



Mr. R K Sethi
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Re Request for review of the request for registration for the CDM project activity “20 MW Bagasse Based Co-generation Power Project at Bannari Amman Sugars Limited, Nanjangud, Karnataka. “ (Ref. no. 1574)

Dear Mr. Sethi,

SGS has been informed that the request for registration for the CDM project activity “20 MW Bagasse Based Co-generation Power Project at Bannari Amman Sugars Limited, Nanjangud, Karnataka.“ (Ref. no. 1574) is under consideration for review because three requests for review have been received from members of the Board.

The requests for review are based on the same reasons outlined below. SGS would like to provide a response to the issue raised by the request for review:

Request for clarification to the DOE/PP:

1. *Further clarification is required how the DOE has validated that the barriers presented to demonstrate the additionality of the project activity actually prevent the implementation of the project.*

SGS Reply: The project activity was facing technological barriers and policy barriers which actually would have prevented the implementation of the project activity. The technological barriers were validated with the maintenance problem faced by power plant installed in the baseline as well as the project activity. In the baseline the PP was having a 16MW power plant and the plant faced the problems as:-

1. Scaling of Turbine internals
2. Load hunting
3. High gear box vibrations
4. Boiler tubes erosion
5. Furnace puffing

Out of the above problems scaling of turbine internals was more serious in nature. This was intimated to the equipment supplier M/s BHEL PSSR through the PP letter vide BASL / K / Engg / 5064 / 200, dated 28.11.2000 (Encl 1.c attached with PP response). BHEL after inspection informed the PP that the turbine steam flow path requires cleaning as the it got salted, through their letter vide BHEL:TSX:SR:BASL: - 201, dated 11.12.2000 (Encl 1.d attached with PP response). Therefore, it was decided by PP to de-scale the turbine internals at the earliest. Accordingly the turbine was stopped and over haul work started on 18.01.2001 (Encl 1.e – Fax message of BHEL: BHEL / ES / BASL / 01, dated 25.01.2001 attached with PP response). The over haul of TG, took nearly 27 days. (Refer Encl 1.f – minutes of meeting made along with BHEL Commissioning Engineer attached with PP response). The turbine was re-commissioned on 11.02.2001 after completing the over haul. Although the PP was facing the technical problems in the

baseline plant, the PP went ahead to install the project activity considering the CDM benefits to overcome the risks involved in the project activity which were more severe due to high pressure of boiler.

The project activity faced the technological barriers due to the non performance of the equipments installed. These were validated from the Minutes of meetings between the PP and the supplier mentioned as:-

- Minutes of meeting dated 24/08/2004 between the PP and BHEL (Supplier). This document mentions about the problem i.e. steam leakage from TG. The Minutes is attached as Encl 1.i with the PP response.
- Minutes of meeting dated 02/11/2004. This document mentions about the rectification of TG casing for steam leakage problem. The plant was shut down for nearly a month from 03/10/2004 to 27/10/2004 and the document is attached as Encl 1.j with the PP response.
- Minutes of meeting dated 13/04/2005. This document also mentions about the steam leakage problem. In this case as well the plant was shut down for a month from 10/03/2005 to 12/04/2005. This was the second time in six months that the plant faced the same problem. The document is attached as Encl 1.k with the PP response.
- On 05/09/2005 a fire accident occurred in the plant due to oil leakage. This was reported in BAS/K/CO-GEN/ 9231 /05. This was checked during the site visit. On 22.11.2005 BHEL requested the PP to provide the shut down of the plant via letter CM / SD / IH019 / 2005.
- Steam leakage was again reported in December 2005 which was countered by the BHEL (supplier) in 2006. The plant was again shut down from 05/06/2006 to 07/07/2006. The minutes of meeting dated 15/07/2006 was checked during the site visit and found to be OK. The same is attached as Encl 1.l with the PP response.

These were the main problems and the plant is still facing the problems like steam leakage, Oil leakage and TG bearing vibration problems. All the documentary evidences were checked and validated. These were found to be Ok as the Supplier BHEL is the Government of India undertaking entity so the documents were authentic and were accepted.

The policy barrier is also validated. At the time of conceptualizing the project activity in the year 2002, the power purchase tariff being offered was as per the guidelines of the Ministry of Non-conventional Energy Sources (MNES), on the basis of which the commercial performance of the project was estimated by the project consultant (Encl 1.g – Extract from DPR on tariff assumed attached with PP response). However, the tariff for a project is considered final only when the Power Purchase Agreement (PPA) is signed, which happens only during the commissioning stage. Thus, any policy changes during the implementation stage would impact the project activity. During the project conceptualization period, the Government of Karnataka was in the process of restructuring and rationalizing the power purchase policy. This may be noted from the proceedings of the Government of Karnataka (Encl 1.h – Refer page 2, paragraph 5 attached with the PP response) and its subsequent decisions. PP was sceptical whether the MNES tariff would be offered to them at the time of commissioning the project activity. This uncertainty raised doubts on the long term viability of the project activity since the power purchase tariff is the most important economic parameter of the project activity and any significant revision to it would make the project completely unviable. This was validated from the MNES guidelines. MNES guidelines take Rs. 2.25 per unit as cost of power taking 1994-1995 as base year and it would escalate at the rate of 5% every year. This will result in the tariff of Rs. 3.49 per unit for the year 2003-2004. The PP got the reduced tariff of Rs. 2.80 per unit as per PPA which was 20% lower than the MNES guideline tariff structure. This also affected the project activity.

The number of grid connected sugar cogeneration systems in similar configuration in Karnataka existing at the time of project conceptualization were 3 out of 46 as verified with Karnataka Renewable Energy Development Limited (KREDL) website (Encl 1.e – KREDL website). Primary data collection from all these plants were done to identify the configuration details of these plants (Encl 1.f – Analysis of cogeneration systems in the region). The rest of plants have advantage of early signing PPA.

Based on these barriers the additionality was validated. The documentary evidences are attached with the PP response.

2. *Further clarification is required to demonstrate the prior consideration of the CDM before the start date of the project activity, particularly in context of: a) delay to initiate validation by 4 years and eight months after the start date of the project and b) the methodology AM0006 v1 was approved on 30 September 2005, after the start date of project and the commercial operations.*

SGS Reply: The PP was aware of CDM benefits since company personnel Mr. R Murgesan attended the Seminar in December 2000. This was verified by Seminar invitation and delegate pass. The Detailed project report for project activity 20MW was prepared in May 2002 taking into account the CDM benefits. This was also verified from the DPR as enclosed Annex 3. The board of directors approved the project in the board meeting dated 24th June 2002. The Detailed minutes were verified during the site visit from the minute's book. The start date of project activity verified was 14th September 2002 i.e. the date of Letter of indent for purchasing the equipments. The purchase orders were later placed on 30th May 2003. These were verified from the PO copies during the site visit. From the same it was concluded that the PP was aware of CDM benefits before the start date of Project activity.

The Delay was validated from the following documents and justifications.

- The CDM consultant was appointed on 21 March 2003 (Refer Encl 2.d – Copy of work order and bank cheque for advance fee payment enclosed with PP response). This is before the date of purchase order of the project equipments.
- The DOE for validation was appointed on 06 December 2003 (Refer Encl 2.e – Letter from DOE on receipt of work order attached with the PP response).
- The Project Design Document (PDD) was prepared and the application for obtaining the Host Country Approval (HCA) was submitted to the Designated National Authority (DNA) in January 2004. The meeting with the DNA took place on 31 March 2004 and subsequently the HCA was received on 11 May 2004 (Encl 2.f – HCA attached with PP response). The HCA was revised by DNA and again issued on 28th Feb 2005 and was submitted with the request for registration. The HCA's obtained by PP were verified during the site visit.
- A suitable approved CDM methodology was not available.
- The methodology got approved as ACM0006 V1 in September 2005, it was not applicable to the project activity as the methodology was applicable to projects with back-pressure turbines only. This was checked from ACM0006 version 1 dated 30th September 2005. Once ACM0006 V2 was approved in March 2006, the PDD was submitted for Validation and web-hosted in April 2006, 3 years and 6 months after the starting date. This was verified from UNFCCC website <http://cdm.unfccc.int/Projects/Validation/DB/VVEZ3K7B2YZCLIP7TJUR4MB2O6GJWX/view.html>
- However, on account of recurring prolonged delays by the DOE during the validation process, the validation contract of the earlier DOE was cancelled and given to SGS. This was verified from the contract cancellation emails attached with this response as Annex 1. The project was again re-web-hosted in June 2007 applying ACM0006 V4. This can be verified from the UNFCCC website <http://cdm.unfccc.int/Projects/Validation/DB/BM7LIROCMQ5KSEGLIJB TU23DB7Y8YK/view.html>

From the above facts it was concluded that the procedural and methodological issues had caused the delay. Furthermore the project is under validation since 2006. All the documents mentioned above were checked during site visit and UNFCCC website was also checked for the PDD for international stakeholder consultation. The documents are attached with the PP response.

3. *The DOE should clarify how it has validated that the project activity complies with the requirement of scenario 16 of ACM0006 v4 as: a) the bagasse is assumed to be left to decay without use despite*

having a sale value, and b) the scenario requires that the existing units continue to operate in the same manner after installation of the new power unit.

SGS Reply: The project complies with the requirement of scenario 16. The bagasse is assumed to be left to decay without use and this was not having any sale value. When the project was conceptualized in 2002 and installed in 2004 the bagasse was not having any sale value as the standalone power plants were using either coal or other fossil fuel and the biomass residue generated was left to decay. The biomass residue availability is more than 40% extra than the required as verified from the KREDL letter attached as Encl 3a with PP response. This was also checked by interviewing the management people during the site visit. The baseline in the project activity is 16MW power plant installed in the year 2000. When this 16MW was installed in 2000 then the PP was also having low pressure and low efficiency (2.5MW x 3) 7.5 MW of Power plant. The decision to scrap these 2.5 MW x 3 (7.5 MW) plant was taken during the 1998-1999 which was verified from the DPR of 16MW plant and also during the interview of management personnel. The extracts of DPR is attached as Annex 2 with this response. This decision was taken due to low efficiency of 2.5 MW x 3 (7.5 MW) plants. As the plant was facing problems in 16MW plant pre-project scenario so they continue to operate 7.5MW plants. The 2.5 MW x 3 plants got scrapped in 2003-2004 after the 16MW plant got some what stabilised. The Baseline of the project activity is 16MW Power plant which is operational since 2000 and was operational during the site visit. This 16 MW will continue to operate during the crediting period. In the baseline calculations 2.5 MW x 3 data was used on conservative basis as plant operated till 2003-2004. The data of 2.5MW x 3 was checked from the plant records during the site visit. It was observed during the site visit that there was no 2.5 MW x 3 plants installed on the site. As the calculations for the baseline emissions was using 2.5 MW x 3 data for conservativeness so this was accepted. Based on this we concluded that Scenario 16 is applicable to the project activity. This is shown in table below as:-

Equipments	Pre-project	Baseline	Project
7.5 MW 45 ATA system (2 Nos. 32 TPH boilers and 3 Nos. 2.5 MW TGs)	Yes	No (only used in calculations for conservativeness)	No (This was any how to be scrapped after installation of 16MW plant in pre-project scenario)
16 MW 67 ATA system (80 TPH boiler and 16 MW TG)	Yes	Yes (Checked during site visit)	Yes (will continue and checked during site visit)
20 MW 67 ATA system (120 TPH boiler and 20 MW TG - project activity)	No	No	Yes (Checked during site visit)

We apologize if the initial validation report has been unclear and hope that this letter and the attached information address the concerns of the members of the Board.

Pankaj Mohan (0091 9871794671) will be the contact person for the review process and is available to address questions from the Board during the consideration of the review in case the Executive Board wishes.

Yours sincerely

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Annex 1 Contract cancellation emails.
Annex 2 16MW DPR extract for decision to scrap 2.5MW x 3 (7.5MW) Plant
Annex 3 CDM consideration in DPR of 20MW i.e. project activity
Annex 3 Encl 1.e – KREDL website
Annex 4 Encl 1.f – Analysis of cogeneration systems in the region