



UNFCCC Secretariat
 Martin-Luther-King-Strasse 8
 D-53153 Bonn
 Germany

DET NORSKE VERITAS
 DNV Certification
 International Climate Change Services
 Veritasveien 1
 NO-1322 Høvik
 Norway
 Tel: +47-6757 9900
 Fax: +47-6757 9911
 http://www.dnv.com
 NO 945 748 931 MVA

Att: CDM Executive Board

Your ref.:
 CDM Ref 0396

Our ref.:
 MLEH/ETEL

Date:
 3 July 2006

Response to request for review “Satyamaharshi 6 MW Biomass Power Project” (0396)

Dear Members of the CDM Executive Board,

We refer to the requests for review raised by five Board members concerning DNV’s request for registration of the “Satyamaharshi 6 MW Biomass Power Project” (Ref 0396) and would like to provide an initial response to these requests for review.

The points raised in the five requests for reviews and our response is indicated below.

1. The competition for fuel leads to a leakage problem that is not mentioned by the project. Given biomass plants can fire up to 30% coal in case of biomass shortage, the competition for biomass from this plant could well directly lead to the use of coal in other plants. Depending on the shape of the supply and demand curves, the addition of this one facility could cause serious shifts to coal at the margin for several facilities; in theory it could nullify the carbon benefit of the project.

As indicated in our validation report, at the time of construction of the Satyamaharshi biomass power plant in January 2003, the contribution of biomass power to the APTRANSCO generation mix was only 5%. The project was subsequently commissioned in July 2004. The total surplus availability of biomass in the district (Guntur) where the project is located was officially estimated (source- report of Administrative Staff College of India (ASCI) for Ministry of Non Conventional Energy Source (MNES)) at 564 066 Mt, equivalent to 50 MW power generation. These data demonstrate that the addition of the project activity has not lead to any leakage problem elsewhere. The availability of the biomass in the region where the project is situated was also ascertained by us during the site visit (ref section 2.2 of validation report). Coal firing up to 30 % is permitted by the MNES, only in case of biomass shortage. It has been verified that the present usage of coal in the plant is minimal. The report on the biomass availability is enclosed to this letter.

2. Secondly, related to leakage, the project states they may have to procure biomass from farther away to ensure a continuous supply – the leakage discussion ignores transport, stating that as coal is also transported, there is no difference under the project and baseline cases. However, this ignores the transport emissions per unit of fuel – biomass is delivered truck by truck to

small facilities, while coal is delivered by ship and train in massive quantities, such that the per joule transport emission is likely to be much lower for coal than for biomass.

As stated earlier, official reports had assessed the availability of biomass in the region (district) where the project is located to be about 564 066 Mt per year, equivalent to 50 MW of power generation. The biomass in the project case is available from within a radius of 30 km as stated in project proponents response. However, even considering a distance of 50 km for biomass purchase and transport, the emission due to transportation are demonstrated to be only 246 t CO₂/year, which amount to 1.17 % of the total annual average CERs estimated. Considering that 1.17% constitutes a negligible fraction of the total estimated CERs this was neglected. This figure has unfortunately not got reflected in the PDD appropriately. The related calculations are present in the project proponent's response to the requests for review.

3. The monitoring plan in the PDD does not specify how and how often the carbon content of coal will be measured. The validation report states that the “provided monitoring plan is adequate to provide the necessary information for the [...] the fuel consumed” but does not discuss at all whether this also applies to the determination of coal carbon content. In India, carbon content of coal varies strongly according to the mine and there is recurring discussion on misreporting about coal quality. The answer of the project participants to CL 7 only refers to the quantity, not the quality of coal.

We fully agree with the Board that the quality of coal varies from mine to mine. Though not mentioned in the monitoring plan in Annex 4 of the PDD, the table D.3 of the PDD very clearly mentions that the carbon content and the calorific value of the coal will be analysed for each batch received, if the source of the coal is different. This point was also raised as a request for clarification in the protocol (CL-4) for which the project proponent has stated that the above parameters will be analysed by accredited and government approved labs whenever there is a change in the source of the fuel. It has been confirmed with the project proponent that this system is in practice and each batch of coal received (irrespective of the source) is being analysed. Clarification request (CL-7), however, refers only to the monitoring uncertainties of the quantity of coal used in the project activity. Moreover, as demonstrated by the enclosed letter from NEDCAP to the project proponent, Satyamaharshi is authorised to use coal of grade C or below (GVC 4500 Kcal/Kg) from a single source, i.e. the Singareni Collieries Company Limited.

4. Furthermore, the monitoring plan does not specify monitoring the type of biomass which is key in checking whether the biomass is from a sustainable source. Many biomass plants in India are currently partially supplied by woody biomass illegally cut from the forests. A case study of biomass projects in AP cite states that agricultural residues can sustain around 220 MW of biomass power production in AP., but 351 MW have been licensed. This forces the use of coal (up to the 30% level), but also the use of illegally cut wood as well as use of biomass previously used for other purposes (like industrial boilers), causing them to shift to other fuels. The study finds that even though plants are licensed only to use agricultural residues, ‘most biomass plants are not following this obligation because they face logistical and technical problems with agricultural residues.. the majority of power producers.... Use other fuels than foreseen in the license.’ This finding is consistent with what the DOE found on its site visits (clarification request CLI of the validation report) – that wood not listed in the license was being used.

We do agree that the monitoring plan does not explicitly specify the monitoring of different types of fuels used in the project activity and this was raised as a clarification request (CL-7). Subsequent to the project proponents' reply, it was witnessed that the project activity submits a fuel usage report to NEDCAP on monthly basis and the report includes the kinds of fuels used for power generation including coal. This is a mandatory requirement. Sample copies are enclosed to this letter.

DNV during its site visit had noted the usage of wood reapers in the project activity and raised a clarification request (CL-1). The usage of non-renewable biomass has been stopped in the plant. In order to exercise control on the quantity of woody biomass usage in the project, DNV had recommended that the used biomass be demonstrated as renewable and usage of woody biomass is to be monitored separately for discounting of CERs, considering it as non-renewable biomass as per the EB-23 decision and that the same shall be checked during verification. As a mandatory requirement and as stated above, Satyamaharshi submits a fuel usage report to NEDCAP every month.

Also as stated earlier, there exists surplus biomass in the region and the availability of excess biomass in the region was confirmed not only by the statistics available in the official reports mentioned earlier but also by interactions with biomass suppliers (ref section 2.2 of the validation report).

5. The methodology used is AMS – I.D., and considers the southern regional grid of India. The baseline data excel sheet mentioned in the PDD as ‘Enclosure II’ is not available in the PDD. The calculation of the baseline does not fulfil the requirement of the methodology as the PDD states on p.36 “As per the availability, actual generation figures as against the sector wise installed capacity were used. Wherever the break up of generation was not available, proportionate calculated figures were used so as to match the total energy availability.” This approach would have required a request for deviation

In the initial version of the PDD, the grid emission factor was calculated considering the Andhra Pradesh state electricity grid. The selected grid was changed over to the southern regional grid keeping in view the EB decision in this regard. For the estimation of the grid emission factor using the southern regional grid data available from the official website of the Central Electricity Authority of India has been used, and this was verified by DNV.

The sentence “As per the availability, actual generation figures as against the sector wise installed capacity were used. Wherever the break up of generation was not available, proportionate calculated figures were used so as to match the total energy availability” was a part of the original PDD and should have been removed and is a lapse on part of the project proponent.

6. It is not clear which version of SSC methodology I.D is used; the PDD mentions version 5, which is no longer valid. But the validation report states that it has reviewed version 07, from 28 November 2005. If the version used in the PDD is version 5, it has to be adjusted to current version 8, valid from 3 March 2006 onwards. Furthermore, the calculation of the baseline does not fulfill the requirements of the methodology as the PDD states on p.36 “As per the availability, actual generation figures as against the sector wise installed capacity were used. Wherever the break up of generation was not available, proportionate calculated figures were used so as to match the total energy availability.” This approach would have required a request for deviation.

The PDD applied the version 7 of the AMS-I.D. However the text has not been changed by the project proponent. The PDD was validated using version 7 of AMS-I.D, as stated in the validation report. In accordance with the procedures for the revision of approved methodologies, projects applying version 7 of AMS-I.D, could be submitted for registration within 28 April 2006. The project was submitted for registration on 27 of April 2006, hence the use of version 7 is acceptable. As stated earlier, the project uses the electricity data taken from the official website of Central Electricity Authority of India. We confirm that the grid emission factor was calculated as the combined margin using the three years most recent data available at the time of PDD submission.

The enclosure II mentioned in the PDD was verified by DNV as part of the validation.

7. The PDD says that up to 30% can be fired by coal under MNES rules, while the validation report says that figure is 25%, and the 30% is taken for conservativeness. One must be wrong, but more to the point, if 25% is the legal maximum, there is no point in taking 30%, as it wouldn't be allowed anyway.

As per the guideline of the MNES, the project can use 30% mix of conventional and / or non conventional fuel. However, as per further instructions by the Pollution Control Board, the usage of coal is restricted up to 25%. While both the figures are correct in their own way, as both are valid within the crediting period, the use of 30% for estimation purpose, only adds to the conservativeness of the CERs. The actual amount of CERs will be estimated based on the actual quantity of coal used which will be restricted to 25% per the consent granted by the Pollution Control Board.

We sincerely hope that the Board accepts our aforementioned explanations and we look forward to the registration of the project activity.

Yours faithfully
for DET NORSKE VERITAS LTD



Einar Telnes
Director
International Climate Change Services



Michael Lehmann
Technical Director

Enclosures:

- Report on the biomass availability –Administrative Staff College of India report page 7
- Letter from NEDCAP to the project Proponent
- Sample of report on monthly power generation and fuel consumption details submitted to NEDCAP

Enclosure 1: Pages from Administrative Staff College of India Report on "Socio-Economic Impacts of Biomass Power Plants. Page 7 -- Guntur District.

Final Report

Socio-Economic Impacts of Biomass Power Plants

S. No	District	Type of biomass	Total biomass generation	Consumption	Estimated Total Surplus	(Tons/Year)	
						Estimated Total Surplus without paddy straw Scenario-II	Estimated Total Surplus without paddy straw & sugarcane trash Scenario-III
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
11.	Vizianagaram	Paddy, groundnut, sugarcane, cotton, jute	9,11,512	7,40,786	170726	91710	57741
		Rice husk	65,874	43,600	22274	22274	22274
		Forest & uncultivable lands	98,454	98,454	-	-	-
		Horticulture & social forestry	82,167	82,167	-	-	-
					193000*	113984	80015
12.	Visakhapatnam	Paddy, bajra, chilies, groundnut, sugarcane	7,45,017	6,69,615	75402	75402	6697
		Rice husk	41,742	41,742	-	-	-
		Forest and uncultivable lands	3,74,272	3,74,272	-	-	-
		Horticulture	96,847	96,847	-	-	-
		Social forestry	10,300	10,300	-	-	-
				75402	75482	6697	
13.	East Godavari	Paddy, maize, sugarcane	25,10,781	22,66,852	243929	73674	36937
		Rice husk	3,37,125	2,18,566	118559	118550	118559
		Forest & uncultivable lands	2,71,690	2,71,690	-	-	-
		Horticulture & social forestry	3,98,489	3,98,489	-	-	-
				362488	192233	155496	
14.	West Godavari	Paddy, maize, sugarcane	26,46,478	23,66,959	279519	107902	-
		Rice husk	3,21,524	2,36,050	85474	85474	85475
		Forest & uncultivable lands	90,924	90,924	-	-	-
		Horticulture	2,73,586	2,73,586	-	-	-
				364993*	193376	85475	

6



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