Chair, CDM Executive Board
UNFCCC Secretariat
CDMinfo@unfccc.int

January 12th 2007

Re Request for review of the request for registration for the CDM project activity “Switching fossil fuels in an industrial facility” by Indorama Cement Ltd" (Ref. no. 0737)

Dear Mr. Miguez,

SGS has been informed that the request for registration for the CDM project activity “Switching fossil fuels in an industrial facility” by Indorama Cement Ltd" (Ref. no. 0737) is under consideration for review because three requests for review have been received from members of the Board.

SGS would like to provide an initial response to the issues raised by the request for review:

Reviewer 1:
1. In justification of additionality PPs make focus on technological barriers. The technology is indigenous and is being broadly implemented by producers in many objects in India. PPs state that they still have problems with the technology and among them is the quality of BFG which is out of their control. The project started in 2000, but the starting date of fixed crediting period is 01.09.2006. Therefore it is difficult to assess whether the CDM has been seriously taken into consideration while approving the project and relevantly no evidence is provided on this.

The source of BFG is beyond the control of the project participant because the BFG comes from another company (Ispat Metallics India Ltd). Technological barriers due to poor quality and quantity of BFG were envisaged in a company board meeting on 12th Feb 2000. The CDM was seriously considered in the board meeting and was the drive to go ahead with the project activity. The same was verified with the board note duly signed by company secretary. The copy of board note is incorporated in the revised PDD (encl 1 –revised PDD annex 04).
Referring the hot air generator supplier site http://www.coenbharat.com/installations/i_install.htm, out of 40 generators installed prior to year 2000, only the project activity was fired with BFG. Difficult to say for other suppliers in India, but COENBHARAT was selling mainly fossil fuel based hot air generator. So it was concluded that the use of BFG was not common at the time the project was implemented. During the CDM assessment it was confirmed that the quality and quantity of the BFG still create problems and this was actually observed by the auditor from the production data and maintenance report during site visit. It was found the plant was shut down on several occasions because of maintenance problem due to operation with BFG gas.
The project does not meet the criteria for retroactive credits because the PDD was not submitted to DOE prior to 31st Dec 2005, so the default date of registration will be the crediting period starting date. After the decision to proceed with the project and take into account the CDM, the project owner tried to develop the PDD themselves. Later it was decided to use a consultant for the PDD development and the contract with the consultant was signed on 11th July 2005.

2. In the calculation of the emissions reductions the PP uses formula based on the calorific values of the two types of fuels – LDO (which is displaced) and BFG (which is supplied from the steel plant and combusted in the cement plant). However, neither emissions factor, no content and characteristics of BFG are provided in the PDD, and no project emissions are estimated. Methodology AMS III.B. version 09 states " Project activity direct emissions consist of those emissions related with the use of fossil fuel after the fuel switch", but emissions reductions that are estimated by PPs are equal to the baseline emissions.

Small scale methodology AMS IIIB involves switching fossil fuels. In accordance with IPCC definitions, BFG is considered as a secondary fossil fuel. However, under the baseline the BFG, as a by-product of the steel industry, was being flared off. In the project activity the BFG is being used for the hot air generation. The energy content of the BFG burning therefore replaces the equal energy content generated from LDO combustion in the baseline. There is no extra emission due to BFG combustion in project activity because the BFG would have been flared anyway under the baseline. Hence the emission factor of the BFG has been considered zero. A test report of BFG analysis has been incorporated in revised PDD as annex 05. The monitoring plan was anticipating that the parameters involved in the emission reduction calculations would be monitored and this included the BFG quantity, $NCV_{BFG,}$ NCV_{LDO} and emission factor of LDO (IPCC default).

3. The methodology also says that "The emission baseline is the current emissions of the facility expressed as emissions per unit of output (e.g., kg CO2/kWh)". Output unit emission is not considered at all by the PPs.

The BFG is combusted in the hot air generator. The hot air is required in 2 parts of the production process, the drying of slag and the drying of clinker. The quantity of hot air required in the production process varies significantly depending on the moisture content of the raw material consumed and the inlet and outlet air quality of the hot air generator. The project baseline is dynamic and therefore uncertainty of the emission per unit would be unacceptably high. The PDD used an approach where the emission reduction will be calculated based on actual heat content of LDO replaced by BFG which was considered to be more accurate and conservative.

Although not clearly reflected in the validation report, the issue of the calculation approach was discussed with the project participants. However based on the arguments above, the approach from the PDD was accepted as being more conservative. For your reference, the method based on emissions per unit of output is now also included in revised PDD. If this method is used, the estimated emission reductions are 17760tCO2 which are 7160tCO2 more than actual estimated in PDD by the previous method.

There was no major modification observed in the production plant except the fuel switch from LDO to BFG in the hot air generator. In order to address the concerns of the EB, more parameters have been incorporated in monitoring plan in revised PDD to be able to follow the approach of the methodology. The PDD now proposes that the emission reduction now will be calculated by two methods to allow for comparison. During the verification the method with the lowest emission reductions will be selected as the more conservative.

4. The methodology states that "The project boundary is the physical, geographical site where the fuel combustion affected by the fuel-switching measure occurs." The steel factory, from which the BFG is supplied thus avoiding BFG emissions there, should be involved in the project boundary as far as its fuel combustion could be affected by fuel switching measures. In description of project boundary from PDD it is said that "the project boundary includes the production facility, hot air generator (HAG), auxiliary equipment & machinery, piping and allied systems". In the allied systems could be implied the steel

factory but nothing is monitored there (except of bills for BFG) and it is several times stated that the steel factory is out of PPs control and even the quality of BFG totally depends from steel factory owners.

As per methodology, the project boundary is the physical, geographical site where the fuel combustion affected by the fuel-switching measure occurs. The BFG derived from the steel industry is combusted on the site of the cement plant. It was therefore concluded that the project boundary does not include the steel industry but the project participant's own production facility where the fuel switch occurs. The delivery of BFG varies depending on the production levels (and therefore the fuel consumption) of the steel industry. However the project does not influence the production levels or the fuel combustion at the steel industry. The project is depending on the steel industry for its fuel supply and if insufficient BFG is available, this immediately affects the projects activities (also refer to discussion above on additionality). If the steel industry production levels are high, more BFG can be generated than is required in the project. This is than still being flared of in the steel industry. The project participant pays back to steel industry for the BFG they consumed. The invoice copy is attached in revised PDD as annex 07. The BFG quantity and NCV is monitored in the project boundary for the energy content input to the HAG and this result into final emission reduction which would have been occurred in absence of project activity due to LDO combustion.

5. According to the methodology "Monitoring shall involve: (a) Monitoring of the fuel use and output for an appropriate period (e.g., a few years, but records of fuel use may be used) prior to the fuel switch being implemented". Still, monitoring plan from the PDD doesn't consider at all the fuel use (LDO) and the output for an appropriate period prior to the fuel switch being implemented as it is requested by the methodology. It doesn't consider the fuel use and the output after the fuel switch has been implemented.

The two methods of emission reduction calculations have been incorporated in revised PDD. The calculation involving the output and the fuel use is based on 1.5 years data. The data included in the PDD show the variation as discussed previously. Fuel use will be monitored and now more parameters are included in monitoring plan to make the calculation transparent and allow for the monitoring of both calculation methods. It is suggested that the method with the most conservative outcome will be selected during future verifications.

Reviewer 2:
1 Monitoring plan from the PDD doesn't consider at all the fuel use and the output for an appropriate period prior to the fuel switch being implemented as it is requested by the methodology. It doesn't consider the fuel use and the output after the fuel switch has been implemented.

Please refer to reply on question 5 of reviewer 1.

2. According to the definition from the methodology applied "the project boundary is the physical, geographical site where the fuel combustion affected by the fuel-switching measures occurs". Therefore, the steel factory should be included in the project boundary as far as its fuel combustion could be affected by fuel switching measures. In description of project boundary from PDD it is said that "the project boundary includes the production facility, hot air generator (HAG), auxiliary equipment & machinery, piping and allied systems". In the allied systems could be implied the steel factory but nothing is monitored there (except of bills for BFG) and it is several times stated that the steel factory is out of PPs control and even the quality of BFG totally depends from steel factory owners.

Please refer to reply on question 4 of reviewer 1.

3. The methodology states that "The emission baseline is the current emissions of the facility expressed as emissions per unit of output (e.g., kg CO2/kWh)". Output unit emission is not considered at all by the PPs.

Please refer to reply on question 3 of reviewer 1.

Reviewer 3:
(a) The project started in 2000, but the starting date of fixed crediting period is 01.09.2006. However, there are no evidences that CDM has been seriously taken into consideration while approving the project.

Please refer to reply on question 1 of reviewer 1.

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(b) In the calculation of the emissions reductions the PP uses formula based on the calorific values of the two types of fuels – LDO (which is displaced) and BFG (which is supplied from the steel plant and combusted in the cement plant).
However, neither emissions factor, no content and characteristics of BFG are provided in the PDD, and no project emissions are estimated. Methodology AMS III.B. version 09 states " Project activity direct emissions consist of those emissions related with the use of fossil fuel after the fuel switch", but emissions reductions that are estimated by PPs are equal to the baseline emissions.

Please refer to reply on question 2 of reviewer 1.

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(c) The methodology also says that "The emission baseline is the current emissions of the facility expressed as emissions per unit of output (e.g., kg CO2/kWh)". Output unit emission is not considered at all by the PPs.

Please refer to reply on question 3 of reviewer 1.

(d) The methodology states that "The project boundary is the physical, geographical site where the fuel combustion affected by the fuel-switching measure occurs." The steel factory, from which the BFG is supplied thus avoiding BFG emissions there, should be involved in the project boundary as far as its fuel combustion could be affected by fuel switching measures. In description of project boundary from PDD it is said that "the project boundary includes the production facility, hot air generator (HAG), auxiliary equipment & machinery, piping and allied systems". In the allied systems could be implied the steel factory but nothing is monitored there (except of bills for BFG) and it is several times stated that the steel factory is out of PPs control and even the quality of BFG totally depends from steel factory owners.

Please refer to reply on question 4 of reviewer 1.

(e) According to the methodology "Monitoring shall involve: (a) Monitoring of the fuel use and output for an appropriate period (e.g., a few years, but records of fuel use may be used) prior to the fuel switch being implemented". Still, monitoring plan from the PDD doesn't consider at all the fuel use (LDO) and the output for an appropriate period prior to the fuel switch being implemented as it is requested by the methodology. It doesn't consider the fuel use and the output after the fuel switch has been implemented.

Please refer to reply on question 5 of reviewer 1.

We hope that the above clarifications answer the questions of the EB.

Sanjeev Kumar (+91 9871794628) 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

Robert Dornau
Director, Climate Change Program
Robert.dornau@sgs.com
T: +41 22 739 92 54
M: +41 79 689 22 42

Marco van der Linden
Technical Expert
Marco.vanderlinden@sgs.com
T: +31 181 693293
M: +31 651 345590

Annexes:
Encl 01: Revised PDD