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

9 January 2009

Dear Members of the CDM Executive Board,

Please find below our responses to the issues raised by requests for review of the "Project 2139: Zhejiang Quzhou Jutai clinker production project by using calcium carbide residue in the raw mix".

1. The DOE is requested to provide information regarding how it has been determined that the plant used as a proxy for the baseline emission has the "highest performance in the region", as required by the methodology.

R: According to the Feasibility Study Report (FSR), page 72, the Honghe 5000t /d production line of Honghuo Group is the highest performance one in Quzhou city. The FSR was prepared by Hefei Cement Research & Design Institute who has Class A qualification for engineering consultation for building materials (Certification No. 203131502) and Class A qualification for designing in building material industry (Certification No. 110011-sj) and is an independent third party designing institute. The FSR has also been approved by local government, and therefore the statement in the FSR can be the evidence to prove that the clinker production line is one of those with the highest performance in local area.

Since such production data as energy consumption are business secret in general, it is extremely difficult to obtain relating data from all surrounding enterprises directly, and it is impossible from the public channel. To overcome such challenges, the following approaches are taken to determine the related data of baseline scenario for emission reduction calculation: firstly select the clinker production line with the highest performance in local area based on the following ways and preliminary information, and then obtain historical data, including energy consumptions and LOIs (Loss of Ignition), through an independent third party indirectly.

In general, the new dry technology represents the advanced level of the cement industry and is the mainstream technology at present, which is being developed to more and more large-scale. Generally, the larger the production capacity, the lower the unit energy consumption. The Honghe 5000t/d clinker production line of Honghuo Group was the most recently new built with the highest performance in Quzhou at the time of the proposed project activity started （March 2007), whose key equipments were imported from Denmark, Germany, the Netherlands and other countries[1]. Therefore, it represents the best performance of the cement industry in Quzhou city.

[1] http://www.co2-china.com/chinacdmreport/show.asp?id=9190

The clinker production lines' detailed information are shown in the following table.

Table 1, New dry process clinker production lines in local area (Quzhou)

Before March 2007(baseline is in Bold)

No.	Company	Capacity	Date being put into operation
1	Zhejiang Hushan Group Co., Ltd.	1000	Dec. 28,1999[2]
		1000	Aug. 30, 2001
		2500	July 31, 2003
2	ZheJiang Honghuo Industrial Group Co., Ltd.	1000	March 4, 2002[3]
		2000	July 18, 2003[4]
	Honghe 5000t /d production line	**5000**	**Dec. 28, 2005[5]**
3	Zhejiang Jiangshanhu Group	1000	2001[6]
		2500	2004
4	Dushan Group	2500	March 28, 2005[7]
5	Qinglongshan Cement Co., Ltd.	1000	March 2003[8]
		2000	January 2005[9]
6	*Guangyu Group Zhejiang Changshan Cement Co., Ltd.	5000	Dec. 28, 2004[10]
7	Zhejiang Changshan Tianma Cement Co., Ltd.	1000	July 28, 2002[11]
		2500	Sept. 12, 2004[12],[13]
8	Zhejiang Haolong Building Materials Co., Ltd.	1000	May 28, 2003[14]
9	Changshan Huyue Cement Co., Ltd.	1000	2001[15]

From the above table, the Honghe 5000t/d clinker production line of Honghuo Group is a most recently built production line with the largest capacity in local area and with its key equipments

[2] http://www.hushangroup.com.cn/intro.asp?id=5

[3] http://www.honghuojt.com/Dsj.asp?page=2&FL=

[4] http://www.honghuojt.com/Dsj.asp?page=2&FL=

[5] http://www.honghuojt.com/Dsj.asp?page=4&FL=

[6] http://zjdaily.zjol.com.cn/html/2007-06/26/content_212174.htm

[7] http://www.lyrt.com.cn/news/newsdetail.asp?offset=5740&NewsID=6641

[8] http://www.zjepb.gov.cn/jsxmgs/DetailXmGs.asp?ID=43

[9] http://www.zjepb.gov.cn/jsxmgs/DetailXmGs.asp?ID=980

[10] http://bbs.c-bm.com/dispbbs.asp?boardID=3&ID=9938

[11] http://www.chinaccm.com/07/0704/070405/news/20031008/114107.asp

[12] http://www.zj.xinhuanet.com/df/2004-07/20/content_2529422.htm

[13] http://huibu.gov.cn/ShowArticle.asp?ArticleID=648

[14] http://www.quzhou.gov.cn/qj/zfxxgkml/zwxw/jrqj/200707/t20070726_25801.htm

[15] http://emuch.net/journal/article.php?id=CJFDTotal-SNIZ200708015

imported from developed countries.

So, it is reasonable and conservative to take the energy consumption of the Honghe 5000t/d production line of Honghuo Group as the baseline scenario of Jutai's 2000t/d production line.

The relations between energy consumptions and its capacity

The larger the capacity of the clinker production line, the lower the unit energy consumption and the higher the energy efficiency. In accordance with the national standard drafted at the end of 2006, *the norm of energy consumption per unit product of cement*[16], existing cement producers with different capacities will have different unit energy consumption limitations.

Table 2, energy consumption of clinker vs. clinker capacity

Clinker Capacity	The comparable comprehensive energy consumption of clinker, kg/t
4000t/d and above	≤128
2000～4000t/d（including 2000t/d）	≤134
1000～2000t/d（including 1000t/d）	≤139
Lower than 1000t/d	≤145

As shown in the following chart,

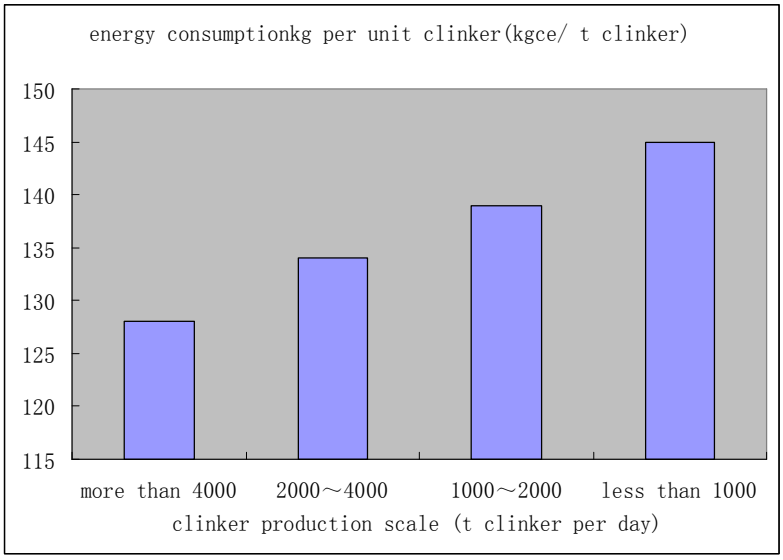

Figure 1 energy consumption per unit clinker

From the above chart, we can see that the larger the capacity of a single clinker production line, the higher the performance and the lower the energy consumption per tons of clinker, and accordingly, the lower the CO_2 emission.

According to *An analysis of energy consumption level of new dry process cement in china*[17], (http://www.chinacements.com/tech/detail/detail_1560.html), there are several characteristics of the new dry process clinker production lines in China at present,

[16] http://zmj.dcement.com/ShowArticle.asp?ArticleID=60006

[17] http://www.chinacements.com/tech/detail/detail_1560.html

- The performances of imported production lines are higher than domestic ones significantly.
- The performances of clinker technology imported recently is higher than that of 1980s and 1990s . That is to say, the most recently built production lines have the higher performance than the old ones.
- The energy consumptions of large-scale production lines are remarkably lower than medium-and small-scale ones.

Therefore, it is reasonable to take the Honghe 5000t/d clinker production line of Honghuo Group as the highest performance production line in local area and it is reasonable and conservative to take it as the baseline scenario.

2. The DOE is further requested to describe how the 12 monthly measurements from this plant have been validated to confirm the accuracy of the applied LOI of 35.56%.

In the clinker production with limestone as a raw material, due to the major component of limestone is $CaCO_3$, the LOI (Loss of Ignition) is mainly from the CO_2. To guarantee the conservative of determination of LOIs, water, sulfur and other substances shall be deducted from the LOI. Basing on the analysis method of *Determination of Loss of Ignition in Chemical analysis method for cement(*GB/T 176-1996*)* , and *Determination of carbon content in pyrite and pyrite concentrate* (GB/T 2469-1996), the third part named Building Materials Test Center of Quzhou Fangyuan Test Co., Ltd. , has carried out the LOI test activity, and the result is reasonable, reliable, accurate and conservative.

The basic principle of the analysis is that the dried raw mix is burned and decomposed in oxygen under high temperature, and SO_2 is absorbed by CrO_3-H_2SO_4 solution, water by anhydrous $CaCl_2$ and CO_2 by soda asbestos, and then carbon content as CO_2 in the raw mix will be determined by weighing and calculation. The key instrument includes analytical balance with a precision of 0.0001g.

Comparing to the determination of the loss of ignition without calibration, the method analyzes the carbon content in raw mix directly and deducts other components like water and sulfur. The carbon content of limestone as CO_2, which is 35.56%, used as baseline for the calculation of CERs is lower than its LOI, which is 36.67 %(other components like water and sulfur not being deducted). Therefore the method is reasonable and conservative.

The analysis work required was undertaken by a third party, Building Materials Test Center of Quzhou Fangyuan Test Co., Ltd., who took samples of limestone raw mix from Honghe 5000t/d clinker production line of Honghuo Group monthly between September 2006 and August 2007. The samples of limestone were taken from Honghe production line automatically and continuously and were analyzed respectively. The results summary please see table 3...

Building Materials Test Center of Quzhou Fangyuan Test Co., Ltd. which was established in August 2003, is an independent legal entity to provide impartial data to the public and is a specialized third party test institution. It has passed on-the-spot assessment of the provincial

accreditation and metrology verification on Jan. 10 and 11, 2004, and was accredited the test qualifications for 33 products (82 items) applied by the company. The Center has 6 technical personnel, 3 are advanced engineers. The company undertakes supervisory tests for building materials assigned from upper level, tests consigned by customers and government departments and arbitral tests from consumer complaints.

Table 3 Summary table for LOIs of limestone raw mix of baseline scenario
September 2006 to August 2007

Item / No.	Limestone Raw Mix							
	LOI, %（components like water and sulfur not being deducted）				LOI,% （components like water and sulfur being deducted ）			
	1	2	3	Average	1	2	3	Average
1	36.66	36.54	36.69	36.63	35.78	35.69	35.72	35.73
2	36.62	36.53	36.71	36.62	35.75	35.22	35.32	35.43
3	36.77	36.77	36.76	36.77	35.52	35.63	35.67	35.63
4	36.44	36.50	36.46	36.47	35.26	35.07	35.42	35.25
5	36.70	36.74	36.72	36.72	35.40	35.73	35.90	35.68
6	36.85	36.92	36.81	36.86	36.03	35.99	35.71	35.91
7	36.70	36.71	36.68	36.70	35.38	35.62	35.46	35.49
8	36.60	36.54	36.58	36.57	35.70	35.32	35.30	35.44
9	36.66	36.69	36.64	36.66	35.20	35.76	35.73	35.56
10	36.75	36.79	36.80	36.78	35.92	35.82	35.45	35.73
11	36.57	36.60	36.59	36.59	35.48	35.55	35.12	35.38
12	36.68	36.75	36.73	36.72	35.44	35.58	35.30	35.44
Average				36.67				35.56

Best regards,

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