NATURAL GAS BASED COMBINED CYCLE POWER GENERATION, AT KOTHAPETA, EAST GODAVARI, ANDHRA PRADESH, INDIA BY M/S. KONASEEMA GAS POWER LIMITED

Document Prepared By Bureau Veritas Holdings SAS

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Summary:

Bureau Veritas Certification has conducted the first verification of the 'Konaseema Gas Power Limited The project activity is Phase-I grid connected 445 MW natural gas based Combined Cycle Power Plant (CCPP). The power plant comprises of 2 x 140 MW natural gas-run turbines, two heat recovery steam generators and a 165 MW steam turbine. It is a green field project developed by Konaseema Gas Power Ltd,(hereinafter called KGPL), located at East Godavari district, Andhra Pradesh, India.

The project activity supplies electricity to the state electricity utility Andhra Pradesh Transmission Corporation of India Ltd, (hereinafter called APTRANSCO).

The verification scope is defined as a periodic independent review and ex post determination by the Bureau Veritas Certification of the monitored reductions in GHG emissions during defined verification period, and consisted of the following three phases:

I. Desk review of the registered project document including the baseline and the monitoring plan;

II. Physical site inspection and follow-up interviews with project stakeholders;

III. Resolution of outstanding issues and the issuance of the final verification report including verification opinion.

The overall verification, from Contract Review to Verification Report & Opinion, was conducted using Bureau Veritas Certification's internal procedures. On the basis of the physical site inspection of the project activity and review of the documents submitted by the project participant, the Bureau Veritas Certification confirms that, for the current verification period from 04/06/2009 to 30/06/2012, the project has been implemented as planned and described in the registered Project Document. The necessary equipments, installed for generating emission reductions in the project activity, runs reliably and the measuring equipments, essential for the measurement of the electricity have been calibrated appropriately. This verification report pertains to the current monitoring period starting from 04/06/2009 to 30/06/2012 (including both days). Clarification Requests (CL) were raised during this verification activity. All the Clarification Requests (CL) have been successfully closed by the verification team based on the satisfactory response from the project participant for each CL. However, the Forward Action Request will be applicable for the subsequent monitoring period. The verification team confirms that total GHG reductions achieved during the current monitoring period are 1,610,556 tCO2e and that emission reductions are calculated without material misstatements.

Contents

INTRODUCTION

1.1 Objective

Verification is the periodic independent review and ex-post determination by the verifier of the monitored reductions in GHG emissions during defined verification period. This is the first verification of the project activity. The objective of the verification is

a. To verify that the project is implemented as stated in the registered VCS PD,

b. To confirm that the monitoring system is in place and fully functional,

c. To assure that the project has generated verifiable emission reductions.

The verification shall consider both qualitative and quantitative information on emission reductions. Quantitative data comprises the monitoring reports submitted by the project entity to the verifier. Qualitative data comprises information on internal management controls, calculation procedures, and procedures for transfer, frequency of emission reports, review and internal audit of calculations/data transfers.

1.2 Scope and Criteria

The verification scope is defined as an independent and objective review of the VCS Project Document (PD) Ref /10/, the project's baseline study and monitoring plan, including the monitored data and other relevant documents. The verification follows VCS Standard Version 3.2 criteria and latest policy announcements, from VSC Board, presently applicable to the verification of project activity Ref /13 & 14/

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The verification is not meant to provide any consulting towards the Client. However, stated requests for Clarification (CL) may provide input for improvement of the project monitoring towards reductions in the GHG emissions.

The verification team was provided with a monitoring report Ref /01/, covering the period 04/06/2009 to 30/06/2012. Based on this documentation, a document review and a physical site inspection on 13/07/2012 was performed. The Monitoring Report – Version 6.0, dated 18/12/2012 covering the period of 04/06/2009 to 30/06/2012 serves the basis for the verification assessment presented herewith.

1.3 Level of assurance

Verification is a requirement for all VCS projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of emission reductions. Based on the process and procedure conducted, it can be concluded that the GHG assertion is materially correct and is a fair representation of GHG data and information which has been prepared in accordance with the VCS Standard 3.2 Ref /14/ for the current verification period. The verification team

considers the assurance level as 'limited' since some of the data used (e.g. Emission factor) are from the publicly available databases such as the IPCC database, CEA database for emission factor of the grid, for which detailed testing of GHG assertion is beyond the domain of project proponent ,stake holder and the verification team.

1.4 Summary Description of the Project

The project activity is Phase-I grid connected 445 MW natural gas based Combined Cycle Power Plant (CCPP). The power plant comprises of 2 x 140 MW natural gas-run turbines, two heat recovery steam generators and a 165 MW steam turbine. It is a green field project developed by Konaseema Gas Power Ltd,(hereinafter called KGPL), located at East Godavari district, Andhra Pradesh, India. The GT module is a 4 stage turbine with Nickel material based blades, 16 stage compressors provided with adjustable inlet guide vanes (IGVs), and sophisticated large external silo type combustors equipped with hybrid burners for premix and diffusion mode operation. And this premix mode of hybrid burner ensures low NOx and CO emissions. This turbine is characterised with extended maintenance interval of 41,000 equivalent operating hours (EOH) which literally means increased equipment availability and reduced life cycle cost.

Parameters	Description
Equipment	Heavy duty Natural gas-run turbine, V 94.2 model, single shaft, axial flow, multi stage
Nos. Installed capacity	2 x 140 MW
Make	Siemens
NOx control	Dry low NOx burner (capable of limiting less NOx emissions

Parameters	Description
Equipment	Heat Recovery Steam Generators (HRSG), Vertical induced circulation
Nos.	2
Make	Larsen & Toubro
Technical specifications	Type : HP / IP / LP Flow (tph) : 221 / 38 / 38.85 Pr.range (bar) : 112.7 / 23.70 / 4.5 Temp (deg C) : 528 / 324 / 223

Parameters	Description
Equipment	Steam turbine, Model no: K-168-107, Reaction cum impulse turbine, LMZ Energy Limited make
Nos Installed Capacity	1 x 165 MW
Make	LMZ Energy Limited

Condenser back pressure	0.088 bar
RPM	3000

The two gas turbines are designed to produce combined power output of 280 MW with a higher station heat rate; the hot waste gases coming out of the turbine at higher temperature are utilized by the waste heat recovery boilers to generate super heated steam at a higher pressure and temperature. The high pressure super-heated steam is then expanded in a steam turbine to produce power of 165 MW. The project equipment viz gas turbines, waste heat recovery boilers and steam turbine are procured from Siemen's, L & T and LMZ Energy respectively, who are the renowned power plant equipment suppliers worldwide. Thus the technologies adopted by the project equipment are environmentally safe and sound.

The generated power will be exported to the Andhra Pradesh power grid (part of the southern grid of India) and this is ensured by the Power Purchase Agreement (PPA) Ref /05/ signed with State government owned Andhra Pradesh Transmission Corporation of India Ltd. (APTRANSCO). The project activity will meet the base load requirement of the southern grid. The project activity has achieved the emission reductions of 1,610,556 tCO2e in the current monitoring period.

2 VALIDATION PROCESS, FINDINGS AND CONCLUSION

2.1 Validation Process

Not applicable as the project activity has already been validated by SIRIM QAS International Sdn. Bhd. as per the VCS 2007.1 Standard. Please refer to the VCS Validation Report dated 01/06/2011 Ref /11/submitted to VCS Registry.

2.2 Validation Findings

2.2.1 Gap Validation

Not applicable as the project activity has already been validated as per the VCS 2007.1 Standard. The project activity has already been registered with VCS vide reference no. VCS620 under full VCS Validation. Hence, no Gap Validation is required.

2.2.2 Methodology Deviations

Not applicable as the project activity has already been validated by SIRIM QAS International Sdn. Bhd. as per the VCS 2007.1 Standard. The validation report Ref /11/of the project activity was also reviewed by the verification team and it was observed that no methodology deviations have been sought during the validation of the project activity. The project activity has applied Methodology AM0029, Version 03 Ref /15/

2.2.3 New Project Activity Instances

The project activity is not a grouped project.

2.3 Validation Conclusion

As per the Final Validation Report of the project activity issued on 01/06/2011, SIRIM QAS International Sdn. Bhd. confirms that the proposed VCS project activity has correctly applied the baseline and monitoring methodology AM0029, Version 03 Ref /15/ for the project activity and meets the relevant VCS 2007.1 requirements.

3 VERIFICATION PROCESS

3.1 Method and Criteria

The overall verification, beginning from the Contract Review to Verification report, certification statement & opinion, was conducted using Bureau Veritas Certification internal procedures. The project is already validated and registered as a VCS project with the registry (Project ID VCS620). The verification criteria followed by the project participant is based on the VCS Standard 3.2 Ref /14/. The verification process consists of following activities:

Desk review of the registered project document including the baseline and the monitoring plan;

This process consists of the review of the current and previously approved documents related to the project activity including the Validation Report, registered Project Document (PD) and the Monitoring Report.

Physical site inspection and follow-up interviews with project stakeholders;

The second step involves the physical site visit to ensure that project activity is implemented and being operated as per the project description contained in the registered PD Ref /10/. The activity also includes the follow-up interviews with the various plant personals involved in the operation and monitoring of the project activity.

Resolution of outstanding issues and the issuance of the final verification report including verification opinion

The third step involves the resolution of the CL raised. Verification process also includes raising the requests for corrective actions and clarification and any other outstanding issues that needed to be clarified for Bureau Veritas Certification before conclusion on the GHG emission reduction calculation.

Findings established during the initial verification could either be seen as a non-fulfilment of criteria ensuring the proper implementation of a project or where a risk to deliver high quality emission reductions is identified. Corrective Action Requests (CAR) is issued, where: Non-conformities with the monitoring plan or methodology are found in monitoring and reporting, or if the evidence provided to prove conformity is insufficient; Mistakes have been made in applying assumptions, data or calculations of emission reductions, which will impair the estimate of emission reductions;

The verification team may also use the term Clarification Request (CL), if information is insufficient or not clear enough to determine whether the applicable VCS requirements have been met.

3.2 Document Review

The verification of the project documents provided by the project participant is based upon both quantitative and qualitative information on emission reductions. Quantitative information comprises the reported numbers in the monitoring report submitted to the DOE. Qualitative information comprises information on internal management controls, calculation procedures, and the procedures for transfer of data, frequency of emissions reports, and review and internal audit of calculations.

The verification team has assessed the accuracy of the project description through a combination of steps consisting of review of contract related to the project activity, scrutiny of technical specification, site visit and interview of the project proponent and their representatives. Following supporting documents were reviewed for the current verification period:

a) Registered VCS PD

b) Validation Report

c) Monitoring Report of the project activity

Other documents such as generation reports/ and emission reduction spreadsheet Ref /12/ for the current verification period (04/06/2009 to 30/06/2012) Monthly JMRs, gas consumption, calibration certificates of the gas chromatograph /energy meters pertaining to the current verification period

3.3 Interviews

Multiple level interviews were conducted to assess understanding of project requirements and to determine if monitoring conducted in the field was implemented in

accordance with the validated PD Ref /10/. The verification team from Bureau Veritas Certification performed site visit on 13/07/2012 and conducted interviews with project stakeholders to confirm selected information and to resolve issues identified in the document review. Representatives of M/s Konaseema Gas Power Limited, and M/s Kanaka Management Services Private Limited were interviewed. The main topics of the interviews are summarized in table below

Interviewed organization	Interview topics
M/s Konaseema Gas Power Limited	- Project description - Operational aspects - Monitoring plans and Data recording procedures - QA/ QC Procedures - Internal review / verification mechanism - Emission reduction calculation procedures
M/s. Kanaka Management Services Private Limited	- Monitoring report - Emission reduction calculation procedures

3.4 Site Inspections

The physical site inspection was performed by a one team member of the verification team on 13/07/2012 to cover following objectives:

a. To verify the existence of site and confirm boundaries of the project activity
b. To ensure that project activity has been implemented and operated as per the description contained in the registered PD
c. To ensure that the monitoring and data recording has been carried out in accordance with the applied monitoring methodology AM0029, Version 03 (applied by the project participant) and the registered monitoring plan contained in the registered PD

The methods adopted to meet the above-mentioned objectives consists of the interaction with the plant personnel, visit to the Power Generation facility and measuring points of the gas consumption skid operated and managed by Gas Authority of India Limited (GAIL), the electricity sold to the grid i.e. APTRANCO (substation), etc. In addition, the plant records maintained at the project site were reviewed by the verification team followed by discussions with the personnel's involved in the management and operation of the project activity.

During the site visit of the plant it was identified that the GT module is a 4 stage turbine with Nickel material based blades, 16 stage compressors provided with adjustable inlet guide vanes (IGVs), and sophisticated large external silo type combustors equipped with hybrid burners for premix and diffusion mode operation.

1. Gas Turbines

Parameters	Description
Equipment	Heavy duty Natural gas-run turbine, 94.2 model, single shaft, axial flow
Nos	2
Make	Siemens
Capacity	140MW * 2

2. WHRBs

Parameters	Description
Equipment	Waste heat recovery boilers
Nos	2
Capacity	556 TPH

3. Steam Turbine

Parameters	Description
Equipment	Steam turbine
Nos	1
Make	LMZ Energy Limited
Capacity	165 MW

4. Combined cycle power plant parameters

Parameters	Description
Total capacity of the plant	445 MW
Auxiliary consumption	3%
Plant Load Factor	85 %
Heat rate	1850 kCal/kWh

3.5 Resolution of Any Material Discrepancy

When potential material discrepancies/non-conformities were identified during the verification process, or request for clarification (CL) was issued. All CLs were addressed satisfactorily by M/s Konaseema Gas Power Limited during the project verification process. No CL's were identified that could lead to a material discrepancy between the project activity and the project description.

All CLs raised were successfully closed during the validation stage of the project activity, and no remaining issues were left. This is the first verification of the project activity, hence any remaining issues for previous verification is not applicable. The project activity is already registered as a VCS project with the VCS registry under the project title "Natural Gas Based Combined Cycle Power Generation, at Kothapeta, East Godavari, Andhra Pradesh, India" by M/s Konaseema Gas Power Limited (Project ID VCS620**).**

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

As already explained in Section 1.4, the project activity is a grid connected 445 MW natural gas based Combined Cycle Power Plant (CCPP). The power plant comprises of 2 x 140 MW natural gas-run turbines, two heat recovery steam generators and a 165 MW steam turbine. It is a green field project developed by Konaseema Gas Power Limited, (hereinafter called KGPL), located at East Godavari district, Andhra Pradesh, India. The generated power will be exported to the Andhra Pradesh power grid (part of the southern grid of India) and this is ensured by the Power Purchase Agreement Ref /05/ (PPA) signed with State government owned Andhra Pradesh Transmission Corporation of India Limited (APTRANSCO). The project activity will meet the base load requirement of the southern grid.

The starting date of operation is 04/06/2009. This was verified from the "Certificate of commissioning issued by Andhra Pradesh Power coordination committee" Ref /04/, vide its letter no. CE/IPC/112/F.KEOPL COD/D. No. 55/09, dated 17/06/2009. The verification team after having conducted the site visit and from the commissioning certificate confirms that there is only single site for the project. . The verification team observed that the "Andhra Pradesh Power Coordination Committee" (APPCC) is a wing in APTRANSCO, which deals with Independent Power Producers (IPP) and related DISCOMs (Distribution Companies) for the purchase of power. The verification team after having site visit and from the commissioning certificate confirms that there is only single site for the project activity and there was no phase wise implementation of the project activity.

This is a first VCS verification of the project activity for the monitoring period from 04/06/2009 to 30/06/2012.

The verification team was provided with the monitoring report Ref /01/. The verification team observed that in the monitoring report, the project participant had used the default values as per the methodology and from the registered PD Ref /10/, for various parameters .e.g. Values of baseline efficiency, IPCC values, NCV, etc.

During the current monitoring period the project activity has displaced 5,127,495,060 kWh of electricity which would have been otherwise generated through fossil fuel sources connected to Southern grid. As per approved monitoring plan the source of data for net electricity supplied by the project activity is Joint Meter Reading (JMR) Ref /03/ which can be cross checked with the invoices raised by the PP to APTransco Ref /02/.

The verification team based on the documents assessed and physical verification of site is able to conclude that the project activity is operating in accordance with the Project Design version 2.1 Ref /10/as registered with the VCS 2007.1 standard. The above conclusion is drawn after the verification of the registered PD and the subsequent monitoring plan, also the verification reports of last monitoring period were assessed.

4.2 Accuracy of GHG Emission Reduction or Removal Calculations

Spreadsheets used for calculating the emission reductions including the algorithms used in the calculations was provided by Project proponent. Verification team conducted an intensive review all input data, parameters, formulas, connections, conversions, statistics and resulting uncertainties and output data to ensure consistency with the VCS standard, the registered VCS PD and the methodology. All data, conversion factors, formulas, and calculations were provided by the project proponent in spreadsheet format to ensure all formulas were accessible for review. The project proponent also provided a step-by-step overview of calculations to ensure its consistency with the methodology and PD. The verification team checks how the registered monitoring plan and its implementation complies with the monitoring methodology. The verification team reviewed the Monitoring Report Ref /01/ against the requirement of monitoring methodology Ref /15/ including applicable Tools. The parameters included in section 3 of the monitoring reports are same as per the requirement of the monitoring methodology.

The verification team observed that the Monitoring Plan is in accordance with the approved methodology AM0029, Version 03 Ref /15/ applied by the proposed CDM project activity.

The ex-ante parameters are in line with monitoring methodology and the monitored parameters are also correctly described in Section 3 of the monitoring report. The verification team hereby confirms that the monitoring plan approved by VCS registry is in accordance with the approved monitoring methodology applied to the project activity under verification. The monitoring of the project activity has been carried out in accordance with the monitoring plan contained in the VCS PD.

The verification team has verified the information flow from generation of data, and aggregation to recording, calculation and reporting of these parameters (including the values provided in the monitoring reports) as well as their cross checking (where available) are described below:

Data and parameters fixed ex ante:

Sr. No.	Description of parameter	Value of the parameter	Source of Data	Verification justification
1.	Baseline CO_2 emission factor – Build Margin of southern grid, $EF_{BM,y}$	820 tCO_2/GWh	Calculated as per the monitoring methodology AM0029, Version 03	Cross checking : Not applicable Since this is Calculated as per monitoring methodology AM0029, Version 03 Based on CO_2 Baseline database for the Indian power sector, Version 5 (November 2009) 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.

Sr. No.	Description of parameter	Value of the parameter	Source of Data	Verification justification
2.	Baseline CO_2 emission factor – Operating Margin of southern grid, $EF_{OM,y}$	986.7 tCO_2/GWh	Calculated as per the monitoring methodology AM0029, Version 03	Cross checking : Not applicable Since this is Calculated as per monitoring methodology AM0029, Version 03 Based on CO_2 Baseline database for the Indian power sector, Version 5 (November 2009)
3.	Baseline CO_2 emission factor – Combine Margin of southern grid, $EF_{CM,y}$	903.3 tCO_2/GWh	Calculated as per the monitoring methodology AM0029, Version 03 Calculated as the weighted average of the build margin emission factor and operating margin emission factor (with 50/50 weights to OM and BM)	Cross checking : Not applicable Since this is Calculated as per monitoring methodology AM0029, Version 03 Based on CO_2 Baseline database for the Indian power sector, Version 5 (November 2009)
4.	Net Calorific Value of Coal , NCV_{Coal}	3,625 kCal/kg	GCV and conversion factor (GCV to NCV) sourced from "CO2 Baseline Database for the Indian Power Sector,	The value is fixed ex ante in the registered PD. Cross checking: Not Applicable.

Sr. No.	Description of parameter	Value of the parameter	Source of Data	Verification justification
			Version 5.0 (November 2009) issued by Central Electricity Authority, Ministry of Power, Government of India (GoI)	
5.	CO_2 Emission Factor of Coal, $EF_{CO2, Coal}$	95.8 tCO_2e/TJ	Value taken from CEA CO_2 Baseline Database, Assumptions sheet, Cell D7. Version 05 of database (November 2009)	Cross checking : Not applicable, as the data is taken from Government website, found most authentic
6.	Oxidation Factor of Coal, $OXID_{Coal}$	0.98 Unit less factor	Table 1.4, Chapter 1, Volume 2, 2006 IPCC Guidelines for National Greenhouse Gas Inventories	The value is as described in approved methodology Cross checking: Not Applicable.
7.	CO_2 Emission Factor of Natural Gas, $EF_{CO2, NG}$	0.0561 $kgCO_2e/GJ$	Table 1.4, Chapter 1, Volume 2, 2006 IPCC Guidelines for National Greenhouse Gas Inventories – latest available	Cross checking: Not applicable

Sr. No.	Description of parameter	Value of the parameter	Source of Data	Verification justification
8.	Oxidation Factor of NG, $OXID_{NG}$	1.0 Unit less factor	IPCC Guidelines for National Greenhouse Gas Inventories	IPCC default value used as mentioned in PD Cross Checking : Not applicable
9.	CO_2 Emission Factor of Diesel, $EF_{CO2, Diesel}$	74.1 tCO_2e/TJ	Table 1.4, Chapter 1, Volume 2, 2006 IPCC Guidelines for National Greenhouse Gas Inventories – latest available	Cross checking: Not applicable
10.	Oxidation Factor of Diesel, $OXID_{Diesel}$	1 Unit less factor	Table 1.4, Chapter 1, Volume 2, 2006 IPCC Guidelines for National Greenhouse Gas Inventories	The value is as described in approved methodology Cross checking: Not Applicable.
11.	Emission factor for upstream fugitive methane emissions occurring in the absence of the project activity in terms of ton of methane per MWh, $EF_{BL, Upstream,CH4}$	0.000769 tCH_4/MWh	Calculated	Cross checking: Not applicable. The calculation requires following parameters: 1) $FF_{j,k}$: Quantity of fuel type combusted in power plant included in j build margin 2) $EF_{k,upstream, CH4}$: Taken from

Sr. No.	Description of parameter	Value of the parameter	Source of Data	Verification justification
				Table 2 of AM 0029, Version 03 3) 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 5 (November 2009)c, - this being a government published data, found most authentic, hence, cross checking not applicable.

Data and parameters monitored ex post

Sr. No.	Description of parameter	Value of the parameter	Measurement frequency	Verification justification

			and Source of Data	
1.	Net quantity of natural gas consumption by the project plant during the year y, $FC_{NG,y}$	1,193,138,469.22 SCM	Measured : Daily, monitored Continuously Source of data: Fuel flow meter reading at project boundary.	Cross checking Source: Daily Quantity of natural gas consumed by the project activity will be cross-checked with the invoices raised by from the fuel supplier. This is relevant to Methodology requirement. Hence, acceptable. However, PP while calculating project emission and leakage emission has considered this additional value of gas, as this being appropriate.
2.	The net calorific value of natural gas in year 'y' , $NCV_{NG,y}$	8628.63 kcal/SCM = 0.03612GJ/SCM (From 04 June 2009 to 30 June 2012)	Measured : Daily, monitored Continuously Source: From Data from fuel supplier will be used.	Cross checking Source: PP's Gas calorimeter. The value will be indicated in the invoices raised by the fuel supplier on the project proponent
3.	Electricity generation in the project plant during the year y, $EG_{PJ,y}$	5,127,495.06 MWh (From 04/06/2009 to 20/06/2012)	Measured : Monthly , monitored continuously Source : Common Tri-vector energy meter at the plant site	Cross checking Source: Check meters installed at each feeder. The data is cross verified with the invoices raised by the PP to the Andhra Pradesh

			present in the switch yard The digital readings will be monitored each hour and data will be recorded monthly. This represents the summation of the readings measured by the energy meter line-1 and energy meter line-2.	Power Coordination Committee. (a wing of APTRANSCO)
4.	Net quantity of LNG consumption by the project plant during the year, y , $FC_{LNG, y}$	0 m^3	Measured : Daily, monitored continuously Source of data: Fuel flow meter reading at project boundary	Cross checking Source: Quantity of LNG consumed by the project activity will be cross-checked with the invoices raised by from the fuel supplier. This is relevant to the methodology requirement, hence, acceptable.

From the above description, the verification team confirms that value of parameters monitored ex ante is as per registered PD. The values of parameters monitored ex post are from the correct source as required by the approved methodology and cross verification is done for these parameters wherever, possible. The verification team confirms that no parameters have been identified for which cross verification could not be done, except those, which are considered from data provided by IPCC and Government of India's publications.

The calibration was conducted at the frequency as specified by the methodology, monitoring plan of the approved monitoring plan.

The details of the calibration as depicted in the revised monitoring plan are tabulated below:

Electricity meters:

Monitoring Instrument / Equipment	Serial number	Frequency of calibration as per approved RMP	Calibration date	Next calibration due	Confirmation by verification team
Electricity meter Line-1 (Main meter installed by PP, as per PPA)	83912780 08081480 08081479 08081480 08081479 12196517 12196518 12196517	Annual	05/08/2008 04/08/2009 10/11/2009 24/03/2010 15/07/2010 20/01/2011 10/06/2011 28/01/2012	05/08/2009 04/08/2010 10/11/2009 24/03/2011 15/07/2011 20/01/2011 10/06/2011 27/01/2013	Calibration certificate issued by M/s. Electronic Test & Development Centre, Hyderabad, a Centre government of India laboratory under Department of Electronics & Information Technology.
Electricity meter Line-2 (Main meter installed by PP, as per PPA)	08018480 08081479	Annual	10/06/2011 28/01/2012	10/06/2012 27/01/2013	Calibration certificate issued by M/s. Electronic Test & Development Centre, Hyderabad, a Centre government of India laboratory under Department of Electronics & Information Technology.

The verification team from the above description confirms that the calibrated electricity meters are used during the monitoring period (04/06/2009 to 30/06/2012). The test results are within specified limits, hence, measurement carried out through these meters is correct.

As described in the revised approved PD, and as per PPA condition, the meters are installed by the APTRANSCO. The PP has no control on it. Hence, calibration on these meters could not be performed by PP. However, cross checking of electricity generated is identified by means of invoices raised by the PP on the Andhra Pradesh Power Coordination Committee (a wing of APTRANSCO) (Ref /02/). Hence, verification team finds this as appropriate.

Gas meters:

Monitoring Instrument / Equipment	Serial number	Frequency of calibration as per approved RMP	Calibration date	Next calibration due	Carried out by
Line 1, main meter Ultra Senior sonic Flowmeter	08-060421	As per manufacturer standard	02/06/2008	NA	Certificate of Calibration from National Institute of Standards and Technology
Line 2, main meter Ultra Senior sonic Flowmeter	08-060417	As per manufacturer standard	02/06/2008	NA	Certificate of Calibration from National Institute of Standards and Technology

Gas meter: Calibration of Cross checking meter for installed by PP as required by methodology

Monitoring Instrument / Equipment	Serial number	Frequency of calibration as per approved RMP	Calibration date	Next calibration due	Carried out by
Turbine meter for Konaseema Gas Power Plant Limited, Gas turbine 1	31634	As per manufacturer Standard	08/08/2012	Once in 3 year	RMG Auto meters Gas Technologies Limited. Calibration Laboratory
Turbine meter for Konaseema Gas Power Plant Limited, Gas Turbine 2	31635	As per manufacturer Standard	01/09/2012	Once in 3 year	RMG Auto meters Gas Technologies Limited. Calibration Laboratory

NCV measuring Chromatograph meter: (GAIL meter)

Monitoring Instrument / Equipment	Serial number	Frequency of calibration as per approved RMP	Calibration date	Carried out by
Gas chromatograph installed by PP	9007294	Annually	11/06/2012	Joint calibration report of On-line Gas Chromatograph at gas location carried out by GAIL and PP.

As described above, the project participant has provided calibration certificates Ref /6, 7, 8 & 9/ of all the monitoring instruments tabulated above. Having reviewed all the

calibration certificates, the verification team confirms that the calibration details of all the instruments as provided above are correct. The errors identified are within acceptable limits for the instruments/measuring equipment by the calibration/testing process. Hence, the measurement performed by these equipments can be confirmed as correct.

From the above description, the verification team confirms that the calibration was conducted at the frequency as specified by the methodology, monitoring plan of the approved revised monitoring plan.

The verification team also confirms that the compliance of monitoring is in line with the monitoring methodology and is in accordance with section 4.8 of the VCS Standard Version 3.2 Ref /14/.

The following actions were taken to ensure that the most conservative assumption theoretically possible has been made:

As described above all the monitoring parameters were monitored and available in accordance with the registered VCS PD Ref /10/. Verification team also verified the values of monitored parameters used in the calculation of emission reduction with the relevant records during on-site assessment of the project as well as off-site assessment of data and documents.

The values of various parameters such as fuel consumed, electricity generated, etc. are correct and free of any material misstatement.

The following actions were taken to ensure that the most conservative assumptions (theoretically) have been applied:

It is ensured that the data that directly affect the emission reduction are from official, credible and appropriate sources considered. The verification team confirms that the PP has included the correct value of electricity generated and the fuel consumed for calculating emission reduction. The verification team having reviewed the emission reduction calculation spread sheet and references for different values therein and its cross checking mechanisms, confirms that the emission reductions are now correct and conservative.

The Project participant explained that there was a scheduled shut down and hot gas path inspection. Due to this activity, the plant has not run from 04/06/2009 to 09/03/2010, 04/09/2010 to 16/09/2010 and 30/08/2011 to 08/09/2011. Hence, there was no generation of electricity between 04/06/2009 to 09/03/2010, 04/09/2010 to 16/09/2010 and 30/08/2011 to 08/09/2011. Hence, there was no emission reduction during this period.

From the above, it can be deduced that, appropriate methods and formulae for calculating baseline emissions, project emissions and leakage emissions have been followed in accordance with applied baseline and monitoring methodology.

The GHG emission reductions for the said monitoring period are calculated based on:

a) Baseline Emission

b) Project Emission

c) Leakage

d) Emission Reduction

The emission reduction is calculated on the basis of the Net electricity exported by the project activity and the Natural gas consumption. The calculation is in line with the applied methodology AM0029, Version 03 Ref /15/ and registered VCS PD Ref /10/.

Baseline Emissions are calculated by multiplying the net electricity generated in the project plant with a baseline emission factor. For the Baseline emission factor three options as per the approved methodology AM0029, Version 3 were calculated.

Option 1: The build margin, calculated according to "Tool to calculate emission factor for an electricity system"; and

Option 2: The combined margin, calculated according to "Tool to calculate emission factor for an electricity system", using a 50/50 OM/BM weight;

Option 3: The emission factor of the technology (and fuel) identified as the most likely baseline scenario under "Identification of the baseline scenario"

The lowest emission factor out of these three options –Build margin- was applied for the baseline emissions calculation. During monitoring period the total net electricity supplied by the project activity is 512,749,5060 kWh. The baseline emission factor (Build Margin) has to be ex-post and the values during the validation is based on CEA version 5 and hence the Build margin is updated based on the version 5 of CEA. Based on the net electricity supplied and the emission factor the baseline emissions are 4,204,546 tCO2e.

Project Emissions result from the on-site combustion of natural gas to generate electricity. The project emissions are estimated by multiplying volume of natural gas combusted (1193.138 Million SCM) by the project activity during the monitoring period and CO2 emission co efficient (0.0561 tCO2e /GJ). Based on the natural gas combusted and the CO2 emission co efficient the project emissions are 2,409,784 tCO2e.

Leakage calculations were carried out in line with AM0029, Version 03 requirements. In particular, emission factor for upstream fugitive methane emissions ($EF_{BL,\ upstream,\ CH4}$) is calculated in a conservative manner in accordance with the methodology and the Leakage emission for the monitoring period is 184,205 tCO2e. CO2 emissions from LNG were not considered because LNG is not used in the project activity.

Emission reductions have been calculated as difference between the Baseline emissions, minus the project emissions and leakage. The emission reductions for the entire monitoring period are 1,610,556 tCO2e.

4.3 Quality of Evidence to Determine GHG Emission Reductions or Removals

As per the applied methodology AM0029, Version 03 Monitoring shall consist of

a) Annual quantity of fuel "f" consumed in project activity Net
b) Calorific Value of fuel
c) Oxidation factor
d) Emission factor for fuel 'f'
e) CO2 emission coefficient
f) Project emission due to combustion of fuel

The following actions were taken to ensure that the most conservative assumption theoretically possible has been made:

As described above all the monitoring parameters were monitored and available in accordance with the approved monitoring plan described in registered VCS PD(Ref /10/). Verification team also verified the values of monitored parameters used in the calculation of emission reduction with the relevant records during on-site assessment of the project as well as off-site assessment of data and documents.

The values of various parameters such as fuel consumed, electricity generated, etc. are correct and free of any material misstatement.

The following actions were taken to ensure that the most conservative assumptions (theoretically) have been applied:

(a) It is ensured that the data that directly affect the emission reduction are from official, credible and appropriate sources.

(b) The verification team reviewed the Monitoring Report (Ref /01/) and found that in the Section 4.2 the formulae for calculation of baseline emission, project emission and leakage were clearly described as per the registered PD.

(c) The verification team was not provided with the Emission Reduction Sheet; hence, CL was raised. The Project Participant submitted the same. The verification team confirms that the PP has included the correct value of electricity generated and the fuel consumed for calculating emission reduction. The verification team having reviewed the emission reduction calculation spread sheet and references for different values therein and its cross checking mechanisms, confirms that the emission reductions are now correct and conservative.

The Project participant explained that there was a scheduled shut down and hot gas path inspection. Due to this activity, the plant has not run from 04/06/2009 to 09/03/2010, 04/09/2010 to 16/09/2010 and 30/08/2011 to 08/09/2011. Hence, there was no generation of electricity from 04/09/2010 to 16/09/2010 and 30/08/2011 to 08/09/2011. Hence, there was no emission reduction during this period. The verification team confirmed this shut down of plant from the daily electricity generation Log book and actual electricity generated and fed to the grid from the JMR for the period 04/06/2009 to 30/06/2012 (Ref /03/). The JMR readings for net electricity generated were cross checked with the invoice raised by the PP to the Andhra Pradesh Power Coordination Committee (a wing of APTRANSCO) (Ref /02/).

4.4 Management and Operational System

The project activity is operated and managed by the M/s Konaseema Gas Power Limited. For the accurate execution of the Project activity a project team has been constructed. The power project abides and will abide by all regulatory and statutory requirements as prescribed under the state and central laws and regulations. The project team is delegated with the responsibility of monitor and documents the parameters which need to be monitored as defined in the registered PD and also safe keeping of the recorded data. The project team is also responsible for calculation of actual creditable emission reduction in the most transparent and relevant manner.

The Director of KGPL has authorised the VCS Manager to develop the PD and the Monitoring Plan, delegating all powers in relation thereto, to the VCS Manager:

a) Provide all information/data required for this monitoring plan
b) Comply with all the requirements as per the Project Document and Monitoring Plan.
c) Adherence to the laid down protocols, procedures and processes, in relation to VCS project activity, by the aforesaid O & M team, fuel team and the VCS team
d) Refer all conflicts, discrepancies, mistakes, etc in relation to the Monitoring Plan of the VCS project activity, to the VCS manager for resolution, which resolution in this regard shall be final and binding on the aforesaid teams. The VCS team consists of VCS auditor and VCS compiler. The O&M team is headed by the Head, O & M and the Fuel team is headed by the Fuel Manager.

Sl. No	Designation	Responsibilities
1.	Director	Implement the organization structure. Issue office orders, authorizing the VCS Manager to implement the PD and the Monitoring plan and delegating to him all powers in relation thereto
2.	VCS Manager	Direct the O& M team, fuel team, VCS team in relation to conformance with PD and monitoring plan Storage of aggregated data. Coordinate with DOE during verification process. Monitor raw data in relation to Build Margin, Oxidation factor and where national institutions / AM0029 default data are involved. Randomly check data wherever necessary to independently check the authenticity of data and take corrective

		actions wherever required. Resolve all conflicts in relation to VCS project activity. Calculate ER and submit them to DOE. Implement the PD and the Monitoring Plan
3.	O & M Team	Calibrate the monitoring instrument to industry standards and maintain data.
4.	VCS Auditor	Data review, Process review, Monitoring plan Report, non-conformances with PD, and VCS manager's directions
5.	VCS Compiler	Data processing and data aggregation
6.	Fuel Team	Monitor raw data as per enclosed task

5 VERIFICATION CONCLUSION

Bureau Veritas Certification has performed periodic verification of the "Natural Gas Based Combined Cycle Power Generation, at Kothapeta, East Godavari, Andhra Pradesh, India." which applies the methodology AM0029, Version 03 Ref /15/. The verification was performed based on the requirements set by the VCS and relevant guidance provided by the verification consisted of the following three phases:

a) Desk review of the project design and the baseline and monitoring plan;

b) Follow-up interviews with project stakeholders;

c) Resolution of outstanding issues and the issuance of the final verification report and opinion.

The management of Konaseema Gas Power Limited is responsible for the preparation of the GHG emissions data and the reported GHG emissions reductions of the project on the basis set out within the project Monitoring Plan indicated in the registered PD. The development and maintenance of records and reporting procedures in accordance with that plan, including the calculation and determination of GHG emission reductions from the project, is the responsibility of the management of the project.

Bureau Veritas Certification verified the Project Monitoring Report Version 06 Ref /01/for the reporting period as indicated below. Bureau Veritas Certification confirms that the project is implemented as described in validated and registered project documents. Installed equipment being essential for generating emission reduction runs reliably and is calibrated appropriately. The monitoring system is in place and the project is generating GHG emission reductions Bureau Veritas Certification can confirm that the GHG emission reduction is calculated without material misstatements. Our opinion relates to the project's GHG emissions and resulting GHG emissions

reductions reported and related to the valid and registered project baseline and monitoring, and its associated documents. Based on the evidence and information that are considered necessary to guarantee that GHG emission reductions are appropriately calculated, Bureau Veritas Certification confirms the following statement:

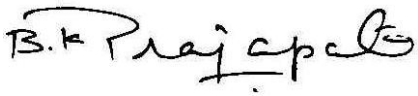
Reporting period: From 04/06/2009 to 30/06/2012

GHG Emission Reductions or Removals	tCO2e
Baseline Emissions	4204546
Project Emissions	2409785
Leakage	184205
Net GHG emission reductions or removals	1610556

Break up of Emission Reductions achieved vintage wise:

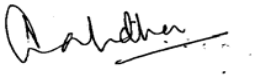
Sl No.	GHG Emission Reductions or Removals	tCO2e
1	10th March 2010 – 31st December 2010	506478
2	1st January 2011 – 31st December 2011	813940
3	1st January 2012 – 30th June 2012	290138
	Net GHG emission reductions or removals	**1610556**

*The project participant has rounded down decimals values of the emission reductions to arrive at the total emission reduction value of 1,610,556 for the current monitoring period. This is conservative and hence, accepted by the verification team.



Mr. Bhavesh Prajapati

(Internal Technical Reviewer)



Mr. H.B.Muralidhar

(Team Leader)

6 REFERENCES

1. Monitoring Report, Version 6.0, dated, 18/12/2012
2. Invoice raised by PP 04/06/2012 to 30/06/2012
3. JMR's for the Months 04/06/2012 to 30/06/2012
4. Certificate of commissioning issued by Andhra Pradesh Power Coordination Committe Lr. No. CE/IPC/112/F.KEOPL COD/D.No.55/09 dt.17.06.2009
5. Power Purchase Agreement signed with State government owned Andhra Pradesh Transmission Corporation of India Ltd. (APTRANSCO)

6. Calibration Certificates of electronic trivector energy meters, Sl. No. 12196517 & 08081479, test conducted on 28/01/2012
7. Ultra Senior sonic Flow meter Certificate of Calibration from National Institute of Standards and Technology
   Sl. No. 08-060421 & 08-060417, test conducted on 02/06/2008
8. Calibration Certificate of Turbine Meters, Sl. No. 31634 & 31635, test conducted on 08/08/2012 & 01/09/2012
9. Joint calibration report of Gas Chromatograph, dated 11/06/2012
10. Registered VCS-PD, dated 24/05/2011, Version 2.1
11. VCS Validation Report issued by SIRIM QAS International Sdn. Bhd. on 01/06/2011
12. Emission reduction spreadsheet submitted on 06/12/2012
13. VCS Programme Guide, Version 3.3 dated 01/05/2012
14. VCS Standard, Version 3.2 dated 01/02/2012
15. CDM Approved Methodology AM0029, Version 03 "*Baseline Methodology for Grid Connected Electricity Generation Plants using Natural Gas*", EB 39

7 C.V. OF THE DOE'S VERIFICATION TEAM MEMBERS

H.B. Muralidhar (Team Leader):
Bureau Veritas Certification (India) – General Manager Climate Change Services

Lead auditor with Bureau Veritas Certification for Environment Management System, Quality Management System and Occupational Health and Safety Management System. Graduate in Electrical Engineering with 25 year work experience related to power generation and distribution as well as management system auditing. He is the Lead auditor for Environmental Management System, Quality Management system and Occupational Health and Safety Management System. He is the technical expert & conducted Validation / Verification for more than 50 CDM/VCS Projects.

Mr. V. Senthil Kumar (Team Member):
Bureau Veritas Certification, Lead Verifier

He is a Environmental Engineer with over 6 years of experience in the consultancy domain related to Training and Implementation of Management Systems (ISO: 9000, 14000 & 18000). For the last 4 years, he is involved in different type of Clean Development Mechanism Projects. He has also experience in offering project management services to various renewable energy projects. Has undergone training related to Clean Development Mechanism and is currently involved in validation and verification of CDM project activities.

Mr. Chandan Singh (Team Member):
Bureau Veritas Certification, Verifier

He is an Environmental professional with 5+ years of experience in the consultancy domain related to Environment, Energy and Sustainability. He has catered 80+ clients in the field of Climate Change Advisory Services encompassing Climate Change Flexibility Mechanisms both compliance based as well as voluntary (CDM & VCS Projects), GHG Accounting, Corporate social responsibility across a wide range of industry sectors. He has completed M.Sc. (Masters of Science) in Energy System from University of Petroleum and Energy Studies. He has successfully undergone training of CDM verifier organized by Bureau Veritas.

Mr. Bhavesh Prajapati
Bureau Veritas Certification, Technical Support - Internal Technical Reviewer

Graduate in the field of Chemical Engineering and post graduate in finance (MBA-Finance). He has more than 8 years of Industrial work experience in the field of environment audits, consultancy of HVAC (pharmaceutical industry as well as commercial air conditioning) and utility services and project management. He has undergone lead verifier's training on Clean Development Mechanism. He is involved in the Validation/verification of CDM and VCS projects

8 APPENDIX A: VERIFICATION PROTOCOL

CHECKLIST QUESTION	Ref.	§	COMMENTS	Draft Concl	Final Concl
1. Project implementation in accordance with the registered project document					
a Are all physical features of the proposed VCS project activity proposed in the registered PD in place?			PP to provide the VCS Project ID and link to the registered VCS project activity.	CL 01	OK
b Have the project participants operated the proposed VCS project activity as per the registered PD?			As per the letter from the Andhra Pradesh Power Coordination Committee dated 17/06/2009 the Commercial Operation Date of the project activity is 04/06/2009 but as per the Final Validation Report issued by SIRIM QAS International Sdn. Bhd. on 01/06/2011 the Commercial Operation Date of the project activity is 05/06/2009. Please Clarify.	CL 02	OK
c Was an on-site visit conducted?			Yes, the physical site visit was conducted on 13/07/2012	OK	OK
d If not, justify the rationale of the decision.			Not Applicable		OK
e Does the implementation or operation of VCS project activity conform with the description contained in the registered PD?			Yes, the implementation and operation of VCS project activity conforms the description contained in the registered PD.	OK	OK
f Was a notification or a request for approval of changes from the project activity as described in the registered PD submited prior to the conclusion of the verification/certification for the corresponding?			Not Applicable	OK	OK
2. Compliance of the monitoring plan with the monitoring methodology					OK
a. Is the validated monitoring plan in accordance with the approved methodology applied by the proposed VCS project activity?			Yes, the monitoring plan applied by the VCS project activity is in accordance with the approved methodology.	OK	OK
b. If no, was a request for revision of the monitoring plan was done? (The DOE may request for revision of the monitoring plan covering the monitoring period under verification, for approval by the VCS Board)			Not Applicable	OK	OK

c. Are there any monitoring aspects of the project activity that are not specified in the methodology, particularly in the case of small-scale methodologies (e.g. additional monitoring parameters, monitoring frequency and calibration frequency)?			There are no parameters which are not specified in the methodology which are monitored in the project activity.	OK	OK
3. Compliance of monitoring with the monitoring plan					OK
a. Have the monitoring plan and the applied methodology been properly implemented and followed by the project participants?			Yes, the implementation of the montioring is in line with the plan stated in registered PD and also meeting the requirements of the applied methodology.	OK	OK
b. Have the previous monitoring reports been reviewed?			Not Applicable	OK	OK
c. Where applicable, has the impact of revision in the monitoirng plan on the current verification been reviewed ?			Not Applicable	OK	OK
d. Does the registered/approved monitoring plan have any description of an illustration to calculate net electricity supplied to the grid by the project activity ?			Yes the approved monitoring plan does contain the description of an illustration to calculate net electricity supplied to the grid by the project activity.	OK	OK
e. If yes to (d) above, has the verification team verified /confirmed the validity of such illustration with supporting documents?			Yes, the appropriate documents have been verified by the verification team.	OK	OK
f. Have all parameters stated in the monitoring plan, the applied methodology and relevant VCS Board decisions been sufficiently monitored and updated as applicable, including:					OK
i. Project emission parameters?			PP to justify the appropriateness of the Net calorific value applied for calculating Project Emission.	CL 03	OK
ii. Baseline emission parameters?			Yes	OK	OK
iii. Leakage parameters?			Yes	OK	OK
iv. Validation of entire procedure of apportioning, if applicable			Yes	OK	OK

v. Management and operational system: the responsibilities and authorities for monitoring and reporting are in accordance with the responsibilities and authorities stated in the monitoring plan?			Yes, the responsibilities and authorities for monitoring and reporting are in accordance with the responsibilities and authorities stated in the monitoring plan.	OK	OK
g. Is the accuracy of equipment used for monitoring in accordance with the relevant guidance provided by the VCS Board and are equipment controlled and calibrated in accordance with the monitoring plan?					OK
i. Are monitoring results consistently recorded as per approved frequency?			The certificate of calibration for Ultra Senior Sonic Flow meters was issued on 02/06/2008. As per the registered PD the instrument will be calibrated as per manufacturer's standards. To maintain consistency PP is requested to provide the frequency of the calibration of the Ultra Senior Sonic Flowmeters as the monitoring period cover from 04/06/2009 to 30/06/2012.	CL 04	OK
ii. Have quality assurance and quality control procedures been applied in accordance with the monitoring plan?			Yes, the quality assurance and quality control procedures been applied in accordance with the monitoring plan	OK	OK
iii. Has the verification team confirmed whether the applicability and correct implementation of any procedure that replaces direct calibration of meters, and any procedure that leads to calculation of parameters used in the ER determination ?			Yes, the verification team has confirmed the applicability and correct implementation of any procedure that replaces direct calibration of meters, and any procedure that leads to calculation of parameters used in the ER determination	OK	OK
4. Assessment of data and calculation of greenhouse gas emission reductions					OK
a. Is a complete set of data for the specified monitoring period is available? (If no, i.e., only partial data are available because activity levels or non-activity parameters have not been monitored in accordance with the registered monitoring plan, the DOE shall opt to either make the most conservative assumption theoretically possible in finalizing the verification report, or raise a request for deviation prior to submitting request for issuance, if appropriate).			Yes, the complete set of data for the current monitoring period is available.	OK	OK

b. Has information provided in the monitoring report been cross-checked with other sources such as plant log books, inventories, purchase records, laboratory analysis?			Yes, the information provided in the monitoring report has been cross checked with the JMRs, Invoices and calibration certificates.	OK	OK
c. Have calculations of baseline emissions, proposed VCS project activity emissions and leakage, as appropriate, been carried out in accordance with the formulae and methods described in the monitoring plan and the applied methodology document?			Yes, the calculations of baseline emissions, proposed VCS project activity emissions and leakage, have been carried out in accordance with the formulae and methods described in the monitoring plan and the applied methodology	OK	OK
d. Have any assumptions used in emission calculations been justified?			There are no assumptions used in emission calculations which require justifications.	OK	OK
e. Have appropriate emission factors, IPCC default values and other reference values been correctly applied?			The emission factor has been fixed ex-ante and same has been correctly applied.	OK	OK

TABLE 2 Resolution of Corrective Action / Forward Action / Clarification Requests

Draft report clarifications and corrective action requests by verification team	Reference to checklist question in Periodic Verification Checklist	Summary of project owner response	Verification team conclusion
CL 01 PP to provide the VCS Proect ID and link to the registered VCS project activity.	Table 1 1. a.	As the project is economically sensitive PP does not intend to disclose the details, which is the reason it's not been uploaded to the VCS registry.	The Project Activity documents are not uploaded on VCS registry. Hence, project ID is not available **CL 01 CLOSED**
CL 02 As per the letter from the Andhra Pradesh Power Coordination Committee dated 17/06/2009 the Commercial Operation Date of the project activity is 04/06/2009 but as per the Final Validation Report issued by SIRIM QAS International Sdn. Bhd. on 01/06/2011 the Commercial Operation Date of the project activity is 05/06/2009. Please Clarify.	Table 1 1. b.	The project start date is 04th June 2009. This was confirmed by the review of the Commercial Operation Date (COD) of the project. The CL is due to the typographical error happened in the reference table. Section 3.1 project design of FVR confirms the project start date is 04th	Verification team has cross verified the commercial operation date from the letter issued by Andhra Pradesh Power Coordination Committee dated 17/06/2009 and found to be ok. **CL 02 CLOSED**

Draft report clarifications and corrective action requests by verification team	Reference to checklist question in Periodic Verification Checklist	Summary of project owner response	Verification team conclusion
		June 2009. In Appendix 1, reference table mentioned 05/06/2009 this is due to typo error occurred during validation. The copy of commercial operation date is submitted to DOE for verification.	
CL 03 PP to justify the appropriateness of the Net calorific value applied for calculating Project Emission.	Table 1 3. f. i	The NCV value(Fuel supplier invoice) considered for the calculation of VCUs is the value arrived by taking the average of the individual months for whole crediting period i.e., from 4th June 2012 to 30th June 2012 on a monthly basis , which in turn is the average value of the no. of days in that particular month. Hence the Net calorific values applied for calculating project emission are appropriate.	Verification team has verified the fuel supplier invoices. It is in line with monitoring plan of the Registered PD. **CL 03 CLOSED**
CL 04	Table 1	A letter from the manufacturer	Verification team has verified the letter from GAIL which states that

Draft report clarifications and corrective action requests by verification team	Reference to checklist question in Periodic Verification Checklist	Summary of project owner response	Verification team conclusion
The certificate of calibration for Ultra Senior Sonic Flowmeters was issued on 02/06/2008. As per the registered PD the instrument will be calibrated as per manufacturer's standards. To maintain consistency PP is requested to provide the frequency of the calibration of the Ultra Senior Sonic Flow meters as the monitoring period cover from 04/06/2009 to 30/06/2012.	3. g. i	explaining the periodicity of the calibration will be provided.	initial calibration holds good till any major problem/ damage occurs. There is no recommendation on frequency of calibration of ultrasonic meter nether neither by manufacturer nor by standard AGA9. **CL 04 CLOSED**
CL 05 The project activity "Natural Gas Based Combined Cycle Power Generation, at Kothapeta, East Godavari, Andhra Pradesh, India" was webhosed on 12/11/2010 for global stakeholders consultation on UNFCCC CDM websit. The pp has applied for CDM credits also and the project is still at validation stage. PP is requested to expalin the procedures to avoid the double counting if the project gets registerd		During validation stage a letter of undertaking from the PP stating that once the project gets registered under the CDM, the VCUs benefits will not be availed has been provided, and the same will be produced to the DOE for verification.	Undertaking letter from PP has been submitted which was verified by verification team **CL 05 CLOSED**

Draft report clarifications and corrective action requests by verification team	Reference to checklist question in Periodic Verification Checklist	Summary of project owner response	Verification team conclusion
under CDM.			