



VERIFICATION REPORT FOR

“SOLAR AND WIND POWER PROJECT BY NTPC LIMITED”



Document Prepared by Earthhood Services Private Limited

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Summary:

Earthood Services Private Limited (hereafter referred to as ESPL) has been contracted by NTPC Ltd to conduct the verification of the project - "Solar and Wind Power Project by NTPC Limited", VCS ID 1772 with regard to the relevant requirements of VCS programme guidelines and standard (VCS standard version 4.1, & VCS program guide version 04.0). Relevant requirements of the UNFCCC for CDM project activities, as well as criteria for consistent project operations, monitoring and reporting has been applied for verification.

The monitoring period covers under this verification are from 01/07/2018 to 30/09/2020 (both days included).

The verification includes confirming the implementation of the monitoring plan of the registered Joint VCS PD and MR (version 02, dated 30/07/2018) and the application of the monitoring methodology as per ACM0002, Version 18.1 "Consolidated baseline methodology for grid-connected electricity generation from renewable sources".

The project involves installation of solar PV and wind project in four different states of India. The total installed capacity including both the technology is 610 MW (560 MW solar project & 50 MW wind power project). The details of the each for the sub-project and their location of installation are provided in the table below:

Project technology	Capacity (MW)	Location	Date of commissioning
Solar PV	50	Anantapur District of Andhra Pradesh, India	10/08/2016
Solar PV	260	Bhadla- Rajasthan, India	08/03/2017
Solar PV	250	Mandsaur District of Madhya, India	06/06/2017

Wind	50	Rajkot, Amreli & Botad District, Gujarat, India	10/11/2017
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The project activity involves electricity generation by the solar & wind power supplying the generated electricity to respective state DISCOM i.e., NEWNE grid (now integrated Indian grid). The project being a renewable energy generation activity, leads to reduction in fossil fuel dominated electricity generation. The project activity results in reductions of greenhouse gas (GHG) emissions that are real, measurable, and verifiable and also plays beneficial role in the mitigation of climate change.

A risk-based approach has been followed to perform this verification. In the course of verification, 03 Corrective Action request (CARs), 00 Forward Action request (FARs), and 01 Clarification request (CLs) were raised and successfully closed.

The review of the project design documentation, monitoring report and additional documents related to baseline and monitoring methodology; the subsequent background investigation, telephonic interviews and stakeholders have provided ESPL with sufficient evidence to validate the fulfillment of the stated criteria.

ESPL confirms that the project is implemented in accordance with the registered Joint VCS PD & MR. The monitoring system is in place and the emission reductions are calculated without material misstatements. Our opinion relates to the project's GHG emissions and the resulting GHG emission reductions reported and related to the valid and registered project baseline and monitoring and its associated documents. Based on the information seen and evaluated we confirm that the emission reductions from the project activity "Solar and Wind Power Project by NTPC Limited" in India during the period 01/07/2018 to 30/09/2020 (including both days) amount to 2,089,638 tons of CO₂e.

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1 INTRODUCTION

1.1 Objective

NTPC Ltd has contracted Earthood Services Private Limited (Earthood) to perform second VCS Verification of the 'Solar and Wind Power Project by NTPC Limited' in India (hereafter called project). This project has already been registered as a VCS project (VCS ID 1772). The objective of this verification is a thorough and independent assessment of registered project activities against the applicable VCS requirement by the DOE. The verification process shall determine whether the project activity complies with the requirements of latest VCS guidelines, applicability conditions of the selected methodology, relevant host country regulations and guidance issued by the VCS Board.

1.2 Scope and Criteria

The scope of verification is to assess the claims and assumptions made in the VCS monitoring report (MR) against the VCS criteria, including but not limited to, VCS standard, applied methodology and other relevant rules and requirements established for VCS project activities.

The Verification is not meant to provide any consulting towards the project participants. However, stated requests for clarification and/or correction actions request may have provided inputs for improvement of the project design.

1.3 Level of Assurance

The level of assurance of the verification report falls under reasonable assurance engagements. Reasonable assurance is a high level of assurance regarding material misstatements, but not an absolute one.

Reasonable assurance includes the understanding that there is a remote likelihood that material misstatements will not be prevented or detected on a timely basis. To achieve reasonable assurance, the auditor needs to obtain sufficient appropriate audit evidence to reduce audit risk to an acceptably low level. This means that there is some uncertainty arising from the use of sampling, since it is possible that a material misstatement will be missed.

The evidence used to achieve a reasonable level of assurance is specified in section 2.3 and 2.4 of this report.

1.4 Summary Description of the Project

The project activity comprises installation of grid connected solar photovoltaic based power project in the state Andhra Pradesh, Rajasthan, Madhya Pradesh and wind power project in

Gujarat state in India. The project activity involves installation of 50 MW solar project in Anantapur District of Andhra Pradesh, 260 MW solar project in Bhadla- Rajasthan, 250 MW solar project in Mandsaur District of Madhya Pradesh and a 50 MW wind power project in Gujarat, India.

The project developer NTPC Limited has signed power purchase agreement (PPA) with respective state DISCOMs and the electricity generated through the project activity being supplied to the Indian grid. The details of each sub-project with location and commissioning status are provided in the below table:

Sr.No-	Sub-project	Date of commissioning
1	50 MW Solar PV project in Anantapur District of Andhra Pradesh, India	10/08/2016
2	260 MW Solar PV in Bhadla- Rajasthan, India	08/03/2017
3	250 MW Solar PV in Mandsaur District of Madhya, India	06/06/2017
4	50 MW Wind in Rajkot, Amreli & Botad District, Gujarat, India	10/11/2017

The commissioning date of each sub-project is verified through the respective commissioning certificate/14/. The verification team has also verified the latest photographs/19/ of all the equipment's (solar modules, inverters and transformers, energy meters) installed at site and SCADA monitoring system submitted by the project proponent.

Location of the project was verified through Google Map (<https://www.google.co.in/maps>) and found consistent with the data provided in the registered Joint VCS PD & MR/01/. The Solar Plants/WTGs have been commissioned between 10/08/2016 and 10/11/2017. The same was verified against the registered Joint VCS PD & MR/01/ and commissioning certificates/14/. The emission reductions from the project activity during the period 01/07/2018 to 30/09/2020 (including both days) amount to 2,089,638 tons of CO₂e.

The project activity is undergoing second verification and description of project activity was also verified during first verification/02/ through physical site visit by other VVB (Applus+Certification) on 26/07/2018 to 29/07/2018. The assessment team has checked the verification records (for first monitoring period) and interviewed the PPs representatives (telephonically) to verify the project details and implementation of monitoring plan as described in the registered joint VCR PD& MR , previous verification report/02/. Based on the assessment of the documents and remote interviews with PPs representatives, the assessment team is able to confirm that the

project activity is fully functional and implemented as described in the registered joint VCS PD &MR.

2 VERIFICATION PROCESS

The registered VCS project is undergoing second verification under VCS, the approach adopted to ensure the quality of emission reductions is described in the following sections.

2.1 Method and Criteria

The verification approach consists of two phases:

In the first phase, ESPL completed a strategic review and risk assessment of the project's activities and processes in order to gain a full understanding of:

- Activities associated with all the sources contributing to the project emissions and emission reductions, including leakage if relevant;
- Protocols used to estimate or measure GHG emissions from these sources;
- Collection and handling of data;
- Controls on the collection and handling of data;
- Means of verifying reported data; and
- Compilation of the verification Report.

At the end of this phase, ESPL produced a Verification Checklist which, based on the risk assessment of the parameters and data collection and handling processes for each of those parameters, describes the verification approach and the sampling plan.

In the second phase using the Verification checklist, ESPL verified the implementation of the monitoring plan and the data presented in the VCS MR/04/ for the period in question. This involved telephonic interviews of project proponent representative's and a desk review of the Monitoring Report. This verification report describes the findings of this assessment.

2.2 Document Review

The verification is performed primarily as a document review of the registered Joint VCS PD & MR/01/, and Joint Validation & Verification report/02/ and associated documents as stated in details in appendix 1 of this document. The assessment is performed by a verification team using

a protocol. The cross checks between information provided in the Monitoring report, registered Joint VCS PD & MR and information from sources other than those used, if available, the team's sectoral or local expertise and, if necessary, independent background investigations.

2.3 Interviews

Due to the current situation with the global COVID-19 pandemic scenario and country wide lock down in India (<https://wwwnc.cdc.gov/travel/notices/covid-4/coronavirus-india>) , an on-site inspection has not been performed by the assessment team. However, the representatives of the PP were interviewed telephonically on 25/03/2021 i.e., personnel responsible for monitoring of the project activity, data collection and management, and QA/QC procedure. The details of the people interviewed are mentioned in the table below:

Name	Organization	Topic covered
Mr. Sandeep Dahiya	NTPC Ltd (Manager – O & M – Bhadla Site - Rajasthan)	Project implementation, start date as per the VCS requirements. Electricity Generation Records (monthly energy statements, Invoices)
Mr. Nand Bhanwar Meena	NTPC Ltd (Manager – Mandsaur site)	Reliability & accuracy of readings considered for emission reduction calculations, Calibration procedure Monitoring and measuring system Collection of measurements Observations of established practices
Mr. Rammohan K	NTPC Ltd (Manager – Anantpur site)	Data Verification of monitoring parameters QA/QC procedures, data management, internal audits to maintain data quality & reliability, maintenance Practices.
Mr. Vijay Prakash Mishra	NTPC Ltd (DGM – O & M – Rojamal site)	Consideration of monitoring period, monitoring methodology, project documentation and emission reduction calculations.
Mr. Samarth Barve	Infinite Solutions (Consultant)	project documentation and emission reduction calculations.

2.4 Site Inspections

As discussed in the above section, physical site inspection is not done for the current verification. However, to achieve a reasonable level of assurance, the assessment team has followed the alternative means to substantiate the verification criteria as described in the below table:

Assessment Criteria	Means of verification/source documents	Assessment opinion
Description of project activity	Commissioning certificates for all project sites/11/ PPA signed with APSPDCL, JVVNL, AVVNL, JVVNL, MPPMCL and GUVNL /12/ VCS Joint Validation & verification report for first monitoring period/02/. Telephonic interview with site personnel on 25/03/2021.	The information's with reference to project capacity, technology, plant equipment's and commissioning dates as provided in section 1.1 of MR are found consistent with the documents.
Compliance of the project implementation with the registered project design document	Monthly JMRs issued by DISCOM/08/ for all four sites. Geographical co-ordinates of project activity verified through Google Map ¹ Photograph of equipments installed at site and screen shots of SCADA system /18/ VCS Joint Validation & verification report for first monitoring period/02/. Telephonic interview with site personnel on 25/03/2021.	JMRs indicate the following information: Identification of substation to which the project is connected, serial numbers of energy meters used for measurement, Capacity of project and name of project participant. Location of project is verified through GPS Map and found consistent with registered Joint VCS PD & MR. Photograph of equipment's and screen shots of SCADA system are verified to check the operational status of project activity. Grid connectivity of the project is confirmed through the PPAs.

¹ <https://www.google.co.in/maps>

		All the information's regarding the project implementation as discuss above are further verified through registered Joint VCS PD & MR and found consistent.
Compliance of the registered monitoring plan with applied methodologies and standardized baselines	Telephonic interview with site personnel on 25/03/2021 PPA signed with APSPDCL, JVVNL, AVVNL, JVVNL, MPPMCL and GUVNL /12/ for all four sites. Monthly JMRs issued by DISCOM/08/ for all four sites. Invoices raised by project developer to respective state utility /07/	The organizational structure, responsibilities and competencies of the personnel confirmed through telephonic interview. Frequency of monitoring of parameters listed under approved monitoring plan is verified through credit reports /Invoices. The methods used for measuring, recording, storing, aggregating, and reporting the data on monitored parameters are verified though PPA and telephonic conversations with site personnel. Procedure for data uncertainty, emergency preparedness, roles and responsibility, operational and management structure are mentioned in the MR is confirmed through quality policy documents/21/ and found satisfactory.
Compliance with the calibration frequency requirements for measuring instruments	Calibration certificates of meters installed at all 4 locations/06/ PPA signed with APSPDCL, JVVNL, AVVNL, JVVNL, MPPMCL and GUVNL /15/ Photographs of energy meters indicating serial number, accuracy class, make /18/. Central Electricity Authority (Installation and Operation of Meters) Regulations/15/	Calibration frequency and energy meter specifications (Sr.No, make accuracy class) is verified through calibration certificates and further verified through photographs and found consistent. Responsibility of calibration and maintenance of energy meters is solely under control of DISCOMs; this is verified through the respective PPA.

Assessment of data and calculation of emission reductions or net removals	Monthly JMRs issued by DISCOMs/08/ for all four sites. Invoices raised by project developer to respective state utility /07/ CEA CO₂ Baseline Database for the Indian Power Sector /10/ Previous Joint VCS Validation & verification report /02/.	Monthly values of monitoring parameter used in ER calculation are verified through credit reports and cross verified with the invoices. Methods, formulae and emission factor for calculating baseline emissions have been followed are in accordance with the applied methodology and as described in the approved registered Joint VCS Validation & verification report /02/.
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It is noteworthy that no sampling plan for verification is applied as 100% data is verified for the current monitoring period. Most of the reference document referred by the assessment team (above table) are either issued /endorsed by state utility/DISCOMs, (an external government agency, hence is deemed authentic.

Based on the above assessment it can be concluded that the assessment team has verified sufficient appropriate audit evidences, to reduce audit risk to an acceptably low level as requisite to achieve reasonable level of assurance for the current verification.

2.5 Resolution of Findings

The objective of this step is to identify, discuss and conclude on the issues related to the monitoring, implementation and operations of the registered project activity that could impair the capacity of the registered project activity to achieve emission reductions or influence the monitoring and reporting of emission reductions. This is done based on the desk review and interaction with site personnel over phone. The verification team prepares and/or updates a verification protocol (internal document) that records the conformities and non-conformities, which may be of following types;

CAR (Corrective Action Request) is raised if one of the following occurs:

Non-compliance with the monitoring plan, the methodology or the standardized baseline are found in monitoring and reporting and has not been sufficiently documented by the project participants, or if the evidence provided to prove conformity is insufficient;

Modifications to the implementation, operation and monitoring of the registered project activity has not been sufficiently documented by the project participants;

Mistakes have been made in applying assumptions, data or calculations of emission reductions that will impact the quantity of emission reductions;

Issues identified in a FAR during validation to be verified during verification or previous verification(s) have not been resolved by the project participants. Clarification request (CL) is raised if information is insufficient or not clear enough to determine whether the applicable CDM requirements have been met. All CARs and CLs raised by the ESPL during verification shall be resolved prior to submitting a request for issuance.

FAR (Forward Action Request) is raised during verification if the monitoring and reporting require attention and/or adjustment for the next verification period. All the findings that are raised and communicated to project participant during the verification are included under Appendix 3.

2.5.1 Forward Action Requests

The project activity is undergoing second verification in VCS; there were no FARs raised during the validation or previous verification/02/.

2.6 Eligibility for Validation Activities

The validation/verification body has not undertaken validation activities as part of the verification and hence not applicable.

3 VALIDATION FINDINGS

Not applicable.

3.1 Participation under Other GHG Programs

The project is registered under VCS only (Project ID-1772) with 10 years crediting period (renewable twice) from 10/08/2016 to 09/08/2026/01/. As verified through the records available at VCS registry, VERs for the period from 10/08/2016 to 30/06/2018 are already issued. The PP has submitted the declaration/19/ which states that the net GHG emission reductions generated by the project activity will not be used for compliance with any other emissions trading program or to meet binding limits on GHG emissions for the same monitoring period

3.2 Methodology Deviations

There is no methodology deviation identified during the current monitoring period.

3.3 Project Description Deviations

The following project deviation identified during the current monitoring period:

It is noted that the calibration of energy meters (location: Rojmal, Gujarat) was not carried out as per the frequency outlined under registered monitoring plan. It is to be noted that calibration of meters is completely under preview of state utility and PP has no control over the same as confirmed through interviews of site personnel (telephonic) and PPA signed by the PP with state utility/12/, hence the project participant has considered the calibration delay as project deviation. The project has addressed the calibration delay applying the error factor (-0.4%) to the monitored parameter during the delayed period (April 2020 to Sept 2020), in line with the guidelines as outlined under paragraph 366(a) of VVS PAs v02.0.

The assessment team is able to confirm that the deviation identified during the current monitoring period is appropriately described and justified in section 3.2.2 of the monitoring report and the project remains in compliance with the VCS rules. Also, the deviation does not have an impact on the applicability of the methodology, additionality or the appropriateness of the baseline scenario.

3.4 Grouped Project

Not applicable. The project activity is not a grouped project.

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

The project activity involves the installation of Solar PV and wind project. The total installed capacity of the project is 560 MW of Solar PV plant and a 50 MW Wind project located in four different states in India. The project is promoted by NTPC Limited.

This project will reduce the GHG emissions generated by the current generation energy mix in India's Power Grid, which is dominated by fossil fuel-based grid connected power plants. The power generated through the proposed project activity being supplied to Indian grid through a contractual arrangement (PPA) with the APEPDCL (Eastern Power Distribution Company of AP Limited) for 50 MW solar plant, Madhya Pradesh Power Management Company Limited (MPPMCL) for 250 MW solar plant, Jodhpur Vidyut Vitran Nigam Limited (JVVNL) for 260 MW solar plant and Gujarat Urja Vikas Nigam Limited (GUVNL) for 50 MW wind Project.

The technical specification of the project activity equipment's has been checked through the photographs of all the equipment's installed at site and are found to be consistent with the mentioned under section 3.1 of MR. The current status of the project activity is verified through the screen shots of SCADA system/19/, indicating the real-time generation data and hence it is confirmed that the project is fully functioning.

The monitoring plan of registered VCS PD/01/ includes the parameter “Quantity of net electricity generation supplied by the project plant/unit to the grid in year y (MWh), $EG_{PJ,y}$.”

Monitoring procedure for Solar Plants (Location-Andhra Pradesh, Rajasthan and Madhya Pradesh):

The assessment team has verified the generation documents (JMRs /invoices), previous verification report /02/, actual photographs of project site (including metering arrangement) and it is observed that to the project activity (phase-1) is connected to Government substations maintained by the respective state utilities. State. There are separate set of dedicated meters are installed at the respective substations for monitoring of net electricity supplied to the grid ($EG_{PJ,y}$) through the project plant located in particular state. All the energy meters used for the monitoring are of accuracy class 0.2s and to be sealed & calibrated by the respective state utility once in 5 years. The assessment team has verified the calibration certificates/06/ and confirmed that the meters are calibrated in accordance with the frequency as outlined in the registered monitoring plan/01/.

The state utility in the respective location issues month wise “JMRs” which contains the value of net electricity exported to the grid by the project implemented at respective locations. The values (mentioned in “JMRs”) are the main source to calculate the baseline emission by this project activity and same is in line with the information provided in registered monitoring plan /01/. The measurement results are cross checked with records of invoices and it is in line with applied methodology. Thus, this parameter is considered in emission reduction calculations.

The assessment team has verified the latest photographs of all the 3 project locations (including monitoring equipment's), JMRs and it is observed that, the project activity is connected to the grid through an appropriate power evacuation system. Appropriate metering system and calculation procedures are transparently described in the monitoring plan to enable accurate determination of emission reductions achieved by the project activity.

The net electricity supplied to the grid by project activity is being measured continuously by energy meters of accuracy class 0.2s located at the respective sub-stations and recorded at least monthly basis. This is in line with methodology and is accepted.

Monitoring procedure for Wind Project (Location- Gujarat):

The assessment has interviewed the site personnel(telephonically) and verified the generation documents (JMRs/Share certificates) and confirmed that the project WTGs are connected to various clusters at the site for the purpose of metering. Each cluster has dedicated main and the check meter at 33 kV. In all the clusters, only WTGs of project activity are connected and no WTGs of other project developer are there in the clusters. Similarly, the WTGs of other project developers (non-project activity) in the wind farm are also connected to separate clusters having exclusive dedicated metering arrangement at 33kV at project site. All the cluster meters (for the project activity and non-project activity) are further connected to 220 kV Sukhpur substation operated and managed by state utility.

As verified through the calibration certificates and recent photographs that there is one set of energy meters installed at substation/08/ and are under control of state utility (GUVNL), sealed in presence of both the state utility official & representative of PP/12/. Monthly Joint Meter Reading is being taken jointly by the officials of state utility and project participant's representative (O&M contractor) on monthly basis and accordingly monthly JMRs (share certificate) is being prepared. Both the energy meters used for the monitoring are of accuracy class 0.2s and to be sealed & calibrated by the state utility once in 5 years. The assessment team has verified the calibration certificates/06/ and it is observed that the delay in calibration of meters occurred during the current monitoring period (please refer section 4.5 of this report for complete details).

Monthly "share certificate"/JMR for each project developer is issued by the state utility that indicate the net electricity supplied to the grid by the individual project activity. The measurement results are cross checked with records of invoices and it is in line with applied methodology. Thus, this parameter is considered in emission reduction calculations.

The assessment team has verified the latest photographs of project site (including monitoring equipment's), JMRs/share certificates and it is observed that, the WTGs belonging to the project activity are connected to the grid through an appropriate power evacuation system. Appropriate metering system and calculation procedures are transparently described in the monitoring plan to enable accurate determination of emission reductions achieved by the project activity.

Conclusion:

The assessment team has verified the final VCS MR/04/ and confirmed that the procedure for data uncertainty, emergency preparedness, roles and responsibility, operational and management structure are mentioned in the MR, in line with the same as described in the registered joint VCS PD&MR/01/. The monitoring plan completely describes all measures to be implemented for monitoring all parameters required. The monitoring plan described the positioning of the equipment. Calibration frequency for Energy meters is once in 5 years. Also, CEA Notification/15/ No. 502/70/CEA/DP&D dated 17/03/2006 which is considered as national standard mentions that "All interface meters shall be tested at least once in five years." Hence calibration frequency once in 5 years considered for the project activity is found to be appropriate.

The information relating to the project implementation, provided in the Monitoring Report /04/ is consistent with that stated in the registered PD /01/. The data and variables provided in the monitoring report are the same as stated in the registered PD/01/. Total emission reductions achieved under this monitoring period 01/07/2018 to 30/09/2020 (including both days) is 2,089,638 tCO₂e.

The required monitoring systems have been installed and are operational/08/. The meters comply with appropriate quality standards applicable for the used technology/15/. The accuracy class of the meters installed for the project activity was verified against the registered joint VCS

PD&MR/01/; VCS MR/04/ , joint VCS validation & verification report /02/ and cross-checked against the PPAs/12/ signed for the project activity, found to be in order. There was no major breakdown or shut downs during the monitoring period which might affect the applicability of methodology or might cause material errors in emission reductions. Assessment team concludes the following:

- a) There are no material discrepancies between project implementation and the project description provided in the registered PD/01/.
- b) The monitoring plan is implemented completely and monitoring system (i.e., process and schedule for obtaining, recording, compiling and analyzing the monitored data and parameters) is appropriate.
- c) There are no material discrepancies between the actual monitoring system, and the monitoring plan set out in the project description and the applied methodology/09/.
- d) The GHG emission reductions or removals generated by the project have not included in an emissions trading program or any other mechanism that includes GHG allowance trading/17/.
- e) The project has not received or sought any other form of environmental credit, or has become eligible to do so since validation or previous verification/14/.
- f) The project has been registered under VCS only.
- g) The project activity is complying with indicators for sustainable development in the interim approval guidelines published by Ministry of Environment, Forests and Climate Change, Government of India, as discussed under section 1.11 of MR.

In view of the information's as verified above the assessment team is able to conclude that the project has been implemented as described in the project description.

4.2 Safeguards

4.2.1 No Net Harm

There is no negative impact to any socio-economic conditions of the region due to the project activity. The type of project activities requires to conduct EIA assessment are categorized under the schedule 1 of Ministry of Environment and Forest notification dated 14/09/2006² and further notification number 3067 from MoEF dated 01/12/2009³ . The project activity does not fall under the listed categories and hence not required an EIA to be done. This project activity will

² <http://envfor.nic.in/legis/eia/so1533.pdf>

³ <http://moef.nic.in/downloads/rules-and-regulations/3067.pdf>

not involve any negative environmental or socio-economic impacts, as the project activity involves generation of power using wind and solar energy which is a clean source of energy. Hence no mitigation measures are required.

4.2.2 Local Stakeholder Consultation

The project activity undergoing second verification and local stakeholder consultation was appropriately conducted prior to validation as a way to inform the design of the project and maximize participation from stakeholders during the validation. The project proponent has implemented mechanism for ongoing communication with local stakeholders to allow stakeholders to raise concerns about potential negative impacts during implementation and operation of the project activity. The project proponent has placed a grievance register and a grievance box at the respective site office/19/, where the local villagers can register their concerns.

The assessment team has checked the copy of grievance register maintained at the respective site offices/19/ and confirmed that no formal complaints were received during the current monitoring period.

4.3 AFOLU-Specific Safeguards

Not applicable for the project activity. For non-AFOLU projects, this section is not required.

4.4 Accuracy of GHG Emission Reduction and Removal Calculations

The calculation of the emission reductions is found to be correct. The details of the reported and the verified values for all parameters are listed in section 4.5 of this report.

The parameter $EG_{PJ,y}$ is directly sourced from monthly JMRs issued by state utility. The PP has provided the complete set of data for all the monitored parameters in the ER spreadsheet/05/. This data has been verified as described in section 4.5 below. The formulae & method used to calculate the baseline emissions, project emissions and leakage are appropriate and in line with the approved methodology ACM0002 version 18.1/09/.

The PP has calculated the grid emission factor as per the combined margin approach described in the 'Tool to calculate the emission factor for an electricity system', version 06.0. The grid emission factor has been calculated as the weighted average of OM & BM; and has been fixed ex-ante for the entire crediting period.

The OM and BM have been obtained from a publicly available source i.e., "CO2 Baseline Database for Indian Power sector", version 12/10/ published by Central Electricity Authority, Ministry of Power, and Government of India. The OM has been determined as the average of the previous 3 years values obtained from the CEA database/10/. The value of BM has been

identified directly from the CEA database. The combined margin emission factor was arrived at by applying weights of 75% for OM and 25% for BM, as specified in the tool. The OM and BM have been calculated to be 0.9843 tCO₂/MWh and 0.9083 tCO₂/MWh respectively. Applying

the weights, the grid emission factor has been calculated to be 0.9653 t CO₂/MWh.

As per ER excel spreadsheet/06/ submitted by the PP, the net emission reductions for the current monitoring period were verified as 2,089,638 tCO₂e for the current monitoring period.

The calculation method and formulae used in calculating baseline emission is in compliance to the methodology used i.e., ACM0002 version 18.1/09/. Since project activity is a Solar/wind power project, leakage emission and project emission has been considered as zero.

4.5 Quality of Evidence to Determine GHG Emission Reductions and Removals

All the data recorded is in compliance with the registered Joint VCS PD & MR/01/. The assessment team has checked the monthly JMRs for electricity generated and supplied by project activity/08/ for the current monitoring period to verify the values of monitoring parameter reported in ER calculation sheet and found to be consistent. Since the monthly JMRs prepared and issued by state utility, they are found to be reliable and authentic.

The monitoring of the project activity is found to be in accordance with the monitoring methodology described in ACM0002, Version 18.1 /09/. The monitoring mechanism is effective and reliable. During the con-call, personnel involved at various levels of the operation of the project activity have been interviewed to confirm that the plant personnel are conscious of the importance of the monitoring activities. The verification of the plant records and latest photographs are also substantiating consistency in recording and reporting of monitored data.

The screen shots of SCADA system/18/ confirms that the monitoring systems have been installed and are operational. The meters comply with appropriate quality standards applicable for the used technology. The accuracy class of the meters installed for the project activity was verified through the registered VCS PD & MR/01/, MR /04/, and calibration certificates, latest photographs of meters and cross-checked against the PPAs/12/ signed for the project activity, found to be consistent.

The supporting records of JMRs/08/ issued by the state utility and invoices raised for the entire monitoring period were checked and found to be sufficient to enable verification of emission reductions.

The following parameter has been verified for current monitoring period:

Parameter	Quantity of net electricity generation supplied by the project plant/unit to the grid in year y, EG _{PJ, y} (MWh)	
Means of verification	Criteria/Requirements	Assessment/Observation
	Measuring /Reading /Recording frequency	The parameter is continuously monitored and recorded on monthly basis.
	Is measuring and reporting frequency in accordance with the monitoring plan and monitoring methodology? (Yes / No)	Yes. The reporting frequency is in line with the monitoring plan as outlined in the registered VCS PD & MR/01/ and monitoring methodology/09/.
	Monitoring equipment	Energy meters of accuracy class 0.2s are used /06/. (Calibration details of meter is provided separately in this section, under the heading “Calibration of meters”)
	Is accuracy of the monitoring equipment as stated in the monitoring plan? If the monitoring plan does not specify the accuracy of the monitoring equipment, does the accuracy of the monitoring equipment comply with local/national standards, or as per the manufacturer’s specification?	Yes, accuracy class of meter is in line with registered monitoring plan/01/ and as per PPA /12/.
	Calibration frequency /interval:	Calibration frequency of the meters is once in 5 years.
	Is the calibration interval in line with the monitoring plan and/or methodology? If the monitoring plan does not specify the frequency of calibration, is the selected frequency in accordance with the local/national standards, or as per the	Yes. The calibration frequency is in line with the monitoring plan as outlined in the registered Joint VCS PD & MR/01/ (P.41).

	manufacturer's specifications?											
	Is the calibration of measuring equipment carried out by an accredited person or institution?	Yes, the calibration is conducted by NABL Accredited entity/06/. <table><tr><td>Location</td><td>Calibration Entity</td></tr><tr><td>Andhra Pradesh</td><td>Yadav Measurements Pvt Ltd (NABL: C-1237)</td></tr><tr><td>Rajasthan</td><td>Darsh Calibrations Pvt Ltd (NABL: CC-2070)</td></tr><tr><td>Madhya Pradesh</td><td>Yadav Measurements Pvt Ltd (NABL: C-1237)</td></tr><tr><td>Gujarat</td><td>Madhya Gujarat VIJ Company Ltd (MGVCL) NABL: T-1296</td></tr></table>	Location	Calibration Entity	Andhra Pradesh	Yadav Measurements Pvt Ltd (NABL: C-1237)	Rajasthan	Darsh Calibrations Pvt Ltd (NABL: CC-2070)	Madhya Pradesh	Yadav Measurements Pvt Ltd (NABL: C-1237)	Gujarat	Madhya Gujarat VIJ Company Ltd (MGVCL) NABL: T-1296
	Location	Calibration Entity										
	Andhra Pradesh	Yadav Measurements Pvt Ltd (NABL: C-1237)										
	Rajasthan	Darsh Calibrations Pvt Ltd (NABL: CC-2070)										
Madhya Pradesh	Yadav Measurements Pvt Ltd (NABL: C-1237)											
Gujarat	Madhya Gujarat VIJ Company Ltd (MGVCL) NABL: T-1296											
Is(are) calibration(s) valid for the whole reporting period?	Calibration of the energy meters installed at site located in Anantapur (Andhra Pradesh), Badhla (Rajasthan) and in Mandsaur (Madhya Pradesh) are valid during the current monitoring period. However, delay in calibration of meters installed at Rojmal site (Gujarat) is identified during the current monitoring period. The project proponent has addressed the delay applying the error factor to the monitoring parameter appropriately (detailed assessment is provided in this section under the heading "Calibration of meters").											
Is the calibration carried out for a measuring range comparable with the range for which measurements have been carried out?	Yes. The calibration is carried out appropriately.											
How were the values in the monitoring report verified?	Monthly values for entire monitoring period are reported in the monitoring report/04/ and in the ER calculation sheet/05/. The monthly values were verified from the "JMRs" issued by the respective state utility for all four sites and found to be consistent.											

		Value of this parameter for the current monitoring period was verified as 2,164,841 MWh.
	If applicable, has the reported data been cross-checked with other available data?	The monthly reported values were further cross checked with the monthly invoices raised by the PP /07/ to state utility and found to be consistent.
	Does the data management ensure correct transfer of data and reporting of emission reductions and are necessary QA/QC processes in place?	Yes, all the stakeholders, namely, the Grid Authority (DISCOMs), the PP and the O&M Contractor for all four sites, implemented the adequate QA/QC procedures. The data transfer process for the said parameter is as follows: The Joint meter reading at common metering points is taken by the representatives of DISCOMs in the presence of NTPC officials in the form of JMRs. Monthly “JMRs” issued state utility provide the value of $EG_{PJ,y}$ that is directly used for emission reduction calculations.
	In case project participants have temporarily not monitored the parameter, has either i) a deviation been approved by the CDM EB or ii) has the parameter been estimated as stipulated by Appendix 1 to the CDM Project Standard?	No such issues.
Findings	CL #1, CAR #1, CAR #2 and CAR #3 were raised and resolved	
Conclusion	The parameter has been monitored appropriately, in accordance with the registered monitoring plan (as per measurement methods and procedures to be applied) and applied methodology. The monitoring results were recorded consistently as per the approved frequency in the monitoring plan.	

Parameters fixed ex ante:

$EF_{grid,OM,y}$; tCO₂e/MWh: it is the operating margin emission factor of Indian grid fixed for the entire crediting period and the value is considered as 0.9843 tCO₂e/MWh, that is consistent with the registered Joint VCS PD and MR.

$EF_{grid,BM,y}$; tCO₂e/MWh: it is build margin emission factor of Indian grid fixed for the entire crediting period and the value are considered as 0.9083 tCO₂e/MWh, that is consistent with the registered Joint VCS PD and MR.

$EF_{grid,CM,y}$; tCO₂e/MWh: it is the combined margin emission factor of Indian grid fixed for the entire crediting period and the value is considered as 0.9653 tCO₂e/MWh, that is consistent with the registered Joint VCS PD and MR.

Calibration of meters:

During the verification assessment of the project activity, accuracy of all the metering have been checked and found appropriate/06/. The installation and working conditions of the meters were checked through calibration certificates/06/, latest photographs/18/ and were found to be satisfactory. Details of meters are provided in the below table:

Location: Anantapur, Andhra Pradesh (50 MW Solar power project)

Sub-station	Meter Location	Meter Serial No	Calibration Date	Calibration validity date
220/33 KV Pooling Substation-I NP KUNTA	Feeder- 1A	Main meter: APX00736	13/03/2016	12/03/2021
		Check meter: APX00737	13/03/2016	12/03/2021
		Standby meter: APX00738	13/03/2016	12/03/2021
	Feeder- 1B	Main meter: APX00739	13/03/2016	12/03/2021
		Check meter: APX00740	13/03/2016	12/03/2021
		Standby meter: APX00741	13/03/2016	12/03/2021

Location: Badhla,Rajasthan (260 MW Solar power project)

Sub-station	Meter Location	Meter Serial No	Calibration Date	Calibration validity date
132 Government Substation	Block- P4, Jakson	Main meter: 15624946	24/10/2016	23/10/2021
		Check meter: 15199974	24/10/2016	23/10/2021
	Block- P5, Vikram	Main meter: 16195132	11/01/2017	10/01/2022
		Check meter: 16195133	11/01/2017	10/01/2022
	Block- P6, Vikram	Main meter: 16195109	23/12/2016	22/12/2021
		Check meter: 16195110	23/12/2016	22/12/2021
	Block- P7, Tata	Main meter: 16082424	11/01/2017	10/01/2022

		Check meter: 16082425	11/01/2017	10/01/2022
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Location: Mandsaur, Madhya Pradesh (250 MW Solar power project)

Sub-station	Meter Location	Meter Serial No	Calibration Date	Calibration validity date
132/220 kV Substation	Block- Lanco P1,	Feeder-01 meter: Y0319695	12/03/2018	11/03/2023
		Feeder-02 meter: Y0319685	12/03/2018	11/03/2023
	Block- Lanco P2,	Main meter (F1): Y0319681	12/03/2018	11/03/2023
		Spare meter(F1): Y0319693	13/03/2018	12/03/2023
		Main meter(F2): Y0319692	12/03/2018	11/03/2023
		Spare meter(F2): Y0319694	13/03/2018	12/03/2023
	Block- P3, Vikram Solar	Main meter: Y0310625	05/05/2017	05/05/2022
		Check meter: Y0310626	05/05/2017	05/05/2022
		Spare meter: Y0582663	23/05/2018	22/05/2023
	Block- P4, BHEL	Main meter (F1): Y0319907	24/03/2017	23/03/2022
		Check meter(F1): Y0319906	24/03/2017	23/03/2022
		Main meter (F2): Y0319908	24/03/2017	23/03/2022
		Check meter(F2): Y0319910	24/03/2017	23/03/2022
		Spare meter: Y0319909	24/03/2017	23/03/2022
		Spare meter: Y03199011	24/03/2017	23/03/2022
	Block- P5, Tata	Main meter (F1): XE505968	04/05/2017	03/05/2022
		Check meter(F1): XE505967	04/05/2017	03/05/2022
		Main meter (F2): XE505965	04/05/2017	03/05/2022
		Check meter(F2): XE505966	04/05/2017	03/05/2022

★F1- Feeder 1, F2- Feeder 2

Location: Rojmal, Gujarat (50 MW Wind power project)

Sub-station	Meter Serial No	Calibration Date	Calibration validity date
220 kV Sukhpur (Inox) Substation	Main meter: GJ- 3057-A	24/04/2015	23/04/2020
	Main meter: GJ- 3058-A	24/04/2015	23/04/2020

It is evident from the above table that calibration of all the existing meters (except Gujarat location) was valid during the current monitoring period. The CEA Notification No. 502/70/CEA/DP&D dated 17/03/2006 and its amendments notified on 26/06/2010 No. 502/6/2009/DP&D/D-I /16/ which is considered as national standard, mentions that for voltage of 650 V up to 33 kV, 0.5s accuracy class or above is recommended. Hence, the accuracy classes of 0.2s for the energy meters installed at the project activity site are found to be appropriate.

The details of monitoring equipment are involved in the project activity and their calibration details/07/ are mentioned under Appendix-1 of the VCS MR/04/. The CEA Notification No. 502/70/CEA/DP&D dated 17/03/2006/16/ which is considered as national standard mentions that "All interface meters shall be tested at least once in five years." Hence, the stipulated calibration frequency once in 5 years is appropriate.

Assessment of delay in calibration of meters (Rojmal, Gujarat site):

The Calibration of meters was due on 24/04/2020, but the same has not been conducted till date, hence delay period from 24/04/2020 to 30/09/2020 is considered in the current monitoring period.

The assessment team has verified the calibration certificates of GETCO meters and confirmed that meters were working satisfactory and within acceptable limits of accuracy. As the recent calibration certificates for cluster meters were not available, hence the PP has considered the calibration delay from 01/04/2020 to 30/09/2020 (end date of current monitoring period) and applied factor (-0.4%) to the values of $EG_{PJ,y}$ accordingly.

It is worthy to note that the billing cycle for the project activity starts from 1st day and ends on last day of every month, hence the error factor is applied to the parameter $EG_{PJ,y}$ from 01/04/2020 to 30/09/2020 during the current monitoring period. The approach followed by the PP was found to be conservative and appropriate due to following reasons:

- As verified through section 7.2 of PPA/12/, state utility (GETCO is sole entity responsible for calibration and PP do not have any intervention with reference to the calibration and maintenance of energy meters.
- Due to the current situation with the global COVID-19 pandemic scenario and interstate travel restrictions, it is not possible to conduct the calibration at site.
- Under section 7.1 Clause (i) & (ii) of PPA, Official of state utility (GETCO) and representative of PP jointly read the metering system on first day of every month, also if the metering system and/or any component thereof are found to be outside the acceptable limits of accuracy or not functioning properly, it shall be repaired, re-calibrated or replaced by GETCO as soon as possible.
- The assessment team has interviewed the site personnel during the remote audit with reference to the functioning of metering system and confirmed that all the meters were working properly during the current monitoring period.

- (e) It is worthy to note that, the state utility (GETCO) is a Government Organization and a 3rd party with respect to this CDM project and also the purchaser of electricity supplied to the grid by project, hence, the state utility ensures that the energy meters are in proper working condition, because all monetary transactions done based on these meter readings.

Accordance with the guidelines outlined under paragraph 366(a) of VVS for PAs version 02.0, an error factor 0.2% should be applied for both export & import i.e., the measured values in the delayed calibration period. However, the monthly share certificates issued by the state utility only provides the value of “Quantity of net electricity generation supplied by the project activity to the grid in year y” ($EG_{PJ,y}$) and not the export and import values by the project activity. Hence the error for both export & import has been taken into account and a cumulative error factor of -0.4% on the parameter $EG_{PJ,y}$ is applied. The approach followed by the PP was found to be conservative and appropriate, hence accepted. In view of the above discussion the assessment team able to confirm that evidence used to determine the GHG reductions and removals are sufficient and appropriate with respect to quality and quantity.

GHG Calculations:

The emission reduction as per the applied methodology equals the baseline emissions (project emissions and leakage emissions for such project activities is considered zero). The formula provided for the calculation of baseline emissions is:

$$BE_y = EG_{PJ,y} * EF_{grid, CM, y}$$

Where:

BE_y : Baseline emissions in year y (tCO₂e/yr)

$EG_{PJ,y}$: Quantity of net electricity generation supplied by the project (Wind) plant/unit to the grid in year y (MWh/yr)

$EF_{grid, CM, y}$: Combined Margin (CM) Emission Factor of Indian grid (tCO₂e/MWh)

$$\text{Thus, } BE_y = EG_{PJ,y} * EF_{grid, CM, y}$$

$$\text{Thus, } BE_y = 2,164,760 \text{ MWh} \times 0.9653 \text{ tCO}_2/\text{MWh}$$

$$= 2,089,638 \text{ tCO}_2 \text{ (Round down value)}$$

The verification team confirms that appropriate methods and formulae for calculating baseline emissions have been followed. The assumptions, emission factors and default values that were applied in the calculations are justified. The actual emission reduction achieved during the current monitoring period are 2 % lesser than the estimated amount of emission reductions at the time of validation, which is due to the low PLF achieved by the project activity during the monitoring period.

All the data were made available and have monitored as per required monitoring frequency. The means of verification for the values of parameters, used for baseline emission calculation, is described above.

4.6 Non-Permanence Risk Analysis

Not applicable for the project activity.

5 VERIFICATION CONCLUSION

Earthood Services Private Limited (ESPL), contracted by NTPC Ltd, has performed the independent verification of the emission reductions for the VCS project activity (VCS ID- 1772) “Solar and Wind Power Project by NTPC Limited” in India for the monitoring period 01/07/2018 – 30/09/2020 as reported in the Monitoring Report Version 03 dated 04/05/2021. The NTPC Ltd is responsible for the collection of data in accordance with the monitoring plan and the reporting of GHG emissions reductions from the project activity.

It is our responsibility to express an independent verification statement on the reported GHG emission reductions from the project activity. ESPL commenced the verification on the basis of the baseline and monitoring methodology ACM0002 version 18.1, the monitoring plan contained in the registered VCS PD Version 02, dated 30/07/2018 and VCS guidelines version 04.1, Monitoring Report Version 03 dated 04/05/2021 as per the process described under Section 2 of this report.

ESPL verification approach is based on the understanding of the risks associated with reporting of GHG emission data and the controls in place to mitigate these. ESPL planned and performed the verification by obtaining evidence and other information and explanations that ESPL considered necessary to give reasonable assurance that reported GHG emission reductions are fairly stated.

In our opinion the GHG emissions reductions reported for the project activity for the period 01/07/2018 – 30/09/2020 are fairly stated in the Monitoring Report Version 03 dated 04/05/2021. The GHG emission reductions were calculated correctly on the basis of the approved baseline and monitoring methodology ACM0002, Version 18.1, and the VCS standard.

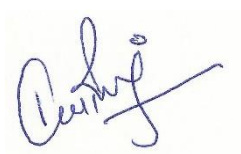
Verification period: From 01/07/2018 – 30/09/2020 (including both days)

Verified GHG emission reductions and removals in the above verification period:

Year	Baseline emissions or removals (tCO ₂ e)	Project emissions or removals (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Net GHG emission reductions or removals (tCO ₂ e)
2018(from 01/07/2018 to 31/12/2018)	447,182	0	0	447,182

2019(from 01/01/2019 to 31/12/2019)	931,554	0	0	931,554
2020(from 01/01/2020 to 30/09/2020)	710,902	0	0	710,902
Total	2,089,638	0	0	2,089,638

Approved by



Dr. Kaviraj Singh
Managing Director

Earthood Services Privated Limited

Date: 31/05/2021

Place: Gurugram, Haryana

APPENDIX 1: DOCUMENT REFERENCES

S. No	Title of Document	Version	Date
1.	Registered Joint VCS PD & MR	2.0	30/07/2018
2.	VCS Validation Report	2.0	06/08/2018
3.	VCS Monitoring Report	01	10/03/2021
3.1	VCS Monitoring Report	02	27/04/2021
4.	VCS Monitoring Report (Final)	03	04/05/2021
4.1	ER spread sheet	01	10/03/2021
4.2	ER spread sheet	02	27/04/2021
5.	ER spread sheet (corresponding to the final monitoring report)	03	04/05/2021
6	Certificates of Calibration for all the meters belongs to project activity	-	-
7.	Invoice issued by PP to respective state DISCOMs for all 4 sites for the period 01/07/2018 to 30/09/2020	-	-
8.	Monthly Joint Energy Meter Reading issued for all 4 sites (Rojmal – Gujarat, Mandsaur – Madhya Pradesh, Anantpur – Andhra Pradesh, Bhadla – Rajasthan.	For the period 01/07/2018 to 30/09/2020	-
9.	“Consolidated baseline methodology for grid-connected electricity generation from renewable sources”, ACM0002,	18.1	-
10.	CEA Database	version 12	May 2017
11.	Commissioning certificate for all the Solar plant /WTGs of the project activity issued by respective state electricity authority	-	-
12.	Power Purchase Agreements for 50 MW solar, Andhra Pradesh	-	Dated 24/04/2015
	Power Purchase Agreements for 260 MW solar, Rajasthan	-	Dated 31/03/2016
	Power Purchase Agreements for 250 MW solar, Madhya Pradesh	-	Dated 30/03/2016
	Power Purchase Agreements for 50 MW wind, Gujarat	-	Dated 03/12/2016
13.	VCS webpage for the project, VCS ID 1772; https://registry.verra.org/app/projectDetail/VCS/1772	-	-
14.	Letter of declaration dated from PP regarding not having created or sought any other form of environmental credit for the same period	-	25/03/2021

S. No	Title of Document	Version	Date
15.	Central Electricity Authority (Installation and Operation of Meters) Regulations Notified on 17/03/2006 No. 502/70/CEA/DP&D Amendments Notified on 26/06/2010 No. 502/6/2009/DP&D/D-I	-	-
16.	VCS Standard	Version 04.1	22/04/2021
17.	VCS Program Guide	Version 04.0	19/09/2019
18	Remote interviews (tele meeting with site personnel) Latest photographs of SCADA system, Solar Panels/WTGs, transformers and energy meters installed at all four sites		Dated 25/03/2021
19	Grievance register/suggestion box placed at site office	-	-

APPENDIX 2: ABBREVIATIONS

Abbreviations	Full texts
ABT	Availability Based Tariff
BEF	Baseline Emission Factor
BM	Build Margin
CAR	Corrective Action Request
CEA	Central Electricity Authority
CERC	Central Electricity Regulatory Commission
CL	Clarification Request
CMS	Central Monitoring System
CMP	Conference of Parties Serving as Meeting of Parties
CO2	Carbon dioxide
DISCOM	Distribution Company
EB	Executive Board
FAR	Forward Action Request
GHG	Green House Gas
ISO	International Standards Organization

JMR	Joint Meter Reading
JVVNL	Jodhpur Vidyut Vitran Nigam Limited
JVVNL	Jaipur Vidyut Vitran Nigam Limited
AVVNL	Ajmer Vidyut Vitran Nigam Limited
APSPDCL	Andhra Pradesh Southern Power Distribution Company Limited
GUVNL	Gujarat Urja Vikas Nigam Ltd.
kW	Kilowatt
kWh	Kilowatt hour
MFR	Multi-Function Relay
MPPMCL	Madhya Pradesh Power Transmission Company Limited
MR	Monitoring Report
MWh	Megawatt-hour
NEWNE	Northern Eastern Western Northern-Eastern
PD	Project Description
PLF	Plant Load Factor
PP	Project Proponent
QA/QC	Quality Assurance and Quality Control
UNFCCC	United Nations Framework Convention on Climate Change
VCS	Voluntary Carbon Standard
VCSA	Voluntary Carbon Standard Association
VCS PD	VCS Project Description
VCUs	Voluntary Carbon Units

APPENDIX 3: FINDINGS OVERVIEW

Table 1. Remaining FAR from validation and/or previous verification

FAR ID	Section no.	NA	Date :DD/MM/YYYY
Description of FAR			
N/A			
Project participant response			Date :DD/MM/YYYY
Documentation provided by project participant			

DOE assessment	Date: DD/MM/YYYY

Table 2. CL from this verification

CL ID	01	Section no.	2.2	Date : 24/03/2021
Description of CL				
- Please submit the following documents: i. Commissioning certificate for all the WTGs ii. Commissioning certificates for solar PV plants iii. Calibration certificates of the energy meters (all locations) iv. PPA signed for the project (all locations)				
Project participant response				Date : 27/04/2021
The following documents are submitted herewith along with the revised set of documents: i. Commissioning certificate for all the WTGs ii. Commissioning certificates for solar PV plants iii. Calibration certificates of the energy meters (all locations) iv. PPA signed for the project (all locations)				
Documentation provided by project participant				
Commissioning certificate for all the WTGs Commissioning certificates for solar PV plants Calibration certificates of the energy meters (all locations) PPA signed for the project (all locations)				
DOE assessment				Date: 30/04/2021
The PP has submitted the requested documents and found to be satisfactory, hence accepted. CL #1 is closed.				

Table 3. CAR from this verification

CAR ID	01	Section no.	3.1	Date : 24/03/2021
Description of CAR				
Please submit declaration confirming that the GHG Emission reductions or removals generated by the project activity will not be used for compliance with an emission trading program or to meet binding limits on GHG Emissions.				
Project participant response				Date : 27/04/2021
The declaration confirming that the GHG Emission reductions or removals generated by the project activity will not be used for compliance with an emission trading program or to meet binding limits on GHG Emissions is submitted herewith.				
Documentation provided by project participant				
Declaration – No Double Counting dated 25/03/2021				
DOE assessment				Date: 30/04/2021
The PP has submitted the declaration confirming that the GHG Emission reductions or removals generated by the project activity will not be used for compliance with an emission trading program or to meet binding limits on GHG Emissions, found to be satisfactory, hence accepted. CAR #1 Closed				

CAR ID	02	Section no.	4.2.2	Date : 24/03/2021
Description of CAR				
Please clarify why the information regarding the ongoing communication with local stakeholders is not provided in section 2.2 of the MR, in line with the guidelines provided under the clause 3.16.3 and 3.16.4 of the VCS standard v 04.1.				
Project participant response				Date : 27/04/2021

The section 2.2 of the MR version 2.0 has been revised to include the details for the grievance register maintained at site. The stakeholders may comment or provide suggestions to the project. There are no comments received in the current monitoring period.	
Documentation provided by project participant	
Revised MR Version 2.0 Grievance Register	
DOE assessment	Date: 30/04/2021
The PP has described the ongoing communication with local stakeholders under section 2.2 of the MR, in line with the guidelines provided under the clause 3.16.3 and 3.16.4 of the VCS standard v 04.1. CAR #2 is closed.	

CAR ID	03	Section no.	4.5	Date : 24/03/2021
Description of CAR				
Please clarify it is not clear how the project activity is connected to the grid at particular location (identification of substation/feeder)				
Project participant response				Date : 27/04/2021
The identification of substation/feeders has been updated in the appendix 1 of the monitoring report.				
Documentation provided by project participant				
Revised MR Version 2.0				
DOE assessment				Date: 30/04/2021
The PP has updated identification of substation/feeders in the Appendix 1 of the revised monitoring report. Hence Accepted. PP has submitted the calibration certificates of electric meters. However, calibration of S/N -GJ 3057-A & GJ 3058-A installed at Rojmal site is found delayed (due date of calibration is 24/04/2020) also, calibration certificate is not submitted to assessment team. Please clarify how the delay in calibration is addressed. CAR #3 open.				
Project participant response				Date : 05/05/2021
Delay in meter Calibration has been identified in 50 MW Wind power project by NTPC Limited at Rojmal during the current monitoring period. PP would like to clarify that the calibration is not under the direct control or purview of the Project Participant (PP) and is performed by the state govt. authority / DISCOM, which is the authorized body for energy meter testing. The meters are tested, sealed and maintained by DISCOM officials only in the presence of authorized representative of the PP who also signs the results. As per CEA order para 18 b "all energy meter shall be tested once in five years." Therefore, sometimes meter calibrations may not be done within the Five years of specified period. However, PP has followed conservative approach and hence, an error factor equating the maximum permissible limit (-0.4%) of error for the meters has been applied for the delayed period to the monthly Net electricity generation to the grid during the monitoring period from April-20 to Sept-20.				
Documentation provided by project participant				
Revised MR V 03 Revised ER sheet				
DOE assessment				Date: 15/05/2021

It is verified through the calibration certificates and details provided in the MR that calibration of meters (Rojmal site) is not conducted in line with the frequency as mentioned in the registered monitoring plan. Considering the delay in calibration the PP has applied the error factor (-0.4%) to the parameter $EG_{PJ,y}$ from 01/04/2020 to 30/09/2020. The approach followed by the PP is accepted due to following reasons:

1. As verified through the PPA, the calibration of meters completely under jurisdiction of GETCO (the state government nodal agency) and not under the control of PP.
2. State utility (GETCO) is a Government Organization and a 3rd party with respect to this project and also the purchaser of electricity supplied to the grid by project, hence, the state utility ensures that the energy meters are in proper working condition, because all monetary transactions done based on these meter readings.

CAR #3 is closed.

Table 4. FAR from this verification

FAR ID	NA	Section No.	NA	Date :DD/MM/YYYY
Description of FAR				
No FAR rose during the verification.				
Project participant response				Date :DD/MM/YYYY
NA				
Documentation provided by project participant				
NA				
DOE assessment				Date: DD/MM/YYYY
NA				

APPENDIX 4: COMPETENCY STATEMENTS

Name	Ravi Kant Soni		
Country	India		
Education	B. Tech. (Mechanical Engineering) M. Tech. (Energy Management)		
Experience	8 Years +		
Field	Energy and Climate Change		
Approved Roles			
Team Leader	YES		
Validator	YES		
Verifier	YES		
Methodology Expert	AMS-I.D., AMS-I.C., ACM0002		
Local expert	YES (India)		
Financial Expert	No		
Technical Reviewer	No		
TA Expert	YES (TA 1.2)		
Reviewed by	Shreya Garg	Date	04/06/2019

Approved by	Anshika Gupta	Date	04/06/2019
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Name	Shreya Garg		
Country	India		
Education	M.Sc. (Climate Science & Policy), TERI University		
Experience	6 Years +		
Field	Climate Change		
Approved Roles			
Team Leader	YES		
Validator	YES		
Verifier	YES		
Methodology Expert	AMS.I.A., AMS.I.C., AMS.I.D., AMS.I.F., AMS.II.D., AMS.II.G., AMS.II.J., AMS.III.AV., ACM0002, ACM0012		
Local expert	YES (India)		
Financial Expert	NO		
Technical Reviewer	YES		
TA Expert	YES (TA 1.2, TA 3.1)		
Reviewed by	Abhishek Mahawar	Date	01/03/2018
Approved by	Ashok Gautam	Date	01/03/2018