



VALIDATION REPORT
**BEIJING UNIUFA ENERGY
TECHNOLOGY Co., LTD.**
VALIDATION OF THE
**ENERGY EFFICIENCY PROGRAMME
FOR CERAMIC KILNS IN LIAONING
FAKU ECONOMIC DEVELOPMENT
ZONE**

REPORT No. **BVC/CHINA-VAL/6219/2012**
REVISION No. 01

BUREAU VERITAS CERTIFICATION

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VALIDATION REPORT



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Client: Beijing Uniufa Energy Technology Co., Ltd.	Client ref.: Mr. Liu Feng

Summary:

Bureau Veritas Certification has made the validation of the Energy efficiency programme for ceramic kilns in Liaoning Faku Economic Development Zone located in Liaoning Faku Economic Development Zone, Faku County, Liaoning Province, P.R.China on the basis of UNFCCC criteria for the CDM, as well as criteria given to provide for consistent project operations, monitoring and reporting. UNFCCC criteria refer to Article 12 of the Kyoto Protocol, the CDM rules and modalities and the subsequent decisions by the CDM Executive Board, as well as the host country criteria.

The validation scope is defined as an independent and objective review of the PoA-DD, generic CPA-DD, the baseline study, monitoring plan and other relevant documents, and consisted of the following three phases: i) desk review of the PoA design and the baseline and monitoring plan; ii) follow-up interviews with stakeholders; iii) resolution of outstanding issues and the issuance of the final validation report and opinion. The overall validation, from Contract Review to Validation Report & Opinion, was conducted using Bureau Veritas Certification internal procedures.

The first output of the validation process is a list of Clarification and Corrective Actions Requests (CL and CAR), presented in Appendix A. Taking into account this output, the Coordinating/Managing Entity revised its PoA design documents.

In summary, it is Bureau Veritas Certification's opinion that the PoA correctly applies the baseline and monitoring methodologies AMS-II.D. version 12 and meets the relevant UNFCCC requirements for the CDM and the relevant host country criteria.

Report No.: BVC/China-Val/6219/2012	Subject Group: CDM
Project title: Energy efficiency programme for ceramic kilns in Liaoning Faku Economic Development Zone	
Work carried out by: Ms. Katherine Zhang Ying, Team Leader Ms. Jasmine Tang Xuemei, Team Member Mr. Lu Peishan, Technical Specialist	
Internal Technical Review carried out by: Mr. Tim Wang Wei, ITR Mr. Ren Hongxing Specialist	
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Work approved by:

Mr. Flavio Gomes

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1 INTRODUCTION

Beijing Uniufa Energy Technology Co., Ltd. (the coordinating/management entity, hereafter called "the CME") has commissioned Bureau Veritas Certification to validate its CDM project Energy efficiency programme for ceramic kilns in Liaoning Faku Economic Development Zone (hereafter called "the PoA") in Liaoning Faku Economic Development Zone, Faku County, Liaoning Province, P.R.China.

This report summarizes the findings of the validation of the project, performed on the basis of UNFCCC criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

1.1 Objective

The validation serves as programme design verification and is a requirement of all programmes'. The validation is an independent third party assessment of the programme design. In particular, the PoA's baseline, the monitoring plan (MP), and the programme's compliance with relevant UNFCCC and host country criteria are validated in order to confirm that the programme design, as documented, is sound and reasonable, and meets the stated requirements and identified criteria. Validation is a requirement for all CDM programmes and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of certified emission reductions (CERs).

UNFCCC criteria refer to Article 12 of the Kyoto Protocol, the CDM rules and modalities and the subsequent decisions by the CDM Executive Board, as well as the host country criteria.

1.2 Scope

The validation scope is defined as an independent and objective review of the programme design documents, the PoA's baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against Kyoto Protocol requirements, UNFCCC rules and associated interpretations.

The validation is not meant to provide any consulting towards the Client. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the programme design.

1.3 Validation team

The validation team and internal technical reviewer consist of the following personnel:

FUNCTION	NAME	CODE HOLDER (TA4.4)	TASK PERFORMED*
Team Leader	Ms. Katherine Zhang Ying	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> DR <input checked="" type="checkbox"/> SV <input checked="" type="checkbox"/> RI
Team Member	Ms. Jasmine Tang Xuemei	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> DR <input type="checkbox"/> SV <input type="checkbox"/> RI
Technical Specialist	Mr. Lu Peishan	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> DR <input checked="" type="checkbox"/> SV <input type="checkbox"/> RI
Internal Technical Reviewer (ITR)	Mr. Tim Wang Wei	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> DR <input type="checkbox"/> SV <input type="checkbox"/> RI
Specialist supporting ITR	Mr. Ren Hongxing	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> DR <input type="checkbox"/> SV <input type="checkbox"/> RI

*DR = Document Review; SV = Site Visit; RI = Report issuance



2 METHODOLOGY

The overall validation, from Contract Review to Validation Report & Opinion, was conducted using Bureau Veritas Certification internal procedures.

In order to ensure transparency, a validation protocol was customized for the project, according to the version 01.2 of the Clean Development Mechanism Validation and Verification Manual issued by the Executive Board at its 55th meeting on 30/07/2010(Ref-1), version 04.1 of Procedures for registration of a programme of activities as a single CDM project activity and issuance of certified emission reductions for a programme of activities dated 02/08/2010(EB55 Annex38) (Ref-2) and version 01.0 of Stand for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities (EB65 Annex3) (Ref-3). The protocol shows, in a transparent manner, criteria (requirements), means of validation and the results from validating the identified criteria. The validation protocol serves the following purposes:

- It organizes, details and clarifies the requirements a CDM project is expected to meet;
- It ensures a transparent validation process where the validator will document how a particular requirement has been validated and the result of the validation.

The completed validation protocol is enclosed in Appendix A to this report.

2.1 Review of Documents

The PoA-DD /1/ and generic CPA-DD /2/ submitted by Beijing Uniufa Energy Technology Co., Ltd. (the consultant) and additional background documents related to the project design and baseline, i.e. country Law, PoA-DD form, CPA-DD form, Approved methodology, Kyoto Protocol, Clarifications on Validation Requirements to be Checked by a Designated Operational Entity were reviewed.

To address Bureau Veritas Certification corrective action and clarification requests, Beijing Uniufa Energy Technology Co., Ltd. revised the PoA-DD and generic CPA-DD and resubmitted it on 30/11/2012.

The validation findings presented in this report relate to the project as described in the PoA-DD version 02 /3/ dated 30/11/2012 and generic CPA-DD version 02 /4/ dated 30/11/2012.

2.2 Follow-up Interviews

On 12/04/2012 Bureau Veritas Certification performed interviews with stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of CME and consultant were interviewed (see References). The main topics of the interviews are summarized in Table 1.

Table 1 Interview topics

Interviewed organization	Interview topics
Beijing Uniufa Energy Technology Co., Ltd. (the CME and the consultant)	<ul style="list-style-type: none"> ➤ Project background information and CDM consideration ➤ PoA technology, general operating and implementation framework, maintenance and monitoring capability ➤ Government policies related to energy efficiency improvement projects in ceramic industry ➤ Confirmation that the proposed PoA is a voluntary action ➤ Operation and management arrangement of the PoA (incl. recording, CPA operation, avoiding double accounting)



	<ul style="list-style-type: none"> ➤ PoA/CPA monitoring and management plan ➤ Stakeholder consultation process ➤ PoA/CPA environment impact ➤ Energy efficiency projects in ceramic industry development in the area
	<ul style="list-style-type: none"> ➤ Project background in details ➤ Baseline information ➤ Applicability of selected methodology ➤ Baseline determination ➤ Eligibility criteria for CPA inclusion ➤ Emission reductions calculation ➤ Monitoring plan

2.3 Resolution of Clarification and Corrective Action Requests

The objective of this phase of the validation is to raise the requests for corrective actions and clarification and any other outstanding issues that needed to be clarified for Bureau Veritas Certification positive conclusion on the programme design.

Corrective Action Requests (CAR) is issued, where:

- (a) The CME/project participants have made mistakes that will influence the ability of the project activity to achieve real, measurable additional emission reductions;
- (b) The applicable CDM requirements have not been met;
- (c) There is a risk that emission reductions cannot be monitored or calculated.

The validation team may also use the term Clarification Request (CL), if information is insufficient or not clear enough to determine whether the applicable CDM requirements have been met.

The validation team may also raise a forward action request (FAR) during validation to identify issues related to programme implementation that require review during the first verification of the CPA under the PoA.

To guarantee the transparency of the verification process, the concerns raised are documented in more detail in the verification protocol in Appendix A.

2.4 Internal Technical Review

The validation report underwent an Internal Technical Review (ITR) before requesting registration of the programme.

The ITR is an independent process performed to examine thoroughly that the process of validation has been carried out in conformance with the requirements of the validation scheme as well as internal Bureau Veritas Certification procedures.

The Team Leader provides a copy of the validation report to the reviewer, including any necessary validation documentation. The reviewer reviews the submitted documentation for conformance with the validation scheme. This will be a comprehensive review of all documentation generated during the validation process.

When performing an Internal Technical Review, the reviewer ensures that:

The validation activity has been performed by the team by exercising utmost diligence and complete adherence to the CDM rules and requirements.



The review encompasses all aspects related to the project which includes PoA design, baseline, additionality, monitoring plans and emission reduction calculations, internal quality assurance systems of the CME as well as the PoA, review of the stakeholder comments and responses, closure of CARs, CLs and FARs during the validation exercise, review of sample documents.

The reviewer compiles clarification questions for the Team Leader and Validation Team and discusses these matters with Team Leader.

After the agreement of the responses on the 'Clarification Request' from the Team Leader as well as the PP(s) the finalized validation report is accepted for further processing such as uploading on the UNFCCC webpage.

3 VALIDATION CONCLUSIONS

In the following sections, the conclusions of the validation are stated.

The findings from the desk review of the original programme design documents and the findings from interviews during the follow up visit are described in the Validation Protocol in Appendix A.

The Clarification and Corrective Action Requests are stated, where applicable, in the following sections and are further documented in the Validation Protocol in Appendix A. The validation of the Project resulted in **6** Corrective Action Requests (CARs) and **10** Clarification Requests (CLs).

The CARs and CLs were closed based on adequate responses from the Project Participant(s) which meet the applicable requirements. They have been reassessed before their formal acceptance and closure.

The number between brackets at the end of each section correspond to the VVM paragraph

3.1 Approval

The letters of approval have been provided by CME and the following support documentation has been verified by Bureau Veritas Certification.

- ✎ The Designated National Authority (DNA) of P.R.China has issued a Letter of Approval in Sep., 2012, authorizing Beijing Uniufa Energy Technology Co., Ltd. voluntary participating in the PoA of Energy efficiency programme for ceramic kilns in Liaoning Faku Economic Development Zone as the coordinating/managing entity and confirms the contribution to China's Sustainable development. /8/
- ✎ The Designated National Authority (DNA) of UK has issued a Letter of Approval dated 07/11/2012 authorizing Lakewood Carbon One Corp. voluntary participating in the PoA of Energy efficiency programme for ceramic kilns in Liaoning Faku Economic Development Zone. /9/

Bureau Veritas Certification received the letter of approval from the CME and does not doubt the letters' authenticity.

The letter of approval does not contain a specific version of both the design documents and the validation report.

The title and contents of the letter of approval refer to the precise proposed PoA title in the design documents being submitted for registration.

- ✎ Bureau Veritas Certification considers the letters of approval are in accordance with **Para. 45 - 48 /VVM** and **Para.10 of EB55 Annex38**.



3.2 Participation

The participation for the coordinating/managing entity has been approved by a Party of the Kyoto Protocol.

- ☞ Complying with **Para.54/VVM**, Bureau Veritas Certification hereby confirms that by referring to the information on UNFCCC website i.e.

<http://maindb.unfccc.int/public/country.pl?country=CN;>

<http://maindb.unfccc.int/public/country.pl?country=GB>

3.3 Project design document

- ☞ Bureau Veritas Certification hereby confirms that the PoA design documents comply with the valid Small-Scale Programme of Activities Design Document Form (CDM SSC-PoA-DD) version01 (Ref-4) and Small-scale CDM Programme Activity Design Document Form (CDM-SSC-CPA-DD) version01 (Ref-5).

3.4 PoA description

The geographical boundary of the PoA is Liaoning Faku Economic Development Zone, Liaoning Province, P.R.China and the length of the PoA is 28 years.

A typical CPA under the PoA is to improving energy efficiency among existing ceramic plants and those to be built in Liaoning Faku Economic Development Zone through the adoption of the “Blackbody Radiation Strengthen Technology” (BRST) in the existing kilns or new kilns (Greenfield facility). The aggregate energy savings of a single CPA (inclusive of a single facility or several facilities) do not exceed the equivalent of 180 GWh_{th} per year. By checking the technical specifications introduction material of the blackbody /14/ and the FSR/13/, it could be confirmed that the expected energy saving of each CPA would be about 20%.

This programme is purely a voluntary initiative undertaken by Beijing Uniufa Energy Technology Co., Ltd., which is the CME of this PoA. The emission reductions purchase agreement (ERPA) signed between Beijing Uniufa Energy Technology Co., Ltd. and Lakewood Carbon One Corp. has been validated by validation team. Beijing Uniufa Energy Technology Co., Ltd., which is the CME of this PoA. will have a contract with each ceramic plant owner, ensuring that the plant owners are aware of, and have agreed that their activity is being subscribed to the PoA. The contract template between the CME and the plant owner (the CPA operator) has also been validated by the validation team. /11/

There are no mandatory requirements in China enforcing the adoption of the “Blackbody Radiation Strengthen Technology” (BRST) in the kilns in the ceramic industry.

The validation team hereby confirms that the programme description in PoA-DD version 02 /3/ is accurate and complete in all respects.

3.5 Operational and management arrangements

A clear and transparent description of the operational and management arrangements have been established by the management/coordinating entity and stated in the PoA-DD. The CME has been interviewed by validation team. Document of PoA management system /6/ for this PoA have been provided by the CME, which can satisfy the requirements of Para.17 of Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities (EB65 Annex03) (Ref-3). Please refer to Section 6.4.5 of Table in Appendix A for details.

Complying with **para.166/VVM** and **EB65 Annex 3**, Bureau Veritas Certification hereby



concludes that the operational and management arrangements have been established by the coordinating/managing entity and are suitable for the PoA being validated. Bureau Veritas Certification considers that the arrangements are sufficient to ensure that the coordinating/managing entity will have control of all records and information related to the implementation of individual CPAs.

3.6 Eligibility criteria for inclusion a CPA in the PoA

Validation team has assessed the eligibility criteria for inclusion a CPA in the PoA in accordance with “Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities” (Ref-3). The eligibility criteria 1-4 fulfills the requirement of Para.14(a-d) of EB65 Annex3(Ref-3) and other CDM requirement, i.e. Glossary of CDM terms Version 06 (Ref-13). The eligibility criterion 5 fulfills the requirement of Para.14(e) of EB65 Annex3(Ref-3) and the applied methodology(Ref-6). The eligibility criteria 6-9 fulfills the requirement of Para.14 (f-h) of EB65 Annex3. The eligibility criteria 9 and 10 fulfills the requirement of Para.14(k and l) of EB65 Annex3 and other CDM requirement, i.e. Guidelines on assessment of de-bundling for SSC Project activities(EB54 Annex13) (Ref-9). Thus validation team is able to conclude that the below eligibility criteria are reasonable and sufficient for CPA inclusion.

1. The CPA shall be within the geographical boundary of the PoA, which is Liaoning Faku Economic Development Zone. Each CPA shall be uniquely identified by geographical coordinates.
2. Each CPA shall be checked with the host country DNA and EB data base to make sure it has not been already registered either as a CDM project activity or as a CPA of another PoA. And unique ID will be given to each CPA, such as CPA-001, CPA-002 and so on.
3. Each CPA shall adopt “BRST” to improve energy efficiency and thus to save energy use of affected facility or process by about 20% , either replace, modify or retrofit existing kilns or install new kilns (Greenfield facility).
4. Document evidence should be provided to make sure the start date of the CPA is not earlier than the validation date of the PoA. The start date of the CPA shall be the earliest date at which either the implementation or construction or real action of project activity begins.
5. The CPA shall comply with applicability and other requirements in methodology AMS-II.D. “Energy efficiency and fuel switching measures for industrial facilities” (version 12).

i.e.

1. The CPA shall be aimed primarily at energy efficiency and comprises BRST implemented at a single or several ceramic kilns.
2. The CPA may replace, modify or retrofit existing kilns using BRST or install BRST in a new kiln.
3. The energy used for the kilns can and shall be directly measured and recorded within the CPA boundary.
4. The impact of the measures implemented by the CPA can be clearly distinguished from changes in energy use due to other variables not influenced by the project activity (signal to noise ratio).
5. The aggregate energy savings of a single CPA (inclusive of a single facility or several facilities) may not exceed the equivalent of 180 GWhth per year in fuel input.
6. In the case of replacement, modification or retrofit measures, the baseline consists of



the energy baseline of the existing facility or sub-system that is replaced, modified or retrofitted. In the case of project activities involving several facilities, the baseline needs to be established separately for each site. In the case of project activities involving multiple energy efficiency measures at individual facilities, the interaction between the measures should be taken into consideration when establishing the baseline.

For new facilities and project activities involving capacity additions, the energy baseline consists of the facility that would otherwise be built; the most plausible baseline scenario for the project activity shall be evaluated based on the related and relevant requirements in the General Guidance for SSC methodologies.

In the absence of the CPA, the existing kilns (or kilns to be otherwise built for greenfield project) would continue to consume energy (EC_{BL} in GWh/year) at historical average levels (or historical average levels from other similar plant for greenfield project) (EC_{HY} in GWh/year), until the time at which the kilns would be likely to be replaced, modified or retrofitted in the absence of the CDM project activity ($DATE_{BaselineRetrofit}$). From that point of time onwards, the baseline scenario is assumed to correspond to the project activity, and baseline energy consumption (EC_{BL}) is assumed to equal project energy consumption ($EC_{PJ,y}$ in GWh/year), and no emission reductions are assumed to occur."

7. Conditions regarding leakages .

- (1) The equipment currently being utilised shall not be transferred from outside the boundary to the project activity.
 - (2) The CPA in this PoA shall not involve fossil fuel switching measures. If involved, the leakage emissions in the baseline situation shall be higher than leakage emissions in the project situation, and hence, leakage emissions can be set to zero.
 - (3) In case the CPA involves the replacement of equipment, the replaced equipment shall be scrapped and the leakage effect can be neglected. An independent monitoring of scrapping of replaced equipment needs to be implemented. The monitoring should include a check if the number of project activity equipment distributed by the project and the number of scrapped equipment correspond with each other. For this purpose, scrapped equipment should be stored until such correspondence has been checked. The scrapping of replaced equipment should be documented and independently verified.
6. 1. Each CPA shall prove through investment analysis that the CPA would not occur in the absence of CDM because of investment barrier, according to "Guidelines on the demonstration of additionality of small-scale project activities" (version 09.0, EB68).
- For investment comparison analysis, the financial indicators (e.g. NPV, IRR) of the proposed CPA (without CDM revenue) shall be below that of other alternatives.
- For benchmark analysis, the IRR of the proposed CPA (without CDM revenue) shall be below the benchmark.
- The discounting rate or financial benchmark can be taken from the latest version of official publication "Economic evaluation measurements and parameters of constructive projects", which offers an appropriate guide.
2. Basic parameters such as initial investment, O&M cost, and energy saving revenue for the calculation of cash flow shall have several reliable sources and can be crosschecked.
 3. Sensitivity analysis shall be conducted for variables such as fuel price, total investment, and annual O&M cost. The variations should at least cover a range of +10% and -10%.



4. Adopting BRST for ceramic kilns is not mandatory in Liaoning Faku Economic Development Zone.
7. Each CPA shall undertake an environmental impact analysis and the EIA shall be approved by relevant authorities.
8. There is no funding from Annex I parties for each CPA. If any, it does not result in a diversion of official development assistance.
9. The energy saving of every CPA in aggregate meets the small-scale threshold criteria of 180 GWhth per year throughout the crediting period.
10. The SSC-CPA included in the PoA shall conduct debundling check according to annex 13 in EB 54.A proposed small-scale CPA of a PoA shall be deemed to be a de-bundled component of a large scale activity if there is already an activity, which:
 - (a) Has the same activity implementer as the proposed small scale CPA or has a coordinating or managing entity, which also manages a large scale PoA of the same sectoral scope, and;
 - (b) The boundary is within 1 km of the boundary of the proposed small-scale CPA, at the closest point.
- ☞ Complying with **Para.14, 15 and 16** of “Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities”, Bureau Veritas Certification confirms that the eligibility criteria are verifiable and the eligibility criteria are sufficiently objective and comprehensive to permit the assessment of the inclusion of CPAs in the PoA.
- ☞ Complying with **Para.167/VVM**, Bureau Veritas Certification hereby confirms that the specified eligibility criteria in the PoA-DD are sufficient to ensure that all CPAs would comply with the CDM requirement applicable to the PoA, which includes the means of demonstrating the additionality of the CPA and the applicability of the applied methodology.

3.7 Baseline and monitoring methodology

3.7.1 Applicability of the selected baseline and monitoring methodology

By reviewing the relevant documentation and interviewing the CME and consultant, Bureau Veritas Certification the CPAs to be included in the PoA will comply with the applicability conditions of AMS-II.D. version12. (Ref-6) Please refer to Section 10.2.2 of Table 1 in Appendix A for details.

3.7.2 PoA boundary

Boundary for the PoA in terms of geographical area is defined as Liaoning Faku Economic Development Zone.

Bureau Veritas Certification confirms that in establishing the boundary of the PoA, the project participants have taken into consideration all applicable national and/or sectoral policies and regulations within that chosen boundary./5/

3.7.3 Baseline identification

According to methodologies AMS-II.D. version12 (Ref-6), the baseline scenario for CPAs to be included in the PoA is identified at PoA level properly as:

If the CPA is replacing, modifying or retrofitting existing kilns, the baseline is the energy baseline



of the existing kilns that is replaced, modified or retrofitted.

For new facilities and project activities involving capacity additions, the energy baseline consists of the facility that would otherwise be built; the most plausible baseline scenario for the project activity shall be evaluated based on the related and relevant requirements in the “General Guidelines to SSC CDM methodologies” (version17). In doing so, the following steps are adopted:

Step 1: *Identify the various alternatives available to the project proponent that deliver comparable level of service including the proposed project activity undertaken without being registered as a CDM project activity.*

For providing the same production level as that provided by the CPAs, the realistic and credible alternative(s) include:

Alternative I: Purchase normal kilns which are adopted by most of the ceramic plants;

Alternative II: Purchase kilns using BRST (i.e. the proposed CPA without being registered as CDM activity).

Step 2: *List the alternatives identified per Step 1 in compliance with the local regulations (if any of the identified baseline is not in compliance with the local regulations, then exclude the same from further consideration).*

Through onsite interviewing of the officials from Liaoning Faku Economic Development Zone and checking the GB 21252-2007 The norm of energy consumption per unit product of architecture and sanitary ceramics, it is confirmed that both the alternatives identified are in compliance with the local regulations.

Step 3: *Eliminate and rank the alternatives identified in Step 2 taking into account barrier tests specified in attachment A to Appendix B of the simplified modalities and procedures of SSC CDM.*

Alternative II was correctly eliminated as it faces investment barrier. Please refer to Section 3.9 of this report for the details.

Step 4: *If only one alternative remains that is:*

- *Not the proposed project activity undertaken without being registered as a CDM project activity; and*
- *It corresponds to one of the baseline scenarios provided in the methodology; then the project activity is eligible under the methodology.*

Only Alternative I remains. Therefore, the in case of new facilities and project activities involving capacity additions, the energy baseline scenario is the traditional kilns which otherwise be built.

Bureau Veritas Certification is able to confirm that approach of the baseline scenario identification procedure for new facilities and project activities involving capacity additions are fully in line with the procedure outlined in the “General Guidelines to SSC CDM methodologies” (version17).

There are no national or sectoral policies (E+/E-) or circumstances affecting the baseline scenario./5/

☞ Complying with **Para. 87 and 88/VVM**, Bureau Veritas Certification hereby confirms that:

- (a) All the assumptions and data used by the project participants are listed in the design documents, including their references and sources;



- (b) All documentation used is relevant for establishing the baseline scenario and correctly quoted and interpreted in the design documents;
- (c) Assumptions and data used in the identification of the baseline scenario are justified appropriately, supported by evidence and can be deemed reasonable;
- (d) Relevant national and/or sector policies and circumstances are considered and listed in the design documents;
- (e) The approved baseline methodology has been correctly applied to identify the most reasonable baseline scenario and the identified baseline scenario reasonably represents what would occur in the absence of the proposed CDM project activity.

3.7.4 Algorithms and/or formulae used to determine emission reductions

The steps taken to assess the requirements outlined in para.90-91/VVM are described below:

As per baseline methodologies AMS-II.D. version12 (Ref-6), the emission reductions ER_y during the crediting period is the difference between baseline emissions, project emissions and leakage. These are:

1. Baseline emissions:

$$BE_y = EC_{BL} \times COEF_{i,y} \quad (1)$$

$$EC_{BL} = EC_{HY} \text{ until } DATE_{BaselineRetrofit} \quad (2)$$

$$EC_{BL} = EC_{PJ,y} \text{ on/after } DATE_{BaselineRetrofit} \quad (3)$$

Where,

BE_y	Baseline emission in year y (tCO ₂ e/year)
EC_{BL}	Baseline energy consumption (GWh/year)
EC_{HY}	Energy consumption at historical average levels (GWh/year)
$EC_{PJ,y}$	Project energy consumption in year y (GWh/year)
$DATE_{BaselineRetrofit}$	The time when the kilns (or kilns to be built for greenfield project) would be likely to be replaced, modified or retrofitted in the absence of the CDM project activity
$COEF_{i,y}$	The CO ₂ emission coefficient of fuel type i in year y (t CO ₂ e/GWh). For fossil fuels, the IPCC default values for emission coefficients may be used, or the following equation is applied for calculation
$COEF_{i,y} = w_{C,i,y} / NCV_{i,y} \times 44/12 \times 3600$	(4)
$w_{C,i,y}$	The weighted average mass fraction of carbon in fuel type i in year y (kg C/t or m3)
$NCV_{i,y}$	The net calorific value of the fuel type i in year y (MJ/ t or m3)
44&12	Molecular weight of carbon dioxide (CO ₂) and carbon (C) respectively

$$EC_{HY} = EC_{UnitBL,i} \times M_y$$

Where,



$EC_{UnitBL,i}$	The baseline energy consumption of fuel type i per unit ceramics production at historical level (or historical level of other similar plant, for greenfield projects) (GWh / t or m ² ceramics);
M_y	The quantity of ceramic production during the year y (t or m ² ceramics /year);

2. Project Emissions:

$$PE_y = EC_{PJ,y} * COEF_{i,y} \quad (5)$$

$$EC_{PJ,y} = FC_{PJ,i,y} \times NCV_{i,y}/3600/1000 \quad (6)$$

Where,

PE_y	Project emissions in the year y (tCO ₂ e / year)
$EC_{PJ,y}$	Energy consumption during the year y (GWh/year)
$COEF_{i,y}$	The CO ₂ emission coefficient of fuel type i in year y (tCO ₂ e/ GWh)
$FC_{PJ,i,y}$	Fuel type i consumption in the year y (t or m ³ / year)
$NCV_{i,y}$	Net calorific value of the fuel type i in year y (MJ/ t or m ³).

3. Leakage: As per eligibility criteria e.7, the leakage of the PoA would be neglected subject to the following conditions: (1) The equipment currently being utilised shall not be transferred from outside the boundary to the project activity. (2) The CPA in this PoA shall not involve fossil fuel switching measures. If involved, the leakage emissions in the baseline situation shall be higher than leakage emissions in the project situation, and hence, leakage emissions can be set to zero. (3) In case the CPA involves the replacement of equipment, the replaced equipment shall be scrapped and the leakage effect can be neglected. An independent monitoring of scrapping of replaced equipment needs to be implemented.

4. Emission reductions

$$ER_y = BE_y - PE_y - LE_y$$

All the paramters will be determined at CPA level.

- ☞ Complying with para.92-93/VVM, based on the above assessment, Bureau Veritas Certification hereby confirms that:

- All assumptions and data used by the project participants are listed in the PoA-DD, including their references and sources;
- All documentation used by project participants as the basis for assumptions and source of data is correctly quoted and interpreted in the PoA-DD;
- All values used in the PoA-DD are considered reasonable in the context of the proposed CDM project activity;
- The baseline methodology has been applied correctly to calculate project emissions, baseline emissions, leakage and emission reductions;
- All estimates of the baseline emissions can be replicated using the data and parameter values provided in the PoA-DD.



3.8 Start date of PoA/CPA

The start date of the PoA was 21/02/2012 and the length of the PoA is 28 years. The CPA start date was defined as “earliest date at which either the implementation or construction or real action of project activity begins” which is considered reasonable and consistent with the CDM Glossary. The CPA start date shall be after the PoA validation start date, which has also been included in the eligibility criteria.

3.9 Demonstration of additionality of the PoA as a whole

The steps taken and sources of information used, to cross-check the information contained in the PoA-DD on this matter are described below:

Additionality is demonstrated at CPA level.

As per Guidelines on the demonstration of additionality of small-scale project activities (Ref-11), investment barrier was adopted to demonstrate the additonality and the benchmark analysis or the comparison analysis was applied to demonstrate the investment barrier, which is in accordance with “Guidelines on the Assessment of Investment Analysis” version 05 (Ref-12).

The eligibility criteria of the additionality was set as:

1. Each CPA shall prove through investment analysis that the CPA would not occur in the absence of CDM because of investment barrier, according to “Guidelines on the demonstration of additionality of small-scale project activities” (version 09.0, EB68).

For investment comparison analysis, the financial indicators (e.g. NPV, IRR) of the proposed CPA (without CDM revenue) shall be below that of other alternatives.

For benchmark analysis, the IRR of the proposed CPA (without CDM revenue) shall be below the benchmark.

The discounting rate or financial benchmark can be taken from the latest version of official publication “Economic evaluation measurements and parameters of constructive projects”, which offers an appropriate guide.

2. Basic parameters such as initial investment, O&M cost, and energy saving revenue for the calculation of cash flow shall have several reliable sources and can be crosschecked.
3. Sensitivity analysis shall be conducted for variables such as fuel price, total investment, and annual O&M cost. The variations should at least cover a range of +10% and -10%.
4. Adopting BRST for ceramic kilns is not mandatory in Liaoning Faku Economic Development Zone.

If the above four eligibility criteria are met, the typical CPA under the PoA will not occur because of the investment barrier and will be considered additional.

Validation team has assessed the additionality of a PoA in accordance with Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities and confirms that none of the implemented CPA would occur in the absence of CDM.

3.10 Monitoring plan

The CME has opted for verification method of each CPA by DOE. Monitoring plan for each CPA will be developed according to the applied baseline and monitoring methodology. The transparent system will be developed for monitoring, data collection and storage at PoA level.



Bureau Veritas Certification hereby confirms that the monitoring plan complies with the requirements of the methodologies.

The steps taken to assess whether the monitoring arrangements described in the monitoring plan are feasible within the project design are described below.

The CPAs included in the PoA use the approved consolidated monitoring methodology AMS-II.D. version 12.

Applicability of this methodology is justified in PoA-DD. Refer discussions on the validity of the methodology at Section 3.7.1 above. Validation team hereby confirms that the monitoring plan complies with the requirements of the methodology.

Parameter	Data source and measurement methods	Assessment
M_y (The quantity of ceramic production)	Will be monitored by the CPA implementer through the scale or counting the number of ceramics.	The monitoring of the parameters complies with the requirements of AMS-II.D.version12.
$FC_{PJ,i,y}$ (The quantity of fuel consumption)	Will be monitored by the CPA implementer through rulers or accessories such as transducers, sonar and piezoelectronic devices. The consistency of metered fuel consumption quantities should be cross-checked by an annual energy balance that is based on purchased quantities and stock changes. Where the purchased fuel invoices can be identified specifically for the CDM project, the metered fuel consumption quantities should also be cross-checked with available purchase invoices from the financial records.	
$w_{C,i,y}$ (The weighted average mass fraction of carbon in fuel)	The values provided by the fuel supplier in invoices is preferred and if it is not available, the measurement would be conducted by the CPA implementer.	
$NCV_{i,y}$ (The weighted average net calorific value of fuel)	The values provided by the fuel supplier in invoices is preferred.	
Independent monitoring of scrapping of replaced equipment	Will be monitored by CPA implementer. Scrapped equipment should be stored until such correspondence has been checked. The scrapping of replaced equipment should be documented and	



	independently verified	
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All the records will be kept electronically during the crediting period plus 2 years. Validation team is of the opinion that the monitoring plan complies with the requirements of the methodology.

Operational management for the project activity is comprehensively detailed in PoA-DD and it includes description of the responsibility, procedure reference, calibration frequency, maintenance needs, QA/QC procedure and data management system.

The steps taken to assess whether the monitoring arrangements described in the monitoring plan are feasible within the program design.

3.11 Environmental impacts

The CME will undertake an analysis of environmental impacts at CPA level.

3.12 Local stakeholder consultation

The CME will undertake the local stakeholder consultation at PoA level.

The program stakeholder consultations have been conducted by the CME through issuing holding consultation meeting and collecting questionnaires /12/

Public notification were prepared and posted on the notification board of the Liaoning Faku Economic Development Zone to solicit the public comments on the program from 11/04/2011. A questionnaire survey investigates local stakeholders' opinion was conducted in Liaoning Faku Economic Development Zone. Totally, 80 questionnaires were distributed to the stakeholder including Governmental Official and environment experts, ceramic plant owner, village leaders and households and collected up to May 10th, 2011. Local stockholders considers that the program will play a critical role in energy saving and environmental conditions improvement as per the questionnaires received.

The meeting records and the questionnaires /12/have been provided by the CME and validated by validation team. Furthermore, Bureau Veritas Certification has conducted an interview with local stakeholders and confirms that the stakeholders affected had been invited in a transparent manner. Bureau Veritas Certification hereby confirms that the process of local stakeholder consultation is observed to be adequate.

☺ Complying with **Para.130VVM**, Bureau Veritas Certification hereby confirms that the local stakeholder consultation was performed and the process of local stakeholder consultation is observed to be adequate. The Project will be beneficial to the local sustainable development without negative effect on the local stakeholders.

4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS

The PoA-DD using methodologies AMS-II.D. version 12 was webhosted on the UNFCCC for global stakeholders comments as per CDM requirements. The programme was webhosted from 21/02/2012 to 21/03/2012.

No comments were received.



5 VALIDATION OPINION

Bureau Veritas Certification has performed a validation of the Energy efficiency programme for ceramic kilns in Liaoning Faku Economic Development Zone in P.R. China. The validation was performed on the basis of UNFCCC criteria and host country criteria and also on the criteria given to provide for consistent project operations, monitoring and reporting.

The validation consisted of the following three phases: i) a desk review of the design and the baseline and monitoring plan; ii) follow-up interviews with stakeholders; iii) the resolution of outstanding issues and the issuance of the final validation report and opinion.

By reviewing VVM, Procedures for registration of a programme of activities as a single CDM project activity and issuance of certified emission reductions for a programme of activities, Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities etc, Bureau Veritas Certification is of the opinion that management system of CME is robust and efficient to ensure eligibility and quality of CPAs. Eligibility criteria are sufficient so that the inclusion of CPAs could fulfill all requirements of EB rules. Emission reductions attributable to the CPA under the PoA are additional to any that would occur in the absence of the PoA, and hence are likely to be achieved.

The review of the PoA-DD (02) and Generic CPA DD(02) and the subsequent follow-up interviews have provided Bureau Veritas Certification with sufficient evidence to determine the fulfillment of stated criteria. In our opinion, the PoA correctly applies and meets the relevant UNFCCC requirements for the CDM and the relevant host country criteria. Bureau Veritas Certification concludes Enlightened Solar PoA meets all stated criteria and thus requests registration of Energy efficiency programme for ceramic kilns in Liaoning Faku Economic Development Zone.



6 REFERENCES

Category 1 Documents:

Documents provided by Enlightened Capital that relate directly to the GHG components of the PoA.

- /1/ PoA DD version 01 dated 17/02/2012 for GSC
- /2/ Generic CPA DD version 01 dated 17/02/2012 for GSC
- /3/ PoA DD version 02 dated 30/11/2012
- /4/ Generic CPA DD version 02 dated 30/11/2012
- /5/ GB 21252-2007 The norm of energy consumption per unit product of architecture and sanitary ceramics
- /6/ Document of PoA management system
- /7/ Emission reductions Purchase Agreement(ERPA) signed between Beijing Uniufa Energy Technology Co., Ltd. and Lakewood Carbon One Corp.
- /8/ Letter of Approval(LoA) for Energy efficiency programme for ceramic kilns in Liaoning Faku Economic Development Zone in Sep., 2012 issued by DNA of China (No. 4253)
- /9/ Letter of Approval(LoA) for Energy efficiency programme for ceramic kilns in Liaoning Faku Economic Development Zone dated 07/11/2012 issued by DNA of UK (Ref. EA/Lakewood/09/2012)
- /10/ Modalities of Communication Form (MoC) dated 24/05/2012 signed by Beijing Uniufa Energy Technology Co., Ltd. and Lakewood Carbon One Corp.
- /11/ The contract template between the CME and the plant owner (CPA operator)
- /12/ The pictures of stakeholder notifications posted on the notification board of Liaoning Faku Economic Development Zone and 80 pieces of questionnaires
- /13/ The feasibility study report of the PoA developed by Beijing Uniufa Energy Technology Co., Ltd.
- /14/ The introduction on the technical specification of the blackbody radiation strengthen system

Category 2 Documents:

Background documents related to the design and/or methodologies employed in the design or other reference documents.

- Ref-1 VVM version 01.2 dated 30/07/2010(EB55 Annex02)
- Ref-2 Procedures for registration of a programme of activities as a single CDM project activity and issuance of certified emission reductions for a programme of activities dated 02/08/2010(EB55 Annex38)
- Ref-3 Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities(EB65 Annex03)
- Ref-4 CDM-SSC-PoA-DD form(EB33 Annex43)
- Ref-5 CDM-SSC-CPA-DD form(EB33 Annex44)
- Ref-6 AMS-II.D. version12
- Ref-7 Tool to calculate project or leakage CO₂ emissions from fossil fuel combustion (version 02)
- Ref-8 Tool to determine the remaining lifetime of equipment (version 01)
- Ref-9 Guidelines on assessment of de-bundling for SSC Project activities(EB54 Annex13)
- Ref-10 General Guidelines to SSC CDM methodologies version 17(EB61 Annex21)
- Ref-11 Guidelines on the demonstration of additionality of small-scale project activities version 09.0, EB68
- Ref-12 Guidelines on the Assessment of Investment Analysis" version 05
- Ref-13 Glossary of CDM terms Version 06



Persons interviewed:

List persons interviewed during the validation or persons that contributed with other information that are not included in the documents listed above.

- /1/ Mr. Xia Wenju, vice director of Liaoning Faku Economic Development Zone
- /2/ Mr. Pan Juwei, official of Liaoning Faku Economic Development Zone
- /3/ Mr. Zhang Peng, project manager of Beijing Uniufa Energy Technology Co., Ltd.
- /4/ Ms. Jin Shengsheng, vice technical director of Beijing Uniufa Energy Technology Co., Ltd.
- /5/ Mr. Guan Ren, operation director of Beijing Uniufa Energy Technology Co., Ltd.
- /6/ Mr. Li Xiangdong, vice director of Development and Reform Committee of Faka County
- /7/ Mr. Shang Li, vice director of Environmental Protection Bureau of Faku County



7 CURRICULA VITAE OF THE DOE'S VALIDATION TEAM MEMBERS

Ms. Katherine Zhang Ying	Bureau Veritas Certification, China	<p>Team Leader, Climate Change Lead Verifier</p> <p>She holds a Master Degree in Environmental Engineering. Before join BV in 2010, She gained over two years of CDM technical experience in energy and waste handling & disposal sector in P. R. China. She obtained the certificate of CDM verifier.</p>
Ms. Jasmine Tang Xuemei	Bureau Veritas Certification, China	<p>Team Member, Climate Change Lead Verifier</p> <p>She holds a Master Degree in Environmental Engineering. Before joining BV in 2008, she gained two years of CDM technical working experience in P.R China. She obtained the certificate of CDM Lead Verifier, Lead Auditor for ISO 14001 and ISO 14064.</p>
Mr. Lu Peishan,	Coking Plant of Baotou Steel Group	<p>Technical Specialist</p> <p>He holds a bachelor degree in metallurgy engineering. He has been working in Coking Plant of Baotou Steel Group since 1996. As a senior processing engineer, he gained rich experience on the feasibility study and technical management of construction, processing of coking project of Baotou Coking Plant of Baotou Steel Group, the initialization of the project investigation/justification/implementation of coke oven gas combined cycle electricity generation project, and the technical renovation in processing of steel production.</p>
Mr. Ren Hongxing	Zhongmei Coking Holding Limited	<p>ITR Specialist</p> <p>He holds a master degree in mineral processing engineering and a bachelor degree in chemistry engineering & technical process. He is now the vice minister of environmental protection technology department and gain over nine years experience in chemical equipment and pressure container design and development, coke production process management and environmental protection management.</p>
Mr. Tim Wang Wei	Bureau Veritas Certification, China	<p>Technical Reviewer, Climate Change Lead Verifier.</p> <p>He holds a Master Degree in Environmental Science. Before joining BV in Feb.2009, he gained 4 and a half years of working experience in engineering and EIA for manufacturing enterprise in P.R. China. He obtained the certificates of CDM Lead Verifier and ISO14001 Lead Auditor in Bureau Veritas and received training in ISO 14064.</p>

APPENDIX A: COMPANY CDM PROGRAMME VALIDATION PROTOCOL

Table 1 Validation requirements of PoA

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
1. Global Stakeholder Consultation					
1.1. Is there any comment on the SSC-PoA-DD of the proposed project activity received during Global Stakeholder Consultation process?	VVM	43	No.	OK	OK
1.2. If yes, have all comments been taken into account during the validation of the proposed project activity?	VVM	43	N.A.	OK	OK
1.3. If comments indicate that the proposed project activity does not comply with the CDM requirements and are not substantiated, is there any further clarification from the entity providing the comment?	VVM	42	N.A.	OK	OK
1.3.1. If yes, how comments received have been taken due account?	VVM	42	N.A.	OK	OK
1.3.2. If no, are the comments as originally provided	VVM	42	N.A	OK	OK



CHECKLIST QUESTION	Ref.	§	COMMENTS		Draft Concl	Final Concl
proceeded to assess?						
2. Approval			COUNTRY A (P.R.China)	COUNTRY B (UK)		
2.1. Have the letters of approval obtained from each host Party and Annex I Party which wishes to be involved in the PoA?	VVM EB55 Ann38	45 9	CAR-1: LoA from DNA of China has not been provided. The LoA issued by DNA of China on 07/09/2012 has been provided by the project participant and verified authentic by Bureau Veritas Certification. Hence, CAR-1 is closed out.	CAR-2: LoA from DNA of UK has not been provided. The LoA issued by DNA of UK on 07/11/2012 has been provided by the project participant and verified authentic by Bureau Veritas Certification. Hence, CAR-2 is closed out.	CAR-1 CAR-2	OK
2.2. Are letters of approval issued in accordance with the guidance provided by the Board (EB 16	VVM EB55	45 9	Pending on CAR-1. The Party is a Party	Pending on CAR-2.	Pending	OK



CHECKLIST QUESTION	Ref.	§	COMMENTS		Draft Concl	Final Concl
<p>report, Annex 6)?</p> <ul style="list-style-type: none"> - The Party is a Party of the Kyoto Protocol - The participation is voluntary - In the case of the host Party, the proposed CDM programme contributes to the sustainable development of the country - Refers to the precise proposed CDM project activity title in the SSC-PoA-DD being submitted for registration 	Ann38 EB16 Ann6	1	<p>of the Kyoto Protocol.</p> <p>The participation is voluntary</p> <p>The Project contributes to the sustainable development of the country</p> <p>The LoA refers to the precise title of the PoA and 1st CPA.</p>	<p>The Party is a Party of the Kyoto Protocol.</p> <p>The participation is voluntary</p> <p>The Project contributes to the sustainable development of the country</p> <p>The LoA refers to the precise title of the PoA.</p>		
2.3. Is(are) the letter(s) of approval unconditional with respect to (b) above?	VVM	46	Pending on CAR-1. Yes.	Pending on CAR-2. Yes.	Pending	OK
2.4. Has(ve) the letter(s) of approval been issued by the respective Party's designated national authority (DNA) and is valid for the CDM project activity under validation?	VVM	47	Pending on CAR-1. Yes.	Pending on CAR-2. Yes.	Pending	OK



CHECKLIST QUESTION	Ref.	§	COMMENTS		Draft Concl	Final Concl
2.5. Is there doubt with respect to the authenticity of the letter of approval?	VVM	48	Pending on CAR-1. No.	Pending on CAR-2. No.	Pending	OK
2.6. If yes, was verified with the DNA that the letter of approval is authentic?	VVM	48	Pending on CAR-1. N.A.	Pending on CAR-2. N.A.	Pending	OK
3. Authorization						
3.1. Is CDM project participation recorded only at the PoA level while the operators of individual CPAs are not considered as project participants?	EB55 Ann38	8	Yes. CDM project participant is only recorded at the PoA level while the operators of individual CPAs are not considered as project participants.		OK	OK
3.2. Has the coordinating/managing entity obtained letters of authorization of its coordination of the PoA from each host Party?	EB55 Ann38	10	Pending on CAR-1 and CAR-2. Yes.		Pending	OK
3.3. Has the approval of participation issued from the relevant DNA?	VVM	53	Pending on CAR-1 and CAR-2. Yes.		Pending	OK



CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
3.4. Is there doubt with respect to (g) above?	VVM	53	Pending on CAR-1 and CAR-2. No.	Pending	OK
3.5. If yes, was verified with the DNA that the approval of participation is valid for the proposed project participant?	VVM	53	Pending on CAR-1 and CAR-2. N.A.	Pending	OK
4. Modalities of Communications (MoC)					
4.1. Is the CME the sole or a joint focal point for each scope of authority?	EB55 Ann38	11	CAR-3: MoC has not been provided. The MoC has been provided. The contact information in the MoC has been verified and found consistent with that in the SSC-PoA-DD. Hence, CAR-3 is closed out.	CAR-3	OK
4.2. Is the number of joint focal points limited to five, or equal to the number of host parties if greater than five?	EB55 Ann38	11	Pending on CAR-3. N.A. No joint focal points, just sole focal point.	Pending	OK
5. PoA design					



CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
5.1. Is the SSC-PoA-DD completed using valid version of the CDM SSC-PoA-DD form appropriate to the type of project activity?	VVM	55	Yes, Programme of Activities Design Document Form (CDM-SSC-PoA-DD) version 01 (EB33 Ann 43) was used.	OK	OK
6. General description of PoA (corresponding to section A of CDM SSC-PoA-DD s)					
6.1. In Section A.1 of CDM-SSC-PoA-DD, is a title for the PoA provided?	EB33	Ann43	Yes. Energy efficiency programme for ceramic kilns in Liaoning Faku Economic Development Zone.	OK	OK
6.2. Description of programme of activities(Section A.2 of CDM-SSC-PoA-DD)	EB33	Ann43			
6.2.1. Is a framework developed for the implementation of the proposed CDM PoA and inclusion of CPAs under the PoA?	EB33 EB55 Ann38	Ann43 6	Yes. The coordinating/managing entity (CME) of the proposed PoA is Beijing Uniufa Energy Technology Co., Ltd.. Lakewood Carbon One Corp. (LCC I) will be buyer of the CERS.	OK	OK



CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			Individual CPA owners (CPA implementers) will invest and implement the CPA voluntarily.		
6.2.2. Is Policy/measure or stated goal that the proposed PoA provided?	EB33 EB55 Ann38	Ann43 6(c)	Yes. The stated goal is to motivate existing ceramic plants and those to be built to adopt "BRST" measures to improve kiln energy efficiency by replacing, modifying or retrofitting existing kilns or purchasing new kilns (Greenfield facility), thereby reducing fossil fuel use thus reducing Greenhouse Gas (GHG) emissions.	OK	OK
6.2.3. Is it confirmed that the proposed PoA is a voluntary action by the coordinating/managing entity?	EB33 EB55 Ann38	Ann43 6(d)	Yes. The proposed PoA is a voluntary action by the CME and is not required by China law.	OK	OK
6.3. Coordinating/managing entity and participants of PoA(Section A.3 of CDM-SSC-PoA-DD)	EB33	Ann43			



CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
6.3.1. Coordinating or managing entity	EB33 EB55 Ann38	Ann43 6(a)	Yes. Beijing Uniufa Energy Technology Co., Ltd.	OK	OK
6.3.2. Host Party(ies)	EB33 EB55 Ann38	Ann43 6(a)	Yes. P.R.China	OK	OK
6.3.3. PoA participants	EB33 EB55 Ann38	Ann43 6(a)	Yes. Lakewood Carbon One Corp. acts as the buyer.	OK	OK
6.4. Technical description of the programme of activities(Section A.4 of CDM-SSC-PoA- DD)	EB33	Ann43			
6.4.1. In Section A.4.1 of CDM-SSC-PoA-DD, is location of the programme of activities defined?	EB33	Ann43	Yes.	OK	OK
6.4.1.1. Host Party(ies)	EB33	Ann43	Yes. P.R.China.	OK	OK



CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
6.4.1.2. Definition of the boundary for the PoA in terms of a geographical area(e.g., municipality, region within a country, country or several countries) within which all CPAs included in the PoA will be implemented, taking into consideration the requirement that all applicable national and/or sectoral policies and regulations of each host country within that chosen boundary.	EB33 EB55 Ann38	Ann43 6(b)	Yes. Liaoning Faku Economic Development Zone.	OK	OK
6.4.2. In Section A.4.2.1 of CDM-SSC-PoA-DD, is(are) technology or measures to be employed by the CPA provided?	EB33 EB55 Ann38	Ann43 6(f)	A typical CPA under the current PoA will replace, modify or retrofit existing kilns or install new kilns (Greenfield facility) with a patented technology, named “Blackbody Radiation Strengthen Technology” (BRST), which can improve kiln heat radiation property by adding blackbody units to kiln walls and roofs. CL-1: Technical specifications of the Blackbody should be specified. The technical specifications introduction material of the blackbody has been verified by the validation team. Due to	CL-1	OK



CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			the commercial confidential concern, the PP did not reveal the detailed description of the blackbody but just describe the energy saving rate and its energy saving principles in the updated PoA-DD. Bureau Veritas Certification considered it acceptable. Hence, CL-1 is closed out.		
6.4.3. In Section A.4.2.2 of CDM-SSC-PoA-DD, is eligibility criteria for inclusion of a CPA in the PoA provided?	EB33 EB55 Ann38	Ann43 6(g)	Yes. The eligibility criteria has been provided in Section A.4.2.2 of CDM-SSC-PoA-DD.	OK	OK
6.4.4. In Section A.4.3 of CDM-SSC-PoA-DD, is additionality assessed and demonstrated as following?	EB33	Ann43			
6.4.4.1. Is the proposed PoA a voluntary coordinated action?	EB33 EB55 Ann38	Ann43 6(e)	CL-2: Current national and local standards for the ceramic plants should be clarified. The the national standard GB21252-2007 and the FSR have been verified by the validation team. The officials from	CL-2	OK



CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			<p>the Development and Reform Bureau of Faku County and the management committee of Faku Economic Development Zone were also interviewed during the site visit. It could be confirmed that the energy consumption levels of ceramic plants in Liaoning Faku Economic Development Zone comply with national and local standards.</p> <p>Hence, CL-2 is closed out.</p> <p>There are no mandatory policy/regulation requirements for ceramic plants to introduce BSRT technology to improve energy efficiency. The PoA is a voluntary coordinated action.</p>		
6.4.4.2. If the PoA is implementing a voluntary coordinated action, would it be implemented in the absence of the PoA?	EB33 EB55 Ann38	Ann43 6(e)	The CPA under the proposed PoA was not financially attractive. It would not be implemented in the absence of the PoA.	OK	OK



CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
6.4.4.3. If the PoA is implementing a mandatory policy/regulation, is this enforced?	EB33 EB55 Ann38	Ann43 6(e)	The PoA is not implementing a mandatory policy/regulation.	OK	OK
6.4.4.4. If mandatory a policy/regulation is enforced, will the PoA lead to a greater level of enforcement of the existing mandatory?	EB33 EB55 Ann38	Ann43 6(e)	N.A.	OK	OK
6.4.5. In Section A.4.4.1 of CDM-SSC-PoA-DD, is the following description of the operational and management arrangement established by the coordinating/managing entity for the implementation of the PoA included?	EB33	Ann43			
6.4.5.1. A record keeping system for each CPA under the PoA	EB33	Ann43	Yes. A record keeping system shall be constructed to record CPA's general information (including plant name, address, contact information, geographical coordinates, kiln number, crediting period and its start date), operation and monitoring data. Each	OK	OK



CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			CPA shall be uniquely identified in the record keeping system with unique CPA No. and Kiln No..		
6.4.5.2. A system/procedure to avoid double accounting e.g. to avoid the case of including a new CPA that has been already registered either as a CDM project or as a CPA of another PoA	EB33 EB65 Ann3	Ann43 17	Yes. The CPA implementer who is to implement the CPA would have to sign a contract with the CME. CME will also check with the host country DNA and EB data base before add any CPA into the PoA to make sure that the CPA has not been already registered either as a CDM project activity or as a CPA of another PoA.	OK	OK
6.4.5.3. The SSC-CPA included in the PoA is not a de-bundled component of another CDM programme activity (CPA) or CDM project activity	EB33 EB65 Ann3	Ann43 17	EB54 Annex13 will be adopted to demonstrate that the SSC-CPA included in the PoA is not a de-bundled component.	OK	OK
6.4.5.4. The provisions to ensure that those operating the CPA are aware of and	EB33	Ann43	Each CPA implementer will make a statement in the contract signed with	OK	OK



CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
have agreed that their activity is being subscribed to the PoA			CME that they agree to add the CPA into the PoA.		
6.4.5.5. A clear definition of roles and responsibilities of personnel involved in the process of inclusion of CPAs, including a review of their competencies	EB65 Ann3	17	<p>CL-3: A clear definition of roles and responsibilities of personnel involved in the process of inclusion of CPAs, including a review of their competencies should be provided.</p> <p>A clear definition of roles and responsibilities of personnel involved in the process of inclusion of CPAs, including a review of their competencies provided in Section A.4.4.1 of the updated PoA-DD has been verified by the validation team and found in line with the requirement of EB65, Annex 3.</p> <p>Hence, CL-3 is closed out.</p> <p>The responsibilities of inclusion manager, monitoring manager and the record keeping manager have been specified. These managers' competencies are defined as at least 2 years' working experience in CDM with a</p>	CL-3	OK



CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			bachelor degree or 5 years' working experience in related areas.		
6.4.5.6. Records of arrangements for training and capacity development for personnel	EB65 Ann3	17	<p>CL-4: Records of arrangements for training and capacity development for personnel should be provided.</p> <p>Records of arrangements for training and capacity development for personnel provided in Section A.4.4.1 of the updated PoA-DD has been verified by the validation team and found in line with the requirement of EB65, Annex 3.</p> <p>Hence, CL-4 is closed out.</p> <p>Necessary training and assessment shall be given to inclusion manager, monitoring manager and the record keeping manager during the PoA crediting period to ensure their competency for the work. The training and assessment shall be recorded.</p>	CL-4	OK
6.4.5.7. Procedures for technical review of	EB65	17	CL-5: Procedures for technical review of	CL-5	OK



CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
inclusion of CPAs	Ann3		<p>inclusion of CPAs should be provided.</p> <p>Procedures for technical review of inclusion of CPAs provided in Section A.4.4.1 of the updated PoA-DD has been verified by the validation team and found in line with the requirement of EB65, Annex 3.</p> <p>Hence, CL-5 is closed out.</p> <p>Technical review shall be taken under the PoA team when including a CPA into this PoA. The chief manager shall lead the team to check whether the CPA's information under CME's system is correct, whether the CPA is a de-bundled component of another CDM programme activity (CPA) or CDM project activity, whether the CPA is double accounted, and whether the CPA implementer is voluntary to join this PoA.</p>		
6.4.5.8. Records and documentation control process for each CPA under the PoA	EB65 Ann3	17	<p>Yes.</p> <p>The CME shall maintain the data</p>	OK	OK



CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			collected from each CPA. The record keeping would be both in paper and electronic format. All the data shall be kept and archived electronically for two years after the end of crediting period or the last issuance of CERs, whichever occurs later.		
6.4.5.9. Measures for continuous improvements of the PoA management system	EB65 Ann3	17	<p>CL-6: Measures for continuous improvements of the PoA management system should be provided.</p> <p>Measures for continuous improvements of the PoA management system provided in Section A.4.4.1 of the updated PoA-DD has been verified by the validation team and found in line with the requirement of EB65, Annex 3.</p> <p>Hence, CL-6 is closed out.</p> <p>Monitoring procedures and records of each CPA shall be audited annually under the PoA team. Any mistakes or inefficiency found shall be corrected and keep the correction recorded. If</p>	CL-6	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			necessary, the management system shall be further developed or improved. Any improvement or development shall be kept record.		
6.4.5.10. Any other relevant elements	EB65 Ann3	17	No other relevant elements.	OK	OK
6.4.6. In Section A.4.4.2 of CDM-SSC-PoA-DD, is the following information regarding monitoring plan provided?	EB33	Ann43			
6.4.6.1. Description of the proposed statistically sound sampling method/procedure to be used by DOEs for verification of the amount of reductions of anthropogenic emissions by sources or removals by sinks of greenhouse gases achieved by CPAs under the PoA	EB33 EB55 Ann38	Ann43 6(k)	N.A. as sampling method is not used.	OK	OK
6.4.6.2. In case the coordinating/managing entity opts for a verification method that does not use sampling but verifies each CPA(whether in groups or not, with	EB33 EB55 Ann38	Ann43 6(k)	Yes.	OK	OK



CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
different or indentical verification periods), a transparent system is to be defined and described that ensures that no double accounting occurs and that the status of verification can be determined anytime for each CPA					
6.4.7. In Section A.5 is information regarding public funding of the programme activities provided?	EB33 EB55 Ann38	Ann43 6(n)	Yes. The PoA will not receive any public funding from Annex I Parties.	OK	OK
7. Duration of the programme of activities(Section B of CDM-SSC-PoA-DD)	EB33	Ann43			
7.1. In Section B.1 of CDM-SSC-PoA-DD, is starting date of the PoA defined?	EB33	Ann43	Yes.	OK	OK
7.2. In Section B.2 of CDM-SSC-PoA-DD, is length of the PoA defined with a maximum total length of 28 years?	EB33 EB55 Ann38	Ann43 6(h)	Yes.	OK	OK
8. Environmental Analysis(Section C of CDM-SSC-	EB33	Ann43			



CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
PoA-DD)					
8.1. In Section C.1 of CDM-SSC-PoA-DD, is environmental analysis conducted at PoA level or CPA level?	EB33 EB55 Ann38	Ann43 6(I)	CPA level.	OK	OK
8.2. If environmental analysis is conducted at PoA level, is the documentation on the analysis of the environmental impacts, including transboundary impacts provided in Section C.2 of CDM-SSC-PoA-DD	EB33	Ann43	<p>CL-7: In Section C.1 of PoA-DD, CPA level has been chosen for the environmental analysis. Thus clarification is required on why documentation on the analysis of environmental analysis was also provided in Section C.2.</p> <p>The documentation on the analysis of the environmental impacts in the updated PoA-DD is correct.</p> <p>Hence, CL-7 is closed out.</p>	CL-7	OK
8.3. In Section C.3 of CDM-SSC-PoA-DD, is it stated that whether in accordance with the host Party laws/regulations, an environmental impact assessment is required for a typical CPA	EB33	Ann43	<p>Yes.</p> <p>In China, Environmental Impact Assessments is required for each CPA.</p>	OK	OK



CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
included in the PoA?					
9. Stakeholders' comments(Section D of CDM-SSC-PoA-DD)					
9.1. In Section D.1 of CDM-SSC-PoA-DD, is the local stakeholder consultation process done at PoA level or CPA level?	EB33 EB55 Ann38	Ann43 6(m)	PoA level.	OK	OK
9.2. If local stakeholders comments were invited at the PoA level,					
9.2.1. In Section D.2 of CDM-SSC-PoA-DD, how these comments were invited and compiled?	EB33 EB55 Ann38	Ann43 6(m)	Yes. Public notification were prepared and posted on the notification board of the Liaoning Faku Economic Development Zone to solicit the public comments on the program from 11/04/2011. A questionnaire survey investigates local stakeholders' opinion was conducted in Liaoning Faku Economic Development Zone. Totally, 80 questionnaires were distributed to the stakeholder including Governmental Official and environment experts, ceramic plant	OK	OK



CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			owner, village leaders and households and collected up to May 10th, 2011.		
9.2.2. In Section D.3 of CDM-SSC-PoA-DD, is the summary of the comments received provided?	EB33 EB55 Ann38	Ann43 6(m)	Yes.	OK	OK
9.2.3. In Section D.4 of CDM-SSC-PoA-DD, how due account was taken of all comments received?	EB33 EB55 Ann38	Ann43 6(m)	Since there was no negative comment received, it's not necessary to take any corrective actions.	OK	OK
10. Application of a baseline and monitoring methodology (Section E of CDM-SSC-PoA-DD)					
10.1. In Section E.1 of CDM-SSC-PoA-DD, are title and reference of the approved methodology (including any other methodologies or tools) applied to each CPA included in the PoA provided?	EB33	Ann43	AMS-II.D. Energy efficiency and fuel switching measures for industrial facilities (version 12). Tools applied include: General Guidelines to SSC CDM methodologies (version 17) Tool to calculate project or leakage CO2	OK	OK



CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			emissions from fossil fuel combustion (version 02) Tool to determine the remaining lifetime of equipment (version 01) Guidelines on the demonstration of additionality of small-scale project activities" (version 09.0)		
10.2. Justification of the choice of the methodology and why it is applicable to each CPA (E.2 of CDM-SSC-PoA-DD)					
10.2.1. Is choice of an approved baseline and monitoring methodology (or combination of approved methodologies) justified?	EB33 EB55 Ann38	Ann43 6(f)	Yes.	OK	OK
10.2.1.1. For PoAs applying large scale CDM methodologies or combination of multiple large scale and small-scale CDM methodologies in a PoA, are combinations explicitly permitted in the methodologies?	EB65 Ann3	32&33	N.A.	OK	OK



CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
10.2.1.2. If not, has a clarification for the eligibility of the proposed combination sought by following the latest version of the "Procedure for the submission and consideration of queries regarding the application of approved methodologies and methodological tools by designated operational entities to the Meth Panel" ?	EB65 Ann3	32&33	N.A.	OK	OK
10.2.2. Is each of the applicability conditions of the approved methodology or other methodology component referred to therein met?	EB33 EB55 Ann38	Ann43 6(f)			
10.2.2.1. This category comprises any energy efficiency and fuel switching measures implemented at a single or several industrial or mining and mineral production facility(ies). This category covers project activities aimed primarily at energy efficiency; a project activity that involves primarily fuel switching falls into category III.B	AMS II.D Ver.12	1	Yes. The CPA will aim primarily at energy efficiency and comprise BRST implemented at a single or several ceramic kilns.	OK	OK



CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
10.2.2.2. The measures may replace, modify or retrofit existing facilities or be installed in a new facility.	AMS II.D Ver.12	2	Yes. The CPA may replace, modify or retrofit existing kilns using BRST or install BRST in a new kiln.	OK	OK
10.2.2.3. This category is applicable to project activities where it is possible to directly measure and record the energy use within the project boundary (e.g., electricity and/or fossil fuel consumption)	AMS II.D Ver.12	3	Yes. The energy used for the kilns can and will be directly measured and recorded within the CPA boundary.	OK	OK
10.2.2.4. This category is applicable to project activities where the impact of the measures implemented (improvements in energy efficiency) by the project activity can be clearly distinguished from changes in energy use due to other variables not influenced by the project activity (signal to noise ratio).	AMS II.D Ver.12	4	Yes. The impact of the measures implemented by the CPA can be clearly distinguished from changes in energy use due to other variables not influenced by the project activity.	OK	OK
10.2.2.5. The aggregate energy savings of a single project (inclusive of a single facility or several facilities) may not exceed the equivalent of 60 GWhe per year. A total	AMS II.D Ver.12	5	Yes. The aggregate energy savings of a single CPA (inclusive of a single facility or several facilities) do not exceed the	OK	OK



CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
saving of 60 GWhe per year is equivalent to a maximal saving of 180 GWh _{th} per year in fuel input.			equivalent of 180 GWh _{th} per year.		
10.3. Description of the sources and gases included in the CPA boundary(Section E.3 of CDM-SSC-PoA-DD)	EB33	Ann43			
10.3.1. Is the boundary of the PoA including the physical delineation of the project activity defined?	VVM	79	Yes.	OK	OK
10.3.2. Are sources and GHGs included in CPA boundary in accordance with the selected methodology(ies)?	EB33 VVM	Ann43 79	Yes.	OK	OK
10.3.3. In cases where the selected methodology(ies) allows project participants to choose whether a source or gas is to be included in the project or CPA boundary, is the choice explained and justified?	VVM	79	N.A.	OK	OK
10.4. Description of how the baseline scenario is identified and description of the identified	EB33	Ann43			



CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
baseline scenario(Section E.4 of CDM-SSC-PoA-DD)					
10.4.1. Is description of how the baseline scenario is identified provided?	EB33	Ann43	Yes.	OK	OK
10.4.2. Does the selected methodology require use of tools (such as the “Tool for the demonstration and assessment of additionality” or the “Combined tool to identify the baseline scenario and demonstrate additionality”) to establish the baseline scenario?	VVM	82	No.	OK	OK
10.4.3. Do the project participants take into account national and/or sectoral policies and circumstances?	VVM	85	Yes.	OK	OK
10.4.4. Is the description of the identified baseline scenario provided and consistent with the applied methodology?	EB33 VVM	Ann43 86	CL-8: The description of the identified baseline scenario in Section E.4 of PoA DD is not fully consistent with the applied methodology AMS-II.D. version12. The description of the identified baseline	CL-8	OK



CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			<p>scenario in section E.4 in the updated PoA-DD is consistent with that in the applied methodology AMS-II.D. version 12.</p> <p>Hence, CL-8 is closed out.</p> <p>The PoA have two kinds of baseline. If the CPA is replacing, modifying or retrofitting existing kilns, the baseline is the energy baseline of the existing kilns that is replaced, modified or retrofitted. For new facilities and project activities involving capacity additions, the energy baseline is the traditional kilns that would otherwise be built.</p>		
10.5. Assessment and demonstration of additionality for a typical CPA(Section E.5 of CDM-SSC-PoA-DD)	EB33	Ann43			
10.5.1. In Section E.5.1 of CDM-SSC-PoA-DD, have the PPs demonstrated additionality of a typical CPA using the procedure provided in the baseline and monitoring methodology	EB33	Ann43	<p>Yes.</p> <p>As per Guidelines on the demonstration of additionality of small-scale project activities, "Project participants shall</p>	OK	OK



CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
applied?			provide an explanation to show that the project activity would not have occurred anyway due to at least one of the following barriers:” (a) Investment barrier; (b) Technological barrier; (c) Barrier due to prevailing practice; (d) Other barriers. Investment barrier is adopted for the demonstration of the additionality of each CPA.		
10.5.2. In Section E.5.2 of CDM-SSC-PoA-DD, have the PPs provided the key criteria for assessing additionality of a CPA when proposed to be included in the registered PoA?	EB33	Ann43			
10.5.2.1. Have the PPs justified the choice of criteria based on the analysis in Section E.5.1 of CDM-SSC-PoA-DD?	EB33	Ann43	Yes.	OK	OK
10.5.2.2. Is it demonstrated how these criteria would be applied to the additionality of a typical CPA at the time of inclusion.	EB33	Ann43	Yes.	OK	OK



CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
10.5.2.3. Are the eligibility criteria for inclusion of a CPA in the PoA in accordance with the “Standard for demonstration of additionality, development of eligibility criteria and application of multiple methodologies for programme of activities?	EB65	Ann3			
10.5.2.3.1. Is eligibility criteria derived from all the relevant requirements contained in the addtionality section of the large scale methodologies included?	EB65 Ann3	10	Yes.	OK	OK
10.5.2.3.2. Has the CME demonstrated that compliance with the additionality-related eligibility criteria set in the PoA design document will ensure that all the relevant additionality-related guidelines, tools or any requirements embedded in the methodologies are met?	EB65 Ann3	11	Yes.	OK	OK
10.5.2.3.3. For PoAs involving combinations of technologies/ measures and/ or methodologies, are the eligibility criteria relative to each of them proposed to	EB65 Ann3	12	N.A.	OK	OK



CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
demonstrate additionality.					
10.6. Estimation of Emission reductions of a CPA(Section E.6 of CDM-SSC-PoA-DD)					
10.6.1. In Section E.6.1 of CDM-SSC-PoA-DD, are methodological choices provided in the approved baseline and monitoring methodology applied, selected for a typical CPA explained and justified?	EB33 VVM	Ann43 90	Yes.	OK	OK
10.6.2. In Section E.6.2 of CDM-SSC-PoA-DD, are equations including fixed/default parametric values to be used for calculations of emission reductions of a CPA provided and justified?	EB33 VVM	Ann43 90			
10.6.2.1. Baseline emissions?	VVM	89	CAR-4: The equations adopted for the calculation of baseline emission are not consistent with the applied methodology AMS II.D. The equations adopted for the calculation of baseline emission in the updated PoA DD have been verified by	CAR-4	OK

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			<p>the validation team and found consistent with that in the applied methodology AMS-II.D.</p> <p>Hence, CAR-4 is closed out.</p> <p>$BE_y = EC_{BL} \times COEF_{i,y}$</p> <p>$EC_{BL} = EC_{HY}$ until $DATE_{BaselineRetrofit}$</p> <p>$EC_{BL} = EC_{PJ,y}$ on/after $DATE_{BaselineRetrofit}$</p> <p>$COEF_{i,y} = w_{C,i,y} / NCV_{i,y} \times 44/12 \times 3600$</p>		
10.6.2.2. Project emissions?	VVM	89	<p>Yes.</p> <p>$PE_y = EC_{PJ,y} \times COEF_{i,y}$</p> <p>$EC_{PJ,y} = FC_{PJ,i,y} \times NCV_{i,y} / 3600 / 1000$</p>	OK	OK
10.6.2.3. Leakage?	VVM	89	<p>Yes.</p> <p>$LE_y = 0$</p>	OK	OK
10.6.2.4. Emission reductions?	VVM	89	<p>Pending on CAR-4.</p> <p>$ER = BE_y - PE_y - LE_y$</p>	Pending	OK
10.6.3. In Section E.6.3 of CDM-SSC-PoA-DD,	EB33	Ann43	<p>CAR-5: The data/parameters provided in</p>	CAR-5	OK



CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
are data and parameters that are to be reported in CDM-CPA-DD provided?	VVM	91	<p>Section E.6.3 of PoA-DD are not consistent with the applied methodology and considered incomplete.</p> <p>The data/parameters provided in Section E.6.3 of PoA-DD are considered consistent with the applied methodology and complete.</p> <p>Hence, CAR-5 is closed out.</p> <p>EC_{UnitBL,I}, DATE_{BaselineRetrofit}, COEF_{i,y} are listed.</p>		
10.6.4. In cases where the selected methodology(ies) allows the use of sampling for the determination of parameter values for calculating GHG emission reductions, do project participants develop and describe the sampling plan in accordance with “Standard for sampling and surveys for CDM project activities and programme of activities”?	EB65	Ann2	N.A.	OK	OK
10.7. Application of the monitoring methodology and description of the monitoring plan					



CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
10.7.1. In Section E.7.1 of CDM-SSC-PoA-DD, are data and parameters to be monitored by each CPA provided in accordance with the CDM-SSC-PoA-DD form?	EB33	Ann43	<p>CAR-6: The data/parameters provided in Section E.7.1 of PoA-DD are not consistent with the applied methodology.</p> <p>The data/parameters provided in Section E.7.1 of PoA-DD are considered consistent with the applied methodology and complete.</p> <p>Hence, CAR-6 is closed out.</p> <p>M_y, $FC_{PJ,i,y}$, $WC_{i,y}$, $NCV_{i,y}$ and independent monitoring of scrapping of replaced equipment are listed.</p>	CAR-6	OK
10.7.2. In Section E.7.2 of CDM-SSC-PoA-DD, is a detailed description of the monitoring plan provided?	EB33	Ann43	<p>Pending on CAR-6.</p> <p>Yes.</p>	Pending	OK
10.7.3. Is the monitoring plan for a CPA in accordance with the approved monitoring methodology, including applicable tool(s)?	EB55 Ann38	6(j)	<p>Pending on CAR-6.</p> <p>Yes.</p>	Pending	OK
10.8. In Section E.8 of CDM-SSC-PoA-DD, is the following provided?	EB33	Ann43			



CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
10.8.1. Date of completion of the application of the baseline study and monitoring methodology	EB33	Ann43	Yes.	OK	OK
10.8.2. The name of responsible person(s)/entity(ies)	EB33	Ann43	Yes.	OK	OK
11. Other information(Annex of CDM-SSC-PoA-DD)					
11.1. In Annex 1 of CDM-SSC-PoA-DD, is contact information on coordinating /managing entity and participants in the Programme of Activities provided as following?	EB33	Ann43	Yes.	OK	OK
11.1.1. Contact information on CME and participants in the PoA provided?	EB33	Ann43	Yes.	OK	OK
11.1.2. For each organization listed in section A.3, the following mandatory fields: Organization, Name of contact person, Street, City, Postfix/ZIP, Country, Telephone and Fax or e-mail	EB33	Ann43	Yes.	OK	OK



CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
11.2. In Annex 2 of CDM-SSC-PoA-DD, is the background information regarding public funding provided?	EB33	Ann43	N.A.	OK	OK
11.3. In Annex 3 of CDM-SSC-PoA-DD, is the background information used in the application of the baseline methodology provided	EB33	Ann43	No additional baseline information is provided.	OK	OK
11.4. In Annex 4 of CDM-SSC-PoA-DD, is the background information used in the application of the monitoring methodology provided	EB33	Ann43	No other additional information is provided.	OK	OK
12. Eligibility criteria for inclusion of a CPA in the PoA					
12.1. Do the eligibility criteria cover as a minimum the following?	EB65 Ann3	14			
12.1.1. The geographical boundary of the CPA including any time-induced boundary consistent with the geographical boundary set in the PoA	EB65 Ann3	14(a)	Yes. The CPA shall be within the geographical boundary of the PoA, which is Liaoning Faku Economic Development Zone. Each CPA shall be	OK	OK



CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
			uniquely identified by geographical coordinates.		
12.1.2. Conditions that avoid double counting of emission reductions like unique identifications of product and end-user locations (e.g. programme logo)	EB65 Ann3	14(b)	<p>CL-9: The conditions that avoid double counting should be specified.</p> <p>The conditions that avoid double counting provided in Section A.4.4.1 of the updated PoA-DD has been verified by the validation team and found in line with the requirement of EB65, Annex 3.</p> <p>Hence, CL-9 is closed out.</p> <p>The conditions are set as: Each CPA shall be checked with the host country DNA and EB data base to make sure it has not been already registered either as a CDM project activity or as a CPA of another PoA. And unique ID will be given to each CPA, such as CPA-001, CPA-002 and so on</p>	CL-9	OK
12.1.3. The specifications of technology/measure including the level and type of service, performance specifications	EB65 Ann3	14(c)	<p>Yes.</p> <p>Each CPA shall adopt "BRST" to</p>	OK	OK



CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
including compliance with testing/certifications			improve energy efficiency.		
12.1.4. Conditions to check the start date of the CPA through documentary evidence	EB65 Ann3	14(d)	Yes. Document evidence should be provided to make sure the start date of the CPA is not earlier than the validation date of the PoA.	OK	OK
12.1.5. Conditions that ensure compliance with applicability and other requirements of single or multiple methodologies applied by CPAs	EB65 Ann3	14(e)	Yes. The CPA shall comply with applicability and other requirements in methodology AMS-II.D. "Energy efficiency and fuel switching measures for industrial facilities" (version 12).	OK	OK
12.1.6. The conditions that ensure that CPAs meet the requirements pertaining to the demonstration of additionality as specified in 10.5.2 in table 1 above.	EB65 Ann3	14(f)	Yes. The additionality of each CPA would be demonstrated by investment barrier analysis.	OK	OK
12.1.7. The PoA-specific requirements stipulated by the CME including any conditions related to undertaking local	EB65 Ann3	14(g)	Yes. The SSC-CPA should comply with the Environmental impact assessment	OK	OK



CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
stakeholder consultations and environmental impact analysis			requirements stated in the generic CPA-DD. Stakeholder consultation has been done on PoA level.		
12.1.8. Conditions to provide an affirmation that funding from Annex I parties, if any, does not result in a diversion of official development assistance	EB65 Ann3	14(h)	Yes.	OK	OK
12.1.9. Where applicable, target group (e.g. domestic/commercial/industrial, rural/urban, grid connected/ off-grid) and distribution mechanisms (e.g. direct installation);	EB65 Ann3	14(i)	N.A.	OK	OK
12.1.10. Where applicable, the conditions related to sampling requirements for a PoA in accordance with the approved guidelines/standard from the Board pertaining to sampling and surveys	EB65 Ann3	14(j)	N.A.	OK	OK
12.1.11. Where applicable, the conditions that ensure that every CPA in aggregate meets the small-scale or microscale threshold criteria and remains within those thresholds	EB65 Ann3	14(k)	Yes. The energy saving of every CPA in aggregate do not exceed the equivalent of 180 GWh _{th} per year throughout the	OK	OK



CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
throughout the crediting period of the CPA			crediting period.		
12.1.12. Where applicable, the requirements for the debundling check, in case CPAs belong to small-scale (SSC) or microscale project categories	EB65 Ann3	14(l)	CL-10: The requirement for the debundling check should be specified. The requirement for the debundling check provided in Section A.4.4.1 of the updated PoA-DD has been verified by the validation team and found in line with the requirement of EB65, Annex 3. Hence, CL-10 is closed out. EB 54 Annex 13 will be adopted.	CL-10	OK
12.1.13. Other criteria	EB65 Ann3	14	No other criteria is listed.	OK	OK
12.2. Are the eligibility criteria verifiable?	EB65 Ann3	15	Yes.	OK	OK
12.3. Are the eligibility criteria sufficiently objective and comprehensive to permit the assessment of the inclusion of CPAs in the PoA?	EB65 Ann3	16	Pending on CL-9 and CL-10. Yes.	OK	OK

**Table 2 Resolution of Corrective Action and Clarification Requests for PoA**

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question in table 1	Summary of project owner response	Validation team conclusion
CAR-1: LoA from DNA of China has not been provided.	2.1	The LoA issued by DNA of China on 07/09/2012 has been provided to DOE.	The LoA issued by DNA of China on 07/09/2012 has been provided by the project participant and verified authentic by Bureau Veritas Certification. Hence, CAR-1 is closed out.
CAR-2: LoA from DNA of UK has not been provided.	2.1	The LoA issued by DNA of UK on 07/11/2012 has been provided to DOE.	The LoA issued by DNA of UK on 07/11/2012 has been provided by the project participant and verified authentic by Bureau Veritas Certification. Hence, CAR-2 is closed out.



VALIDATION REPORT

CAR-3: MoC has not been provided.	4.1	The MoC has been provided to DOE.	The MoC has been provided. The contact information in the MoC has been verified and found consistent with that in the SSC-PoA-DD. Hence, CAR-3 is closed out.
CAR-4: The equations adopted for the calculation of baseline emission are not consistent with the applied methodology AMS II.D.	10.6.2.1	The equations adopted for the calculation of baseline emission have been corrected in the updated PoA DD.	The equations adopted for the calculation of baseline emission in the updated PoA DD have been verified by the validation team and found consistent with that in the applied methodology AMS-II.D. Hence, CAR-4 is closed out.
CAR-5: The data/parameters provided in Section E.6.3 of PoA DD are not consistent with the applied methodology and considered incomplete.	10.6.3	It is clarified that the parameter $COEF_{i,y}$ has been added and the relevant description has also been updated in the section E.6.3 of the updated PoA-DD.	The data/parameters provided in Section E.6.3 of PoA-DD are considered consistent with the applied methodology and complete. Hence, CAR-5 is closed out.



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CAR-6: The data/parameters provided in Section E.7.1 of PoA DD are not consistent with the applied methodology.	10.7.1	The relevant description in Section E.7.1 has been updated according to AMS-II.D.	The data/parameters provided in Section E.7.1 of PoA-DD are considered consistent with the applied methodology and complete. Hence, CAR-6 is closed out.
CL-1: Technical specifications of the Blackbody should be specified.	6.4.2	It is clarified that the technical specifications introduction material of the blackbody has been provided to DOE. Due to the commercial confidential concern, the PP did not reveal the detailed description of the blackbody but just describe the energy saving rate and its energy saving principles in the updated PoA-DD.	The technical specifications introduction material of the blackbody has been verified by the validation team. The descriptions regarding the energy saving rate and the energy saving principles were found consistent with that in the technical specification material. Hence, CL-1 is closed out.



<p>CL-2: Current national and local standards for the ceramic plants should be clarified.</p>	<p>6.4.4.1</p>	<p>It is clarified that the current national standard for the ceramic plants is “GB 21252-2007 The norm of energy consumption per unit product of architecture and sanitary ceramics”, which has been attached.</p> <p>It limits the energy consumption per unit product of architecture ceramics no more than 300 kgce/t to 340 kgce/t as to different kinds of products.</p> <p>According to the description in page15 of FSR of CPA-001, the energy consumption per unit product in Liaoning Faku Economic Development Zone is about 280kgce/t at present, which is lower than the limited criteria.</p> <p>So the energy consumption levels of ceramic plants in Liaoning Faku Economic Development Zone comply with national and local standards.</p>	<p>The business licence, the national standard GB21252-2007 and the FSR have been verified by the validation team. The officials from the Development and Reform Bureau of Faku County and the management committee of Faku Economic Development Zone were also interviewed during the site visit. It could be confirmed that the energy consumption levels of ceramic plants in Liaoning Faku Economic Development Zone comply with national and local standards.</p> <p>Hence, CL-2 is closed out.</p>
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CL-3: A clear definition of roles and responsibilities of personnel involved in the process of inclusion of CPAs, including a review of their competencies should be provided.	6.4.5.5	A clear definition of roles and responsibilities of personnel involved in the process of inclusion of CPAs, including a review of their competencies has been provided in Section A.4.4.1 of the updated PoA-DD.	A clear definition of roles and responsibilities of personnel involved in the process of inclusion of CPAs, including a review of their competencies provided in Section A.4.4.1 of the updated PoA-DD has been verified by the validation team and found in line with the requirement of EB65, Annex 3. Hence, CL-3 is closed out.
CL-4: Records of arrangements for training and capacity development for personnel should be provided.	6.4.5.6	Records of arrangements for training and capacity development for personnel has been provided in Section A.4.4.1 of the updated PoA-DD.	Records of arrangements for training and capacity development for personnel provided in Section A.4.4.1 of the updated PoA-DD has been verified by the validation team and found in line with the requirement of EB65, Annex 3. Hence, CL-4 is closed out.



CL-5: Procedures for technical review of inclusion of CPAs should be provided.	6.4.5.7	Procedures for technical review of inclusion of CPAs including the responsibility of CPA inclusion manager has been provided in Section A.4.4.1 of the updated PoA-DD.	Procedures for technical review of inclusion of CPAs provided in Section A.4.4.1 of the updated PoA-DD has been verified by the validation team and found in line with the requirement of EB65, Annex 3. Hence, CL-5 is closed out.
CL-6: Measures for continuous improvements of the PoA management system should be provided.	6.4.5.9	Measures for continuous improvements of the PoA management system has been provided in Section A.4.4.1 of the updated PoA-DD.	Measures for continuous improvements of the PoA management system provided in Section A.4.4.1 of the updated PoA-DD has been verified by the validation team and found in line with the requirement of EB65, Annex 3. Hence, CL-6 is closed out.
CL-7: In Section C.1 of PoA DD, CPA level has been chosen for the environmental analysis. Thus clarification is required on why documentation on the analysis of environmental analysis was also provided in Section C.2.	8.2	It is clarified that the environmental analysis will be done at CPA level, thus the documentation on the analysis of the environmental impacts which was inappropriately provided in the webhosted PoD-DD was deleted.	The documentation on the analysis of the environmental impacts in the updated PoA-DD is correct. Hence, CL-7 is closed out.



CL-8: The description of the identified baseline scenario in Section E.4 of PoA DD is not fully consistent with the applied methodology AMS-II.D. version 12.	10.4.4	The baseline scenario is upgrade. The PoA have two kinds of baseline. If the CPA is replacing, modifying or retrofitting existing kilns, the baseline is the energy baseline of the existing kilns that is replaced, modified or retrofitted. For new facilities and project activities involving capacity additions, the energy baseline is the traditional kilns that would otherwise be built.	The description of the identified baseline scenario in section E.4 in the updated PoA-DD is consistent with that in the applied methodology AMS-II.D. version 12. Hence, CL-8 is closed out.
CL-9: The conditions that avoid double counting should be specified.	12.1.2	The conditions that avoid double counting is specified in the updated DD.	The conditions that avoid double counting provided in Section A.4.4.1 of the updated PoA-DD has been verified by the validation team and found in line with the requirement of EB65, Annex 3. Hence, CL-9 is closed out.



CL-10: The requirement for the debundling check should be specified.	12.1.12	The requirement for the debundling check is specified in the updated DD.	The requirement for the debundling check provided in Section A.4.4.1 of the updated PoA-DD has been verified by the validation team and found in line with the requirement of EB65, Annex 3. Hence, CL-10 is closed out.
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