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** tCO_2eq)

Detailed Verification Report:

Purpose:

The project involves the installation of a high pressure 38 tonnes per hour (TPH), Pressure: 66 kilograms / cm^2, Temperature 505^oC 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 CO_2 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.

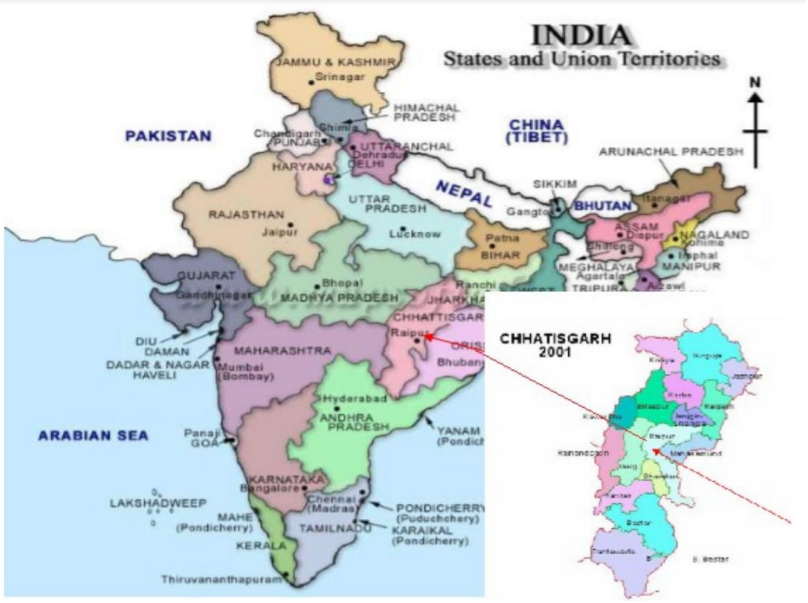
The technical details are as follows:

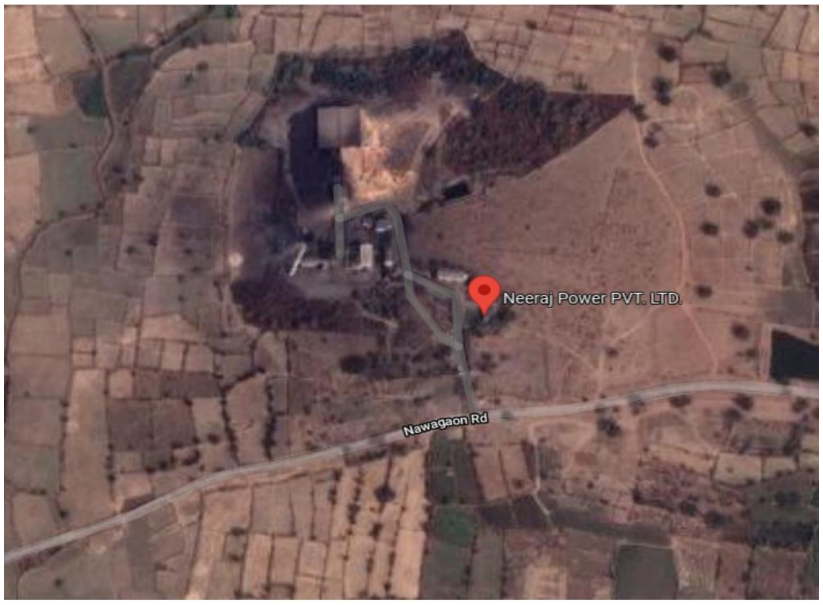
Specification	Value
Installed Cappacity	7.5 MW
Temperature	505 ^{0}C
Number of Turbines	1
Pressure	66 kg/cm^2
Feed Material	Rice Husk/Coal
Coal (MJ/kg)	15.7
Specific fuel consumption of biomass	1.13 kg/kWh
Specific fuel consumption of coal	1.19 kg/kWh

*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(O&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 Neeraj Power Pvt. Ltd. at Simga synchronized with CSEB Grid on dtd.24-10-06 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. Simga, recorded by the Addl.S.E.(MRT)-I, Raipur and AE(Testing), MRT-I, Raipur 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, Gudhiyari, Raipur.
02. The Suptdg. Engineer(O&M), CSEB, Gudhiyari, Raipur.
03. The Addl. Suptdg. Engineer (MRT)-I, CSEB, Gudhiyari, Raipur
04. The Executive Engineer (S/S) / (O&M) Dn., CSEB, Gudhiyari, Raipur / Bhatapara..
05. The Sr. Accounts Officer, CSEB, Raipur.
06. The M/s Neeraj Power Pvt. Ltd., Harinbhatta, Simga, Raipur.

CHHATTISGARH STATE POWER DISTRIBUTION COMPANY LTD. RAIPUR
(Successor Company of CSEB)

M/s :- Neeraj Power (P) Ltd Simga (Plant end)
Date :- 31/03/2017   Work :- ABT Meter Installation.
C D :-   KVA Supply Voltage :- 33 KV

Details of Metering

Details	ME(CT/PT)	Meter	Apex 100 ABT		
Make	Macroplast	SEMS	SEMS		
Sl No	42096	CSE 18707	Y0319671		
CT Ratio	200/5A	200/5A	200/5A		
PT Ratio	33KV/110V	33KV/110V	33KV/110V		
Accuracy Class	0.5	0.5s	0.2S		
Type / DF	3ф-4W				

Multiplying Factor (MF)

Details of Seals

Location	As Found		ABT Provided.	BM Provided	
Outer	1284162		front	1231580	
Inner	T) 1284160	B) 1284161	(T) 1231588 (B) 1231589	T) 1231579	B) 1231578
Inner PS/Stic. Seal	2PS 20.07.16	CG 0029818		2PS 31.03.17	
TTB	L) 1284157	R) 1284158	(L) 1231584	L) 1231575	R) 1231576
MD	726151		(R) 1231583	Same	
OC	1284159		MD) – 1314397(R)	1231577	
Meter Terminal	598669		OC) – 1314585	Same	
M.T. Cover	sealed with	body BL & BR	Body (L) 1231586	Same	
Meter Body	TL) 444870	TR) 598672	(R) 1231587	Same	
	BL) 598670	BR) 598671	Back	Same	
Meter Stic Seal			(T) 1231581	Same.	
ME Sec. Box	2 no P.C.		B) 1231582	Same	
ME Top Cover	4 no P.C.			Same.	

OC 1213585

Details of Testing Work Done

Measurement of Voltage

	r-y	y-b	b-r	r-n	y-n	b-n
BM	109.2	109.1	108.2	62.2	62.6	61.9
ABT						

Measurement of Current

Phase	ME Primary	X-mer LT	CT Sec.(TTB)		Meter Display	Load by Meter
R			0.232	0.233		
Y			0.219	0.220		KW=
B			0.204	0.210		KVA=

Details of Readings CSE 18707

	Import	Export		Import	Export
Date	31.03.17	17.27	KVARH Lag	1102.6	44028.7
KWH (M)	2849.8	502447.2	KVARH Lead	152.2	1587.0
KVAH	3265.7	504841.0			
MD	0.76	8.18	1C KWH	2305.4	342469.9
CMD	137.88	975.06	3C KWH	270.6	72129.7
Bills	141		3C KWH	273.8	87847.6

AE/EE(O&M)   TA [illegible]   [illegible]   A Kaushal 31/3/17

Above Details, Meter Readings [illegible]

Consumer / Representative   Signature 31/03/17   Name R.K. Vimal   Designation [illegible]

CHHATTISGARH STATE POWER DISTRIBUTION COMPANY LTD
(Successor Company of CSEB)

OFFICE OF THE EXECUTIVE ENGINEER [illegible]

No. [illegible]   Raipur Dtd.- 9 MAY 2017

To,

The Superintending Engineer
C.S. Power Distribution Co. Ltd.
(O&M) Circle Baloda Bazar.

Sub: Installation of ABT meter at the premises of M/s **Neeraj Power Pvt. Ltd., Simga, Bhatapara (Consumer End)**

Work Carried out: On dtd 31.03.2017 the work of installation of new ABT meter (in series with the billing meter) at the above consumer's premises has been carried out.

Load Test tallied with billing meter.

Supply Voltage – 33 KV   **Contract Demand – 917 KVA** (Import)

Details of Metering

	ME(As per record)	Meter	New ABT meter	Modem Details
Make	Macroplast	SEMS	SEMS (Apex 100)	S.No. KD586542
Sl. No	42096	CSE18707	Y0319671	Mob: 7471127943
CTR	200 / 5 A	200/ 5 A	200/5 A	
PTR	33000 V / 110 V	33000 V / 110 V	33000 V / 110 V	
Class	0.5	0.5s	0.2s	
Dial Factor	3 Ø - 4W			

MF(Billing Meter) 1000 (One Thousand Only) for all.
MF(ABT Meter) 1000 (One Thousand Only) for all.

Measurement of Voltage

	r-y	y-b	b-r	r-n	y-n	b-n
Billing Meter	109.2	109.1	108.2	62.2	62.6	61.9
ABT Meter						

Measurement of Current

Phase	Primary Current	Sec. Current at TTB		Meter Current
	5.3			
R	8.3	0.232	0.233	-
Y	5.0	0.219	0.220	-
B		0.204	0.210	-

MRI Observations (Meter display)

V1	18.926	18.990	I1	7.9900		Q1	0.875	0.855
V2	19.078	19.161	I2	7.6200		Q2	0.837	0.824
V3	18.935	18.932	I3	7.3800		Q3	0.862	0.857
L1	9.4500	10.2	I1	4.8900		QA	0.852	0.851
L2	9.500	10.2	I2	5.4500		A2	239	240
L3	8.8700	9.3	I3	4.6000		A3	118	120

CHHATTISGARH STATE POWER DISTRIBUTION COMPANY LTD. RAIPUR
(Successor Company of CSEB)

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C D :-   KVA Supply Voltage :- 33 KV

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OC 1213585

Details of Testing Work Done

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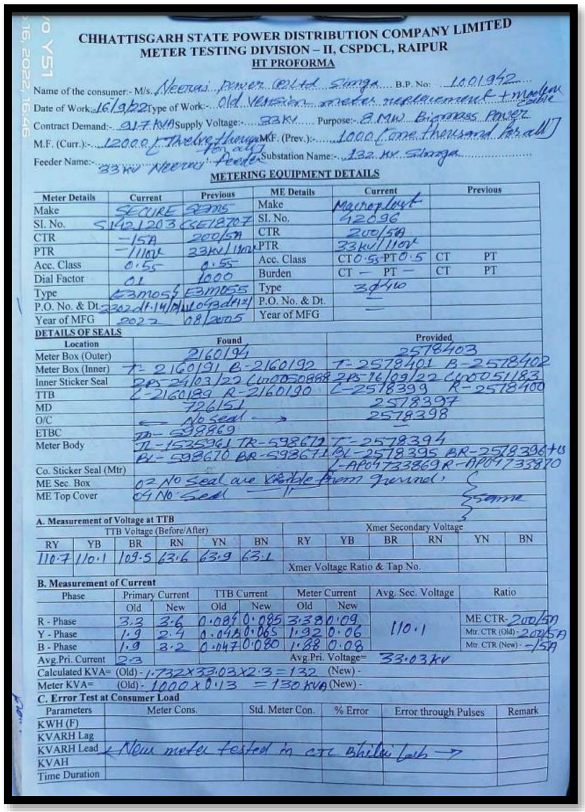
Above Details, Meter Readings [illegible]

Consumer / Representative   Signature 31/03/17   Name R.K. Vimal   Designation [illegible]



CHHATTISGARH STATE POWER DISTRIBUTION COMPANY LIMITED
METER TESTING DIVISION – II, CSPDCL, RAIPUR
HT PROFORMA

Name of the consumer:- M/s. Neeraj power (P) Ltd. Simga B.P. No: 1001942
Date of Work:- 16/9/22 Type of Work:- Old version meter replacement + modem
Contract Demand:- 917 KVA Supply Voltage:- 33KV Purpose:- 8 MW Biomass Power
M.F. (Curr.):- 1200.0 (Twelve thousand) M.F. (Prev.):- 1000 (one thousand for all)
Feeder Name:- 33 KV Neeraj Feeder Substation Name:- 132 KV Simga

METERING EQUIPMENT DETAILS

DETAILS OF SEALS

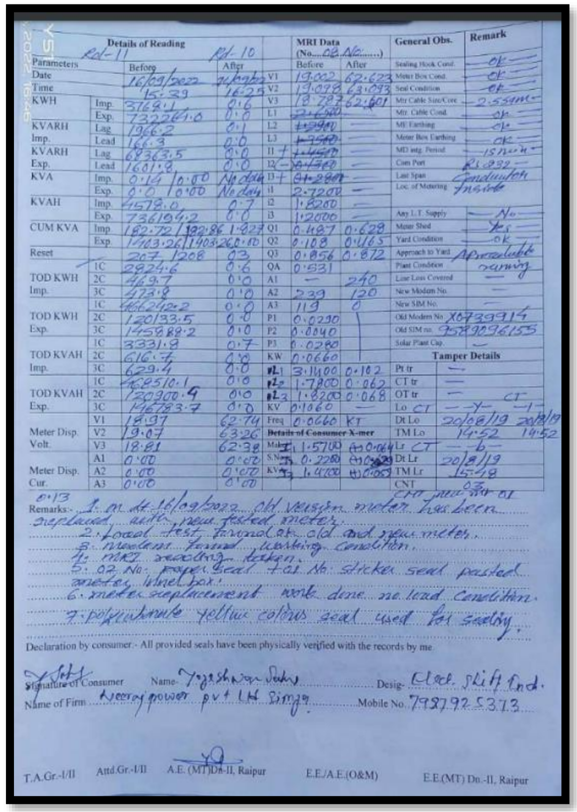
A. Measurement of Voltage at TTB

B. Measurement of Current

Avg. Pri. Voltage= 33.03 KV

C. Error Test at Consumer Load

Parameters	Meter Cons.	Std. Meter Con.	% Error	Error through Pulses	Remark
KWH (F)					
KVARH Lag					
KVARH Lead	← New meter tested in CTL Bhilai lab →				
KVAH					
Time Duration					



Details of Reading | MRI Data | General Obs. | Remark

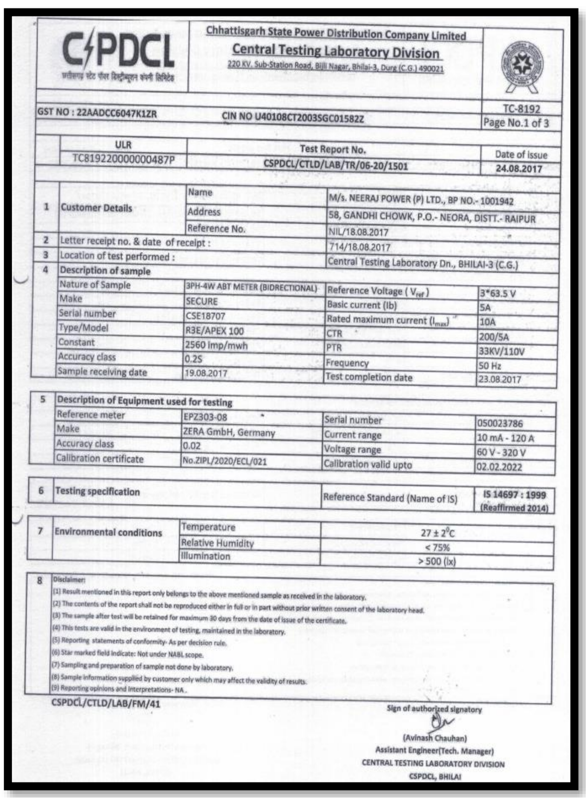
Tamper Details

Remarks:- 1. M dt. 16/09/2022 old version meter has been replaced with new tested meter.
2. Load test found ok old and new meter.
3. Modem found working condition.
4. MRI reading taken.
5. 02 No. paper seal + 01 No. sticker seal pasted meter line box.
6. Meter replacement work done no load condition.
7. Polycarbonate yellow colour seal used for sealing.

Declaration by consumer - All provided seals have been physically verified with the records by me.

Signature of Consumer Name- Yogeshwar Sahu Desig.- Elect. Shift Incd.
Name of Firm- Neeraj power pvt Ltd Simga Mobile No. 7987925373

T.A.Gr.-I/II Attd.Gr.-I/II A.E. (MT) Dn-II, Raipur E.E./A.E.(O&M) E.E.(MT) Dn.-II, Raipur



Chhattisgarh State Power Distribution Company Limited
Central Testing Laboratory Division
220 KV. Sub-Station Road, Bijli Nagar, Bhilai-3, Durg (C.G.) 490021

GST NO : 22AADCC6047K1ZR CIN NO U40108CT2003SGC01582Z TC-8192 Page No.1 of 3

ULR	Test Report No.	Date of issue
TC819220000000487P	CSPDCL/CTLD/LAB/TR/06-20/1501	24.08.2017

1	Customer Details	Name	M/s. NEERAJ POWER (P) LTD., BP NO.- 1001942
		Address	58, GANDHI CHOWK, P.O.- NEORA, DISTT.- RAIPUR
		Reference No.	NIL/18.08.2017
2	Letter receipt no. & date of receipt :		714/18.08.2017
3	Location of test performed :		Central Testing Laboratory Dn., BHILAI-3 (C.G.)
4	Description of sample		

Nature of Sample	3PH-4W ABT METER (BIDIRECTIONAL)	Reference Voltage (V_{ref})	3*63.5 V
Make	SECURE	Basic current (Ib)	5A
Serial number	CSE18707	Rated maximum current (I_{max})	10A
Type/Model	R3E/APEX 100	CTR	200/5A
Constant	2560 Imp/mwh	PTR	33KV/110V
Accuracy class	0.2S	Frequency	50 Hz
Sample receiving date	19.08.2017	Test completion date	23.08.2017

5 Description of Equipment used for testing

Reference meter	EPZ303-08	Serial number	050023786
Make	ZERA GmbH, Germany	Current range	10 mA - 120 A
Accuracy class	0.02	Voltage range	60 V - 320 V
Calibration certificate	No.ZIPL/2020/ECL/021	Calibration valid upto	02.02.2022

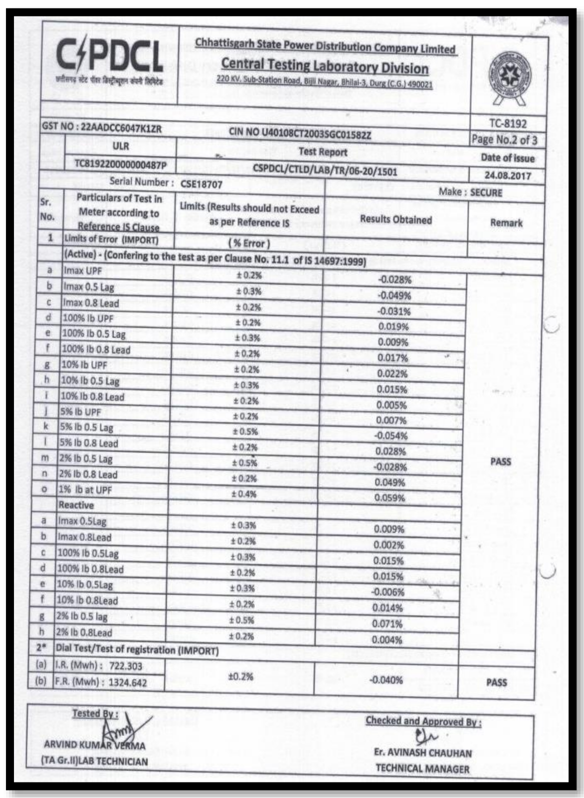
6	Testing specification	Reference Standard (Name of IS)	IS 14697 : 1999 (Reaffirmed 2014)

7	Environmental conditions	Temperature	27 ± 2°C
		Relative Humidity	< 75%
		Illumination	> 500 (lx)

8 Disclaimer:
(1) Result mentioned in this report only belongs to the above mentioned sample as received in the laboratory.
(2) The contents of the report shall not be reproduced either in full or in part without prior written consent of the laboratory head.
(3) The sample after test will be retained for maximum 30 days from the date of issue of the certificate.
(4) This tests are valid in the environment of testing, maintained in the laboratory.
(5) Reporting statements of conformity- As per decision rule.
(6) Star marked field indicate: Not under NABL scope.
(7) Sampling and preparation of sample not done by laboratory.
(8) Sample information supplied by customer only which may affect the validity of results.
(9) Reporting opinions and interpretations- NA.

CSPDCL/CTLD/LAB/FM/41

Sign of authorized signatory
(Avinash Chauhan)
Assistant Engineer(Tech. Manager)
CENTRAL TESTING LABORATORY DIVISION
CSPDCL, BHILAI



Chhattisgarh State Power Distribution Company Limited
Central Testing Laboratory Division
220 KV. Sub-Station Road, Bijli Nagar, Bhilai-3, Durg (C.G.) 490021

GST NO : 22AADCC6047K1ZR CIN NO U40108CT2003SGC01582Z TC-8192 Page No.2 of 3

ULR	Test Report	Date of issue
TC819220000000487P	CSPDCL/CTLD/LAB/TR/06-20/1501	24.08.2017

Serial Number : 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 the test as per Clause No. 11.1 of IS 14697:1999)			
a	Imax UPF	± 0.2%	-0.028%	PASS
b	Imax 0.5 Lag	± 0.3%	-0.049%	
c	Imax 0.8 Lead	± 0.2%	-0.031%	
d	100% Ib UPF	± 0.2%	0.019%	
e	100% Ib 0.5 Lag	± 0.3%	0.009%	
f	100% Ib 0.8 Lead	± 0.2%	0.017%	
g	10% Ib UPF	± 0.2%	0.022%	
h	10% Ib 0.5 Lag	± 0.3%	0.015%	
i	10% Ib 0.8 Lead	± 0.2%	0.005%	
j	5% Ib UPF	± 0.2%	0.007%	
k	5% Ib 0.5 Lag	± 0.5%	-0.054%	
l	5% Ib 0.8 Lead	± 0.2%	0.028%	
m	2% Ib 0.5 Lag	± 0.5%	-0.028%	
n	2% Ib 0.8 Lead	± 0.2%	0.049%	
o	1% Ib at UPF	± 0.4%	0.059%	
	Reactive			
a	Imax 0.5Lag	± 0.3%	0.009%	
b	Imax 0.8Lead	± 0.2%	0.002%	
c	100% Ib 0.5Lag	± 0.3%	0.015%	
d	100% Ib 0.8Lead	± 0.2%	0.015%	
e	10% Ib 0.5Lag	± 0.3%	-0.006%	
f	10% Ib 0.8Lead	± 0.2%	0.014%	
g	2% Ib 0.5 lag	± 0.5%	0.071%	
h	2% Ib 0.8Lead	± 0.2%	0.004%	
2*	Dial Test/Test of registration (IMPORT)			
(a)	I.R. (Mwh) : 722.303	±0.2%	-0.040%	PASS
(b)	F.R. (Mwh) : 1324.642			

Tested By :
ARVIND KUMAR VERMA
(TA Gr.II)LAB TECHNICIAN

Checked and Approved By :
Er. AVINASH CHAUHAN
TECHNICAL MANAGER

CSPDCL
छत्तीसगढ़ राज्य विद्युत प्रसारण कंपनी लिमिटेड

Chhattisgarh State Power Distribution Company Limited

Central Testing Laboratory Division

220 KV, Sub-Station Road, Bill Nagar, Bhilai-3, Durg (C.G.) 490021

TC-8192

GST NO : 22AADCC6047K1ZR -CIN NO U40108CT2003SGC015822 Page No.3 of 3

ULR	Test Report	Date of issue
TC819220000000487P	CSPDCL/CTLD/LAB/TR/06-20/1501	24.08.2017

Serial Number : 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 (EXPORT)	(% Error)		
	(Active) - (Confering to the test as per Clause No. 11.1 of IS 14697:1999)			
a	Imax UPF	±0.2%	-0.031%	PASS
b	Imax 0.5 Lag	±0.3%	-0.026%	
c	Imax 0.8 Lead	±0.2%	-0.036%	
d	100% Ib UPF	±0.2%	0.014%	
e	100% Ib 0.5 Lag	±0.3%	0.017%	
f	100% Ib 0.8 Lead	±0.2%	0.020%	
g	10% Ib UPF	±0.2%	0.031%	
h	10% Ib 0.5 Lag	±0.3%	0.060%	
i	10% Ib 0.8 Lead	±0.2%	0.040%	
j	5% Ib UPF	±0.2%	0.005%	
k	5% Ib 0.5 Lag	±0.5%	-0.016%	
l	5% Ib 0.8 Lead	±0.2%	0.013%	
m	2% Ib 0.5 Lag	±0.5%	-0.004%	
n	2% Ib 0.8 Lead	±0.2%	0.036%	
o	1% Ib at UPF	±0.4%	0.053%	
	Reactive			
a	Imax 0.5Lag	±0.3%	0.003%	
b	Imax 0.8Lead	±0.2%	-0.009%	
c	100% Ib 0.5Lag	±0.3%	0.019%	
d	100% Ib 0.8Lead	±0.2%	0.015%	
e	10% Ib 0.5Lag	±0.3%	-0.010%	
f	10% Ib 0.8Lead	±0.2%	0.022%	
g	2% Ib 0.5 lag	±0.5%	0.032%	
h	2% Ib 0.8Lead	±0.2%	0.009%	
2*	Dial Test/Test of registration (EXPORT)			
(a)	I.R. (Mwh) : 701.488	±0.2%	-0.040%	PASS
(b)	F.R. (Mwh) : 1303.819			

Tested By :
ARVIND KUMAR VERMA
(TA Gr.II)LAB TECHNICIAN

Checked and Approved By :
Er. AVINASH CHAUHAN
TECHNICAL MANAGER

---End of test report---

SIDDHI VINAYAK ENTERPRISES

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

M/C DESCRIPTION - ELECTRONIC ROAD WEIGHBRIDGE.

MAKE - AIWA

CAPACITY - 60000Kg

LEAST COUNT - 10 Kg

CLASS - III

MODEL - AWB 60T

SERIAL No. – 050936

OBSEVATION TABLE :-

STANDARD WEIGHTS	INDICATOR READING	ERROR IF ANY
0 Kg	0 kg	-
4000 Kg	4000 Kg	-
Trk wt 9980+4000= 15420	13980 Kg	-
Trk wt 28030+4000=32030	32030 Kg	-

CALIBRATION DATE - 06/01/2020

FOR SIDDHI VINAYAK ENTERPRISES

SERVICE ENGG.

अनुसूची-VIII

पुस्तक क्रमांक : 122020 नियम 16(3) देखिये अनुक्रमांक : 1690

छत्तीसगढ़ शासन

दिनांक 01/01/2021

कार्यालय नियंत्रक विधिक मापविज्ञान

सत्यापन का प्रमाणपत्र

विधिक मापविज्ञान अधिकारी का नाम **Mr Damoder Prasad** क्र. **39**

मैं एतद्द्वारा प्रमाणित करता हूँ की मैंने आज नीचे दर्शाये बाट माप इत्यादि को सत्यापित तथा स्टाम्पित कर दिया है |

मेसर्स/श्री : **NEERAJ POWER PRIVATE LIMITED** , पता:- **HARINBHATTA, तहसील:- सिमगा, जिला:- बलौदा बाजार-भाटापारा** |

क्रमांक	धर्मकांटा / इलेक्ट्रॉनिक तौल उपकरण									परिवहन,वहन समायोजन व्यय इत्यादि
	वर्ग/उपकरण का प्रकार(सप्तता)	अधिकतम(टन में)	न्यूनतम(किलोग्राम में)	श्रेणी	स्केल अंतराल(किलोग्राम में)	कंपनी का नाम(मेक)	मशीन का मॉडल न.	उपकरण का सरल क्रमांक.	सत्यापन शुल्क	
1	गैर-स्वचलित तौल उपकरण-इलेक्ट्रानिक वर्ग 3 तथा 4/(60 टन)	60	200	III	10	AIWA	AWB60T	050936	2000	

कुल जमा रु :2000 चालान/मनी रसीद रू: **66291220000415** भुगतानकर्ता का नाम : **Neeraj Power Pvt Ltd** दिनांक : **11/12/2020** द्वारा सुधार किया गया /उपयोग किया गया |

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

अगले सत्यापन का दिनांक **29/12/2021**

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विधिक माप विज्ञान अधिकारी

टिप :- (1) सत्यापन प्रमाण पत्र को नियम 24 की कार्यविधि अनुसार सहज दृष्टिगोचर स्थान पर प्रदर्शित किया जाना अनिवार्य है |

(2) निरस्त , बाट , माप इत्यादि के मामले में ,विधिक मापविज्ञान अधिकारी प्रत्येक वस्तु के निरस्तीकरण के लिये निरस्तीकरण का कारण दर्शाते हुए पृथक से पत्र जारी करेगा |

Signature Not Verified
Digitally signed by SURYAPAL SINGH RAI
Date: 2021.01.01 19:04:41 IST
Reason: Certified to be TRUE COPY of the digitally published ROR

SIDDHI VINAYAK ENTERPRISES

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

M/C DESCRIPTION - **BELT WEIGHER.**

MAKE - IPA

MODEL - BR 01140

CONVEYOR NO. - B C2

CONVEYOR CAPACITY - 40/86 (TPH)

BELT SPEED - 1.1 m/s

BELT WIDTH - 1000 mm

LOAD CELL CAPACITY - 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

FOR SIDDHI VINAYAK ENTERPRISES

SERVICE ENGG.

Applicability of methodologies and standardized baselines

- The project activity is a power generation project using a biomass (rice husk) and displaces CO_2 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:

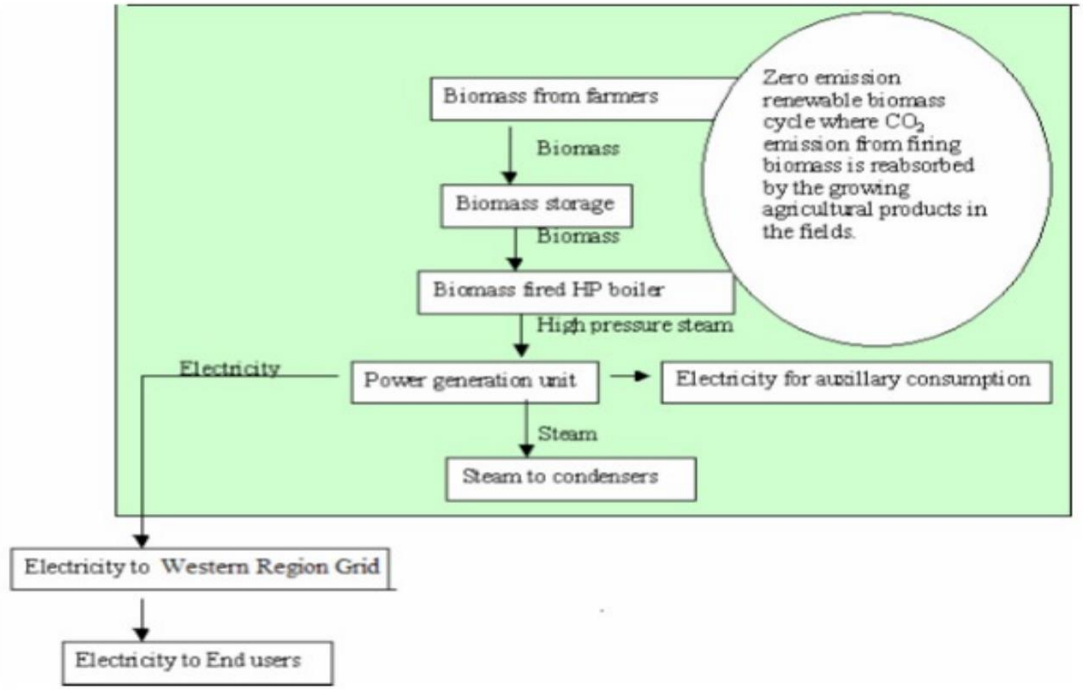
https://cdm.unfccc.int/Projects/Validation/DB/CE33U66U6YJS8M9BYOP55C8UPIXW29/view.html) hence there is no double counting issue related to the double counting of CoUs.

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 from fossil fuel in baseline grid power generation	**CO_2**	**Included**	**Major source of GHG emissions**
		CH_4	Excluded	Excluded for simplification. This is conservative
		N_2O	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_2O	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 tCO_2eq
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 CO_2e)

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

BEy = **EG** pj,y * **EF** grid,y

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 (tCo_2) = Coal consumption (year-kg coal) x 15.7 MJ per kg x 0.00009006 tCO_2 /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 CoUs		**225866**

Total Emission Reductions for the current crediting period =**2,25,866** tCO_2eq (**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 tCO_2eq)**

SQAC Certification Pvt. Ltd. Mapusa-Goa.

Santosh Nair
Lead Verifier (Signature)

Praful Shinganapurkar
Senior Internal Reviewer (Signature)

Date: 12/05/2023