

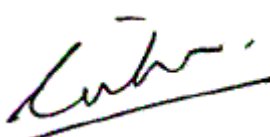


# Verification and certification report form for CDM project activities

(Version 01.0)

Complete this form in accordance with the "Attachment: Instructions for filling out the verification and certification report form for CDM project activities" at the end of this form.

## VERIFICATION AND CERTIFICATION REPORT

<b>Title of the project activity</b>	5 MW Solar PV Power Project at NTPC-Dadri, a Business unit of NTPC limited
<b>Reference number of the project activity</b>	9392
<b>Version number of the verification and certification report</b>	02
<b>Completion date of the verification and certification report</b>	03/02/2016
<b>Monitoring period number and duration of this monitoring period</b>	Monitoring Period Number: 01 Duration: From 01/01/2013 – 31/03/2014 (Both days inclusive)
<b>Version number of monitoring report to which this report applies</b>	4.0
<b>Crediting period of the project activity corresponding to this monitoring period</b>	Type: Renewable crediting period. Star date: 01/01/2013 Length: 7 years, (01/01/2013-31/12/2019)
<b>Project participant(s)</b>	NTPC Limited
<b>Host Party</b>	India
<b>Sectoral scope(s), selected methodology(ies), and where applicable, selected standardized baseline(s)</b>	SS 1 and TA 1.2, AMS-I.D. : Grid connected renewable electricity generation (version .17 EB 61)
<b>Estimated GHG emission reductions or net anthropogenic GHG removals for this monitoring period in the registered PDD</b>	8,369 tCO <sub>2</sub>
<b>Certified GHG emission reductions or net anthropogenic GHG removals for this monitoring period</b>	5,842 tCO <sub>2</sub>
<b>Name of DOE</b>	URS Verification Private Limited.
<b>Name, position and signature of the approver of the verification and certification report</b>	 Mr. Mukesh Singhal, CEO

## SECTION A. Executive summary

### Brief summary of project activity (Purpose, General Description and Location):

The purpose of the project is to generate clean energy in sustainable means using Solar Energy which has no associated greenhouse gas emissions. The electricity generated from project activity is being supplied to NEWNE grid through signing a power purchase agreement with GRIDCO. The electricity supplied to NEWNE grid and to contribute to climate change mitigation efforts and avoid emission of CO<sub>2</sub>.

The project activity involves installation of 5.0 MW Solar PV Power Project at NTPC Dadri District Gautam Budh Nagar of Uttar Pradesh. The project activity is a Greenfield project activity and developed by NTPC Limited. The Solar PV project plant consists of 20,856 no. of 240Wp high efficiency crystalline silicon solar modules arranged in 869 nos. of array with 24 modules in each array. The power generated from project activity is stepped to 220kV to supply generated electricity to the NEWNE grid through power purchase agreement signed with GRIDCO.

The commercial operation of project activity was declared on 30/03/2013 as verified with letter issued to NRLDC by NTPC Dadri and continuously generating and delivering the electricity to NEWNE grid. The PP has chosen renewable crediting period for the project activity which is from 01/01/2013 to 31/12/2019. The project activity was registered on UNFCCC on 29/12/2012.

During this monitoring period (01/01/2013 to 31/03/2014 inclusive of both days), the net electricity exported by project is 6,132 MWh to NEWNE grid. Thus, emission reduction occurred during this monitoring period is 5,842 tCO<sub>2</sub>.

### Scope of verification:

The scope of the verification is the independent and objective review and ex post determination of the monitored reductions in GHG emission by the project activity. The verification is based on the validated and registered project design document and the monitoring report. The project is assessed against the requirements of the Kyoto Protocol, the CDM Modalities and Procedures and related rules and guidance.

Due professional care has been exercised and ethical conduct has been followed by the assessment team during the verification process. The verification report is a fair presentation of the verification activity.

The verification 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.

### Verification process and conclusion:

URS Verification Private Ltd has performed the 1st periodic verification of the CDM project "5 MW Solar PV Power Project at NTPC-Dadri, a Business unit of NTPC limited", India with UNFCCC reference number of 9392, registration date of 29/12/2012 and crediting period from 01/01/2013 to 31/12/2019 (Renewable). The verification includes confirming the implementation of the monitoring plan of the registered PDD Version 4.0 dated 13/12/2012, revised PDD version 5 dated 05/10/2015 and the application of the monitoring methodology AMS-I.D, "Grid connected renewable electricity generation" version 17, dated 03/06/2011 (Annex 17, EB 61). A site visit was conducted on 06/06/2014 to verify the implementation of project activity and verify monitoring plan and data submitted in the monitoring report, emission reduction sheet.

URS performs the verification work using a Periodic Verification Checklist prepared following the VVS.

The checklist gives the assessment team 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 monitoring report.

URS verified the implementation of the monitoring plan and the data presented in the Monitoring Report for the period in question. This involved a site visit and a desk review of the monitoring report. This verification report describes the findings of this assessment.

URS confirms the following has been reviewed:

- The registered PDD, including the monitoring plan and the corresponding validation report;
- Monitoring report and emission reduction estimation;
- The applied monitoring methodology;
- Relevant decisions, clarifications and guidance from the CMP and the CDM Executive Board;
- All information and references relevant to the project activity's resulting in emission reductions.

URS confirms that the project is implemented in accordance with the validated and registered Project Design Document. The monitoring system is in place and the emission reductions are calculated without material misstatements. Based on the information observed at site and evaluated verification team confirmed that the implementation of the project has resulted in 5,842 tCO<sub>2</sub>e emission reductions during period 01/01/2013 to 31/03/2014 (both days inclusive).

## SECTION B. Verification team, technical reviewer and approver

### B.1. Verification 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 review	On-site inspection	Interview(s)	Verification findings
1.	Lead Assessor	IR	Kumar	Ashok	URS Verification Pvt. Ltd., Noida, India (Central Office)	Y	Y	Y	Y
2.	Assessor (till 20/03/2015)	IR	Saha	Sandip	URS Verification Pvt. Ltd., Noida, India (Central Office)	Y	Y	Y	Y
3.	Assessor	IR	Mandal	Amit Ranjan	URS Verification Pvt.	Y	N	N	Y

					Ltd., Noida, India (Central Office)				
4.	Technical Expert	IR	Kumar	Ashok	URS Verification Pvt. Ltd., Noida, India (Central Office)	Y	Y	Y	Y

## B.2. Technical reviewer and approver of the verification and certification report

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)
1.	Technical reviewer	IR	Badhwar	Naresh	URS Verification Pvt. Ltd., Noida, India (Central Office)
2	Approver	IR	Singhal	Mukesh	URS Verification Pvt. Ltd., Noida, India (Central office)

## SECTION C. Application of materiality

### C.1. Consideration of materiality in planning the verification

No.	Risk that could lead to material errors, omissions or misstatements	Assessment of the risk		Response to the risk in the verification plan and/or sampling plan
		Risk level	Justification	
1.				
...				

The actual emission reductions in the monitoring period are 5,842 tCO<sub>2</sub>e which are less than the estimated emission reductions 8,369 tCO<sub>2</sub>e (for an equivalent period of 455 days) as per the registered PDD. Hence there is no requirement of applying Guidelines on Application of Materiality in Verifications in the project activity. The verification team has checked the monitoring data for the entire monitoring period and the same is found to be correct. The verification team confirms that the claimed emission reductions are free from material errors, omissions or misstatements, with a reasonable level of assurance.

### C.2. Consideration of materiality in conducting the verification

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Not Applicable. Please refer section C.1 above.

## SECTION D. Means of verification

### D.1. Desk review

Verification was conducted using URS procedures in line with the requirements specified in the CDM M&P. the latest version of the CDM Validation and Verification Standard and relevant decisions of the COP/MOP and the CDM EB and applying the standard auditing techniques.

The verification consisted of the following three phases:

- Desk Review
- On-site Assessment
- The resolution of outstanding issues and the issuance of the final verification report and certification.

All the documents reviewed and referenced during the verification are listed in Appendix 3 attached with this report below.

## D.2. On-site inspection

Duration of on-site inspection: 06/06/2014 to 06/06/2014				
No.	Activity performed on-site	Site location	Date	Team member
1.	Review of Project Activity and Implementation of the project and operation of the project and other salient features of the project.	NTPC Dadri, Gutam Budh Nagar District, Uttar Pradesh State of India	06/06/2014	Ashok Kumar Sandip Saha
2.	Monitoring plan and monitoring arrangements, information flows for generating, aggregating and reporting the monitoring parameters. operational and data collection Procedures.	NTPC Dadri, Gutam Budh Nagar District, Uttar Pradesh State of India	06/06/2014	Ashok Kumar Sandip Saha
3.	Quality control and quality assurance procedures.	NTPC Dadri, Gutam Budh Nagar District, Uttar Pradesh State of India	06/06/2014	Ashok Kumar Sandip Saha
4.	Operational and management structure existing at site to monitor emission reductions.	NTPC Dadri, Gutam Budh Nagar District, Uttar Pradesh State of India	06/06/2014	Ashok Kumar Sandip Saha
5.	Calculations, Calibration details, data management procedure Review of calculations, cross-check between data reported in MR and other sources, checking monitoring equipment, observation of monitoring practices, data management procedure	NTPC Dadri, Gutam Budh Nagar District, Uttar Pradesh State of India	06/06/2014	Ashok Kumar Sandip Saha

**D.3. Interviews**

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Gupta	Sandeep	AGM (mm, GP), NTPC Ltd.	06/06/2014	Project Description, Project design and Implementation of the project and other salient features of the project	Ashok Kumar & Sandip Saha
2.	Nautiyal	B	AGM (EM, GP), NTPC Ltd.	06/06/2014	Information flows for generating, aggregating and reporting the monitoring parameters.	Ashok Kumar & Sandip Saha
3.	Chakraborty	A. K	AGM, EMD, NTPC Ltd.	06/06/2014	PDD, ER calculation, Monitoring plan, Management system.	Ashok Kumar & Sandip Saha
4.	Parmar	A. S.	AGM, C&I, NTPC Ltd.	06/06/2014	Discussion on monitoring parameters, measurement, Operational and data collection Procedures.	Ashok Kumar & Sandip Saha
5.	Sharma	S. K.	AGM (Chem.), NTPC Ltd.	06/06/2014	Project Description, Project design and Implementation of the project activity.	Ashok Kumar & Sandip Saha
6.	Akhaury	N. K.	AGM (BE), NTPC Ltd.	06/06/2014	Technical details of the project and other salient features of the project	Ashok Kumar & Sandip Saha
7.	Muhal	Devendra Kumar	Dy. Manager, NTPC Ltd.	06/06/2014	Discussion on monitoring parameters, measurement, Operational and data collection Procedures	Ashok Kumar & Sandip Saha
8.	Deb	Gautam	AGM (M. Engg.), NTPC Ltd.	06/06/2014	Information flows for generating, aggregating and reporting the monitoring	Ashok Kumar & Sandip Saha

					parameters.	
9.	Singh	Chandrajeet	Sr. Manager (EEMG-gas), NTPC Ltd.	06/06/2014	Operational and data collection Procedures.	Ashok Kumar & Sandip Saha
10.	Srivastava	P. K.	Sr. Manager (EMD-gas), NTPC Ltd.	06/06/2014	Organisational hierarchy, Data monitoring and recording procedure.	Ashok Kumar & Sandip Saha
11.	Dutta	Asit	AGM (EMG), NTPC Ltd.	06/06/2014	Organisational hierarchy, Data monitoring and recording procedure.	Ashok Kumar & Sandip Saha
12.	Kumar	Sunil	AGM (MM), NTPC Ltd.	06/06/2014	Organisational hierarchy, Data monitoring and recording procedure.	Ashok Kumar & Sandip Saha
13.	Mukherjee	Malay	AGM (EM/MTP), NTPC Ltd.	06/06/2014	Organisational hierarchy, Data monitoring and recording procedure.	Ashok Kumar & Sandip Saha
14.	Ghosh	N	AGM (F & A), NTPC Ltd.	06/06/2014	Organisational hierarchy, Data monitoring and recording procedure.	Ashok Kumar & Sandip Saha
15.	Shankar	S. Gour	AGM (O & M-gas/solar), NTPC Ltd.	06/06/2014	Plant operation and maintenance details	Ashok Kumar & Sandip Saha
16.	Goyal	A. N	GM (TS), NTPC Ltd.	06/06/2014	Monitoring equipment details.	Ashok Kumar & Sandip Saha
17.	Jain	R. K	GM (Gas), NTPC Ltd.	06/06/2014	Implementation details of project activity	Ashok Kumar & Sandip Saha
18.	Sood	A. K.	GM (Gas), NTPC Ltd.	06/06/2014	Implementation of project activity. PDD.	Ashok Kumar & Sandip Saha
19.	Gupta	U. S.	AGM (CRM), NTPC Ltd.	06/06/2014	Project activity details.	Ashok Kumar & Sandip Saha
20.	Rathore	M. Singh	GM (O & M), Thermal, NTPC Ltd.	06/06/2014	Discussion on Operation and maintenance Procedures.	Ashok Kumar & Sandip Saha

**D.4. Sampling approach**

Not Applicable. No sampling approach is applied in the project activity.

**D.5. Clarification requests, corrective action requests and forward action requests raised**

Areas of verification findings	No. of CL	No. of CAR	No. of FAR
Compliance of the monitoring report with the monitoring report form	01	02	00
Compliance of the project implementation with the registered PDD	00	00	00
Post-registration changes	01	01	00
Compliance of the monitoring plan with the monitoring methodology including applicable tool and standardized baseline	00	00	00
Compliance of monitoring activities with the registered monitoring plan	01	02	00
Compliance with the calibration frequency requirements for measuring instruments	00	01	00
Assessment of data and calculation of emission reductions or net removals	03	04	00
Others (please specify)	00	00	00
<b>Total</b>	<b>06</b>	<b>10</b>	<b>00</b>

**SECTION E. Verification findings****E.1. Compliance of the monitoring report with the monitoring report form**

<b>Means of verification</b>	Compliance of monitoring report with monitoring report form has been verified by document review and review of the data and information presented. The monitoring report provided by PP has been verified and cross checked with monitoring report template and instructions for completing monitoring report form.
<b>Findings</b>	The monitoring report provided was not in the latest version of Monitoring report form. PP was requested to revise the Monitoring report as per the latest available monitoring report form. PP has provided the Monitoring report in latest available template version for Monitoring report. The assessment team has found the Monitoring Report correct and is accepted.
<b>Conclusion</b>	The PP has submitted revised MR in latest available Monitoring report Form (CDM-MR-Form), Version 05.1. The monitoring report is now as per the latest version of the monitoring report form as per UNFCCC web site. On the basis of document review as submitted by PP, assessment team confirmed that the Monitoring report submitted is in line with the guidance and latest monitoring report form and instruction therein as available in UNFCCC.

**E.2. Remaining forward action requests from validation and/or previous verification**

This is the first verification for the project activity. No forward Action requests were observed from the validation Report (No.2012-IQ-44-MD) dated 28/12/2012.

**E.3. Compliance of the project implementation with the registered project design document**

<b>Means of verification</b>	Compliance of the project implementation with registered project design document has been verified by document review, review of the data and information presented, review of the registered monitoring plan, the monitoring methodology including applicable tool(s), onsite site inspection and review of registered PDD, Validation report and Monitoring report.
<b>Findings</b>	<p>The Project has been registered as CDM activity on 29/12/2012 having the reference number 9392 (<a href="https://cdm.unfccc.int/Projects/DB/RINA1356736344.31/view">https://cdm.unfccc.int/Projects/DB/RINA1356736344.31/view</a>).</p> <p>The project activity involves installation of 5.0 MW Solar PV Power Project at NTPC Dadri District Gautam Budh Nagar of Uttar Pradesh. The project activity is a Greenfield project activity and developed by NTPC Limited. The Solar PV project</p>



plant consists of 20,856 no. of 240Wp high efficiency crystalline silicon solar modules arranged in 869 nos. of array with 24 modules in each array. The project activity having 10 inverters of 500kW each and combined capacity of all inverters taken together is 5.0MWp. The power generated from project activity is stepped to 220kV to supply generated electricity to the NEWNE grid through power purchase agreement signed with GRIDCO. The total capacity of project activity, technical specification of the PV modules, transformers and energy meters installed in the project activity have been checked during the on-site visit and found to be in line with the details provided in the registered PDD.

The project activity is located at NTPC Dadri, District Gautam Budh Nagar of Uttar Pradesh. During the site visit, the project location has been verified physically and with PPA signed with GRIDCO which found in line with the registered PDD. However, the geographical co-ordinates taken during on-site visit by verification team was not matching with geo-graphical coordinates mentioned in registered PDD. Therefore CAR1 was raised by URS. PP has corrected the geographical coordinates of project activity in revised MR in line with para 1 of appendix 1 of PS and submitted revised PDD mentioning revised geographical coordinates. The correct geographical coordinates of project activity is 28°34' 40.13"N and 77°37'56.35"E and the same is mentioned in revised MR and PDD.

The commercial operation of project activity was declared on 30/03/2013 as verified with letter issued to NRLDC by NTPC Dadri and continuously generating and delivering the electricity to NEWNE grid. The project activity registered with UNFCCC on 29/12/2012 and as per registered PDD the start date of the crediting period of this project activity considered from 01/01/2013. The PP has chosen renewable crediting period for the project activity which is from 01/01/2013 to 31/12/2019.

There was no major break down except scheduled maintenance. During this monitoring period (01/01/2013 to 31/03/2014), the project activity has net exported 6,132 MWh of electricity to NEWNE grid and resulted in emission reduction of 5,842 tCO<sub>2</sub> during this monitoring period which is less than the estimated amount of emission reduction i.e. 8,369 tCO<sub>2</sub> which was envisaged during project registration.

The monitoring report contains a comparison of the actual emission reductions claimed in the monitoring period with the estimation in the registered PDD. The actual emission reductions during this monitoring period are found to be lower than the values estimated in the registered PDD for the monitoring period from 01/01/2013 to 31/03/2014 (both days inclusive).

The following points have been checked to verify the applicability of the methodology AMS I.D Version 17 to the project activity.

- The project activity comprises renewable energy generation units, solar PV, supplying electricity to a national or a regional grid i.e. NEWNE grid.
- The project activity is new Greenfield plant i.e. 5.0MW solar PV project where there was no renewable energy power plant operating prior to the implementation of project activity at site.
- The project activity is a 5.0MW solar PV project and does not involve installation of hydro power plants.
- The unit is having only renewable component having total capacity 5.0 MW solar PV project which is not exceed the limit of 15 MW.
- The project activity is 5.0MW solar PV project and does not involved combined heat and power (co-generation) system.
- The project activity does not involve the addition of renewable energy

	<p>generation unit at an existing renewable power generation facility.</p> <ul style="list-style-type: none"> <li>The project activity does not involve retrofication and modification in existing facility for renewable energy generation.</li> </ul>
<b>Conclusion</b>	<p>Based on the document review and site visit, it is confirmed that the project is implemented and equipment installed as described in the registered PDD. Thus, assessment team confirmed that the project was implemented and equipment installed as described in the registered PDD. Thus, same is in line with the para 385 of the VVS ver 09.0</p>

#### **E.4. Post-registration changes**

##### **E.4.1. Temporary deviations from the registered monitoring plan, monitoring methodology or standardized baseline**

No temporary deviations are sought for current monitoring period.

##### **E.4.2. Corrections**

There are two minor corrections in-line with the registered PDD is identified during the verification of project activity. The verification team checked the geographical coordinates of project activity with hand held GPS during the site visit and noticed that the geographical coordinates mentioned in registered PDD were not matching with the actual geographical coordinates of WTGs taken by team. Based on in-consistency found in geographical coordinates, verification team has raised this issue as CAR and accordingly PP has revised geographical coordinates of project activity in revised PDD and also the same has been corrected in the Monitoring Report. The same has also been checked with Corporate HR circular no 710/2012 dated 21/08/2012 regarding designation in Executive category. PP has submitted revised PDD in latest available PDD template (CDM-SSC-PDD –FORM, version 06.0, dated 09/03/2015). The verification team has accepted this change as it is a typographical error that do not affect the design of project. In line with para 148 (b) i & 158 of Project Cycle Procedure (PCP) EB 82, Annex 15 this change in revised PDD are submitted for acceptance of the Board as a part of request for issuance. This change are as per para 1 of Appendix 1 of CDM project Standard and fall under the category of changes that do not require prior approval of the Board.

The verification team has also identified correction in operational and management structure provided in registered PDD. The plant head of 5.0MW solar PV project i.e. DGM has been re-designated as AGM due to delayering of organizational hierarchy. Based on in-consistency found in operational and management structure, verification team has raised this issue as CAR and accordingly PP has revised operational and management structure in revised PDD and also the same has been corrected in the Monitoring Report. PP has submitted revised PDD in latest available PDD template (CDM-SSC-PDD–FORM, version 06.0, dated 09/03/2015). The verification team has accepted this change as it does not affect the design of project. In line with para 148 (b) i & 158 of Project Cycle Procedure (PCP) EB 82, Annex 15 , this change in revised PDD are submitted for acceptance of the Board as a part of request for issuance. This change are as per para 1 of Appendix 1 of CDM project Standard and fall under the category of changes that do not require prior approval of the Board. In line with para 305 of VVS, DOE confirms that the corrected information reflects actual project information.

##### **E.4.3. Changes to the start date of the crediting period**

Not applicable as there are no changes to start date of crediting period.

**E.4.4. Inclusion of a monitoring plan to a registered project activity**

Not applicable. The same monitoring plan is adopted by the PP as mentioned in the registered PDD.

**E.4.5. Permanent changes from registered monitoring plan, monitoring methodology or standardized baseline**

Not applicable. No permanent changes from registered monitoring plan, monitoring methodology or standardized baseline have been identified to the project activity during current monitoring period

**E.4.6. Changes to the project design of a registered project activity**

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There is no change to the project design, hence not applicable.

**E.4.7. Types of changes specific to afforestation and reforestation project activities**

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The project activity is a Greenfield Solar power project, hence this section is not applicable. Hence, this section is not applicable to the project activity.

**E.5. Compliance of monitoring plan with the monitoring methodology including applicable tool and standardized baseline**

<b>Means of verification</b>	Compliance of monitoring plan with monitoring methodology has been verified by document review, review of the data and information presented, review of the registered monitoring plan, the monitoring methodology including applicable tool(s), evaluation of data management and the quality assurance and quality control system, onsite site inspection,, review of registered PDD, Validation report and Monitoring report., Review of Monitoring methodology AMS-I.D version 17.0.
<b>Findings</b>	<p>The Monitoring Plan is in accordance with the approved methodology AMS-I.D version 17, which states that the monitoring shall consist of quantity of net electricity supplied to the grid in a year y.</p> <p>In line with details provided in section B.7.1 of revised PDD, Quantity of net electricity supplied to the grid in year y is monitored/measured directly by energy meters. Energy meters are located at common connection point at the HV side of 1.1KV/33KV step-up transformer. PP has installed one main meter, one check meter at grid interconnection point to monitor the net electricity supplied to the NEWNE grid.</p> <p>The meters are four quadrant, three phase, four wire and is, installed before the grid. This main and check in upstream of 1.1/33KV transformer and standby meter is installed in upstream of 33/220KV step-up transformer. The same is verified during on-site assessment and found to be correct.</p> <p>The meters installed continuously monitored/measured the net electricity supplied to the grid. The net export generation block-wise data is downloaded daily basis by the representatives of NTPC and a weekly report is sent to NRLDC. The NRLDC reviewed the weekly generation data received from NTPC and further sent it to NRPC. NRPC reviewed the weekly generation data received from NRLDC and published this data in Regional Energy Account at NRPC website. This REA data are downloaded by NTPC and compared with station data once again and uploaded on SAP. The generation data uploaded on SAP are used to prepare monthly invoices by the commercial department and sent to GRIDCO. The monthly REA data has been cross-checked with the sales invoice and found to be</p>

	correct.																
	The verification team has onsite checked the REA data and SAP data and respective sales invoices of the project confirmed the value used for ER calculation is correct. Hence, accepted.																
	The factory calibration certificates for meters installed at grid-connection point are submitted by PP.																
	<table><tr><th>Meter Sl. No.</th><th>Make</th><th>Calibration date</th><th>Calibration due date</th></tr><tr><td>NP-6624-A (main meter at 33KV)</td><td>M/s Larsen &amp; Toubro Limited</td><td>The meter was factory calibrated and installed at project site on 29/03/2013</td><td>28/03/2018</td></tr><tr><td>02047842 (check meter at 33KV)</td><td>M/s Larsen &amp; Toubro Limited</td><td>The meter was factory calibrated and installed at project site on 29/03/2013</td><td>28/03/2018</td></tr><tr><td>NP-6615-A (Stand by meter at 220KV)</td><td>M/s Larsen &amp; Toubro Limited</td><td>The meter was factory calibrated and installed at project site on 29/03/2013</td><td>28/03/2018</td></tr></table>	Meter Sl. No.	Make	Calibration date	Calibration due date	NP-6624-A (main meter at 33KV)	M/s Larsen & Toubro Limited	The meter was factory calibrated and installed at project site on 29/03/2013	28/03/2018	02047842 (check meter at 33KV)	M/s Larsen & Toubro Limited	The meter was factory calibrated and installed at project site on 29/03/2013	28/03/2018	NP-6615-A (Stand by meter at 220KV)	M/s Larsen & Toubro Limited	The meter was factory calibrated and installed at project site on 29/03/2013	28/03/2018
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NP-6615-A (Stand by meter at 220KV)	M/s Larsen & Toubro Limited	The meter was factory calibrated and installed at project site on 29/03/2013	28/03/2018														
The monitoring period for this monitoring is from 01/01/2013 to 31/03/2014. The calibration of the monitoring equipments as mentioned above, covers the monitoring period. The calibration certificates are reviewed by the assessment team and found that the information as provided in MR is consistent with the calibration certificates.																	
Conclusion	Corresponding to the paragraph 386 to 388 of VVS version 09.0, verification team has verified the registered monitoring plan, including the data and parameters required to be monitored, measurement procedures, monitoring frequency and QA/QC procedures and the verification team is able to confirm that the registered monitoring plan is in accordance with the approved methodology AMS-I.D version 17.																

## E.6. Compliance of monitoring activities with the registered monitoring plan

### E.6.1. Data and parameters fixed ex ante or at renewal of crediting period

As per the registered PDD, the fixed ex-ante parameter are the 'Simple Operating Margin of the NEWNE Grid', 'Build Margin of the NEWNE Grid' and 'Combined margin CO2 emission factor for the project electricity system in year y' which are fixed for the first crediting period. The values of the fixed ex-ante parameters are the same as mentioned in the registered PDD. The fixed ex-ante data and parameter has been listed in the monitoring report and confirmed by the verification team as correct and consistent with that stated in the registered PDD.

<b>Means of verification</b>	Data and parameters fixed ex-ante has been verified by document review, review of the data and information presented, review of the registered and revised PDD monitoring plan, the monitoring methodology including applicable tool(s), onsite site inspection, Validation report and Monitoring report, CEA database of CO2 India.				
<b>Findings</b>	<p><b><u>EF<sub>grid,OM,y</sub> tCO<sub>2</sub>e/MWh (Simple Operating Margin of the NEWNE Grid)</u></b></p> <table border="1"> <tr> <th>Particulars</th><th>Discussion and verification assessment</th></tr> <tr> <td>Verified value</td><td>0.9842 tCO<sub>2</sub>e/MWh</td></tr> </table>	Particulars	Discussion and verification assessment	Verified value	0.9842 tCO <sub>2</sub> e/MWh
Particulars	Discussion and verification assessment				
Verified value	0.9842 tCO <sub>2</sub> e/MWh				

	Source of value	Central Electricity Authority(CEA) of CO <sub>2</sub> India Database as given in user guide version 7, <a href="http://cea.nic.in/reports/others/thermal/tpece/cdm_co2/user_guide_ver7.pdf">http://cea.nic.in/reports/others/thermal/tpece/cdm_co2/user_guide_ver7.pdf</a> and according to the procedure outlined in section B.6 of the registered PDD
	Justification	The value is consistent with registered PDD and defined fixed ex-ante during the 1 <sup>st</sup> renewable crediting period of the project activity.
<b>Conclusion</b>	The value is consistent with registered PDD and defined fixed ex-ante during the 1 <sup>st</sup> renewable crediting period of the project activity. The fixed ex-ante data and parameter has been listed in the monitoring report and confirmed by the verification team as correct and consistent with that stated in the registered PDD.	

Means of verification	Data and parameters fixed ex-ante has been verified by document review, review of the data and information presented, review of the registered and revised PDD monitoring plan, the monitoring methodology including applicable tool(s), onsite site inspection, Validation report and Monitoring report, CEA database of CO2 India.	
Findings	<b><u>EFgrid,BM,y tCO2e/MWh (Build Margin of the NEWNE Grid)</u></b>	
	Particulars	Discussion and verification assessment
	Verified value	0.8587 tCO2e/MWh
	Source of value	Central Electricity Authority (CEA) of CO2 India Database as given in user guide version 07, <a href="http://cea.nic.in/reports/others/thermal/tpece/cdm_co2/user_guide_ver7.pdf">http://cea.nic.in/reports/others/thermal/tpece/cdm_co2/user_guide_ver7.pdf</a> and according to the procedure outlined in section B.6 of the registered PDD.
	Justification	The value is consistent with registered PDD and defined fixed ex-ante during the 1st renewable crediting period of the project activity.
Conclusion	The value is consistent with registered PDD and defined fixed ex-ante during the 1st renewable crediting period of the project activity. The fixed ex-ante data and parameter has been listed in the monitoring report and confirmed by the verification team as correct and consistent with that stated in the registered PDD.	

Means of verification	Data and parameters fixed ex-ante has been verified by document review, review of the data and information presented, review of the registered and revised PDD monitoring plan, the monitoring methodology including applicable tool(s), onsite site inspection, Validation report and Monitoring report, CEA database of CO2 India.	
Findings	<b><u>EFgrid,CO2,y tCO2e/MWh (Combined margin CO2 emission factor for the project electricity system in year y)</u></b>	
	Particulars	Discussion and verification assessment
	Verified value	0.9528 tCO2e/MWh
	Source of value	Central Electricity Authority (CEA) of CO2 India Database as given in user guide version 7,

		<a href="http://cea.nic.in/reports/others/thermal/tpece/cdm_co2/user_guide_ver7.pdf">http://cea.nic.in/reports/others/thermal/tpece/cdm_co2/user_guide_ver7.pdf</a> and according to the procedure outlined in section B.6 of the registered PDD.
	Justification	The value is consistent with registered PDD and defined fixed ex-ante during the 1 <sup>st</sup> renewable crediting period of the project activity.
<b>Conclusion</b>	The value is consistent with registered PDD and defined fixed ex-ante during the 1 <sup>st</sup> renewable crediting period of the project activity. The fixed ex-ante data and parameter has been listed in the monitoring report and confirmed by the verification team as correct and consistent with that stated in the registered PDD.	

### E.6.2. Data and parameters monitored

<b>Means of verification</b>	EG <sub>BL,y</sub> has been verified by document review, review of the data and information presented, review of the registered monitoring plan, the monitoring methodology including applicable tool(s), onsite site inspection,, review of registered and revised PDD, Validation report and Monitoring report .	
<b>Findings</b>	Data/parameter: <b>EG<sub>BL,y</sub></b> : Quantity of net electricity supplied to the grid in year y.	
	Measured/calculated/default	Measured values.
	Description	Quantity of net electricity supplied to the grid in year y
	Source of data	Readings of Energy meter installed at the HV side of 1.1 /33 KV transformer .
	Value(s) of monitored parameter	6,132.158 MWh.
	Monitoring equipment	Metering is carried out through electronic tri-vector meters of accuracy class 0.2% required for the project These are four quadrant, three phase, four wire and is, installed before the grid. Frequency of Calibration: Once in a five year
	Measuring/reading/recording frequency:	Continuous monitoring, Daily Recording of Energy, Aggregated monthly
	QA/QC procedures:	Net electricity supplied to the grid are cross-checked against invoices for sale of electricity. Regular calibration of all the meters will be undertaken at specified intervals as per registered PDD.
	<p>This parameter is directly monitored/measured by the energy meters. The meters installed continuously measured the net electricity supplied to the grid. The net export generation block-wise data is downloaded daily basis by the representatives of NTPC and a weekly report is sent to NRLDC. The NRLDC reviewed the weekly generation data received from NTPC and further sent it to NRPC. NRPC reviewed the weekly generation data received from NRLDC and published this data in Regional Energy Account at NRPC website. This REA data are downloaded by NTPC and compared with station data once again and uploaded on SAP. The generation data uploaded on SAP are used to prepare monthly invoices by the commercial department and sent to GRIDCO. The monthly REA data has been cross-checked with the sales invoice and found to be correct.</p> <p>The parameter is found to be monitored through the energy meter installed at the project site. The verification team has checked the block-wise data, weekly reports sent to NRLDC and NRPC and SAP record at project site of the meter and cross checked values with the respective sales invoices and it is found to be correct.</p>	

	<p>The meters installed at 33 KV and 220 KV are factory calibrated and installed at site on 29/03/2015. The calibration frequency mentioned in registered PDD is once in a five years and therefore the calibration is not due in current monitoring period. The same is in line with the calibration frequency mentioned in PPA.</p> <p>The procedure for the monitoring of the parameters has been clearly described in the monitoring plan under section B.7.1 and B.7.3 of the revised PDD of the project activity. The monitoring plan of the project activity has been duly implemented by the PP at the project activity site in accordance with the monitoring plan of the project activity. The monitoring mechanism, including the data collection system, is found to be effective and reliable and it has been verified during the site visit of the project activity and through the document review.</p>
<b>Conclusion</b>	<p>The assessment team has checked all the descriptions provided in the MR and found consistent with the registered PDD. The verification team on-site checked all the energy meters (Main Meter, Check Meter and Standby) and verified the calibration record. The meter was properly configured and checked and found appropriate with the registered monitoring plan. As confirmed during the onsite assessment the parameter is continuously monitored, and recorded monthly. Hence monitoring frequency is as per the monitoring plan.</p> <p>Corresponding to the paragraph 389 to 393 of VVS version 09.0, URS can confirm that the monitoring of the project activity has been carried out in accordance with the monitoring plan provided in the revised PDD.</p>

### E.6.3. Implementation of sampling plan

There is no sampling plan used for the project activity. Hence, this section is not applicable.

<b>Means of verification</b>	NA
<b>Findings</b>	NA
<b>Conclusion</b>	NA

### E.7. Compliance with the calibration frequency requirements for measuring instruments

<b>Means of verification</b>	Compliance with the calibration frequency requirements has been verified by document review, review of the data and information presented, review of the registered monitoring plan, the monitoring methodology including applicable tool(s), quality assurance and quality control system, onsite site inspection,, review of registered and revised PDD, Validation report and Monitoring report, evaluation of calibration certificates.												
<b>Findings</b>	<p>According to the monitoring plan of the registered PDD, the monitoring meters are to be calibrated once in five year. Since the factory calibrated meters was installed at project site on 29/03/2013 and calibration frequency as mentioned in registered PDD is once in five years and hence the calibration of meters valid up to 29/03/2018. Therefore, the current monitoring period (01/01/2013 to 31/03/2014) does not require a calibration of meters.</p> <table border="1"> <tr> <td><b>Monitoring equipment</b></td><td>Main meter at 33KV</td></tr> <tr> <td><b>Monitoring parameter</b></td><td>EG<sub>BL,y</sub></td></tr> <tr> <td><b>S.No.</b></td><td>NP-6624-A</td></tr> <tr> <td><b>Make</b></td><td>M/s Larsen &amp; Toubro Limited</td></tr> <tr> <td><b>Accuracy</b></td><td>0.2s</td></tr> <tr> <td><b>Calibration frequency</b></td><td>Once in five years</td></tr> </table>	<b>Monitoring equipment</b>	Main meter at 33KV	<b>Monitoring parameter</b>	EG <sub>BL,y</sub>	<b>S.No.</b>	NP-6624-A	<b>Make</b>	M/s Larsen & Toubro Limited	<b>Accuracy</b>	0.2s	<b>Calibration frequency</b>	Once in five years
<b>Monitoring equipment</b>	Main meter at 33KV												
<b>Monitoring parameter</b>	EG <sub>BL,y</sub>												
<b>S.No.</b>	NP-6624-A												
<b>Make</b>	M/s Larsen & Toubro Limited												
<b>Accuracy</b>	0.2s												
<b>Calibration frequency</b>	Once in five years												

<b>requirement</b>	
<b>Calibration date</b>	The meter was factory calibrated and installed at project site on 29/03/2013
<b>Validity</b>	28/03/2018
<b>Are there delays in calibration?</b>	No
<b>Calibration Entity</b>	M/s Larsen & Toubro Limited.

<b>Monitoring equipment</b>	Check meter at 33KV
<b>Monitoring parameter</b>	EG <sub>BL,y</sub>
<b>S.No.</b>	02047842
<b>Make</b>	M/s Larsen & Toubro Limited
<b>Accuracy</b>	0.2s
<b>Calibration frequency requirement</b>	Once in five years
<b>Calibration date</b>	The meter was factory calibrated and installed at project site on 29/03/2013
<b>Validity</b>	28/03/2018
<b>Are there delays in calibration?</b>	No
<b>Calibration Entity</b>	M/s Larsen & Toubro Limited.

<b>Monitoring equipment</b>	Stand by meter at 220KV
<b>Monitoring parameter</b>	EG <sub>BL,y</sub>
<b>S.No.</b>	NP-6615-A
<b>Make</b>	M/s Larsen & Toubro Limited
<b>Accuracy</b>	0.2s
<b>Calibration frequency requirement</b>	Once in five years
<b>Calibration date</b>	The meter was factory calibrated and installed at project site on 29/03/2013
<b>Validity</b>	28/03/2018



	<b>Are there delays in calibration?</b>	No
	<b>Calibration Entity</b>	M/s Larsen & Toubro Limited.
	<p>The monitoring period for this monitoring is from 01/01/2013 to 31/03/2014. The calibration of the monitoring equipments as mentioned above, covers the monitoring period. The calibration certificates are reviewed by the assessment team and found that the information as provided in MR is consistent with the calibration certificates.</p>	
<b>Conclusion</b>	<p>The calibration of the energy meter has been done prior to project commissioning and the calibration frequency of the meters is once in a five year in line with the registered PDD. This complies with the requirement of para 394 to 400 of VVS version 09.0. The calibration details of measuring instruments are provided above. In line with the para 394 to 400 of VVS ver 09.0, by checking the calibration Reports, URS confirms that the calibration of meters are carried out and it meets the requirement of frequency specified in the revised monitoring plan in registered PDD. Thus, same is in also line with the 394 to 400 of VVS ver 09.0.</p>	

## E.8. Assessment of data and calculation of emission reductions or net removals

### E.8.1. Calculation of baseline GHG emissions or baseline net GHG removals by sinks

<b>Means of verification</b>	Calculations of baseline GHG emissions has been verified by document review, review of the data and information presented, review of the registered monitoring plan, the monitoring methodology including applicable tool(s), evaluation of data management onsite site inspection,, review of registered PDD, Validation report and Monitoring report, Review of applied methodology AMS-I.D version 17.0, CO <sub>2</sub> Baseline Database for the Indian Power Sector prepared by Central Electricity Authority
<b>Findings</b>	<p>As per the methodology AMS-I.D, version 17, the emission reductions (<math>ER_y</math>) are calculated as:</p> $ER_y = BE_y - PE_y - LE_y.$ <p>Where <math>BE_y</math>= baseline emission.</p> $BE_y = EG_{BLY} * EF_y,$ <p>Where, <math>EG_{BLY}</math> = Quantity of net electricity supplied to the grid in year y and</p> <p><math>EF_y</math>: Combined margin CO<sub>2</sub> emission factor for the project electricity system in year y, calculated ex-ante and will not be updated during the first crediting period, the value is 0.9528tCO<sub>2</sub>e/MWh.</p> <p>Quantity of net electricity supplied to the grid in year y (<math>EG_{BLY}</math>) is directly monitored/measured by the energy meters installed at project site..</p> <p>This monitoring period covers from 01/01/2013 to 31/03/2014 (inclusive both days). The net electricity exported to the grid are continuously monitored through the energy meters and the output will be aggregated monthly by the NTPC. The monthly net electricity delivered to the grid are cross checked with the invoices.</p>

	The data are downloaded from the energy meter in DAT format and sent to Northern Region Load Dispatch Centre (NRLDC) where it is compiled and sent to Northern Regional Power Committee (NRPC) which publishes Regional Energy Account (REA) data on website. PP downloads REA data from NRPC website and compares with station data. In order to calculate the emission reductions, the minimum value from 33KV main meter, NRPC data and invoice reading of the net electricity exported to the grid have been taken which is conservative. The verification team has checked the monthly readings and cross checked against the invoice raised and found correct. The verification team has reviewed all the data and found correct and consistent with the values as available in ER calculation sheet. Thus, the values considered for baseline emission calculation was found to be correct and accepted. The verification team has checked the data and cross checked data with invoices and found it to be correct. The net electricity exported to grid during the monitoring period is 6132.158 MWh and the baseline emissions works out to be 5842 tCO <sub>2</sub> e.
<b>Conclusion</b>	In this monitoring period, this project activity has exported net electricity of 6,132.158 MWh to the NEWNE grid which was published at REA on NRPC website and SAP record of NTPC. The net electricity exported to the grid has been cross checked with the invoices issued by the PP. All the evidences has been provided to and checked by the verification team and confirmed as credible and consistent. The baseline emissions are found to be correct.

#### E.8.2. Calculation of project GHG emissions or actual net GHG removals by sinks

<b>Means of verification</b>	Project GHG emissions has been verified by document review, review of the data and information presented, onsite site inspection, review of registered PDD, Validation report and Monitoring report, Review of applied methodology AMS-I.D version 17.0,
<b>Findings</b>	As per approved methodology AMS-I.D, version 17, the project emission for Renewable energy projects is zero. Thus, PP has not considered the project emissions as it is a renewable energy projects.
<b>Conclusion</b>	In line with registered PDD, the project emissions PE <sub>y</sub> is considered as zero is found correct.

#### E.8.3. Calculation of leakage GHG emissions

<b>Means of verification</b>	Leakage has been verified by document review, review of the data and information presented, the monitoring methodology including applicable tool(s), evaluation of data management, review of ER calculation sheet, review of registered PDD, Validation report and Monitoring report, Review of applied methodology AMS-I.D version 17.0.
<b>Findings</b>	There are no leakage emissions as per the methodology AMS-I.D, version 17
<b>Conclusion</b>	In line with registered PDD, the leakage LE <sub>y</sub> is considered as zero is found correct.

#### E.8.4. Summary of calculation of GHG emission reductions or net anthropogenic GHG removals by sinks

<b>Means of verification</b>	GHG emission reduction calculations has been verified by document review, review of the data and information presented, review of the registered monitoring plan, the monitoring methodology including applicable tool(s), evaluation of data management and the quality assurance and quality control system, onsite site inspection,, review of registered PDD, Review of ER calculation sheet, Validation report and Monitoring report, Review of applied methodology AMS-I.D version 17.0, CO <sub>2</sub> Baseline Database for the Indian Power Sector prepared by Central Electricity Authority, ver 7.,
<b>Findings</b>	<p>According to the registered PDD and the MR, the GHG emission reductions of the project are calculated as follows:</p> $ER_y = BE_y - PE_y - L_y$ <p>Where:</p> <p>ER<sub>y</sub> = Emission reductions</p>

	<p> <math>BE_y</math> = Baseline emissions  <math>PE_y</math> = Project emissions  <math>L_y</math> = Leakage         </p> <p>PP has not considered the project emissions as it is a renewable energy projects. There are no leakage emissions as energy generation equipment is not transferred from another project activity. Therefore, in line with registered PDD, the project emissions <math>PE_y</math> and leakage <math>L_y</math> are zero</p> <p>The total emission reductions <math>ER_y</math> for the current monitoring period is calculated as : <math>ER_y = BE_y = EG_{BLy} * EF_y</math></p> <p> <math>= 6,132.158 \text{ MWh} * 0.9528 \text{ tCO}_2\text{e/MWh}</math>  <math>= 5,842 \text{ tCO}_2\text{e}</math> </p> <p>The verification team has reviewed all the data and found correct and consistent with the values as available in ER calculation sheet. Thus, the values considered for baseline emission calculation was found to be correct and accepted. The verification team has checked the data and cross checked data with invoices and found it to be correct. The net electricity exported to grid during the monitoring period is 6,132.158 MWh and the baseline emissions works out to be 5842 tCO<sub>2</sub>e and since project and leakage emissions are zero, the emission reductions are equal to baseline emissions i.e. 5842 tCO<sub>2</sub>e.</p>
<b>Conclusion</b>	<p>The ER calculation sheet has provided to the verification team and confirmed as that the calculation is correct and conservative. The verification team has checked NRPC data, REA Data and SAP data, and the sale receipts and confirmed the calculation of emission reductions is correct and conservative.</p> <p>Quality Management procedures for measurements, collection and compilation of data, data storage and archiving, calibration, maintenance and training of personnel in the framework of this CDM project activity have been defined. On basis of site verification and document review, the verification team confirms that the CDM responsibility allocated is followed at the site. Quality assurance procedures are in place in line with the monitoring plan. Staffs are made aware of the quality assurance procedures.</p> <p>The operation and maintenance of the project activity is carried out by the team of PP only. During the site visit, the verification team has interviewed the site personnel of solar PV power plant, who is involved in data collection, monitoring and archiving. The team found that these people are competent enough to carry out their duties and confirmed that organization structure followed as defined in the monitoring plan.</p> <p>The site visit confirmed that monitoring and reporting is carried out consistently and records are kept in a secure and consistent manner. Data will be kept by the project owner for two years after last issuance of CERs.</p> <p>The net electricity supplied to the NEWNE grid which is the mentioned in the monitoring report and emission reduction calculation sheet has been verified with the Monthly REA report published on NRPC website, and main meter reading at 33 KV project site and the same has been cross verified with the records for sold electricity (invoices). In order to calculate the emission reductions, the minimum value from 33KV main meter, NRPC data and invoice reading of the net electricity exported to the grid have been taken.</p>

	<p>During verification, the procedure for data transfer and compilation was also verified and found in compliance with the monitoring requirement.</p> <p>Thus, it is confirmed that quality of the evidences is reliable and satisfactory. Thus, it is ensured that the quality assurance and quality control procedures have been applied in accordance with the registered monitoring plan of the project activity.</p> <p>In line with para 403 of VVS ver 09.0, the verification team confirms the following:</p> <ul style="list-style-type: none"> <li>• The data used for the determination of the emission reductions were available for the period 01/01/2013 to 31/03/2014 (both days inclusive) and were in accordance with the monitoring plan which was checked to be correct by the verification team.</li> <li>• The reported data has been checked with the REA Data and meter data and cross checked with electricity sales receipt. The calibration certificates were also checked. The monitored data was cross checked with sales receipts during site visit by the verification team;</li> <li>• The methods and formulae for calculating baseline emissions have been properly followed in accordance with the provisions in the registered PDD and applied methodology. The project emission is zero as per the registered PDD. There is no leakage emission in the project activity.</li> <li>• The assumptions, emission factors and default values that were applied in the monitoring report and the calculations have been justified.</li> </ul>
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#### E.8.5. Comparison of actual GHG emission reductions or net anthropogenic GHG removals by sinks with estimates in registered PDD

<b>Means of verification</b>	Comparison of actual GHG emission reduction with estimates in registered PDD has been verified by document review, review of the data and information presented, onsite site inspection,, review of registered PDD, Validation report and Monitoring report, review of ER calculation sheet, Review of applied methodology AMS-I.D version 17.0,.
<b>Findings</b>	PP has considered this monitoring period from 01/01/2013 to 31/03/2014 (both days inclusive) i.e.455 days. Thus, the annual estimated emission reductions for this duration (455days) considering the 1st periodic verification are 8,369 tCO <sub>2</sub> e (=6714*455/365) as per the registered PDD. Further, the actual emission reductions from 01/01/2013 to 31/03/2014 (both days inclusive) are 5,842 tCO <sub>2</sub> e, which is lower than the corresponding estimated emission reductions as per the PDD for a comparable period.
<b>Conclusion</b>	The actual emission reductions are calculated based on the actual net electricity supplied to the grid by the project. The actual net electricity supplied to the grid from 01/01/2013 to 31/03/2014 (both days inclusive) are 6132.158 MWh. Thus the corresponding actual emission reductions from 01/01/2013 to 31/03/2014 (both days inclusive) are 5,842 tCO <sub>2</sub> e. The verification team has checked the monthly net electricity data from 33KV main meter, NRPC records and confirmed the actual electricity supplied to the grid is correct and consistent. Therefore, the actual emission reductions from 01/01/2013 to 31/03/2014 (both days inclusive) are calculated correctly and are lower than the estimated emission reduction.

**E.8.6. Remarks on difference from estimated value in registered PDD**

<b>Means of verification</b>	Difference from estimated values in registered PDD has been verified by document review, review of the data and information presented, onsite site inspection,, review of registered PDD, Validation report and Monitoring report, review of ER calculation sheet, Review of applied methodology AMS-I.D version 17.0.
<b>Findings</b>	PP has considered this monitoring period from 01/01/2013 to 31/03/2014 (both days inclusive) i.e.455 days. Thus, the annual estimated emission reductions for this duration (455 days) considering the 1st periodic verification are 8,369 tCO <sub>2</sub> e (=6714*455/365) as per the registered PDD. Further, the actual emission reductions from 01/01/2013 to 31/03/2014 (both days inclusive) are 5,842 tCO <sub>2</sub> e, which is lower than the corresponding estimated emission reductions as per the PDD for a comparable period.
<b>Conclusion</b>	The actual Emission reduction during the monitoring period is less than the estimated emission reduction in registered PDD for the same period. The verification team has checked the monthly net electricity data from 33KV main meter, NRPC records at plant and confirmed the actual electricity supplied to the grid is correct and consistent. Therefore, the actual emission reductions from 01/01/2013 to 31/03/2014 (both days inclusive) are calculated correctly and the actual emission reduction are less than the estimated emission reduction.

**E.8.7. Actual GHG emission reductions or net anthropogenic GHG removals by sinks during the first commitment period and the period from 1 January 2013 onwards**

<b>Means of verification</b>	Actual GHG emission reduction during first commitment period and period from 1 January 2013 onwards has been verified document review, review of the data and information presented, onsite site inspection,, review of registered PDD, Validation report and Monitoring report, review of ER calculation sheet, Review of applied methodology AMS-I.D version 17.0.
<b>Findings</b>	The monitoring period is considered from 01/01/2013. Hence, there is no emission reduction prior to 2013. Hence, Emission reduction achieved during the monitoring period i.e. 2013 onwards is 5,842 tCO <sub>2</sub> e.
<b>Conclusion</b>	The verification team has checked the monthly net electricity data from 33KV main meter, NRPC records and confirmed the actual electricity supplied to the grid is correct and consistent. Thus, actual emission reductions from 01/01/2013 to 31/03/2014 (both days inclusive) are calculated correctly. The calculation are checked by the assessment team and found correct. The monitoring period is considered from 01/01/2013. Hence, there is no emission reduction prior to 2013. The values considered for the period from 1 January 2013 onwards are found to be correct and accepted.

**SECTION F. Internal quality control**

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The Verification Report and its respective versions have undergone an Internal Quality Control through an Independent Technical Review (ITR).

ITR is an independent process performed to examine that the process of verification has been carried out in conformance with the requirements of verification scheme as well as URS verification procedures and the conclusion is justified. The technical review is performed by designated competent person, Independent Technical Reviewer, in accordance with URS qualification scheme for CDM validation and verification. The Technical Reviewer will either accept or reject the recommendation made by the assessment team.

<b>Name</b>	<b>Role</b>
Naresh Badhwar	Technical Reviewer and Technical Area Expert TA 1.2

**SECTION G. Verification opinion**

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URS Verification Private Ltd has been contracted by NTPC Limited to perform the verification of the emission reductions reported for the CDM project “5 MW Solar PV Power Project at NTPC-Dadri, a Business unit of NTPC limited” with the UNFCCC registration number 9392 in the period 01/01/2013 to 31/03/2014 (both days inclusive).

URS Verification Private Ltd has performed the 1<sup>st</sup> periodic verification of the CDM project “5 MW Solar PV Power Project at NTPC-Dadri, a Business unit of NTPC limited”, India with UNFCCC reference number of 9392, registration date of 29/12/2012 and crediting period from 1 Jan 13 – 31 Dec 19 (Renewable). The verification includes confirming the implementation of the monitoring plan of the registered PDD Version 04 dated 13/12/2012 and revised PDD version 5 dated 05/10/2015 and the application of the monitoring methodology as per AMS-I.D, version 17. A site visit was conducted on 06/06/2014 to verify the implementation of project activity and verify monitoring plan and data submitted in the monitoring report, emission reduction sheet.

The verification activity is with regards to relevant requirements of CDM procedures which is based on the validated and revised project design document and the monitoring report for this project. Verification is performed in accordance with section I of Decision 3/CMP.1, and relevant decisions of the CDM EB and CoP/MoP. The scope of this engagement covers the verification and certification of greenhouse gas emission reductions generated by the above project during the mentioned period as above, as reported in Monitoring Report of “5 MW Solar PV Power Project at NTPC-Dadri, a Business unit of NTPC limited”, version 04, dated 22/12/2015

The management of the NTPC Limited is responsible for the preparation, calculation and determination of GHG emission reductions from the project. The development and maintenance of records and reporting procedures are in accordance with the monitoring report.

URS confirms that the project is implemented in accordance with the validated and revised Project Design Document. The monitoring system is in place and the emission reductions are calculated without material misstatements. Based on the information observed at site and evaluated verification team confirmed that the implementation of the project has resulted in 5,842 tCO<sub>2</sub>e emission reductions during period 01/01/2013 to 31/03/2014 (both days inclusive).

## **SECTION H. Certification statement**

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It is our responsibility to express an independent GHG verification opinion on the GHG emissions and on the calculation of GHG emission reductions from the project for the period 01/01/2013 to 31/03/2014 (both days inclusive) based on the reported emission reductions in the Monitoring Report, ver 04, dated 22/12/2015 for the same period.

Based on documented evidences and corroborated by an on-site assessment URS Verifications confirms that:

- The project activity has been implemented and operated as per the revised PDD;
- The monitoring plan is in place as per the applied baseline and monitoring methodology;
- The monitoring report, data and calculation of the GHG emission reduction and other supporting documents provided are complete, verifiable and supports the emission reductions being claimed;
- The monitoring complies with the monitoring plan in the registered PDD;

The verification team confirms that the claimed emission reductions are free from material errors, omissions or misstatements, with a reasonable level of assurance. The corrections in PDD which do not require prior approval are submitted alongwith request for issuance in line with para 158 of Project Cycle Procedure. These changes are as per Appendix 1 of CDM project Standard and fall under the category of changes that

do not require prior approval of the Board. URS confirms that the project is implemented as described in the validated, registered and revised project design document. URS confirms that the material included in the new PDD is materially the same as the information in the registered PDD. URS confirms that the project is implemented as described in the validated and revised project design document. The GHG emission reduction stated in the monitoring report version 04, dated 22/12/2015 for the “5 MW Solar PV Power Project at NTPC-Dadri, a Business unit of NTPC limited” for the period 01/01/2013 to 31/03/2014 (both days inclusive) are fairly stated.

Based on the information observed at site and evaluated verification team confirmed that the implementation of the project has resulted in 5,842 tCO<sub>2</sub>e emission reductions during period 01/01/2013 to 31/03/2014 (both days inclusive) and would not have occurred in the absence of project activity.

Based on the information evaluated, we confirm the following:

Project Title:	5 MW Solar PV Power Project at NTPC-Dadri, a Business unit of NTPC limited
UNFCCC Reference Number:	9392
Registered PDD and Approved PDD Used for Verification:	Registered PDD, version 4.0, dated 13/12/2012 Revised PDD, version 5.0, dated 05/10/2015
Methodology Used for Verification:	AMS-I.D, version 17. Approved Baseline Methodology used is “Grid connected renewable electricity generation”
Monitoring Period:	01/01/2013 to 31/03/2014 (both days inclusive)
Total GHG Emission Reductions Verified from 01/01/2013 to 31/03/2014	5,842 tCO <sub>2</sub> e

## Appendix 1. Abbreviations

Abbreviations	Full texts
BE	Baseline Emissions
CAR	Corrective Action Request
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
CEA	Central Electricity Authority
CER(s)	Certified Emission Reduction(s)
CL	Clarification Request
CO <sub>2</sub>	Carbon dioxide
CO <sub>2</sub> e	Carbon dioxide equivalent
CRT	Coordination and Technical Control Staff
DNA	Designated National Authority
DOE	Designated Operational Entity
EB	Executive Board
EIA	Environmental Impact assessment
ER	Emission Reductions
FAR	Forward Action Request
GFL	Gujarat Fluorochemicals Limited
GHG(s)	Greenhouse gas(es)
GWP	Global Warming Potential
IPCC	Intergovernmental Panel on Climate Change
JMR	Joint Meter Reading
LoA	Letter of Approval
MOC	Modalities of Communication Statement
MoV	Means of Verification
MP	Monitoring Plan
MR	Monitoring Report
NGO	Non-governmental Organization
ODA	Official Development Assistance
PDD	Project Design Document
PE	Project Emission
PP(s)	Project Participant(s)
PPA	Power Purchase Agreement
Ref.	Document Reference
SS(s)	Sectoral Scope(s)
SSC	Small Scale
TA	Technical Area within the Sectoral Scope
UNFCCC	United Nations Framework Convention on Climate Change
URS	URS Verification Private Limited



## Appendix 2. Competence of team members and technical reviewers

### QUALIFICATION CERTIFICATE

We declare that Mr.

Ashok Kumar

is qualified as

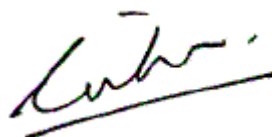
Validator/Verifier

for the Technical Area

1.1, 1.2, 13.1

Technical Area	Technical Area Description	Sectoral Scope
1.1	Thermal Energy generation	1
1.2	Renewable	1
13.1	Solid waste and wastewater	13

He is also qualified as Team Leader for validation/verification functions

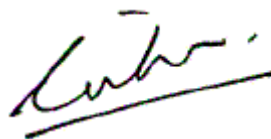


CEO

## QUALIFICATION CERTIFICATE

We declare that Mr Amit Ranjan Mandal  
is qualified as Validator/Verifier  
for the Technical Area 1.2

Technical Area	Technical Area Description	Sectoral Scope
1.2	Renewables	1

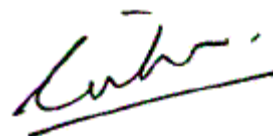


\_\_\_\_\_  
CEO

## QUALIFICATION CERTIFICATE

We declare that Mr Sandip Saha  
is qualified as Validator/Verifier  
for the Technical Area 1.2

Technical Area	Technical Area Description	Sectoral Scope
1.2	Renewables	1



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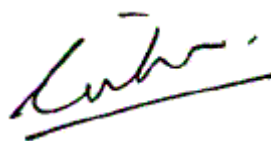
CEO

## QUALIFICATION CERTIFICATE

We declare that Mr./Ms Naresh Badhwar  
is qualified as Technical Reviewer  
for the Technical Area 1.1, 1.2, 13.1

Technical Area	Technical Area Description	Sectoral Scope
1.1	Thermal Energy generation	1
1.2	Renewable	1
13.1	Solid waste and wastewater	13

He is also qualified as Team Leader for validation/verification functions



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CEO

### Appendix 3. Documents reviewed or referenced

No	Author	Title	References to the document	Provider
1	NTPC Limited	Monitoring Report for the Project Activity titled “5 MW Solar PV Power Project at NTPC-Dadri, a Business unit of NTPC limited”, Version 1.0 dated 13/05/2014	Version 1.0 dated 07/05/2014	Project Participant
2	NTPC Limited	Monitoring Report for the Project Activity titled “5 MW Solar PV Power Project at NTPC-Dadri, a Business unit of NTPC limited”, Version 2.0 dated 18/03/2015	Version 2.0 dated 18/03/2015	Project Participant
3	NTPC Limited	Monitoring Report for the Project Activity titled “5 MW Solar PV Power Project at NTPC-Dadri, a Business unit of NTPC limited”, Version 3.0 dated 05/10/2015	Version 3.0 dated 05/10/2015	Project Participant
4	NTPC Limited	Monitoring Report for the Project Activity titled “5 MW Solar PV Power Project at NTPC-Dadri, a Business unit of NTPC limited”, Version 4.0 dated 22/12/2015	Version 4.0 dated 22/12/2015	Project Participant
5	NTPC Limited	Emission reduction Sheet for project Activity titled “5 MW Solar PV Power Project at NTPC-Dadri, a Business unit of NTPC limited”, Version 01 dated 13/05/2014.	Version 01 dated 07/05/2014	Project Participant
6	NTPC Limited	Emission reduction Sheet for project Activity titled “5 MW Solar PV Power Project at NTPC-Dadri, a Business unit of NTPC limited”, Version 02 dated 18/03/2015.	Version 02 dated 18/03/2015.	Project Participant
7	NTPC Limited	Emission reduction Sheet for project Activity titled “5 MW Solar PV Power Project at NTPC-Dadri, a Business unit of NTPC limited”, Version 03 dated 05/10/2015.	Version 03 dated 05/10/2015.	Project Participant
8	NTPC Limited	CDM-PDD of the Project Activity titled Emission reduction Sheet for project Activity titled “5 MW Solar PV Power Project at NTPC-Dadri, a Business unit of NTPC limited”, Version 04 dated 13/12/2012	Version 04 dated 13/12/2012 Version 05 dated 05/10/2015 <a href="https://cdm.unfccc.int/filestorage/z/z/ZS1YEL0G9PFR3Q2UVM5XWB7KODI4NA.pdf/PDD%20final%20version%204.0%2013122012?t=eTJ8bnlkMGpufDBLZtDBN1dc4edpvsy4WVQ">https://cdm.unfccc.int/filestorage/z/z/ZS1YEL0G9PFR3Q2UVM5XWB7KODI4NA.pdf/PDD%20final%20version%204.0%2013122012?t=eTJ8bnlkMGpufDBLZtDBN1dc4edpvsy4WVQ</a>	Others
9	RINA	Validation report for the project	Report No. Report No. 2012-IQ-	Others

	Services S.p.A. (RINA)	activity "5 MW Solar PV Power Project at NTPC-Dadri, a Business unit of NTPC limited", Report No. 2012-IQ-44-MD dated 28/12/2012	44-MD dated 28/12/2012 <a href="https://cdm.unfccc.int/filestorage/t/z/W0NLZQUTFCVMR7OBX8J23EKDP196GA.pdf/FVR_2012IQ44MD_1_1_28122012Aa.pdf?t=b218bnlkMGxqfDA4qPbtBMCIM1co-uUDYH9j">https://cdm.unfccc.int/filestorage/t/z/W0NLZQUTFCVMR7OBX8J23EKDP196GA.pdf/FVR_2012IQ44MD_1_1_28122012Aa.pdf?t=b218bnlkMGxqfDA4qPbtBMCIM1co-uUDYH9j</a>	
10	CDM-EB	AMS-I.D, Version 17. Approved Baseline Methodology used is "Grid-connected renewable electricity generation" dated 03/06/2011	AMS-I.D, Version 17, dated 03/06/2011  <a href="https://cdm.unfccc.int/filestorage/V/9/L/V9LRSXKP24Q7YT6HZDUBO3C0ING8AJ.1/EB61_repan17_Revision_AMS-I.D_ver17.pdf?t=Umd8bnlkMHB0fDDjPPIQN2yRgLS0gg3YKbA9">https://cdm.unfccc.int/filestorage/V/9/L/V9LRSXKP24Q7YT6HZDUBO3C0ING8AJ.1/EB61_repan17_Revision_AMS-I.D_ver17.pdf?t=Umd8bnlkMHB0fDDjPPIQN2yRgLS0gg3YKbA9</a>	Others
11	CDM-EB	Clean Development Mechanism Validation and Verification Standard, Version 09.0, dated 20/02/2015, Annex 14 of EB 82	Version 09.0, dated 20/02/2015, Annex 14 of EB 82 <a href="http://cdm.unfccc.int/filestorage/e/x/t/extfile-20150225165216290-accr_stan02.pdf/accr_stan02.pdf?t=Nmp8bnhidjNmfdDPZGyNUDURWPvaQzgiwZIT">http://cdm.unfccc.int/filestorage/e/x/t/extfile-20150225165216290-accr_stan02.pdf/accr_stan02.pdf?t=Nmp8bnhidjNmfdDPZGyNUDURWPvaQzgiwZIT</a>	Others
12	CDM-EB	Clean Development Mechanism Project Standard, Version 09.0, dated 20/02/2015, Annex 13 of EB 82	Version 9.0, dated 20/02/2015, Annex 13 of EB 82 <a href="http://cdm.unfccc.int/sunsetcms/storage/contents/stored-file-20150225165159970/reg_stan01.pdf">http://cdm.unfccc.int/sunsetcms/storage/contents/stored-file-20150225165159970/reg_stan01.pdf</a>	Others
13	CDM-EB	Monitoring Report Form (F-CDM-MR), Version 05.1, dated 04/05/2015	Version 05.1, dated 04/05/2015 <a href="https://cdm.unfccc.int/filestorage/e/x/t/extfile-20150502195215044-iss_form07.pdf/iss_form07.pdf?t=STd8bnhidmdqfDBWSppiudZ2Q6xwLGLwv37g">https://cdm.unfccc.int/filestorage/e/x/t/extfile-20150502195215044-iss_form07.pdf/iss_form07.pdf?t=STd8bnhidmdqfDBWSppiudZ2Q6xwLGLwv37g</a>	Others
14	CDM-EB	Clean Development Mechanism Project Cycle Procedures (PCP), Version 09.0, Annex 15 of EB 82.	Version 09.0 , Annex 15 of EB 82. <a href="https://cdm.unfccc.int/filestorage/e/x/t/extfile-20150226145114663-pc_proc01.pdf/pc_proc01.pdf?t=UXp8bnhidmlqfDDb1L7xLLJ8mUKiJid2nZ3d">https://cdm.unfccc.int/filestorage/e/x/t/extfile-20150226145114663-pc_proc01.pdf/pc_proc01.pdf?t=UXp8bnhidmlqfDDb1L7xLLJ8mUKiJid2nZ3d</a>	Others
15	NTPC Limited	NRPC Monthly Energy generation Report (Break-Up of net exported units) in respect of 5.0MW Solar PV project in NTPC Dadri, by NTPC Limited from March 2013 to March 2014	March 2013 to July, 2014	Project participant
16	NTPC Limited	Copy of invoices raised to GRIDCO Ltd. in respect of 5.0 MW Solar PV project by NTPC from March 2013 to March, 2014	March 2013 to March, 2014	Project participant
17	NTPC Limited	Power Purchase Agreement between NTPC Limited and GRIDCO Limited dated 26/04/2011.	Dated 26/04/2011	Project participant

18	AGM, (O&M), Dadri Gas Power Station, NTPC Dadri	Letter to Chief Manager, NRLDC for declaring commercial operation of 5.0MW Solar PV project, dated 29/03/2013	Ref. No. 01:CC:717 dated 29/03/2013	Project Participant.
19	NTPC Limited	Corporate HR Circular No. 710/2012 for De-Layering of Organization Hierarchy	Ref. No. 01HR Wages 31C dated 21/08/2012	Project Participant
20	NTPC Limited	Notification of Award for Development of 5MW Solar PV Plant at NTPC dadri	NOA No.:CS-5701-004 (R) -9-FC-NOA-5670 NOA No.:CS-5701-004 (R) -9-FC-NOA-5671 Dated 07/03/2012	Project Participant
21	AGM (EMGP), Dadri Gas Power Station, NTPC Limited	Declaration Letter from NTPC Limited for Energy Meters installed at project site regarding factory calibration of meters, regarding validity of calibration and meters were not used before installing at project site and procedures for metering in case of failure of main and check meter	Dated 12/03/2015	Project Participant
22	Larsen & Toubro Limited.	Electronic Trivector Meter Calibration Report for energy meter (main) with serial number NP6615A, dated 29/12/2007	Dated 29/12/2007	Project Participant
23	Larsen & Toubro Limited.	Electronic Trivector Meter Calibration Report for energy meter (main) with serial number NP6624A, dated 29/12/2007	Dated 29/12/2007	Project Participant
24	NTPC Limited	Copy of billing break-up for main equipment under first contract no. CS-5701-004 (R) - 9-FC-NOA-5670, dated 07/03/2012	Document No. CS-5701-00(R)-9-FC-BBU-E dated 17/07/2012	Project Participant
25	WIPRO Enterprises Limited	Declaration letter for the solar PV tolerance, dated 13/11/2014	Ref. No. NTPC-ENGG-452	Project Participant

26	NTPC Limited	Declaration for calibration frequency of meters, dated 02/06/2014	Ref. No. Dadri Solar/EEMG/COMM.MTR/01, dated 02/06/2014	Project Participant
27	Larsen & Toubro Limited.	Electronic Trivector Meter Calibration Report for energy meter Check Meter at 33 KV with serial number 02047842, dated 25/07/2012	Dated 25/07/2012	Project Participant
28	NTPC Limited	Copies of Weekly generation reports sent to NRLDC through Email from 01/04/2013 to 31/03/2014		Project Participant
29	NTPC Limited	Meter Reading from 29/03/2013 to 31/03/2014	Excel sheet converted from DAT files	Project Participant
30	NTPC Limited	Single line diagram of solar plant, Rev R 3 dated 05/06/2012	Rev R 3 dated 05/06/2012	Project Participant
31	NTPC Limited	Training office order dated 19/09/2013, 16/11/2013, 02/01/2014, 16/01/2014,	Dated 19/09/2013, 16/11/2013, 02/01/2014, 16/01/2014,	Project Participant

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

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

No FAR was seen from validation report of the project activity

<b>FAR ID</b>	xx	<b>Section no.</b>	E.2	<b>Date:</b> DD/MM/YYYY
<b>Description of FAR</b>				
<b>Project participant response</b>				<b>Date:</b> DD/MM/YYYY
<b>Documentation provided by project participant</b>				



<b>DOE assessment</b>	<b>Date:</b> DD/MM/YYYY

Table 2. CL from this verification

<b>CL ID</b>	01	<b>Section no.</b>	A.1	<b>Date:</b> 03/07/2014
<b>Description of CL</b>				
During the site visit, PP has shown the trial run certificate of project activity issued by Wipro Limited. As per trial run certificate, trial run was conducted from 24/10/2013 to 31/10/2014 whereas commercial operation of project activity was declared on 30/03/2014. Thus, it is not clear why trial run was conducted after more than six month from commercial declaration of project activity. PP is requested to clarify the same.				
<b>Project participant response</b>				<b>Date:</b> 18/03/2015
The trial run conducted from 24.10.2013 to 31.10.2013 was to meet the internal requirement of NTPC to prove that the harmonics problem developed post COD (Commercial Operation Date) was resolved after installation of filters.				
<b>Documentation provided by project participant</b>				
Monitoring Report version 3.0 dated 05/10/2015				
<b>DOE assessment</b>				<b>Date:</b> 02/07/2015
The PP has explained that the trial run of the project activity conducted between 24/10/2013 to 31/10/2013 was for the internal requirement of the NTPC to check whether harmonics generated by plant was resolved after installing filters. The verification team accepted the explanation of PP and hence closed the CL. Thus CL is closed.				

<b>CL ID</b>	02	<b>Section no.</b>	ER sheet, E.1 of MR.	<b>Date:</b> 03/07/2014
<b>Description of CL</b>				
PP is requested to provide supportive document for initial and final reading as mentioned in ER excel spreadsheet and also supportive document for meter record as mentioned in section E.1 of monitoring report.				
<b>Project participant response</b>				<b>Date:</b> 18/03/2015
All SEM downloaded data (month-wise) given in excel sheet. As data downloaded from the meter are in DAT file that can only be read by the L&T software "WinCom" and the same DAT file is sent to NRLDC for Energy accounting. The DAT files are converted into Excel using Software. From these converted Excel files ER sheet is prepared. The converted Excel files are given to Verification Team enclosed as annex-4.				
<b>Documentation provided by project participant</b>				
The revised ER sheet, Annex-4 Solar-Actual Generation-2013-14.				
<b>DOE assessment</b>				<b>Date:</b> 02/07/2015
The justification provided for initial and final meter reading is not adequate to the comment raised. PP is requested to provide adequate response.				
<b>Project participant response</b>				<b>Date:</b> 05/10/2015
DAT files converted into Excel using L&T software "WinCom" for main meter NP-6624-A is enclosed as Annex-10 having initial and final meter readings highlighted in yellow colour.				
<b>Documentation provided by project participant</b>				
Annex-10 Main Meter NP-6624-A reading				
<b>DOE assessment</b>				<b>Date:</b> 30/10/2015
PP has provided the DAT files for main meter having initial and final reading for each month during the monitoring period. The assessment team has reviewed the DAT file as provided in the form of excel spreadsheet and found correct, hence accepted. Thus CL is closed.				

<b>CL ID</b>	03	<b>Section no.</b>	ER sheet	<b>Date:</b> 03/07/2014
<b>Description of CL</b>				
PP is requested to submit the weekly reports submitted to the NRLDC for this monitoring period.				
<b>Project participant response</b>				<b>Date:</b> 18/03/2015
The weekly report submitted to NRLDC is given to Verification Team. Copy of Weekly report is enclosed as annex 5 .				
<b>Documentation provided by project participant</b>				
Annex 5 Weekly Reports (converted from DAT file as shown in annex 5.1).				
<b>DOE assessment</b>				<b>Date:</b> 02/07/2015
The PP has submitted the excel file converted from DAT file from March 2013 to March 2014. These files indicate the daily and monthly generation from project activity. However, the weekly reports submitted to NRLDC not submitted yet.				
<b>Project participant response</b>				<b>Date:</b> 05/10/2015
Emails as a proof for submission of weekly report to NRLDC is enclosed as Annex-11. Revised Annex-5 having daily generation data sent to NRLDC in weekly report form is also enclosed..				
<b>Documentation provided by project participant</b>				
Annex-11 NRLDC Emails Revised Annex-5				
<b>DOE assessment</b>				<b>Date:</b> 30/10/2015
Daily generation data sent to NRLDC in weekly report form has been provided. PP has provided the emails to NRLDC for submission of weekly report during the monitoring period. The assessment team has checked the emails and found correct. Hence accepted and closed out. CL is closed.				

<b>CL ID</b>	04	<b>Section no.</b>	ER sheet, E.1 of MR.	<b>Date:</b> 03/07/2014
<b>Description of CL</b>				
It was informed by PP that during night time project activity imports power from grid whereas import values are shown zero in MR and Emission Reduction sheet. PP is requested to clarify the same.				
PP is requested to submit the copies of invoices for the electricity supplied to GRIDCO in each month considered in current monitoring period.				
PP is requested to clarify why calculated values for net electricity supplied to grid are provided in table under section D.2 of MR. Further, unit mentioned under ' <i>values of monitored parameter</i> ' is not appropriate.				
<b>Project participant response</b>				<b>Date:</b> 18/03/2015
The export meter is showing net energy meter reading, which include the difference of export-import energy (refer Annex-4). MR has been corrected accordingly. Revised MR in Version 2.0 is enclosed.				
The copies of invoices for the electricity supplied to GRIDCO in each month considered in current monitoring period are submitted to verification team. Copies of invoices from March, 2013 to March, 2014 for the electricity supplied to GRIDCO in each month are enclosed as annex-7.				
Measured value of net electricity delivered to grid is provided in table under Section D.2 of Revised MR Version 2.0. Calculated value deleted. Further, unit mentioned under ' <i>values of monitored parameter</i> ' has been corrected for monitored parameter in revised MR Version 2.0. Revised MR in version 2.0 is enclosed as Annex-A.				
<b>Documentation provided by project participant</b>				
Annex-7 Invoices along with generation data 2013-14/Generation data against which Invoice generated 2013-14. Annex-A Revised MR in version 2.0				
<b>DOE assessment</b>				<b>Date:</b> 02/07/2015
PP has clarified that energy meter shows net energy reading which includes difference of exports and imports which is acceptable. The PP has clarified that the meter installed at site is able to provide the net electricity delivered to grid which found to be acceptable and also verified with DAT format data provided in converted excel files. PP has provided invoice and same has been checked and found to be correct. PP has deleted calculated value for net electricity supplied in table in section D.2 which is acceptable as actual value of net electricity supplied is mentioned. Units mentioned under value of monitored parameter has				

been correct. The same has been checked and found to be correct. Hence, accepted.	
CL is opened due to ITR comment	
Value mentioned in invoice for November 2013 is not matching with the value mentioned in ER sheet	
<b>Project participant response</b>	22/12/2015
The invoices are raised on provisional basis as the energy accounting updated by REA is delayed by 7 to 14 days so there is the probability of difference in energy billed in the invoices with the energy metered. The difference is adjusted at the end of Financial Year (FY) by raising debit and credit note for difference in energy that is not mentioned in invoice. This is the continuous and agreed process of billing.	
<b>Documentation provided by project participant</b>	
<b>DOE assessment</b>	27/12/2015
The justification provided by PP on value mentioned in invoice for November 2013 not matching with the value mentioned in ER sheet, is acceptable to verification team as PP has clarified that the energy accounting updated by REA is delayed by 7 to 14 days so there is the probability of difference in energy billed in the invoices with the energy metered. PP has mentioned that the difference is adjusted at the end of Financial Year (FY) by raising debit and credit note for difference in energy that is not mentioned in invoice which is a continuous and agreed process of billing. Hence, accepted.	
Hence CL is closed.	

<b>CL ID</b>	05	<b>Section no.</b>	Section C of MR.	<b>Date:</b> 03/07/2014
<b>Description of CL</b>				
During the interview of various officials at site visit it was observed that head of solar plant is AGM (EEMG Gas) not DGM (EM GP). PP is requested to clarify the same.				
<b>Project participant response</b>				<b>Date:</b> 18/03/2015
Head of Solar plant is same. Due to delayering of organization, the DGM has been re-designated as AGM (refer annex-9 regarding De-layering of organizational hierarchy)				
<b>Documentation provided by project participant</b>				
Annex-9 Corporate HR Circular No. 710/2012 dated 21.08.2012				
<b>DOE assessment</b>				<b>Date:</b> 02/07/2015
The PP has clarified that the head of the solar plant is same as mentioned in registered PDD. PP has submitted NTPC Corporate HR Circular No. 710/2012 dated 21/06/2012 which clearly indicated that de-layering of organization hierarchy. As per this circular DGM post has been revised to AGM. PP has included same under post registration change which has been checked and found to be correct , hence, accepted.				
CL is closed.				

Table 3. CAR from this verification

<b>CAR ID</b>	01	<b>Section no.</b>	Section A.1, A.2 of MR.	<b>Date:</b> 03/07/2014
<b>Description of CAR</b>				
Following are the observations based on-site visit and document review. PP is request to explain the following:				
<ol style="list-style-type: none"> <li>1. The geographical coordinates of project mentioned in registered PDD are not matching with the geographical coordinates taken by verification team during on-site visit. Thus, PP is requested to explain the same.</li> <li>2. The total number of PV module installed at site is 20,856 where in Notification of Award (NOA)</li> </ol>				

dated 07/03/2012 issued to WIPRO Eco Energy Limited, the no. of modules were mentioned as 20,832. Thus, PP is requested to explain the difference in number of PV Module installed at site and no of PV Module mentioned in NoA.

The rated capacity of the PV module mentioned in registered PDD and MR is 240Wp. However, during the site visit, verification team has checked the rated capacity of PV Module on sample basis and noticed that PV module of 241 Wp, 243.5 Wp, 241.2 Wp, 241.6 Wp, 243.9 Wp, 240.5 Wp, 241.5 Wp, 242.8 Wp, 242.4 Wp and 245 Wp were also installed along with 240 Wp. Thus, PP is requested to explain the total capacity of project activity with supportive evidences and provide details of capacity of PV Module actually installed at site.

**Project participant response****Date:** 18/03/2015

1. Correct geographical coordinates have been provided in revised MR in Version 2.0 dated 18/03/2015. Revised MR Version 2.0 is enclosed as Annex-A. Moreover, the geographical coordinates also corrected in the registered PDD. Revised PDD in Version 5.0 is also enclosed as Annex-B with revised geographical coordinates in clean & track change mode.
2. As per Notification of Award (NOA) dated 07.03.2012 issued to WIPRO Eco Energy Limited, the total no. of PV module was mentioned as 20832. However after detailed engineering by Wipro, the no. of PV module was revised to 20856. The no of revised PV module can be cross checked by billing break-up dated 17/07/2012 which is submitted as annex 2 & 2.1 to DOE. . Moreover, The increase no. of module from 20832 to 20856 does not impact the total capacity of project activity which remains same i.e. 5 MWp.
3. Capacity of each solar module was checked after manufacturing. As characteristic of Solar cell, soldering & other components are slightly different from each other, so no two modules can be identical. As we have taken only positive tolerance so module ratings are slightly different i.e. 241.5, 240.5 etc. (refer annex 3) However, there is no change in capacity. Capacity of the plant remains same i.e. 5 MW.

**Documentation provided by project participant**

Annex A- Revised MR in version 2.0

Annex B Revised PDD in Version 5.0 in clean and track mode

Annex 1 Extract of Notification of Award

Annex 2 Billing breakup doc no. CS-5701-004(R) -9-FC-BBU-E Dt 17.07.2012

Annex-2.1 Drg No. WEE-1187-PVE-P-071

Annex 3 Clarifications of the Solar Module tolerances.

**DOE assessment****Date:** 02/07/2015

1. In section A.2 of revised MR, PP has mentioned the correct geographical coordinates of 5MW Solar power plant installed in NTPC Dadri. The verification team has checked these geographical coordinate with the geographical coordinates taken during the site visit and found to be correct. Further, PP has also mentioned the correct geographical coordinates in registered PDD. PP has also submitted the revised PDD in latest available CDM-PDD-Form, version 05.0. The same has been checked and found to be correct.
2. The PP has explained that the no of PV module was increased from 20832 to 20856 due to a detailed engineering done by Wipro Eco Energy after the awarding of notification 07/03/2012. The same is acceptable to the verification team and the revision in number does not have any impact on the total capacity of the project activity. The revision in no of PV module has also verified with Billing Break-up dated 17/07/2012 and found to be correct.
3. The PP has submitted a letter dated 13/11/2014 from Wipro mentioning that the capacity of PV module installed in project activity is within the range of 240Wp to 245Wp considering positive tolerance . The verification team has checked the positive tolerance during on-site visit and hence the capacity of PV module is found to be in line with registered PDD. Hence, accepted.

CAR is closed.

<b>CAR ID</b>	02	<b>Section no.</b>	Section A.1, A.2, D.1 of MR	<b>Date:</b> 03/07/2014
<b>Description of CAR</b>				
The following information is not provided in the MR as required by guideline for completing the monitoring report form, version 04.0:				

1. Relevant dates for the project activity such as construction, commissioning date continued operation periods in not mentioned in section A.1 of MR.
2. Total GHG emission reductions achieved in this monitoring period in not mentioned in section A.1 of MR.
3. Host party is not mentioned in section A.2 of MR.
4. Complete details are not provided in section B.1 of MR on technology implemented.
5. The Table provided under section D.1 of MR is not in line with table format provided in monitoring report form version 03.2.
6. Complete information is not mentioned in various sub sections of section B.2 of MR.
7. In line with para 248 (b) of CDM Project standard, relevant dates such as construction, commissioning dates and continued operation is not mentioned in section B. 1 of monitoring report.
8. The map provided in section A.2 of monitoring report does not depict state and district where project activity is located.

**Project participant response****Date:** 18/03/2015

The Monitoring Report (MR) has been prepared in the latest Version 4.0.

1. Section A.1 of MR has been updated for relevant dates for the project activity such as construction, commissioning date, continued operation periods. Revised MR Version 2.0 is enclosed as Annex-A.
2. Section A.1 of MR has been updated for total GHG emission reductions achieved in this monitoring period. Revised MR Version 2.0 is enclosed as Annex-A.
3. Section A.2 of MR has been updated by Host Party INDIA. Revised MR Version 2.0 is enclosed as Annex-A.
4. Section B.1 of MR has been updated. Revised MR Version 2.0 is enclosed as Annex-A.
5. Section D.1 of MR is updated in line with table format provided in monitoring report form version 05.1. Revised MR in latest format i.e. version 05.1 is enclosed as Annex-A.
6. Various sub sections of section B.2 of MR has been updated. Revised MR Version 2.0 is enclosed as Annex-A.
7. Section B.1 of MR has been updated with relevant dates such as construction, commissioning dates and continued operation in line with para 248 (b) of CDM Project standard. Revised MR Version 2.0 is enclosed as Annex-A.
8. Section A.2 of MR has been updated with revised map. Revised MR Version 2.0 is enclosed as Annex-A.

**Documentation provided by project participant**

Annex A- Revised MR in version 4.0

**DOE assessment****Date:** 02/07/2015

1. Relevant dates such as construction i.e. project start date, commissioning date of project activity, CDM registration date has been mentioned in section A.1 of revised MR. The same has been checked from the documents provided. Hence, accepted.
2. The PP has mentioned the total GHG emission reductions achieved in this monitoring period from the project activity in section A.1 of revised MR. The same has been checked and found to be correct.Hence, accepted.
3. The name of Host party involved in the project activity has been mentioned in section A.2 of revised

MR. India is the host party involved in the project activity. Hence, accepted.	
4. The PP has provided the implementation status of the project activity during this monitoring period and the description of the installed technology (ies) in section B.2 of revised MR. The same has been checked and found to be correct. Hence, accepted.	
5. The Table provided under section D.1 of MR is still not in line with table format provided in monitoring report form version 05.0	
6. The PP has not mentioned corrections with registered PDD in section B.2 of revised MR.	
7. The PP has provided the various relevant dates such as construction i.e. project start date, commissioning date, CDM registration date in section B.1 of revised MR. The same has been checked from the documents provided. Hence, accepted	
8. The PP has provided map for state and district where project activity is located in section A.2 of revised monitoring. The same is found to be correct. Hence, accepted.	
<b>Project participant response</b>	<b>Date:</b> 05/10/2015
5. Section D.1 of MR is updated in line with table format provided in monitoring report form version 05.1. Revised MR Version 3.0 in latest format i.e. version 05.1 is enclosed as Annex-A.	
6. Section B.2 of revised MR Version 3.0 is updated with corrections and other deviations with registered PDD. Revised MR Version 3.0 is enclosed as Annex-A.	
<b>Documentation provided by project participant</b>	
Annex-A Revised MR version 3.0	
<b>DOE assessment</b>	<b>Date:</b> 30/10/2015
5. Section D.1 of MR is updated in line with the table format as per the monitoring report form version 5.1. The assessment team has checked the MR and found that the information as available in Monitoring report are in line with the Monitoring report template form and hence accepted and closed out.	
6. PP has now provided the corrections in geographical coordinates and redesignation of DGM as AGM	
7. in respect with the registered PDD in revised Monitoring report. The assessment team has checked the Monitoring report and found it transparently discussed under section B.2 of the revised MR. Hence, the issue is closed out.	
CAR is closed.	

<b>CAR ID</b>	03	<b>Section no.</b>	Monitoring Report	<b>Date:</b> 03/07/2014
<b>Description of CAR</b>				
PP is requested to submit monitoring report in latest version 4.0 of monitoring report form.				
<b>Project participant response</b>				<b>Date:</b> 18/03/2015
Monitoring Report is submitted in latest version 4.0. Revised MR Version 4.0 is enclosed as Annex-A				
<b>Documentation provided by project participant</b>				
Annex-A Monitoring Report in version 2.0				
<b>DOE assessment</b>				<b>Date:</b> 02/07/2015
The template of MR has been revised and version 05.1 is applicable after 01/04/2015 onwards. PP is requested to submit the revised MR in latest available template.				
<b>Project participant response</b>				<b>Date:</b> 05/10/2015
Revised MR version 3.0 in latest format i.e. version 05.1 is enclosed as Annex-A.				
<b>Documentation provided by project participant</b>				

Annex-A Revised MR version 3.0	
<b>DOE assessment</b>	<b>Date:</b> 30/10/2015
PP has now provided the revised MR in latest available Monitoring report template form as available in UNFCCC. The assessment team has checked the Monitoring report and found it in compliance with latest available Monitoring report template form, hence accepted and closed out.	
Thus CAR is closed.	

<b>CAR ID</b>	04	<b>Section no.</b>	Section D.2 of MR.	<b>Date:</b> 03/07/2014
<b>Description of CAR</b>				
As per the registered PDD, two no. of export energy meter (Joint Energy Meter, JEM) would be installed at 33 kV by PGCIL. One would be main meter and another is check meter. Moreover, during the site visit it was observed that one main meter (Sr. No. NP-6624-A) has been installed at 33 kV by PGCIL. One more meter (Sr. No. 02047842) was also observed at 33 kV which is installed by NTPC for their internal purpose. However, there is no check meter installed by PGCIL at 33 kV as observed during the site visit. Thus, PP is requested to explain the same.				
Hourly measurement as per requirement of methodology is not mentioned in monitoring report and also in PDD.				
<b>Project participant response</b>				<b>Date:</b> 18/03/2015
NTPC installed two energy meters at 33 KV line, one is main meter and other is check meter. It is installed on behalf of M/s PGCIL. Both meters are L&T make of same accuracy class 0.2 S & Type. Apart from these two meters, there is one standby meter at 220 KV. The main meter reading is used for invoice to GRIDCO and for calculating emission reduction whereas check meter is used for internal purpose for cross-checking main meter.				
As the electricity generated is measured in 15 minute block generation which includes hourly measurement also. The same has been mentioned in MR version 2.0 enclosed as Annex-A. The registered PDD had already contained the same.				
<b>Documentation provided by project participant</b>				
Annex-A Monitoring Report in version 2.0				
<b>DOE assessment</b>				<b>Date:</b> 02/07/2015
The PP has explained that two energy meters (i.e. main and check) are installed at 33kV line for monitoring the generation from 5MWp solar project. Both the meters are having 0.2 accuracy and same make i.e. L&T ERP 300P. The serial number of main and check meters are NP 6624-A and (Sr. No. 02047842) respectively. During the on-site visit verification team has checked the installation of two meters at 33kV line and one standby meter at 220kV sub-station (NP6615-A) and hence accepted the explanation provided by PP on meters installed at 33kV and 220kV.				
The PP has explained that electricity generation from project activity is being monitored in 15 minute blocks which include hourly measurement. Hence, requirement of hourly measurement is satisfied with the 15 minutes block wise measurement since it is a conservative approach compare to hourly measurement. Hence, accepted.				
Thus CAR is closed.				

<b>CAR ID</b>	05	<b>Section no.</b>	ER sheet, Section D.2 of MR.	<b>Date:</b> 03/07/2014
<b>Description of CAR</b>				
The value of $EG_{BL,y}$ provided in table under section D.2 of MR is not matching with the value of $EG_{BL,y}$ provided in ER sheet. Further, Calculation method provided in table under section D.2 of MR is not correct.				
The emission reduction value provided in ER sheet is not rounded down.				
<b>Project participant response</b>				<b>Date:</b> 18/03/2015

<p>The value of <math>EG_{BL,y}</math> has been corrected in Section D.2 of revised MR which is in line with the value of <math>EG_{BL,y}</math> provided in ER sheet.</p> <p>Calculation method for measurement of net electricity delivered to the grid has been updated in table under section D.2 of MR. Revised MR in version 2.0 is enclosed as Annex-A.</p> <p>The emission reduction value provided in ER sheet is also rounded down. Revised ER sheet is enclosed as Annex-6.</p>	
<b>Documentation provided by project participant</b>	
Annex-6 Revised ER sheet Annex-A Revised MR in version 2.0	
<b>DOE assessment</b>	<b>Date: 02/07/2015</b>
<p>The value of <math>EG_{BL,y}</math> provided in table under section D.2 of MR is not matching with the value of <math>EG_{BL,y}</math> provided in ER sheet. Further, Calculation method provided in table under section D.2 of MR is not correct.</p> <p>Calculation method for measurement for net electricity delivered to the grid is still not correct.</p> <p>The emission reduction value mentioned in ER sheet has been rounded down. However, the emission reduction value in MR and ER sheet is still not matching.</p>	
<b>Project participant response</b>	<b>Date: 05/10/2015</b>
<p>The value of <math>EG_{BL,y}</math> is corrected in Section D.2 of revised MR which is in line with the value of <math>EG_{BL,y}</math> provided in ER sheet. Further, Calculation method provided in table under section D.2 of MR is also corrected. Revised MR version 3.0 is enclosed as Annex-A.</p> <p>Calculation method for measurement of net electricity delivered to the grid has been updated in table under section D.2 of MR. Revised MR version 3.0 is enclosed as Annex-A.</p> <p>Emission reduction value in MR and ER sheet is corrected and now matching. Revised ER sheet as Annex-6 and Revised MR version 3.0 as Annex-A are enclosed.</p>	
<b>Documentation provided by project participant</b>	
Annex-6 Revised ER sheet Annex-A Revised MR version 3.0	
<b>DOE assessment</b>	<b>Date: 30/10/2015</b>
<p>The value of <math>EG_{BL,y}</math> is now corrected in Section D.2 of revised MR which is found in line with the value of <math>EG_{BL,y}</math> provided in ER sheet. The assessment team has checked the MR and found it correct. Further, Calculation method provided in table under section D.2 of MR is also corrected by the PP. The assessment team has reviewed the MR and found it correct and consistent with ER calculation sheet. Hence accepted.</p> <p>PP has revised the calculation method for measurement of net electricity delivered to the grid in table under section D.2 of MR. The assessment team has checked the revised MR and found it correct.</p> <p>Emission reduction value in MR and ER sheet is corrected. The assessment team has checked the revised MR and ER and found the information correct and consistent, hence accepted.</p> <p>Thus, CAR is closed.</p>	

<b>CAR ID</b>	06	<b>Section no.</b>	ER sheet, Section D.2 of MR.	<b>Date:</b> 03/07/2014
<b>Description of CAR</b>				
As observed during the site visit, the value of net electricity export mentioned in the report submitted to Northern Region Load Dispatch Centre (NRLDC), report received from Northern Regional Power Committee (NRPC) and net electricity export data mentioned in SAP are not matching. PP is requested to explain the				



same with supportive evidences.	
<p>The PP has mentioned electricity exported/imported to/from grid for January, February and March 2013 in MR and ER sheet as Zero in ER sheet. However, the formula used for summation of electricity exported/imported to/from grid for the monitoring period does not include electricity data for the January, February and March 2013 even though the values are mentioned as zero.</p>	
<b>Project participant response</b>	<b>Date:</b> 18/03/2015
<p>The value of net electricity export mention in NRLDC report, NRPC report and SAP report are provided in separate table which is submitted to DOE. The values are consistent. NRLDC weekly report, NRPC report and SAP /REA report are enclosed as annex-4, annex-5 &amp; 5.2.</p> <p>The formula used for summation of electricity exported to grid for monitoring period has been corrected in revised ER sheet. Revised ER sheet is enclosed as Annex-6</p>	
<b>Documentation provided by project participant</b>	
<p>Annex-4 Actual Generation for NRPC  Annex-5 Generation data to NRPC(REA)/ Net Export data downloaded from site  Annex 5.2 Weekly data furnished to NRLDC  Annex-6 Revised ER sheet</p>	
<b>DOE assessment</b>	<b>Date:</b> 02/07/2015
<p>The PP has submitted the converted excel file from DAT format from March 2013 to March 2014. These files do not provide detail of the NRLDC and SAP. PP is requested to submit the revised excel sheet indicating NRLDC and SAP detail about electricity exported to grid from project activity.</p> <p>The PP has included the electricity exported/imported to/from grid for January, February and March 2013 in the formula used for summation of electricity exported/imported to/from grid for the monitoring period, The project was declared commercially operation from 30/03/2013 hence the data for electricity generation for the January, February are mentioned as zero. PP has provided electricity generation from March, 2013 onward which found to be correct as project commissioned on 30/03/2013. Hence accepted.</p>	
<b>Project participant response</b>	<b>Date:</b> 05/10/2015
<p>Revised Annex-5 having daily generation data sent to NRLDC in weekly reports along with SAP data is also enclosed.</p>	
<b>Documentation provided by project participant</b>	
<p>Revised Annex-5</p>	
<b>DOE assessment</b>	<b>Date:</b> 30/10/2015
<p>PP has provided the daily generation data sent to NRLDC in weekly report. PP has also provided the SAP data as available.</p> <p>The Assessment team has checked the SAP data and found it consistent with the weekly data sent to NRLDC, hence accepted. In order to calculate the emission reductions, the minimum value from 33KV main meter, NRPC data and invoice for the net electricity exported to the grid have been taken which is conservative and acceptable.</p> <p>Thus CAR is closed.</p>	

<b>CAR ID</b>	07	<b>Section no.</b>	ER sheet, Section E.5 of MR.	<b>Date:</b> 03/07/2014
<b>Description of CAR</b>				
<p>The value of estimated emission reduction for current monitoring period mentioned in section E.5 of MR is not matching with estimated amount of emission reductions for current monitoring period mentioned on cover page (page 1) of MR.</p>				
<b>Project participant response</b>				<b>Date:</b> 18/03/2015
<p>The value of estimated emission reduction for current monitoring period mentioned has been updated in section E.5 and page (1) of MR.</p> <p>However, the value of estimated emission reduction for current monitoring period (01.01.2013 to 31.03.2014) mentioned in section E.5 of MR is changed from 6714 to 8608. The same has been incorporated in page 1 of MR version 2.0. Revised MR in version 2.0 is enclosed as Annex-A.</p>				
<b>Documentation provided by project participant</b>				

Annex-A Revised MR in version 2.0	
<b>DOE assessment</b>	<b>Date:</b> 02/07/2015
<p>The emission reduction value in revised MR and ER sheet is still not matching.</p> <p>Estimated amount of GHG emission reductions or net anthropogenic GHG removals by sinks for this monitoring period in the registered PDD, mentioned in front page of MR is not matching with the estimated ER by project activity in registered PDD.</p>	
<b>Project participant response</b>	<b>Date:</b> 05/10/2015
<p>Emission reduction value in MR and ER sheet is corrected and now matching. Revised ER sheet as Annex-6 and Revised MR version 3.0 as Annex-A are enclosed.</p> <p>Estimated amount of GHG emission reductions or net anthropogenic GHG removals by sinks for this monitoring period in the registered PDD, mentioned in front page of MR is corrected as 8369 (<math>6714 \times 455 / 365 = 8369.5</math> rounded down as 8369) for monitoring period from 01/01/2013 to 31/03/2014 and Revised MR version 3.0 is enclosed as Annex-A.</p>	
<b>Documentation provided by project participant</b>	
<p>Annex-6 Revised ER sheet</p> <p>Annex-A Revised MR version 3.0</p>	
<b>DOE assessment</b>	<b>Date:</b> 30/10/2015
<p>PP has revised the MR and ER sheet. The assessment team has checked the MR and ER sheet and found the values correct and consistent. PP has revised the estimated emission reductions as 8369 tCO<sub>2</sub>e which has been checked and found to be correct. Hence accepted.</p> <p>CAR is closed.</p>	

<b>CAR ID</b>	08	<b>Section no.</b>	ER sheet, Section E.5 of MR.	<b>Date:</b> 03/07/2014
<b>Description of CAR</b>				
<p>Factory calibration report is dated 29/12/2007. PP is requested to explain whether these meters were installed earlier at any other location prior to installation in NTPC and also clarify the validity of factory calibration.</p> <p>PP is requested to make it transparent in the MR whether any inconsistency with electrically adjacent meter was observed during this monitoring period and provide supporting documents. PP is also requested to clarify whether NRLDC reported any abnormality in reading during this monitoring period.</p> <p>As per PDD, it is written that any discrepancy in the REA data will be reported to the NRLDC for resolving the issue. It is observed that the meter reading and sales receipt data for April, 2013 is not matching. Thus, PP is requested to explain whether this discrepancy was informed to NRLDC and how it was resolved.</p>				
<b>Project participant response</b>				<b>Date:</b> 18/03/2015
<p>Meters were not installed / used earlier, meter performance checked jointly by NRLDC &amp; NTPC at the time of commissioned. Validity of calibration starts from the day of installation. As per CEA guidelines, meters are calibrated once in five years. Clarification letter regarding energy meters is enclosed as annex-8.</p> <p>No inconsistency with electrically adjacent meter was observed during this monitoring period. Revised MR is updated with same. Revised MR version 2.0 is enclosed. Till now no such abnormality observed by NRLDC. Revised MR in version 2.0 is enclosed as Annex-A.</p> <p>Conservative data between meter reading and invoice is considered for calculating emission reduction.</p>				
<b>Documentation provided by project participant</b>				
<p>Annex-A Revised MR in version 2.0</p> <p>Annex-8 Clarification letter regarding energy meters</p>				
<b>DOE assessment</b>				<b>Date:</b> 02/07/2015
<p>The PP has explained in revised MR that the meters installed at project site were factory calibrated on 29/12/2007 and not used earlier anywhere before installing at NTPC solar project site. The meters at project site were installed in March, 2013 and will be calibrated once in a five year i.e. March, 2018. Hence, the</p>				

calibration of meters not required for this monitoring period.

PP has made transparent in the MR that no inconsistency and abnormality in meter reading are observed with electrically adjacent meter during this monitoring period. Hence, accepted.

In order to calculate the emission reductions, the minimum value from 33KV main meter, NRPC data and invoice for the net electricity exported to the grid have been taken which is conservative and acceptable. Hence, accepted.

CAR is closed.

<b>CAR ID</b>	09	<b>Section no.</b>	ER sheet, Section D.2 of MR.	<b>Date:</b> 03/07/2014
<b>Description of CAR</b>				
It is not mentioned in MR which meter reading will be used for emission reduction and billing purpose in MR. Further, detail of meter such as type, serial number, accuracy, calibration frequency, date of last calibration and its validity for each meter is not mentioned in section D.2 of MR.				
<b>Project participant response</b>				<b>Date:</b> 18/03/2015
The project 33 KV main meter is used for billing /emission reduction. Same has been incorporated in revised MR version 2.0 enclosed as Annex-A.				
The project got commissioned in March 2013 and monitoring period is till March 2014. The meters are to be calibrated once in five years as per registered PDD and CEA rules. As this is the first Verification, the meters are factory calibrated mentioned in section D.2 of MR version 2.0 and installed on March 2013 and they were not used in between.				
Further, detail of meter such as type, serial number, accuracy, calibration frequency, date of last calibration and its validity for each meter is mentioned in section D.2 of MR in version 2.0 enclosed as Annex-A ..				
<b>Documentation provided by project participant</b>				
Annex-A Revised MR in version 2.0				
<b>DOE assessment</b>				<b>Date:</b> 02/07/2015
The PP has clarified in revised MR that reading of main meter installed at 33kV at project site will be used for calculating the emission reduction and billing purpose. The same is found to be in line with registered PDD and the actual practice is being carried out at site. Hence, accepted.				
PP has also provided the meter detail such as type, serial number, accuracy, calibration frequency, date of last calibration and its validity for each meter in section D.2 of revised MR which found to be correct. Further, PP has clarified that meters installed at project site were factory calibrated and as per calibration frequency mentioned in registered PDD, the meter will be calibrated once in a 5 years. Hence, no calibration is required for this monitoring period. Hence accepted.				
The CAR is opened due to ITR comments				
Complete details on calibration are not mentioned in table in section D.2 in MR				
PP is requested to submit the calibration certificate of check meter (Sr. No. 02047842) installed at project site				
<b>Project participant response</b>				<b>Date:</b> 22/12/2015
Complete detail of calibration date of meter has been mentioned in section D.2 of revised MR dated 22/12/2015, Version 4.0				
The calibration certificate of check meter (Sr. No. 02047842) is enclosed.				
<b>Documentation provided by project participant</b>				
Annex-A MR dated 22/12/2015 Version 4.0 is enclosed				

Calibration certificate of check meter (Sr. No. 02047842) is enclosed as annexure-12	
<b>DOE assessment</b>	27/12/2015
<p>The PP has provided the complete details of calibration of meters in section D.2 of the revised MR. The same has been checked and found to be correct, hence, accepted.</p> <p>The PP has submitted the factory calibration certificate of meter (Sr. No. 02047842) dated 25/07/2012. The meter (Sr. No. 02047842) is commissioned at proposed project site on 29/03/2013 and before commissioning the meter was not used anywhere. As per registered PDD, the meter at project will be calibrated once in a five year. Hence, the verification period covered the existing calibration certificate. Hence, accepted.</p> <p>Thus CAR is closed</p>	

<b>CAR ID</b>	10	<b>Section no.</b>	Section C of MR.	<b>Date:</b>	03/07/2014	
<b>Description of CAR</b>						
In line with para 250 of project standard, PP has not provided line diagram showing all relevant monitoring point, organizational structure, and emergency procedures for the monitoring system in section C of MR.						
<b>Project participant response</b>					<b>Date:</b>	18/03/2015
Section C of MR in version 2.0 is revised by incorporating metering arrangement showing all relevant monitoring points enclosed as Annex-A.						
Organizational structure is shown under operational and management structure of Section C of MR in version 2.0. However, due to delayering of organizational hierarchy the DGM has been re-designated as AGM, accordingly changes have been made.						
In case of failure of meters, energy accounting for the period shall be as per procedure laid down by CERC or as per the mutually agreed procedure. In case of absence of any such procedure, the following procedure shall be followed.						
In case of failure of main meter, reading of check meter for the corresponding period shall be considered for energy accounting. If both the main and check meter fail to record or if any of the PT fuses is blown out, energy shall be computed based on standby meters. In case of disputes, resolution shall be mutually discussed and amicably resolved within 90 days(this already mentioned in PDD document at page no.27)						
<b>Documentation provided by project participant</b>						
Annex-A Revised MR in version 2.0						
<b>DOE assessment</b>					<b>Date:</b>	02/07/2015
PP has provided the metering arrangement for the project activity in section C of revised MR which are in line with registered PDD and as observed during site. Further, PP has provided the organizational structure, and emergency procedures for monitoring system in section C of MR. The same is in line with para 250 of project standard, The same has been checked and found to be correct, hence, accepted.						
CAR is closed.						

<b>CAR ID</b>	11	<b>Section no.</b>	Section B of MR.	<b>Date:</b>	20/12/2015	
<b>Description of CAR</b>						
Complete details on corrections are not mentioned in section B 2.2 in MR.						
<b>Project participant response</b>					<b>Date:</b>	22/12/2015
Complete details on corrections in registered PDD have been mentioned in section B.2.2 of revised MR Version 4.0						
<b>Documentation provided by project participant</b>						
Annex-A Revised MR Dated 22/12/2015						
<b>DOE assessment</b>					<b>Date:</b>	27/12/2015
The PP has provided the complete details of corrections in registered PDD in section B.2.2 of revised MR. In the current monitoring period, corrections in geographical coordinates, and organization structure have						

been identified and the same are corrected in revised PDD and revised MR. These corrections do not affect design of the project. These corrections are as per para 1 of Appendix 1 of CDM project Standard and fall under the category of changes that do not require prior approval of the Board. Hence, accepted. Thus CAR is closed.

**Table 4. FAR from this verification**

No FAR identified from this verification.

<b>FAR ID</b>	xx	<b>Section No.</b>		<b>Date:</b> DD/MM/YYYY
<b>Description of FAR</b>				
<b>Project participant response</b>				<b>Date:</b> DD/MM/YYYY
<b>Documentation provided by project participant</b>				
<b>DOE assessment</b>				<b>Date:</b> DD/MM/YYYY

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### Document information

<i>Version</i>	<i>Date</i>	<i>Description</i>
01.0	23 March 2015	Initial publication.
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