

Our reference: SQAS-CDM-ES12880049

Your reference: Project reference No.6020

Date: 07th March 2013

UNFCCC Executive Board
Martin Luther King Strasse 8
D-53153 Bonn
Germany.

Dear Members of the CDM Executive Board,

Response to Request for Review by EB on the submission for request for registration of project reference 6020 "Natural gas based cogeneration plant at IRPC Public Co.Ltd. Thailand"

Following to a request for review by three Executive Board members concerning SIRIM QAS International's request for registration of the above mentioned proposed CDM project activity, please find attached the responses and changes made to the documents.

Three issues were raised by the EB members. Following are the details of the issues raised by EB and our responses to the issues:

Issue No.1

- 1) The DOE shall clarify how it has validated the investment analysis separately for "Project Developer" and "Project Customers" in accordance with step 2 of AM0048 version 03. In particular, the DOE shall clarify why the cost of power delivered by the project facility to the project customer is not estimated and compared with all plausible alternatives to demonstrate whether the project facility supplied power to the project customer is additional or not. Please refer to Para 108 and 109 of VVM version 1.2.

Response by DOE:

The DOE and PP, as per para 9 (b) of EB 55 Annex 40 are responding to the issue by providing clarifications in writing. No revision will be made to the PDD and validation report. The clarifications are elaborated below:

The definition of Project Customer as per the applied baseline methodology is "Project Customer: Industrial, commercial and/or residential entity receiving electricity and/or steam from the project facility; this may include the grid operator and other distribution entities that supply to localized grids. Clusters of smaller residential or commercial customers can be considered as a single project customer".



MS ISO/IEC 17021 : 2006 QS 02121999 CB 01
MS ISO/IEC 17021 : 2006 EMS 17122002 CB 02
MS ISO/IEC GUIDE 65 : 2000 PC 05102004 CB 01
MS ISO/IEC 17021 : 2006 OSH 06122005 CB 01
MS ISO/IEC 17021 : 2006 HACCP 06052008 CB 03
ISO/TS 22003 : 2007 FMS 23122008 CB 01
MS ISO/IEC 17021 : 2006 PMC 10122009 CB 02



MS ISO/IEC 17025
CALIBRATION/TESTING
SMM NO. 065 SMM NO. 086
SMM NO. 087 SMM NO. 218
SMM NO. 231 SMM NO. 240
SMM NO. 299 SMM NO. 354
SMM NO. 377



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As per this definition, the validation team is of the opinion that any entity receiving electricity and/or steam from the project facility is a customer and the definition of the project customer in the methodology is silent as to whether the industrial entity receiving heat and electricity from the project activity should be external to the project activity developer. The project activity is developed by IRPC which generates steam and electricity for customers including its own refinery plant (http://www.irpc.co.th/en/irpc_group.php).

The total electricity balance of the project activity from the 189.86 MW project activity power plant is as below. The electricity demands of the Customer – IRPC Refinery plants; Customer 1 - Thai Caprolactum Public Company Limited, Rayong (TCL) and Customer 2 - Thai Synthetic Rubbers Company Limited, Rayong (TSR) is also included in the Table.

User	Auxiliary consumption of project activity power plant	Consumption by IRPC Refinery (to replace grid import)	Export to grid	Sale to TCL	Sale to TSR	Total
MW	5.5	103.86	63	10.1	7.4	189.86

The project activity will have six numbers of 68.083 TPH individual capacity HRSGs (with one HRSG in standby), with the available steam production capacity at 340.42 TPH. The distribution of this steam capacity is as below.

No.	Steam demand for entity	Steam requirement (TPH)
1	Customer - IRPC's Refinery– existing process plant	320.50
	Customer - IRPC Refinery – additional steam demand for expanded capacity/ new process plants	9.92
2	Customer 1 - Thai Caprolactum Public Company Limited, Rayong (TCL)	5.00
3	Customer 2 - Thai Synthetic Rubbers Company Limited, Rayong (TSR)	5.00
Total		340.42

The total share of third party customers (other than IRPC Group) in electricity generation capacity is 9.2% and that of steam is 2.9%. Further, these customers were buying electricity from the grid and steam from PP's old fuel oil (FO) based steam generation plant. The electricity is purchased from the project activity at the same rate at which grid electricity costs and steam cost at similar tariff structure as in case of pre-project steam sale agreement. Thus, the implementation of the project activity has not impacted customers (TCL and TSR) in financial terms. Also, as their steam and electricity demands are very low, they did not consider setting up captive power plants. This was confirmed during the management interviews and hence continuation of pre-project scenario is most suitable baseline for both the customers. This is discussed in the PDD in Section B.4 and B.5. Further, the validation team also checked the steam and electricity sale agreements and pre-project and recent bills. Thus, it was not possible to do a separate investment analysis for the customers (TCL and TSR). The total risk of the project activity is with the PP and hence this was accepted.

Further, for the customer IRPC Refinery plants, the present investment analysis holds good as it takes into account all the expenses from implementation of the project activity plant and revenues from sale of electricity and steam to all the customers, savings from avoided FO cost in pre-project plant and also from the avoided electricity purchase from the grid. To

substantiate this scenario, in the same financial model submitted earlier if two changes are made as follows;

- (1) Steam sale rate is taken for the existing plant of IRPC Refinery plants (in row No. 20 at the same rate and escalation at which steam is sold to other customers)¹ and
- (2) Savings from FO are removed² as it is not applicable to project developer.

The IRR of this financial analysis will be 5.13%. Thus, more conservative of the two cases from the IRPC (as project developer and the project customer, where IRR as presented in the PDD is 7.64%) is presented in the demonstration of financial additionality in the already submitted PDD.

The following summary presents findings of the financial analysis from the project developer and all project customers.

No.	Entity	Role in this project activity	Project IRR	Remark
1	IRPC	Project developer	5.13%	
2	IRPC's Refinery plants	Project customer	7.64%	
3	TCL	Project customer – 1	-	It is not possible to calculate project IRR as entity has not made any capital investment
4	TSR	Project customer - 2	-	It is not possible to calculate project IRR as entity has not made any capital investment

The validation team, based on the assessment result by the financial expert engaged, hereby confirms that the assumptions are appropriate, financial calculations are correct and the listed input values (both project activity and baseline) as presented in section B.5 of PDD, have been consistently applied in the financial calculations and is in line with para 114 of VVM 1.2.

Thus the proposed CDM project activity is not "Economically or financially feasible, without the revenue from the sale of certified emission reductions (CERs)".

Issue No.2

- 2) The DOE shall clarify how the project applicability criteria #1 of AM0048 version 03 was met, given that the steam and electricity generated in the project facility will be supplied to the project customers as well as used for captive consumption whereas the methodology is applicable to the fossil-fuel-fired cogeneration project activities to supply steam and electricity generation to multiple project customers, including both grid and off-grid applications. Please refer to para 71 and 72 of VVM version 1.2.

¹ Instruction for manual change in the financial analysis work sheet – in row No.20, give steam sale rate same as in row No.19

² Instruction for manual change in the financial analysis work sheet – Make 'Reduce FO' quantity in cell No.F45 = 0 of 'CHP Model' worksheet

Response from DOE:

The DOE and PP, as per para 9 (b) of EB 55 Annex 40 are responding to the issue by providing clarifications in writing. No revision has been made to the PDD and the validation report. The clarifications are elaborated below:

The applicability criteria number 1 and definition of the Project Customer in the baseline methodology does not restrict part of the steam and electricity generation from the project activity cogen plant to be used by PP. This is explained in detail in response to query 1 above.

Further, the project activity plant is treated as a standalone investment in the financial analysis and all savings of PP by not operating the existing FO based power plant and those resulting from the displaced grid electricity import are accounted. Thus, the IRPC Refinery plant which uses heat and electricity from the project activity is also treated as a separate Project Customer. The validation team is of the opinion that this does not impact the spirit of the baseline methodology applicability and the demonstration of additionality by the project activity.

Based on the on-site observation and from the validation team's discussions/ interviews with PP/ O & M personnel and review of documents (i.e., PDD, Electricity Supply Agreements, electricity bills [before and after project implementation] and Steam Purchase Agreement with all customers) during the on-site audit, the validation team found that the steam and electricity generated from the cogeneration plant is supplied to multiple project customers in the Rayong industrial premises (i.e., TCL, TSR and IRPC Refinery) i.e., off-grid applications. Hence, para 1 of the methodology is met in compliance with para 76 of VVM 1.2.

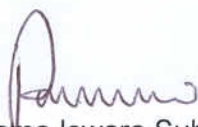
The validation team hereby confirms that the project descriptions and project design in PDD are accurate and complete based on the document review, on-site inspection, physical verification and interviews conducted and is in line with para 64 of VVM 1.2.

Conclusion:

The validation team confirms that there are no changes in the PDD, FVR, Project IRR and benchmark calculation sheets for the project activity. .

We hope that the explanation given will find acceptance among the members of the Executive Board.

Yours sincerely



Parama Iswara Subramaniam
DOE Representative