



RESPONSE TO POINTS RAISED DURING REQUEST FOR APPROVAL OF CHANGES

Subject: Clarifications requested for approval of changes to the CDM project activity "Dong Nai 4 Hydropower Project" (8405) - PRC ref No. PRC-8405-001

Bureau Veritas Certification had performed the verification of the CDM Project 8405 - "Dong Nai 4 Hydropower Project" which covering the period of 27/11/2012 to 31/12/2013. Subsequently, there were 02 points raised by the UNFCCC secretariat during approval of changes on 11/11/2014. We would like to provide our responses to the issues raised as given below.

i) the DOE is required to clarify how it has validated that the discount of 0.3% on the electricity imported is consistent with the conservative assumptions required by paragraph 270 of the VVS version 07.0;

Response:

The application of adjustment factor during calculation for imported electricity in the "Validation of Post Registration Changes Report" version 0.0, dated 30/06/2014 and the "Emission reduction calculation spreadsheet" dated 30/06/2014 was not consistent with paragraph 4b of Appendix of PS (version 07). Therefore it was not complied with paragraph 270 of the VVS version 07.0.

The revised "Emission reduction calculation spreadsheet" dated 12/11/2014 is provided.

The correction and justification are provided from page 10 - 12 of within the "Validation of Post Registration Changes Report" version 0.1, dated 17/11/2014 as follows. The correction is also addressed in revised Monitoring Report and Verification Report accordingly.

[Impact of the deviation on emissions reductions]

Corresponding to the paragraph 298 of VVS version 07, the different in meters' accuracy class between the registered monitoring plan and the temporary situation will cause the deviation on the calculation of the emissions reductions for the proposed project activity.

The deviation happens due to the accuracy level required by the registered monitoring plan is 0.2s while the temporary installed equipment has lower accuracy level (which is 0.5s). Therefore, the measured value of exported and imported electricity is adjusted using a discount factor as follows:

- Adjusted value for exported electricity = measured value – (measured value x 0.003), since this parameter is used for calculating baseline GHG emissions following paragraph 4(a), footnote 2 of Appendix 1 of the Project Standard.*
- Adjusted value for imported electricity = measured value + (measured value x 0.003), since the electricity imported from the Grid is consumed for internal using purposes of the project hence this parameter is considered as a project emission, and needs to be applied adjustment factor to calculate the emission reductions as per paragraph 4(b), footnote 3 of Appendix 1 of the Project Standard.*

The verification team has checked and found the adjustment factors been applied by the project participant for calculating the emission reductions with a conservative approach as per paragraph 270 & 298 of VVS version 07.

Detail of the calculation of emission reductions can be found as follows:

- Baseline emissions

The baseline emissions are the baseline emission factor times the net electricity supplied to the grid. Therefore,

$$BE_y = EF_{\text{grid,CM},y} \times EG_{\text{facility},y} = 0.5408 \times 1,152,750.354 = 623,407\text{tCO}_2\text{e}$$

The verification team has cross-checked the values from the Monthly Electricity Receipts with the on-site reading records during the period from 27/11/2012 to 31/12/2013 and confirmed these values as conservative.

Table 1: The verified data for calculating exported and imported electricity of meter M2a and M2b

Period	Exported electricity measured by M2a and M2b (MWh)	Electricity supplied to the grid $EG_{\text{export},y}$ (MWh)	Imported electricity measured by M2a and M2b (MWh)	Adjustment of Imported electricity measured by M2a and M2b (MWh)
Formula	A	$A1 = A \times (1 - 0.003)$	B	$B1 = B \times (1 + 0.003)$
27/11/2012 - 30/11/2012	7,060.600	7,039.418	11.600	11.635
01/12/2012 - 31/12/2012	75,711.900	75,484.764	74.500	74.724
01/01/2013 - 31/01/2013	92,937.400	92,658.588	110.800	111.132
01/02/2013 - 28/02/2013	50,228.000	50,077.316	131.800	132.195
01/03/2013 - 31/03/2013	105,218.400	104,902.745	99.600	99.899
01/04/2013 - 30/04/2013	90,562.500	90,290.813	102.100	102.406
01/05/2013 - 31/05/2013	83,907.700	83,655.977	127.100	127.481
01/06/2013 - 30/06/2013	93,903.200	93,621.490	72.300	72.517
01/07/2013 - 31/07/2013	147,494.000	147,051.518	46.300	46.439
01/08/2013 - 31/08/2013	54,058.200	53,896.025	135.800	136.207
01/09/2013 - 30/09/2013	50,269.000	50,118.193	99.400	99.698
01/10/2013 -	133,810.200	133,408.769	63.600	63.791

31/10/2013				
01/11/2013 - 30/11/2013	115,656.300	115,309.331	68.000	68.204
01/12/2013 - 31/12/2013	56,644.210	56,474.277	88.410	88.675
Total	1,157,461.610	1,153,989.225	1,231.310	1,235.004

Table 2: The verified data for calculating imported electricity of meter M3

Period	Imported electricity measured by M3 (MWh)
Formula	B2
08/12/2012- 31/12/2012	0.826
01/01/2013- 10/01/2013	0.395
11/01/2013- 10/02/2013	0.297
11/02/2013- 10/03/2013	0.066
11/03/2013- 10/04/2013	1.386
11/04/2013- 10/05/2013	0.462
11/05/2013- 10/06/2013	0.099
11/06/2013- 10/07/2013	0.033
11/07/2013- 10/09/2013	0.033
11/09/2013- 10/10/2013	0.066
11/10/2013- 10/11/2013	0.066
11/11/2013- 31/12/2013	0.138
Total	3.867

The value measured by meter M3 has not adjusted as per paragraph 4 of Appendix 1 of the Project Standard since the meter M3 which is owned and managed by Vietnam Electricity (Grid Company) was installed and used in line with the registered monitoring plan. Hence, by checking the documents, the verification team found the values are correct and accepted following paragraph 270 of VVS version 07.

Table 3: The verified data for calculating baseline emission

Parameter	Formula	Value
Total electricity supplied to the grid ($EG_{\text{export},y}$)	A1	1,153,989.225 (MWh)
Adjustment of total imported electricity measured by M2a and M2b	B1	1,235.004 (MWh)
Total imported electricity measured by M3	B2	3.867 (MWh)
Total electricity imported from the grid ($EG_{\text{import},y}$)	$B3 = B1 + B2$	1,238.871 (MWh)
Total net electricity supplied to the grid ($EG_{\text{facility},y}$)	$C = A1 - B3$	1,152,750.354 (MWh)

Combined margin of the VNEG ($EF_{grid,CM,y}$)	D	0.5408 (tCO ₂ e/MWh)
Baseline Emission (BE_y)	$E = C \times D$	623,407.391 (tCO ₂ e)

- Project emissions

According to ACM0002 Version 13.0.0, the power density of the project activity is calculated as:

$$PD = (CAP_{PJ} - CAP_{BL}) / (A_{PJ} - A_{BL})$$

Where:

PD : Power density of the project activity (W/m²)

CAP_{PJ} : Installed capacity of the hydro power plant after the implementation of the project activity (W). $CAP_{PJ} = 340 \text{ MW} = 340,000,000 \text{ W}$

CAP_{BL} : Installed capacity of the hydro power plant before the implementation of the project activity (W). For new hydro power plants, this value is zero

A_{PJ} : Area of the reservoir measured in the surface of the water, after the implementation of the project activity, when the reservoir is full (m²). $A_{PJ} = 8,235,488.84 \text{ m}^2$

A_{BL} : Area of the reservoir measured in the surface of the water, before the implementation of the project activity, when the reservoir is full (m²). For new reservoirs, this value is zero

The power density of the project activity is calculated as 41.28 W/m² which is more than 10 W/m². Thus, there is no project emission in the monitoring period.

- Leakage emissions

No leakage needs to be considered according to ACM0002 Version 13.0.0 /Ref-05/

- Emission reductions

The emission reductions during the monitoring period from 27/11/2012 to 31/12/2013 are calculated as:

$$ER_y = BE_y - PE_y - L_y = 623,407 - 0 - 0 = 623,407 \text{ tCO}_2\text{e}$$

The annual estimated emission reductions are 594,017 tCO₂e as per the registered PDD. The actual operation days of the Project in the monitoring period are 400 days. The corresponding estimate in the monitoring period are 650,977 (= 594,017 x 400 / 365) tCO₂e. The actual emission reductions (623,407 tCO₂e) are 95.8% compared to the estimated value. Therefore, the verification team confirms that the application of conservative approach is done appropriately to control the temporary deviation and thus followed the requirement as per paragraph 298 of the VVS version 07.

ii) the DOE states, in its validation opinion, that the "duration for which the deviation is applicable is from start date of crediting period (i.e. 27/11/2012) to the date that the official monitoring system installed (expected in September 2014)". However, the signed form indicates that the deviation is being requested for the period between 27/11/2013 to 31/12/2013.

Response:

Due to mistake during submission of "Post-registration changes request form" (CDM-PRC-FORM, Version 04.0) for "Dong Nai 4 Hydropower Project" (8405), the monitoring period duration (27/11/2012 to 31/12/2013) was provided instead of the applicable period for proposed deviations (27/11/2012 to 30/09/2014 as expected).

The corrected "Post-registration changes request form" (CDM-PRC-FORM, Version 04.0) for "Dong Nai 4 Hydropower Project" is now submitted.

We hope you will find above responses in accordance with completeness points raised.

Yours faithfully



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