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To the CDM Executive Board
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Response to the request for review of Xinjiang Midong Tianshan Cement Co.Ltd's 1600td Utilization Calcium Carbide for Cement Clinker Project (Ref.no.3183)

Dear Chair of the CDM Executive Board,

Please find enclosed the Project Participants response to the request for review of the above mentioned project.

Question 1: The DOE needs to further explain how the input values to the investment analysis for the project activity are suitable in line with the VVM paragraph 109 in particular: (a) the CCR price, as the CCR supplier is transporting and disposing of the CCR to the landfill in the baseline; (b) higher repair cost compared to the baseline scenario; (c) higher 'other manufacture expenditure' and higher 'other management expenditure' compared to the baseline scenario. Furthermore, what expenses are covered under such expenditures; (d) higher coal and electricity consumption compared to the baseline scenario; and (e) more employees compared to the baseline scenario.

(a) The CCR price, as the CCR supplier is transporting and disposing of the CCR to the landfill in the baseline

The proposed project utilizes 100% wasted calcium carbide residue (CCR) to substitute traditional raw mix (limestone and clay). The CCR consumed by the proposed project is a waste material from adjacent existing PVC plant owned by Zhongtai Chemical Limited.

The CCR would have been disposed of an industrial waste into a landfill prior to the implementation of the proposed project. The cost incurred in the baseline for CCR should include the transport cost from the PVC plant to the landfill and the disposal cost, including labor cost. The disposal cost in the baseline is 15.6 RMB/t-CCR. Therefore, the annual disposal cost is 6.71 million RMB.

The CCR price in the project scenario reflects the additional costs incurred that are associated with the transportation and dehydration of raw CCR. The CCR utililized by the proposed project is supplied by an existing PVC plant owned by Zhongtai Chemical Limited, not related to the project owner or within the project site. Therefore, the CCR need to be transported to the project site if the CCR is utilized by the proposed project.

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The raw CCR contains 80%-90% water and needs to be dried to a water content of 1.5% before it is substituted for the limestone and clay. To reduce the transportation cost, the raw CCR is dried to 37% water content and then sent by conveyor belt to the project site.

Therefore the PVC plant charges the project owner a treatment cost associated with dehydration and conveying. In this context it is reasonable to include the CCR cost in the investment analysis of the proposed project. This cost is the so-called the CCR price.

It should be noted that the CCR price only includes the additional transportation and drying costs incurred relative to the baseline. The CCR cost/ CCR price considered in the investment analysis of the PDD is derived from the PAR as 12.6 RMB/ton which is broken down as below:

- Investment on plate-frame pressure filtration system: 30 million;
- Labor expenditure: 2.52 million/year;
- Electricity cost: 4.77 million/year;
- Repair and maintenance rate: 3.5%;
- Cost saving from CCR disposing fee: 6.71 million (15.6 RMB/t-CCR).

The related CCR price spreadsheet is submitted to DNV.

According to the CCR supply contract that was signed between Zhongtai Chemical Co. Ltd. (CCR supplier) and the project owner, the actual the CCR price at a water content of 37% is 15 RMB/t which is higher than the estimated one in the PAR[1]. In addition, this price of 15 RMB/ton is the net treatment cost that deducts the disposal cost in the baseline[2].

Given that the contract was signed after the decision was made to go ahead, the assumed CCR price is applied in the investment analysis.

This CCR price has been compared to similar registered CDM projects that apply the same technology and generated the same products, The CCR price/cost of the 5 registered AM0033 projects ranges from 14 RMB/t-CCR (dry) to 42 RMB/t-CCR (dry)[3]. The CCR price of the proposed project is 12.6 RMB/t-CCR (dry), which is therefore lower than all registered CDM projects and thus conservative.

The actual CCR cost in the contract and comparison to registered similar projects also demonstrates that the applied CCR price is conservative.

(b) higher repair cost compared to the baseline scenario;

According to the Cost Comparison Analysis (CCA), the fixed assets investment of the proposed project is higher than the baseline scenario by 27 million. The difference is because the proposed project adds a number of additional components, such as a dryer crusher, a dry power silo, a belt conveyor and pumps. All these are equipments require repair and maintenance. Therefore, the proposed project also requires a higher repair and maintenance cost compared to the baseline scenario.

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[1] CCR supply contract
[2] CCR supply contract
[3] Projects with the price value are considered and the price for wet CCR was conversed to the price for dry CCR (content water less than 40%).

According to the national standard, repairs and maintenance normally account for 3% to 5% of fixed assets investment[4]. Based on the PAR, the repair and maintenance cost of the proposed project is calculated 2.36% of the fixed assets investment. This compares to 2.66% in the baseline scenario. Therefore the repair and maintenance cost is considered to be conservative.

Comparison of Repair and Maintenance Costs

	Fixed assets investment(RMB)	repairs and maintenance cost(RMB)	repairs and maintenance rate(%)
Proposed project	127,021,000	3,000,000	2.36%
Baseline Scenario	101,591,200	2,700,000	2.66%

According to the Audited Acceptance Report[5] of the proposed project, completed in July 2009, the static total investment of the proposed project actually increased 7.1% because that the proposed project is the first of its kind in the region, during construction and test-run, some design deficiencies were discovered, such as insufficient heat preservation, insufficient silo design, extra pumps for the CCR conveyor and so on. Therefore, the actual static total investment increased as a result of the design deficiencies.

(c) higher 'other manufacture expenditure' and higher 'other management expenditure' compared to the baseline scenario;

i. Other manufacture expenditure

According to the *Methods and Parameters for Economic Appraisal of Construction Projects*[6], the other manufacture expenditure is the indirect manufacture expenditure incurred in order to provide with products and services. Specifically, it includes all the costs associated with management activities. It is calculated by taking certain percentage of fixed assets investment. For the proposed project using CCR and baseline scenario, the other manufacture expenditure was calculated based on the same other manufacture expenditure rate. A calculation of the other manufacture expenditure rate and comparison for both proposed project and baseline scenario are showed as:

Comparison of Other Manufacture Expenditure Rate

	Fixed assets investment(RMB)	Other manufacture expenditure(RMB)	Other manufacture expenditure rate (%)
Proposed project	127,021,000	5,000,000	3.94%
Baseline Scenario	101,591,200	4,000,000	3.94%

The table above shows that the other manufacture expenditure of the proposed project is higher than in the baseline, but that it is the same proportion of fixed assets investment cost, which complies with the specified feasibility study rules[7].

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[4] Chen Bo Cai, *Financial Evaluation and Difficult Question Analysis for FSR Research and Bank Loan Project*, June 2007

[5] Xinjiang Tianshan Cement Co.Ltd, *Audited Acceptence Report for the Midong Tianshan Clinker Line using CCR*, 28 July 2009

[6] Page 97, Methods and Parameters for the Economic Appraisal of Construction Projects Version 3, National Development and Reform, Commission, published by China Planning Publisher, 2006

[7] Chen Bo Cai, *Financial Evaluation and Difficult Question Analysis for FSR Research and Bank Loan Project*, June 2007

Moreover, the Audited Acceptance Report indicates 7.1% increase of the static total investment. The actual other manufacture expenditure is higher than the designed other manufacture expenditure.

ii. Other management cost

According to the *Methods and Parameters for Economic Appraisal of Construction Projects*, the other management expenditure is all costs incurred that are associated with an entity managing and organizing production and operation activities. It mainly includes management overhead cost, technology fee, company fee, welfare cost, social service and public welfare expenditure, entertainment fee, insurance of employees, board expenditure, education fee, labor union cost, contingency allowance for bad debt, auditing fee etc.

This other management cost is estimated as a ratio of management cost against employee expenditure[8] it is the ratio of management cost divided by employee expenditure. The calculation and comparison is presented as below:

Comparison of Other Management Cost Ratio

	Employee expenditure(RMB)	other management cost(RMB)	other management cost ratio
Proposed project	2,700,000	5,000,000	1.85
Baseline Scenario	2,250,000	4,000,000	1.78

The other management cost ratio of the proposed project is 1.85 which is a little bit higher than the baseline scenario of 1.78. This is because the proposed project applied new technology and is the "first of kind" in the region. The management cost will be higher in order to well manage and organize production and operation activities. Also, because the CCR is a poisonous material, more expenditure is required for health and safety purposes. Therefore it is reasonable that the other management cost ratio of the proposed project should be higher than baseline scenario.

(d) higher coal and electricity consumption compared to the baseline scenario;

The water content of limestone is different from mine to mine, but normally it is less than 1%[9]. The CCR used in the proposed project content around 40% water and is required to be dehydrated to around 1.5% water content before allowed into the rotary kiln[10]. Although the decomposition heat of $CaCO_3$ is higher than $Ca(OH)_2$, much more heat is required to dry the CCR than is required to calcinate the limestone. Therefore, the coal consumption of the proposed project is higher than the baseline scenario.

The unit coal consumption of the baseline scenario is 111.5 kg/t-clinker (for standard coal) which is within the range of new dry clinker line stated as 107~115 kg/t-clinker (for standard coal)[11].

The proposed project uses belt conveyor and pumps to transport CCR from the PVC plant nearby. The baseline scenario uses vehicles to transport limestone. Also extra electricity is required to operate the dryer crusher and the dry power silo for the CCR. Therefore, the electricity consumption of the

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[8] Page 97, *Methods and Parameters for the Economic Appraisal of Construction Projects Version 3*, National Development and Reform Commission, published by China Planning Publisher, 2006

[9] http://www.cement114.com/ztjz_view.asp?id=4624&utype=68

[10] Xinjiang Building Materials Designing Institute, the *further explanation of the M&O Cost for baseline and the project*, June 2010.

[11] http://www.docin.com/p-9479948.html

proposed project is higher than the baseline scenario. The unit electricity consumption of the baseline scenario is 64.58 kWh/t-clinker which is even more conservative than the average electricity consumption of new dry clinker line stated as 69.34 kWh/t-clinker[12].

According to the Audited Acceptance Report, after nearly 2 years of operation, the proposed project has not reached the designed capacity. This is because of the design deficiencies, which has led to the plant operating at 1200t/d instead of 1600t/d (a 25% decrease). The actual coal consumption of the proposed project has increased due to the inefficient operation and the deficient design for drying the CCR.

The actual coal consumption is recorded as 150 kg/t-clinker (standard coal). The designed coal consumption is only 123 kg/t-clinker (standard coal). The actual electricity consumption also increased for similar reason, including the update of the power of the electricity system. The actual electricity consumption increases from 69 kWh/t-clinker to 92 kWh/t-clinker.

Of course these changes will also be reflected in the actual emission reductions expected from this project. The current estimate is around 150,000 tCO_2e.

(e) more employees compared to the baseline scenario.

To operate and maintain the extra equipments and facilities, including the dryer crusher, dry power silo and belt conveyor and pumps for using CCR, the proposed project is required to employ more staffs than the baseline scenario. Also, as the proposed project using advanced technology, more technicians are required to operate and maintain the clinker line. Therefore, 15 workers are designed to operate the dryer crusher. 10 more workers are designed for CCR conveying and 5 more workers are designed to operate the dry power silo.[13]

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[12] http://www.infocement.com/hybg/hybg/200707/1082.html

[13] Xinjiang Building Materials Designing Institute, the *further explanation of the M&O Cost for baseline and the project*, June 2010

Question 2: The DOE shall explain how it has considered the application of the baseline methodology is appropriate, as the approach to determine the relevant baseline emission factors (except the non-carbonate CaO and MgO content) have not been specified for the Greenfield projects, and the Methodology Panel (at its 40th meeting, AM_CLA_0084) did not consider the methodology is applicable to greenfield project, which is further reconciled by the Board at its 53rd meeting.

Methodology ACM0015 version1 has been deemed to be applicable to the project activity, which is a Greenfield project for the following reasons:

A. Applicability Criteria in ACM0015, Version 1.

It is stated in the applicability section of ACM0015 version1 that the methodology is applicable to Greenfield projects. Therefore, according to the CDM principle and VVM, any method that could reasonably and conservatively estimate the baseline emissions, including emissions from fuel and energy consumption, should be used.

B. Applicability of Methodology Version

The project activity applies ACM0015, version 1. This methodology was first published 30 November 2007 and was replaced by version 2 on the 8 April 2009. The project activity was published for GSP in February 2009 and was submitted for registration on 7 December 2009. The deadline for submissions for registration under version 1 of the methodology was 7 December 2009. As such ACM0015, version 1 can be applied to this project activity.

C. Methodology Clarification/Revision

In September 2009 the meth panel considered AM_CLA_0084 at it's 40th meeting and made the following conclusion:

The Meth Panel acknowledges the need for improvements in ACM0015 to remove inconsistencies and to clarify some procedures when the methodology is applied to greenfield plants. The Meth Panel agrees that the current version of the methodology lacks procedures to estimate some of the parameters to apply it to greenfield plants. In this regard, unfortunately the methodology, due to the lack of these procedures, cannot be applied by greenfield plants, although the applicability conditions state otherwise.

Due to this inconsistency of the methodology, the Meth Panel started a process to provide procedures to make the methodology applicable to greenfield plants, including input from a consultant. Unfortunately, several issues could not yet be resolved in this process and may be difficult to resolve quickly. Therefore, the Meth Panel invites the project participants to propose a revision of the methodology to make it applicable to greenfield plants. The Meth Panel will also continue its own efforts to develop procedures to make the methodology applicable to greenfield plants.

Despite this conclusion the methodology remained applicable to Greenfield projects for a further 6 months until Version 2 was replaced in March 2010 with ACM0015, Version 3. As such, the methodology remained applicable to Greenfield projects at the time of submission for registration of the project activity.

Furthermore, the project participants believe that there are procedures available within the methodology for ACM0015, version 1 that can be applied for this project activity as a special case. See further discussion below.

In addition to the consideration of AM_CLA_0084 by the Meth Panel, AM-REV_0179 was discussed by the Meth Panel in February 2010 at it's 43rd meeting. The conclusions of this meeting were subsequently presented to the Executive Board at it's 53rd Meeting, where the Meth Panel clearly stated in the presentation:

"The main problem faced by the panel concerns the access to reliable and publicly available databases containing operational parameters related to cement plants that could be used to derive benchmark emission factors required for the application of the methodology to greenfield plants."

In the case of the project activity, this data is available and the project participants are able to show a conservative calculation for baseline emissions as described below.

C. Procedures for Baseline Determination for Greenfield projects

ACM0015 is a consolidation of AM0033 and one other. AM0033 clearly defined procedures for Greenfield projects, but this methodology only determined baseline emissions for (a) calcination of carbonates and therefore this guidance related to these emissions.

In the consolidation of the methodologies to form ACM0015, more baseline emissions were specified, which are:

(b) combustion of fuels in the kiln for calcination
(c) fuel combustion for drying of raw material or fuel preparation
(d) grid electricity for clinker production
(e) self generation of electricity for clinker production

In the consolidation of the methodology the guidance for greenfield projects remained attached to component (a) as was the case in AM0033. I was therefore an omission in the consolidation process to structure the text such that this guidance is applicable throughout.

Given the fact that it was not logical to provide guidance for greenfield projects only for one component of the baseline emissions, the project participant assumed that the guidance should be relevant to all baseline components and has applied the guidance consistently for each baseline emission.

AM0033 and in ACM0015, versions 1 and 2 provide the following two options for greenfield projects.

Option 1 takes data for the calculation of baseline emissions from the clinker line in the region with the lowest CO_2 emissions. Option 2 takes data from either the top 5 or top 20% performing clinker lines. This is applied to the calculation of baseline emissions for the calcination of carbonates (a), but can also logically be applied to baseline emissions (b) to (e).

The project activity selects option 1 and has gathered baseline data from the most efficient clinker line in the Wuchang region, including areas 200km around the proposed project with 14 other clinker lines. This clinker line is 2000t/d clinker line of Xinjiang Tianshan Cement Co., Ltd. and is owned by the parent company for the project activity.

D. Reason for Rejection of AM_REV_0179

As described above, the main reason for the rejection of the revision AM_REV_0179 is the fact that data is not available to either fulfill the two options described above or to come up with a benchmark. However, this is clearly not the case for this project and so it should remain an option.

E. Conservativeness of approach

Given that this project has applied the baseline emissions from the clinker line in the region with the lowest CO_2 emissions, then this should be considered as the most conservative possible approach. This is more conservative than taking the top 5 plants or the top 20% of plants and is also at least as conservative as taking an existing clinker line where the raw material is displaced. Therefore, based upon the overriding principal that the data is conservative, then this should be deemed credible and appropriate for the project activity.

Question 3: The DOE needs to further explain how the requirement of Option 1 to determine the sample of the non-carbonate CaO and MgO in the baseline scenario based on 12 months data has been met, as it was determined based on 11 months data only. Moreover, the DOE needs to further explain how the requirement of the sampling to be statistically significant with a maximum uncertainty range of 20% at a 95% confidence level has been met.

The data used for calculation of the baseline scenario includes records for 12 months of 2007. The monthly record of January 2007 was ignored in the original calculation because the extremely low generation reflected that the baseline clinker line is possibly under abnormal operation. The average data of the rest 11 months was then used as the record of January to complete the 12 months data.

In order to provide 12 months real data, the PP has recalculated the ER based on the total 12-month data of 2007. The calculation results are as following:

Step1. Calculating Baseline Emissions, BE_y

a) Baseline CO_2 emissions from Calcination of carbonates (BE_{Calcin}):

$$BE_{Calcin} = \frac{CLNK_y}{CLNK_{BSL}} \cdot (0.785 \cdot (CaO_{CLNK,BSL} \cdot CLNK_{BSL} - CaO_{RM,BSL} \cdot RM_{BSL}) + 1.092 \cdot (MgO_{CLNK,BSL} - MgO_{RM,BSL} \cdot RM_{BSL})) = 248{,}349.5 tCO_2e$$

b) Baseline CO2 emissions from combustion of fuels in the kiln for calcination (BE_{FC_Calcin}):

$$BE_{FC\_Calcin} = SKF_{BSL} \frac{\sum (FC_{I,Calcin,y} \cdot NCV_i \cdot EF_{CO2,i})}{\sum (FC_{i,Calcin,y} \cdot NCV_i)} \cdot CLNK_y = 159{,}142.4 \text{ tCO}_2\text{e}$$

c) Baseline emissions due to discarded dust from bypass and dedusting units (CDK) system (BE_{Dust}):

The baseline is a new dry processing line which doesn't have bypass system and will reuse all the dust collected by dedusting system. Therefore, it will not produce any GHG emission through bypass and dedusting unit (CDK).

BE_{Dust} = 0 tCO_2e

d) Baseline emissions from fuel consumption for drying of raw material or fuel preparation (BE_{FC_Dry}):

$$BE_{FC\_Dry} = \frac{\sum (FC_{Dry,i} \cdot NCV_i \cdot EF_{CO2,i})}{CLNK_{BSL}} \cdot CLNK_y = 8{,}623.88 \text{ tCO}_2\text{e}$$

e) Baseline emissions from grid electricity consumption for clinker production (BE_{Elec_Grid}):

$$BE_{Elec\_Grid} = \frac{(EC_{RM,Grid} + EC_{Feed,Grid} + EC_{KO,Grid}) \cdot EF_{CO2,Elec\_Grid}}{CLNK_{BSL}} \cdot CLNK_y = 29{,}143.15 \text{ tCO}_2\text{e}$$

f) Baseline emissions from self-generation of electricity for clinker production (BE_{Elec_SG}):

The baseline scenario uses electricity totally from connected grid.

BE_{Elec_SG} = 0 tCO_2e

In conclusion:

$$BE_y = BE_{Calcin} + BE_{FC\_Calcin} + BE_{FC\_Dry} + BE_{Elec\_Grid} = 445{,}258.9 tCO_2e$$

Step 2. Calculating Project Emissions, PE_y

a) Project emissions from Calcination of carbonates ($PE_{Calcin,y}$):

As Copper Residues and CCR are wastes from chemical procedure, no carbonated CaO or MgO could be stably included, and, according to the characteristic of Silica Sand, also no carbonated CaO and MgO would be in it. Therefore, conservatively, consider all the CaO and MgO in the Black Shale are carbonated and include them into Project Emission.

$$PE_{Calcin} = 0.785 \cdot (CaO_{CLNK,y} \cdot CLNK_y - CaO_{RM,y} \cdot RM_y) + 1.092 \cdot (MgO_{CLNK,y} - MgO_{RM,y} \cdot RM_y) =$$ 8,517.69 tCO_2e

b) Project emissions from combustion of fuels in the kiln for calcination ($PE_{FC\_Calcin,y}$):

$$PE_{FC\_Calcin,y} = SKF_y \frac{\sum (FC_{i,Calcin,y} \cdot NCV_i \cdot EF_{CO2,i})}{\sum (FC_{i,Calcin,y} \cdot NCV_i)} \cdot CLNK_y$$

According to the project PAR and the historical recorded data of the baseline:

SCK_y = 3.595 GJ/t≤SCK_{BSL} = 3.695 GJ/t

Therefore, using the designed *SCK* as SCK_y to calculate $PE_{FC\_Calcin,y}$ as following:

$$PE_{FC,y} = \sum (FC_{i,y} \cdot EF_{CO2,i} \cdot NCV_i) = BE_{FC\_Calcin} + BE_{FC\_Dry} = 167{,}766.3 tCO_2e$$

c) Project emissions due to discarded dust from bypass and dedusting units (*CDK*) system ($PE_{Dust,y}$):

The proposed project is a new dry processing line which doesn't have bypass system and will reuse all the dust collected by dedusting system. Therefore, it will not produce any GHG emission through bypass and dedusting unit (CDK).

$\boldsymbol{PE_{Dust,y}}$ = 0 tCO_2e

d) Project emissions from fuel consumption for drying of raw material or fuel preparation ($PE_{FC\_Dry,y}$):

The proposed project uses surplus heat generated in rotary kiln and reciprocating grate cooler to dry raw material and prepare fuel, therefore, the proposed project will not generate GHG emission by drying of raw material or fuel preparation.

$\boldsymbol{PE_{FC\_Dry,y}}$ = 0 tCO_2e

e) Project emissions from grid electricity consumption for clinker production ($PE_{Elec\_Grid,y}$):

$$PE_{Elec\_Grid,y} = \left(EC_{RM,Grid,y} + EC_{Feed,Grid,y} + EC_{KO,Grid,y}\right) \cdot EF_{CO2,Elec\_Grid,y}$$

According to the PAR of the proposed project, the designed synthetic power consumption rate is 69 kWh/t (clinker) which is lower than the average value of 77.91 kWh/t (clinker) based on the one-year recorded data for the baseline scenario. Therefore, according to ACM0015, the $PE_{Elec\_Grid,y}$ is calculated as following:

$$PE_{Elec\_Grid,y} = BE_{Elec\_Grid,y} = 29,143.2 tCO_2e$$

f) Project emissions from self-generation of electricity for clinker production ($PE_{Elec\_SG,y}$):

The proposed project will use electricity totally from connected grid.

$PE_{Elec\_SG,y}$ = 0 tCO_2e

In conclusion:

$$PE_y = PE_{FC\_Calcin} + PE_{FC\_Dry} + PE_{Elec\_Grid} = 205,427.1 tCO_2e$$

Step 3. Calculating Leakage, LE_y

The proposed project will use belt conveyor to transport CCR to the project site. This part of emissions caused by electricity consumption are included in the $PE_{Elec\_Grid,y}$.

Step 4. Calculating Emission Reductions, ER_y

$ER_y = BE_y - PE_y - LE_y$ =239,831.8 tCO_2e

As shown above, the ER of the proposed project increases a little, from 239,556.2 tCO2e to 239,831.8 tCO2e, when calculated based on the original 12 month data.

The plant analysis laboratory of the baseline scenario performs testing in accordance with the related national guidance including the *Regulation of Quality Control for Cement Entities*, the *Chemical Analysis Method in Cement Plant* (GB/T176-1996), the *Component Analysis of Ordinary Portland Cement* (GBW 03205a), and the *Reference Material for Component Analysis of Cement Raw Meal* (GBS 08-1353-2006) and so on.

The sampling method and frequency of the components of both clinker and raw materials is regulated comparing to the standard reference materials. The raw materials are required to be tested at lest once a day, and the CaO component is required to be tested hourly. The tests are carried out after the raw material is dried, crushed and stored in the silo, and before transported into the rotary kiln. According to the regulations, the uncertainty of the sampling is required to be lower than 11% at a 95% confidence level[14].

The laboratory monthly records 30 to 720 samples as required by the national guidance. Therefore, the monthly average data used to calculate the ER is a normal distribution[15]. According to the central limit

[14] The analysis is regulated to use F-test method with confidence level as 95%.
[15] According to the central limit theorem, when sample size ≥ 30, the sampling distribution of the sample mean is regarded to be normal distribution.

theorem, the mean of the distribution of all possible sample means is equal to the mean of the population, the annual mean measured for each component is equal to its population mean.

The PP has calculated that uncertainly range and confidence level of the 12 months data, which shows that the CaO and MgO component of the raw material, the non-carbonated raw material and the clinker, used for calculation, are all with uncertainty lower than 20% at the confidence level of 95%.

Therefore, the project database meets the requirement of the sampling to be statistically significant with a maximum uncertainty range of 20% at a 95% confidence level.

We hope that these answers address your concerns sufficiently.

Yours faithfully,

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