

15 December 2008

CDM Executive Board
UNFCCC Secretariat
Martine Luther King Strasse 8
P.O. Box 260124, D-53153 Bonn Germany
Attention: Mr. Daniele Violetti

Initial Comment on Request for Review (“Power Prospect 9.9MW Rice Husk Power Plant (the “Project” or “project activity”)/Ref. No. 1851:

Dear Mr. Daniele Violetti,

To result in the faster registration of the proposed project activity by the decision of the next EB meeting, we wish our comment on Power Prospect 9.9MW Rice Husk Power Plant (the “Project” or “project activity”) could be supportive for the discussion.

Yours sincerely,



Tsutomu Matsuno, Senior Executive,
Japan Quality Assurance Organization

**Initial comments by JQA for the request for review of
“Power Prospect 9.9MW Rice Husk Power Plant
(the “Project” or “project activity”)” (Ref. No. 1851)**

(The following comments are for all three reviewers. The requests for review raised by
the three Board Members are based on the same reasons.)

1. *The DOE is requested to confirm how they have validated that the methodology is applicable to the project activity and meets the requirements of the paragraph 3 of AMS-I.D. (version 12).*

Comments by JQA:

All the applicability conditions in AMS-I.D. /Version 12 were confirmed as follows:

1) AMS-I.D. Applicability Condition/para1

It was confirmed that the project activity that installs a biomass-based renewable energy generation unit, conforms to the applicability condition that it *“supplies electricity to and/or displace electricity from an electricity distribution system that is or would have been supplied by at least one fossil fuel fired generating unit”*. This was supported by the documentation evidences of the application letter for Power Purchase Agreement (PPA) with Provincial Electricity Authority (PEA) (16/Feb/2007) and the PPA acceptance letter from PEA (17/Apr/2007) that were confirmed during the course of validation at the Site-visit, as well as through the interviews with Electricity Generating Authority of Thailand (EGAT) and PEA. Also, the official PPA between Power Prospect and PEA (24/Aug/2007) was provided for confirmation by the validation team.

2) Applicability Condition/para2

It was confirmed that the project activity is a greenfield biomass-based power generation project with the total installed capacity of the unit less than 15MW through checking the specifications of the steam turbine and generator.

3) Applicability Condition/para3

The project activity newly installs biomass-based power generation plant that includes a boiler with boiler evaporation of 55 tonnes/hr, and a steam turbine and generator with capacity of 9.9MW (gross). The steam is produced primarily for electric power generation.

The steam is generated through the combustion of rice husk in the boiler and then the electricity is generated by the steam turbine and generator, using the steam.

The specifications of the equipment and the main technical parameters of the power

plant were provided upon the Site-visit. The key technical parameters of the power plant are as follows.

- A) Boiler Type: *Dynamic inclined water cooled stage-grate with horizontal air-cooled pushing grate/horizontal pass heat recovery system
 - Boiler evaporation: 55 tonnes/hr
 - Steam drum pressure: 45 barg
 - Steam drum temperature: 425 deg C
- B) Turbine Type: *Condensing cum extraction steam turbine
 - *Steam turbine gross output at generator terminals:
 - 9.9MW (8.91MW net)
 - *Turbine operating conditions:
 - Inlet pressure/43 Bar(abs.)
 - Inlet temperature/420 deg C
 - Bleed pressure/7 Bar(abs.)
 - Exhaust pressure/0.10 Bar(abs.)
 - Exhaust temperature 45.8 deg C
 - Steam flow 33, 800 kg/h
- C) Generator design: Active power 9.9 MW

The flow diagram was also confirmed by the validation team. There is no equipment of heat recovery and/or heat generator for electric power generation in the project boundary.

In accordance with the definition of the project boundary of AMS-I.D./Version 12, the PPCL (Power Prospect Company Limited) power generation plant that consists of a boiler, condensing cum extraction steam turbine and power generator for electricity generation is included appropriately at the physical and geographical site of the renewable generation power plant.

The net electricity of 70.2 GWh/y is to be sent to the grid, while the steam bled from the steam turbine is sent through the pipeline to Nakorn Luang Rice Mill (NLRM) and utilized for parboiling process at the mill, which is located more than eight hundred meters away from the project site and outside the project boundary. No emission reductions are accounted for the steam utilization.

Within the boundary, biomass-based power generation plant is installed primarily for electric power generation. The team considers that the process of the project activity is not regarded as “Combined heat and power (co-generation) systems” of this applicability condition.

The team confirmed through the above discussion that the project activity is applicable under AMS-I.D. /Version12.

4) Applicability Condition/para4

It was confirmed upon the Site-visit that there was no existing renewable power generation facility at the project site.

5) Applicability Condition/para5

It was confirmed upon the Site-visit that there was no existing renewable power generation facility for retrofit or modification at the project site.

The confirmation of the all the applicability condition is to be added in the Validation Report.

2. *The DOE is requested to clarify how they have validated that the rice husk supplied to the project, from the neighbouring rice mill (NLRM), will not result in the diversion of biomass from another biomass based renewable project.*

Comments by JQA:

According to the ex-ante estimation, the proposed project activity will generate approximately 70,246 MWh of electricity with combustion of 77,438 tonnes of rice husk annually. The PPCL plans to procure 60% of the rice husk from NLRM through fuel purchase agreements (46,463t/yr) and 40% of the rice husk from other mills nearby (30,975t/yr).

In order to demonstrate that the proposed project activity will not result in the diversion of rice husk from another biomass-based renewable project that will, in turn, lead to increased fossil fuel usage, a macro analysis of the entire region, the Ayutthaya and Sara Buri provinces of Central Plain region of Thailand¹, was conducted, taking into account of all rice husk sourced from NLRM and other mills.

The validation team considered that the Ayutthaya and Sara Buri provinces in the Central Plain region were appropriately selected for the macro analysis of leakage, taking into account the area with the short distance (more than 20 km) for procurement of rice husk. The validation team also considered that after subtracting usage for various purposes (143,424t/yr), there was still abundant surplus of rice husk (112,336t/yr)², which was much larger than the amount procured from NLRM (46,463t/yr) for the project activity.

The macro analysis, which is contained in the PDD and reproduced in Annex 1 below, shows that there is approximately 78.3% of surplus rice husk in the entire region, much greater than

¹ The proposed project activity is located in Ayutthaya Province, Central Plain region of Thailand. As part of the rice husk will be supplied by the rice mills located in Sara Buri province, the leakage analysis covers both Ayutthaya and Sara Buri provinces.

² The amount of surplus rice husk was calculated by subtracting the amount of rice husk that is utilized from the amount of available rice husk in the region (255,760t/yr – 143,424t/yr = 112,336t/yr). Please refer to Annex 1 for details.

the 25% threshold requirement.

This macro analysis is fully compliant not only with the “General guidance on leakage in biomass project activities“, but also with the leakage analysis L₂ of the methodology ACM0006 which prescribes the regular scale.

As the project’s macro leakage analysis and its supporting evidence have been provided, the validation team confirmed that the assessment in the PDD is reasonably made in accordance with the Attachment C of Appendix B of the SCC M&P.

Annex 1. Leakage Analysis

This Project does not result in increased fossil fuel consumption due to the diversion of rice husk from other uses to the project plant, as there is surplus rice husk available in the region that would be dumped and/or disposed through field burning in the absence of the project activity. It is noted that the proposed power plant is located in Ayutthaya Province, Central Plain region of Thailand. This region is regarded as the second greatest agricultural region in Thailand comparing to other surrounding regions as shown in the table below.

Table 6. Rice production in Thailand for 2003³.

Region	Production of major rice (t)	Production of second rice (t)	Total production of rice (t)	Production of rice husk (t) ⁴
Northern	5,505,390	2,248,317	7,753,707	1,783,353
North – Eastern	9,553,721	449,366	10,003,087	2,300,710
Central Plain	5,067,501	3,659,856	8,727,357	2,007,292
Southern	782,751	68,075	850,836	195,692

Two million tonnes of rice husk are produced annually in the Central Plain region, 255,760 tonnes of which are yielded from Ayutthaya and Sara Buri provinces⁵. Uses of rice husk include (a) heat generation for rice mill's own milling and parboiling, (b) use in chicken farms, brick plants and cement plants and (c) grid electricity generation. These are estimated at (a) 19.8% (50,640 t)⁶, (b) 6% (15,346 t)⁷ and (c) 0% respectively. The Project itself requires approximately 77,438 tonnes of rice husk. Thus, the quantity of available rice husk in the region is approximately 78.3% larger than the quantity of rice husk that is used for all purposes including the project activity. This is higher than the 25% threshold given in the Attachment C of Appendix B of the SCC M&P.

$$\begin{aligned}
 \text{Percent of rice husk in surplus (\%)} &= \left(\frac{\text{Amount of available rice husk in the region (tonne/yr)} - \text{Amount of rice husk that is utilized (tonne/yr)}}{\text{Amount of rice husk that is utilized (tonne/yr)}} \right) \times 100\% \\
 &= (255,760 - 143,424) / 143,424 \times 100\% \\
 &= 78.3\%
 \end{aligned}$$

³ Agricultural Statistics of Thailand Crop 2003/2004, Office of Agricultural Economics. Latest data available for 2003. Website: <http://www.oae.go.th/statistic/yearbook/2003/indexe.html>.

⁴ Based on estimated 0.23 tonnes rice husk for every tonne of rice.

⁵ According to Agricultural Statistic of Thailand Crop 2003/2004, the total rice production in Ayutthaya and Sara Buri provinces for 2003 is approximately 836,000 and 276,000 tonnes per year respectively. As partial of the rice husk will be supplied by the rice mills located in Sara Buri province, the leakage analysis covers both Ayutthaya and Sara Buri provinces.

⁶ Based on interviews conducted in conjunction with a regular scale CDM project – A.T. Biopower Rice Husk Power Project in Pichit, Thailand.

⁷ Based on anecdotal evidence.