

Verification Report for

Project : Renewable Biomass Based Power Generation,

Harinbhatta, Chhattisgarh.

UCR Project ID: 108

Name of Verifier	SQAC Certification Pvt. Ltd.
Date of Issue	May 12, 2023
Project Proponent	M/s Neeraj Power Pvt Ltd.
UCR Project Aggregator	M/s Carbon Equalizers, Katni.
Work carried by	Mr. Santosh Nair
Work reviewed by	Mr. Praful Shinganapurkar

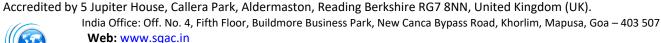
Summary:

SQAC Certification Pvt. Ltd. has performed verification of the "Renewable Biomass Based Power Generation, Harinbhatta, Chhattisgarh." The project activity involves the installation of a 7.5 MW rice husk-based power generation plant by the project proponents, Neeraj Power Pvt Ltd. The plant was commissioned on 01/11/2006 and utilises rice husk as the primary fuel, and coal as the secondary fuel for supply of electricity to the grid.

Verification for the period: **01/01/2014** to **31/12/2021**

The GHG emission reductions were calculated on the basis of UCR Protocols which draws reference from, UCR Protocol Standard Baseline, CDM UNFCCC Methodology, AMS-I.D: Grid connected renewable electricity generation (Ver.18.0) & UCR Standard for Emission Factor. The verification was done remotely by way of video calls / verification, phone calls and submission of documents for verification through emails.

SQAC is able to certify that the emission reductions from Renewable Biomass Based Power Generation, Harinbhatta, Chhattisgarh India, (UCR ID - 108) for the period **01/01/2014** to **31/12/2021** amounts to **2,25,866 CoUs** (**2,25,866** tCO₂eq)



Email: info@sqac.in Tel: 7219716786 / 87

UKAF CB 022



Detailed Verification Report:

Purpose:

The project involves the installation of a high pressure 38 tonnes per hour (TPH), Pressure: 66 kilograms / cm², Temperature 505°C Cethar Vessels AFBC Boiler and an 8 MW condensing Triveni turbine generator and provides 7.5 MW of electrical power to the Chhattisgarh State Electricity Board at 33 KV through the local substation. Other on-site generation units consist of a 320 KVA Jackson India Diesel generation set. This unit is used for backup power in emergencies and for maintenance work when the power plant is not operating, and the grid is down. It does not supply electricity to the grid and is therefore outside the project boundary. The project also involves environmental technologies that mitigate the risks of ash, boiler flue gases and fugitive dust generated during the operation of the plant. The plant location is selected based on surplus availability of biomass in the form of rice husk, an agro-industrial residue (biomass).



The CO₂ emissions due to the combustion of rice husk/bagasse is neutralized by the photosynthesis process of paddy crops. Hence, it "recycles" atmospheric carbon and does not add to the greenhouse effect. And also the rice husk/bagasse contains negligible quantities of nitrogen and sulphur, hence the other green house gas from the combustion of rice husk/bagasse can be neglected.

The coal being a carbon intensive fuel leads to GHG emissions hence implementation of the project activity leads to GHG emission reductions.











The technical details are as follows:

Specification	Value
Installed Cappacity	7.5 MW
Temperature	505 °C
Number of Turbines	1
Pressure	66 kg/cm ²
Feed Material	Rice Husk/Coal
Coal (MJ/kg)	15.7
Specific fuel consumption of biomass	1.13 kg/kWh
Specific fuel consumption of coal	1.19 kg/kWh

^{*}https://www.spiraxsarco.com/resources-and-design-tools/steam-tables/superheated-steam-region

Location of project activity:

Country : India

Village : Harinbhatta

Taluka : Simga

District : Balodabazar-Bhatapara

State : Chhattisgarh

Latitude : 21:38:00N (21.6334) Longitude : 81:42:54E (81.7151)







Start Date of Crediting Period : 01/01/2014

Monitoring Period : 8 years, 0 months

Project Commissioned :25/10/2006 (as per the synchronization

certificate dated November 3rd, 2006 by CSEB Raipur.)

Scope:

The scope covers verification of emission reductions from the project - Renewable Biomass Based Power Generation, Harinbhatta, Chhattisgarh India, (UCR ID – 108).

Criteria:

Verification criteria is as per the requirements of UCR Standard.

Description of the project:

The project activity involves the installation of a 7.5 MW rice husk-based power generation plant which was commissioned on 01/11/2006 and utilises rice husk as the primary fuel, and coal as the secondary fuel for supply of electricity to the grid.

The project activity utilises renewable biomass (rice husk) for generation of power that is supplied to the local grid. The annual biomass requirement for the 7.5 MW plant running on 100% rice husk is about 75,000 tonnes. When biomass is not available, coal is co-fired for continuous power supply and makes about 14.9% of total fuel used in the entire setup (hence it is lower than the UCR CoU Standard applicable threshold of 25% for biomass co-fired with coal project types). Hence the project activity is a co-fired system – that uses both fossil fuels



and renewable energy source in a single boiler for simultaneous combustion, while fossil fuel is used during a period of time when the biomass is not available.

Average coal consumption over the monitored period (01/01/2014 to 31/12/2021) was 8956 MT/year. Average biomass consumption over the monitored period was 61808 MT/year.

The project activity is located in the immediate vicinity of rice mills in the region and additionally, the project proponents also owns rice mills in the vicinity and hence surplus biomass in the form of rice husk is available in this district for the power plant activity. Hence there are no project emissions related to biomass transport to the project activity.

Year	Husk (Biomass) tonnes consumed
2014	64952.750
2015	68080.500
2016	69989.600
2017	75740.000
2018	50968.300
2019	44944.800
2020	50323.200
2021	66465.030

Level of Assurance:

The verification report is based on the information collected through interviews conducted over video calls / phone calls, supporting documents provided during the verification, Project Concept Note (PCN) / Monitoring Report (MR), submitted to SQAC. The verification opinion is assured provided the credibility of all the above.

Verification Methodology:

Review of the following documentation was done by SQAC Verifier, Mr. Santosh Nair, who is experienced in such projects.

- Project Concept Note (PCN)
- Monitoring Report (MR)
- Commissioning Report
- Consumption details



- Calibration report
- Data provided upon request of all the documents of the related projects

Sampling:

Not applicable

Persons interviewed:

1. Mr. Sunil Agrawal : Director, M/s Neeraj Power Pvt. Ltd.

Documentation Verified:

- Project Concept Note (PCN)
- Monitoring Report (MR)
- Meter Test Report
- Weight Bridge Calibration Reports
- Belt Weigher Calibration Reports
- Power Sale Invoice
- CA's Certificate
- Commissioning report boiler

Applied methodologies and standardized baselines:

UCR Protocol Standard Baseline

SECTORAL SCOPE - 01 Energy industries (Renewable/Non-renewable Sources)

TYPE I - Renewable Energy Projects

CATEGORY - AMS-I.D.: Grid connected renewable electricity generation (Ver. 18.0)

This methodology comprises renewable energy generation units, such as photovoltaic, hydro, tidal/wave, wind, geothermal and renewable biomass:

(a) Supplying electricity to a national or a regional grid.



OFFICE OF SUPERINTENDING ENGINER (T&C) C.S.E.B. GUDHIYARI, RAIPUR - 492 001

NO.SE(T&C) / RYP / TECH / 332

Raipur, dtd. \$3 NOV 2006

To,

The Chief Engineer (Comml.), C.S. Electricity Board, Danganiya, Raipur.

Sub : Synchronization of 8 MW Power Plant of M/s Neeraj Power Pvt. Ltd., Simga.

Ref : (1) The C.E. (Comml.), CSEB, Raipur's letter No.02-02/SE-1/12/117-01/2431, Dtd.07-10-2006. (2) The SE(C&M) Raipur's letter No.10-20/Comml./HTC-516/8974, Raipur, dtd.07-10-06.

In compliance to the C.E.(Commercial), Raipur's letter cited under reference No.(1), the power plant of M/s Neeral Power Pvt. Ltd. at Simga synchronized with CSEB Grid on dtd.2+10-06 but the generator tripped after few seconds due to the operation of transformer differential relay.

The power plant is again paralleled on dtd.25-10-06 after attending the defects and put into regular operation.

The copy of the HT meter readings of both meters located at the sending and receiving end, before synchronization of 8MW Power Plant of M/s Neeraj Power Pvt. Ltd. Singa, recorded by the Addi.S.E.(MRT)-I, Ralpur and AE(Testing), MRT-I, Ralpur is enclosed herewith for your reference.

Encl :-As above,

Superintending Engineer (T&C) Circle, CSEB, Raipur

Copy to :-01.

The Chief Engineer (T&C) /(RR), , CSEB, Danganiya,

The Chief Engineer (1&C) (RRY), CSEB, Danganiya, Gudhiyari, Raipur.
The Suptdg. Engineer(O&M), CSEB, Gudhiyari, Raipur.
The Addl. Suptdg. Engineer (MRT)-I, CSEB, Gudhiyari, Raipur.
The Executive Engineer (S/S) / (O&M) Dn., CSEB, Gudhiyari, Raipur/Bhatapara..
The Sr. Accounts Officer, CSEB, Raipur.
The M/s Neeraj Power Pvt. Ltd., Harinbhatta, Simga, Raipur.

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CHRISTINGTON NIATI POWER DELEMENTARY COMPANY LASS

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And GrI/II Altd GrI/II A.E. (MTDs-II, Raipur F.F./A.F.(O.S.M) F.R.	
r.A.GrI/II Attd.GrI/II A.E. (MT)D#-II, Raipur E.E./A.E.(O&M) E.E.(MT) DoII, Raipur

	CIPDCI मरीसाथ शेट गीरा विश्वीश्वास कंपनी विश्वीश	Central Test 220 KV. Sub-Station Ro	ower Distribution Company Limited ing Laboratory Division ad, Bill Nager, Brillsi-3, Durg (C.G.) 490021	**	
GST	NO: 22AADCC6047K1ZR	CIN NO U40108CT2	003567015827	TC-8192	
			00330C013822	Page No.1 of	
	ULR		Fest Report No.	Date of issue	
	TC819220000000487		TLD/LAB/TR/06-20/1501	24.08.2017	
		11,000		August 1	
		Name	M/s. NEERAJ POWER (P) LTD., BP N	01001942	
1	Customer Details	Address	58, GANDHI CHOWK, P.O NEORA	DICTE BALLIN	
190		Reference No.	NIL/18.08.2017	, DISTI - HAIPUR	
2	Letter receipt no. & date of	f receipt :	714/18.08.2017		
3	Location of test performed			11 70 21	
4	Description of sample		Central Testing Laboratory Dn., 81	HILAI-3 (C.G.)	
	Nature of Sample	3PH-4W ABT METER (BIDRECTION	VALL Reference Voters (1)	-	
	Make	SECURE	Lines and Angrage (Alet)	3*63.5 V	
	Serial number	CSE18707	Basic current (Ib)	5A	
	Type/Model	R3E/APEX 100	Rated maximum current (I _{max}) "	10A	
	Constant	2560 Imp/mwh	PTR	200/5A	
	Accuracy class	0.25		33KV/110V	
	Sample receiving date	19.08.2017	Frequency	50 Hz	
		1100000011	Test completion date	23.08.2017	
5	Description of Equipment u	sed for testing			
	Reference meter	EPZ303-08	Carlet annual and		
	Make	ZERA GmbH, Germany	Serial number	050023786	
	Accuracy class	0.02	Current range	10 mA - 120 A	
	Calibration certificate	No.ZIPL/2020/ECL/021	Voltage range	60 V - 320 V	
		Tank discount det	Calibration valid upto	02.02.2022	
6	Testing specification		Reference Standard (Name of IS)	IS 14697 : 1999 (Reaffirmed 2014	
		Temperature			
7	Environmental conditions	Relative Humidity	27 ± 2°€	2.1	
		Illumination	< 75%		
		Imanimianon	> 500 (lx)		
000000000000000000000000000000000000000	(2) The contents of the report shall not be (5) The sample after test will be retained in (5) This tests are valid in the environment (5) Reporting statements of conformity, J (6) Star marked field indicate: Not under P (7) Sampling and preparation of sample no	As per decision rule, ASBL scope, at done by laboratory, ner only which may affect the validity of resur-	for written consent of the laboratory head. the certificate.		
	CSPDCL/CTLD/LAB/FM/41	C 1953.			
	and the state of t		Sign of authorized signa (Avinash Chauhan) Assistant Engineer(Tech. M CENTRAL TESTING LABORATOR	anager)	

100	C/PDCL witness size then find the size that the size then find the size that find the size that the	Chhattisgarh State Power Distr Central Testing Labo 220 KV, Sub-Station Road, Bill Nagar,	*	
GST	T NO : 22AADCC6047K1ZR	CIN NO U40108CT2003SGG		TC-8192
	UIR			Page No.2 of 3
	TC819220000000487P	Test Repo		Date of Issue
	Serial Number	CSPDCL/CTLD/LAB/T	R/06-20/1501	24.08.2017
		CSE18707	Make	: SECURE
Sr. No.	Particulars of Test in Meter according to Reference IS Clause	Limits (Results should not Exceed as per Reference IS	Results Obtained	Remark
1	Limits of Error (IMPORT)	(% Error)		
	(Active) - (Confering to th	test as per Clause No. 11.1 of IS 14697	1-10001	-4.5
a	Imax UPF	± 0.2%		
b	Imax 0.5 Lag	± 0.3%	-0.028%	
C	Imax 0.8 Lead	± 0,2%	-0.049%	
d	100% Ib UPF	± 0.2%	-0.031%	
e	100% lb 0.5 Lag	±0.3%	0.019%	
f	100% lb 0.8 Lead	±0.2%	0.009%	
g	10% Ib UPF	± 0.2%	0.017%	
h	10% lb 0.5 Lag	±0.3%	0.022%	
1	10% lb 0.8 Lead	±0.2%	0.015%	the state of
1	5% Ib UPF	±0.2%	0.005%	
k	5% lb 0.5 Lag	± 0.5%	0.007%	
1	5% Ib 0.8 Lead	±0.2%	-0.054%	
m	2% lb 0.5 Lag	± 0.5%	0.028%	PASS
n	2% lb 0.8 Lead	±0.2%	-0.028%	
0	1% lb at UPF	± 0.4%	0.049%	
10	Reactive	2000	0.059%	
a	Imax 0.5Lag	± 0.3%		
b	Imax 0.8Lead	±0.2%	0.009%	
c	100% lb 0.5Lag	± 0.3%	0.002%	
d	100% lb 0.8Lead	± 0.2%	0.015%	
e	10% lb 0.5Lag	± 0.3%	0.015%	
f	10% lb 0.8Lead	± 0.2%	-0.006%	
g	2% lb 0.5 lag	±0.5%	0.014%	
	2% lb 0.8Lead	±0.2%	0.071%	
2*	Dial Test/Test of registration		0.004%	
	I.R. (Mwh): 722.303		The state of the s	
	F.R. (Mwh): 1324.642	±0.2%	-0.040%	PASS

(TA Gr.II)LAB TECHNICIAN

Er. AVINASH CHAUHAN TECHNICAL MANAGER



CIPDCI

Chhattisgarh State Power Distribution Company Limited **Central Testing Laboratory Division**



	there also the Daglagee about telebra	36				
CCT	NO - 3344 DESCRIPTION	»CIN NO U40108CT2003SGI		TC-8192		
031	NO: 22AADCC6047K1ZR	Page No.3 of 3				
	ULR	Test Repo	rt	Date of Issue		
	TC819220000000487P	CSPDCL/CTLD/LAB/T	R/06-20/1501	24.08.2017		
	Serial Number :	CSE18707	Ma	ke : SECURE		
Sr. No.	Particulars of Test in Meter according to Reference IS Clause	Limits (Results should not Exceed as per Reference IS	Results Obtained	Remark		
1	Limits of Error (EXPORT)	(% Error)	Part of the last			
	(Active) - (Confering to the	7:1999)				
8	Imax UPF	± 0.2%	-0.031%			
b	Imax 0.5 Lag	±0.3%	-0.026%			
c	Imax 0.8 Lead	± 0.2%	-0.036%			
d	100% lb UPF	±0.2%	0.014%			
e	100% lb 0.5 Lag	±0.3%	0.017%			
f	100% lb 0.8 Lead	± 0.2%	0.020%			
g	10% lb UPF	±0.2%	0.031%			
h	10% lb 0.5 Lag	±0.3%	0.060%			
1	10% lb 0.8 Lead	±0.2%	0.040%			
j	5% lb UPF	±0.2%	0.005%			
k	5% lb 0.5 Lag	±0.5%.	-0.016%			
1	5% lb 0.8 Lead	± 0.2%	0.013%			
m	2% lb 0.5 Lag	±0.5%	-0.004%	PASS		
n	2% lb 0.8 Lead	±0.2%	0.036%			
0	1% Ib at UPF	±0,4%	0.053%			
	Reactive					
3	Imax 0.5Lag	±0.3%	0.003%			
b	Imax 0.8Lead	±0.2%	-0.009%			
C	100% lb 0.5Lag	± 0.3%	0.019%			
d	100% lb 0.8Lead	±0.2%	0.015%			
e	10% lb 0.5Lag	±0.3%	-0.010%			
f	10% lb 0.8Lead	± 0.2%	0.022%			
g	2% lb 0.5 lag	± 0.5%	0.032%	1		
h	2% Ib 0.8Lead	± 0.2%	0.009%			
2*	Dial Test/Test of registration	on (EXPORT)	TENDER STATE	4		
-	I.R. (Mwh): 701.488 F.R. (Mwh): 1303.819	±0.2%	-0.040%	PASS		

ARVIND KUMAR VERMA (TA Gr.II)LAB TECHNICIAN

Er. AVINASH CHAUHAN TECHNICAL MANAGER

OBSEVATION TABLE :-STANDARD WEIGHTS INDICATOR READING ERROR IF ANY 0 Kg 4000 Kg 4000 Kg Trk wt 9980+4000= 15420 13980 Kg Trk wt 28030+4000=32030 CALIBRATION DATE - 06/01/2020 FOR SIDDHI VINAYAK ENTERPRISES SERVICE ENGG. SIDDHI VINAYAK ENTERPRISES

SIDDHI VINAYAK ENTERPRISES

- NEERAL POWER PRIVATE LIMITED VILLAGE - HARAINBHATTA THE - BALODA BAZAR (C.G.)

MIG 171, NEAR NARULA GARDEN, TATIBANDH , RAIPUR (C.G.) 492099 M.No. 9425214394, 7692910005 email: sudhaker.shinde@gmail.com REP LICENCE NO 781 CALIBRATION REPORT

M/C DESCRIPTION - ELECTRONIC ROAD WEIGHBRIDGE.

-AIWA

-60000Kg

- AWB 60T

-050936

अनुस्**यै-**VIII नियम 16(3) देखिये कार्यालय नियंत्रक विधिक मापवि

दिनांक 01/01/2

विधिक मापविज्ञान अधिकारी का नाम Mr Damoder Prasad क. 39

तद्वारा प्रमाणित करता हूँ की मैंने आज शोधे दर्शाये बाट माप इत्यादि को सत्यापित तथा स्टाम्पित कर दिया है | सर्संश्री : NEERAJ POWER PRIVATE LIMITED , पता:- HARINBHATTA, तहसील:- सिमगा, जिला:- बलीदा बाजार-भा

क्रमांक	धर्मकांटा / इलेक्ट्रॉनिक तौल उपकरण								_	
		31	अधिमान		स्केस	. 0		उपकरण		परिवहन,वहन समायोजन
	वर्ग/उपकरण का प्रकार(क्षमता)	अधिकतम(टन मं)	न्यूनतम(किलोग्राम मं)	श्रेणी	अंतराल(किलोग्राम में)		मशीन का मॉडल न.		सत्यापन शुल्क	व्यय इत्यादि
1	गैर-स्वचलित तील उपकरण- इलेक्ट्रानिक वर्ग 3 तथा 4/(60	60	200	= "	10	AIWA	AWB60T	050936	2000	

कुल जमा रु :2000 चालान/मनी रसीद क्: 66291220000415 भूगतानकर्ती का नाम : Neeraj Power Pvt Ltd दिनांक : 11/12/2020 द्वा उ सुधार किया गया /उपयोग किया गया |

अन्य शुल्क रु : NA , अन्य शुल्क का रसीद क्रमांक : NA , अन्य शुल्क का कारण : NA

विधिक माप विज्ञान अधिकारी

प्रधान पास प्रकार किया 24 की कांग्रियों अनुसार सहज राष्ट्रीवेश स्थान पर प्रतीत किया जाना अनिकार्य है | (2) मिरस्त , बार , माग इत्यादि के मामसे में ,विधिक मागविजान अधिकारी प्रयोक वस्तु के मिरस्तेकरण के सिये निरस्तेकर दक्षीते हुए पृथक से पत्र जारी करेगा |

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Date: 2021.01.01 42.04:41 IST
Reason: Certified to be TRUE COPY
of the digitally published ROR

MIG 171, NEAR NARULA GARDEN, TATIBANDH, RAIPUR (C.G.) 492099
M.No. 9425214394, 7692910005 email: sudhaker.shinde@gmail.com REP. LICENCE NO 781

CALIBRATION REPORT

NAME

NAME

MAKE

CAPACITY

SERIAL No.

LEAST COUNT - 10 Kg CLASS - III MODEL

- NEERAJ POWER PRIVATE LIMITED VILLAGE – HARAINBHATTA TEH – BALODA BAZAR (C.G.)

M/C DESCRIPTION

- BELT WEIGHER.

MAKE MODEL

- IPA

CONVEYOR NO.

-BR 01140

CONVEYOR CAPACITY

- B C2

BELT SPEED

- 40/86 (TPH) - 1.1 m/s

BELT WIDTH

- 1000 mm

- 10 kg

THIS IS TO CERTIFY THAT THE ABOVE MENTIONED BELT WEIGHER IS BEING CHECKED, CALIBRATED AND HANDED OVER IN GOOD WORKING CONDITION.

CALIBRATION DATE: 01/03/2021

LOAD CELL CAPACITY





Applicability of methodologies and standardized baselines

- The project activity is a power generation project using a biomass (rice husk) and displaces CO₂ emissions from electricity generation in power plants that are displaced due to the project activity. Since the project activity utilises biomass (rice husk) for the generation of power, it displaces fossil fuel (coal), and hence it meets the primary applicability criteria of the methodology.
- The generation capacity of project activity is 7.5 MW which is less than the threshold of 15MW as per the applied methodology.
- > The biomass used by the project plant is not stored for more than one year.
- Co-fired system The project activity uses both fossil fuels and renewable energy source in a single boiler for simultaneous combustion and fossil fuel is used during a period of time when the biomass is not available.
- The project activity unit co-fires fossil fuel and the capacity of the entire unit does not exceed the limit of 15 MW
- Biomass generated power is used for direct grid supply.
- In case biomass is not sourced from dedicated plantations.
- The methodology is justified as this category comprises renewable energy generation units such as renewable biomass. The justification that the biomass is renewable. This is in line with the applied methodology AMS I.D requirements.
- The main benefit of this project in terms of emission reductions is the avoided burning of fossil fuels in energy mix of the regional grid.
- Monitoring consists of metering the electricity generated by the renewable technology.
- Biomass and fossil fuel being used as input is be monitored.

Applicability of double counting emission reductions

The biomass boiler and condensing turbo-generator unit have unique IDs, which are visible on the unit. The calibration of Meters & Metering for electricity exported to the grid is implemented according to national standards and rules.

The project proponent had earlier applied for UNFCCC CDM registration in 2007, however, the project is neither a currently registered activity nor has been issued credits for the period 2014-2021 (link:

https://cdm.unfccc.int/Projects/Validation/DB/CE33U66U6YJS8M9BYOP55C8UPIXW29/view.html) hence there is no double counting issue related to the double counting of CoUs.

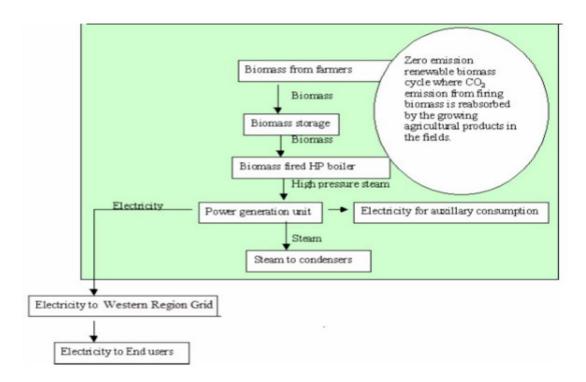
Agreement for Double Counting Avoidance from Proponent has been provided duly signed on 09/05/2023.



Project boundary, sources and greenhouse gases (GHGs)

The project boundary includes the physical, geographical site(s) of:

• the project power plant and all power plants connected physically to the electricity system that the project activity is connected to



Leakage Emissions is not applicable as the project activity does not use technology or equipment transferred from another activity.

There is no registered or an application to register another small-scale carbon project activity with the same project participants in the same project category within 1 km of the project boundary, hence the project activity is not a de-bundled component of a large-scale project.



	Source	GHG	Included?	Justification/Explanation		
Baseline	Co ₂ Emissions	CO ₂	Included	Major source of GHG emissions		
	from fossil fuel in baseline grid power	CH ₄	Excluded	Excluded for simplification. This is conservative		
	generation	N ₂ O	Excluded	Excluded for simplification. This is conservative		
Project Activity	Emissions from Coal cofired in Project Activity	CO ₂	Included	Major source of GHG emissions		
		CH ₄	Excluded	Excluded for simplification. This is conservative.		
		N ₂ O	Excluded	Excluded for simplification. This is conservative.		

The total GHG emission reductions achieved in this monitoring period is as follows:

Summary of the Project Activity and ERs Generated for the Monitoring Period						
Start date of this Monitoring Period	01/11/2014					
Carbon credits claimed up to	31/12/2021					
Total ERs generated (tCO2eq)	2,25,866 tCO₂eq					
Leakage	NA					

Establishment and description of baseline scenario

The baseline scenario identified at the PCN stage of the project activity is:

Renewable energy technologies that displace technologies using fossil fuels, wherein
the simplified baseline is the fuel consumption of the technologies that would have
been used in the absence of the project activity, times an emission factor for the fossil
fuel displaced.



Project Activity Emissions

Emission Reductions (ERy) The emission reduction due to the project activity is calculated as the difference between the baseline emissions and the sum of the project emissions and the leakage:

$$ERy = BEy - (PEy + LEy)$$

BEy= Baseline emissions in year y (t CO₂e)

As mentioned in the methodology AMS I.D, the baseline emissions are calculated as follows:

Where:

EGpj,y = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the project activity in year y (Mwh). As fossil fuel is used, the electricity generated from fossil fuel sources is adjusted and deducted using the specific fuel consumption and the quantity of fuel consumed.

EFgrid,y = The CO_2 emission factor for grid connected power generation in year y calculated using UCR Standard emission factor (0.9 tCO_2/MWh).

PEy = Project activity emissions. The GHG emissions due to the combustion of biomass is neutralized by the sequestration done during the growth of the biomass, thereby making it a carbon neutral fuel. Further the rice husk contains negligible quantities of nitrogen and sulphur, the other green house gas from the combustion of biomass can be considered as negligible. Therefore project emissions are on account of co-firing of coal in the project activity.

PE y (tCo₂) = Coal consumption (year-kg coal) x 15.7 MJ per kg x 0.00009006 tCO₂ /MJ

LEy = Leakage emissions. Leakages is to be considered if the energy generating equipment is transferred from another activity or if the existing is transferred to another activity. There is no transfer of energy generating equipment or existing equipment to another activity. Further, emissions arising during the transportation of rice husk to the site, is negligible since the biomass is sourced locally within a radius of less than 200 kms, hence considered as negligible.



Issuance Period: 01/01/2014 to 31/12/2021

Year	2014	2015	2016	2017	2018	2019	2020	2021
Baseline Emissions	42514	43419	43576	46469	35289	33359	36240	46314
Project Emissions	13583	15534	14430	15002	4543	11215	11137	15870
CoUs	28931	27885	29146	31467	30746	22144	25103	30444
						Total Co	oUs	225866

Total Emission Reductions for the current crediting period =2,25,866 tCO₂eq (2,25,866 CoUs)

Conclusions:

Based on the audit conducted on the basis of UCR Protocol, which draws reference from UCR Standard for Emission Factor, AMS-I.D: Grid connected renewable electricity generation (Ver.18.0), the documents submitted during the verification including the Data, Project Concept Note (PCN) / Monitoring Report (MR), SQAC is able to certify that the emission reductions from the project - Renewable Biomass Based Power Generation, Harinbhatta, Chhattisgarh, India. - (UCR ID - 108) for the period **01/01/2014 to 31/12/2021** amounts to **2,25,866 COUs (2,25,866 tCO₂eq)**

Santosh Nair Lead Verifier (Signature)

Date: 12/05/2023

Praful Shinganapurkar
Senior Internal Reviewer (Signature)