
Validation Report

Client: Mitsubishi UFJ Securities Co., Ltd.


“PAA Biogas Extraction Project for Heat
Generation”

Project No. JQA-C0074
(1812000085)

Date: 17 July 2008



JAPAN QUALITY ASSURANCE ORGANIZATION

Date of issue: 17 July 2008	Project No. JQA-C0074
Approved by:  Tsutomu Matsuno	Client: Mitsubishi UFJ Securities Co., Ltd.
<p>Summary:</p> <p>This is the Validation Report for the project activity "PAA Biogas Extraction Project for Heat Generation", proposed by Mitsubishi UFJ Securities Co., Ltd. and PT Pelita Agung Agrindustri.</p> <p>This project activity aims at reducing GHGs emissions by implementing a biogas extraction facility to treat waste water (effluent) generated by its industrial activity. The approved baseline and monitoring methodologies: AMS-III.H Version 6 "Methane recovery in waste water treatment" and AMS-I.C Version 12 "Thermal energy for the user with or without electricity" are applied.</p> <p>Japan Quality Assurance Organization (JQA) as a DOE conducted the validation on the basis of UNFCCC, Kyoto Protocol and relevant decisions of COP/MOP and CDM-EB.</p> <p>After the implementation of the project activity, the average amount of emission reductions of 42,301 t-CO₂e/year is to be achieved.</p> <p>JQA confirmed that the project activity meets all relevant criteria. Through the Certification Committee deliberation, JQA determines the project activity to be valid as a CDM project activity.</p>	

Report No : JQA-C0074-VaR(Rev2)	Report Title: PAA Biogas Extraction Project for Heat Generation
Assessed by : Team Leader: Itaru Watanabe Member : Hiroshi Motokawa (UO)	Verified by: Leader: Mr. Shigenari Yamamoto Dr. Hiroshi Kuribayashi (External) Dr. Takahisa Yokoyama (External)

Abbreviations

AMDAL	Environmental Impact Assessment Law of Indonesia
AMS	Approved Methodology for Small-scale CDM Project Activities
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CDM-EB	CDM Executive Board
CER	Certified Emission Reduction
CL	Clarification Request
COP	Conference of the Parties
COP/MOP	Conference of the Parties serving as the Meeting of the Parties
DNA	Designated National Authority
EIA	Environmental Impact Assessment
GHG	Greenhouse Gas
GWP	Global Warming Potential
ISO	International Organization for Standardization
JQA	Japan Quality Assurance Organization
LoA	Letter of Approval
MUS	Mitsubishi UFJ Securities Co., Ltd.
NCCDM	National Committee for CDM
NGO	Non-governmental Organization
ODA	Official Development Assistance
PDD	Project Design Document
PP	Project Participant
PAA	Pelita Agung Agrindustri
PHG	Permata Hijau Group (Parent company of PAA)
RPL-RKL	Environmental Monitoring Plan/Environmental Management Plan
QA/QC	Quality Assurance and Quality Control
SD	Sustainable Development
SSCDM	Small-scale CDM Project Activity
UKL/UPL	Environmental Operational Effort/Environmental Monitoring Effort
UNFCCC	United Nations Framework Convention on Climate Change

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Appendix A: SSCDM Validation Checklist

Appendix B: Certificate of the Validation Team Member

1 INTRODUCTION

1.1 Objective

The objective of the validation is to review whether the project activity is in conformance with the requirements defined by the UNFCCC, the Kyoto Protocol, CDM Modalities and Procedures and related decisions by COP/MOP and EB. The most important thing to be confirmed is to achieve GHGs emissions reductions against the baseline in along with the Indonesian sustainable development policy.

1.2 Scope

The scope of this validation process is set as follows:

- a) Documentary
 - UNFCCC
 - Kyoto Protocol
 - Relevant decisions of COP/MOP and CDM-EB
 - AMS-I.C (Version 12) & AMS-III.H (Version 06)
 - PDD (Version 1.1.0) & PDD (Version 5.5.0)
- b) Physical
 - The project site (within PAA palm oil processing complex)
- c) Organizational
 - PT Pelita Agung Agrindustri
 - Mitsubishi UFJ Securities Co. Ltd.
- d) Temporal
 - The first crediting period of the project activity is set at 7 years (renewable).

1.3 GHG Project Description

- a) Project Participants : PT Pelita Agung Agrindustri (Indonesia)
Mitsubishi UFJ Securities Co. Ltd. (Japan)
- b) Non-Annex 1 Party : Indonesia
- c) Annex 1 Party : Japan
- d) Project Site : Sebangor Hamlet, Mandau District, Regency of Bengkalis,
The Province of Riau, Indonesia
- e) Location : 1°25'41.75"N and 101°11'21.29"E
- f) Starting date of the project activity : 15/11/2006
- g) Expected operation lifetime of the project activity : 21 year and 00 month
- h) Starting date of the first crediting period : 25/08/2008
- i) Length of the first crediting period : 7 years 00 month
- j) Technology : Anaerobic Digester system for wastewater
High-pressure boiler
Biomass power and heat generation system
Flare unit
- k) The total estimate of anticipated reductions in tons of CO₂ : 42,301 t-CO₂e/year

1.4 Validation Team

The validation team was assigned on 7 September 2007 based on the JQA CDM Quality Manual (Version 5, 6 December 2006).

Team Leader	Itaru Watanabe	JQA Certified CDM Lead Assessor (Certified sectoral scopes: 1,2,3,4,5,8,10,11,12,13)
Member	Hiroshi Motokawa	Under Observation (Trainee)

The role and responsibility of the team leader is mainly to prepare the validation plan including the Desk Review, the Site-visit and related documentation and to manage the validation activities of the team. And the leader is responsible for stating the validation opinion and conclusion in the validation report.

The role and responsibility of the member is to implement the Desk Review and the Site-visit including the investigation and collection of background information and interviews with the project participants and related stakeholders, and also to indicate potential CARs and/or CLs through the validation activities.

A trainee, who is under observation, is not a team member formally. However, he/she is required to assist the team activities under the instruction of the team leader.

JQA's CDM Quality Manual allows to assign only one assessor as a validation team, if the assessor is competent to the sectoral scope of the given project activity and has enough time to conduct the validation with the assistance of a trainee.

Itaru Watanabe, who is the team leader, is a chemical engineer and qualified as a lead assessor of CDM. Before entering this department he worked as a lead assessor for environmental management systems (ISO 14001) in the department of environmental management system. Since he was engaged in the validation of the Nubarashen LFG project in Yerevan, Armenia (Ref. No. 69), through which JQA was accredited the scope of (1) and (13), he has participated in several validations of registered CDM project activities relating to LFG recovery and power generation, manufacturing factory's energy efficiency and HFC23 decomposition.

2 VALIDATION PROCESS

The validation process of JQA consists of the following phases:

- 1) Desk Review of the PDD
- 2) Background Investigations including the Site-visit and interviews with Indonesian governmental officials and stakeholders
- 3) Resolution of clarification requests (CLs) and corrective action requests (CARs)
- 4) Preparation of the Validation Report

The PDD shall be submitted to the EB for inviting the public stakeholders' comments immediately after the start of the Desk Review. If JQA receives any public comments, the comments are informed to the project participants and the CDM secretariat for uploading them on the UNFCCC website.

The PDD is made directly publicly available on the UNFCCC website. If JQA receives any public comments, every comment is informed to the project participants and the CDM secretariat for uploading it on the UNFCCC website.

In the validation, the SSCDM Validation Checklist (Appendix) is utilized as a tool of the validation. The checklist serves the following purposes:

- It organizes, details and clarifies the requirements a CDM project is expected to meet; and
- It ensures a transparent validation process by inducing the validator to document how a particular requirement has been validated and which conclusions have been reached;

Problems or findings identified in the process are indicated under the titles "CAR" (Corrective Action Request) and "CL" (Clarification Request) in the checklists.

CAR requires the project participants to take some corrective actions or others without fail, while CL indicates that it is desirable that the project participants take some corrective actions or others though not mandatory. The validation process does not provide the project participants with any consulting service, but if they take justifiable

and appropriate corrective action for CAR and CL items included in this report, such action will clearly contribute to substantial improvement of PDD. Criteria for judging problems as CAR or CL are as follows:

The criteria for CL and CAR are as follows:

<CAR (Corrective Action Request)>

- a) Non-compliance with laws and regulations of the host country;
- b) Non-conformance with requirements defined by the UNFCCC, COP/MOP, Kyoto Protocol, Decision 3/CMP.1, EB; or
- c) Items, which would affect CER calculation significantly.

<CL (Clarification Request)>

- a) Insufficient description from the view of accuracy, reliability, completeness and /or consistency;
- b) Vague expressions

Finally, all the CARs and CLs are resolved through the project participant's correspondences to those. Such correspondences are commented in italics in the checklist.

2.1 Schedule

The process was implemented as follows:

- 13 September 2007: Start of Desk Review based on the PDD (Version 1.1.0)
- 21 September 2007: PDD (Version 1.1.0) on the UNFCCC website
- 06 October 2007: Preparation of the Desk Review Report
- 02 - 07 October 2007: Site-visit to Indonesia
- 15 October 2007: Preparation of the Site-visit Report
- 20 November 2007: Receipt of the revised PDD (Version 4.0.0)
- 04 December 2007: Preparation of the Draft Validation Report
- 19 December 2007: Certification Committee of JQA
- 15 January 2008: Issuance Japanese LoA
- 10 March 2008: Issuance Indonesian LoA
- 10 March 2008: Receipt of the revised PDD (Version 5.0.0)
- 11 March 2008: Validation Report
- 16 July 2008: Receipt of the revised PDD (Version 5.5.0)
- 17 July 2008: Revised Validation Report

2.2 Desk Review of Documents

The Desk Review is conducted using by the SSCDM Validation Checklist (Appendix A), which is prepared for a CDM project activity originally by JQA.

The main purposes of the Desk Review are as follows:

- Confirm the completeness of the PDD in accordance with the "Guidelines for Completing the PDD (CDM-PDD), Version 06.2" including "Glossary of CDM terms (Version 02)"
- Review the PDD in order to judge the conformity of the project activity against the requirements
- Collect information regarding the project activity from an independent source for verification, if necessary
- Identify the issues at the Site-visit

And also, it focuses on:

- Justification and appropriateness of the baseline and monitoring methodologies for the proposed project

- Transparency and conservativeness of the assumptions for the baseline
- Technological, political, socio-demographic and environmental and legal aspects and trends relevant to the proposed project
- Additionality of the proposed project
- Appropriateness of the calculation of GHG emission reductions
- Responsibility and authority for monitoring, measurement and recording activities in the monitoring plan including quality control and quality assurance

2.3 Background Investigations

The background investigations include the Site-visit to the project site and the interviews mainly with the key persons in the host country including local project participants and governmental officials.

On this process, the followings are investigated:

- SD policy in the host country including Environmental Impact Assessment
- CDM approval and authorization procedures by DNA
- Technologies related to the project activity in the host country

2.4 Resolution of Clarifications and Corrective Action Requests

The project participants are requested to respond how to resolve the CLs and CARs pointed out in the Desk Review Report and the Site-visit Report.

Though resolving the CLs and CARs, the project participants revise the PDD and submit it to JQA.

2.5 Internal Quality Control

The manager of Global Environmental Assessment Division organizes the validation team after considering the expertise of the project, the assessor qualification suitable for the technical and regional aspects of the project, and the knowledge of environmental laws and regulations in the host country. Through the validation process, the validation team establishes the draft validation report including draft conclusion. The team leader of the validation team submits the documents including the outline of the validation result and the conclusion of the team to the Certification Committee of JQA, as a function to ensure that the validation is appropriately carried out. The Certification Committee, upon receipt of the draft validation report from the team, deliberates appropriateness of the validation and its procedures, and reports the result of judgment to the Senior Executive of JQA after having been reviewed by the management representative. Finally the Senior Executive decides the validity of the project activity as DOE.

3 VALIDATION FINDINGS

The summary of findings at Desk Review is as follows:

One CAR is pointed out in Table 2 of the SSCDM Validation Checklist.

1) Data and parameters monitored (Checklist B.7.1): CAR 1

The paragraphs 10 and 12 of the methodology AMS-III.H requires to monitor the following data and parameters:

- Amount of methane recovered
- Amount of methane fuelled
- Amount of methane flared
- Temperature of the flare

And regarding AMS-I.C the followings are to be monitored:

- Temperatures and pressures of the outlet (steam) an inlet (condensate return) of the HP boiler

However, these data and parameters are not included in section B.7.1.

If any data and parameters are not applicable to this project activity, those are justified/ explained in the PDD.

And there are several issues specific to the project activity as CLs. Major CLs are as follows:

1) Baseline equation (Checklist B.4): CL 3

The equation regarding the baseline in the page 10 should be described in accordance with the paragraph 10 of AMS-I. C.

2) Symbols of parameters and variables (Checklist B.4): CL 5

The methodology uses unified symbols of parameters and variables. If there is no particular reason, the use of different symbols from those defined in the approved methodology should be avoided throughout the PDD.

3) Project emissions (Checklist B.6.1): CL 6

According to AMS-III.H., the project emissions consist of five elements. The justification that the PDD deals with only four elements should be provided.

3) Others

Several clarification issues are found (see Appendix, Table 2).

And also, the validation team confirmed several issues in the PDD at Site-visit.

1) DNA

- Whether the project activity is required to implement EIA or not, is determined in along with the following laws and regulations:
 - Governmental Decree 28, 1997; Environmental Law
 - Ministerial Decree 86, 2002; UPL/UKL(“Effort of Environmental Management and Monitoring” in English)
 - Ministerial Decree 11, 2006; EIA Criteria
- The proposed project activity is relevant to the wastewater treatment process and its modification. According to the Ministerial Decree 11, 2006, the activity is not included in the criteria of EIA.
- The project proponents shall submit EOE/EME to the local environmental agency.

2) Ministry of Environmental Pollution Control

- Presidential Decree 51, 1991, defines the standard values of allowable wastewater to river.
- Any local government (the government of province) can set more stringent rule. In such a case, that government has to report to National Ministry.
- Any necessary permits for a new project are issued by local (provincial) agencies.
- There is no regulation regarding methane release to ambient air.

3) PAA (Project site)

- The position of Flare in the PDD is confirmed by the Process Flow Diagram provided by the engineering company.
- The recent analysis data of wastewater are as follows:
 - COD; 200mg/l (limit: 350 mg/l)
 - BOD; 98 mg/l (limit:100 mg/l)
- HP Residue Boiler is a new refinery process and under construction.

- The modification of Biomass Boiler for methane combustion is planned, but the timing is not decided.
- A certified laboratory conducts periodic calibration for QA/QC.
- The Starting date of the project activity is based on the contract between PAA and Aquarius Systems (Malaysia) SDN BHD, which is the seller of “Plant for the POME Biogas-Capture Anaerobic Digester System of 800 m³/day”.
- The date of approval is not confirmed during the Site-visit, while the receipt of UPL-UKL submission to the local government was provided. Accordingly, the description “Approval has been granted by the local environmental agency” is inconsistent with the Completion Date of the PDD Version 1.0.0.
- The second local stakeholders’ meeting was held at 10:00 – 11:00 on 05 October 2007. JQA validation team participated in this meeting and invited comments from the participants.
- Five persons expressed their opinions and their points are as follows:
 - The project activity contributes to local economy.
 - It is good for me to acquire the knowledge of the project activity.
 - The facility operation by PAA gives economical benefits to the surrounding villages, while it may have some potential risk of odor. I expect such a negative risk will be reduced by the project activity.
 - I have a positive opinion on the project activity.
 - I agree with the project implementation.
 - The people not attending today’s meeting also have been informed of this project activity.
- All participants agreed that the project activity is good and has a positive impact on surrounding area.
- Analysis data of wastewater measured by the local environmental agency.

There is no CAR and CL found at Site-visit.

The project participants have responded those CAR and CLs and every item is clearly resolved in the PDD (Version 5.5.0).

3.1 Participation Requirements

The project participants are PT. Pelita Agung Agrindustri (Indonesia) and Mitsubishi UFJ Securities Co., Ltd. (Japan).

Letter of Approvals of voluntary participation from the DNAs of both Parties including confirmation by the host Party that the project activity assists it in achieving SD are provided. Indonesia has ratified the KP on 03 December 2004.

3.2 Project Design

Currently at the project site, the wastewater from the palm oil mill and kernel crushing plant of the project participant is treated in a series of anaerobic lagoons, and methane from the lagoons is emitted to ambient air. In Indonesia, there is no regulation of methane emission to ambient air. The effluent is finally released to the river in compliance with the standard defined by the Indonesian government.

The project activity applies two approved methodologies AMS-I.C (Version 12) and AMS-III.H.(Version 06) and aims to reduce GHG emissions through destruction of the captured biogas and heat generation.

The outline is as follows:

- Anaerobic Digester system

Currently the project participant at the project site operates a palm oil producer and generates the wastewater from the palm oil mill and the empty fruit bunch treatment system. The effluent is treated by the lagoons consisting of 5 sequential ponds with depth between 4-6m in order to meet the regulatory standards for disposal into river system, which mandate COD content to be below 350 mg/L.

The project participant plans to install a new Anaerobic Digester to extract methane from the wastewater. The system is anaerobic reactors with total hold-up capacity of 14,000 m³ equipped with combination of fixed and floating roof. Wastewater from the tow ponds of upper stream will be routed to these reactors, and returned to the next ponds with a much lower COD concentration.

It is expected to improve the wastewater quality discharged to river.

- High pressure boiler

This boiler is originally designed as a new fuel oil boiler for the under-construction refinery process. As part of the CDM project activity, a new burner will be installed to allow combustion of biogas. The diesel-oil burner itself remains as secondary system.

- Biomass power and heat generation systems

The excess biogas not consumed in the high-pressure boiler is introduced into the existing biomass cogeneration plants providing medium and low pressure steam and all of electricity for the palm oil complex.

- Flare unit

An open flare will be installed.

The project activity was planned by the project participant, who is a PAA management two years ago. The validation team confirmed through the contract agreement between the process licensor and the project proponent on the equipment supply of the CDM project activity with signs.

The amount of emission reductions to be achieved by the project activity will be 42,301 ton CO₂ eq./year.

3.3 Baseline

As shown in the section above, the two methodologies are applied to this project activity. Accordingly, there are two baselines set in the PDD (Version 5.0.0) for the project activity.

- 1) Methane recovery from waste water

As the bullet 6(vi) of Technology/measure of AMS-III.H is applied to this project activity, the baseline is the existing anaerobic wastewater treatment system without methane recovery and combustion.

The baseline emissions are calculated in accordance with the methodology definition.

- 2) Heat recovery from biogas

The baseline of this project activity for AMS-I.C (Version 12) is the fuel consumption of the technologies that would have been used in the absence of the project activity.

The baseline emissions are calculated in accordance with the methodology definition.

3.4 Additionality

The PDD discusses two barriers out of four barriers in the Attachment A to Appendix B, which are “Barrier due to prevailing practice” and “Investment barrier”.

As described in the section “3.2 Project Design”, there is no regulation of methane emission to ambient air in Indonesia. That is, there is no regulatory requirement nor incentive that the project participants introduce a technology with lower emissions of methane. Accordingly, methane recovery from wastewater is not a common practice in Indonesia.

The project participants set 18% as the financial benchmark for this project activity based on the standard investment loan in Indonesia (15%) and implementation risk of the company (3%). The project IRR is 14.05% without CER revenue, which assumptions used are provided to the validation team and details are confirmed. And also, sensitivity analysis is appropriately conducted, taking into account main factors and their changeable width.

3.5 Monitoring Plan

For the methane recovery of this project activity, the paragraphs of 10, 11 and 12 of AMS-III.H are applied. All items are listed in the section B.7.1 of the PDD (Version 5.5.0) except one thing, which is regarding the temperature of the flare. The PDD adopts “Flame detection system” instead of “Temperature of the flare” as the monitoring item for determining the working time of the open flare.

For the application of AMS-I.C, the heat output of HT-500 is calculated through the monitoring and measuring of the following four parameters:

- Temperature indicators of feed-water and steam outlet; and
- Pressure measurements of feed-water and steam outlet; and
- Flow measurement device of inlet water; and
- Hourly observation of fuel quantity used.

Those data from all monitoring devices are to be logged on hourly basis.

And other necessary parameters such as the volumetric flow rate of biogas, concentration of methane in biogas, volumetric flow rate of effluent entering anaerobic digester, COD in effluents, etc., are monitored and measured.

PAA (the project participant at the project site) is to establish a management structure of CDM in order to meet the monitoring and reporting requirements. Details are described in the PDD.

3.6 Calculation of GHG Emissions and Reductions Including Emission Factors

The baseline, project and leakage emissions are calculated in accordance with the methodologies. And also, the emission reductions are calculated ex-ante according to the methodologies, while CERs based on AMS-III.H are estimated by the amounts of methane recovered and fuelled or flared that is monitored ex-post.

The emission factors such as MCF, diesel oil for ex-ante calculation are used in accordance with the methodologies and IPCC 2006.

3.7 Environmental Impacts

The validation team confirmed that the project activity is not applicable to the Environmental Impact Assessment Law (AMDAL), although every project has to provide “UKL/UPL(Efforts for Environmental Management and Monitoring)”.

The project activity has positive environmental impacts through capturing the methane from wastewater and reducing the COD concentration of effluents to the river.

3.8 Comments by Local Stakeholders

The validation team had a meeting with local community people at the PAA office on 05 October 2007.

5 out of 16 persons attended expressed their comments and opinions that they agree with the project implementation.

All participants confirmed the comment invitation process by PAA as described in the PDD was appropriate for their understandings.

4 GLOBAL STAKEHOLDER PROCESS

1. Description of how and when the PDD was made publicly available:

The comments by Parties, stakeholders and NGOs were invited from 15/09/2007 to 14/10/2007 on the UNFCCC website.

2. Description of how comments were received and made publicly available:

There was no comment received.

3. Explanation of how due account has been taken of comments received:

Not applicable

4. Compilation of all comments received:

Not applicable

5 VALIDATION OPINION

1. JQA performed the validation of "PAA Biogas Extraction Project for Heat Generation" by conducting Desk Review of the PDD (Ver. 1.1.0 and Ver. 5.5.0) presented by Mitsubishi UFJ Securities Co., Ltd., in view of the UNFCCC, the Kyoto Protocol, Decision 3/CMP.1, relevant decisions of COP/MOP and the CDM EB and Indonesian environmental laws and regulations, and also by making follow-up interviews including investigation of the Site-visit in Indonesia.
The results of reviews were described in the Desk Review Report making use of the SSCDM Validation Checklist. Where the validation team had identified issues which needed clarification or presented a risk to the fulfillment of the project activity, CARs or CLs were issued in the checklist, and the reasons for them were explained in the column "Comments."
Finally, all of the CARs and CLs have been resolved through the correspondence by the PPs. The resolutions are explained by italic in the column.
2. The baseline scenario is appropriately established according to AMS-I.C (Version 12) and AMS-III.H (Version 06). The additionality of the project is successfully demonstrated in accordance with "Attachment A to Appendix B", especially taking into account "Barrier due to prevailing practice" and "Investment barrier". IRR is also transparently illustrated.
3. The validation team considers the adoption of "Flame detection system" based on "Tool to determine project emission from flaring gases containing methane" instead of "Temperature of the flare" in accordance with the recommendation of AMS-III.H is reasonable and appropriate. Because the validation team believes the Tool is more technically well-defined than AMS-III.H .
4. In the ex-ante calculation of GHG Emissions and Reductions, all data and parameters are used in transparent and conservative manners.
5. The project activity has no negative environmental impacts. The project participants have submitted UPL/UKL of the project activity to the provincial environmental

office. The approval of UPL/UKL is included in the process of Indonesian DNA approval.

6. The starting date of the project activity is appropriately set based on the contract between PAA and the seller of the POME Biogas-Capture Anaerobic Digester System of 800 m³/day. And in the proposal paper from Novaviro Technology Sdn Bhd and Watermech Engineering Sdn Bhd to PHG, which is the parent company of PAA, it is clearly shown that “the project developer will be eligible for the CER under the CDM”.

6 CONCLUSION

JQA confirmed that the project activity meets all relevant criteria. Through the Certification Committee deliberation, JQA determines the project activity to be valid as a CDM project activity.

7 REFERENCES

Category 1 Documents:

- 1 PDD (Version 1.0.0 and 5.5.0)
- 2 Summary of Emission Reductions
- 3 Financial Analysis (Base Case and Sensitivity Analysis)
- 4 Letter of Approval of Japan (dated on 15 January 2008)
- 5 Letter of Approval of Indonesia (dated on 10 March 2008)
- 6 Modalities of Communication (dated on 04 December 2007)
- 7 "Purchasing contract between PT. Pelita Agung Agrindustri (PAA) and plant supplier" dated on 15/11/2006
- 8 "Proposal of POME anaerobic digester" by Navaviro Tchnology Sdn Bhd

Category 2 Documents:

- 9 "PAA lagoons design" PT. Pelita Agung Agrindustri (PAA)
- 10 "PAA layout" PT. Pelita Agung Agrindustri (PAA)
- 11 "Benchmark information on the interest rate" Mitsubishi UFJ Securities, based on Central Bank of Indonesia
- 12 "Project schedule chart" PT. Pelita Agung Agrindustri (PAA)
- 13 "Costs of project" PT. Pelita Agung Agrindustri (PAA)
- 14 "Process flow diagram of the anaerobic digester" PT. Pelita Agung Agrindustri (PAA)
- 15 "Country inflation report of some Indonesian bank" Mitsubishi UFJ Securities, from the statistic published by Bank of Indonesia
- 16 "Information on diesel price and specification" Mitsubishi UFJ Securities, issued by PERTAMINA
- 17 "Corporate tax rate in Indonesia" Mitsubishi UFJ Securities, based on official document issued by the tax office in Indonesia
- 18 "Information on local stakeholder meeting held 18 June 2007" PT. Pelita Agung Agrindustri (PAA)
- 19 "Testing result of waste water sample picked up by PAA" PT. Pelita Agung Agrindustri (PAA)
- 20 "The Ministry of Environment Decree 51/1995, Standard Quality of Waste water for Industrial Activities" Ministry of Environment
- 21 Official inlet and outlet wastewater test result from the local environment office dated June 15th 2007
- 22 Official inlet and outlet wastewater test result from the local environment office dated September 13th 2007
- 23 UPL-UKL submission receipt to the local environment office dated October 5th 2007
- 24 Ministry of Environment Organization Structure

8 LIST OF INTERVIEWED PERSONS

1	Mr. Prasetyadi Utomo,	Secretariat of Indonesia DNA on CDM
2	Mr. Farid Mohammad,	EIA staff of Ministry of Environment
3	Mr. Suryanta Sapta A.,	Assistant Deputy for Agro Industry Pollution Control
4	Ms. Rima Yulianti, S.Hut,	Assistant Deputy for Agro Industry Pollution Control
5	Ms. Dewi Sri Kurniawati,	Assistant Deputy for Agro Industry Pollution Control
6	Mr. Dodik Suyanto,	Technical Coordinator, Permata Hijau Group
7	Mr. Anry Simamora,	St. Superintendent Project, PAA
8	Mr. Asep Tatang,	Staff General Affairs, PHG
9	Mr. H. Simanungkalit,	Environmental Consultant for PHG
10	Mr. Eduardus Dermawan,	General Manager, PAA
11	Mr. Paidi W. K.,	Mill Manager, PAA
12	Ms. Cynthia Hendrayani,	CDM Consultant, Mitsubishi UFJ Securities
13	Mr. Christopher Soesanto,	CDM Consultant, Mitsubishi UFJ Securities
14	Mr. H. M. Nasir Sjakban,	Member of community
15	Mr. Maryono,	Member of community
16	Mr. Syahroni,	Member of community
17	Mr. Alamsyah,	Member of community
18	Mr. Idham Tambunan,	Member of community
19	Mr. Saridi,	Member of community
20	Mr. Mukhtar Lubis,	Member of community
21	Mr. Syarifuddin,	Member of community
22	Mr. B. Siregar,	Member of community
23	Mr. Amrizal,	Vice village head
24	Mr. Wartono,	Member of community
25	Mr. Salamet Hidayat,	Member of community
26	Mr. Suryadi,	Member of community
27	Mr. Kurnia Sipayung,	Member of community
28	Mr. Syahrial,	Member of community
29	Mr. Warsino,	Member of community

SSCDM VALIDATION CHECKLIST

Client: Mitsubishi UFJ Securities Co., Ltd.
PAA Biogas Extraction Project for Heat Generation

Project No. JQA-C0074
(1812000085)



Japan Quality Assurance Organization

Table 1 Comprehensive Checklist for SSCDM Project Activities

Requirements	Reference	Conclusion	Evidence
1. The purpose of the CDM	Kyoto Protocol Article 12.2		
1.1. The project activity shall assist the host country in achieving sustainable development		OK	6 March 2008
1.2. The project activity shall assist Parties included in Annex I in achieving compliance with part of their emission reduction commitment under Art. 3.		OK	15 January 2008
2. Emission reductions resulting from the project activity shall be certified by DOE on the basis of:	Kyoto Protocol Article 12.5		
2.1. Voluntary participation approved by each Party involved (and Authorization of a private and/or public entity)	(a)	OK	Indonesia: 6 March 2008 Japan: 15 January 2008
2.2. Real, measurable and long-term benefits related to the mitigation of climate change	(b)	OK	PDD Version 5.2.0
2.3. Reductions in emissions that are additional to any that would occur in absence of the project activity	(c)	OK	PDD Version 5.2.0
3. SSCDM Modalities and Procedures (Decision 4/CMP. 1)			
3.1. Type of project activity	Decision - /CMP.2 Paragraph 28	OK	PDD Version 5.2.0
3.2. A written approval constitutes the authorization by a DNA of specific entity(ies)' participation as project proponents in the specific project activity. entity.	Glossary of CDM terms (18 Dec. 2006)	OK	Indonesian LoA Japanese LoA
3.3. Participation requirements	22(a)	OK	Indonesian LoA Japanese LoA
3.4. Comments by local stakeholders	22 (b)	OK	PDD Version 5.2.0
3.5. Analysis of the environmental impacts of the project activity	22 (c)	OK	PDD Version 5.2.0

Appendix A

3.6. Additionality	22 (d)	OK	PDD Version 5.2.0
3.7. Use of AMS or bundled project activity	22 (e)	OK	PDD Version 5.2.0
3.8. Other requirements	37 (f)	OK	PDD Version 5.2.0
3.9. Global stakeholder process	23 (b)	OK	PDD Version 1.0.0 Start date: 15/09/2007 Close date: 14/10 /2007 No comment received.
4. Modalities of communication	Glossary of CDM terms (18 Dec. 2006)		
4.1 The modalities of communication between project participants and the Executive Board are indicated at the time of registration by submitting a statement signed by all project participants.		OK	The statement dated on 04 December 2007

Table 2 PDD Requirements

Section	Requirements	MoV	Comments	Draft Conc.	Final Conc.
Section A	General description of the project activity				
A.1	Title of the project activity				
	Title of the project activity	DR		OK	
	Version number and date of the doc.	DR		OK	
A.2	Description of the project activity				
	The purpose of the project activity	DR		OK	
	What type of technology is being employed What exact measures are undertaken	DR		OK	
	The view of the PPs on Contribution to SD	DR	The view of the PPs is OK, while the SD policy of Indonesia will be confirmed at SV.	OK	
A.3	Project participants				
	List of PPs and Parties involved	DR	Two entities in Indonesia and one entity in Japan (Version 1.0.0) <i>One entity (PT Permata Hijau Group) is excluded in the revised PDD (version 5.2.0).</i>	OK	OK
	Provide contact information in Annex 1	DR	The contact information in Annex 1 is provided in Annex 1.	OK	
A.4	Technical description of the project activity				
A.4.1	Location of the project activity				
A.4.1.1	Host Party	DR		OK	
A.4.1.2	Region/State/Province, etc.	DR		OK	
A.4.1.3	City/Town/Community, etc.	DR		OK	
A.4.1.4	Detail of physical location				
	Fill in the field and do not exceed one page.	DR SV	The project layout should be provided. <i>"PAA layout" was provided at Site-visit.</i>	CL 1	OK
A.4.2	Type and category(ies) and technology				

	<ul style="list-style-type: none"> - Specify the type and category of the project activity using the categorization of Appendix B. - Include a description of how environmentally safe and sound technology and know how is being applied by the project activity. - Others 	DR	<p>The exact meaning of “turn-key equipment” relating to the methodology applied should be explained.</p> <p><i>The term” turn-key equipment” is deleted and the more detailed description of the project activity is provided in the revised PDD.</i></p>	OK OK CL 2	OK
A.4.3	Estimated amount of emission reductions				
	<ul style="list-style-type: none"> - Indicate the chosen crediting period - Provide the estimation of total emission reductions as well as annual estimates for the chosen crediting period. 	DR		OK OK	
A.4.4	Public funding of the SS project activity				
	<ul style="list-style-type: none"> - In case public funding from Annex 1 Parties, provide information in Annex 2. 	DR	No public funding.	OK	
A.4.5	Confirmation that the SS project activity is not a debundled component of a large scale project activity.				
	<ul style="list-style-type: none"> - Refer to Appendix C to the SSCDM M&P 	DR	There is no registered SSCDM by the same project participants in the same project category and technology/measure.	OK	
Section B	Application of a baseline and monitoring methodology				

Appendix A

B.1	Title and reference of the approved baseline and monitoring methodology applied to the project activity				
	- Indicate the number and the version of the approved methodology	DR	AMS-III,H./version 06 (Valid from 10 Aug 07 to 01 Nov 07: Requests for registration can be submitted until 01 Jul 08 23:59 GMT) AMS-I.C./version 12 (Valid from 10 Aug 07 onwards)	OK	
B.2	Justification of the choice of the project activity				
	- Justify the choice of project type and category (refer to the technology/measure of the methodology used). - Demonstrate that the project activity qualifies as a small-scale project activity and that it will remain under the limits of small-scale project activity types during every year of the crediting period.	DR		OK OK	
B.3	Description of the project boundary				
	- Define the project boundary based on the guidance of the applicable project category	DR		OK	
B.4	Details of the baseline and its development				
	- Specify the baseline with reference to the chosen project category. - Explain and justify key assumptions and rationales.	DR	The equation regarding the baseline in the page 10 should be described in accordance with the paragraph 10 of AMS-I. C. <i>The equation is modified in the revised PDD.</i> A further explanation should be provided on	CL 3 CL 4	OK

	- Illustrate in a transparent manner all data used to determine the baseline scenario (variables, parameters, data sources etc.).		<p>which paragraph (paragraph 10 or 15 of AMS-I.C.) is appropriate for this project activity (this comment may be related to “turn-key equipment”).</p> <p><i>A clear explanation is provided in this section and in the section A.4.2 of the revised PDD.</i></p> <p>The symbols of parameters and variables (throughout the PDD) should be used as same as those in the approved methodologies.</p> <p><i>Those are appropriately modified in the revised PDD.</i></p>	CL 5	<p>OK</p> <p>OK</p>
B.5	Description of how the anthropogenic emissions of GHG by sources are reduced below those that would have occurred in the absence of the registered SSCDM project activity				
	<ul style="list-style-type: none"> - Demonstrate that the proposed project activity is additional as per options provided under attachment A to Appendix B. - National policies and circumstances relevant to the baseline of the proposed project activity shall be summarized here. 	<p>DR</p> <p>SV</p> <p>SV</p> <p>SV</p>	<p>The following descriptions are confirmed at Site visit:</p> <ul style="list-style-type: none"> - No regulation to capture of methane from industrial waste water at local or national level <p><i>Confirmed at the meeting of MoE.</i></p> <ul style="list-style-type: none"> - No known biogas project has been successfully implemented in palm oil mill in the host country <p><i>Confirmed on the official website.</i></p> <ul style="list-style-type: none"> - Financial feasibility analysis in October 2006 <p><i>The analysis is provided and updated based on the latest data.</i></p>	N/A	<p>OK</p> <p>OK</p> <p>OK</p>
B.6	Emission reductions				
B.6.1.	Explanation of methodological choices:				

	<ul style="list-style-type: none"> - Explain how the procedures, in the approved methodology to calculate project emissions, baseline emissions, leakage emissions and emission reductions are applied to the proposed project activity. - Clearly state which equations will be used in calculating emission reductions. 	DR	<p>According to AMS-III.H., the project activity emissions consist of five elements. The justification that the PDD deals with only four elements should be provided.</p> <p><i>Appropriately corrected in the revised PDD.</i></p>	CL 6	OK
				OK	
B.6.2	Data and parameters that are available at validation				
	<p>Provide for each data or parameter the chosen value or, where relevant, the qualitative information, using the table provided below. Particularly:</p> <ul style="list-style-type: none"> - Provide the actual value applied. - Explain and justify the choice for the source of data. 	DR		OK	
B.6.3.	Ex-ante calculation of emission reductions				
	<p>Provide a transparent ex-ante calculation of project emissions, baseline emissions (or, where applicable, direct calculation of emission reductions) and leakage emissions expected during the crediting period, applying all relevant equations provided in the approved methodology.</p> <p>Document how each equation is</p>	DR	<p>The calculation of CFE_P in the page 21 should be checked.</p> <p><i>Corrected in the revised PDD.</i></p>	CL 7	OK
				OK	

	applied, in a manner that enables the reader to reproduce the calculation.				
B.6.4.	Summary of the ex-ante estimation of emission reductions				
	Summarize the results of the ex-ante estimation of emission reductions for all years of the crediting period, using the table	DR		OK	
B.7.	Application of the monitoring methodology and description of the monitoring plan				
B.7.1	Data and parameters monitored				
	<p>This section shall include specific information on how the data and parameters that need to be monitored would actually be collected during monitoring for the project activity.</p> <p>Provide for each parameter the following information, using the table provided:</p> <ul style="list-style-type: none"> - The source(s) of data that will be actually used for the proposed 	DR	<p>The following data and parameters shall be monitored in accordance with the paragraph 10 and 12 of AMS-III.H.:</p> <ul style="list-style-type: none"> – Amount of methane recovered – Amount of methane fuelled – Amount of methane flared. – Temperature of the flare. <p>And the followings are to be monitored:</p> <ul style="list-style-type: none"> – Temperatures and pressures of the outlet (steam) and inlet (condensate return) of the HP boiler <p><i>All parameters are reviewed and appropriately corrected in the revised PDD.</i></p>	<p>CAR 1</p> <p>OK</p>	OK

	<p>project activity (e.g. which exact national statistics).</p> <ul style="list-style-type: none"> - Where data or parameters are supposed to be measured, specify the measurement methods and procedures, including a specification which accepted industry standards or national or international standards will be applied, which measurement equipment is used, how the measurement is undertaken, which calibration procedures are applied, what is the accuracy of the measurement method, who is the responsible person / entity that should undertake the measurements and what is the measurement interval. - A description of the QA/QC procedures 				
B.7.2.	Description of the monitoring plan				
	<p>Provide a detailed description of the monitoring plan. Describe the operational and management structure that the project operator will implement in order to monitor emission reductions and any leakage effects generated by the project activity.</p> <p>Clearly indicate the responsibilities</p>	<p>DR</p> <p>S</p> <p>V</p>	<p>The description is to be confirmed at Site visit.</p> <p><i>The description is confirmed at the meeting with PAA.</i></p>	N/A	OK

	for and institutional arrangements for data collection and archiving. The monitoring plan should reflect good monitoring practice appropriate to the type of project activity.				
B.8.	Date of completion of the application of the baseline and monitoring methodology and the name of responsible person(s)/entity(ies):				
	Provide date of completion of the application of the methodology to the project activity study in DD/MM/YYYY.	DR		OK	
Section C	Duration of the project activity/Crediting period				
C.1	Duration of the project activity				
C.1.1	Starting date of the project activity				
	The starting date of a CDM project activity is the date.	DR SV	The description is to be confirmed at Site visit. <i>The date is based on the contract with PAA and the equipment seller.</i>	N/A	OK
C.1.2	Expected operational lifetime				
	State the expected operational lifetime in years and months	DR		OK	
C.2	Choice of crediting period and related information				
C.2.1	Renewable crediting period				
C.2.1.1	Starting date of the first crediting period				
	State the dates in DD/MM/YYYY	DR	25/07/2008	OK	
C.2.1.2	Length of the first crediting period				
	State the length of the first crediting period in years and months	DR		OK	
C.2.2	Fixed crediting period				

	Fixed crediting period shall be at most 10 years.	DR		N/A	N/A
C.2.2.1	Starting date of the first crediting period				
	State the dates in DD/MM/YYYY	DR		N/A	N/A
C.2.2.2	Length				
	State the length in years and months	DR		N/A	N/A
Section D	Environmental impacts				
D.1	Documentation on the analysis of the environmental impacts, including transboundary impacts:				
	.	DR SV	<i>The document "Efforts for Environmental Management and Monitoring (UKL/UPL) has been received by the local government.</i>	N/A	OK
D.2.	If environmental impacts are considered significant by the project participants or the host Party, please provide conclusions and all references to support documentation of an environmental impact assessment undertaken in accordance with the procedures as required by the host Party.				
		DR SV	The requirement by the host Party is to be confirmed at Site visit. <i>The environmental impacts are not considered significantly by the host Party and PPs.</i>	N/A	OK
Section E	Stakeholders' comments				
E.1	Brief description of how comments by local stakeholders have been invited				

Appendix A

	and compiled				
	<p>Describe the process by which comments by local stakeholders have been invited and compiled.</p> <p>An invitation for comments by local stakeholders shall be made in an open and transparent manner, in a way that facilitates comments to be received from local stakeholders and allows for a reasonable time for comments to be submitted. In this regard, project participants shall describe a project activity in a manner, which allows the local stakeholders to understand the project activity, taking into account confidentiality provisions of the CDM modalities and procedures. The local stakeholder process shall be completed before submitting the proposed project activity to a DOE for validation.</p>	<p>DR</p> <p>SV</p> <p>SV</p>	<p>The requirement by the host Party is to be confirmed at Site visit.</p> <p><i>There is no requirement by the host Party at present, although the National Commission for CDM (Indonesia) makes publicly available on its website before its approval..</i></p> <p><i>The validation team had a meeting with 16 people of community leaders and residents surrounding the Project site on 05/10/2007 and confirmed the description of Section E.</i></p>	N/A	<p>N/A</p> <p>OK</p>
E.2	Summary of the comments received				
	Identify stakeholders that have made comments and provide a summary of these comments	<p>DR</p> <p>SV</p>	<p>The requirement by the host Party is to be confirmed at Site visit.</p> <p><i>There is no requirement by the host Party.</i></p> <p><i>The validation team had a meeting with 16 people of community leaders and residents surrounding the Project site on 05/10/2007 and confirmed the description of Section E.</i></p>	N/A	<p>N/A</p> <p>OK</p>

Appendix A

E.3	Report on how due account was taken of any comments received				
	Explain how due account have been taken of comments received.	DR	The requirement by the host Party is to be confirmed at Site visit.	N/A	
		SV	<i>There is no requirement by the host Party.</i>		N/A
		SV	<i>The validation team had a meeting with 16 people of community leaders and residents surrounding the Project site on 05/10/2007 and confirmed the description of Section E.</i>		OK
Annex 1	Contact information on PPs				
	Copy and paste table as needed. Fill for each organization listed in section A.3 the following mandatory fields: Organization, Name of contact person, Street, City, Postfix/ZIP, Country, Telephone and Fax or e-mail.	DR	<i>Two organizations (PT Pelita Agung Agrindustri and Mitsubishi UFJ Securities Co., Ltd.) are listed in accordance with section A.3.</i>	OK	OK
Annex 2	Information regarding public funding				
	Provide information from Parties included in Annex I on sources of public funding for the project activity which 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 those Parties	DR		OK	
Annex 3	Baseline information				
	Provide any further background information used in the application of	DR		OK	

Appendix A

	the baseline methodology. This may include tables with time series data, documentation of measurement results and data sources, etc.				
Annex 4	Monitoring information				
	Provide any further background information used in the application of the monitoring methodology. This may include tables with time series data, additional documentation of measurement equipment, procedures, etc.	DR		OK	

Remarks: MoV: Means of Validation (Desk Review, Site-visit including Interview)

CAR: Corrective Action Request

CL: Clarification Request

OK

N/A: Not Applicable

Certificate

Mr. Itaru WATANABE

Grade: Lead Assessor

Assessor No.: CDM - LA002

Assigned Date: 2003.08.11

This is to certify that Mr. Itaru WATANABE is assigned as
CDM Lead Assessor by the Japan Quality Assurance Organization.

Date: February 26. 2007

Japan Quality Assurance Organization

M. Ueda

President Matahiro UEDA

Grant of sectoral scope to CDM/JI assessor

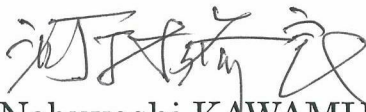
Assessor Name: Mr. Itaru WATANABE
Grade: Lead Assessor
Assessor No.: CDM-LA002 / JI-LA002

Sectoral Scope		Granted date
1.	Energy industries (renewable - / non-renewable sources)	1 Jun. 2003
2.	Energy distribution	1 Jun. 2003
3.	Energy demand	17 Sep. 2004
4.	Manufacturing industries	1 Jun. 2003
5.	Chemical industry	1 Jun. 2003
6.	Construction	-
7.	Transport	-
8.	Mining/Mineral production	1 Jun. 2003
9.	Metal production	-
10.	Fugitive emissions from fuels (solid, oil and gas)	1 Jun 2003
11.	Fugitive emissions from production and consumption of halocarbons and sulphur hexafluoride	1 Jun. 2003
12.	Solvents use	1 Jun. 2003
13.	Waste handling and disposal	17 Sep. 2004
14.	Afforestation and reforestation / Land use, land-use change and forestry	-
15.	Agriculture	-

This is to certify that Mr. Itaru WATANABE is granted by the Japan Quality Assurance Organization.

Date: 1 May 2008

Director of the Global Environment Department
Japan Quality Assurance Organization


Nobuyoshi KAWAMURA