =1175.20x1.93=2 268 136 tCO_2/year

3) Leakage

Net leakage due to fuel extraction, processing, liquefaction, transportation, re-gasification and distribution of natural gas outside of the project boundary and fugitive CH_4 emissions from using other fossil fuels that would occur in the absence of the project activity is demonstrated to be zero.

4) Emission reductions

$ER_y = BE_{,y} - PE_{,y} - LE_{,y}$=5 153 527t$CO_2$/year -2 268 136t$CO_2$/year-0 =2 730 816 t$CO_2$/year.

4.7 Environmental Impacts

The environmental impact assessment (EIA) of the project has been conducted according to Chinese laws and regulations. The potential environmental impacts have been sufficiently identified. The conclusion of the EIA has been described in the PDD, and no significant environmental impacts are expected from the project activity. The Fujian Environmental Protection Bureau (FEPB) approved the EIA of the project on 10 October 2003 and 26 March 2007 respectively

4.8 Comments by Local Stakeholders

A survey of local residents was carried out to invite comments from local stakeholders in the stage of the EIA. 54 out of 54 questionnaires were returned and all the 54 respondents supported the project. No negative comments have been received.

The survey shows that the proposed project receives strong support from the local people and the comments received have been taken into consideration during construction and operation to achieve environmental and social benefits.

4.9 Comments by Parties, Stakeholders and NGOs

The PDD of "28 June 2007" was made publicly available on DNV's climate change website[1] and Parties, stakeholders and NGOs were through the CDM website invited to provide comments during a 30 days period from 28 September 2007 to 27 October 2007.

One comment was received and is given (in unedited form) in the below text box.

Comment by: Aiba, Aiba

☐ Accredited NGO ☐ Party ☒ Stakeholder

Inserted on: 2007-10-27

Subject: this project is one part of the overall Fujian LNG project

Comment: During the process of D-D Investigation for this project, it is found that this project is one part of the overall Fujian LNG project, which is made up of 10 sub projects including the construction of the station and pipelines, transportation, three LNG based power generation project (Fujian Putian, Fujian Jinjiang and Fujian Xiamen), and five urban gas use projects in Fuzhou, Putian, Quanzhou, Zhangzhou and Xiamen. Obviously, it is not constructed for CDM and will be operated without revue from CERs selling. The detailed information of founding will be described below, based on some widely-spread news report or the information during the D-D Investigation.

First Part

[1] http://www.dnv.com/focus/climate_change/projects/projectdetails.asp?ProjectId=1478

Some news report about the project and the Overall Fujian LNG project

A CNOOC's LNG station, pipeline laying project break ground in E. China

Data source,

People Daily, http://english.peopledaily.com.cn/200504/15/eng20050415_181282.html

China National Offshore Oil Company (CNOOC) Ltd., the country's largest producer of offshore crude oil and natural gas, announced that its liquefied natural gas (LNG) stations and pipeline project in Putian city, eastern Fujian Province broke ground on Friday.

"It signifies the start-up of the LNG project in Fujian Province," said Wu Zhenfang, vice president of CNOOC.

As the first part of the LNG project, the stations and pipeline construction were invested in and performed by the Zhonghai Natural Gas Company Ltd. of Fujian, a company jointly invested in by the CNOOC and the Fujian Investment and Development Corporation.

Covering an area of 37 hectares, the LNG receiving stations will be built in the Xiuyu Port of Putian city.

The first phase of the station and pipeline construction project, with an investment of 5.5 billion yuan (664 million US dollars), plans to have an annual LNG output of 2.6 million tons.

The pipeline laid in the first phase is 360 kilometers long, including a 315-km long trunk line and three laterals of 54 kms long. Starting from Xiuyu Port, the trunk line will go through five cities of the Fujian Province including Fuzhou, Putian, Quanzhou, Xiamen and Zhangzhou.

As a significant energy project of China's foreign cooperation, the LNG project will get natural gas pumped from the Tangguh natural gas field in Indonesia. It is also the second LNG project of CNOOC after its project in South China's Guangdong Province.

The LNG project is made up of 10 sub projects including the construction of the station and pipelines, transportation, three gas power stations in Putian, Jinjiang and Xiamen cities, and five urban gas use projects in Fuzhou, Putian, Quanzhou, Zhangzhou and Xiamen.

The construction of the project will be performed in two phases.

The first phase project is designed to have an annual LNG yield capacity of 2.6 million tons. With an investment of 24 billion yuan (2.9 billion US dollars), the first phase will be completed and put into operation at the end of 2007.

According to the plan, when the second-phase project is finished, the LNG project will have an

annual yield capacity of five million LNG.

The use of LNG, a clean, efficient energy will relieve the pressure of the soaring demand for electricity in Fujian and improve the province's energy structure. It will also boost the growth of the LNG industry in China, a country featured in recent years by hiking energy consumption, said Wu.

B Introduction on CNOOC-Fujian LNG Co. Limited from the website of CNOOC

Data source,

http://www.cnoocgp.com/servlet/Page?Node=1322
CNOOC-Fujian LNG Co. Limited was incorporated On October 10th 2003, with a registered capital of 30 million RMB. The company is invested by CNOOC Gas & Power¡¡and Fujian Investment and Development Company jointly with each holding 60%¡¡and 40% of stakes.

Fujian LNG Overall Project, being constructed by the company, is composed of¡¡terminal and trunkline project, three gas-fired power plant projects and 5¡¡city distribution projects. Terminal and trunkline project is the second such¡¡project for CNOOC and it includes unloading facilities, gas pipeline linking¡¡terminal to power plants and to city offtake stations.

The terminal site is located at Xiuyu, Putian, to the north of Meizhou Bay. The designed capacity for phase I is 2.6 mtpa, with 2 LNG tanks each with a capacity of 145 000 m3. A berth that can accommodate 80000-165000 m3 LNG tanker will be built inside the terminal harbor and the berth¡¯s layout will take a shape of butterfly wing The length of the pipeline, including artery, is 369 Km. The first phase is expected to be completed in Oct 2007 and it will start commercial operation on Dec 31st. By then it will supply gas to Putian Power Plant, Xiamen East Power Plant, Jinjiang Power Plant, and Fuzhou, Putian, Quanzhou, Xiamen and Zhangzhou gas distribution companies. The design capacity for Phase II is 5 mtpa and will come on stream in 2012. It will supply gas to the second phase of Putian Power Plant, Xiamen East Power Plant, Quanzhou Power Plant and Fuzhou Huaneng Power Plant.

Tangguh gas field in Indonesia is selected as the supplier for the phase I project. The Sales Agreement of Fujian LNG Resources was executed on Sep.20, 2006.

It is estimated that the overall project will cost more than 20 billion RMB and among them terminal and trunkline will cost more than 5.5 billion RMB.

The construction of the terminal and trunkline started on July 5th 2006. The roofs of Tank-1 and Tank-2 were lifted on October 26 and November 8, 2006 respectively. This marked the important milestones stipulated in the contract of Fujian LNG tank construction had been reached.

The implementation of Fujian LNG project will substantially relieve energy shortage in Fujian and push the growth of local distribution companies. It will also stimulate the demand, increase job creation and pull the local economy.At the same it will contribute to the improvement of environmental qualities and the sustained social and economic development.

Second Part

Some background information about the history of the project

The history of this project

1.1995, CNOOC and Fujian Provincial Government started to carry out Planning-study for LNG project.

2.1996, CNOOC finished the Planning Report of Fujian LNG project.

3.1997, CNOOC and Fujian Provincial Government signed the Pre-protocol of Cooperation on Fujian LNG project.

4.2002, CNOOC and Fujian Provincial Government submitted the Proposal on Fujian LNG project to NDRC.

5. In Feb of 2003, the Proposal on Fujian LNG project was approved by NDRC.

6. **In Oct of 2003, CNOOC-Fujian LNG Co. Limited was incorporated On October 10th.**

7. In Oct of 2003, Fujian provincial NDRC submitted the FSR of Fujian LNG project to NDRC.

8. In Sep of 2004, the Overall Commercial Contracts of Fujian LNG projects were signed at the Great Hall of Beijing, including the PPA for LNG based power generation project (Jinjjiang, Putian and Xiamen).

9. At the end of 2004, The Fujian LNG project was formally approved by NDRC.

10. **At the end of 2005**, 3 LNG based Power generation projects (**Jinjjiang**, Putian and Xiamen) were **approved by NDRC**.

From the history of the project, it was able to conclude that that the proposed LNG power plant was Not born for CDM, and then the proposed project cannot be considered additional

How DNV has considered the comment received in its validation:

The project participant provided DNV with a response to the issues raised by the stakeholder comment. The project participant's response is given (in unedited form) in the below text boxes and is followed by DNV's assessment of the response given.

Part 1: According to CDM regulations, this project has strong additionality. Therefore it meets the requirements for CDM development.

1. According to Tools for the Demonstration and Assessment of Additionality, without CDM support, the project would be not financially attractive. Added the evident rising trend of natural gas price, it is obvious that this project is even more financially unattractive. That is to say, this project has strong additionality. For the detailed analysis, please refer to PDD B5.
2. The project owner has taken the serious consideration of the impact of CDM in the decision to proceed with the project activity.
   Fujian Jinjiang Gas Power Co., Ltd. has started to be aware of CDM since early 2005. They invited relevant government department discussing the feasibility of CDM development on March 10, 2005 (evidence 12 [/44/]). And then, on March 21, 2005, they had a temporary shareholders' meeting, on which they decided that once the relevant methodology was approved, CDM development which would improve the financial situation of the project and ensure the smooth implementation of the project could start (evidence 14 [/33/]). Obviously, the reason why the investors had considered taking advantage of CDM before the methodology took effect was just due to lack of financial attractiveness.
3. Fujian LNG overall project consists of 10 sub-projects (three natural gas based power generation projects, five urban projects, transportation project and the terminal/pipe project), each of the 10 projects are owned and managed by separate companies which are independent, self financing and make their own commercial decision.
   (1). Putian project has been under development as CDM project, referring to http://cdm.unfccc.int/Projects/Validation/DB/7LM64NLFMHQ12O0UCU77KOOAWC1HU5/view.html
   (2). Xiamendongbu power project is fully invested and pursued by a foreign company enjoying lots of financial benefits (see sub-step 2b in PDD). This project cannot meet the NDRC requirements for Host Country approval regarding CDM development.
   (3). Other five urban projects and transportation project and the terminal/pipe project are also carrying out by commercial entity and none of them involves governmental investment. Actually, there is no suitable approved methodology applied to these kinds of projects.

All the documents described above were presented to DNV and these documents demonstrate that the project can not be considered economically attractive and that CDM benefits have been seriously considered during the process.

Part 2：Further supplement and clarification of the background information

1. Energy provision is of strategic importance to every significant world economy. It is therefore perfectly normal for the responsible Ministries at national and local level along with the key interested national energy development companies to be engaged in energy

research exercises, drawing up, coordinating and submitting strategic approval plans on an on-going base.

2. China National Offshore Oil Company Ltd (CNOOC) and Fujian provincial government are collectively responsible for researching Fujian's energy needs. This is consistent with national government policy, which holds energy as a top strategic priority. They have a strategic role to play in setting the framework and where appropriate provide the infrastructure to facilitate development. However, it is up to individual companies to take advantage of the macro environment provided and any other funding sources, including CDM, as part of their commercial considerations to advance project development. Fujian provincial government has therefore played no part in the construction and management of individual sub-projects. Each sub-project is carried out strictly in accordance with the principle of self-determining, self-financing, self-operating and self-bearing for its own profits and losses. None of them involves governmental investment (evidence 5,20 [/50//51/]).
3. The dynamic total investment of the project is 4.98 billion RMB. The capital fund, which is provide by Fujian Coal Industry(Group) Co., Ltd and Jinjiang Power Investment Co., Ltd in the proportion of 75% and 25%, is 996 million RMB, making up 20% of the dynamic total investment. The rest of 80% are all from bank loan (evidence 8 [/5/]). The project is an enterprise-invested project no a government-invested project. CNOOC Fujian LNG Co., Ltd, whichi is invested by CNOOC and Fujian Investment & Development Co., Ltd is only in charge of establishing the receiving station and pipeline construction projects (evidence 5 [/50/]). The project owner of the Jinjiang project is Fujian Jinjiang Gas Power Co., Ltd. It is a completely separate entity and has nothing to do with CNOOC Fujian LNG Co., Ltd.

DNV has assessed the additionality of the project on a project specific basis in accordance with the requirements of AM0029 and the tool for the demonstration and assessment for additionality referred to in AM0029. Although it is correct that a LNG supply to the Fujian province has been planned by the Fujian provincial government before the project in question was conceived as CDM project activity, this does not set aside the fact that the project in question was demonstrated to be not economically attractive.

APPENDIX A

CDM VALIDATION PROTOCOL

Table 1 Mandatory Requirements for Clean Development Mechanism (CDM) Project Activities

Requirement	Reference	Conclusion
About Parties		
1. The project shall assist Parties included in Annex I in achieving compliance with part of their emission reduction commitment under Art. 3.	Kyoto Protocol Art.12.2	OK
2. The project shall assist non-Annex I Parties in contributing to the ultimate objective of the UNFCCC.	Kyoto Protocol Art.12.2.	OK
3. The project shall have the written approval of voluntary participation from the designated national authority of each Party involved.	Kyoto Protocol Art. 12.5a, CDM Modalities and Procedures §40a	OK ~~CAR 1~~
4. The project shall assist non-Annex I Parties in achieving sustainable development and shall have obtained confirmation by the host country thereof.	Kyoto Protocol Art. 12.2, CDM Modalities and Procedures §40a	OK
5. In case public funding from Parties included in Annex I is used for the project activity, these Parties shall provide an affirmation that such funding does not result in a diversion of official development assistance and is separate from and is not counted towards the financial obligations of these Parties.	Decision 17/CP.7, CDM Modalities and Procedures Appendix B, § 2	OK
6. Parties participating in the CDM shall designate a national authority for the CDM.	CDM Modalities and Procedures §29	OK
7. The host Party and the participating Annex I Party shall be a Party to the Kyoto Protocol.	CDM Modalities §30/31a	OK
8. The participating Annex I Party's assigned amount shall have been calculated and recorded.	CDM Modalities and Procedures §31b	United Kingdom's assigned amount is 92% of the emission level in

Requirement	Reference	Conclusion
		1990.
9. The participating Annex I Party shall have in place a national system for estimating GHG emissions and a national registry in accordance with Kyoto Protocol Article 5 and 7.	CDM Modalities and Procedures §31b	United Kingdom has in place a national system for estimating GHG emissions and annually submits is most recent inventory to the UNFCCC
About additionality		
10. Reduction in GHG emissions shall be additional to any that would occur in the absence of the project activity, i.e. a CDM project activity is additional if anthropogenic emissions of greenhouse gases by sources are reduced below those that would have occurred in the absence of the registered CDM project activity.	Kyoto Protocol Art. 12.5c, CDM Modalities and Procedures §43	OK ~~CL 3~~ ~~CL 4~~
About forecast emission reductions		
11. The emission reductions shall be real, measurable and give long-term benefits related to the mitigation of climate change.	Kyoto Protocol Art. 12.5b	OK
About environmental impacts		
12. Documentation on the analysis of the environmental impacts of the project activity, including transboundary impacts, shall be submitted, and, if those impacts are considered significant by the project participants or the Host Party, an environmental impact assessment in accordance with procedures as required by the Host Party shall be carried out.	CDM Modalities and Procedures §37c	OK
About stakeholder involvement		
13. Comments by local stakeholders shall be invited, a summary of these	CDM Modalities and Procedures §37b	OK

Requirement	Reference	Conclusion
provided and how due account was taken of any comments received.		
14. 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.	CDM Modalities and Procedures §40	OK
Other		
15. The baseline and monitoring methodology shall be previously approved by the CDM Executive Board.	CDM Modalities and Procedures §37e	OK
16. A baseline shall be established on a project-specific basis, in a transparent manner and taking into account relevant national and/or sectoral policies and circumstances.	CDM Modalities and Procedures §45c,d	OK
17. The baseline methodology shall exclude to earn CERs for decreases in activity levels outside the project activity or due to force majeure.	CDM Modalities and Procedures §47	OK
18. The project design document shall be in conformance with the UNFCCC CDM-PDD format.	CDM Modalities and Procedures Appendix B, EB Decision	OK
19. Provisions for monitoring, verification and reporting shall be in accordance with the modalities described in the Marrakech Accords and relevant decisions of the COP/MOP.	CDM Modalities and Procedures §37f	OK

Table 2 Requirements Checklist

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
A. General Description of Project Activity *The project design is assessed.*					
A.1. Project Boundaries *Project Boundaries are the limits and borders defining the GHG emission reduction project.*					
A.1.1. Are the project's spatial boundaries (geographical) clearly defined?	/1/ /5/	DR I	The project is located in Shizhen Village, Jinjing Town, Jinjiang City, Fujian Province, People's Republic of China.		OK
A.1.2. Are the project's system boundaries (components and facilities used to mitigate GHGs) clearly defined?	/1/ /23/ /11/	DR	Yes, the project boundary is defined as the project site and other power plants connected physically to the East China Power Grid(abbr. as ECPG), which is one of the most important power grids in China and covers Shanghai, Jiangsu Province, Zhejiang Province, Anhui Province and Fujian Province/11/, because the project will be connected to the Fujian Power Grid.		OK
A.2. Participation Requirements *Referring to Part A, Annex 1 and 2 of the PDD as well as the CDM glossary with respect to the terms Party, Letter of Approval, Authorization and Project Participant.*					
A.2.1. Which Parties and project participants are participating in the project?	/1/	DR	The project participants are Fujian Jinjiang Gas Power Co., Ltd. of China, and Cambridge Funds Investment Co., Ltd. and Natsource Europe Ltd., of the United Kingdom. None of the Parties have been		OK

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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
			considered as project participants		
A.2.2. Have all involved Parties provided a valid and complete letter of approval and have all private/public project participants been authorized by an involved Party?	/1/ /2/ /3/	DR	The letter of approval from the DNA of China has been issued on 27 November 2007 and the Fujian Jinjiang Gas Power Co., Ltd. has been authorized by the DNA of China /2/. However, the letter of approval from UK is yet to be obtained.	~~CAR 1~~	OK
A.2.3. Do all participating Parties fulfil the participation requirements as follows: - Ratification of the Kyoto Protocol - Voluntary participation - Designated a National Authority	/1/ /26/	DR	China ratified the Kyoto Protocol on 30 August, 2002. the United Kingdom ratified the Kyoto Protocol on 31 May 2002. Both Parties participate in the CDM on a voluntary basis. Both Parties involved have designated national authorities for the CDM. China has designated the National Development and Reform Commission as a National Authority. the United Kingdom has designated the Department for Environment, Food and Rural Affairs as a national authority.		OK
A.2.4. Potential public funding for the project from Parties in Annex I shall not be a diversion of official development assistance.	/1/ /5/	DR I	The validation did not reveal any information that indicates that the project can be seen as a diversion of official development assistance (ODA) funding towards China.		OK
A.3. Technology to be employed *Validation of project technology focuses on the project engineering, choice of technology and competence/ maintenance needs. The validator should ensure that environmentally safe and sound technology and know-how is*					

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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
used.					
A.3.1. Does the project design engineering reflect current good practices?	/1/ /25/	DR	Yes. The project adopts the gas-steam combine cycle power generation set made domestically, whose technology is transferred from the developed country. The project design engineering reflects current good practices in China.		OK
A.3.2. 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/ /25/	DR	Yes. The gas-steam combine cycle generation technology applied is GE S-109FA single-axis technology. The technology is now advanced in China		OK
A.3.3. Does the project make provisions for meeting training and maintenance needs?	/1/ /20/	DR I	Yes, The Outline and Plan for Operation Preparedness customized in September 2006 are provided for meeting training and maintenance needs.		OK
A.4. Contribution to Sustainable Development *The project's contribution to sustainable development is assessed.*					
A.4.1. Has the host country confirmed that the project assists it in achieving sustainable development?	/1/ /2/	DR	The LoA issued by DNA of China confirms that the project assists it in achieving sustainable development		OK
A.4.2. Will the project create other environmental or social benefits than GHG emission reductions?	/1/ /5/ /6/	DR I	Yes. The project will, among others benefits, mitigate local environmental pollution caused by coal-fired power plants, create local employment opportunity and promote the operation stability of the local power grid.		OK
B. Project Baseline *The validation of the project baseline establishes whether the*					

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selected baseline methodology is appropriate and whether the selected baseline represents a likely baseline scenario.					
B.1. Baseline Methodology *It is assessed whether the project applies an appropriate baseline methodology.*					
B.1.1. Does the project apply an approved methodology and the correct version thereof?	/1/ /7/	DR I	Yes. The project correctly applies the approved methodology AM0029 , "Baseline Methodology for Grid Connected Electricity Generation Plants using Natural Gas" version01.1		OK
B.1.2. Are the applicability criteria in the baseline methodology all fulfilled?	/1/ /5/ /6/ /25/ /11/	DR I	The project activity is the construction and operation of a new natural gas fired grid-connected electricity generation plant with no auxiliary fuels used in the project operation. The geographical/physical boundaries of the baseline grid (ECPG) can be clearly identified and information pertaining to the ECPG and estimating baseline emissions is publicly available; The further information about gas-supply sufficiency is to be provided, which may include gas source sufficiency and gas-supply stability.	~~CL 1~~	OK
B.2. Baseline Scenario Determination *The choice of the baseline scenario will be validated with focus on whether the baseline is a likely scenario, and whether the methodology to define the baseline scenario has been followed in a complete and transparent manner.*					
B.2.1. What is the baseline scenario?	/1/	DR	This will be concluded after the CLs of B.2.2. has been clarified.	~~CL 2~~	OK

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		I			
B.2.2. What other alternative scenarios have been considered and why is the selected scenario the most likely one?	/1/	DR I	The baseline determination is in line with the methodology. 1.. *Identify all plausible baseline scenarios:* The PDD has identified plausible baseline scenarios in compliance with the baseline methodology AM0029, including, inter alia: a) Power generation using natural gas, but technologies other than the project activity; b) The proposed project not undertaken as a CDM project activity; c) Power generation technologies using energy sources other than natural gas; d) Import of electricity from connected grids, including the possibility of new interconnections. The project activity is for the service as peak power regulation./1/ /5//24/ a) the technology using natural gas other than the proposed project is the large scale single cycle gas turbine, which is not feasibly baseline alternative, because the thermal efficiency of large scale single cycle gas turbine is much lower than the combined cycle gas turbine/27/. Alternative (c) includes i.) construction of coal fired power plant with comparable capacity and same service as the project; ii.) construction of oil fired power plant with		OK

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			comparable capacity and same service as the project; iii.) construction of wind power plant with comparable capacity and same service as the project; iv.) construction of hydro power plant with comparable capacity and same service as the project, and v.) construction of nuclear power plant with comparable capacity and same service as the project; c) ii.)new power plant using oil is not feasible due to prohibiting of the technology in power generation now in China/28/. iii.) Wind power generation can not provide peak regulation services comparable with the project, because the wind power generation is affected by the wind locally. iv.) the remaining limited hydro sources in the project boundary have low utilization hours, small installed capacity, and are difficult to be developed, so the alternative is not realistic/30/; v.)the nuclear power plant is not feasible alternative due to it can not provided service of peak regulation as hydro and fossil fuel fired power plant/37/ d) the import of connected grid is not realistic baseline alternative, since the Central China Power Grid to which ECPG is connected only can not cater to peak load requirement./29/		

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			As analyzed above, scenario b) *The proposed project activity not implemented as a CDM project* and scenario i.) of c) *600MW sub-critical and super-critical coal-fired power plants* are selected as realistic and credible alternatives. 2.. *Identify the economically most attractive baseline scenario alternative.* The economically most attractive baseline scenario alternative has been identified using investment analysis. The levelized cost of electricity production in RMB/kWh for each above technology has been used as financial indicator for investment analysis. The calculation indicated that the technology with the lowest levelized cost of electricity is the coal-fired sub-critical power plant. *3..A sensitivity analysis was also performed.* When the load factor and fuel cost have reasonable variation, coal-fired sub-critical power plant remains to have the lowest levelized cost of electricity production. The 11th 5-year electric power expansion plan for the Fujian province has been checked. All possible scenarios for power generation have been included.		

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			Further info is to be provided about the levelized cost calculation. The basis for all the cost calculations is to be provided.	~~CL 2~~	
B.2.3. Has the baseline scenario been determined according to the methodology?	/1/	DR	Yes		OK
B.2.4. Has the baseline scenario been determined using conservative assumptions where possible?	/1/	DR	This is to be concluded after CL2 is clarified	~~CL 2~~	OK
B.2.5. Does the baseline scenario sufficiently take into account relevant national and/or sectoral policies, macro-economic trends and political aspirations?	/1/	DR I	Yes, the relevant national law, sectoral policy and development trends in ECPG have been taken into account.		OK
B.2.6. Is the baseline scenario determination compatible with the available data and are all literature and sources clearly referenced?	/1/	DR I	This is to be concluded after CL2 is clarified	~~CL 2~~	OK
B.2.7. Have the major risks to the baseline been identified?	/1/	DR I	Yes, The major risk for the baseline will be the dramatic increase of power generation from renewable sources in future, such as wind and hydro.		OK
B.3. Additionality Determination *The assessment of additionality will be validated with focus on whether the project itself is not a likely baseline scenario.*					
B.3.1. Is the project additionality assessed according to the methodology?	/1/	DR I	The project additionality is demonstrated by applying sub-step2b, sub-step2c , sub-step2d		OK

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			step4 and step5 of the latest version of "Tool for the demonstration and assessment of additionality".according as AM0029v01.1. . *Step 1: Benchmark investment analysis* The IRR of 8 % for total investment of project has been selected as the benchmark and was properly justified/18/. Based on the data in the feasibility study report and the contract, the project IRR of 6.68% without CER revenues is below the benchmark, which shows that the project is not financially attractive compared to the benchmark in the absence of CDM benefits The spreadsheet for IRR calculation should be presented to make process transparent The calculation for sensitivity analysis is to be provided. It is to be clarified how it has been concluded that electricity price for the project will not increase beyond 5%. The comparison provided in the PDD compares post tax price for the project with before tax price for the other options. Considering a tax rate of 61% as provided in the table B4-1 the price of the other options are higher than the project price. So it might be possible that the price of electricity of the project may go well beyond 5%. Please justify the assumptions.	~~CL 3~~ ~~CL 4~~	

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			Step 2. Common practice analysis Natural gas power plants with similar scale in east China region are listed in the common practice. The source of the information has been verified by DNV. Among them, the Fujian Xiamendongbu CCGT power project is totally invested by an international company, East Asia Power (EAP) China, which is owned by RGM International, a multinational corporation with the head office in Singapore; it can enjoy lots of benefits in Fujian Province /35/ , which is likely to make it more financially attractive than the proposed project. Other natural gas power plants are applying for CDM support due to the same financial unattractiveness as the proposed project activity.		
B.3.2. Are all assumptions stated in a transparent and conservative manner?	/1/	DR	Ditto .	~~CL 3~~ ~~CL 4~~	OK
B.3.3. Is sufficient evidence provided to support the relevance of the arguments made?	/1/	DR	Yes. The data used in calculating IRR and sensitivity analysis are from the FSR and the contract.		OK
B.3.4. If the starting date of the project activity is before the date of validation, has sufficient evidence been provided that the incentive from the CDM was seriously considered in the decision to proceed with the project activity?	/1/	DR	This is to be concluded after CL10 has been clarified	~~CL 10~~	OK

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B.4. Calculation of GHG Emission Reductions – Project emissions *It is assessed whether the project emissions are stated according to the methodology and whether the argumentation for the choice of default factors and values – where applicable – is justified.*					
B.4.1. Are the calculations documented according to the approved methodology and in a complete and transparent manner?	/1/	DR	Yes. It is in compliance with AM0029 and documented in a complete and transparent manner.		OK
B.4.2. Have conservative assumptions been used when calculating the project emissions?	/1/	DR	Yes		OK
B.4.3. Are uncertainties in the project emission estimates properly addressed?	/1/	DR	For the starting boiler, further info about auxiliary fuels is to be provided	~~CL 5~~	OK
B.5. Calculation of GHG Emission Reductions – Baseline emissions *It is assessed whether the baseline emissions are stated according to the methodology and whether the argumentation for the choice of default factors and values – where applicable – is justified.*					
B.5.1. Are the calculations documented according to the approved methodology and in a complete and transparent manner?	/1/	DR	The emission factor of the first crediting period is determined from the three options as stipulated in AM0029. BM has been proven to be the lowest emission factor option.		OK
B.5.2. Have conservative assumptions been used when calculating the baseline emissions?	/1/	DR	Yes		OK

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B.5.3. Are uncertainties in the baseline emission estimates properly addressed?	/1/	DR	Yes		OK
B.6. Calculation of GHG Emission Reductions – Leakage *It is assessed whether leakage emissions are stated according to the methodology and whether the argumentation for the choice of default factors and values – where applicable – is justified.*					
B.6.1. Are the leakage calculations documented according to the approved methodology and in a complete and transparent manner?	/1/	DR	Yes. $EF_{NG, upstream, CH4}$ takes the default value in AM0029 (296 t CH_4/PJ), $EF_{BL, upstream, CH4}$ takes the default values in AM0029 for calculation. GWP_{CH4} applies IPCC value of 21. The leakage from project activity is assumed to be zero as the leakage calculated as per the formula in AM0029 is negative.		OK
B.6.2. Have conservative assumptions been used when calculating the leakage emissions?	/1/	DR	Yes		OK
B.6.3. Are uncertainties in the leakage emission estimates properly addressed?	/1/	DR	Yes		OK
B.7. Emission Reductions *The emission reductions shall be real, measurable and give long-term benefits related to the mitigation of climate change.*					
B.7.1. Are the emission reductions real, measurable and give long-term benefits related to the mitigation of climate change.	/1/	DR	Yes		OK

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B.8. Monitoring Methodology *It is assessed whether the project applies an appropriate monitoring methodology.*					
B.8.1. Is the monitoring plan documented according to the approved methodology and in a complete and transparent manner?	/1/	DR	Yes. The project applies the approved monitoring methodology AM0029 version 01.1 "Grid Connected Electricity Generation Plants using Non-Renewable and Less GHG Intensive Fuel" and is explained in a complete and transparent manner		OK
B.8.2. Will all monitored data required for verification and issuance be kept for two years after the end of the crediting period or the last issuance of CERs, for this project activity, whichever occurs later?	/1/	DR	Yes.		OK
B.9. Monitoring of Project Emissions *It is established whether the monitoring plan provides for reliable and complete project emission data over time.*					
B.9.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for estimation or measuring the greenhouse gas emissions within the project boundary during the crediting period?	/1/	DR	Yes		OK
B.9.2. Are the choices of project GHG indicators reasonable and conservative?	/1/	DR	Yes		OK
B.9.3. Is the measurement method clearly stated for each GHG value to be monitored and deemed	/1/	DR	Yes		OK

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appropriate?					
B.9.4. Is the measurement equipment described and deemed appropriate?	/1/	DR	Yes		OK
B.9.5. Is the measurement accuracy addressed and deemed appropriate? Are procedures in place on how to deal with erroneous measurements?	/1/	DR I	The accuracy of the meter needs to be addressed in the PDD	~~CL 6~~	OK
B.9.6. Is the measurement *interval* identified and deemed appropriate?	/1/	DR	The NCV assessment and gas measurement is to be revised according as the AM0029 monitoring meth	~~CL 7~~	OK
B.9.7. Is the *registration, monitoring, measurement* and *reporting* procedure defined?	/1/	DR	Yes		OK
B.9.8. Are procedures identified for *maintenance* of monitoring equipment and installations? Are the calibration intervals being observed?	/1/	DR	Yes		OK
B.9.9. 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 I	Yes		OK
B.10. Monitoring of Baseline Emissions *It is established whether the monitoring plan provides for reliable and complete baseline emission data over time.*					
B.10.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for determining baseline emissions	/1/	DR I	The electricity supplied to the grid by the project will be measured continuously and		OK

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during the crediting period?			recorded monthly. This data will be cross verified against the sales receipt from the grid company.		
B.10.2. Are the choices of baseline GHG indicators reasonable and conservative?	/1/	DR	Yes		OK
B.10.3. Is the measurement method clearly stated for each baseline indicator to be monitored and also deemed appropriate?	/1/	DR	Yes		OK
B.10.4. Is the measurement *equipment* described and deemed appropriate?	/1/	DR I	The electricity generation and input measurement equipment has been mentioned as ammeter. Ammeter does not measure power generation. Electricity meters are to be used for measuring power generation	~~CL 8~~	OK
B.10.5. Is the measurement *accuracy* addressed and deemed appropriate? Are procedures in place on how to deal with erroneous measurements?	/1/	DR I	The accuracy of the meter needs to be addressed in the PDD	~~CL 6~~	OK
B.10.6. Is the measurement *interval* for baseline data identified and deemed appropriate?	/1/	DR	Yes		OK
B.10.7. Is the registration, *monitoring*, *measurement* and *reporting* procedure defined?	/1/	DR	Yes		OK
B.10.8. Are procedures identified for *maintenance* of monitoring equipment and installations? Are the calibration intervals being observed?	/1/	DR	Yes		OK

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B.10.9. 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	Yes		OK
B.11. Monitoring of Leakage *It is assessed whether the monitoring plan provides for reliable and complete leakage data over time.*					
B.11.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for determining leakage?	/1/	DR	Leakage from the project activity is assumed to be zero as the total net leakage effects are negative when calculating these in accordance with the methodology.		OK
B.11.2. Are the choices of project leakage indicators reasonable and conservative?	/1/	DR	Ditto		OK
B.11.3. Is the measurement method clearly stated for each leakage value to be monitored and deemed appropriate?	/1/	DR	Ditto		OK
B.12. Monitoring of Sustainable Development Indicators/ Environmental Impacts *It is assessed whether choices of indicators are reasonable and complete to monitor sustainable performance over time.*					
B.12.1. Is the monitoring of sustainable development indicators/ environmental impacts warranted by legislation in the host country?	/1/	DR	DNA of China does not require collection and archiving of data related to environmental, social and economic impacts. The environmental impacts will be monitored by local environmental authority.		OK

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B.12.2. Does the monitoring plan provide for the collection and archiving of relevant data concerning environmental, social and economic impacts?	/1/	DR	The indicators of environmental impacts will be stipulated by local environmental authority.		OK
B.12.3. Are the sustainable development indicators in line with stated national priorities in the Host Country?	/1/	DR I	Yes. This will be on local authority decision.		OK
B.13. Project Management Planning *It is checked that project implementation is properly prepared for and that critical arrangements are addressed.*					
B.13.1. Is the authority and responsibility of overall project management clearly described?	/1/	DR	Yes. The authority and responsibility of overall project management is clearly described.		OK
B.13.2. Are procedures identified for training of monitoring personnel?	/1/	DR I	Yes, procedures for monitoring personnel training have been identified.		OK
B.13.3. Are procedures identified for emergency preparedness for cases where emergencies can cause unintended emissions?	/1/	DR I	Yes		OK
B.13.4. Are procedures identified for review of reported results/data?	/1/	DR	Yes		OK
	/1/	DR I	The procedures for corrective actions in order to provide for more accurate future monitoring and reporting have not been	~~CL 9~~	OK

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			identified.		
C. Duration of the Project/ Crediting Period *It is assessed whether the temporary boundaries of the project are clearly defined.*					
C.1.1. Are the project's starting date and operational lifetime clearly defined and evidenced?	/1/	DR I	Yes. The project is to be constructed on 26 April 2007 as per PDD. But the evidence for project starting is to be provided The estimated operational lifetime of the project is 20 years as per FSR/5/.	~~CL 10~~	OK
C.1.2. Is the start of the crediting period clearly defined and reasonable?	/1/	DR I	A renewable crediting period (7 years) is clearly defined starting from 1 March 2009		OK
D. Environmental Impacts *Documentation on the analysis of the environmental impacts will be assessed, and if deemed significant, an EIA should be provided to the validator.*					
D.1.1. Has an analysis of the environmental impacts of the project activity been sufficiently described?	/1/	DR	Yes. The environmental impacts during construction and operation are elaborated in the PDD and EIA, mainly about impacts of NOx, waste water, noise and solid waste on environment./6/		OK
D.1.2. Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, is an EIA approved?	/1/	DR	Yes. The project has been approved by the Environmental Protection Bureau of Fujian Province.		OK
D.1.3. Will the project create any adverse environmental effects?	/1/	DR I	There are no significant adverse environmental effects for the project according to the EIA./6/		OK

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D.1.4. Are transboundary environmental impacts considered in the analysis?	/1/	DR I	There are no transboundary environmental impacts foreseen for the project.		OK
D.1.5. Have identified environmental impacts been addressed in the project design?	/1/	DR	Yes.		OK
D.1.6. Does the project comply with environmental legislation in the host country?	/1/	DR	Yes.		OK
E. Stakeholder Comments *The validator should ensure that stakeholder comments have been invited with appropriate media and that due account has been taken of any comments received.*					
E.1.1. Have relevant stakeholders been consulted?	/1/	DR I	Yes. Besides the stakeholder consultation process required by Chinese EIA regulations, an additional stakeholder consultation process have been performed through inviting different stakeholders to comment on the project activity.		OK
E.1.2. Have appropriate media been used to invite comments by local stakeholders?	/1/	DR I	During 20-21 July 2005, the staff from Fujian Jinjiang Gas Power Co., Ltd. carried out a consultation with the local community and the local government. The staff also carried out a survey on the local villagers and residents in the area.		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/	DR I	Yes. The stakeholder consultation process is in accordance with Chinese EIA regulations.		OK

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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl.	Final Concl.
E.1.4. Is a summary of the stakeholder comments received provided?	/1/	DR	Yes. A summary of the stakeholder comments received has been described in the PDD. Stakeholder comments from 20-21 July 2005 has been provided		OK
E.1.5. Has due account been taken of any stakeholder comments received?	/1/	DR	100% of the respondents selected agree with the development of the project activity. Some of the stakeholders suggested that the compensation for house removal should be ensured. Fujian Jinjiang Gas Power Co., Ltd. has compensated 4 persons from Jinjing town for house removals.		OK

Table 3 Resolution of Corrective Action and Clarification Requests

Draft report clarifications and corrective action requests by validation team	Ref. to table 2	Summary of project owner response	Validation team conclusion
CAR 1 The letter of approval from UK is yet to be obtained.	A2.2	The LoA from DNA of the United Kingdom has been submitted.	DNV has received and verified the LoAs. This CAR is closed.
CAR 2 The start date of the project indicated in the PDD should be revised to October 2006 when the project owner signed contract with the main equipment manufacturers as this date represents the earliest of date of implementation, start date of construction or start of real action.	-	The start date of the project was changed to 19 October 2006.	Start date as revised. This CAR is closed.
CL 1 The further information about gas-supply sufficiency is to be provided, which may include gas source sufficiency and gas-supply stability.	B1.2	The detailed explanation about gas-supply sufficiency has been provided in Section B.2 of the revised PDD.	DNV has verified that the further information and relevant references are added and reasonable. This CL is closed
CL 2 Further info is to be provided about the levelized cost calculation. The basis for all the cost calculations is to be provided	B2.2 B2.1 B2.4 B2.6	Levelised cost calculation has been prepared and submitted as a separate Excel sheet with details. The basic parameters for all the cost calculation has been presented in Table B4-1 of the revised PDD	The levelised cost calculation spreadsheet and basic parameters for all the cost calculation presented in the revised PDD has been received and verified by DNV This CL is closed
CL 3 The spreadsheet for IRR calculation should	B3.1 B3.2	The calculation of the IRR has been submitted a separate Excel sheet.	DNV has verified that the IRR calculation in the spreadsheet is reasonable and input

Draft report clarifications and corrective action requests by validation team	Ref. to table 2	Summary of project owner response	Validation team conclusion
be presented to make process transparent.			parameters are consistent with the FSR which has been confirmed bv the technologic unit for the FSR./5//41/ However, in accordance with the guidance given on investment analysis at EB 39, financial expenditures shall not be considered in the investment analysis.
CL 3 (continued) In accordance with the guidance given on investment analysis at EB 39, financial expenditures shall not be considered in the investment analysis. Moreover, the cost item "public welfare fund" needs to be explained.	B3.1 B3.2	Financial expenditures have been excluded and the IRR calculations and the associated sensitivity analysis were revised and the PDD updated accordingly. According to FSR, public welfare fund are calculated by multiplying profit (excluding tax) with the ratio of public welfare fund, as follows: Public welfare fund= Profit (excluding tax) *the ratio of public welfare fund = (Profit (including tax) - tax)* the ratio of public welfare fund = (Profit (including tax) - Profit (including tax) * the ratio of tax) * the ratio of public welfare fund = Profit (including tax) *(1 - the ratio of tax)* the ratio of public welfare fund	Financial expenditures are no longer included and the adequate justification for the cost item "public welfare fund" was provided. This CL is closed
CL 4 The calculation for sensitivity analysis is to be provided. It is to be clarified how it has been concluded that electricity price for the	B3.1 B3.2	The calculation for sensitive analysis has been provided in IRR calculation and added in Annex 2 of the revised PDD. The sensitivity analysis of electricity price of the	The calculation of sensitivity analysis has been received and verified by DNV The sensitivity analysis of the

Draft report clarifications and corrective action requests by validation team	Ref. to table 2	Summary of project owner response	Validation team conclusion
project will not increase beyond 5%. The comparison provided in the PDD compares post tax price for the project with before tax price for the other options. Considering a tax rate of 61% as provided in the table B4-1 the price of the other options are higher than the project price. So it might be possible that the price of electricity of the project may go well beyond 5%. Please justify the assumptions		project has been presented in the revised PDD. Considering the regulation and policy of China, the electricity price is fixed during whole lifetime of the project. Detailed information has been provided in Section B.5 of the PDD. The comparison of the project electricity price with other options has been corrected the same in Section B.5 of the revised PDD. 61% consist of income tax rate 33%, value added tax 17%, City preservation and development tax 7%, Education surcharges 5%. Actually only the income tax rate 33% is utilised to exchange the electricity price between before tax and after, and relevant information has been analysed in Section B.5 of the revised PDD.	tariff and tax clarified by the PP has been verified by DNV This CL is closed
CL 5 For the starting boiler, further info about auxiliary fuels is to be provided	B4.3	No auxiliary fuels will be used during the operation of the proposed project.	According to the starting boiler technology specification provided by PP, no auxiliary fuels will be used in the proposed project./40/ This CL is closed
CL 6 The accuracy of the meter needs to be addressed in the PDD	B9.5 B10.5	The accuracy of the meter and the responsibility and procedures for calibration of meters has been revised in Section B.7.2 of the revised PDD.	DNV has verified it is corrected in the revised PDD This CL is closed
CL 7 The NCV assessment and gas measurement is to be revised according as the AM0029 monitoring meth	B9.6	According to AM0029 monitoring methodology, the NCV assessment and gas measurement have been revised in Section B.7.2 of the revised PDD.	DNV has verified it is corrected in the revised PDD This CL is closed

Draft report clarifications and corrective action requests by validation team	Ref. to table 2	Summary of project owner response	Validation team conclusion
CL 8 The electricity generation and input measurement equipment has been mentioned as ammeter. Ammeter does not measure power generation. Electricity meters are to be used for measuring power generation	B10.4	That is a typo and relevant words have been changed in Section B.7 of the revised PDD. Based on the methodology ACM0029, OM and CM parameters have to be included in the monitoring plan. There is a clerical error in the description in table for OM and BM, and relevant words have been corrected in Section B.7.1 of the revised PDD.	DNV has verified it is corrected in the revised PDD This CL is closed
CL 9 The procedures for corrective actions in order to provide for more accurate future monitoring and reporting have not been identified.	B13.5	Procedures for corrective actions in order to provide for more accurate future monitoring and reporting have been established in Section B.7.2 of the revised PDD.	DNV has verified it is corrected in the revised PDD This CL is closed
CL 10 The project is to be constructed on 26 April 2007 as per PDD. But the evidence for project starting is to be provided	C1.1 B3.4	The evidence for project starting has been submitted.	The proposed project activity is to start admitted by the construction permit according to hosting country relevant law and regulation.so the permit of the supervising Co. has been received and verified by DNV./32/ This CL is closed
CL 11 It is not clear whether the requirement that there is abundant LNG is being adequately demonstrated. Given that a. Only 2.6 MT of LNG is being imported	-	The Met Panel clarification clearly states that projects with a dedicated supply of imported gas (no matter where from) are deemed to have satisfied the applicability criteria of available supply. In respect of Jinjiang the LNG used by the project will be imported	Since the Fujian Jinjiang Gas Power Co.,Ltd. has signed the gas purchasing agreement with the CNOOC Fujian LNG Co.,Ltd. the NG consumption

Draft report clarifications and corrective action requests by validation team	Ref. to table 2	Summary of project owner response	Validation team conclusion
per year to the LNG terminal b. LNG consumption of Fujian LNG Terminal is 0.8184 million tones per year less than the total supply of Fujian LNG Terminal that will import NG from several sources such as west-east gas transmission, and Taiwan Strait, other than only from Togguh Gas Field of Indonesia. c. There is no firm commitment in the gas find / availability in China d. 8 more gas turbines are likely to be commissioned in the province between 2006-2011, apart from the three LNG projects and the five urban projects already envisaged.		from Indonesia after gasification in Fujian LNG Terminal. Thus the applicability conditions are satisfied. Moreover, a summary of Fujian Province Natural Gas Supply and Demand Analysis has been included as Annex 5 to the PDD.	of Fujian Jinjiang LNG power generation project of 0.8184 million tones per year is dedicatedly met with the total supply of Fujian LNG Terminal that will import NG from Togguh Gas Field of Indonesia. Hence, the project meets the applicability criteria of AM0029 in accordance with the Meth Panel clarification AM_CLA_0091. This CL is closed
CL 12 It needs to be clarified if the total costs assumed in the FSR can be cross-checked with actual costs incurred so far and quotes / contracts for remaining work and purchase of equipment.	-	1. The Feasibility Study Report was completed on November 2004 and the designing institute has given a written confirmation on Apr. 25 2008 clarifying that the data in the FSR including investment costs were still valid without any material change. Relevant evidence has been submitted. 2. Comparing with Putian LNG project with the unit investment of 3547.7RMB/KW for cross-check, the corresponding value of Jinjiang Project was 3133.97 RMB/KW which is more conservative. In our opinion, on the principle of EB38th meeting report, the data of investment costs should be applicable and appropriate when comparing with the similar project within the same region.	The statement by supervisor of the project, Zhejiang Electric Power Project Management Ltd. confirmed that by the end of May 2008, the actual investment cost used by the project is 1464.09 Million RMB, 3487.89 Million RMB will be expected to be used for remaining works, and the total investment cost will be 4951.98 Million RMB while estimated total investment cost was expected to be 4981.30

Draft report clarifications and corrective action requests by validation team	Ref. to table 2	Summary of project owner response	Validation team conclusion
		3. The construction is not completely finished yet but investment costs are basically in line with the budget. The supervisor of Jinjiang LNG project, Zhejiang Electric Power Project Management Ltd., which is qualified as Grade A in the field of power generation, construction, equipment and so on, is responsible for supervising the process, quality and safety of the Jinjiang project and auditing the actual investment cost for the Jinjiang project as well. A statement on the actual spends of the Jinjiang project provided by the supervisor states that the actual total investment is basically in line with that from the FSR. By the end of May 2008, the actual investment cost used by the project is 1464.09 Million RMB, 3487.89 Million RMB will be expected to be used for remaining works, and the total investment cost will be 4951.98 Million RMB while estimated total investment cost was expected to be 4981.30 Million RMB in FSR. Please refer to the annex herein which is translation of the statement.	Million RMB in FSR. This CL is closed.
CL 13 The electricity tariff is taken from the FSR. What is the tariff in the PPA? When was the PPA signed? There is an inconsistency in the tariff indicated on page 15 vs. page 17 of the PDD (version 2).	-	1. The tariff in the PDD is taken from the FSR. There is no stipulation on specific tariff for Jinjiang Project in the PPA. The PPA, signed on Aug.20, 2005, guaranteed the power generated by the power plant will be delivered to the grid and confirmed that the actual tariff will be set by the local price administration once the project is operational. Jinjiang LNG Power Plant Project is still under construction, the first of the four units is expected to be	Satisfactory clarifications were received. This CL is closed.

Draft report clarifications and corrective action requests by validation team	Ref. to table 2	Summary of project owner response	Validation team conclusion
		put into operation in 2009, which is also indicated in PDD (P37). Just as the PPA indicated the actual tariff will be set by the local price administration at least then.	
CL 14 What is the gas price indicated in the take-or-pay contract?	-	1. The gas price used in PDD is taken from the FSR. 2. According to the take-or-pay contract, the Revised and Iterate Contract for Purchase and Sale of LNG, which was signed on Jul. 27, 2007, the gas price is 46.1483 RMB /GJ, much higher than that previously expected in the FSR, thus the project became even more financially unfeasible. This change has happened after the investment decision, so we just indicated the fact rather than use it.	Satisfactory clarifications were received. Moreover, DNV compared the assumed price for natural gas produced from LNG imported from Indonesia with the price of natural gas produced from LNG in the region and was able to confirm that the price from the FSR is rather conservative. This CL is closed.
CL 15 The operating hours and load factor are taken from the PPA. What were the values assumed in the FSR? Both operating hours and load factor assumed for the project are significantly lower as the ones indicated for the coal fired power plants used for comparison. What is the explanation for this?	-	The operation hours in the FSR are 4000 hours annually. However the load factor was not assumed explicitly in the FSR so the factor was given by calculation based on the parameter listed in the FSR. The calculation is: Load factor= plant's rating capacity by the annual operating hours / plant's maximum capacity by the number of hours in the whole year =(379*4000)/(390*365*24)=0.4444 1. The operation hours and load factors indicated for the typical coal fired power plant were determined directly by Thermal Power Engineering Design Reference Cost Index (2005 Edition) issued by China	As shown in the sensitivity analysis and below IRR if assuming operating hours of 5000 hours, the IRR of the project improves significantly above the benchmark if the gas fired power plants operation hours can be increased. Hence, further clarifications are requested with regard to the factors that prohibit the power plant to increase its operating hours.

<table>
<tr><th>Draft report clarifications and corrective action requests by validation team</th><th>Ref. to table 2</th><th>Summary of project owner response</th><th>Validation team conclusion</th></tr>
<tr><td></td><td></td><td>Institute of Power Planning and Design, the authority of China power planning and design, which provides general guidelines for the design of power projects in China. Relevant evidence has been submitted.

2. Several NG projects have successfully registered based on the operation hours from this authoritative reference book. The details are shown in the following table based on the UNFCC website.
<table>
<tr><td>Project name</td><td>Sub critical coal-fired power plant with a unit capacity of 600 MW</td><td>Super critical coal-fired power plant with a unit capacity of 600MW.</td><td>The project</td></tr>
<tr><td>Yuyao Electricity Generation Project Using Natural Gas (UNFCCC Ref: 1227)</td><td>5000*</td><td>5000*</td><td>3500**</td></tr>
<tr><td>Xiaoshan Power Plant’s NG Power Generation Project of Zhejiang Southeast</td><td>5000*</td><td>5000*</td><td>3500**</td></tr>
</table></td><td>i) Kindly clarify, by including the relevant extracts from the PPA, to which extent the PPA does not allow operating hours of more than 4000 hours.
ii) Are there any other factors, such as limited demand for electricity, which make it unlikely that the power plant would be able to increase its operating hours?</td></tr>
</table>

<table>
<tr><th>Draft report clarifications and corrective action requests by validation team</th><th>Ref. to table 2</th><th>Summary of project owner response</th><th>Validation team conclusion</th></tr>
<tr><td></td><td></td><td>
<table>
<tr><td>Electric Power Co., Ltd. (UNFCCC Ref: 1343)</td><td></td><td></td><td></td></tr>
<tr><td>Zhejiang Provincial Energy Group Zhenhai Natural Gas Power Generation Co., Ltd.’s NG Power (UNFCCC Ref: 1344)</td><td>5000*</td><td>5000*</td><td>3500**</td></tr>
</table>
* Thermal Power Engineering Design Reference Cost Index (2005 Edition)
** FSR

3. Several NG projects have been successfully registered based on the different operation hours based on different sources. The details are shown in the following table.
<table>
<tr><td>Project name</td><td>Sub critical coal-fired power plant with a unit capacity of</td><td>Super critical coal-fired power plant with a unit capacity</td><td>The project</td></tr>
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</td><td></td></tr>
</table>

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<tr><th>Draft report clarifications and corrective action requests by validation team</th><th>Ref. to table 2</th><th>Summary of project owner response</th><th>Validation team conclusion</th></tr>
<tr><td></td><td></td><td>
<table>
<tr><td></td><td>600 MW</td><td>of 600MW.</td><td></td></tr>
<tr><td>Beijing No.3 Thermal Power Plant Gas-Steam Combined Cycle Project Using Natural Gas (UNFCCC Ref. 1373)</td><td>5000</td><td>5500</td><td>3500</td></tr>
<tr><td>Beijing Taiyanggong CCGT Trigeneration project (UNFCCC Ref. 1320)</td><td>5000</td><td>5000</td><td>4528</td></tr>
</table>

4. Considering the fact that the coal fired power will provide both base load and peak load during the year, while the LNG power plant will mainly provide peak load regulation service, it is reasonable that the load factor for the project will be much lower. We prefer to use the different operation hours as listed in PDD.</td><td></td></tr>
<tr><td>CL 15 (continued)
As shown in the sensitivity analysis and below IRR if assuming operating hours of</td><td>-</td><td>The PPA stipulates an average annual operation of 4,000 hours, with a fluctuation between 3,800 hours and 4,200 hours, for the first 8 years; and an average</td><td>Given the provisions in the PPA and the fact that the power plant is expected to be</td></tr>
</table>

Draft report clarifications and corrective action requests by validation team	Ref. to table 2	Summary of project owner response	Validation team conclusion
5000 hours, the IRR of the project improves significantly above the benchmark if the gas fired power plants operation hours can be increased. Hence, further clarifications are requested with regard to the factors that prohibit the power plant to increase its operating hours. i) Kindly clarify, by including the relevant extracts from the PPA, to which extent the PPA does not allow operating hours of more than 4000 hours. ii) Are there any other factors, such as limited demand for electricity, which make it unlikely that the power plant would be able to increase its operating hours?		annual operation of 3,500 hours thereafter, with a fluctuation between 3,250 hours and 3,750 hours. Please see the below extract from the PPA (pg 8). In the first 8 years of the power units of the project getting into the basic operation period, the planned annual power generation should based on the average annual operational hours of 4000 hours for each power unit, fluctuate between 3800 hours to 4200 hours. In the remaining contracted years in the operation period, the planned annual power generation should based on the average annual operational hours of 3500 hours for each power unit, fluctuate between 3250 hours to 3750 hours. In addition, the Chinese government maintains strict control over the operation hours of power plants as it does in respect of electricity prices. Power plants are legally unable to generate additional power on a discretionary basis as the government fears it would lead to destructive price competition with destructive consequences to the Grid. The three projects listed below and located on the same Grid as the Jinjiang project, all of which have already been registered, and all of which adopt 3,500 hours of annual operation. 1) Yuyao Electricity Generation Project Using Natural Gas (UNFCCC Ref: 1227) 2) Power Plant's NG Power Generation Project of	operated as peak load power plant, it is reasonable to assume that the operating hours will increase by more than 20%. However, the assumed load factor for the power plant is only 0.444 for the first 8 years and 0.388 for the remaining years. Hence, if the actual project implementation will show that the power plant operates with higher operating hours the economical viability of the project without CDM revenues should again be re-evaluated by the verifying DOE to ensure that the project continues to depend on CER revenues to be economically attractive. This CL is closed.

Draft report clarifications and corrective action requests by validation team	Ref. to table 2	Summary of project owner response	Validation team conclusion
		Zhejiang Southeast Electric Power Co., Ltd. (UNFCCC Ref: 1343) 3) Zhejiang Provincial Energy Group Zhenhai Natural Gas Power Generation Co., Ltd.'s NG Power (UNFCCC Ref: 1344) Therefore, adopting 4,000 and 3,500 hours of operation for the proposed project activity, is in line with similar plants which run for 3,500 hours. Nonetheless, we produced the spreadsheets of IRR and levelized cost with 5000 hours per year, which can be found in attachment. As for the levelized cost, the result of calculation does not influence the identification of baseline scenario. As for the analysis of IRR, If 5000 hours to be adopted in the calculation, the IRR will be higher than the benchmark (8%). However, it is clearly stipulated that in PPA during the first 8 years, the average annual operation hours is 4000 hours, after that the average annual operation hours is 3500 hours. That is to say, the operational hour of Jinjiang project is not likely to be higher than 4000 hours per year. Therefore, in our opinion, it is not reasonable to adopt 5000 hours to analyze the IRR of Jinjiang Project.	
CL 16 When was the investment decision for the project made? The PDD indicates that the gas purchase contract was signed in September 2006.	-	The project owner made the final investment decision in October 2006 when the project owner signed contract with the main equipment manufacturers. The relevant information is shown on the website: http://www.fjcoal.com/news/article.asp?id=8141	The start date of the project was changed to 19 October 2006. This CL is closed.

Draft report clarifications and corrective action requests by validation team	Ref. to table 2	Summary of project owner response	Validation team conclusion
		The date of September 2006 referred to in the PDD is the date of when the Take or Pay contract between the LNG terminal and Togguh field became effective. This upstream contract just guaranteed the terminal will be abundantly sourced by imported gas. On Jul. 27, 2007, the owner of Jinjiang Project signed a long-term Take-or-Pay (ToP) contract, the Revised and Iterate Contract for Purchase and Sale of LNG, with the LNG terminal to make sure that the power plant will be sufficiently fueled by the terminal.	

APPENDIX B

CERTIFICATES OF COMPETENCE

CERTIFICATE OF COMPETENCE

Michael Lehmann

Qualification in accordance with DNV's Qualification scheme for CDM/JI (ICP-9-8-i1-CDMJI-i1

GHG Auditor:	Yes		
CDM Validator:	Yes	***JI Validator:***	Yes
CDM Verifier:	Yes	***JI Verifier:***	Yes
Industry Sector Expert for Sectoral Scope(s):	Sectoral scope 1, 2, 3		
Technical Reviewer for (group of) methodologies:			
ACM0001, AM0002, AM0003, AM0010, AM0011, AM0012, AMS-III.G	Yes	*AM0021*	Yes
ACM002, AMS-I.A-D, AM0019, AM0026, AM0029	Yes	*AM0023*	Yes
ACM003, ACM0005, AM0033, AM0040	Yes	*AM0024*	Yes
ACM0004	Yes	*AM0027*	Yes
ACM0006, AM0007, AM0015, AM0036, AM0042	Yes	*AM0028, AM0034*	Yes
ACM0007	Yes	*AM0030*	Yes
ACM0008	Yes	*AM0031*	Yes
ACM0009, AM0008, AMS-III.B	Yes	*AM0032*	Yes
AM0006, AM0016, AMS-III.D	Yes	*AM0035*	Yes
AM0009, AM0037	Yes	*AM0038*	Yes
AM0013, AM0022, AM0025, AM00379, AMS-III.H, AMS-III.I	Yes	*AM0041*	Yes
AM0014	Yes	*AM0034*	Yes
AM0017	Yes	*AMS-II.A-F*	Yes
AM0018	Yes	*AMS-III.A*	Yes
AM0020	Yes	*AMS-III.E, AMS-III.F*	Yes

Høvik, 5 February 2007

Einar Telnes
Director, International Climate Change Services

Michael Lehmann
Technical Director

CERTIFICATE OF COMPETENCE

Shu Yong Sun

Qualification in accordance with DNV's Qualification scheme for CDM/JI (ICP-9-8-i1-CDMJI-i1

GHG Auditor:	Yes		
CDM Validator:	Yes	***JI Validator:***	--
CDM Verifier:	--	***JI Verifier:***	--
Industry Sector Expert for Sectoral Scope(s):	--		

Høvik, 12 March 2007

Einar Telnes
Director, International Climate Change Services

Michael Lehmann
Technical Director

CERTIFICATE OF COMPETENCE

Jian Dong Ma

Qualification in accordance with DNV's Qualification scheme for CDM/JI (ICP-9-8-i1-CDMJI-i1

GHG Auditor:	Yes		
CDM Validator:	--	***JI Validator:***	--
CDM Verifier:	--	***JI Verifier:***	--
Industry Sector Expert for Sectoral Scope(s):	--		

Høvik, 30 October 2007

Michael Lehmann
Technical Director, International Climate Change Service

CERTIFICATE OF COMPETENCE

Sequoia (Qingxing) A

Qualification in accordance with DNV's Qualification scheme for CDM/JI (ICP-9-8-i1-CDMJI-i1

GHG Auditor:	Yes		
CDM Validator:	--	***JI Validator:***	--
CDM Verifier:	--	***JI Verifier:***	--
Industry Sector Expert for Sectoral Scope(s):	--		

Høvik, 18 July 2007

Einar Telnes
Director, International Climate Change Services

Michael Lehmann
Technical Director

CERTIFICATE OF COMPETENCE

Kumaraswamy Chandrashekara

Qualification in accordance with DNV's Qualification scheme for CDM/JI (ICP-9-8-i1-CDMJI-i1

GHG Auditor:	Yes		
CDM Validator:	Yes	***JI Validator:***	--
CDM Verifier:	Yes	***JI Verifier:***	--
Industry Sector Expert for Sectoral Scope(s):	Sectoral scope 4 & 5		
Technical Reviewer for (group of) methodologies:			
ACM0001, AM0002, AM0003, AM0010, AM0011, AM0012, AMS-III.G	Yes	*AM0027*	Yes
ACM002, AMS-I.A-D, AM0019, AM0026, AM0029, AM0045	Yes	*AM0030*	Yes
ACM003, ACM0005, AM0033, AM0040	Yes	*AM0031*	Yes
ACM0004, ACM0012	Yes	*AM0032*	Yes
ACM0006, AM0007, AM0015, AM0036, AM0042	Yes	*AM0035*	Yes
ACM0007	Yes	*AM0038*	Yes
ACM0008	Yes	*AM0041*	Yes
ACM0009, AM0008, AMS-III.B	Yes	*AM0034*	Yes
AM0006, AM0016, AMS-III.D, ACM0010	Yes	*AM0043*	
AM0009, AM0037	Yes	*AM0046*	
AM0013, AM0022, AM0025, AM0039, AMS-III.H, AMS-III.I	Yes	*AM0047*	
AM0014	Yes	*AMS-II.A-F, AM0044*	Yes
AM0017	Yes	*AMS-III.A*	Yes
AM0018	Yes	*AMS-III.E, AMS-III.F*	Yes
AM0020	Yes		
AM0021, AM0028, AM0034, AM0051	Yes		
AM0023	Yes		
AM0024	Yes		

Høvik, 5 February 2007

Einar Telnes
Director, International Climate Change Services

Michael Lehmann
Technical Director