LAFARGE

INDIA

20th January 2007

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

Kind Attention : CDM Executive Board

Re : Response to request for review "Blended Cement Project with Fly Ash – Lafarge India Private Limited", project # 0715

Dear Members of the CDM Executive Board,

We enclose the initial response to requests for review on the above project.

As requested, we provide below the answers to your comments. We appreciate your questions and have done our best to provide you with answers substantiated with enclosure wherever applicable. Should you need to contact us for any clarification, please do not hesitate to call me at:

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Fax	:	+91-33-24858925
Address for communication	:	Lafarge India Private Limited 101B Sunny Towers, 1st & 2nd Floor, 43, Ashutosh Chaudhary Avenue, Kolkata – 700 019, INDIA.

Thank you for your consideration.

Yours sincerely,
For Lafarge India Private Limited

Kallol Basu
Vice President – Industrial Ecology

Response to request for review "Blended Cement Project with Fly Ash – Lafarge India Private Limited", project # 0715

Comment : "The application and interpretation of step 0 and step 3 of the tool for assessment of additionality are not sufficiently substantiated.

Step 0. Preliminary screening based on the starting date of the project activity

The project claims credits retroactively. Neither the PDD nor the validation report is convincing on the documentation which was available at or prior to the start of the project, showing that CDM was seriously considered in the decision to proceed with the project activity.

Response

Lafarge decided to produce Portland Porzolona Cement (PPC) at Jojobera unit in the year 2000 (December 2000 – only 11734tons was produced as trial run, thus 1st January 2001 has been considered as actual start date) and add additional amounts of flyash to reduce clinker consumption which in turn would reduce CO_2 emissions. This decision was in line with Lafarge Group's decision to reduce 20% of emissions from the cement kilns from all its facilities and contribute to reduction in global warming. This was considered under the capital approval for the projects. The financial closure of the project was accepted by the management with due consideration of project benefits leading to CO_2 reductions from the cement kilns through consideration of the project under Clean Development Mechanism under the Kyoto Protocol. Financials of the project were highlighted to the management with and without CDM benefits.

The following evidence was provided to the DOE that documents capital approvals for the project: -

Annexure I

Capital Approvals and Breakdown of capital costs

Comment :Moreover, since additionality is claimed based on the need to construct new equipment for PPC Circuit I and a totally new (greenfield) PPC circuit II, the starting dates of the construction of this equipment is missing as well."

Response

- PPC Circuit I is an existing cement ball mill where in additional equipment were installed in 2000. (Capital Approval for INR 35.825 million was approved in 15th May 2000)
- PPC Circuit II is a greenfield project and the capital sanction of INR 474 million was approved in 16th March 2001.

For reference please refer to Annexure I.

Comment :"Step 3. Barrier analysis

In the country a steady trend of increasing additives (hence decreasing the clinker content) is occurring without the assistance of CDM. Nowadays the production of PPC (Portland Pozzolanic Cement) replacing 22 – 25% of clinker by fly ash is current practice in the country. Comparing the project activity to the identified "baseline plants" it remains unclear to which extent the content of fly ash and other additives is increased in the project activity and why this increase would constitute a specific barrier."

Response

The project has started in 2001 when several barriers were faced by Lafarge while aiming to increase % of fly ash in cement. While the trend of fly ash addition is changing, in 2001, there were compelling reasons not to consider such projects without CDM.

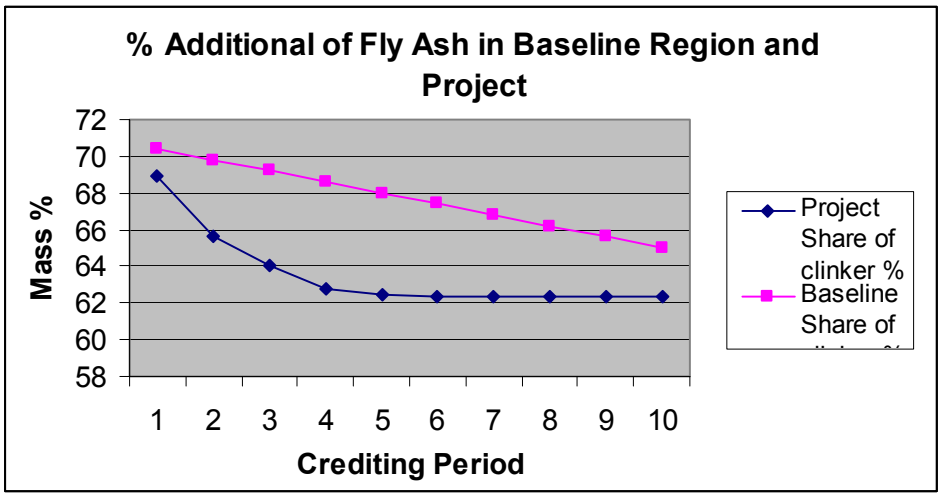
In the year 2001, in the defined region[1] the other cement plants were able to reduce clinker addition to the level of 70.4% whereas project unit produced PPC with only 68.9% of clinker. Thus, even with 1% less addition of clinker at the project when the carbon dioxide emission factor for production of clinker is about 0.89 ton/ton of clinker project was able to effect emission reductions to the tune of 3484 tons over and above the other cement plants in the defined region.

Thereafter the unit has reduced clinker addition remarkably in their PPC brand with conscious and effective efforts in research and development for addition of cementious material.

The quantum of fly ash usage over and above the baseline, including actual data for the years 2001- 2006 was included in the calculations furnished to the validator and is now furnished below. Further, it should be noted that the baseline for the project is higher than 22% - 25% flyash. The project started in 2001 with 30% of fly ash at the baseline with 2% increase every year as required by the approved methodology ACM0004.

Year	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
Project Share of clinker %	68.9	65.6	64.0	62.8	62.5	62.3	62.3	62.3	62.3	62.3
Project Share of FA %	27.4	31	31.9	33.1	33.3	33.5	33.5	33.5	33.5	33.5
Baseline Share of clinker %	70.4	69.8	69	68.6	68	67.4	66.8	66.2	65.6	65
Baseline Share of additives %	29.6	30.2	30.8	31.4	32.2	32.6	33.2	33.8	34.4	35.5
Project share of Additives %	31.6	35.2	36.1	37.3	37.5	37.7	37.7	37.7	37.7	37.7
Baseline Share of FA %	25.4	26	26.6	27.2	27.8	28.4	29.0	29.6	30.2	30.8

[1] Lafarge JCP unit supplies more than 75% of the total production to the following states in the eastern region of the country, they are – Assam, Meghalaya, Bihar, Jharkhand, Orissa and West Bengal. This geographical region has markets and other five plants that produce and sell their products within the region.



Enclosure I : Excel Sheet of calculations

Supported by Calculation Excel Sheet enclosed which also refers to Cement Manufacture's Association data assessment of baseline addition of fly ash in the given region/ market where PPC product of Lafarge Jojobera unit is sold.

Further, as mentioned in the PDD, the project faced many technological barriers to increase fly ash addition

The evidence on barriers faced by the project and described in the PDD that were provided to validator are enumerated below and supported with enclosed documents in Annexure:

Technological barrier

1. Quality of fly ash in 2001 based on Loss on ignition and colour of the fly ash in Tata Power source - In order to be able to add increasing percentage of fly ash, JCP required to convince the power plants to maintain quality of fly ash, that depends heavily upon the type of coal used and operational controls of the power plant. Since, none of the above mentioned parameters are under the control of the JCP management; the project continually worked with the power plant and provided daily feed back on the fineness of the particles, loss on ignition and colour of the fly ash.

Annexure II

Evidence – Feedback provided to Tata Power on different analysis on the fly ash collected from the site and request for co-ordination.

2. Process improvement – "In order to enable the unit add more fly ash, Lafarge conducts R&D programme on a routine basis. Recently, after bringing in a few alternations in the feeding and grinding systems, the unit was able to achieve about 2% increase in fly ash addition in PPC."

Annexure III

- Trial of FA feeding in Mill inlet vis-à-vis Mill outlet in PPC – I – JJR/QAD/057 dated : - 27/11/2002
- Lab scale and plant scale trial for PPC with grinding aids
  - Laboratory trial on PPC prepared with TEC Fly Ash and Sonadhi and Aresmeta Clinker
  - Laboratory scale trial for PPC with grinding aid form CEMAX, Sonadih unit of Lafarge – dated 28th May 2002
  - Plant scale trial for PPC with grinding aid form M/s Fosrac from Kolkata, India – Dated 18th July 2003
  - Laboratory scale trial for PPC with grinding aid form SIKA, India – Dated 9th November 2005

3. High quality clinker - The R&D efforts in the unit has established that to be able to add more % of fly ash over and above and common threshold (common practice) the unit would require high quality clinker

Annexure IV

Evidence

- With various trials & optimization process, Fly ash consumption has been increased continuously. (2001-2006) Some of the action plan are as under:-
  - Optimization of Iron Ore consumption to bring down liquid phase for improving reactivity of clinker
  - Optimization of C3A phase by raw mix optimization, for better early strength & Initial setting

4 Desired particle size distribution

- Laboratory test on Particle Size Distribution on daily basis

Annexure V

Evidence - Particle size analysis and quality control plan followed in the unit

5. Market acceptability barriers - Following evidence of promotional activities to allay the fears of PPC over OPC,

Annexure VI

- MOM of meeting with NTPC – challenges on the use of PPC
- Letter from Lafarge to NTPC - Project Proposal of the use of PPC in large construction projects having reactive concrete aggregates
- Letter from Lafarge - Sub: Use of PPC versus low alkali cements in NTPC~at
- Letter from Lafarge to NCCBM - Ref: Our Joint meeting wit~ NTFC and NCCBM held at NTPC office, Noida on 31stMarch'OS '
- Letter to CMA - CPWD Circular of November 1987 on Banning of Blended Cements use in construction.

- Letter to : Mr. Amar Nath Chakraborty, Additional Director General, Central Public Works DepartmentSub: Use of PPC in RCC structure Reference: Plant wise data required by CPWD enclosing - ,I LAFARGEINDIA PVT.LIMITED, JOJOBERA CEMENT PLANT

Comment :"No information is provided on the economical benefits of producing PPC (e.g. cost savings as a result of a decreased use of clinker), which makes it difficult to understand why additional investments are to be considered as barriers."

Response
A detailed internal rate of return calculation was sought by the DNA in India, the Ministry of Environment and Forest's CDM cell and the validator. This was submitted to the validator during validation and is being enclosed now. The economic costs and benefits are included in this computation.
For evidence refer Annexure I