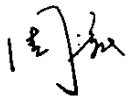
Validation report form for renewal of crediting period for CDM project activities

(Version 03.0)

Complete this form in accordance with the instructions attached at the end of this form.

BASIC INFORMATION	
Title and UNFCCC reference number of the project activity	Inner Mongolia North Long Yuan 100 MW Huitengxile Wind Farm (Reference No. 5029)
Number and duration of the next crediting period	2nd crediting period: 7years from 20/09/2018 to 19/09/2025
Version number of the validation report	01
Completion date of the validation report	25/09/2020
Version number of PDD to which this report applies	5.0
Project participants	Inner Mongolia North Long Yuan Wind Power Company
Host Party	People's Republic of China
Applied methodologies and standardized baselines	Methodology: ACM0002 "Grid-connected electricity generation from renewable sources" (version 20.0) Standardized baselines: N/A
Mandatory sectoral scopes	Sectoral scope 1: Energy industries (renewable/non-renewable sources)
Conditional sectoral scopes, if applicable	N/A
Estimated amount of annual average GHG emission reductions or GHG removals by sinks in the next crediting period	231,919 tCO2
Name and UNFCCC reference number of the DOE	Name: China Certification Center, Inc. (CCCI) UNFCCC reference number: E-0067
Name, position and signature of the approver of the validation report	Mr. Zhou Hong, Director of GHG Department 

SECTION A. Executive summary

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China Certification Center, Inc. (hereafter referred to as CCCI) has been commissioned by Inner Mongolia North Long Yuan Wind Power Company to perform a validation of the renewal of crediting period of "Inner Mongolia North Long Yuan 100 MW Huitengxile Wind Farm" (Ref. No. 5029) in P. R. China.

The scope of the validation of the renewal of crediting period is defined as an independent and objective review of the updated sections of the PDD relating to the baseline, estimated emission reductions and the monitoring plan using the most recent version of baseline and monitoring methodology applicable for the project activity. The validation opinion is finalized based on the assessment of the project design document through applying standard auditing techniques including but not limited to document reviews, follow up actions (e.g. telephone or e-mail interviews) and also the review of the applicable approved methodology and underlying formulae and calculations.

The assessment was performed in accordance with the CDM VVS for project activities version 02.0 and the CDM PS for project activities version 02.0 including an assessment of:

a) The impact of new relevant national and/or sectoral policies and circumstances on the baseline taking into account relevant guidance from the Board with regard to renewal of the crediting period of the registered CDM project activity at the time of requesting renewal of crediting period of the project activity;
b) The correctness of the application of the approved methodology and, where applicable, the approved standardized baseline for the determination of the continued validity of the baseline or its update, and the estimation of emission reductions for the applicable crediting period of the registered CDM project activity.

The purpose of "Inner Mongolia North Long Yuan 100 MW Huitengxile Wind Farm" (hereafter referred to as the Project) developed by Inner Mongolia North Long Yuan Wind Power Company is to generate renewable electricity by utilizing wind resource. The Project involves the installation of 80 wind turbines with a unit capacity of 1,250kW. The total installed capacity of the Project is 100MW. Total of 275,946.5MWh clean electricity generated by the Project are expected to be delivered to the North China Power Grid (NCPG) annually. The construction of the Project was started on 01/10/2006. The commission date of the first turbine was 10/12/2010. The commission date of all turbines was 30/12/2011. The Project is located within Chaha'er Youyi Zhongqi County, Wulanchabu City, Inner Mongolia Autonomous Region, People's Republic of China. The coordinate of the is longitude: 112°37′24″ E, latitude: 41°08′35″ N. The project activity will achieve greenhouse gases (GHGs) emission reductions by avoiding CO_2 emissions from the business-as-usual scenario electricity generation of those fossil fuel-fired power plants connected to the NCPG. The project activity contributes to sustainable development of the local community, the host country and the world.

According to CDM PS for project activities version 02.0 and CDM PCP for project activities version 02.0, notification of renewal intention from project participants is no longer required, as long as the DOE submit a renewal request to the secretariat no earlier than 270 days prior to, but no later than one year after, the expiry of the crediting period. Additionally, the Board considered its decision in paragraph 32(a)(iv) of the 100th meeting report: "the grace period for the submission of renewal request for the existing registered project activities whose crediting period has expired but has not been renewed (i.e. overdue for renewal) is to be by 31 December 2019". In Pare. 28 of EB's 105th meeting report, the Board agreed to extend the deadline for overdue cases for submission of renewal requests from 31 December 2019 to 30 September 2020. Therefore, although the renewal request of the project is one year after the expiry of the first crediting period, but the project is eligible for renewal of crediting period within the grace period.

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

There is no finding during the renewal of crediting period validation:

- 0 Corrective Action Requests (CARs);
- 0 Clarification Requests (CLs);
- 0 Forward Action Requests (FARs).

In summary, it is CCCI's opinion that the project activity "Inner Mongolia North Long Yuan 100 MW Huitengxile Wind Farm" (Ref. No. 5029) in P. R. China, as described in the PDD (version 5.0 dated 03/09/2020), meets all relevant UNFCCC requirements for the renewal of the crediting period. Hence, CCCI submitted the request for renewal of the crediting period of the project activity. The emission reductions of the second crediting period are estimated to be on average 231,919 tonnes of CO_2 equivalent (tCO_2e) per year, and 1,623,433 tCO_2e over the second crediting period.

SECTION B. Validation team, technical reviewer and approver

B.1. Validation team member

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)	Involvement in			
						Desk/document review	On-site inspection	Interview(s)	Validation findings
1.	Team Leader	IR	Guo	Jiayuan	CCCI	Yes	Yes	Yes	Yes

B.2. Technical reviewer and approver of the validation report for RCP

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)
1.	Technical reviewer	IR	Shen	Meng	CCCI
2.	Approver	IR	Zhou	Hong	CCCI

SECTION C. Means of validation

C.1. Desk/document review

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The updated Project Design Document submitted by the Client was reviewed against the approved methodology and other relevant criteria to verify the correctness, credibility, and interpretation of the presented information. Furthermore, a cross-check between information provided and information from other sources has been done. A complete list of all documents and evidence material reviewed is included in Appendix 3 to this report.

C.2. On-site inspection

Duration of on-site inspection: 15/09/2020				
No.	**Activity performed on-site**	**Site location**	**Date**	**Team member**
1.	- Confirm basic information, technology of the project, etc.; - Confirm monitor Data: meter	Chaha'er Youyi Zhongqi County, Wulanchabu	15/09/2020	Jiayuan Guo

	readings, control and maintenance, QA&QC systems; - Confirm status of the project activity and any modifications with respect to the registered PDD; - Review applicability to the latest methodology; - Review national and local policies and changes; - Check baseline of the project and its updates; - Check the lifetime of the project activity; - Check emission Factors and their updates; - Check monitoring plan and changes.	City, Inner Mongolia Autonomous Region, People's Republic of China.		

C.3. Interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Yu	Ningning	Inner Mongolia North Long Yuan Wind Power Company	15/09/2020	- Basic information, technology of the project, etc.; - Monitor Data: meter readings, control and maintenance, QA&QC systems; - Status of the project activity and any modifications with respect to the registered PDD; - Applicability to the latest methodology; - National and local policies and changes; - Baseline of the project and its updates; - The lifetime of the project activity; - Emission Factors and their updates; - Monitoring plan and changes.	Jiayuan Guo
2.	Niu	Wenjun	Inner Mongolia North Long Yuan Wind Power Company	15/09/2020		Jianyuan Guo
3.	Li	Jianguang	Monocarbon Environment Investment Co., Ltd.	15/09/2020		Jiayuan Guo

C.4. Sampling approach

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Not applicable.

C.5. Clarification requests (CLs), corrective action requests (CARs) and forward action requests (FARs) raised

Area of validation findings	No. of CL	No. of CAR	No. of FAR
Compliance with PDD form	0	0	0
Application and selection of methodologies and standardized baselines	0	0	0
Validity of original baseline or its update	0	0	0
Estimated emission reductions or net anthropogenic removals	0	0	0
Validity of monitoring plan	0	0	0
Crediting period	0	0	0

Project participants	0	0	0
Post-registration changes	0	0	0
Others (please specify)	0	0	0
Total	0	0	0

SECTION D. Validation findings

D.1. Compliance with PDD form

Means of validation	The assessment team has verified the format against the "PDD form" template to confirm whether the correct format of PDD form is used. The assessment team also confirmed the information transferred to the updated PDD against the original registered PDD to confirm whether the information transferred is materially the same.
Findings	The PDD form used by the project activity for its crediting period renewal is version 11.0, which is valid at the time of submission of the request for the renewal of the crediting period. Information transferred to the updated PDD is materially the same as that in the registered PDD.
Conclusion	In accordance with paragraph 403 of the CDM VVS for project activities version 02.0, the assessment team confirmed that the updated PDD (version 5.0, dated 03/09/2020) complies with the applicable PDD form with version 11.0 and instructions therein for filling out the PDD. Information transferred to updated PDD is materially the same as that in the registered PDD.

D.2. Application and selection of methodologies and standardized baselines

Means of validation	The assessment team has checked the correctness of the application of the approved methodology to determine the continued validity of the baseline or its update, and to estimate the emission reductions for the applicable crediting period of the registered CDM project activity.
Findings	The project was originally registered based on methodology ACM0002 version 12.1.0. The updated PDD (version 5.0, dated 03/09/2020) submitted to EB applies methodology ACM0002 version 20.0. The assessment team confirmed this is appropriate because the methodology ACM0002 version 20.0 is of its latest approved version at the time of submission of the final validation report to EB for the renewal of the crediting period. The updated PDD did not apply standardized baseline. The project activity correctly applied the approved methodology ACM0002 "Grid-connected electricity generation from renewable sources (version 20.0)". The methodology ACM0002 version 20.0 was valid from 28/11/2019 and is still valid at the time of submission of the updated PDD for the renewal of the crediting period. The project applied "Assessment of the validity of the original/current baseline and to update the baseline at the renewal of a crediting period (version 03.0.1)" and "Tool to calculate the emission factor for an electricity system (version 07.0.0)" which is the latest version available. The assessment team has validated the documentation referred to in the updated PDD and verified the documentation content for verifying the justification of the applicability of the methodology and confirmed that the documentation referred to in the updated PDD is correctly quoted and interpreted. The assessment team has also crosschecked the information provided in the updated PDD with the documentation other than from the updated PDD based on the local and sectoral knowledge of the assessment team. Following documentation has been reviewed by the assessment team: - Nameplates of the wind turbines; - Power purchasing agreement.
Conclusion	In accordance with paragraph 404(b) of the CDM VVS for project activities version 02.0, the assessment team confirmed that the application of the baseline methodology is transparent and conservative, and confirms that the chosen baseline and monitoring methodology i.e. ACM0002 version 20.0 is applicable to

	the project activity.

D.3. Validity of original baseline or its update

Means of validation	The assessment team has validated the impact of new relevant national and/or sectoral policies and circumstances on the baseline taking into account relevant guidance from the Board with regard to renewal of the crediting period of the registered CDM project activity at the time of requesting renewal of crediting period of the project activity, via applying the steps from the Methodological Tool "Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period (version 03.0.1)".
Findings	The baseline scenario of the project activity is that the electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources into the grid. According to the methodology ACM0002 version 20.0, the baseline emissions are the electricity produced by the project activity multiplied by the emission factor of NCPG. For the second crediting period, the continued validity of the original baseline has been assessed in the updated PDD. CCCI confirms that there have been no changes in the relevant national and/or sectoral regulations on building a wind power project for exporting electricity to power grid since the previous crediting period. On the other hand, the baseline scenario for building a wind power project for exporting electricity to power grid was still valid according to methodology ACM0002 version 20.0. The information presented in the updated PDD has been validated by an initial document review of all data. Further confirmation has been made based on the review of information from similar projects and/or technologies. The sources referenced in the updated PDD have been quoted correctly. The information was verified against credible sources, such as the following: - China Electric Power Yearbok 2015; - China Electric Power Yearbok 2016; - China Electric Power Yearbok 2017; - China Electric Power Yearbok 2018; - China Electric Power Yearbok 2019. The steps from the Methodological Tool "Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period (version 03.0.1)" as per CDM VVS for project activities version 02.0 were applied to assess the continued validity of the baseline and/or to update the baseline at the renewal of a crediting period: **Step 1: Assess the validity of the current baseline for the next crediting period** The CDM VVS for project activities version 02.0 requires assessing the impact of new relevant national and/or sectoral policies and circumstances on the baseline. The validity of the current baseline is assessed using the following Sub-steps: Step 1.1: Assess compliance of the current baseline with relevant mandatory national and/or sectoral policies In China, the *Renewable Energy Law* has been put into effect since 2006, which encourages the development of renewable energy projects. However, although renewable energy projects have been developed rapidly in recently years, grid connected power generation in China is still dominated by fossil-fuel power plants. There are no new relevant national and/or sectoral policies and/or circumstances in the electricity generation sector applicable to the project activity, in comparison to the time of the submission of the project activity for validation, which would affect the compliance of the current baseline scenario. Hence in the absence of the project activity electricity would still have been generated in the existing fossil fuel

power plants or by the addition of new fossil fuel power plants connected to the NCPG.

CCCI confirms that no relevant mandatory national and/or sectoral polices applicable to the project activity came into effect after the submission of the project activity for validation.

Step 1.2: Assess the impact of circumstances

For the project activity, the baseline scenario identified at the validation of the project activity was the continuation of the current practice without any investment. The main investment environment or market characteristics especially the feed-in tariff, the policy in terms of market access permit have no significant change. The current practice for the baseline emissions is still the GHG emitted by NCPG: the equivalent electricity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources within the NCPG.

By verifying *China Electric Power Yearbok (2015-2019)*, it is confirmed that thermal power (which coal is the fuel) still domain the power supply in NCPG which is the same situation when project activity was under validation. Therefore, the main market characteristics have no change.

As the project is under normal operation which is in line with the original design thereby the condition used to determine baseline emissions in the previous crediting is still valid.

The conditions used to determine the baseline emissions in the previous crediting period are not valid: the emission factor calculation of NCPG in the first crediting period is basing on the data of 2005-2007. Before the time of requesting renewal of the crediting period, the China DNA have issued the latest "2017 Baseline Emission Factors for Regional Power Grids in China" on 20/12/2018, so the emission factor of NCPG and all values need to be updated for the second crediting period.

Step 1.3: Assess whether the continuation of use of current baseline equipment(s) or an investment is the most likely scenario for the crediting period for which renewal is requested

The current baseline scenario is the continuation of the current practice. In the absence of the project, the electricity would have been supplied by NCPG, and it will not request an investment by the project proponent or third party. So, this step is not applicable.

Step 1.4: Assessment of the validity of the data and parameters

The NCPG emission factor calculated ex-ante for the 1st crediting period needs to be updated, as per the "Tool to calculate the emission factor for an electricity system (version 07.0.0)".

This parameter is properly described in the following section D.4.

Conclusion on step 1:

CCCI confirms that the current baseline is still valid as per methodology ACM0002 version 20.0. However, the grid emission factor needs to be updated for the subsequent crediting period.

Step 2: Update the current baseline and the data and parameters

Step 2.1: Update the current baseline

As the baseline scenario of the project activity is still sustained in this crediting period, no update would be required.

	Step 2.2: Update the data and parameters The NCPG emission factor will be updated as described in chapter D.4 of this report. The parameters described under step 1.4 were properly updated considering the latest versions of methodology ACM0002 and IPCC 2006 Guidelines etc.
Conclusion	In accordance with paragraph 404 of the CDM VVS for project activities version 02.0, the assessment team confirmed that there has been no change in the relevant national and/or sectoral regulations on building a wind power project for exporting electricity to power grid since the previous crediting period. On the other hand, the baseline scenario for building a wind power project for exporting electricity to power grid was still valid according to methodology ACM0002 Version 20.0.

D.4. Estimated emission reductions or net anthropogenic removals

Means of validation	The assessment team has verified the estimated GHG emission reductions in the updated PDD according to the applicable requirements in the Project Standard, and methodology ACM0002 version 20.0 as well as applicable methodological tools.
Findings	The calculation of the emissions reductions exactly follows the procedures described in the methodology ACM0002 version 20.0 and relevant tool, e.g. the "Tool to calculate the emission factor for an electricity system (version 07.0.0)". CCCI has assessed the calculation of project emissions, baseline emissions, leakage emissions and emission reductions. Corresponding calculations have been carried out based on calculation spreadsheet. The consistency of the parameters and equations presented in the updated PDD, as well as calculation spreadsheet etc., has been compared with the information and requirements presented in the methodology and respective tools. The assumptions and data used to determine the emission reductions are listed in the updated PDD and all the sources have been checked. Based on the information reviewed it is confirmed that the sources used are correctly quoted and interpreted in the updated PDD. The values presented in the updated PDD are considered reasonably based on the documentation and references reviewed and the results of the interviews. The estimation of the emission reductions are considered correct as the calculations have been reproduced by the assessment team with the attainment of the same results. Detailed information on the verification of the parameters used in the equations is found below. The algorithms for the determination of the baseline and project are discussed in the following sections. The emission reductions are calculated by the difference between baseline emissions (BE_y), project emissions (PE_y) and leakage (LE_y). **(1) Baseline emissions** As per the methodology ACM0002 version 20.0 that the baseline emissions include only CO_2 emissions from electricity generation in fossil fuel fired power plants that are displaced due to the project activity. The baseline emissions are calculated by the *Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (MWh)* ($EG_{PJ,y}$) multiplied by the *Combined margin CO_2 emission factor for grid connected power generation in year y* ($EF_{grid,y}$). Because the project activity is the installation of a new grid-connected renewable power plant/unit at a site where no renewable power plant was operated prior to the implementation of the project activity, the $EG_{PJ,y}$ equals to the *Quantity of net*

	electricity generation supplied by the project plant/unit to the grid in year y (MWh) ($EG_{facility,y}$). The *Combined margin CO_2 emission factor for grid connected power generation in year y ($EF_{grid,y}$)* is calculated in a transparent and conservative manner as a combined margin (CM), consisting of the combination of operating margin (OM) and build margin (BM) according to the steps prescribed in the "Tool to calculate the emission factor for an electricity system (version 07.0.0)". The updated PDD (version 5.0, dated 03/09/2020) using the data for calculation of the grid emission factor at the time the updated PDD was received for validation. The latest data available was from *China Electric Power Yearbook (2014-2016)*, *China Energy Statistical Yearbook (2014-2016)*. The calculation is in accordance with the calculation process of the combined margin emission factor published by the Chinese DNA: *2017 Baseline Emission Factors for Regional Power Grids in China* published by the DNA of China on 20/12/2018. The NCPG is selected as the electricity system of the project activity. Simple OM method (method a) is applied for calculating OM emission factor because according to the data from *China Electric Power Yearbook (2015-2019)*, the low-cost/must-run resources in the latest five years (2014-2018) constitute less than 50% of the total grid generation. *Ex-ante* option with a 3-year generation-weighted average is chosen to account for $EF_{grid,OMsimple,y}$. Option B of simple OM is selected for the calculation based on the total net electricity generation of all power plants serving the system and the fuel types and total fuel consumption of the project electricity system (option A was denied because necessary data for Option A is not available). As a result, $EF_{grid,OMsimple,y}$ is calculated to be 0.9680 tCO_2e/MWh as a generation weighted average for the year 2013-2015. Because plant specific fuel consumption and electricity generation data are not publicly available in China, the Guidance caused by DNV's request for deviation of Chinese project activities for the baseline methodology AM0005 has been applied for calculating the build margin (BM) emission factor of this project activity: - Based on the most recent years energy balance of the NCPG, calculating the proportions of CO_2 emissions from the coal-fired, oil-fired and gas-fired power plants in total CO_2 emissions of thermal power plants and taking them as weight of each type of plant in the calculations; - Based on the most advanced commercialized technologies which applied by the coal-fired, oil-fired and gas-fired power plants, calculating the emission factor of thermal power plants in NCPG. This approach is more conservative as it assumes all recently built plants have the fuel efficiency as that of the most advanced commercialized technologies; - Calculating the $EF_{grid,BM,y}$ through multiplying the emission factor of thermal power plants by the percentage share of thermal power plants installed capacity addition within all recently built installed capacity. The proper year is selected so that it is the closest time when the last 20% of installed capacity was built. As a result, the $EF_{grid,BM,y}$ is calculated to be 0.4578 tCO_2e/MWh. Fow wind power generation project activities, w_{OM} = 0.75 and w_{BM} = 0.25 (owing to their intermittent and non-dispatchable nature) for the first crediting period and for subsequent crediting periods. Hence, based on the weight w_{OM} and w_{BM} of 0.75:0.25 by default for the second crediting period, the combined margin emission factor is calculated to be 0.84045 tCO_2e/MWh. The annual net electricity supplied to the grid is 275,946.5MWh which is in line with the original design of the project. It's confirmed that the estimation of the figure is reasonable. Thereby, the baseline emissions could be calculated to be 275,946.5MWh × 0.84045tCO_2e/MWh = 231,919tCO_2e. The assessment team confirmed that the remission reductions calculation is corrected in the updated PDD.

The values of the main parameters for calculating combined emission factor ($EF_{grid,CM,y}$ *the same as* $EF_{grid,y}$) are crosschecked by the assessment team and the data sources are listed in below table:

Data and Parameters	Description	Data source
$EF_{grid,OM,y}$	CO_2 emission factor of operation margin of NCPG in 2017	2017 Baseline Emission Factors for Regional Power Grids in China
$EF_{grid,BM,y}$	CO_2 emission factor of Built margin of NCPG in 2017.	2017 Baseline Emission Factors for Regional Power Grids in China

CCCI confirms that all data sources and assumptions are appropriate and calculations are correct, applicable to the CDM project activity and will result in a conservative estimate of the emission reductions.

(2) Project emissions

According to the methodology, for most renewable energy power generation project activities, PE_y = 0. As a wind energy generation project ,no project emissions will occur.

CCCI confirms that all data sources and assumptions are appropriate and calculations are correct, applicable to the CDM project activity and will result in a conservative estimate of the emission reductions.

(3) Leakage

According to the methodology, the project activity leakage does not take into account, then no leakage according to ACM0002, leakage is zero.

(4) Emission reductions

Based on the calculations and results presented in the sections above the implementation of the project activity will result in an average *ex-ante* estimation of emission reduction conservatively calculated to be 231,919tCO_2e per year for the selected 7 years crediting period. Total emission reductions during the second crediting period are estimated to be 1,623,433tCO_2e.

Conclusion

In accordance with paragraph 404(b) of the CDM VVS for project activities version 02.0, the assessment team is able to confirm the following:

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

D.5. Validity of monitoring plan

Means of validation

The assessment team has verified the monitoring plan in the updated PDD according to the applicable requirements in the Project Standard, and methodology ACM0002 version 20.0 as well as applicable methodological tools.

Findings

The project applies methodology ACM0002 version 20.0. The original monitoring plan was updated based on ACM0002 version 20.0 requirements.

Parameters	Description	Measurement method and	Assessment

		QA/QC procedures	conclusion
$EG_{facility,y}$	Net electricity generation supplied by the Project to the grid in year *y*	The parameter would be calculated by $EG_{PJtoGRID,y}$ (Electricity delivered by the Project to the grid in year *y*) and $EG_{GRIDtoPJ,y}$ (Electricity imported by the Project from the grid in year *y*) as below: $EG_{facility,y} = EG_{PJtoGRID,y} - EG_{GRIDtoPJ,y}$ For both $EG_{PJtoGRID,y}$ and $EG_{GRIDtoPJ,y}$ are measured by the main meter installed at the North Long Yuan Huitengxile Wind Farm 220kV Step-up Substation. The accuracy class of the meter is 0.2S. The readings of electricity meter will be continuous measurement and monthly recorded. The monitoring equipments should adopt the colligated automation system according to Chinese electric industy regulation. The qualified entity will check out the electricity meter every year. The receipt of purchases or relevant commercial data will be available to double check this parameter.	Consistent with methodology

A backup meter has also been installed at the North Long Yuan Huitengxile Wind Farm 220kV Step-up Substation for cross-checking. The accuracy class of the meter is 0.2s. The monitoring equipments should adopt the colligated automation system according to Chinese electric industry regulation. The qualified entity will check out the electricity meter every year.

Through interview and checking Operation logs, Photos of monitoring screen and electricity meters, Monitoring reports, CCCI confirms that the monitoring plan contains all necessary parameters which have been clearly described in the updated PDD and reflected the actual monitoring activities. Meanwhile, the means of monitoring described in the plan complies with the requirements of the methodology.

An organizational structure is provided in updated PDD. The functions such as data collection, aggregation, verification, calculation, archiving, as well as the maintenance of equipment etc. have been defined. Quality assurance and quality control procedures for recording, maintaining and data archiving etc. will be ensured according to CDM EB rules. The calibration of the meter will be implemented as per national standard. An emergency treatment process has been defined in the updated PDD when the meter is in malfunction. Data management and quality control system are quoted in the updated PDD. The monitoring staffs will be trained based on the training program described in updated PDD.

Conclusion

In accordance with paragraph 404(b) of the CDM VVS for project activities version 02.0, the assessment team is able to confirm that the procedures described in the updated PDD have been recognized through document review and interviews with the relevant personnel. The information together with a physical inspection allows the assessment team to confirm that the monitoring plan is feasible within the project design. The major parameters to be monitored have been discussed with the PPs, especially regarding the location of the meters, the data management and in general the quality assurance and quality control procedures to be implemented in the context of the project. It's CCCI's opinion that the project participants are able

	to implement the monitoring plan and the emission reductions achieved can be reported ex-post for verification.

D.6. Crediting period

Means of validation	The assessment team verified the renewed crediting period according to the requirements in the CDM PS for project activities version 02.0.
Findings	This is the second crediting period. As per CDM PCP for project activities version 02.0, the next crediting period of the registered CDM project activity commences on the day immediately after the expiration of the current crediting period. Thereby, the 2nd crediting period is from 20/09/2018 to 19/09/2025.
Conclusion	In accordance with paragraph 412 of the CDM VVS for project activities version 02.0, the assessment team confirmed that correct crediting period has been applied in the updated PDD.

D.7. Project participants

Means of validation	The assessment team checked the names of the project participants included in the updated PDD with the registered PDD. The assessment team has also confirmed the change of PP via verifying the MoC made public available at UNFCCC website.
Findings	As indicated in the updated PDD sent by PP to EB for request for renewal of crediting period, the project owner, Inner Mongolia North Long Yuan Wind Power Company is the PP of the project activity, which is indicated at UNFCCC website.
Conclusion	In accordance with paragraph 406 of the CDM VVS for project activities version 02.0, the assessment team confirmed that the information of the PP has been correctly indicated in the updated PDD.

D.8. Post-registration changes

Type of post-registration changes (PRCs)	**Confirmation** (Y/N)	**Validation report for PRCs**	
		Version	**Completion date**
Temporary deviations from the registered monitoring plan, applied methodologies, standardized baselines or other methodological regulatory documents[1]	N	N/A	N/A
Corrections	N	N/A	N/A
Change to the start date of the crediting period	N	N/A	N/A
Inclusion of a monitoring plan	N	N/A	N/A
Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines, or other methodological regulatory documents	N	N/A	N/A
Changes to the project design	N	N/A	N/A
Changes specific to afforestation and reforestation project activities	N	N/A	N/A

SECTION E. Internal quality control

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As final step of a validation of the final documentation including the validation opinion and the checklist have to undergo an internal quality control by the technical review committee, i.e. each report has to be finally approved either by the head of the technical review committee or the deputy. In case one of these two persons is part of the assessment team approval can only be given by the other one.

After confirmation of the PP the validation opinion and relevant documents are submitted to the EB through the UNFCCC web-platform.

[1] Other standards, methodologies, methodological tools and guidelines (to be) applied in accordance with the applied(selected) methodologies are collectively referred to as the other (applied) methodological regulatory documents).

SECTION F. Validation opinion

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CCCI has performed a validation of renewal of crediting period of the "Inner Mongolia North Long Yuan 100 MW Huitengxile Wind Farm" (Ref. No. 5029). The validation was performed on the basis of the updated sections of the PDD relating to the baseline, estimated emission reductions and the monitoring plan using the most recent version of baseline and monitoring methodology applicable for the project activity. The final validation opinion was finalized in accordance with the CDM VVS for project activities version 02.0 and the CDM PS for project activities version 02.0 including the assessment of:

a) The impact of new relevant national and/or sectoral policies and circumstances on the baseline taking into account relevant guidance from the Board with regard to renewal of the crediting period of the registered CDM project activity at the time of requesting renewal of crediting period of the project activity;
b) The correctness of the application of the approved methodology and, where applicable, the approved standardized baseline for the determination of the continued validity of the baseline or its update, and the estimation of emission reductions for the applicable crediting period of the registered CDM project activity.

The review of the project design documentation and the subsequent follow-up interviews have provided CCCI with sufficient evidence to determine the validity of the original baseline. The project correctly applies the latest baseline and monitoring methodology ACM0002-"Grid-connected electricity generation from renewable sources" (version 20.0). CCCI is able to confirm:

i) The updated PDD complies with the valid version of the applicable PDD form and instructions therein for filling out the PDD;
ii) Information transferred to the later valid version of the PDD form is materially the same as that in the registered PDD;
iii) The baseline and monitoring methodology was applied in accordance with the applicable requirements in the Project Standard;
iv) The baseline, the estimated GHG emission reductions, and the monitoring plan in the updated PDD comply with the applicable requirements in the Project Standard, and the valid version of the methodology that is applicable to the registered CDM project activity;
v) The next crediting period of the registered CDM project activity commences on the day immediately after the expiration of the current crediting period;
vi) The names of project participants in the updated PDD are consistent with the names of the project participants in the registered PDD and the latest MoC made public available at UNFCCC website.

CCCI also confirms that there have been no proposed post-registration changes for the second crediting period when submitting this report and the corresponding request for renewal of crediting period of the registered CDM project activity to EB.

Given that the project is implemented as designed and the underlying assumptions do not change, the project is likely to achieve the estimated amount of annual emission reductions of 231,919tCO_2e and a total estimated emission reductions of 1,623,433tCO_2e over the 2nd renewable crediting period as specified within the updated PDD (version 5.0, dated 03/09/2020).

In summary, it is CCCI's opinion that the project activity "Inner Mongolia North Long Yuan 100 MW Huitengxile Wind Farm" (Ref. No. 5029) in P. R. China, as described in the PDD (version 5.0, dated 03/09/2020), meets all relevant UNFCCC requirements for the renewal of the crediting period. Hence, CCCI submitted the request for renewal of the crediting period of the project activity.

Appendix 1. Abbreviations

Abbreviations	Full texts
ACM	Approved Consolidated Methodology
AM	Approved Methodology
AMS	Approved Methodology Small Scale
BM	Build Margin
CAR	Corrective Action Request
CCCI	China Certification Center, Inc.
CDM	Clean Development Mechanism
CDM EB	CDM Executive Board
CER	Certified Emission Reduction
CL	Clarification Request
CM	Combined Margin
CMP	Conference of the Parties serving as the Meeting of the Parties to the Kyoto Protocol
CSPG	China Southern Power Grid
DNA	Designated National Authority
DOE	Designated Operational Entity
EF	Emission Factor
EIA	Environmental Impact Assessment
ER	Emission Reduction
FAR	Forward Action Request
FSR	Feasibility Study Report
GHG	greenhouse Gas(es)
IPCC	Intergovernmental Panel on Climate Change
IRL	Information Reference List
IRR	Internal Rate of Return
KP	Kyoto Protocol
MP	Monitoring Plan
NDRC	National Development and Reform Commission, the DNA of P. R. China
NGO	Non-Governmental Organization
OM	Operational Margin
PCP	Project Cycle Procedure
PDD	Project Design Document
PP	Project Participant
PS	Project Standard
UNFCCC	United Nations Framework Convention for Climate Change
VVS	Validation and Verification Standard

Appendix 2. Competence of team members and technical reviewers

The curricula vitae of the DOE's validation team members are provided below:

Guo Jiayuan	Team Leader	Ms. Guo Jiayuan is an experienced technical expert in the field of climate change and GHG emission reduction. She has more than 10 years' experience in the development and implementation of CDM projects. She has participated in more than 30 CDM projects covering diversified scope, including wind power, hydro power, LNG power generation and biomass

		cogeneration. By developing project design document and monitoring report, desk review and onsite visit, she gained extensive experience in the whole process of CDM project developing.
Shen Meng	Technical reviewer	Meng (Simon) Shen (Master Degree in Thermal Energy Engineering, Bachelor Degree in Environmental Engineering) is a Lead Auditor appointed by CCI for the GHG project assessment. He is based in Shanghai. He has several years of work experience in environmental protection field. Before he joined CCCI, he had been worked for TÜV SÜD and Applus+ LGAI as a GHG Validator/Verifier and ISO 9001/14001 Lead Auditor for 9 years.

Appendix 3. Documents reviewed or referenced

No.	Author	Title	References to the document	Provider
1	Additional Consulting and Engineering	Registered Project Design Document (version 04, dated 18/05/2011)	https://cdm.unfccc.int/UserManagement/FileStorage/G1TD05HOIS2JFML7NBYP4AX8KVCZ6U	Others
2	Bureau Veritas Certification Holding SAS	Validation report (version 01, dated 20/06/2011)	https://cdm.unfccc.int/UserManagement/FileStorage/JUBTNAS63OK4WXZCRF9G12QD70YI5E	Others
3	Monocarbon Environment Investment Co., Ltd.	Updated Project Design Document to request a renewal of crediting period (version 5.0, dated 03/09/2020)		PP
4	Monocarbon Environment Investment Co., Ltd.	ER spreadsheet to request a renewal of crediting period (version 1.0, dated 03/09/2020)		PP
5	PP	Nameplate of wind turbines		PP
6	PP	Power Purchasing Agreement		PP
7	UNFCCC website	CDM VVS for project activities, version 02.0		Others
8	UNFCCC website	CDM PS for project activities, version 02.0		Others
9	UNFCCC website	CDM PCP for project activities, version 02.0		Others
10	UNFCCC website	Assessment of the validity of the original/current baseline and to update the baseline at the renewal of a crediting period, version 03.0.1		Others
11	UNFCCC website	ACM0002 Grid-connected electricity generation from renewable sources, version 20.0		Others
12	UNFCCC website	Tool to calculate the emission factor for an electricity system, version 07.0.0		Others
13	UNFCCC website	Information on UNFCCC website	https://cdm.unfccc.int/Projects/DB/BVQI1310990460.64/view	Others
14	China Electric Power Promotion Concil	China Electric Power Yearbook 2015-2019		Others
15	National Bureau of Statistics of China	China Energy Statistical Yearbook 2014-2018		Others
16	Ministry of Ecology and Environment of China	2017 Baseline Emission Factors for Regional Power Grids in China published by the DNA of China on 20/12/2018	http://www.mee.gov.cn/ywgz/ydqhbh/wsqtkz/201812/P020181220579925103092.pdf	Others
17	IPCC	2006 IPCC Guidelines for National Greenhouse Gas Inventories		Others
18	PP	Operation logs		PP

19	PP	Photos of monitoring screen and electricity meters		PP
20	PP	Monitoring reports	https://cdm.unfccc.int/Projects/DB/BVQI1310990460.64/view	Others

Appendix 4. Clarification requests, corrective action requests and forward action requests

Table 1. CL from this validation

CL ID	N/A	**Section no.**	N/A	**Date:** N/A
Description of CL				
N/A				
Project participant response				**Date:** N/A
N/A				
Documentation provided by project participant				
N/A				
DOE assessment				**Date:** N/A
N/A				

Table 2. CAR from this validation

CAR ID	N/A	**Section no.**	N/A	**Date:** N/A
Description of CAR				
N/A				
Project participant response				**Date:** N/A
N/A				
Documentation provided by project participant				
N/A				
DOE assessment				**Date:** N/A
N/A				

Table 3. FAR from this validation

FAR ID	N/A	**Section no.**	N/A	**Date:** N/A
Description of FAR				
N/A				
Project participant response				**Date:** N/A
N/A				
Documentation provided by project participant				
N/A				
DOE assessment				**Date:** N/A
N/A				

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Document information

Version	*Date*	*Description*
03.0	31 May 2019	Revision to: • Ensure consistency with version 02.0 of the "CDM validation and verification standard for project activities" (CDM-EB93-A05-STAN) and version 02.0 of the "CDM project cycle procedure for project activities" (CDM-EB93-A06-PROC); • Make editorial improvements.
02.0	31 October 2017	Revision to align with the requirements of the "CDM validation and verification standard for project activities" (version 01.0).
01.0	23 March 2015	Initial publication.

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