

29th September 2006

Kind Attention: Chairman,

Executive Board

UNFCCC

Subject: Clarification on the request for review for “Increasing the Additive Blend in cement production” by Jaiprakash Associates Limited (JAL); (Reference number: 0454)

Dear Sir,

This is in reference to request for review raised by executive board members for the project “Increasing the Additive Blend in cement production” by Jaiprakash Associates Limited (JAL). We are enclosing herewith our clarifications for the comments raised for your consideration.

Thanking you,

Yours faithfully,

For **Jaiprakash Associates Limited(JAL)**.



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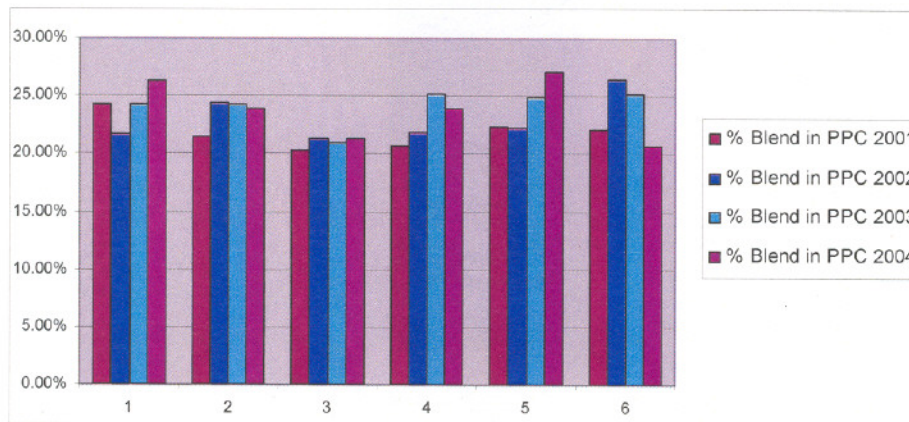
Reasons for Request for review:

CDM executive board has requested clarifications on common practice test for the project activity.

Reply from Project proponent:

The purpose of the project activity is to increase percentage of blend in Pozzolana Portland Cement (PPC) beyond the current levels as prevailing in the baseline scenario.

PPC as percentage of cement is increasing in India (currently at 47% as per CMA Cement statistics 2005) due to economic growth. However still today percentage of PPC as total cement market is much lower than percentage in other markets (such as Europe where it is 70-75%) due to market related barriers¹. Though PPC volume is growing however additive percentage in PPC is not growing (22-25% in the region for past 4-5 years) despite a possibility of increasing flyash content up-to 35% (assuming Gypsum content of 4-5%, total additive blend would be 39-40%). Low flyash content in PPC could be attributed to poor market acceptability and technical barriers.



Graph showing various plants producing PPC in the benchmark region (excluding already registered CDM projects and the project activity)² Data from CMA cement statistics

In such a scenario wherein blend content in PPC is stagnant at 22-25% (flyash content of 17-20%), the project activity is not a common practice because of following reasons

- JAL cement has the highest additive content in PPC compared to any other cement brands available in the region (excluding already registered CDM project activities). Most of the cement brands have additive blend percentage of 22%-25%, however in the project activity blend percentage is 28.69%.

¹ ICRA-The Indian Cement Industry 2006; sites reasons for low percentage of PPC in cement market

- The cement consumer is not confident of the quality of the blended material used for manufacturing blended cements.
- Problems related to quality flyash availability

² Blend content includes flyash and other additives such as Gypsum, and assuming 4-5 % other additive content flyash content is very low ~17-22%.

- Increasing flyash content is a difficult proposition because of various market related & technical barriers as described in the PDD. This could also be corroborated by the fact that blend percentage in JAL cement before the project activity was stagnant (has also seen decrease in year 2001-02 and 2002-03). Without CDM benefits available towards removing various barriers for increased flyash content, project activity would have continued using similar level of flyash as in past years.

Combined	2000-01	2001-02	2002-03	2003-04	2004-05
PPC	2061915	2490642	3155446	3404539	3503364
Clinker	1484894	1823355	2320791	2463004	2498198
Clinker %	72.02%	73.21%	73.55%	72.34%	71.31%
Additives %	27.98%	26.79%	26.45%	27.66%	28.69%
		Baseline Benchmark		27.66%	
		Improvement			1.04%

- In year 2004-05 JAL has increased percentage of blend in PPC (28.69%), however because of poor market acceptability PPC volume has grown only by 3% as against 30% growth shown by OPC produced by JAL. This shows that market is yet not ready for high flyash content PPC.
- In India Flyash content in blended cement is regulated by Bureau of Indian Standards (IS-1489, Part-1). As per BIS the maximum percentage of the flyash that can be accepted in PPC cement is 35%. However the maximum blend in any PPC brand available in the region is only 28.91% (In 2004-05) for a CDM registered project³. This blend also includes 4-5% Gypsum, hence actual flyash content in PPC would be in 23-24% range only which is much lower than maximum permissible limit. Hence high percentage of blend in PPC is not a common practice.
- The only plant which is producing higher blend PPC compared to the project activity is already a registered CDM project. Birla Cement Raibareli has PPC blend percentage of 28.91% (2004-05). For this CDM project even after 4 years of CDM benefits, flyash content is very low (compared to 35% allowed) due to same barriers as faced by the project activity (net increase is 1.7% over 4 years).
- The other plants which have similar blend levels are ACC Kymore and ACC Tikeria (28.4% in 2004-05). These are also CDM registered project activities started in 2004-05, and these plants are also facing same barriers as the project activity. This shows that without CDM benefits available to remove certain barriers, blend content in PPC produced in the region would not increase.

Above analysis show that despite high flyash content (35%) permitted as per regulation, no project is able to increase up-to 23-24% (max flyash) content in PPC. The main reasons behind such a trend are (barriers as described in the PDD)

³ Optimal Utilization of Clinker in PPC1 manufacturing at Birla Corporation Limited, Raebareli Unit, the project is availing CDM benefits from 2001. Even after 4 years of CDM benefits, flyash content is very low due to various market related & technical barriers (net increase is 1.7% over 4 years).

- Poor market perception regarding high blend PPC: There is a perception that blended cement doesn't provide same strength as OPC (it has waste flyash!!!) and also it has limited usage applications.
- Technical Barrier: Non-availability of quality flyash and no Standards available for PPC. As the compressive strength of the blended cements is perceived to be comparable to the 33-grade OPC, which is the lowest grade, the market perceives the blended cements as relatively lower-strength varieties. Investments are required to develop blended/PPC cement grades, which are equivalent/superior in performance to OPC grades in various applications.

To remove above barriers, JAL has made considerable efforts

- Technical Development: Company has taken collaborative efforts with technical institutions & experts to validate use of blended cement in place of OPC. Quality testes conducted by autonomous institutions like IITs, National council for cement and building material (NCCBM); help in creating credibility of blended cement with higher flyash content in the market. The company is *also* one of the first ones to introduce very high strength (>55 MPA) strength cement in the region.
- Improving Market perception: Various marketing campaigns aimed towards improving customer awareness about high blend cement in the market. Evidences for such promotional activities have been shared with DOE during validation.
- Investments towards utilization of different types of flyash: Getting high quality flyash that could be mixed in PPC is also a problem faced by project promoter. Company has invested towards installation of equipments to handle different types of flyash in the plant. List of these equipments (such as high efficiency flyash classifier, fine & coarse flyash silos etc) has been provided to DOE during site visit.

In the benchmark region the project activity is one of its kind trying to increase blend content in PPC, and has highest blend in PPC (apart from one already registered CDM project). The only other activities which have similar high additive levels (in the region, or other parts of country) are also registered CDM projects which are also facing same barriers. Hence it is a not a common practice, and would not have happened without CDM benefits available to remove market & technical barriers.

