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CDM Executive Board
UNFCCC Secretariat
Martin-Luther-King-Strasse 8
D-53153 Bonn
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Subject: Comments to request for review

Dear members,

With reference to the requests for review to the request for registration of the "**Tambun LPG Associated Gas Recovery and Utilization Project**" (Ref. 1144), we wish to provide the following clarification. 3 requests showed the same comments and our clarification is to all the 3 requests together.

Comment 1

Further clarification is required as to how the DOE has validated the evidence of prior consideration of the CDM to proceed with the project activity.

Clarification

The starting date for the project activity was 11th November 2004, when PT. Odira Energy Persada (OEP), the project owner and host country participant, signed the contract for the purchase of the gas from the Tambun field. This date, and the subsequent investment in the project activity, precedes the expected date of registration. Consequently, the validation team paid specific attention to the verification of the claim that CDM was considered prior to project commencement. The validation team confirmed that OEP had initiated discussion with a foreign CDM promoter in 2003, when OEP started considering participation in the project activity, and that OEP management decided to seek CDM support in July 2004 (the referenced document 13) of Category A in Appendix B to the validation report; hereafter referred to in a simple form of A13), prior to making the decision and commitment to invest into the project in November 2004.

The delay in seeking the project's registration by the CDM-EB was due to the fact that OEP could not find a reliable partner to assist them in the CDM registration process. The starting date of the project activity (11 November 2004) is the date that the gas supply agreement (ref A10) was signed, at which point OEP were liable for the purchase of the gas. Even after the agreement was signed, OEP faced difficulties in securing finance with feasible conditions. It was only on 12 September 2005 (ref A14) that notification of credit approval from Bank Bukopin was finally received, which enabled OEP to finally issue a firm order for procurement of the main LPG plant on 5 July 2006 (ref A16). OEP management held both internal and external meetings to discuss how to gain the CDM related revenue that was crucial to support the weak financial position of the project activity (ref A13).

LRQA has reviewed all the evidence including agreements, signed minutes of meetings (internal and with external advisors) and the letter from a bank as listed in Category A 9) to 16) of Appendix B to the validation report and interviewed the project participants. The crucial minute of meeting is dated 7th July

2004 and it is noted that this is one of a series of minutes of meetings documenting the progress of the company, pre-dating its involvement in the CDM.

LRQA hereby confirms that:
a) the decision to seek CDM support was made prior to the decision to invest;
b) the decision to seek CDM support was an important factor for the implementation of the project; and
c) these claims are credible and consistent.

Comment 2
Further clarification is required as to how the DOE has validated the investment analysis, including the hurdle rate and input values, the 10-year period of analysis that does not account for the terminal value of the investment, the appropriateness of a market price for gas that was previously flared, the suitability of the parameters used for the sensitivity analysis and the assumed CER price.

Clarification
Hurdle rate
The project owner did not have a hurdle rate for this kind of investment, consequently three sources of hurdle rate were considered and the most conservative one was taken. The three sources were:

1. The first source utilised an estimated interest rate for a project of this nature and added an appropriate margin for project profit. This was undertaken by utilising an estimated interest rate for a loan to the project activity of SIBOR + 4.5% (ref A14). SIBOR at the time when the bank responded to the application for a loan by the project owner in September 2005 was 3.8% p.a., resulting in a loan rate of 8.3%. The profit element to be added to this rate (for a project undertaken by a private company) was determined by using the deposit interest rate for local currency in Indonesia as referenced to publicly available information of PT. Bank Negara Indonesia (BNI. The rate was between 6 to 8% p.a. The combined minimum acceptable rate of return for a debt funded investment would thus be around 14%, enabling a private company to repay the bank loan and to gain a reasonable level of profit.

   Please note that the funding sources of the project activity also include equity investment from private sources and it is reasonable to consider that the equity investors would require equal as or higher rates of return than a bank which would increase the above hurdle rate. Additionally, the rate of return does not take into consideration the additional risks that the project developer faces, such as fluctuation of feed gas volume and quality, and market prices of the final products (ref A8 and A9).

2. The second source utilised a hurdle rate of 10% as indicated as a typical value in AM0009 Version 02.

3. The third source utilised the World Bank GGFR Report (ref B9) which indicated NPV thresholds for investors to recover flare gas needing to be at around USD15mil.

Source 2 above (the 10% rate) is the most conservative of the three approaches and this 10% hurdle rate is considered by our validation team to be very conservative for this kind of investment in Indonesia.

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The evidences as listed in Category A 14) and Category B 6) of the Appendix B to the validation report were reviewed and qualitatively checked using the publicly available information.

<u>Input values</u>
The investment analysis is based on the capital investment, feed gas cost and other operational and maintenance costs, and revenues from sale of products. The project plant has been constructed at the time of validation and the values for all the major items could be confirmed by the firm contracts already signed. The input values indicated in detail in Appendix 1 to the PDD are confirmed as correct and the investment analysis is reliable. The evidences as listed in Category A 9) to 12) and 15) to 18) of Appendix B to the validation report were reviewed and verified through a detailed evaluation and interviews with the project participants.

<u>Analysis period</u>
The associated gas supply contract from Tambun field is for 10 years. The volume of gas is forecasted to decrease and the contract only guaranteed the volume of gas supply for the first 6 years (ref A10). The gas supply from Pondok Tengah field is not guaranteed by a firm contract. The project is based on a 10 year Build Operate and Transfer (BOT) contract with PT Bina Bangiun Wibawa Mukti (BBWM), a company owned by the local Government. At the end of 10 years the plant is transferred to BBWM free of charge. Therefore OEP's investment in the project needs to be paid back by the operating revenue during the 10 year period of the BOT Contract (ref A9). A terminal value at the end of the 10 year period is thus not applicable. The evidences as listed in Category A 9) to 12) and 15) to 18) of the Appendix B to the validation report were reviewed and verified through a detailed evaluation and through interviews with the project participants.

<u>Price of gas</u>
The purchase price of associated gas and sales price of most of the lean gas are fixed in signed contracts. The validation team reviewed these contracts and can confirm that the gas price for Tambun field is fixed for the first 5 years and the remaining 5 years are to be agreed with Pertamina (ref A10). It is rather difficult to accurately forecast future price of energy products. In a country like Indonesia where many commodity prices are fixed at the point of sale it is considered difficult to raise the sale price of products following any increase of the associated gas purchase price. Therefore it is not likely that OEP could easily pass on to its customers the cost of any increased price of associated gas purchase. To be conservative the IRR has been calculated using the contractual fixed prices for both feed gas and the products. The contract values are considered to be in a reasonable range when the validation team compared them with the indicated price of associated gas in the referenced World Bank's report at USD2-3/MMBTU against the commercial value of natural gas at USD5/MMBTU that already has established supply infrastructures (ref B9). The evidence as listed in Category A 9) to 12) and Category B 6) of the Appendix B to the validation report were reviewed and verified through the validation process.

<u>Sensitivity analysis</u>
The project participants conducted sensitivity analysis using variation of;
1) the Capital cost – a reduction of up to 40%,
2) Feed gas price – a decrease of up to 40%, and
3) Revenue – an increase of up to 40%.

The sensitivity analysis can be found on Page 17 of the PDD and was reviewed in detail by the validation team. The IRR has been calculated using the values in the signed contracts (as above explained). Large

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variations from these values are unlikely to happen but have been considered by the project participants as a conservative assessment for the sensitivity analysis. Even by reducing the capital cost or feed gas price by 40% the IRR did not achieve the conservative hurdle rate of 10% (see the above). Only when about 40% increase of revenue is applied does the IRR exceed the hurdle rate, but the validation team consider it very unlikely that the sale price of products would increase significantly without a corresponding increase in the feed gas price. Therefore a 40% increase in sales price with no corresponding increase in gas purchase price is an unlikely scenario. The IRR is still below the hurdle rate even when the products price could be raised by more than 30% while the feed gas price could be maintained (also unlikely scenario). The validation team found that the additionality case presented by the project participants was consistently supported by the sensitivity analysis.

<u>CER price</u>
A firm ERPA has not been signed for the project activity while the CER price is assumed for the indicative estimation of impact to the project's IRR with revenue from the sale of CERs. The project participants estimated it based on their knowledge of the market price. Financial analysis for additionality demonstration was assessed based on the project's cash flow excluding the CER revenues according to the Additionality Tool Version 03 and the indicative estimation provided by the project participants using the assumed CER price does not affect the project's additionality.

<u>Comment 3</u>
Further clarification is required on the implication for the emission reduction calculation of the huge variation between the forecast ratio of LPG to gas fed (8.33 tonnes/mmscfd) and the actual value achieved (3.7 tonnes/ mmscfd), and the consequent reduction of the forecast to 5 tonnes/mmscfd as stated in p. 34 of the PDD.

<u>Clarification</u>
The LPG plant has a production capacity of 100 ton of LPG per day. 8.33 ton of LPG/mmscf is the maximum production rate based on 12 mmscfd feed gas input. If the LPG production is set at the maximum level of 100 tpd and 350 days a year for the first 5 years, the IRR increases to 7.43%. However, it is not realistic that the plant will run at its maximum capacity because this would assume that all of the incoming gas was sufficiently wet, and it was known that the quality of the gas will vary and become less wet as the fields mature. For this reason a more representative value of 60 tonnes per day (5 ton of LPG/mmscf) was used in the IRR analysis.

Even with the plant running at 100% capacity for the full length of the project (i.e 100 tonnes per day for the entire duration of the project), the IRR only just exceeds the conservative threshold at 11.5%. The sensitivity analysis in the PDD includes an across the board increase in revenues from the process plant, which could arise from either an increase in price or an increase in production level or a combination of both. Only at its most extreme point (an increase of 40% across the board) did the project exceed the hurdle rate.

Therefore it is clear that even applying the maximum and highly optimistic scenario of 8.33 tonnes of LPG per mmscf does not alter the status of the financial barrier. LRQA requested clarification in the PDD and the revised PDD version 3.12 and the supporting calculation attached were verified.

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Comment 4

The validation report (p. 11) stated that "The PP has signed contract for utilization of associated gas from Tambun oil field only at the time of PDD writing". (The earliest version of the PDD is March 2007.) However, the PDD on p. 2 indicates that contracts for the purchase of Tambun gas were signed on 11 Nov. 2004. Further clarification is required.

Clarification

The project activity covers associated gas captured from two oil fields, Tambun and Pondok Tengah. Please see section 2.3 of the Validation Report as well as several statements in the PDD which confirm this. At the time of writing the PDD in early 2007 OEP had only signed a contract for the supply of gas from the Tambun field, dated 11 November 2004. No contract had been signed for the supply of gas from the second field, Pondok Tengah, at that time.

In order to meet the requests for further clarification, we have added the above further explanation to the validation report. The amended report is submitted together with this letter.

We sincerely hope the above clarification will be accepted by the Executive Board.

Michiaki Chiba is the contact person for the review process and will address question from the Executive Board if any. His telephone number is +818013799355 and e-mail address is michiaki.chiba@lrqa.com.

Very truly yours,

For Lloyd's Register Quality Assurance Ltd.

Michiaki CHIBA
Greenhouse Gas Manager - Asia & Pacific