




**Validation report form for post-registration changes 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 | MCL wind power project in Tamilnadu, India; UNFCCC reference number: 9740 |
| Process track | <input type="checkbox"/> Prior approval <input checked="" type="checkbox"/> Issuance <input type="checkbox"/> Renewal of crediting period |
| Version number of the validation report | 03 Aa |
| Completion date of the validation report | 11/07/2019 |
| Type(s) of PRCs | <input type="checkbox"/> Temporary deviations from the registered monitoring plan, applied methodologies, standardized baselines or other methodological regulatory documents ¹ <input type="checkbox"/> Corrections <input type="checkbox"/> Changes to the start date of the crediting period <input type="checkbox"/> Inclusion of a monitoring plan <input checked="" type="checkbox"/> Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines or other methodological regulatory documents <input checked="" type="checkbox"/> Changes to the project design <input type="checkbox"/> Changes specific to afforestation and reforestation project activities |
| Version number of PDD to which this report applies | 06.0 dated 11/06/2019 |
| Project participants | The Ramco Cements Limited (formerly Madras Cements Limited) |
| Host Party | India |
| Applied methodologies and standardized baselines | ACM0002: Consolidated baseline methodology for grid-connected electricity generation from renewable sources, Version 13.0.0 |
| Mandatory sectoral scopes | Sectoral scope 01: Energy industries (renewable - / non-renewable sources) |
| Conditional sectoral scopes, if applicable | N/A |
| Name and UNFCCC reference number of | RINA Services S.p.A UNFCCC reference number: E-0037 |

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).

| | |
|---|--|
| the DOE | |
| Name, position and signature of the approver of the validation report | <p>Laura SEVERINO – Sector Manager Sustainability, Environment & Climate Change</p>  |

SECTION A. Executive summary

Objective

RINA Services S.p.A. (RINA), commissioned by The Ramco Cements Limited (formerly Madras Cements Limited), has performed the validation of post registration changes for the project “MCL wind power project in Tamilnadu, India” in “India”, CDM Registration Reference N° 9740. The validation is based on the currently valid documentation of the United Nations Framework Convention on Climate Change, CDM validation and verification standard for project activities, Version 02.0, section 8.3.

Scope of Validation

The validation scope encompasses an independent and objective review to validate the proposed post-registration changes in the monitoring plan and project description of registered project activity titled “MCL wind power project in Tamilnadu, India” in “India”. The validation is based on the submitted MR, registered PDD, the applied monitoring methodology, relevant decisions, clarifications and guidance from the CMP and the EB and any other information and references relevant to the project activity’s resulting emission reductions. These documents are reviewed against the requirements of the Kyoto Protocol, the CDM Modalities and Procedures and related rules and guidance.

The scope of any assessment is defined by the underlying legislation, regulation and guidance given by relevant entities or authorities. The core requirements on changes from the project activity as described in the registered project design document is referred from CDM validation and verification standard for project activities, Version 02.0, section 8.3.

Validation Process

The project assessment aims at being a risk based approach and is based on the requirements and guidelines provided in the latest version VVS and PS above. 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 project design.

Based on the requirements in the VVS, RINA has applied a rule-based approach for the validation of the project. RINA applied requirements in section 8.3 of VVS Version 02.0, mutatis mutandis, specific requirements on PRC, to validate the information provided by the project participant.

The information provided by the project participants is assessed by applying the means of validation specified in the “CDM validation and verification standard for project activities” and where appropriate standard auditing techniques. In the absence of specific means of validation specified in the VVS the standard auditing techniques are applied.

Brief Description of the project

As detailed in the registered PDD /03/, the purpose of the project activity is to generate wind energy and export the net electricity to the grid. The project activity involves the implementation and operation of 19.8 MW wind power project, in Tirpur district of Tamilnadu, India. The project activity leads to reduced Green House Gases emissions because it displaces equivalent electricity generated in the grid connected fossil fuel based power plants. The project activity includes the electricity generation using horizontal axis wind turbine generator. The kinetic energy of the blowing wind is harnessed using the blades on the wind turbine generator and converted to mechanical energy. The blades are connected to the low speed shaft which in turn is connected to the high speed shaft. The gears connect the low speed shaft to the high-speed shaft and increase the rotational speed. The high-speed shaft attached to the generator produces electricity i.e, converts the mechanical energy into the electrical energy. This form of electricity generators do not emit any GHGs commonly associated with the electricity generation in general. The project activity involves installation of 12 Wind Turbine Generator (WTG) of Vestas make 1650 kW capacity each having aggregated capacity of 19.8 MW in the state of Tamilnadu, India.

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 | Interviews | Validation findings |
| 1. | Team Leader CDM Verifier & Technical Expert TA 1.2 | IR | Augustus Arokiasamy | Cyril | RINA India | ✓ | ✓ | ✓ | ✓ |

B.2. Technical reviewer and approver of the validation report on PRCs

| 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 TA1.2 | IR | Liu | Hui Feng | RINA China Office |
| 2. | Approver | IR | Severino | Laura | RINA Central Office |

SECTION C. Means of validation**C.1. Desk/document review**

The revised PDD, version 06.0 of 11/06/2019 /18/, the monitoring report, version version 4.0 of 11/06/2019 and its previous versions /01/, the emission reduction calculations provided in the form of a spreadsheet (9740_1st verification 3.0.xlsx) version 3.0 submitted on 11/06/2019 and its previous versions /02/, were assessed as part of the verification. In addition the registered Project Design Document (PDD) /03/ in particular the baseline estimations and the monitoring plan and the validation Report No.BVC/INDIA-VD/496.49/2013, revision 02, issued on 03/09/2013 /04/ for the project were reviewed. Appendix 3 lists the documentation that was reviewed during the verification.

C.2. On-site inspection

| Duration of on-site inspection: 26/07/2016 | | | | |
|--|----------------------------|---------------|------|-------------|
| No. | Activity performed on-site | Site location | Date | Team member |

| | | | | |
|----|---|---|------------|---------------------------|
| 1. | During the on-site assessment of the project RINA assessed the implementation and operation of the proposed project activity, the monitoring equipment and systems, reviewed the information flows for generating, aggregating and reporting the monitoring parameters, interviewed key personnel of the plant to confirm the operational and data collection procedures, cross-checked between information provided in the monitoring report and data plant, checked the monitoring equipment including calibration performance, reviewed calculations and assumptions made in determining the GHG data and emission reductions, checked the quality control and quality assurance procedures in place to prevent or identify and correct any errors or omissions in the reported monitoring parameters. There were no hindrances or barriers that were faced by the verification team while carrying out the site visits all equipment and processes of the project activity were accessible. | 12 WTGs of 1650 KW located at Periyapatti, Udumalpet region, Tirupur District, Tamil Nadu State, India. | 26/07/2016 | Cyril Augustus Arokiasamy |
|----|---|---|------------|---------------------------|

C.3. Interviews

| No. | Interviewee | | | Date | Subject | Team member |
|-----|-------------|--------------|----------------------------------|------------|--|---------------------------|
| | Last name | First name | Affiliation | | | |
| 1. | S. | Thyagaraj | ITCOT consultancy CDM Consultant | 26/07/2016 | Project implementation and operation. Technical equipment, calibration and monitoring observation. Management of the monitoring equipment and data collection. Monitoring plan and monitoring parameters. | Cyril Augustus Arokiasamy |
| 2. | R. | Jayakumar | Deputy Manager, Electrical | 26/07/2016 | Management of the whole CDM project activity. Implementation of the project activity. | Cyril Augustus Arokiasamy |
| 3. | J. | Madavadas | Senior Engineer, TRCL | 26/07/2016 | Technical equipment, calibration and monitoring observation. | Cyril Augustus Arokiasamy |
| 4. | P. | Essakkiappan | Engineer, TRCL | 26/07/2016 | | Cyril Augustus Arokiasamy |
| 5. | K. | Kathirvel | Sr. Engineer, Vestas | 26/07/2016 | Information flows for generating, aggregating and reporting the | Cyril Augustus Arokiasamy |
| 6. | R. | Ramakrishn | Operations, | 26/07/2016 | | Cyril Augustus |

| | | | | | | |
|--|--|----|-------------|--|--|------------|
| | | an | Sri Saastha | | monitoring parameters. Cross-check of information in the monitoring report and data source. | Arokiasamy |
|--|--|----|-------------|--|--|------------|

C.4. Sampling approach

N/A

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

| Areas of validation findings | No. of CL | No. of CAR | No. of FAR |
|---|-----------|------------|------------|
| Compliance with PDD form | | | |
| Temporary deviations from the registered monitoring plan, applied methodologies, standardized baselines or other methodological regulatory documents | | | |
| Corrections | | | |
| Changes to the start date of the crediting period | | | |
| Inclusion of a monitoring plan | | | |
| Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines or other methodological regulatory documents | 1 | | |
| Changes to the project design | 1 | | |
| Changes specific to afforestation and reforestation project activities | | | |
| Others (please specify) | | | |
| Total | 2 | | |

SECTION D. Validation findings**D.1. Compliance with PDD form**

| | |
|----------------------------|--|
| Means of validation | The revised PDD for the project activity "MCL wind power project in Tamilnadu, India" in "India", version 06.0 of 11/06/2019 /18/ submitted by TRCL has been the basis for the validation process and is based on the currently valid PDD template /19/. |
| Findings | N/A |
| Conclusion | RINA confirms that the above PDD is based on the currently valid PDD template /19/ and is completed in accordance with the applicable instruction /20/. |

D.2. Temporary deviations from the registered monitoring plan, applied methodologies, standardized baselines or other methodological regulatory documents

| | |
|----------------------------|-----|
| Means of validation | N/A |
| Findings | N/A |
| Conclusion | N/A |

D.3. Corrections

| | |
|----------------------------|-----|
| Means of validation | N/A |
| Findings | N/A |
| Conclusion | N/A |

D.4. Changes to the start date of the crediting period

| | |
|----------------------------|-----|
| Means of validation | N/A |
| Findings | N/A |

| | |
|-------------------|-----|
| Conclusion | N/A |
|-------------------|-----|

D.5. Inclusion of a monitoring plan

| | |
|----------------------------|-----|
| Means of validation | N/A |
| Findings | N/A |
| Conclusion | N/A |

D.6. Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines or other methodological regulatory documents

| | |
|----------------------------|---|
| Means of validation | PP is requested to provide calibration certificates for all energy meters covering the monitoring period. |
| Findings | CL 2: PP is requested to provide calibration certificates for all energy meters covering the monitoring period. Closure of finding: The delay in calibration is not completely under the control of PP /3/ /23/. Therefore, in view of the above situation and uncertainty in meter calibration at TNEB/TANGEDCO, PP has requested for a permanent change in the registered PDD to readdress the frequency of calibration /18/. |
| Conclusion | <p>The project activity has experienced significant delay in energy meter calibration for which the registered frequency of calibration of once in two years /3/ could not be adhered. The delay in calibration is not completely under the control of PP /3/ /23/. Therefore, in view of the above situation and uncertainty in meter calibration at TNEB/TANGEDCO, PP has requested for a permanent change in the registered PDD to readdress the frequency of calibration /18/. In this regard, PP has referred to the CEA notification 2006 /24/, which confirms that “all interface meters shall be tested at least once in five years. These meters shall also be tested whenever the energy and other quantities recorded by the meter are abnormal or inconsistent with electrically adjacent meters”. Hence the revised frequency of calibration for all the energy meters installed in the project activity shall be once in five years. The relevant sections of this revised PDD (version 6.0, dated 11/06/2019) are updated to include the above mentioned changes.</p> <p>Emission reduction calculations are based on Joint meter reading (JMR) only, which is based on main meter (interface meters) installed by TNEB. The panel meter is the one available inside the windmill control panel, indicated appropriately in section B.3 of the PDD. The panel meter is not used for direct measurement of electricity exported, but to arrive at the fraction of electricity exported used for apportioning JMR details at the beginning and at the end of the monitoring period, in case the monitoring period does not coincide with JMR period. As available in the registered PDD (Version 04, dated 10/08/2013) /3/, the electricity supplied to grid is sourced from Joint Meter reading (JMR) which is based on meter readings of the two-way export/ import meter installed by TNEB and net electricity supplied to the grid is a difference of export and import readings. In the event when verification period dates and billing cycle (or dates of JMRs) of WTGs in the project activity, do not coincide data apportioning procedure will be adopted as per the procedure given under section B.7.3 of registered PDD /3/. The same apportioning procedure is maintained in the revised PDD /18/, which was consistent with onsite observations and interviews by RINA. Hence it is confirmed that there is no change on the apportioning procedure from the registered monitoring plan.</p> <p>It is noted that the JMR statement which was earlier issued by TNEB is now issued by TANGEDCO due to their internal reorganisation; hence the PDD /18/ has been accordingly updated. TANGEDCO is also a part of TNEB /38/. In the Government order dated 08/10/2008, Government of Tamil Nadu has accorded approval for the re-organisation of TNEB by the establishment of a holding company, by the name TNEB Ltd and two subsidiary companies, namely Tamil Nadu Transmission Corporation Ltd (TANTRANSCO) and Tamil Nadu Generation and Distribution Corporation Ltd (TANGEDCO) with the stipulation that the aforementioned companies shall be fully owned by Government. Reorganisation of TNEB and formation of TANGEDCO /38/. There is no change in the name of the grid to which the electricity is exported. Electricity continues to be exported to the Tamil Nadu</p> |

| | |
|--|--|
| | <p>Electricity Board (TNEB) part of the Southern grid in India consistent with the registered PDD (Version 04. Dated 10/08/2013) /3/.</p> <p>As per the registered PDD, meter with HTSC no 1554 was already changed from 0.5 accuracy class to 0.2 accuracy class and the remaining are to be changed as per TANGEDCO Notification /3/. Subsequently, all energy meters were changed to accuracy class 0.2, except Meter numbers with HTSC No. U1566 and U1567, which have been changed post current monitoring period to accuracy class 0.2 /32/-/33/. Hence now all meters are now of accuracy class 0.2 which is consistent with the registered monitoring plan.</p> <p>In conclusion, it is confirmed that the proposed permanent change to the calibration frequency in the PDD does not have any material impact on the Additionality, scale, applicability of the applied methodology, monitoring plan and the level of accuracy of monitoring in the registered PDD, in accordance to the Appendix to the CDM project standard /09/ "Indicative list of post-registration changes that may be suitable for approval under the issuance track" request for approval of post-registration change is made by submitting the revised PDD, version 06.0 of 11/06/2019/18/ under the issuance track along with request for issuance for 1st verification covering the period from 30/09/2013 to 15/12/2015.</p> |
|--|--|

D.7. Changes to the project design

| | |
|----------------------------|--|
| Means of validation | The name of PP in the MR and the registered PDD was found to be not consistent. |
| Findings | <p>CL1.1: The name of PP in the MR and the registered PDD was found to be not consistent.</p> <p>Closure of finding: The name of the Project Participant was "M/s Madras Cements Limited" at the time of registration of project activity with UNFCCC /3/. However the name has been changed to "THE RAMCO CEMENTS LIMITED" via Tamil Nadu Companies Registrar letter ref no. L26941TN1957PLC003566, dated 05/08/2013 /21/. Revised HCA indicating change of name from "Madras Cements Limited" to "The Ramco Cements Limited" from Host country DNA is submitted /22/. Accordingly the UNFCCC project webpage is updated /5/.</p> |
| Conclusion | <p>The name of the Project Participant was "M/s. Madras Cements Limited" at the time of registration of project activity with UNFCCC /3/. However the name has been changed to "THE RAMCO CEMENTS LIMITED" via Tamil Nadu Companies Registrar letter ref no. L26941TN1957PLC003566, dated 05/08/2013 /21/. Revised HCA indicating change of name from "Madras Cements Limited" to "The Ramco Cements Limited" from Host country DNA is submitted /22/. Accordingly the UNFCCC project webpage is updated /5/.</p> <p>Since, the change in project participant name does not have any material impact on the Additionality, scale, applicability of the applied methodology, monitoring plan and the level of accuracy of monitoring in the registered PDD, in accordance to the Appendix to the CDM project standard /09/ "Indicative list of post-registration changes that may be suitable for approval under the issuance track" request for approval of post-registration change is made by submitting the revised PDD, version 06.0 of 11/06/2019/18/ under the issuance track along with request for issuance for 1st verification covering the period from 30/09/2013 to 15/12/2015.</p> |

D.8. Changes specific to afforestation and reforestation project activities

| | |
|----------------------------|-----|
| Means of validation | N/A |
| Findings | N/A |
| Conclusion | N/A |

SECTION E. Internal quality control

The draft final post registration validation report before being submitted to UNFCCC for request of issuance was subjected to an independent internal technical review to confirm that all verification activities had been completed according to the pertinent RINA instructions. The technical review was performed by a technical reviewer(s) qualified in accordance with RINA's qualification scheme for CDM validation and verification

SECTION F. Validation opinion

RINA Services Spa (RINA) has performed a validation of post registration changes for the project activity “MCL wind power project in Tamilnadu, India” in the “India”, CDM Registration Reference N° 9740. The validation has been based on the information made available to us.

RINA has performed this validation on the basis of the following documents:

- CDM Executive Board: CDM project cycle procedure for project activities, 02.0 of 29/11/201820;
- CDM Executive Board: CDM project standard for project activities, version 02.0 of 29/11/2018;
- CDM Executive Board: CDM validation and verification standard for project activities, version 02.0 of 29/11/2018;
- Approved methodology “ACM0002”, “Consolidated baseline methodology for grid-connected electricity generation from renewable sources”, version 13.0.0 of 11/05/2012

RINA confirms that permanent deviations discussed in section D.6 and changes to project design discussed in section D.7 comply with the applicable requirements of CDM project standard, version 02.0. The discussed post registration changes do not require prior PRC approval of the revision in the PDD and is suitable for approval under the issuance track as per the Appendix -1 of CDM PS for project activities, version 02.0. RINA further confirms that the changes, as outlined in the revised PDD version 06.0 dated 11/06/2019, from the project activity as described in the registered PDD ensure that the level of accuracy and completeness in the monitoring and verification process is not reduced as a result of the revision; the revisions are in accordance with the applied monitoring methodology and the changes to the project activity comply with the requirements established in the CDM Project Standard.

Appendix 1. Abbreviations

| Abbreviations | Full texts |
|-------------------|--|
| BE | Baseline Emissions |
| BVC | Bureau Veritas Certification |
| CAR | Corrective Action Request |
| CEA | Central Electricity Authority |
| CDM | Clean Development Mechanism |
| CDM M&P | Modalities and Procedures CDM |
| CDM-PCP | Clean Development Mechanism Project Cycle Procedure |
| CDM-PS | Clean Development Mechanism Project Standard |
| CDM-VVS | Clean Development Mechanism Validation and Verification Standard |
| CER(s) | Certified Emission Reduction(s) |
| CH ₄ | Methane |
| CL | Clarification Request |
| CO ₂ | Carbon dioxide |
| CO ₂ e | Carbon dioxide equivalent |
| CRT | Coordination and Technical Control Staff |
| DCI | Certification Division of RINA Services Spa |
| DG | Diesel Generator |
| DNA | Designated National Authority |
| DOE | Designated Operational Entity |
| EB | Executive Board |
| ER | Emission Reductions |
| FAR | Forward Action Request |
| GHG(s) | Greenhouse gas(es) |
| Gol | Government of India |
| GWP | Global Warming Potential |
| HCA | Host Country Approval |
| HTSC | High Tension Service Connection |
| IPCC | Intergovernmental Panel on Climate Change |
| JMR | Joint Meter Reading |
| LoA | Letter of Approval |

| | |
|----------|---|
| MCL | Madras Cements Limited |
| MoEF | Ministry of Environment, Forests and Climate change, Gol |
| MoV | Means of Verification |
| MR | Monitoring Report |
| MRT | Metering and Relay Test |
| N/A | Not Applicable |
| NGO | Non-governmental Organization |
| ODA | Official Development Assistance |
| PDD | Project Design Document |
| PE | Project Emission |
| PLF | Plant Load Factor |
| PP(s) | Project Participant(s) |
| TRCL | The Ramco Cements Limited (formerly Madras Cements Limited) |
| Ref. | Document Reference |
| RINA | RINA Services Spa |
| SS(s) | Sectoral Scope(s) |
| TA(s) | Technical Area(s) |
| TANGEDCO | Tamil Nadu Generation and Distribution Corporation Limited |
| TNEB | Tamil Nadu Electricity Board |
| UNFCCC | United Nations Framework Convention on Climate Change |
| WTG | Wind Turbine Generator |

Appendix 2. Competence of team members and technical reviewers



CERTIFICATO DI QUALIFICA QUALIFICATION CERTIFICATE

Si attesta che il sig./sig.ra: **Amalorpavanathan Cyril AUGUSTUS AROKIASAMY**

We declare that Mr/Mrs/Ms: _____

è qualificato come¹:
is qualified as:

**CDM-TEC, CDM-VAL, CDM-VER, CDM-TL,
ITRP, REG-EXP²**

per le seguenti aree tecniche:
for the following technical areas:

1.1, 1.2, 3.1, 5.1, 13.1

| AREE TECNICHE TECHNICAL AREAS | DESCRIZIONE DELL'AREA TECNICA TECHNICAL AREA DESCRIPTION | SCOPO SETTORIALE SECTORAL SCOPE |
|----------------------------------|---|------------------------------------|
| 1.1 | Thermal energy generation | 1 |
| 1.2 | Renewables | 1 |
| 3.1 | Energy Demand | 3 |
| 5.1 | Chemical industry | 5 |
| 13.1 | Solid Waste and wastewater | 13 |

in accordo alle istruzioni della Divisione Certificazione.

in accordance with the instructions of the Certification Division.

| REVISIONE REVISION | DATA DATE | MOTIVAZIONI PER LA REVISIONE REASON FOR THE REVISION |
|-----------------------|--------------|---|
| 0 | 30/06/2010 | - |
| 13 | 31/03/2017 | Updated qualification as ITRP |
| 14 | 20/09/2018 | Update qualification as REG-EXP |

Il Resp. CCPLS
Head of CCPLS

¹ Legend:

VAL: Validator
VER: Verifier
TEC: Technical Expert
TL: Team Leader
FIN-EXP: Financial Expert
DET: Determiner

CDM: Clean Development Mechanism
VCS: Verified Carbon Standard
GS: Gold Standard
SCS: Social/Carbon Standard
JI: Joint Implementation

² Ghana, Azerbaijan, China, Sri Lanka, Bangladesh, Nepal, Thailand, Indonesia, Singapore, Malaysia, Cambodia, Vietnam, Philippines, UAE and Iraq, Brazil, Japan.

RINA Services S.p.A. è accreditato da UNFCCC, quale Entità Operativa Designata (DOE), per condurre la Validazione e la Verifica di Progetti CDM, da VCSA per condurre la Validazione e la Verifica di Progetti VCS, da GS Foundation, per condurre la Validazione e la Verifica di Progetti GS, da Ecologica Institute per condurre la Validazione e la Verifica di rapporti SCS

RINA Services S.p.A. is accredited by the UNFCCC, as Designated Operational Entity (DOE), to carry out Validation and Verification of CDM Projects, by the VCSA, to carry out Validation and Verification of VCS Projects, by the GS Foundation, to carry out Validation and Verification of GS Projects and by the Ecologica Institute, to carry out Validation and Verification of SCS Reports

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CERTIFICATO DI QUALIFICA QUALIFICATION CERTIFICATE

Si attesta che il sig./sig.ra:

Hui Feng LIU

We declare that Mr/Mrs/Ms:

è qualificato come¹:
is qualified as:

CDM -TEC, -VAL, -VER, -TL
ITRP, REG-EXP²

per le seguenti aree tecniche:
for the following technical areas:

1.1, 1.2, 8.1, 9.2, 13.1

| AREE TECNICHE TECHNICAL AREAS | DESCRIZIONE DELL'AREA TECNICA TECHNICAL AREA DESCRIPTION | SCOPO SETTORIALE SECTORAL SCOPE |
|----------------------------------|---|------------------------------------|
| 1.1 | Thermal energy generation | 1 |
| 1.2 | Renewables | 1 |
| 8.1 | Mining and mineral processes | 8 |
| 9.2 | Iron, steel and ferro-alloy production | 9 |
| 13.1 | Solid waste and wastewater | 13 |

in accordo alle istruzioni dell'unità Sostenibilità & Cambiamenti Climatici.
in accordance with the instructions of the Sustainability & Climate Change Unit.

| REVISIONE REVISION | DATA DATE | MOTIVAZIONI PER LA REVISIONE REASON FOR THE REVISION |
|-----------------------|--------------|---|
| 0 | 10/09/2010 | - |
| 11 | 31/03/2017 | Updating qualification as ITRP |
| 12 | 30/07/2018 | Updating qualification as REG-EXP |

Il Resp. CCPLS
Head of CCPLS

¹ Legend:

VAL: Validator
VER: Verifier
TEC: Technical Expert
TL: Team Leader
FIN-EXP: Financial Expert
DET: Determiner

CDM: Clean Development Mechanism
VCS: Verified Carbon Standard
GS: Gold Standard
SCS: Social Carbon Standard
JI: Joint Implementation

² China

RINA Services S.p.A. è accreditato da UNFCCC, quale Entità Operativa Designata (DOE), per condurre la Validazione e la Verifica di Progetti CDM, da VGSA per condurre la Validazione e la Verifica di Progetti VCS, da GS Foundation, per condurre la Validazione e la Verifica di Progetti GS, da Ecologica Institute per condurre la Validazione e la Verifica di rapporti SCS

RINA Services S.p.A. is accredited by the UNFCCC, as Designated Operational Entity (DOE), to carry out Validation and Verification of CDM Projects, by the VGSA, to carry out Validation and Verification of VCS Projects, by the GS Foundation, to carry out Validation and Verification of GS Projects and by the Ecologica Institute, to carry out Validation and Verification of SCS Reports

GHG_QUAL_CERT_EN_07_18

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Appendix 3. Documents reviewed or referenced

| No. | Author | Title | References to the document | Provider |
|-----|--------------------------------|--|---|----------|
| 1 | TRCL | First monitoring report for project activity "MCL wind power project in Tamilnadu, India" in "India" | version 2.1 of 17/06/2016 version 3.1 of 22/11/2017 version 4.0 of 11/06/2019 | PP |
| 2 | TRCL | Emission reduction calculation spreadsheet | "9740_1st verf_ER_DOE.xlsx" version 1.0 submitted on 20/07/2016 "9740_1st ver 2.1.xlsx" version 2.1 submitted on 22/11/2017 "9740_1st verification 3.0.xlsx" version 3.0 submitted on 11/06/2019 | PP |
| 3 | TRCL | Registered CDM-PDD for project activity "MCL wind power project in Tamilnadu, India" in "India" | version 04 of 10/08/2013 | Others |
| 4 | BVC | CDM validation report of activity "MCL wind power project in Tamilnadu, India" in "India" | Validation Report No.BVC/INDIA-VD/496.49/2013, revision 02, issued on 03/09/2013 | Others |
| 5 | UNFCCC website Project 9740 | "MCL wind power project in Tamilnadu, India" in "India" | http://cdm.unfccc.int/Projects/DB/BVQI1379744232.36/view , in English language, retrieved on 24/07/2016 | Others |
| | | Monitoring Report published linkage on UNFCCC website Project 9740 | http://cdm.unfccc.int/Issuance/MonitoringReports/mr_for_date.html?date=2016/06/22 , English language, retrieved on 24/07/2016 | Others |
| 6 | CDM Executive Board | Instruction for filling out the monitoring report form | Attachment to CDM-MR-FORM, version 07.0 of 31/05/2019 | Others |
| 7 | CDM Executive Board | Monitoring report form for CDM project activity | (CDM-MR-FORM), version 07.0 of 31/05/2019 | Others |
| 8 | CDM Executive Board | CDM project cycle procedure for project activities | version 02.0 of 29/11/2018 | Others |
| 9 | CDM Executive Board | CDM project standard for project activities | version 02.0 of 29/11/2018 | Others |
| 10 | CDM Executive Board | Approved methodology "ACM0002", "Consolidated baseline methodology for grid-connected electricity generation from renewable sources" | version 13.0.0 of 11/05/2012 | Others |
| 11 | CDM Executive Board | CDM validation and verification standard for project activities | version 02.0 of 29/11/2018 | Others |
| 12 | IPCC | Global Warming Potential as per fourth assessment report, 2007 | https://www.ipcc.ch/publications_and_data/ar4/wg1/en/ch2s2-10-2.html#table-2-14 , available | Others |

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|----|-----------------------------|---|--|--------|
| | | | in English, retrieved on 24/07/2016 | |
| 13 | CDM Executive Board | Guideline on the application of materiality in verifications | Version 02.0, of 20/02/2015 | Others |
| 14 | TANGEDCO | Joint Meter Reading reports for WTGs with HTSC Numbers: U1550, U1551, U1552, U1553, U1554, U1555, U1565, U1566, U1567, U1568, U1569, U1574 for the period October 2013 to December 2015 | Submitted on 26/07/2016 | PP |
| 15 | MCL | Invoices for WTGs with HTSC Numbers: U1550, U1551, U1552, U1553, U1554, U1555, U1565, U1566, U1567, U1568, U1569, U1574 for the period October 2013 to April 2014 | Submitted on 26/07/2016 | PP |
| 16 | TRCL | Invoices for WTGs with HTSC Numbers: U1550, U1551, U1552, U1553, U1554, U1555, U1565, U1566, U1567, U1568, U1569, U1574 for the period April 2014 to December 2015 | Submitted on 26/07/2016 | PP |
| 17 | CDM Executive Board | Tool to calculate the emission factor for an electricity system | Version 03.0.0 of 23/11/2012 | Others |
| 18 | TRCL | Updated CDM-PDD for project activity "MCL wind power project in Tamilnadu, India" in "India" | version 06.0 of 11/06/2019 | Others |
| 19 | CDM Executive Board | Project design document form | Version 11.0 of 31/05/2019 | Others |
| 20 | CDM Executive Board | Attachment to the PDD form, instructions for completing PDD form | Version 11.0 of 31/05/2019 | Others |
| 21 | Registrar of Companies, Gol | Fresh Certificate of Incorporation Consequent upon Change of Name | L26941TN1957PLC003566 dated 05/08/2013 | PP |
| 22 | MoEF | Revised HCA indicating change of name from "Madras Cements Limited" to "The Ramco Cements Limited" | 4/1/2013-CC of dated 12/10/2017 | PP |
| 23 | TANGEDCO and PP | Electricity Purchase Agreements for WTGs with HTSC Numbers: U1550, U1551, U1552, U1553, U1554, U1555, U1565, U1566, U1567, U1568, U1569, U1574 | Dated 27/03/2014 | PP |
| 24 | CEA | Central Electricity Authority (Installation and Operation of Meters) Regulations, 2006. | Dated 17/03/2006 | Other |
| 25 | MRT TANGEDCO | Meter change and inspection report for HTSC No.U1550 | Dated 24/10/2014 | PP |
| 26 | MRT TANGEDCO | Meter change and inspection report for HTSC No.U1551 | Dated 25/03/2015 | PP |
| 27 | MRT TANGEDCO | Meter change and inspection report for HTSC No.U1552 | Dated 03/09/2015 | PP |
| 28 | MRT TANGEDCO | Meter change and inspection report for HTSC No.U1553 | Dated 16/08/2013 | PP |

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|----|-----------------|--|---|-------|
| 29 | MRT TANGEDCO | Meter change and inspection report for HTSC No.U1554 | Dated 10/09/2012 | PP |
| 30 | MRT TANGEDCO | Meter change and inspection report for HTSC No.U1555 | Dated 07/05/2013 | PP |
| 31 | MRT TANGEDCO | Meter change and inspection report for HTSC No.U1565 | Dated 13/02/2014 | PP |
| 32 | MRT TANGEDCO | Meter change and inspection report for HTSC No.U1566 | Dated 21/02/2017 | PP |
| 33 | MRT TANGEDCO | Meter change and inspection report for HTSC No.U1567 | Dated 21/02/2017 | PP |
| 34 | MRT TANGEDCO | Meter change and inspection report for HTSC No.U1568 | Dated 13/01/2015 | PP |
| 35 | MRT TANGEDCO | Meter change and inspection report for HTSC No.U1569 | Dated 13/02/2015 | PP |
| 36 | MRT TANGEDCO | Meter change and inspection report for HTSC No.U1574 | Dated 13/02/2015 | PP |
| 37 | TRCL | Daily performance report for for WTGs with HTSC Numbers: U1550, U1551, U1552, U1553, U1554, U1555, U1565, U1566, U1567, U1568, U1569, U1574 for the period October 2013 to December 2015 | Submitted on 29/05/2017 | PP |
| 38 | TANGEDCO | Reorganisation of TNEB and formation of TANGEDCO | http://www.tangedco.gov.in/temp/late1.php?tempno=&cid=0&subcid=182 available in English, retrieved on 13/06/2017 | Other |

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

Table 1. CLs from this validation

| CL ID | 1 | Section no. | D.7 | Date: 27/07/2016 |
|--|---|-------------|-----|-------------------------|
| Description of CL | | | | |
| The name of PP in the MR and the registered PDD was found to be not consistent. | | | | |
| Project participant response | | | | Date: 23/05/2017 |
| <p>The name of the Project Participant was “M/s Madras Cements Limited” at the time of registration of project activity with UNFCCC. However the name has been changed to “THE RAMCO CEMENTS LIMITED” via Tamil Nadu Companies Registrar letter ref no. L26941TN1957PLC003566, dated 05 August 2013. Hence, the change in project participant name.</p> <p>We have herewith now revised the PDD.</p> <p>Since, the change in project participant name does not impact the Additionality / Baseline / Scale of the project / Emission reductions from project activity; we have not sought prior approval from UNFCCC for Permanent changes in the project activity. We request the DoE to submit the revised PDD, version 05 to UNFCCC along with Requesting Issuance for 1st verification covering the period from 30/09/2013 to 15/12/2015.</p> | | | | |
| Documentation provided by project participant | | | | |
| <p>Revised PDD, version 05.</p> <p>Tamil Nadu Companies Registrar letter ref no. L26941TN1957PLC003566, dated 05 August 2013</p> | | | | |

| | |
|---|-------------------------|
| DOE assessment | Date: 13/06/2017 |
| <p>Tamil Nadu Companies Registrar letter ref no. L26941TN1957PLC003566, dated 05/08/2013 submitted, and the revised PDD version 05 dated 23/05/2017 submitted, however it is noted that</p> <ol style="list-style-type: none"> 1. the Modalities of Communication Statement available in the UNFCCC project webpage is not updated. 2. MR footnote 1 mentions submission of revised PDD to UNFCCC, PP is requested submit evidences of the same. <p>CL is open.</p> | |
| Project participant response | Date: 17/11/2017 |
| <p>1). We have received Revised HCA indicating change of name from "Madras Cements Limited" to "The Ramco Cements Limited" from Host country DNA. We have initiated action to reflect this change in UNFCCC webpage. This will be done shortly.</p> <p>2). We wish to clarify that, since the change in project participant name does not impact the Additionality / Baseline / Scale of the project / Emission reductions from project activity; we have not sought prior approval from UNFCCC for Permanent changes in the project activity.</p> <p>Therefore, we are hereby requesting the DoE to submit the revised PDD, version 5.1 to UNFCCC along with Requesting Issuance for 1st verification covering the period from 30/09/2013 to 15/12/2015.</p> <p>The footnote has been now changed as "being submitted to UNFCCC".</p> | |
| Documentation provided by project participant | |
| Revised PDD, version 5.1 | |
| DOE assessment | Date: 07/12/2017 |
| <p>The name of the Project Participant was "M/s Madras Cements Limited" at the time of registration of project activity with UNFCCC /3/. However the name has been changed to "THE RAMCO CEMENTS LIMITED" via Tamil Nadu Companies Registrar letter ref no. L26941TN1957PLC003566, dated 05/08/2013 /21/. Revised HCA indicating change of name from "Madras Cements Limited" to "The Ramco Cements Limited" from Host country DNA is submitted /22/. Accordingly the UNFCCC project webpage is updated /5/.</p> <p>Since, the change in project participant name does not have any material impact on the Additionality, scale, applicability of the applied methodology, monitoring plan and the level of accuracy of monitoring in the registered PDD, in accordance to the Appendix to the CDM project standard /09/ "Indicative list of post-registration changes that may be suitable for approval under the issuance track" request for approval of post-registration change is made by submitting the revised PDD, version 05.1 dated 22/11/2017 /18/ under the issuance track along with request for issuance for 1st verification covering the period from 30/09/2013 to 15/12/2015. However PP is requested to update the PDD to the latest template. CL 1 is open.</p> | |
| Project participant response | Date: 11/06/2019 |
| Updated PDD is submitted | |
| Documentation provided by project participant | |
| Revised PDD, version 6.0 | |
| DOE assessment | Date: 17/07/2019 |
| PDD is now available in updated template. CL 1 is closed. | |

| | | | | |
|--|---|--------------------|-----|-------------------------|
| CL ID | 2 | Section no. | D.6 | Date: 27/07/2016 |
| Description of CL | | | | |
| PP is requested to provide calibration certificates for all energy meters covering the monitoring period. | | | | |
| Project participant response | | | | Date: 23/05/2017 |
| <p>The calibration of energy meters was in the purview of State Electricity Utility till 07/03/2014. Since, no defect was noticed in the meters, the calibration of energy meters was not undertaken by State Electricity Utility.</p> <p>However, as indicated in registered PDD, "as per the TANGEDCO notification process of replacing the existing energy meter of accuracy class 0.5 by 0.2 accuracy class is under progress".</p> <p>Accordingly, the energy meters for following HTSC no's has got changed before 15/12/2015 (last date of current monitoring period). U1550, U1551, U1552, U1553, U1554, U1555, U1565, U1568, U1569 and U1574. The delay in calibration, where applicable has been applied in Revised ER sheet, version 02.</p> <p>The energy meter for HTSC no's U1566 and U1567 has got changed on 08/02/2017. The delay in calibration for these HTSC no's has been applied for the entire crediting period in Revised ER sheet, version 02.</p> <p>The details on meter changes have been included in Appendix 5 of revised MR, version 3.</p> | | | | |

| | |
|--|-------------------------|
| Documentation provided by project participant | |
| Meter change records for the following HTSC no's: U1550 – changed on 20/10/2014 U1551 – changed on 17/03/2015 U1552 – changed on 27/08/2015 U1553 – changed on 07/08/2013 U1554 – changed on 28/08/2012 U1555 – changed on 25/04/2013 U1565 – changed on 10/02/2014 U1566 – changed on 08/02/2017 U1567 – changed on 08/02/2017 U1568 – changed on 07/01/2015 U1569 – changed on 09/02/2015 U 1574 – changed on 09/02/2015 Revised MR, version 03. Revised ER sheet, version 02. | |
| DOE assessment | Date: 13/06/2017 |
| The delay in calibration is not completely under the control of PP. The project activity has experienced significant delay in meter calibration for which the registered frequency of calibration of once in two years could not be adhered. Therefore, in view of the above situation and uncertainty in meter calibration at TNEB, PP has requested for a permanent change in the registered PDD to readdress the frequency of calibration. In this regard, PP has referred to the CEA notification 2006, which confirms that “all interface meters shall be tested at least once in five years. These meters shall also be tested whenever the energy and other quantities recorded by the meter are abnormal or inconsistent with electrically adjacent meters”. Hence the revised frequency of all the energy meters installed in the project activity shall be once in five years. The relevant sections of this revised PDD (version 05, dated 23/05/2017) are updated to include the above mentioned changes. The proposed permanent change to the calibration frequency in the PDD is consistent with the Appendix to the CDM project standard “Indicative list of post-registration changes that may be suitable for approval under the issuance track”. The electricity generated from the project is exported to the grid and the readings for the emission reduction calculations are obtained from the Joint Meter Reading statement provided by the state utility. Hence it is accepted that the meters were accurate and in working condition until it was changed. The PP has adjusted the emission reduction calculation for a period elapsed between 5 years post installation of the old energy meter and the change of new energy meters. The emission reduction calculation sheet, revised MR, meter change records and the Electricity purchase agreement are found consistent with the PP's response. However PP is requested to update the PDD to the latest template. CL 2 is open | |
| Project participant response | Date: 11/06/2019 |
| Updated PDD is submitted | |
| Documentation provided by project participant | |
| Revised PDD, version 6.0 | |
| DOE assessment | Date: 17/07/2019 |
| PDD is now available in updated template. CL 2 is closed. | |
| | |

Table 2. CARs 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. FARs 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

| <i>Version</i> | <i>Date</i> | <i>Description</i> |
|---|-----------------|--|
| 03.0 | 31 May 2019 | Revision to: <ul style="list-style-type: none">• Ensure consistency with version 02.0 of the “CDM validation and verification standard for project activities” (CDM-EB93-A05-STAN);• Make editorial improvements. |
| 02.0 | 31 October 2017 | Revision to align with the requirements in the “CDM validation and verification standard for project activities” (version 01.0). |
| 01.0 | 23 March 2015 | Initial publication. |
| Decision Class: Regulatory Document Type: Form Business Function: Registration Keywords: post-registration change, project activities, validation report | | |