

Mr. R K Sethi
Chair, CDM Executive Board
UNFCCC Secretariat
CDMinfo@unfccc.int

28 July 2008

Re: Request for Review of the request for registration for the CDM project activity "Energy efficiency measures in "Technopolis" (Ref. no. 1794).

Dear Mr. Sethi,

SGS has been informed that the request for registration for the CDM project activity "Energy efficiency measures in "Technopolis" (Ref. no. 1794) 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 reasons outlined below. SGS would like to provide a response to the issues raised by the requests for review:

Requests for Review 1 & 2—Issue 1:

The DOE is requested to further clarify with relevant evidence: a) the CDM consideration to demonstrate that CDM revenues are essential to overcome the barriers to this project activity, b) the time gap of almost two years between the project start date and validation (July 2005 and May 2007 respectively, VR, p12). The clarification should include a detailed timeline of activities carried out to develop the project as a CDM project activity.

SGS' Response:

The consideration of CDM revenue for the project activity to mitigate the risk towards the increased cost involvement due to installation of energy efficiency measures in HVAC system and its operation cannot be recovered from leasing of floor spaces of Technopolis building in the highly competitive real estate market. This fact has been cross checked with the letter from Principal Counsellor, Confederation of Indian Industry – Sohrabji Godrej Green Business Centre dated 21 Nov 2004 (third party communication) and certified true copy of the extracts of the Minutes of the Meeting of the Board of Directors of M/s Phoenix Software Limited dated 15/12/2004. The documents were found justified towards the acceptance of the fact that the CDM modalities have been considered for the project activity to overcome the project investment barrier prior to the project start date i.e. 25/07/2005.

The entire project milestone activities starting from early project conception stage to submission for validation of the project activity has been reviewed with reference to the proper documentary evidences obtained from the project proponent. The detail description on the same has been summarised in the table below –

Timeline	Milestone activity	Documentary Evidence reviewed by DOE
21/11/2004	Appraisal from Principal Counsellor, Confederation of Indian Industry – Sohrabji Godrej Green Business Centre regarding CDM benefits associated with energy efficiency project and to mitigate the additional cost involvement due to implementation of energy efficiency measures in HVAC system of Technopolis building.	Letter from Principal Counsellor, Confederation of Indian Industry – Sohrabji Godrej Green Business Centre dated 21 Nov 2004. <u>(already web-hosted)</u>
15/12/2004	The project activity was approved by the management of Phoenix Software Limited with consideration of CDM revenues to overcome the barrier related to project investment.	Certified true copy of the extracts of the Minutes of the Meeting of the Board of Directors of M/s Phoenix Software Limited dated 15/12/2004. <u>(already web-hosted)</u>
13/01/2005	Appointment of Building Architect	Appointment letter issued to M/s Agrawal and Agrawal, dated 13/01/2005 <u>(Annex 1.a.)</u>
21/02/2005	Appointment of Consultants for Mechanical & Engineering Services for Technopolis	Contract with M/s. Entask Electrics (dated 21/02/2005) <u>(Annex 1.b.)</u>
23/02/2005	Appointment of Consultants for Energy Simulation	Contract with M/s. Environmental Design Solutions, dated 23/02/2005 <u>(Annex 1.c.)</u>
20/05/2005	NOC obtained from Airport Authority of India for the height clearance of proposed building.	NOC issued by Airport Authority of India for the height clearance of proposed building. (Ref. AAI/20012/248/2005-ARI(NOC), dated 20.05.05 <u>(Annex 1.d.)</u>
08/07/2005	Site inspection, preparation of preliminary drawings (plan and elevation drawings) for facilitation of HVAC and lighting system design	Preliminary Concept Note and Elevation Design from Agrawal and Agrawal (Architects Planner and Interior Designer) dated 08/07/2005 <u>(Annex 1.e.)</u>
25/07/2005 (Project start date)	Placement of Work Order for the Chiller plant to Blue Star Ltd., the first equipment bought for the HVAC system was placed.	Work Order (Ref. TP/S/05-06/024, dated 25th July 2005) for Air Conditioning work inside the proposed commercial IT complex issued by the project proponent to Blue Star Limited. <u>(already web-hosted)</u>
11/02/2006	Placement of Work Order of supply, erection & commissioning of building management system to Schneider Electric India Pvt. Ltd.	Work Order issued for BMS to Schneider Electric India Pvt. Ltd. (Ref. TP/S/05-06/149 dated 11/02/2006) <u>(already web-hosted)</u>
18/04/2006	Approval for 33 KV HV installation obtained from Directorate of Electricity, Govt. of West Bengal	Approval for 33 KV HV installation issued by Directorate of Electricity, Govt. of West Bengal (Ref. CEI/1045, dated 18.04.2006. <u>(Annex 1.f.)</u>
31/07/2006	Permanent water/sewerage connection Clearance obtained from local Municipal Corporation.	Clearance Certificate issued by local Municipal Corporation in respect of permanent water/sewerage connection (Ref. 1775(3)Bm(P), dated 31.07.06. <u>(Annex 1.g.)</u>
11/08/2006	Sanction of S/W plan and Grant of permission to execute work at the designated Plot No. BP-4, obtained from Bidhan Nagar Municipality.	Clearances/approvals and sanctioned plan from local Municipal Corporation. (Ref. 1883/Bm(P), dated 11/08/06. <u>(Annex 1.h.)</u>
25/09/2006	NOC obtained from Office of the Director General, West Bengal Fire & Emergency Services, Govt. of West Bengal	NOC issued by Office of the Director General, West Bengal Fire & Emergency Services, Govt. of West Bengal (Ref. WBFS/9308/06/Bidhan-IT/297/04(344/04), dated 25.09.06. <u>(Annex 1.i.)</u>
18/12/2006	Application for Host Country Approval from Indian DNA.	Application for Host Country Approval from Indian DNA submitted to Ministry of Environment & Forests, Govt. of India, dated 18/12/2006. <u>(Annex 1.j.)</u>

21/12/2006	Consent to Establish (NOC) obtained from West Bengal Pollution Control Board.	Consent to Establish (NOC) issued by West Bengal State Pollution Control Board (Ref. 918-2N-351/2005, dated 21.12.2006) <u>(already web-hosted)</u>
02/04/2007	Host Country Approval obtained from Indian DNA.	The host country approval for the project activity was issued by the Ministry of Environment and Forests, Government of India Letter of Approval from Indian DNA (F.No. 4/2/2007-CCC dated: 2-April-2007)
22/05/2007	Signing of CDM Validation contract agreement with SGS	CDM Validation contract agreement (Ref. CDM.Val1139, dated 13/04/2007)
26/05/2007	Web-hosting of PDD for International Stakeholder Consultation Procedure.	UNFCCC website reference (http://cdm.unfccc.int/Projects/Validation/DB/PB760A/XRSGGSSTOHD4SU67N07ELQ89/view.html)

The start date of the project activity has been configured as 25/07/2005 with reference to the date of Work Order for the Chiller plant to Blue Star Ltd., prior to the start date of the project activity project proponent has discussed with Confederation of Indian Industry – Sohrabji Godrej Green Business Centre (a pioneer organisation promoting green buildings in India) regarding the increased cost involvement for the proposed project activity and subsequently receiving the appraisal regarding the CDM revenue to mitigate the high initial project cost involvement and through internal discussions among the Board of Directors of Phoenix Software Limited, project proponent has conceived the project activity with serious consideration of CDM revenue. The milestone activities of the current project activity has been cross checked with reference to the above mentioned document references and the fact towards conception of proposed CDM project activity during Dec 2004 and submission towards CDM validation during May 2007 has been found justified.

The documents were found justified towards the acceptance of the fact that the CDM modalities have been seriously considered for the project activity prior to the start date of the project activity.

The project milestone activities as validated with reference with the proper substantiation as described above are self explanatory regarding the gap between the start date (25/07/2005) and the commencement of validation (26/05/2007), beside that it has been verified during site visit that the project proponent was also with the opinion that the project activity can be submitted for validation procedure only after receipt of Host Country Approval from Indian DNA and Host Country Approval can only be obtained after obtaining all the necessary statutory clearances for the project activity from the respective Government Authorities. Thus the project proponent has entered into the contract agreement with SGS for project validation after they have received the HCA for the project activity from Indian DNA on 2nd April 2007.

The above mentioned facts regarding early CDM consideration for the project activity and the time gap between project start date and project submission for the validation have been already incorporated in the Section 4.4 (pg. 12) of the Validation Report dated 07/04/2008 submitted during requesting registration.

Request for Review 1 - Issue 2:

The figures on the amount of electricity drawn from the eastern regional grid (EGRID,y) and on the amount of electricity consumption of the system (EHVAC,p,y) in section B.7.1 should be corrected.

SGS' Response:

The typographical error occurred in mentioning the figures on the amount of electricity drawn from the eastern regional grid (EGRID,y) and on the amount of electricity consumption of the system (EHVAC,p,y) in section B.7.1 of PDD version 03, has been properly rectified by the project proponent as EGRID,y = 27740000 kWh and EHVAC,p,y = 3736000 kWh in the section B.7.1 of revised PDD, version 04. The figures have been cross checked with the bulk power supply agreement between West Bengal State Electricity Board (WBSEB) and Phoenix Software Ltd. for maximum contract demand of 5000 kVA at 33 kV (Ref. C/BC/PRGN/61/3523A; dated 19/09/2005), Commercial clearance for switching on bulk power supply at 33 kVA issued by WBSEB (Ref. C/BC/PRGN/61/12/8A, dated 04/04/2006) and revised emission reduction calculation work sheet and found satisfactory. The revised PDD is attached with the response from the project proponent.

Request for Review 2 - Issue 2

The PDD (page 33) indicates that the installation and operation of the HVAC system will not only incur additional costs, but also result in additional cost savings. The PP and DOE are requested to provide more detailed data on both costs and cost savings.

SGS' Response:

The reference of the cost involvements for the baseline scenario and the project activity along with differential higher cost involvement for the project activity as mentioned under Section B.5 of the PDD has been further substantiated by the project proponent through differential cost details represented under excel sheet named "Capital Cost Differential_Technopolis and Baseline Building_28.03.2008" (already uploaded at UNFCCC website as "Appendix 8 - Capital Cost"), the reference of the respective cost figures have been cross checked with the following documents –

Parameters	Cost in million INR	Documentary Evidences Reviewed
1. Glazing:		
Baseline Scenario		
The glass used would be plain double glazed glass with a shading co-efficient of 0.656 in the baseline building	14.60	Certificate issued by ALFA Aluminium Private Limited ^(Annex 2.a.)
Project Scenario		
The glazing used in Technopolis is of high performance double glazed panels coated with reflective low "e"-glass panes and having low U-value and solar heat gain co-efficient. The glass used has been imported from Emicool Glass.	24.33	Performa invoice raised by Emirates Glass, U.A.E to Phoenix Software Limited, dated 04/10/2005. <u>(already web-hosted)</u>
<u>Differential in cost of glazing between Technopolis and the baseline building</u>	9.73	
2. Wall Insulation Material:		
Baseline Scenario		
There would be no insulation in the space between the spandril and the sill areas of the baseline building	0	N.a.
Project Scenario		
The space between the spandril and the sill areas is insulated with mineral wool to reduce heat influx in to Technopolis.	1.75	Certificate issued by Blue Star Limited, Ref. SN/10871/A, dated 25/11/07. ^(Annex 2.b.)
<u>Differential in cost of wall insulation between Technopolis and the baseline building</u>	1.75	
3. Roof insulation:		
Baseline Scenario		
Cost of roof insulation in case of baseline would be INR 482/m ² (as per certificate issued by Blue Star Limited), the area of roof insulation being 3723.35 m ²	1.79	N.a.
Project Scenario		
Cost of roof insulation in case of Technopolis is INR 575/m ² (as per certificate issued by Blue Star Limited), the area of roof insulation being 3723.35 m ²	2.14	Certificate issued by Blue Star Limited, Ref. SN/10871, dated 25/11/07.
Cost of terrace gardening	0.13	Work order placed to Horticulture Development Foundation, dated 24/09/2006 ^(Annex 2.c.)

<u>Differential in cost of roof insulation between Technopolis and the baseline building</u>	0.48	
4. Chillers:		
Baseline Scenario		
Cost of the 2 main air-cooled chillers of COP 3 that would have been installed in baseline building	62	Email received from Blue Star Limited, dated 15/06/2007 ^(Annex 2.d.)
Project Scenario		
Cost of the 2 main water-cooled chillers of COP 6.1 in Technopolis	68	Email received from Blue Star Limited, dated 15/06/2007
<u>Differential in cost of chillers between Technopolis and the baseline building</u>	6	
5. Heat Recovery Wheels in Air Handling Units:		
Baseline Scenario		
There would be no HRW in the baseline building	0	N.a.
Project Scenario		
Cost of heat recovery wheel installed in each AHU	0.351596	Work order issued by Phoenix Software Limited to Blue Star Limited for air conditioning work, dated 25/07/2005
Number of AHUs in Technopolis - 63		
Cost of heat recovery wheels in Technopolis	22.150548	
<u>Additional cost due to HRWs installed in Technopolis</u>	22.150548	
5. Building Management System:		
Baseline Scenario		
There would be no BMS in the baseline building	0	N.a.
Project Scenario		
Cost of installation of BMS (excluding the cost of all the energy meters which are yet to be installed and integrated with the BMS)	13.950148	Work order from PSL to Schneider Electric India Private Limited for supply, erection and commissioning of BMS, dated 11/02/2006
<u>Additional cost due to installation of BMS</u>	13.950148	
Total additional installation cost involvement for the project activity - INR	54.058	

The differential higher cost involvement towards project installations in comparison to the baseline scenario with reference to all supporting documents have found reliable and satisfactory, and from the above mentioned evidences it has been inferred with a positive impression regarding the energy efficiency improvement of the HVAC system under current project activity involves differential higher installation capital cost in comparison to a conventional commercial IT building with the same occupancy-type located in the same region and climate type in extent of INR 54.058 million.

In addition to that the additional recurring cost involvement in the extent of INR 2.4 million per annum and INR 3.66 million per annum towards annual Operation & Maintenance (O & M) cost for HVAC system and Building Management System has been judged with reference to the Annual O & M Contract (AMC) for HVAC system to Blue Star Ltd. dated 17th March 2006^(Annex 2.e.) and Property management service agreement between Phoenix Software Ltd. and Jones Lang Lasalle Property Services (India) Pvt. Ltd., dated 17/12/2007^(Annex 2.f.) respectively and found justified.

Hence, it has been found justified that the project activity with investment risk of differential higher installation cost involvement in extent of INR 54.058 million along with INR 6.06 million per annum for annual Operation & Maintenance (O & M) cost for HVAC system and Building Management System and with only source of revenue through competitive market rent rates for the floor spaces of "Technopolis" building was not a financially attractive option for the project proponent, whereas implementation of a conventional commercial IT building with the same occupancy-type located in the same region without the energy efficiency measures in the HVAC system would have been more financially attractive option, which would have led to higher emissions.

The above mentioned fact regarding higher cost involvement towards project installations has been already incorporated in the Section 4.4 (pg. 10 & 11) of the Validation Report dated 07/04/2008 submitted during requesting registration.

Detailed data on Costs savings as compared to the baseline building:

Parameters	Energy Consumption (kWh)**	Cost in million INR per annum++ (considering power tariff INR 3.7/ kWh)
1. Operation of Chiller Plant, Cooling Tower and Chilled Water Circulation Pumps		
Baseline Scenario		
Electricity Cost due to operations of Chiller Plant, Cooling Tower and Chilled Water Circulation Pumps	8634069	31.95
Project Scenario		
Electricity cost due to Chiller Plant, Cooling Tower and Chilled Water Circulation Pumps	3143169	11.63
Energy Cost Reduction	--	20.32
2. Operation of Air Handling Units		
Baseline Scenario		
Electricity Cost due operation of Air Handling Units (AHUs)	3474910	12.86
Project Scenario		
Electricity Cost due operation of Air Handling Units Heat Recovery Wheel.	593304	2.20
Energy Cost Reduction	--	10.66
Total additional cost savings due to the project activity		30.98
** The electricity consumption figures reviewed from "Energy Efficiency Comparison Report - THE TECHNOPOLIS Kolkata" prepared by Environmental Design Solutions, dated 9 July 2007. (Already web-hosted) ++ Power tariff of INR 3.7 has been cross checked with the monthly power invoice raised by West Bengal State Electricity Distribution Company Limited (Bill dated 07/05/2007, 02/06/2007 and 04/07/2007). <i>(Annex 2.a.)</i>		

Request for Review 2 - Issue 3:

Furthermore the PP and DOE are requested to further clarify how it can be guaranteed that the cost savings due to electrical energy savings will also in future never be recovered from the IT users (tenants of "Technopolis").

SGS' Response:

The Technopolis building (current project activity) has been developed by the Phoenix Software Limited, purely for commercial purpose of leasing. The Memorandum of Understanding (MOU) regarding lease rent of building floor spaces with one of the tenants (MOU with Apeejay Finance Group Ltd. dated 30/01/07) *(Annex 3.a.)* has been attached.

The only revenue source for the Technopolis is the rents received from the tenants of the Technopolis building (reference to the sample lease rent invoices raised by the project proponent to one of the tenant Apeejay Finance Group Ltd. (Invoice No. 355, dated 24 Aug 2007) *(Annex 3.b.)*).

The financial benefits from electrical energy savings as a result of the project activity will be directed to the tenants of the Technopolis building and will not be realized by the project proponent or cannot be recovered from the IT users.

Furthermore, the project proponent has limitations towards configuration of the rent rates of the floor spaces to meet up the prevailing market rent rates. They also have to sustain in the competitive commercial scenario regarding renting out of floor spaces in line with the other conventional IT commercial buildings in the metropolitan city of Kolkata. Therefore they are not in a position to recover the additional costs through higher rent rates. This was verified by the prevailing rent out rates for the conventional commercial IT building with the same occupancy-type located in the same region with reference to the 'Certificate issued by Trammell Crow Meghraj Property Consultants Private Limited' ^(Annex 3.C) on the prevailing rent rates for IT buildings in Kolkata.

It is quite evident that to recover and sustain with the high initial cost involvement and recurring operation & maintenance, CDM benefits play a major role as the high project cost is not possible to be recovered in form of rents received from the tenants. It is evident from Memorandum of Understanding (MOU) towards lease rent of building floor spaces with the tenants (MOU with Apeejay Finance Group Ltd. dated 30/01/07) and lease rent invoices raised by the project proponent to the tenant Apeejay Finance Group Ltd. (Invoice No. 355, dated 24 Aug 2007), project proponent is charging the tenants INR 44 per sq. ft. of the chargeable floor space area which is lower than the mean rent rate (INR 46 per sq. ft. (as evidenced by Certificate issued by Trammell Crow Meghraj Property Consultants Private Limited on the prevailing rent rates for IT buildings in Kolkata) and INR 5.00 per sq. ft. for Air Conditioning charges (a part of INR 10.50 per sq. ft. for Common Area Maintenance charges) with escalation of air conditioning charges only upon the increase in the electricity tariff on a prorated basis. The floor space rent rate will be revised in every three years interval at a rate comparable to the rates prevailing in real estate industry practice of IT buildings in Kolkata metropolitan city and as per the term and conditions of the lease agreement with the tenants. These verified documents and the market conditions form a strong cross check.

Request for Review 2 - Issue 4:

The figures on the amount of electricity drawn from the eastern regional grid (EGRID,y) and on the amount of electricity consumption of the system (EHVAC,p,y) in section B.7.1 should be corrected.

SGS' Response:

Refer to SGS' response to Request for Review 1- Issue 2

Request for Review 3- Issue 1

The DOE is requested to provide further details regarding how it has been validated that the reported start date of the project activity complies with the Glossary of CDM Terms

SGS' response:

Refer to SGS' response to Requests for Review 1&2- Issue 1

Request for Review 3- Issue 2

The DOE is requested to describe how the prior consideration of CDM for this project activity has been validated in light: the actual start date, the evidence provided and the gap between this start date and the commencement of validation. In doing so the DOE should provide a detailed timeline of the project development and the consideration of the CDM.

SGS' response:

Refer to SGS' response to Request for Review 2- Issue 2

Request for Review 3- Issue 3

The DOE is requested to clarify how it has validated the efficiency of the baseline coal-fired boiler to be in line with the paragraph 13 of the methodology AMS-I.C (Version 10)

SGS' Response:

Refer to SGS' response to Request for Review 2- Issue 3



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.

Ajoy Gupta (0091 9903803700) 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

Sanjeev Kumar
Technical Reviewer,
Sanjeev.Kumar@sgs.com
T: + 91 124 2399990 - 98
M: + 91 9871794628

Ajoy Gupta
Lead Auditor
Ajoy.Gupta@sgs.com
T: + 91.33.22420725, 22420722
M: + 91 9903803700

Encl:

- Annex 1.a. - Appointment letter issued to building architect – (Annexure 5 of PP response)
- Annex 1.b. - Contract with M/s.Entask Electrics (dated 21/02/2005) – (Annexure 6 of PP response)
- Annex 1.c. - Contract with M/s. Environmental Design Solutions, dated 23/02/2005 – (Annexure 7 of PP response)
- Annex 1.d. - NOC issued by Airport Authority of India
- Annex 1.e. - Preliminary Concept Note and Elevation Design from Agrawal and Agrawal – (Annexure 8 of PP response)
- Annex 1.f. - Approval for 33 KV HV installations
- Annex 1.g. - Water/sewerage connection Clearance
- Annex 1.h. - Sanction of S/W plan and Grant of permission to execute work
- Annex 1.i. - NOC issued by West Bengal Fire & Emergency Services, Govt. of West Bengal
- Annex 1.j. - Application for Host Country Approval – (Annexure 14 of PP response)
- Annex 2.a.- Certificate issued by ALFA Aluminium Private Limited
- Annex 2.b.- Certificate issued by Blue Star Limited, Ref. SN/10871/A, dated 25/11/07
- Annex 2.c.- Work order placed to Horticulture Development Foundation
- Annex 2.d.- Email received from Blue Star Limited, dated 15/06/2007
- Annex 2.e.- Annual O & M Contract (AMC) for HVAC system to Blue Star Ltd. – (Annexure 1 of PP response)
- Annex 2.f.- Property management service agreement – (Annexure 2 of PP response)
- Annex 2.g.- Electricity bill

- Annex 3.a. – MOU with Apeejay Finance Group Ltd. dated 30/01/07 (CONFIDENTIAL)
- Annex 3.b. – Sample lease rent invoice (Invoice No. 355, dated 24 Aug 2007)
- Annex 3.c. – Certificate issued by Trammell Crow Meghraj Property Consultants Private Limited

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