



**Verification and certification report form for
CDM project activities
(Version 02.1)**

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

BASIC INFORMATION

Title and UNFCCC reference number of the project activity	Grid connected electricity generation using natural gas by Lanco Kondapalli Power Private Limited (UNFCCC reference number: 5554 ¹)
Version number of the verification and certification report	01
Completion date of the verification and certification report	24/07/2018
Monitoring period number and duration of this monitoring period	Monitoring period No.: 02 Monitoring period Duration: 01/01/2013 to 31/10/2015 (Inclusive of both days)
Version number of the monitoring report to which this report applies	02
Crediting period of the project activity corresponding to this monitoring period	05/09/2012 – 04/09/2022 (Fixed)
Project participants	M/s Lanco Kondapalli Power Private Limited
Host Party	India
Applied methodologies and standardized baselines	AM0029 ver. 3 - Baseline Methodology for Grid Connected Electricity Generation Plants using Natural Gas Standardized baseline: Not Applicable
Mandatory sectoral scopes linked to the applied methodologies	01
Conditional sectoral scope(s) linked to the applied methodologies	NA
Estimated amount of GHG emission reductions or GHG removals for this monitoring duration in the registered PDD	2,351,664 tCO ₂ e
Certified amount of GHG emission reductions or GHG removals for this monitoring period	450,821tCO ₂ e
Name and UNFCCC reference number of the DOE	LGAI Technological Center, S.A. (Applus+ Certification) UNFCCC reference number: E-0032

¹ <https://cdm.unfccc.int/Projects/DB/RWTUV1323884893.28/view>

Name, position and signature of the approver of the verification and certification report	Juan Sendín Caballero, Applus+ Certification BU Managing Director. 
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SECTION A. Executive summary

The scope of the project activity involves implementation and operation of a new natural gas fired grid connected Combined Cycle Power Plant (CCPP) of 366 MW capacity at Kondapalli near Vijayawada Andhra Pradesh by Lanco Kondapalli Power Private Limited (LKPPPL).

The proposed CCPP operates on Brayton Cycle (Compressor & Gas Turbine) at top and Rankine Cycle (Heat Recovery Steam Generator & Steam Turbine) at bottom. The power generated from the project activity is sold on merchant basis to the state utilities in Southern, Western & Northern India. The project employs state of the art technology with estimated project life of 20 years.

The project comprises of the following major equipment's

- One advanced F class, heavy duty, Gas turbine generator with a nominal output of about 234 MW at site condition and with Gas turbine Inlet air filter evaporative cooling system under operation.
- One Heat Recovery, natural circulation, three pressure vertical type Steam Generator
- One Steam Turbine Generator of around 132 MW (@ 30°C, 60% RH), multistage intermediate injection, condensing, type.

The project activity is designed to use natural gas as main fuel for power generation. Natural gas is sourced from the Krishna Godavari basin of Reliance Industries Limited (RIL). Gas Supply & Transportation Agreements have been executed with Reliance Industries Limited and Reliance Gas Transportation Infrastructure respectively, in this regard The power generated would be stepped up to 400 kV level by using 15/420 kV generator transformers. To enable the process a 400 kV Gas Insulated Switchgear (GIS) type substation is provided. A double circuit 400 kV transmission line has been proposed to export power to 400 kV receiving end substation of the Power Grid Corporation of India Limited (PGCIL) located at Nunna.

The project activity commenced Operation (COD achieved) on 01/08/2010.

The total emission reductions for the current monitoring period is 450,821tCO₂e.

The project location are described below along with the latitude and longitude:

The project site is located at Village – Kondapalli, Krishna, District of Andhra Pradesh. The Physical/ Geographical location: latitude 16°38'30.10" N and longitude 80°33'05.33" E)

The above details are checked by the assessment team during the verification site visit and latitude and longitude are also checked via google earth and GPS meters during the site visit. The detail also forms the part of Monitoring report and thus acceptable to the assessment team

Brief description of the installed technology and equipment's:

S.No	Equipment	Specifications	Special Features
1.	Gas Turbine Generator	Make : GE, USA GTG is of advanced class industrial heavy duty type (Model 9FA) with dry low NOx technology capable of operating in combined cycle mode, Nominal output capacity: 234 MW at site condition (Dry Bulb Temperature - 32 deg.C; Design Wet Bulb Temperature- 25 deg. C; Relative Humidity (RH) = 70%) Gas Turbine Speed: 3000 rpm	Low NOx technology along with state of the art cooling. Thermal efficiency close to 53 58% (LHV)
2.	Steam Turbine Generator	Make: Harbin, China One steam turbine generator of output Capacity 132 MW at site condition (Dry Bulb Temperature - 32 deg.C; Design Wet Bulb Temperature- 25 deg. C; Relative Humidity (RH) = 70%) Steam Turbine Speed: 3000 rpm	Multistage, intermediate injection, condensing type steam turbine State of the art DCS control system
3.	Heat Recovery Steam	Make: Thermax , India Capacity: HP/IP/LP Flow 282.79/ 42/34.26 TPH; temperature	<ul style="list-style-type: none"> • Horizontal flue gas flow and natural circulation. • HRSGs are designed

	Generator	567.3/567/286.6 ⁰ C; pressure 98.47/22.4/3.1 Bar	<p>with three pressure stages to improve thermal efficiency, against conventional two pressure stages for similar application.</p> <ul style="list-style-type: none"> • State of the art DCS control system.
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1. Verification Scope: The verification scope encompasses an independent and objective review and ex-post determination of the monitored reductions in GHG emissions by the DOE. The verification is based on the submitted monitoring report, the validated and registered PDD as well as its validation report, the applied monitoring methodology, relevant decisions, clarifications and guidance from the CMP and the EB and any other information and references relevant to the project activity's resulting emission reductions. These documents are reviewed against the requirements of the Kyoto Protocol, the CDM Modalities and Procedures and related rules and guidance. Based on the requirements in the VVS version 01 for the project activity, Applus+ Certification has applied a rule-based approach for the verification of the project. The principles of accuracy, completeness, relevance, reliability and credibility were combined with a conservative approach to establish a traceable and transparent verification opinion. The verification considers both quantitative and qualitative information on emission reductions. The verification is not meant to provide any consultancy towards the client. However, stated requests for clarifications, corrective and/or forward actions may provide input for improvement of the monitoring activities.

2. Methodology:

LGA Technological Center, S.A. (Applus+ Certification)' – Hereinafter referred as Applus+ Certification-approach to the verification is a two-stage process.

In the 1st stage, Applus+ Certification completed a strategic review and risk assessment of the projects activities and processes in order to gain a full understanding of:

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

Applus+ Certification used a periodical Verification Checklist which, based on the risk-based assessment of the parameters and data collection and handling processes for each of those parameters, describes the verification approach and the sampling plan.

3. Assessment team

According to the sectoral scope / technical area and experience in the sectoral or national business environment, LGA Technological Center, S.A. (Applus+ Certification) has composed a project assessment team in accordance with the appointment rules in the internal Quality Management System of LGA Technological Center, S.A. (Applus+ Certification).

The composition of audit team shall be approved by the LGA Technological Center, S.A. (Applus+ Certification) ensuring that the required skills are covered by the team.

The four qualification levels for team members that are assigned by formal appointment rules are as presented below:

- Lead Auditor (LA).
- Auditor (A) / Auditor in Training (AiT)
- Technical Expert (TE).

- Technical Reviewer (TR).

The sectoral scope / technical area knowledge linked to the applied methodology/ies shall be covered by the assessment team.

Name	Role	SS Coverage	TA Coverage	Financial aspect
Mr. Sukanta Das	LA/ TE	YES	YES	NA
Mr. Simon Shen	TR	YES	YES	NA

The curriculum vitae of the DOE's Verification team members are provided in Appendix 2 of this report.

3. Review of Documentation:

The Monitoring Report version 01 submitted by the PP was made publicly available on the UNFCCC website before the verification activities started. The published MR was assessed based on all the relevant documents. The aim of the assessment in the desk review was to:

- verify the completeness of the data and the information presented in the MR;
- Check the compliance of the MR with respect to the monitoring plan depicted in the registered PDD and verify that the applied methodology was carried out. Particular attention to the frequency of measurements, the quality of the metering equipment including calibration requirements, and the quality assurance and quality control procedures was paid;
- Evaluate the data management and the quality assurance and quality control system in the context of their influence on the generation and reporting of emission reductions.

A complete list of documents reviewed is available in Appendix 3 of this report.

4. On-site Assessment and follow-up Interviews:

As a part of the verification, the on-site inspection has been performed by the assessment team.

The objective of the on-site assessment is to:

- confirm the implementation and operation of the project;
- review the data flow for generating, aggregating and reporting the monitoring parameters;
- confirm the correct implementation of procedures for operations and data collection;
- Cross-check the information provided in the MR documentation with other sources;
- check the monitoring equipment against the requirements of the PDD and the approved methodology, including calibrations, maintenance, etc.
- review the calculations and assumptions used to obtain the GHG data and ER;
- Identify if the quality control and quality assurance procedures are in place to prevent or correct errors or omissions in the reported parameters.

The details are mentioned in section D.2 of this report.

5. Quality of Evidences

Sufficient evidence covering the full verification period in the required frequency is available to verify the figures stated in the final MR. The source of the evidences will be discussed in Appendix 3 of this report. Specific cross-checks have been done in cases that further sources were available. The monitoring report's figures were checked by the assessment team against the raw data. The data collection system meets the requirements of the monitoring plan as per the methodology.

6. Reporting of Findings

As an outcome of the verification process, the assessment team can raise different types of findings.

Where a non-conformance arises the assessment team shall raise a Corrective Action Request (CAR). A CAR is issued, where:

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

- b) Mistakes have been made in applying assumptions, data or calculations of emission reductions that will impact the quantity of emission reductions;
- c) Issues identified in a FAR during validation to be verified during verification or previous verification(s) have not been resolved by the project participants.

The assessment team shall raise a Clarification Request (CL) if information is insufficient or not clear enough to determine whether the applicable CDM requirements have been met.

All CARs and CLs raised during verification shall be resolved prior to submitting a request for issuance.

Forward Action Requests (FARs) may be raised during verification for actions where the monitoring and reporting require attention and/or adjustment for the next verification period. All the CARs/CLs are being discussed in Appendix 4 of this report

7. Internal Quality Control

As a final step of verification, the final documentation including the verification report has to undergo an internal quality control by the Technical Reviewer. Each report has to be finally approved either by the DOE's Technical Manager or the Deputy. In case one of these two persons is part of the assessment team, the approval can only be given by the person who is not a part of the assessment team. If the documents have been satisfactorily approved, the request of issuance is submitted to CDM EB along with the requisite documents.

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/document review	On-site inspection	Interviews	Verification findings
1.	Lead Auditor/Technical expert	OR	DAS	SUKANTA	True Quality Certifications private Limited- Outsourced entity	Yes	Yes	Yes	Yes

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	EI	Shen	Simon	Applus+ Certification
2.	Approver	IR	Sendin Caballero	Juan	Applus+ Certification

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.	No risk	Nil	Not applicable	Complete verification of all the values indicated in the emission reduction spreadsheet with documents such as Gas tickets/ JMR sheets/invoices etc. All the value in emission reduction sheet is checked as per the source of data presented in the registered PDD for all the monitoring parameters. All the source of the monitoring parameters is checked from the original JMR sheets (For electricity), Gas tickets (gas flow and NCV), Invoices (for cross check of net electricity) etc. Assessment team undergone physical inspection of the complete power plant including the sub-station (Output electricity) and Gas flow (input for power plant.). The complete process is checked and hence assessment team is of the opinion that the power project is implemented and operated as mentioned in the registered PDD.

C.2. Consideration of materiality in conducting the verification

In line with Guidelines for Application of materiality in verifications, the verification team has conducted a complete verification of all the information presented in the monitoring report and data monitored as presented in the emission reduction calculation spread sheet. It invoices follows the paper trail back to the raw data such as meter reading records and invoices. There are no material errors, overestimation of ER, omission or misstatement.

SECTION D. Means of verification**D.1. Desk/document review**

The verification was performed primarily based on the review of the monitoring report and the supporting documentation. This process included review of data and information presented to verify their completeness and review of the monitoring plan and monitoring methodology, paying particular attention to the frequency of measurements, the quality of metering equipment used including calibration requirements, and the QA/QC procedures, and an evaluation of data management and the QA/QC system in the context of their influence on the generation and reporting of emission reduction.

The initial MR Version 01 submitted by the project participant and additional background documents related to the emission reductions are reviewed as an initial step of the verification process. The subsequent step involved the identification of corrective action requests, clarification requests and Forward action request (CAR, CL and FAR) which are presented in Appendix 4 of this report. As a result of these findings, the MR is

revised to MR Version 02. A complete list of all documents and records reviewed is as attached in Appendix 03 of this report.

D.2. On-site inspection

Duration of on-site inspection: 17/03/2017-18/03/2017				
No.	Activity performed on-site	Site location	Date	Team member
1.	<p>The verification team conducted visits to the project site on 17/03/2017-18/03/2017 to confirm the information and to resolve issues identified in the document review. An on-site assessment was conducted as a part of verification activity and involved:</p> <p>1) an assessment of the implementation and operation of the CDM project activity as per the registered PDD</p> <p>2) a review of information flows for generating, aggregating and reporting of the monitoring parameters</p> <p>3) interviews with relevant personnel to confirm that the operational and data collection procedures are implemented in accordance with the Monitoring Plan</p> <p>4) a cross-check between information provided in the MR and data from other sources</p> <p>5) a check of the monitoring equipment including calibration performance, and observations of monitoring practices against the requirements of the PDD and the applied methodology</p> <p>6) a review of calculations and assumptions made in determining the GHG data and ERs, and</p> <p>7) an identification of QA/QC procedures in place to prevent, or identify and correct, any errors or omissions in the reported monitoring parameters</p>	The project site is located at Village – Kondapalli, Krishna District of Andhra Pradesh	17/03/2017-18/03/2017	Mr. Sukanta Das

D.3. Interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Rao	M. Ramachandra	PP representative	17/03/2017 - 18/03/2017	As mentioned above in section D.2 of this report	Mr. Sukanta Das

D.4. Sampling approach

No sampling is used as the verification team has visited power plant site along with the substations. The verification team has reviewed all the documents like commissioning certificates, JMR sheets, Gas tickets. Invoices, PPA etc.

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

Areas of verification findings	No. of CL	No. of CAR	No. of FAR
Compliance of the monitoring report with the monitoring report form	00	00	00
Compliance of the project implementation and operation with the registered PDD	00	02	00
Post-registration changes	00	00	00
Compliance of the registered monitoring plan with the methodologies including applicable tools and standardized baselines	00	00	00
Compliance of monitoring activities with the registered monitoring plan	00	00	00
Compliance with the calibration frequency requirements for measuring instruments	00	01	00
Assessment of data and calculation of emission reductions or net removals	00	03	00
Assessment of reported sustainable development co-benefits	00	00	00
Global stakeholder consultation	00	00	00
Others (please specify) – Breakdown details	00	01	00
Total	00	07	00

SECTION E. Verification findings

E.1. Compliance of the monitoring report with the monitoring report form

Means of verification	The verification team has determined whether the monitoring report was completed using the valid version of the applicable monitoring report form. The verification team has checked whether all the sections of the monitoring report follows the guidelines provided in the template.
Findings	No finding raised for the present verification.
Conclusion	PP has used the version 06.0 of the MR form which is the current and active version. The monitoring report has been prepared as per the instructions provided in the template. DOE has made the version 01 of the monitoring report covering the monitoring period from 01/01/2013 to 31/10/2015 (Inclusive of both days) publicly available through its dedicated interface on the UNFCCC CDM website before undertaking the site visit for the verification on 17/03/2017 to 18/03/2017. The verification team has concluded that the monitoring report was completed using the valid version of the applicable monitoring report form and is followed the guidelines contained in the template.

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

This is 2nd periodic verification. No FAR raised during the 1st verification and Validation of the project activity.

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

Means of verification	The verification team determined the conformity of the actual implemented project activity and its operation with the registered project design document. DOE has, by means of a desk review and an on-site visit, assessed whether all physical features of the proposed CDM project activity proposed in the registered PDD are in place, and that the project participants have operated the CDM project activity as per the registered PDD
Findings	CAR 01 and CAR 02 were raised during the verification process and closed successfully. Please refer Appendix 4 for the complete closure of the CAR
Conclusion	The verification team has reviewed the commissioning certificates to conclude that the capacity of the project is same as mentioned in the registered PDD. The capacity does not change after the registration of the project activity as confirmed by the assessment team during verification site visit.

	<p>The plant undergone scheduled maintenance as per the manufacturer's specifications and no unforeseen incident observed by the assessment team during the monitoring period. The details are checked by the assessment team from the plant log records and found correct.</p> <p>Based on the documentary evidence of commissioning certificates and physical verification DOE concludes that the project was implemented as per the registered PDD.</p>
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E.4. Post-registration changes

E.4.1. Temporary deviations from the registered monitoring plan, applied methodologies or applied standardized baselines

Not applicable for present Monitoring period

E.4.2. Corrections

Not applicable for present Monitoring period

E.4.3. Change to the start date of the crediting period of the project activity

Not applicable for present Monitoring period

E.4.4. Inclusion of a monitoring plan

Not applicable for present Monitoring period

E.4.5. Permanent changes from registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines or other applied standards or tools

Not applicable for present Monitoring period

E.4.6. Changes to the project design

Not applicable for present Monitoring period

E.4.7. Changes specific to afforestation and reforestation project activities

Not applicable for present Monitoring period

E.5. Compliance of the registered monitoring plan with the methodology including applicable tools and standardized baselines

Means of verification	The verification team determined whether the registered monitoring plan is in accordance with the applied methodology AM0029 version 3.0 including applicable tools.
Findings	No finding was raised regarding Compliance of monitoring plan with the monitoring methodology including applicable tool and standardized baseline
Conclusion	The verification team is able to confirm that the monitoring plan contained in the registered PDD is in accordance with the approved methodology applied by the project activity, i.e. AM0029 version 3.0 and its applicable tools. The same is followed onsite and thus assessment team confirms that project activity comply with the requirement of Approved methodology and registered PDD.

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

Means of verification	The assessment team checked the registered PDD to confirm the ex-ante fixed parameter mentioned in the current monitoring report. Assessment team also interviewed the personal onsite to check further regarding the ex-ante values used for emission reduction calculation.
Findings	No findings were raised regarding the same.
Conclusion	All parameters of the section B.6.2 in the registered PDD as a part of ex-ante

	parameters are not reported or mentioned in the monitoring report as they are not part of ex ante parameters used for ER calculations as per monitoring plan and were only used to determine the most conservative baseline calculation approach in line with applied methodology. The carbon emission factor of Natural gas and oxidation factor of natural gas are part of monitoring plan as mentioned in section D.2 of MR. The same is acceptable to the assessment team.
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E.6.2. Data and parameters monitored

Means of verification	The assessment team checked the registered PDD to confirm the ex-post parameter mentioned in the current monitoring report. Assessment team also interviewed the personal onsite to check further regarding the ex-post parameter monitoring and confirms that the same is in line with the registered PDD. AM0029 Version 3.0 which was the applied methodology during the registration of the project is also checked to ensure that monitoring parameter as mentioned in the registered PDD and current MR are in compliance with the methodology.
Findings	No findings were raised regarding the same.
Conclusion	<p>As per the registered monitoring plan and requirement of the registered methodology following parameters needs to be monitored:</p> <ol style="list-style-type: none"> 1. $FC_{t,y}$: Total volume of natural gas combusted in the project plant. The quantity of Natural Gas is measured by the gas flow meter which is installed by RGTIL (Reliance Gas Transportation Infrastructure Ltd.). Gas supplier's fuel flow meter reading at project boundary. RGTIL has a gas supply terminal near project plant, where gas quantity is metered and displayed in sm^3 (million scum) i.e. standard cubic meters (at standard temperature and pressure. The value will be taken from gas tickets received from RGTIL. The values will be correlated with fortnight joint ticket received from RGTIL fortnightly. Assessment team checked the same and found that the flow measurement is as per the registered PDD. The monitoring plan as mentioned in the registered PDD is followed onsite for the present parameter and thus assessment team concludes that the parameter measurement is as per the registered PDD. 2. $NCV_{t,y}$: The net calorific value (energy content) per volume unit of natural gas. The Supplier provided the value of the NCV in the joint tickets that is being given to the PP. The NCV is measured by on-line Gas chromatograph that would be installed by RGTIL at their terminal. Based on the readings of the RGTIL chromatograph, the daily joint tickets are then prepared and submitted to the PP for commercial purpose. Assessment team checked the same and found that the NCV measurement is as per the registered PDD. The monitoring plan as mentioned in the registered PDD is followed onsite for the present parameter and thus assessment team concludes that the parameter measurement is as per the registered PDD. 3. $EG_{PJ,y}$: Net electricity supplied by the project plant to grid during the year y. The data represents the electricity measured by the Cumulative Energy Meter. The meter is a 3 phase 4 wire meter and of an accuracy of 0.2s class. This energy meter is present in the Switch Yard, Tariff metering room. The joint meter reading indicating the net energy exported in the month are recorded and signed by PP and PGCIL authorities at the end of each joint reading. The joint meter reading is also available publically. The joint meter readings are archived in paper form. Thus the verification team was able to conclude that the value reported in the Monitoring report is appropriate. The monitoring plan as mentioned in the registered PDD is followed onsite for the present parameter and thus assessment team concludes that the parameter measurement is as per the registered PDD. 4. $OXID_t$: Oxidation factor of Natural Gas. The verification team has accepted this value as it has been sourced from the latest IPCC source available during current monitoring period. Thus the verification team was able to conclude that the value reported in the Monitoring report is appropriate.

5. $COEF_{f,y}$: CO_2 emission coefficient. $EF_{CO_2,f,y}$ and $OXID_{NG}$ are monitored during the monitoring period as per parameter 4 and parameter 9. Hence, Cross checking for these parameters are separately described in the respective tables. The verification team noted that the calculation of CO_2 emission coefficient, $COEF_{NG,y}$ has been correctly done using the formulae in the sheet "Emission reduction". Thus the verification team was able to conclude that the value reported in the Monitoring report is appropriate.
6. $EF_{BL, upstream, CH_4}$: Emission factor for upstream fugitive methane emissions occurring in the absence of the project activity electricity generation in terms of ton of methane per MWh. The calculation requires following parameters: 1) $FF_{j,k}$: Quantity of fuel type combusted in power plant included in j build margin 2) $EF_{k, upstream, CH_4}$: Taken from Table 2 of AM0029, version 03) EG_j : Electricity generation in the plant included in the build j margin The data source for these parameters is computed consistently with the Build Margin emission factor based on latest available information from Central Electricity Authority, Ministry of Power, Government of India, Version 12 - this being a government published data, found most authentic, hence, found appropriate and correct and accepted by the verification team.
7. PE_y : Project emissions due to combustion of fuel. The parameter is calculated as below:

$$PE_y = \sum_f FC_{f,y} \times COEF_{f,y}$$

The verification team noted that the calculation of Project emission due to combustion of fuel, PE_y has been correctly done using the above formulae in the sheet "Emission reduction". Thus the verification team was able to conclude that the value reported in the Monitoring report is appropriate. The verification team has checked the calculations and found to be correct and hence accepted the value of project emissions.

8. $EF_{BM,y}$: Build Margin Emission factor for Southern grid. This is calculated parameter as per monitoring methodology AM0029, version 03. Based on CO_2 Baseline database for the Indian power sector, version 12 (latest available) The Option A – Build Margin found lowest emission factor among three options given by the baseline methodology. The database is Government of India's official publication based on the "Tool to calculate the emission factor for an electricity system". Hence, found most authentic. The verification team has checked the calculations and found to be correct and hence accepted the value of project emissions
9. $EF_{CO_2,f,y}$: Emission factor of natural gas. The value of the emission factor of natural gas has been sourced from the latest version of IPCC Guidelines available during the current monitoring period and hence accepted by the verification team having checked the correctness of value with the source of information. Thus the verification team was able to conclude that the value reported in the Monitoring report is appropriate

E.6.3. Implementation of sampling plan

Means of verification	The verification assessed whether the compliance of the sampling efforts and surveys with the registered sampling plan in accordance with the "Standard for sampling and surveys for CDM project activities and programme of activities" if PP had applied a sampling approach to determine data and parameters monitored.
Findings	There is no CAR/CL raised in this section.
Conclusion	PP did not apply sampling plan to determine data and parameters monitored during this monitoring period. The verification team has checked all the documents such

as JMR/Invoices/Gas Join Tickets/ PPA/NCV etc and hence sampling plan was not required. The verification team hereby confirms that it checked all the documents

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

Means of verification	The verification team determined whether the calibration of the measuring equipment that has an impact on the claimed emission reductions is conducted by the PP at a frequency specified in the registered monitoring plan																																	
Findings	CAR 05 was raised during the verification process and closed successfully.																																	
Conclusion	Assessment team checked the calibration reports of all the monitoring parameters and has the following observation:																																	
	Calibration details of the Energy meters:																																	
	Assessment team confirms that the energy meters installed at the substation are of accuracy class of 0.2s and are calibrated as per the national standards followed by the electricity board, but they are calibrated at least once in a five year. The calibration of the energy meters installed at HT side of the transformer were carried out by Meter and testing division of the electricity board which is 3 rd party organization and the same is acceptable to the assessment team. The Meter and testing division of the electricity board is accredited by Indian national laboratory i.e. NABL to carry out the testing of the meters which is as per the national regulation and thus traceability of the Calibration is also confirmed by the assessment team. No delay in calibration observed for the current monitoring period.																																	
	The detail Calibration is as follows:																																	
	<table><tr><th>Location/Type</th><th>Meter Serial Number</th><th>Make</th><th>Accuracy class</th><th>Calibration date</th><th>Next calibration due date</th></tr><tr><td>Main meter LANCO Line 1 (PGCIL Vijaywada substation)</td><td>NP-5533-A</td><td>L & T</td><td>0.2s</td><td>08-05-2012</td><td>08-05-2017</td></tr><tr><td>Check meter LANCO Line 1 (PGCIL Vijaywada substation)</td><td>NP-5627-A</td><td>L & T</td><td>0.2s</td><td>09-05-2012</td><td>09-05-2017</td></tr><tr><td>Main meter LANCO Line 2 (PGCIL Vijaywada substation)</td><td>NP-5543-A</td><td>L & T</td><td>0.2s</td><td>09-05-2012</td><td>09-05-2017</td></tr><tr><td>Check meter LANCO Line 2 (PGCIL Vijaywada substation)</td><td>NP-5489-A</td><td>L & T</td><td>0.2s</td><td>08-05-2012</td><td>08-05-2017</td></tr></table>					Location/Type	Meter Serial Number	Make	Accuracy class	Calibration date	Next calibration due date	Main meter LANCO Line 1 (PGCIL Vijaywada substation)	NP-5533-A	L & T	0.2s	08-05-2012	08-05-2017	Check meter LANCO Line 1 (PGCIL Vijaywada substation)	NP-5627-A	L & T	0.2s	09-05-2012	09-05-2017	Main meter LANCO Line 2 (PGCIL Vijaywada substation)	NP-5543-A	L & T	0.2s	09-05-2012	09-05-2017	Check meter LANCO Line 2 (PGCIL Vijaywada substation)	NP-5489-A	L & T	0.2s	08-05-2012
Location/Type	Meter Serial Number	Make	Accuracy class	Calibration date	Next calibration due date																													
Main meter LANCO Line 1 (PGCIL Vijaywada substation)	NP-5533-A	L & T	0.2s	08-05-2012	08-05-2017																													
Check meter LANCO Line 1 (PGCIL Vijaywada substation)	NP-5627-A	L & T	0.2s	09-05-2012	09-05-2017																													
Main meter LANCO Line 2 (PGCIL Vijaywada substation)	NP-5543-A	L & T	0.2s	09-05-2012	09-05-2017																													
Check meter LANCO Line 2 (PGCIL Vijaywada substation)	NP-5489-A	L & T	0.2s	08-05-2012	08-05-2017																													
	Calibration details of Gas flow Meter:																																	
	Assessment team confirms as per the registered PDD the calibration frequency of the Gas flow meters is annual. Assessment team noted that there is a delay in calibration till April 2015. Since plant is not operational from March 2013 to May 2015, the error factor is applied till May 2015 conservatively. Since result of delayed calibration in within permissible limit, the accuracy class of 0.23% is applied conservatively. The calibration were carried out by Colorado engineering experiment station INC. This is third party organization and is accredited by National Institute of Standard and Technology. The Calibration reports are thus traceable.																																	
	<table><tr><th>Meter Serial Number</th><th>Make</th><th>Accuracy class</th><th>Calibration date</th><th>Next Calibration Due date</th></tr><tr><td>08-040024</td><td>Emerson Process</td><td>±0.23%</td><td>20/02/2008, 15/04/2015</td><td>15-04-2016</td></tr><tr><td>08-040025</td><td>Emerson Process</td><td>±0.23%</td><td>20/02/2008, 14/04/2015</td><td>14-04-2016</td></tr></table>					Meter Serial Number	Make	Accuracy class	Calibration date	Next Calibration Due date	08-040024	Emerson Process	±0.23%	20/02/2008, 15/04/2015	15-04-2016	08-040025	Emerson Process	±0.23%	20/02/2008, 14/04/2015	14-04-2016														
Meter Serial Number	Make	Accuracy class	Calibration date	Next Calibration Due date																														
08-040024	Emerson Process	±0.23%	20/02/2008, 15/04/2015	15-04-2016																														
08-040025	Emerson Process	±0.23%	20/02/2008, 14/04/2015	14-04-2016																														

Stream 2					
PP side Check Meter	9090448	Daniel Measurement	±0.3%	30/03/2009, 17/04/2015	17-04-2016

Assessment team noted that since PP side check meter data is used just as back up purpose and for current monitoring period, only gas supplier meters has used for invoicing purpose, the error factor is applied to reliance gas flow meters. Since PP side check meter data is not used for current monitoring period in ER calculation sheet, no any error factor is applied to PP side check meter.

Calibration details of Pressure and Temperature Transmitter:

Location/Type	Meter Serial Number	Make	Accuracy class	Calibration Dates	Next Calibration Due date
Pressure Transmitter for Reliance Gas Flow Meter Stream 1	1793074	Rosemount	+/- 0.075%	09/01/2013, 22/02/2013, 31/05/2015, 30/06/2015, 30/07/2015, 28/08/2015, 27/09/2015, 26/10/2015,	26-11-2015
Pressure Transmitter for Reliance Gas Flow Meter Stream 2	1793066	Rosemount	+/- 0.075%		
Temperature Transmitter Reliance Gas Flow Meter Stream 1	1793065	Rosemount	± 0.1 °C		
Temperature Transmitter Reliance Gas Flow Meter Stream 2	1793985	Rosemount	± 0.1 °C		

Calibration details of Gas chromatograph:

Location/Type	Meter Serial Number	Calibration Dates
Gas Chromatograph	214842-1	09/01/2013, 22/02/2013, , 31/05/2015, 30/06/2015, 30/07/2015, 28/08/2015, 27/09/2015, 26/10/2015,

Assessment team noted that as per registered PDD, there is no any calibration frequency mentioned for Pressure Transmitter, Temperature Transmitter and Gas chromatograph. The calibration of PT, TT and Gas Chromatograph is carried out by RGTIL (Reliance Gas Transportation Infrastructure Ltd.). The calibration is done as per the OEM (An Original Equipment Manufacturer) guideline. Thus gas supplier conservatively followed calibration once in a month and for operational period of the power plant only. The above calibration details are for project activity operational period only. Gas data and NCV of gas is taken directly from Gas Supplier. The NCV of gas is measured by using online gas chromatograph installed by gas supplier. As per OEM guidelines, the metering equipment's are installed and maintained. Since PDD does not mention any specific calibration frequency, The calibration is in supplier scope and PP do not have any control on it.

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**

Means of verification	The verification team assessed whether the data and calculations of GHG emission reductions achieved resulting from the registered CDM project activity. The verification team has checked whether calculations of baseline GHG emissions, project GHG emissions and leakage GHG emissions have been carried out in accordance with the formulae and methods described in the registered monitoring plan
Findings	CAR 03 and CAR 04 was raised during the verification process. The description of the CAR and its closure is described below in Appendix 4 of this report
Conclusion	<p>The baseline detail calculation is explained below:</p> $BE_y = EG_{PJ,y} * EF_{BL,CO_2,y}$ $= 952,067.33 \text{ MWh} * 0.9083 \text{ tCO}_2 / \text{MWh}$ $= 864,762.75 \text{ tCO}_2$ <p>The calculation is checked from the actual emission reduction sheet and found correct.</p>

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

Means of verification	The verification team assessed whether the data and calculations of GHG emission reductions achieved resulting from the registered CDM project activity. The verification team has checked whether calculations of baseline GHG emissions, project GHG emissions and leakage GHG emissions have been carried out in accordance with the formulae and methods described in the registered monitoring plan.
Findings	No findings raised
Conclusion	<p>Project emission calculation as per the registered PDD is mentioned below:</p> $COEF_{f,y} = NCV_{f,y} * EFCO_{2,f,y} * OXID_f$ $= 0.035198 \text{ GJ/m}^3 * 0.0561 \text{ tCO}_2 / \text{GJ} * 1$ $= 0.001974628 \text{ tCO}_2 / \text{m}^3$ $PE_y = FC_{f,y} * COEF_{f,y}$ $= 191268654.67 \text{ m}^3 * 0.001974628 \text{ tCO}_2 / \text{m}^3$ $= 377,684.53 \text{ tCO}_2$ <p>The calculation is checked from the actual emission reduction sheet and found correct</p>

E.8.3. Calculation of leakage GHG emissions

Means of verification	The verification team assessed whether the data and calculations of GHG emission reductions achieved resulting from the registered CDM project activity. The verification team has checked whether calculations of baseline GHG emissions, project GHG emissions and leakage GHG emissions have been carried out in accordance with the formulae and methods described in the registered monitoring plan.
Findings	NO findings raised.
Conclusion	<p>Leakage emission calculation as per the registered PDD is mentioned below:</p> <p>As per registered PDD, The total leakage emissions are Leakage emissions due to fugitive upstream CH₄ emissions (LE_{CH₄,y}) and Leakage emissions due to fossil fuel combustion / electricity consumption associated with the liquefaction, transportation, re -gasification and compression of LNG into a natural gas transmission or distribution system (LE_{LNG,CO₂,y}) are calculated as below</p> <p>Thus,</p> $LE_y = LE_{CH_4,y} + LE_{LNG,CO_2,y}$

	<p>As per registered PDD, Leakage emissions due to fugitive upstream CH₄ emissions are calculated as below</p> $LE_{CH_4,y} = [FC_{f,y} * NCV_{f,y} * EF_{NG, upstream, CH_4} - EG_{PJ,y} * EF_{BL, upstream, CH_4}] * GWPC_{CH_4}$ $= [191268654.67 \text{ m}^3 * 0.03519837 \text{ GJ/m}^3 * 0.000296 \text{ tCH}_4/\text{GJ} - 952,067.33 \text{ MWh} * 0.00056983 \text{ tCH}_4/\text{MWh}] * 25$ $= 36,256.44 \text{ tCO}_{2e}$ <p>Leakage emissions due to fossil fuel combustion / electricity consumption associated with the liquefaction, transportation, re-gasification and compression of LNG into a natural gas transmission or distribution system ($LE_{LNG,CO_2,y}$) is calculated as below</p> $LE_{LNG,CO_2,y} = FC_{LNG,y} * EF_{CO_2, upstream, LNG}$ $= 0 \text{ TJ} * 6 \text{ t CO}_2/\text{TJ}$ $= 0 \text{ tCO}_{2e}$ $LE_y = LE_{CH_4,y} + LE_{LNG,CO_2,y}$ $= 36,256.44 \text{ tCO}_{2e} + 0 \text{ tCO}_{2e}$ $= 36,256.44 \text{ tCO}_{2e}$ <p>The calculation is checked from the actual emission reduction sheet and found correct</p>
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E.8.4. Summary calculation of GHG emission reductions or net anthropogenic GHG removals by sinks

Means of verification	The verification team assessed whether the data and calculations of GHG emission reductions achieved resulting from the registered CDM project activity. The verification team has checked whether calculations of baseline GHG emissions, project GHG emissions and leakage GHG emissions have been carried out in accordance with the formulae and methods described in the registered monitoring plan.
Findings	There is no CAR/CL raised in this section.
Conclusion	<p>Emission reductions in this monitoring period are:</p> <p>Total Baseline Emissions: 864,762.75 tCO_{2e}</p> <p>Total Project Emission: 377,684.53 tCO_{2e}</p> <p>Total Leakage emission: 36,256.44 tCO_{2e}</p> <p>Total Emission Reduction: Emission reduction calculation is done based on following formula,</p> $\text{Emission reduction (ER}_y\text{)} = \text{Baseline Emission (BE}_y\text{)} - \text{Project Emission (PE}_y\text{)} - \text{Leakage emission (LE}_y\text{)}$ $= 450,821 \text{ tCO}_{2e}^2$

E.8.5. Comparison of actual GHG emission reductions or net anthropogenic GHG removals by sinks with estimates in registered PDD

Means of verification	The verification team has determined the CER achieved during this monitoring period with the estimated value and reason for increase/decrease if any.
Findings	CAR 07 is raised during the verification process and closed successfully.
Conclusion	The actual CER is 80.83% less than the estimated value. This is due to low PLF of the power plant. This difference between actual and estimated has occurred due to less availability of NG gas during monitoring period and hence the project activity couldn't generate the estimated power and thus lower PLF is envisaged for the monitoring period.

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

Means of verification	The verification team has determined the CER achieved during this monitoring period with the estimated value and reason for increase/decrease if any.
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² The value is rounded down

Findings	CAR 07 is raised during the verification process and closed successfully.
Conclusion	The actual CER is 80.83% less than the estimated value. This is due to low PLF of the power plant. This difference between actual and estimated has occurred due to less availability of NG gas during monitoring period and hence the project activity couldn't generate the estimated power and thus lower PLF is envisaged for the monitoring period.

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

Means of verification	The verification team has determined the CER achieved during first commitment period and second commitment period
Findings	There is no CAR/CL raised in this section.
Conclusion	<ol style="list-style-type: none"> 1. GHG emission reductions or net GHG removals by sinks reported up to 31 December 2012: 0 tCO₂e 2. GHG emission reductions or net GHG removals by sinks reported from 1 January 2013 onwards: 450,821tCO₂e³

E.9. Assessment of reported sustainable development co-benefits

Means of verification	Not applicable for the present monitoring period
Findings	Not applicable for the present monitoring period
Conclusion	Not applicable for the present monitoring period

E.10. Global stakeholder consultation

Means of verification	No comments received for the monitoring period
Findings	No comments received for the monitoring period
Conclusion	No comments received for the monitoring period

SECTION F. Internal quality control

As a final step of verification, the final documentation including the verification report has to undergo an internal quality control by the Technical Reviewer. Each report has to be finally approved either by the DOE's Technical Manager or the Deputy. In case one of these two persons is part of the assessment team, the approval can only be given by the person who is not a part of the assessment team. If the documents have been satisfactorily approved, the request of issuance is submitted to CDM EB along with the requisite documents.

SECTION G. Verification opinion

Applus+ Certification has been engaged by M/s Lanco Kondapalli Power Private Limited to perform the 2nd periodical verification of the "Grid connected electricity generation using natural gas by Lanco Kondapalli Power Private Limited" (UN reference number: 5554)

The management of M/s Lanco Kondapalli Power Private Limited is responsible for the preparation of the GHG emissions data and the reported GHG emissions reductions on the basis set out within the project's Monitoring Plan in the registered approved PDD version 04 dated 02/01/2012 and the applied methodology AM0029 version 3.0.

Our verification approach was based on the requirements as defined under the Kyoto Protocol, Marrakesh accord, as well as those defined by the CDM Executive Board. Our approach is risk-based, drawing on an understanding of the risks associated with reporting GHG emissions data and the controls in place to mitigate these. The verification can confirm that:

- the project is operated as planned and described in the project design document approved by the EB;
- the monitoring plan is as per the applied methodology;
- the monitoring in Monitoring Report is as per the PDD and the monitoring plan approved by the EB;
- the development and maintenance of records and reporting procedures are in accordance with the registered monitoring plan;
- the installed equipment being essential for generating emission reduction runs reliably and is calibrated appropriately;
- the monitoring system is in place and generates GHG emission reductions data;

³ The value is rounded down

- the GHG emission reductions are calculated without material misstatements.

In our opinion, the GHG emission reductions for “Grid connected electricity generation using natural gas by Lanco Kondapalli Power Private Limited” for the monitoring period 01/01/2013 to 31/10/2015 (Inclusive of both days) as reported in Monitoring Report, prepared on the basis of the project’s Monitoring Plan are fairly stated.

Based on the information we have seen and evaluated, we confirm the following statement:

Reporting period: From 01/01/2013 to 31/10/2015
(Inclusive of both days)

Verified emissions in the above reporting period:

Leakage emissions	36,256.44 tCO ₂ equivalents
Project emissions	377,684.53 tCO ₂ equivalents
Baseline emissions	864,762.75 tCO ₂ equivalents
Emission reductions	450,821 tCO ₂ equivalents

SECTION H. Certification statement

Same as above

Appendix 1. Abbreviations

Abbreviations	Full texts
BM	Build Margin
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reduction(s)
CL	Clarification request
CM	Combined Margin
CO ₂	Carbon dioxide
CO ₂ e	Carbon dioxide equivalent
DNA	Designated National Authority
DOE	Designated Operational Entity
DR	Document Review
EF	Emission Factor
ER	Emission Reductions sheet
FAR	Forward Action Request
GHG	Greenhouse gas(es)
GWP	Global Warming potential
PP	Project Participant
PPA	Power purchase agreement

Appendix 2. Competence of team members and technical reviewers

1. Mr. Sukanta DAS, has done M. SC in (Electronics and Photonics) and M. Tech in (Energy technology) from Tezpur Central University/ Indian Institute of technology Bombay in India. He is a certified lead auditor for ISO 14001 EMS LA and ISO 9001 QMS LA from International registry for Certified Auditors (IRCA) and Certified Lean Management practitioner from Quality Council of India (QCI). He has more than eight years of working experience at TUV NoRD/ Re-consult/CRA/APPLUS certifications under various categories of projects stating from Renewable to waste to supercritical projects. He was JI/ CDM Lead Assessor in TUV NoRD and was involved in more than 100 CDM validation and verifications activities in Gold Standard, VCS, CDM projects as a team leader/technical reviewer / validator / verifier covering the sectoral scope 1, 13 technical areas 1.2/1.1/13.1. Currently he is associated with True Quality Certifications Private Limited and is empanelled with APPLUS certification to carry out GHG audit.
2. Meng (Simon) Shen (Master Degree in Thermal Energy Engineering, Bachelor Degree in Environmental Engineering) is a Lead Auditor appointed by Applus+ LGAI for the GHG project assessment. He is based in Shanghai. He has several years of work experience in environmental protection field. Before he joined Applus+ LGAI, he had been worked for TÜV SÜD as a GHG Validator/Assessment team and ISO 9001/14001 Lead Auditor for 3.5 years

Appendix 3. Documents reviewed or reference

N o.	Author	Title	References to the document	Provider
1	NA	Commissioning certificates of power plant	Commissioning certificates of Power plant	Project participant
2	NA	Contract of the project participant with the DOE	Contract document signed between PP and DOE	Project participant
3	NA	VVS standard-version 01 PS standard Version 01 PCP standard version 01	UNFCCC web site	UNFCCC
4	NA	JMR sheets	JMR reports for the complete monitoring period	Project participant
5	NA	Invoices	Invoices for the complete monitoring period	Project participant
6	NA	Calibration certificates	Calibration certificates of the complete monitoring period for the monitoring parameters.	Project participant
7	NA	Gas tickets	Gas tickets to determine NCV and flow for the complete monitoring period.	Project participant
8	NA	MR version 01 MR version 02	MR version 01 dated 14/11/2016 MR version 02 dated 23/07/2018	Project participant

9	NA	ER sheet version 01 ER sheet version 02	ER version 01 dated 14/11/2016 ER version 02 dated 23/07/2018	Project participant
10	NA	Actual geo-coordinates by GE	Actual coordinates	Project participant
11	NA	Break Down details of both the Units	Log book records onsite	Project participant
12	NA	Guidelines for Application of materiality in verifications version 2.0	UNFCCC web site	UNFCCC

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

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

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

Table 2. CL from this verification

CL ID	xx	Section no.		Date: DD/MM/YYYY
Description of CL				
Project participant response				Date: DD/MM/YYYY
Documentation provided by project participant				
DOE assessment				Date: DD/MM/YYYY

Table 3. CAR from this verification

CAR ID	01	Section no.	B.1	Date: 20/03/2017
Description of CAR				
During the site visit and subsequent document review it was observed that the technical description like RPM, Power output, Turbine speed, Exhaust area etc of STG and GTG is missing in section B.1 of the MR. Moreover, detail technical description of HRSG is also missing in the MR. Corrective action is sought and required documents needed to be submitted for further analysis.				
Project participant response				Date: 23/07/2018

The revised MR mentioned the technical specifications of GTG, STG and HRSG and the technical specifications are submitted to DOE.	
Documentation provided by project participant	
Revised MR version 02 dated 23/07/2018, Technical specifications of project activity	
DOE assessment	Date: 24/07/2018
The Technical specification for GTG, STG and HRSG are now included in the revised MR. The same is cross checked with the technical details provided by the Manufacturers. CAR is thus closed.	

CAR ID	02	Section no.	B.1	Date: 20/03/2017
Description of CAR				
The metering arrangements for gas flow meters are not defined in the flow diagram in section B.1 of the MR. Corrective action is sought for the same.				
Project participant response				Date: 23/07/2018
The metering arrangement for gas flow meter and gas chromatograph is added in revised MR				
Documentation provided by project participant				
<i>Revised MR</i>				
DOE assessment				Date: 24/07/2018
The metering arrangement for gas flow meter and gas chromatograph is now added in revised MR. The same is as per the onsite practice and thus acceptable to the assessment team. CAR is thus closed.				

CAR ID	03	Section no.	E.1,E.2 and E.3	Date: 20/03/2017
Description of CAR				
The emission reduction calculation sheet for baseline, project and leakage emission is missing. The claimed ER is thus reserved till the supporting documents are submitted and ER sheet is provided. Moreover, corrective action is sought in section E.1, E.2 and E.3 of the MR.				
Project participant response				Date: 23/07/2018
The revised ER spreadsheet has been submitted now along with supporting evidences				
Documentation provided by project participant				
Revised MR version 02 dated 23/07/2018, Revised ER spreadsheet version 02 dated 23/07/2018				
DOE assessment				Date: 24/07/2018
The actual emission reduction sheet is checked and found correct by the assessment team. Appropriate section like E.1, E.2 and E.3 of the MR version 02 is revised. CAR is thus closed.				

CAR ID	04	Section no.	E	Date: 20/03/2017
Description of CAR				
During the site visit and subsequent document review it was observed that the JMR readings (Electricity)/ Joint Tickets (Gas flow and NCV) and the invoices (GAIL/Electricity) for the complete monitoring period are missing. The emission reduction calculation is thus reserved till the submission of supporting documents and ER sheet.				
Project participant response				Date: 23/07/2018
The JMR readings (Electricity)/ Joint Tickets (Gas flow and NCV) and the invoices (GAIL/Electricity) for the complete monitoring period are submitted now. The revised ER calculation spreadsheet has been submitted along with supporting.				
Documentation provided by project participant				
The supporting for gas flow, NCV and electricity are submitted to DOE.				
DOE assessment				Date: 24/07/2018
The JMR readings (Electricity)/ Joint Tickets (Gas flow and NCV) and the invoices (GAIL/Electricity) for the complete monitoring period are checked and found correct by the assessment team. The actual emission reduction is thus found correct and no overestimation is envisaged for the monitoring period. CAR is thus closed.				

CAR ID	05	Section no.	C	Date: 20/03/2017
Description of CAR				
During the document verification and subsequent site visit it was observed that the calibration reports for all the monitoring parameters are missing for the present verifications. Emission reduction calculation is thus reserved till the calibration reports are submitted. Corrective action is sought for the same.				
Project participant response				Date: 23/07/2018
The calibration details are provided in revised MR and calibration reports are submitted to DOE				

Documentation provided by project participant	
Calibration reports Revised MR version 02 dated 23/07/2018, Revised ER spreadsheet version 02 dated 23/07/2018	
DOE assessment	Date: 24/07/2018
The calibration details of the monitoring equipment is checked and found correct. The delayed factor is applied where necessary and the same is found acceptable to the assessment team. CAR is thus closed.	

CAR ID	06	Section no.	B.1	Date: 20/03/2017
Description of CAR				
The breakdown details of the NG Power plant are missing in the MR. Moreover, the supporting document regarding the breakdown (scheduled/forced) details are also not provided to the assessment team. Corrective action is sought in the respective section of the MR and supporting documents for further analysis.				
Project participant response				Date: 23/07/2018
The breakdown details are provided in MR				
Documentation provided by project participant				
Revised MR version 02 dated 23/07/2018, Break down details				
DOE assessment				Date: 24/07/2018
The breakdown log details are found correct by the assessment team. The power plant undergone scheduled maintenance as per the manufacturer specifications and no unforeseen incident observed during the monitoring period. CAR is thus closed.				

CAR ID	07	Section no.	E.6	Date: 20/03/2017
Description of CAR				
During the document review it was observed that the comparison of actual CERs w.r.t estimated CERs in section E.6 of the MR is not correct. Corrective action is sought for the same.				
Project participant response				Date: 23/07/2018
The comparison between actual CERs and estimated CERs are mentioned in revised MR.				
Documentation provided by project participant				
Revised MR version 02 dated 23/07/2018, Revised ER spreadsheet version 02 dated 23/07/2018				
DOE assessment				Date: 24/07/2018
The actual ER is 80.83% less than the estimated one. The same is due to non-availability of NG and thus the same is acceptable to the assessment team. CAR is thus closed.				

Table 4.FAR from this verification

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

Document information

<i>Version</i>	<i>Date</i>	<i>Description</i>
02.1	11 January 2018	Editorial revision to correct the numbering of appendices in the instructions.
02.0	31 October 2017	Revision to align with the requirements of the “CDM validation and verification standard for project activities” (version 01.0).
01.0	23 March 2015	Initial publication.
Decision Class: Regulatory Document Type: Form Business Function: Issuance Keywords: project activities, verifying and certifying		