MONITORING REPORT

CARBON OFFSET UNIT (CoU)

Title: 5 MW Wind Power Project by M/s Transport Corporation of India Limited (TCIL) at Rajasthan.

Version 1.0

Date of MR: 25th June 2024

UCR ID: 439

1st CoU Issuance Period: 16.06.2013 to 31.12.2023(10 Year 6 Month 15 Days)

1st Monitoring Period: 16.06.2013 to 31.12.2023(10 Year 6 Month 15 Days)

1st Crediting Period: 16.06.2013 to 31.12.2023 (10 Year 6 Month 15 Days)

Monitoring Report (MR)
CARBON OFFSET UNIT (CoU) PROJECT

Monitoring Report	
Title of the project activity	5 MW Wind Power Project by M/s Transport Corporation of India Limited, (TCIL) in Rajasthan.
UCR Project Registration Number	439
Version	1.0
Completion date of the MR	25/06/2024
Monitoring period number and duration of this monitoring period	Monitoring Period Number: 01 Duration of this monitoring Period: (first and last days included (16/06/2013 to 31/12/2023)
Project participants	**Project Proponents**: M/s. Transport Corporation of India Limited, TCIL Corporate address: TCI House, 69 Institutional Area, Sector 32, Gurugram- 122 207, Haryana,
Host Party	India
Applied methodologies and standardized baselines	Applied Baseline Methodology: AMS-I.D: "Grid connected renewable electricity generation", version 18
Sectoral scopes	01 Energy industries (Renewable/Non-Renewable Sources)
Amount of GHG emission reductions for this monitoring period in the registered PCN (2013 to 2023)	2013: 1,813 CoUs (1,813tCO2eq)
	2014: 2,525 CoUs (2,525 tCO2eq)
	2015: 2,981 CoUs (2,981 tCO2eq)
	2016: 4,035 CoUs (4,035 tCO2eq)
	2017: 4,102 CoUs (4,102 tCO2eq)
	2018: 4,191 CoUs (4,191 tCO2eq)
	2019: 4,439 CoUs (4,439 tCO2eq)
	2020: 4,225 CoUs (4,225 tCO2eq)
	2021: 4,174 CoUs (4,174 tCO2eq)
	2022: 4,380 CoUs (4,380 tCO2eq)
	2023: 5,234 CoUs (5,234 tCO2eq)
Total:	**42,099 CoUs (42,099 tCO2eq)**

SECTION A. Description of project activity

A.1. Purpose and general description of project activity

A) Purpose of the project activity and the measures taken for GHG emission reduction:

General description of project Activity:

TCIL incorporated in 1958, as a "One Man, One Truck, One Office" company, TCIL has progressed within its division both internally and externally across boundaries to serve businesses among various industry verticals by being an intrinsic part of the customers' logistics process. Equipped with highly advanced modern technology, encompassing various walks of life and fields of work and innovative business solutions, TCIL is a flag bearer in the arena of logistics for trade and commerce, and is fully poised to leverage the new age technology to reach even newer horizons. TCIL is India's leading integrated multimodal logistics and supply chain solutions provider. As "Leaders in Logistics", TCIL continuously strives to better existing systems, processes and productivity.

The project activity titled **5 MW Wind Power Project by M/s Transport Corporation of India Limited, TCIL** is renewable (wind) energy projects located at the following locations in Country: India.

The wind farm is owned by Transport Corporation of India Limited, (Project Proponent or PP).The total installed capacity of the Transport Corporation of India Limited is 5 MW wind power project in Rajasthan. The Transport Corporation of India Limited Wind Projects consists of 4 WTGs. The entire Engineering, Procurement and Construction (EPC) are provided by M/S Suzlon Energy Ltd.

Sr No	Name of Wind Farm	Installed Capacity (MW)	State	District	Site
01	**Transport Corporation of India Limited**	5	Rajasthan	Jaisalmer	Soda mada, Baramsar

The project activity is an initiative by the Transport Corporation of India Limited towards clean energy generation by means of installation of 4 state-of-art Wind Electricity Generators of individual capacities 1.25 MW each, at two locations, village Baramsar (2.5 MW) and Soda Mada (2.5 MW), District Jaisalmer in the State of Rajasthan aggregated to a total installed capacity of 5MW.

The generated electricity from the aforesaid wind farm is evacuated to the RVPN grid under a power purchase agreement and subsequently all the electricity generated is sold to the state

electricity utility.
The wind power projects are operational activities with continuous reduction of GHGs, currently being applied for voluntary carbon offset units (CoUs) under "Universal Carbon Registry" (UCR).

In the absence of the project activity, electricity would have been delivered to the grid by the operation of fossil fuel-based grid-connected power plants and by the addition of new fossil fuel-based generation sources in the Grid. As is the nature of wind projects (renewable energy), no fossil fuel is involved for power generation in the project activity. The electricity produced by the project is directly contributing to climate change mitigation by reducing the anthropogenic emissions of greenhouse gases (GHGs, i.e., CO2) into the atmosphere by displacing an equivalent amount of power at grid.

The project activity is hence the installation of new grid connected renewable power plants/units. The baseline scenario and scenario existing prior to the implementation of the project activity are both the same.

The project activity is displacing net electricity generation during first monitoring period is 46,783 MWh from the Indian grid system, which otherwise would have been generated by the operation of fossil fuel-based grid-connected power plant. The total CO2e emission reductions by the project activity in first monitoring period are 42,099 tCO2e.

Since the project activity will generate electricity through wind energy, a clean renewable energy source it does not cause any negative impacts on the environment and there by contributes to climate change mitigation efforts.

B) Brief description of the installed technology and equipment>>

Project Name: - Wind Power Project by Transport Corporation of India in Rajasthan.
Capacity & Units: - 5 MW & 4 No's WTG

Individual state-of-art WEGs of capacity 1.25 MW has been installed. The salient features and technical details of the Suzlon 1.25 MW WEGs are as under:

The salient features of 1.25 MW WEGs is as follows:

1. Higher Efficiency - Designed to achieve increased efficiency and co-efficient of power (Cp)
2. Minimum Stress and Load - Well-balanced weight distribution ensures lower static & dynamic loads.
3. Shock Load-free Operation - Advanced hydrodynamic fluid coupling absorbs peak loads and Vibrations.
4. Intelligent Control - Next gen technologies applied by extensive operational experience maximizes yield.

5. Maximum Power Factor - High-speed asynchronous generator with a multi-stage intelligent switching compensation system delivers power factor up to 0.99.
6. Climatic Shield - Hermetically sheltered, advanced over-voltage and lightning protection system.
7. Unique Micro-Pitching Control - Unmatched fine pitching with 0.1° resolution to extract every possible unit of power.
8. Grid-friendly - Grid friendly design generates harmonics-free pure sinusoidal power
A direct grid-connected high-speed generator, in combination with the multiple-stage combined spur/planetary gearbox of the Suzlon Megawatt Series, offers greater robustness and reliability than a low-speed generator connected to the electrical grid via AC-DC-AC-inverter systems. High-speed asynchronous generator with a multi-stage intelligent switching compensation system delivers power factor up to 0.99. The generated power is free from harmonics and is grid friendly.

- Operating Data:

1. Rotor Height: 64 m
2. Hub Height: 65 m
3. Cut in Speed: 3 m/s
4. Rated Speed: 12 m/s
5. Cut out speed: 25 m/s
6. Survival Speed: 67 m/s

- Rotor:

1. Blade: 3 Blade Horizontal Axis
2. Swept Area: 3217 m2
3. Rotational Speed: 13.9 to 20.8 rpm
4. Regulation: Pitch Regulated

- Generator:

1. Type: Asynchronous 4 / 6 Poles
2. Rated Output: 250 / 1250 kW
3. Rotational Speed: 1006 / 1506 rpm
4. Frequency: 50 Hz

- Gear Box:

1. Type: Integrated (1 Planetary & 2 Helical)
2. Ratio: 74.971:1

- Yaw System:

1. Drive: 4 electrically driven planetary gearbox
2. Bearings: Polyamide slide bearings

- Braking System:

1. Aerodynamic Brake: 3 independent systems with blade pitching
2. Mechanical Brake: Hydraulic fail safe disc braking system

- Control Unit:

1. Type: Programmable microprocessor based; high speed data communication, active multilevel security, sophisticated operating software, advance data collection remote monitoring & control option, UPS backup, Real time operating indication.

Project Evacuation Details:

J-70, J-71	220 kV substation, Baramsar.
J-227, J-228	220 kV substation, Mada.

	Main Meter No	Backup Meter No	Wind Turbine number
Baramsar	RJB 90171	RJB 90172	J- 70, J- 71
Soda mada	RJB 90212	RJB 90213	J- 227, J- 228
	RJB 90210	RJB 90211	
	RJB 81782	RJB 81783	

TECHNICAL CONCEPT & SPECIFICATION OF SUZLON S-66 (1.25 MW) WTG

ROTOR		
Rotor Diameter	:	66 m
Hub Height	:	74 m
Swept Area	:	3422.57 m^2
Rotational speed	:	13.9 / 20.8 rpm
Rotor material	:	GRP
Regulation	:	Pitch-regulated
OPERATIONAL DATA		
Cut-in wind speed	:	3 m/s.
Rated wind speed	:	14 m/s.
Cut-out wind speed	:	22 m/s.
Survival wind speed	:	65 m/s.
GENERATOR		
Type	:	Asynchronous generator
		4 / 6 pole
Rated output	:	250 / 1250 kW
Rotational speed	:	1010 / 1515 rpm
Operating voltage	:	690 V
Frequency	:	50 Hz

Accepted
For Suzlon Energy Limited
Authorised Signatory

Protection	:	IP 56
Insulation class	:	"H"
Cooling system	:	Air cooled
GEARBOX		
Type	:	Integrated
		3 stage gearbox
		1 planetary & 2 helical
Gear ratio	:	1:74.917
Nominal load	:	1390 kW
Type of cooling	:	Oil cooling system
YAW DRIVE		
Yaw drive system	:	4 active electrical yaw motors
Yaw bearing	:	Polyamide slide bearing
TOWER		
Type	:	Free standing Tubular Tower,
		Epoxy /PU Coated
Erection	:	With crane
Design standards	:	GL special class
Tower Height	:	To suit hub height

Accepted

For Suzlon Energy Limited

Authorised Signatory

All the machines are SUZLON make and have been developed using state of the art technology. In wind energy generation, kinetic energy of wind is converted into mechanical energy and subsequently into electrical energy. Wind has considerable amount of kinetic energy when blowing at high speeds. This kinetic energy when passes through the blades of the WEG is converted into mechanical energy and rotates the wind blades. When the wind blades rotate, the connected generator also rotates, thereby producing electricity. The technology is a clean technology since there are no GHG emissions associated with the electricity generation.

The important parts of wind mill are:

1. **Rotor Blades**:
    - **Function**: Capture wind energy and convert it into rotational energy.
    - **Description**: Three blades made of composite materials for strength and lightness.

2. **Hub**:
    - **Function**: Connects the rotor blades to the nacelle.
    - **Description**: The central part to which the blades are attached.

3. **Nacelle**:
    - **Function**: Houses key components of the wind turbine.
    - **Description**: The casing that contains the gearbox, generator, drive train, and brake assembly.

4. **Gearbox**:
    - **Function**: Increases the rotational speed from the rotor blades to the generator.
    - **Description**: A series of gears that convert the slow rotation of the rotor blades into a higher-speed rotation suitable for electricity generation.

5. **Generator**:
    - **Function**: Converts mechanical energy into electrical energy.
    - **Description**: An electrical device, typically an alternator, inside the nacelle.

6. **Controller**:
    - **Function**: Manages the operation of the turbine and ensures it operates within safe parameters.
    - **Description**: Includes software and hardware to monitor wind speeds, direction, and system health.

7. **Brake**:
    - **Function**: Stops the rotor blades in emergencies or when maintenance is required.
    - **Description**: A mechanical system that can halt blade rotation.

8. **Yaw System**:
    - **Function**: Rotates the nacelle to keep the rotor blades facing the wind.
    - **Description**: Uses motors and gears to align the turbine with the wind direction.

9. **Tower**:
    - **Function**: Supports the nacelle and rotor blades at a height where wind speeds are optimal.
    - **Description**: A tall structure typically made of steel, concrete, or a combination of materials.

10. **Anemometer and Wind Vane**:
    - **Function**: Measures wind speed and direction.
    - **Description**: Instruments mounted on the nacelle that provide data to the controller.

11. **Pitch System**:
    - **Function**: Adjusts the angle of the rotor blades to control their rotational speed and optimize energy capture.
    - **Description**: Motors and controls within the hub or blade roots that modify blade pitch.

Each of these components plays a crucial role in the efficient operation of a wind turbine, ensuring it can capture and convert wind energy into usable electrical energy effectively and safely.

In the absence of the project activity the equivalent amount of electricity would have otherwise been generated by the operation of fossil fuel-based grid-connected power plants and fed into unified India grid system, hence baseline scenario of the project activity is the grid-based electricity system, which is also the pre-project scenario as discussed in the previous section.

C) Relevant dates for the project activity (e.g., construction, commissioning, continued operation periods, etc.

The duration of the crediting period corresponding to the monitoring period is covered in this monitoring report.

UCR Project ID	:	439
Commissioning Date of the projects	:	29/09/2005
Start Date of Crediting Period	:	16/06/2013

D) Total GHG emission reductions achieved or net anthropogenic GHG removals by sinks achieved in this monitoring period>>

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	16/06/2013
Carbon credits claimed up-to	31/12/2023
Total ERs generated (tCO2eq)	42,099 tCO2eq
Leakage	0

B. Location of project activity>>

The project location is situated at village- Baramsar and Sodamada, District- Jaisalmer in the state of Rajasthan. The project site is well connected by district and village roads to the nearest town. The geographic co-ordinates of the project locations have been provided below.

Transport Corporation of India Limited				
Sr. No.	Location	INSTLLED CAPACITY (MW)	Latitude	Longitude
1	J227	1.25	N 26° 41’ 00.2”	E 70° 52’ 18.1”
2	J228	1.25	N 26° 41’ 08.4”	E 70° 52’ 10.8”
3	J70	1.25	N 27° 00’ 04.8”	E 70° 54’ 09.7”
4	J71	1.25	N 26° 59’ 57.1”	E 70° 54’ 18.2”

Country: India
State : Rajasthan
District : Jaisalmer
Site : Baramsar and Soda Mada.

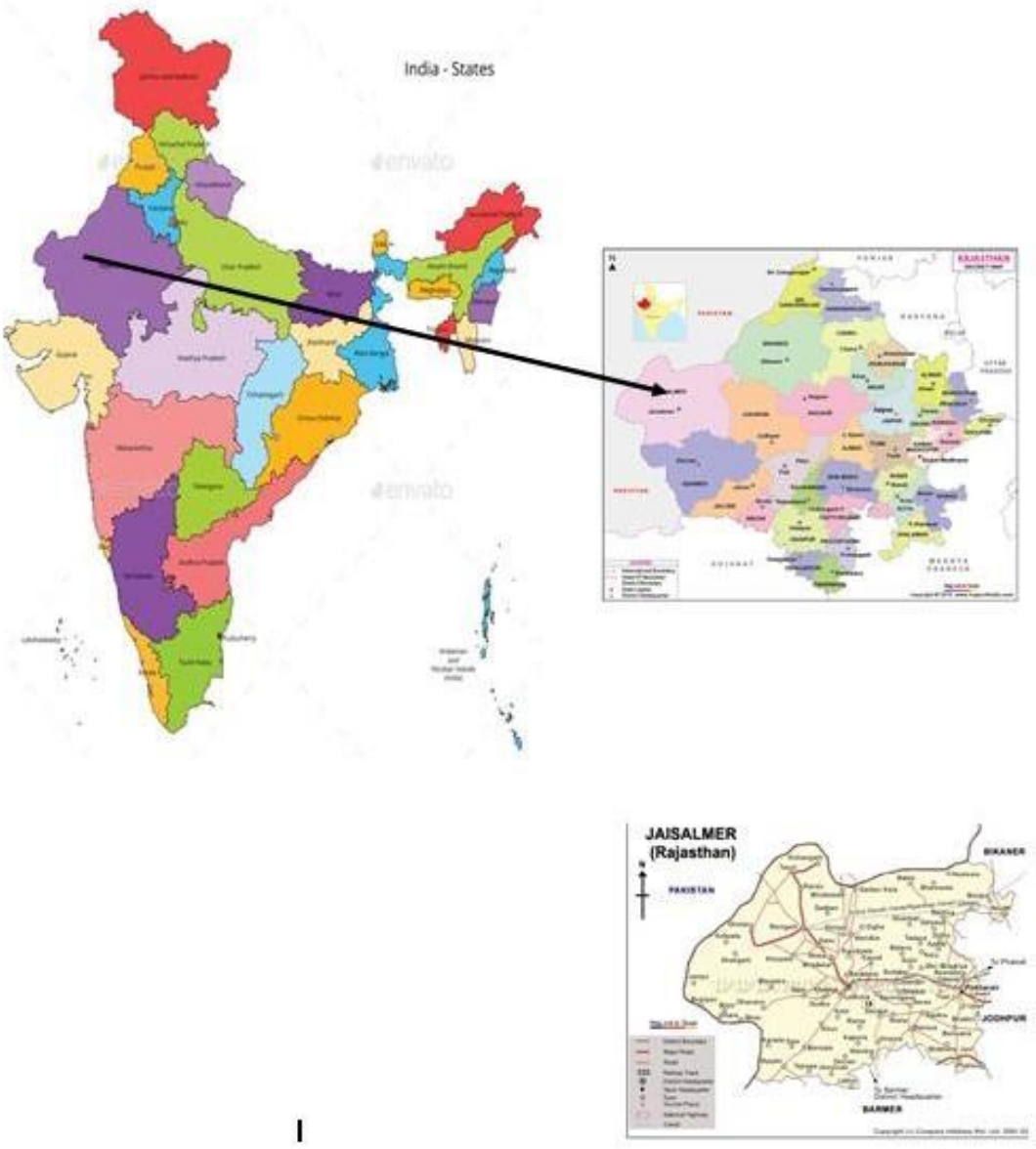


Figure-1- Location of the project activity

C. Parties and project participants>>

Party (Host)	Participants
India	**Project Proponents**: M/s Transport Corporation of India Limited, (TCIL).

D. References to methodologies and standardized baselines>>

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

TYPE- Renewable Energy Projects

CATEGORY- AMS-I.D: "Grid connected renewable electricity generation", version 18

UCR Standardized Baseline Emission Factor Applied for the period 2013-2023

E. Crediting period of project activity>>

Start Date of Crediting Period: 16/06/2013

Length of the crediting period corresponding to this monitoring period: 10 Year 6 Month 15 Days i.e., 16/06/2013 to 31/12/2023 (Both the dates are inclusive).

F. Contact information of responsible persons/entities>>

Name : Girdhari Bargujar

Contact No : +91 8595235741

E-Mail : finsupport@tcil.com

SECTION B. Implementation of project activity

B.1. Description of implemented registered project activity>>

a) Provide information on the implementation status of the project activity during this monitoring period in accordance with UCR PCN>>

The project consists of total 4 WTGs commissioned on three following phases.
The TCIL Wind Turbine Project demonstrates the effective implementation and scalability of wind energy projects. Initiated in June 2003 and completed with the commissioning of the final turbine in September 2004, the project successfully harnesses wind energy across two sites—Baramsar, and Soda mada. With a combined capacity of 5 MW

Phases of Commissioning

Initial Phase

- **Commission Date:** 16 June 2003
- **Location:** Baramsar site, Jaisalmer District
- **Turbines:** J-70 and J-71
- **Capacity:** 1.25 MW each
- **Total Initial Capacity:** 2.5 MW
- **Description:** The initial phase involved the commissioning of two wind turbines, J-70 and J-71, each with a capacity of 1.25 MW. These turbines marked the beginning of the wind energy project at the Baramsar site, contributing 2.5 MW to the local grid.(JVVNL)

Second Phase

- **Commission Date:** 30 September 2004
- **Location:** Soda mada Jaisalmer District
- **Turbines:** J-227 and J-228
- **Capacity:** 1.25 MW each
- **Total Added Capacity:** 2.5 MW
- **Description:** In the second phase, two additional wind turbines, J-227 and J-228 were commissioned at Soda mada. Each turbine has a capacity of 1.25 MW, adding a total of 2.5 MW to the project's capacity and enhancing the renewable energy output.

Total Project Capacity

- **Initial Phase:** 2.5 MW (J-70 and J-71)
- **Second Phase:** 2.5 MW (J-227 and J-228)

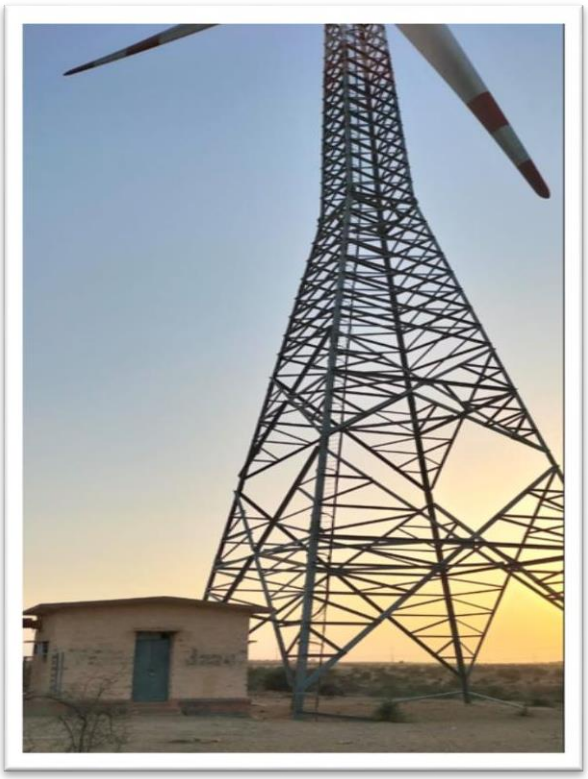
- **Total Capacity:** 5 MW

b) For the description of the installed technology, technical process and equipment, include diagrams, where appropriate>>

Wind Turbines are manufactured and supplied by SUZLON with an aggregate installed capacity of 5 MW. The connectivity of all the WTGs is to a Central Monitoring Station (CMS) through high-speed WLAN modem or fiber optic cable which helps in providing real time status of the turbine at CMS with easy GUI (Graphical User Interface) and ability to monitor the functioning of the turbine from CMS. The life time of the WTG is 20 to 25 years as per manufacturer specifications.

Technical details of the machines installed are explained below:

1	Turbine Model	Suzlon S_66 (1.25 MW)
Operating Data		
2	Rated power	1250 kW
Rotor		
3	Rotor Diameter	66 m
4	Hub height	74 m
5	Rotational speed	13.9/20.8 rpm
6	Rotor material	GRP
Generator		
11	Type	Asynchronous generator
12	Rated output	250 / 1250 kW
13	Operating voltage	690 V
47	frequency	50 Hz
Gearbox		
13	Type	Integrated, 3 stage gearbox
14	Nominal load	1390 kW
15	Type of cooling	Oil cooling system



WTG: J-70

WTG: J-71

B.2 Do no harm or Impact test of the project activity>>

Indian economy is highly dependent on "Coal" as fuel to generate energy and for production processes. Thermal power plants are the major consumers of coal in India and yet the basic electricity needs of a large section of population are not being met. This results in excessive demands for electricity and places immense stress on the environment.

Changing coal consumption patterns will require a multi-pronged strategy focusing on demand, reducing wastage of energy and the optimum use of renewable energy (RE) sources. This project is a Greenfield activity where grid power is the baseline. The renewable power generation is gradually contributing to the share of clean & green power in the grid; however, grid emission factor is still on higher side which defines grid as distinct baseline.

The Government of India has stipulated following indicators for sustainable development in the interim approval guide lines for such projects which are contributing to GHG mitigations. The Ministry of Environment, Forests & Climate Change, has stipulated economic, social, environment and technological well-being as the four indicators of sustainable development. It has been envisaged that the project shall contribute to sustainable development using the following ways:

Social well-being: The project would help in generating direct and indirect employment benefits accruing out of ancillary units for manufacturing towers for erection of the Wind Turbine Generator and for maintenance during operation of the project activity. It will lead to development of infrastructure around the project area in terms of improved road network etc. and will also directly contribute to the development of renewable infrastructure in the region.

Environmental well-being: The project utilizes Wind energy for generating electricity which is a Clean source of energy. The project activity will not generate any air pollution, wind pollution or solid waste to the environment which otherwise would have been generated through fossil fuels. Also, it will contribute to reduction GHG emissions. Thus, the project causes no negative impact on the surrounding environment contributing to environmental well-being.

Economic well-being: Being a renewable resource, using Wind energy to generate electricity contributes to conservation precious natural resources. The project contributes to the economic sustainability through promotion of decentralization of economic power, leading to diversification of the national energy supply, which is dominated by conventional fuel based generating units. Locally, improvement in infrastructure will provide new opportunities for industries and economic activities to be setup in the area. Apart from getting better employment opportunities, the local people will get better prices for their land, thereby resulting in overall economic development.

Technological well-being: The project activity leads to the promotion of 1.25 MW Wind Turbine Generators into the region and will promote practice for small scale industries to reduce the dependence on carbon intensive grid supply to meet the captive requirement of electrical

energy and also increasing energy availability and improving quality of power under the service area. Hence, the project leads to technological well-being.

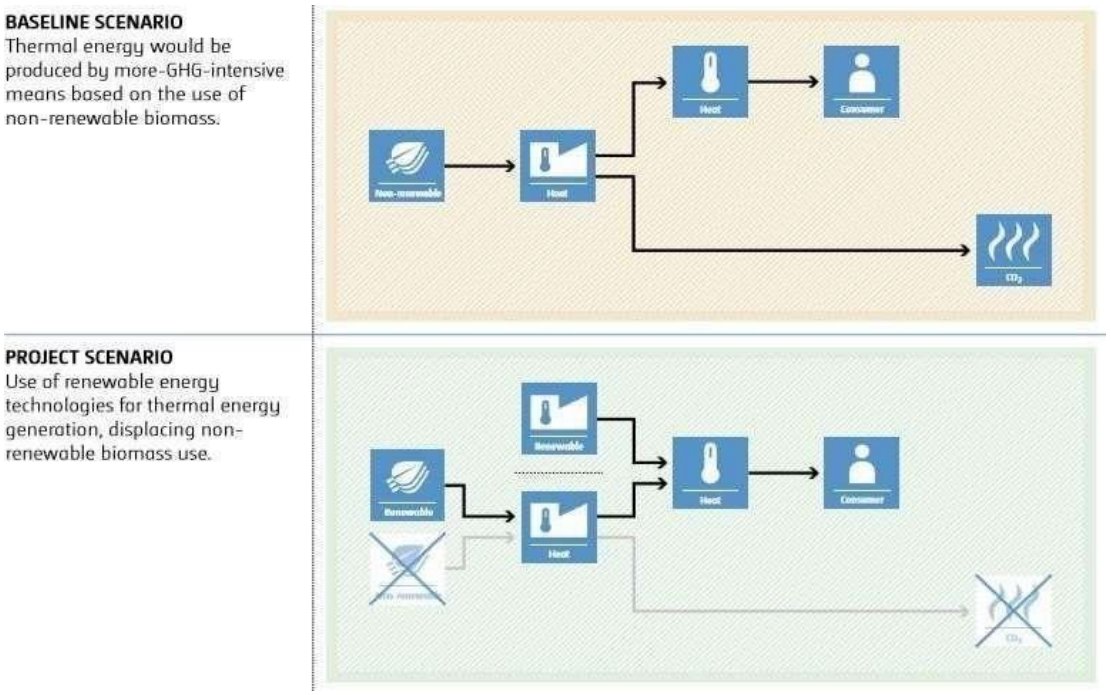
B.3. Baseline Emissions>>

In the absence of the project activity, the equivalent amount of electricity would have been imported from the regional grid (which is connected to the Grid system), which is carbon intensive due to predominantly sourced from fossil fuel-based power plants.

Baseline Scenario:

Thus, this project activity was a voluntary investment which replaced equivalent amount of electricity from the Indian grid. The project proponent was not bound to incur this investment as it was not mandatory by national and sectoral policies. Thus, the continued operation of the project activity would continue to replace fossil fuel-based power plants and fight against the impacts of climate change.

A "grid emission factor" refers to a CO2 emission factor (tCO2/MWh) which will be associated with each unit of electricity provided by an electricity system. The UCR recommends an emission factor of 0.9 tCO2/MWh for the 2013- 2021 years as a fairly conservative estimate for Indian projects not previously verified under any GHG program. Also, for the vintage 2022-23, the combined margin emission factor calculated from CEA database in India results into higher emission than the default value. Hence, the same UCR emission factor (0.9 tCO2/MWh) has been considered to calculate the emission reduction under conservative approach.



Debundling>>

This project activity is not a de-bundled component of a larger project activity.

SECTION-C: Application of methodologies and standardized baselines

C.1. References to methodologies and standardized baselines>>

Sectoral Scope: 01 Energy industries (Renewable/Non-Renewable Sources)

TYPEI– Renewable Energy Projects

Applied Baseline Methodology: AMS-I.D: "Grid connected renewable electricity generation", version 18

C.2. Applicability of methodologies and standardized baselines>>

The project activity involves generation of grid connected electricity from the construction and operation of a new Wind power-based project and to use for captive purpose via grid interface by wheeling through state electricity board under the Power Purchase Agreement (PPA) signed between the Project Proponent (PP) and the utility.
The project activity has installed 4 WTGs of capacity 1.25 MW each which will qualify for a small- scale project activity under Type-I of the Small-Scale methodology. The project status is corresponding to the methodology AMS-I.D., version 18 and applicability of methodology is discussed below:

Applicability Criterion	Project Case
1. This methodology comprises renewable energy generation units, such as photovoltaic, Wind, tidal/wave, wind, geothermal and renewable biomass: (a) Supplying electricity to a national or a regional grid; or (b) Supplying electricity to an identified consumer facility via national/regional grid through a contractual arrangement such as wheeling.	The project activity involves setting up of a renewable energy (Wind) generation plant that exports electricity to the fossil fuel dominated electricity grid (Indian Grid system). Thus, the project activity meets this applicability conditions.

2. This methodology is applicable to project activities that: (a) Install a Greenfield plant; (b) Involve a capacity addition in(an) existing plant(s); (c) Involve a retrofit of (an) existing plant(s); (d) Involve are habilitation of (an) existing plant(s); or Involve are placement of(an) existing plant(s).	The Project activity involves the installation of new WTGs at a site where there was no renewable energy power plant operating prior to the implementation of the project activity. Thus, Project activity is a Greenfield plant and satisfies this applicability condition (a).
3. Hydro power plants with reservoirs that satisfy at least one of the following conditions are eligible to apply this methodology: (a) The project activity is implemented in existing reservoir, with no change in the volume of the reservoir; or (b) The project activity is implemented in existing reservoir, where the volume of the reservoir(s) Is increased and the power density as per definitions given in the project emissions section, is greater than 4 W/m^2 . (c) The project activity results in new reservoirs and the power density of the power plant, as per definitions given in the project emissions section, (e)is greater than 4W/m2	As the project activity is a Wind Turbine Generator, this criterion is not relevant for the project activity.
4. If the new unit has both renewable and non-renewable components (e.g., a wind/diesel unit), the eligibility limit of 15 MW for a small-scale CDM project activity applies only to the renewable component. If the new unit co-fires fossil fuel, the capacity of the entire unit shall not exceed the limit of 15MW.	The rated capacity of the project activity is 1.25X4 MW with no provision of Co-firing fossil fuel. Hence, meeting with this criterion.
5. Combined heat and power (co-generation) systems are not eligible under this category	This is not relevant to the project activity as the project involves only Wind power generating units.
6. In the case of project activities that involve the capacity addition of renewable energy generation units at an existing renewable power generation facility, the added capacity of the units added by the project should be lower than 15 MW and should be physically distinct	There is no other existing renewable energy power generation facility at the project site. Therefore, this criterion is not applicable.

from the existing units.	
7. In the case of retrofit or replacement, to qualify as a small- scale project, the total output of the retrofitted or replacement power plant/unit shall not exceed the limit of 15MW.	The project activity is a new installation; it does not involve any retrofit measures nor any replacement and hence is not applicable for the project activity.
8. In the case of landfill gas, waste gas, waste water treatment and agro-industries projects, recovered methane emissions are eligible under a relevant Type III category. If the recovered methane is used for electricity generation for supply to a grid, then the baseline for the electricity component shall be in accordance with procedure prescribed under this methodology. If there covered methane is used for heat generation or cogeneration other applicable Type-I methodologies such as "AMS I. C.: Thermal energy production with or without electricity" shall be explored.	This is not relevant to the project activity as the project involves only Wind power generating units.
9. In case biomass is sourced from dedicated plantations, the applicability criteria in the tool "Project emissions from cultivation of biomass" shall apply.	Not biomass is involved, the project is only a wind power project and thus the criterion is not applicable to this project activity.

C.3 Applicability of double counting emission reductions>>

The project activity was registered in CDM under ID 0267 on 14 April 2006 for the period of 16 june 2003 - 15 june 2013, CER's was issued for the same period. The project activity is now seeking CoUsunder the UCR CoU Standard/Program for the period 16/06/2013 to 31/12/2023 and hence there is no double counting issue of carbon credits for the said vintage period. Additionally, the same has been stated in the undertaking provided in the Double Counting Avoidance Assurance Document (DAA) by the PP.

Details of the same project registered in CDM are as follows,

(https://cdm.unfccc.int/Projects/DB/BVQI1140152556.27/view)

UNFCCC CDM Title	5 MW wind power project at baramsar and soda mada, district jaisalmer, Rajasthan, India
CDM ID	0267
Host Parties	M/S Transport corporation of India limited (TCIL)

Sectoral Scopes	Energy industries (renewable - / non-renewable sources)	
Methodology	AMS-I.D. ver. 7 - Renewable Electricity Generation for a grid.	
Other Details	CDM Registration Date	14/04/2006
	Crediting Period	16 June 2003 - 15 June 2013 (Fixed)
Prior Issuance of CDM Credits (CER)	The first monitoring period for the project activity is from 16/06/2003 to 01/07/2006 (Both days included) and was issued 12,600 CERs. **Serial Range**: Block start: IN-5-17782123-1-1-0-267 Block end: IN-5-17794722-1-1-0-267 The second monitoring period for the project activity is from 02/07/2006 to 01/09/2008 (Both days included) and was issued 12,674 CERs. **Serial Range**: Block start: IN-5-117715759-1-1-0-267 Block end: IN-5-117728432-1-1-0-267 The third monitoring period for the project activity is from 02/09/2008 to 30/06/2011 (Both days included) and was issued 14,183 CERs. **Serial Range**: Block start: IN-5-186467819-1-1-0-267 Block end: IN-5-186482001-1-1-0-267 The fourth monitoring period associated with the project activity. It covers the period from 01/07/2011 to 15/06/2013 (Both days included). The total emission reductions achieved in this monitoring period are 8,451 ERs. **Serial Range**: Block start: IN-5-305219022-1-1-0-267 Block end: IN-5-305225496-1-1-0-267 **Serial Range**: Block start: IN-5-305225497-2-2-0-267 Block end: IN-5-305227190-2-2-0-267	

C.3. Project boundary, sources and greenhouse gases(GHGs)>>

As per applicable methodology AMS-I.D. Version 18, "The spatial extent of the project boundary includes the project power plant and all power plants connected physically to the electricity system." Thus, the project boundary includes the Wind Turbine Generators and the Indian grid system.

Source		Gas	Included?	Justification/Explanation
Baseline	Grid connected electricity generation	**CO2**	**Yes**	**CO2 emissions from electricity generation in fossil fuel fired power plants**
		CH4	No	Minor emission source
		N2O	No	Minor emission source
		Other	No	No other GHG emissions were emitted from the project
Project	Green-field Wind Power Project Activity	CO2	No	No CO2 emissions are emitted from the project
		CH4	No	Project activity does not emit CH4
		N2O	No	Project activity does not emit N2O
		Other	No	No other emissions are emitted from the project

C.4. Establishment and description of baseline scenario (UCR Protocol)>>

As per para 19 of the approved consolidated methodology AMS-I.D. Version 18, if the project activity is the installation of a new grid-connected renewable power plant/unit, the baseline scenario is the following:

"The baseline scenario is that the electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources in to the grid".

The project activity involves setting up of a new Wind Turbine Generator to harness the green power from Wind energy and delivered it to state grid. In the absence of the project activity, the equivalent amount of power would have been generated by the operation of grid- connected fossil fuel-based power plants and by the addition of new fossil fuel-based generation sources into the grid. The power produced at grid from the other conventional sources which are predominantly fossil fuel based. Hence, the baseline for the project activity is the equivalent amount of power produced at the Indian grid.

A "grid emission factor" refers to a CO2 emission factor (tCO2/MWh) which will be associated with each unit of electricity provided by an electricity system. The UCR recommends an emission factor of 0.9 tCO2/MWh for the 2014-2020 years as a fairly conservative estimate for Indian projects not previously verified under any GHG program. Also, for the vintage 2021-2023, the combined margin emission factor calculated from CEA database in India results into same emission factors as that of the default value. Hence, the same emission factor has been considered to calculate the emission reduction.

Net GHG Emission Reductions and Removals

$ERy = BEy - PEy - LEy$

Where:

ER_y =Emission reductions in year y(tCO_2/y)

BE_y =Baseline Emissions in year y(tCO_2/y)
PE_y = Project emissions in year y (tCO_2/y)
LE_y = Leakage emissions in year y(tCO_2/y)

Baseline Emissions

Baseline emissions include only CO_2 emissions from electricity generation in power plants that are displaced due to the project activity. The methodology assumes that all project electricity generation above baseline levels would have been generated by existing grid-connected power plants and the addition of new grid-connected power plants.

The baseline emissions are to be calculated as follows:

$BE_y = EG_{PJ,y} \times EF_{grid,y}$

Where:

BE_y	=	Baseline emissions in year y(tCO_2)
$EG_{PJ,y}$	=	Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of this project activity in year y(MWh).
$EF_{grid,y}$	=	UCR recommended emission factor of 0.9 tCO_2/MWh has been considered, this is conservative as compared to the combined margin grid emission factor which can be derived from Data base of Central Electricity Authority (CEA), India. (Reference: General Project Eligibility Criteria and Guidance, UCR Standard, Page 4)

$BE_y = EG_{PJ,y} \times EF_{grid,y}$

$BE_y = 46,783 * 0.9 = 42,099\ tCO_2$ (Round Down)

Project Emissions

As per paragraph 39 of AMS-I.D. (version 18, dated 28/11/2014), for most renewable energy project activities emission is zero.

Hence, $PE_y=0$

Leakage Emissions

As per paragraph 42 of AMS-I.D.version-18, all projects other than Biomass projects have zero leakage.

Hence, $LE_y=0$

Total Emission reduction by the project for the current monitoring period is calculated as below:

Hence, ERy=42,099 – 0 – 0 = 42,099 CoUs

C.6. Prior History>>

The project was applied under CDM mechanism. The project will not cause double accounting of carbon credits in the said vintage period (i.e., COUs).

First Monitoring Period: 10 Year 6 Month 15 Days

C.7. Monitoring period number and duration>>

16/06/2013 to 31/12/2023 (inclusive of both dates)

C.8. Changes to start date of crediting period>>

Crediting period start date is 16/06/2013.

C.9.Permanent changes from PCN monitoring plan, applied methodology or applied standardized baseline>>

There are no permanent changes from registered PCN monitoring plan and applied methodology

C.10. Monitoring plan>>

The project activity essentially involves generation of electricity from wind, the employed Wind Turbine Generator can only convert Wind energy into electrical energy and cannot use any other input fuel for electricity generation, and thus no special ways and means are required to monitor leakage from the project activity. The recording of the electricity fed to the state utility grid is carried out jointly at the incoming feeder of the state power utility.

PPs are the project implementers and monitor the electricity delivered to the electricity grid by the project activity. The data is already archived electronically and is stored since commissioning. To ensure that the data is reliable and transparent, the PPs have established Quality Assurance and Quality Control (QA&QC) measures to effectively control and manage data reading, recording, auditing as well as archiving data and all relevant documents. The data is monitored on a daily basis and is submitted to PPs on a daily basis. PPs have implemented QA&QC measures to calibrate and ensure the accuracy of metering and safety aspects of the project operation. The metering devices are calibrated and inspected properly and periodically, according to state electricity board's specifications and requirements to ensure accuracy in the readings.

The recording of the electricity fed to the state utility grid is carried out jointly at the incoming feeder of the state power utility. The joint measurement is carried out once in a month in presence of both parties (the developer's representative and officials of the state power utility). Both parties sign the recorded reading

<table>
<tr><td>Data/Parameter:</td><td>ESy</td></tr>
<tr><td>Data unit:

Description:</td><td>MWh
<table>
<tr><th>Year</th><th>MWh Supplied to Grid</th></tr>
<tr><td>2013</td><td>2014.932</td></tr>
<tr><td>2014</td><td>2805.963</td></tr>
<tr><td>2015</td><td>3312.435</td></tr>
<tr><td>2016</td><td>4484.044</td></tr>
<tr><td>2017</td><td>4558.699</td></tr>
<tr><td>2018</td><td>4657.424</td></tr>
<tr><td>2019</td><td>4932.794</td></tr>
<tr><td>2020</td><td>4694.925</td></tr>
<tr><td>2021</td><td>4638.013</td></tr>
<tr><td>2022</td><td>4867.276</td></tr>
<tr><td>2023</td><td>5816.057</td></tr>
</table>
Quantity of net electricity supplied by the Project Activity to the grid in year y.</td></tr>
<tr><td>Source of the Data:</td><td>JMR. Statement of net export to f power to the grid issued Monthly by State Electricity Board or any other competent authority as applicable</td></tr>
<tr><td>Measurement Procedure (if any):</td><td>Total MWh supplied to the grid during this MR=46,783 mwh (Round down)</td></tr>
<tr><td>Monitoring frequency:</td><td>Monitoring frequency: Continuous
Measurement frequency: Hourly
Recording frequency: Monthly</td></tr>
<tr><td>QA/QC procedures:</td><td>The net energy exported to the grid is measured every month using calibrated energy meter by the State Electricity Board authorities in the presence of the project implementer or its</td></tr>
</table>

	representatives. The meter shall be jointly inspected, and sealed by authorized Representatives of the company and the state utility. Measuring procedure: Will be measured by an export-import energy meter. The net electricity exported by the project plant would either be directly sourced as a measured parameter or be calculated by deducting the amount of imported electricity from the total amount of exported electricity. Accuracy class of energy meter: As per Wheeling Agreement or relevant National standards amended/modified from time to time. Calibration Frequency: As per the Central Electricity Authority the testing.. However, the calibration will be done following the relevant applicable National Guidelines updated from time to time during the operation of the project activity. Entity responsible: Aggregator The electricity meter/s record both export and import of electricity from the Wind Farm plant and the readings with regard to net electricity generated will be used for calculation of emission reductions. The net electricity supplied to the grid will be cross checked with the monthly settlement invoices. The meter should be checked for accuracy and the meters will be calibrated as per the procedures of State Electricity Board as per the national or international standards. Measurement results shall be cross checked with records for sold electricity (i.e. Invoice). As per the monthly accounting procedure reflected in the monthly statement (e.g., JMR and Settlement Invoices etc.) However, if the monthly statement does not directly provide "net electricity" units, then quantity of net electricity supplied to the grid shall be calculated using the parameters reflected in the monthly document, such

	as Export units and Import units. Thus, the difference between the measured quantities of the grid export and the import will be considered as net export: EGPJ,y= EG Export-EG Import (Calculation has been referred in the ER sheet)
Purpose of the Data:	-Calculation of baseline emissions

Energy meter details:

	Main meter	Backup meter.
Baramsar (Old meter)	RJB01113	RJU00308
(New meter)	RJB90171	RJB90172
Soda Mada (Old metes)	RJB 00316	RJB 00317
	TNU00956	RJB00327
	TNU00957	RJB00318
(New meter)	RJB 90212	RJB 90213
	RJB 90210	RJB 90211
	RJB 81782	RJB 81783


Premier 300
S. No.: RJB81783


Premier 300
S. No.: RJB81782

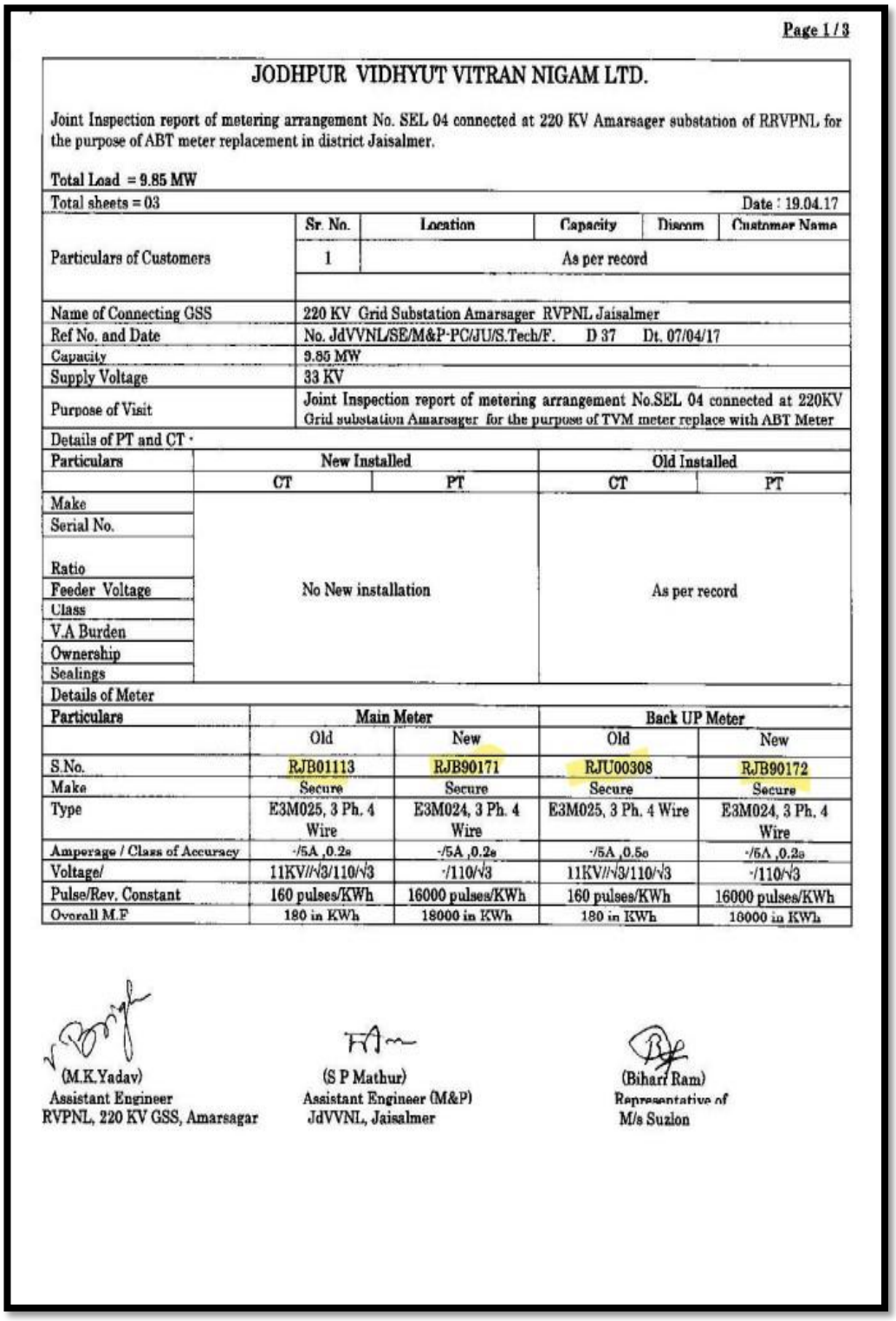

"Category-B"
Premier 300
S. No.: RJB90210


Premier 300
S. No.: RJB90211


"Category-B"
Premier 300
S. No.: RJB90213


"Category-B"
Premier 300
S. No.: RJB90212

Meter Replacement Certificates:



Page 1 / 3

JODHPUR VIDHYUT VITRAN NIGAM LTD.

Joint Inspection report of metering arrangement No. SEL 04 connected at 220 KV Amarsager substation of RRVPNL for the purpose of ABT meter replacement in district Jaisalmer.

Total Load = 9.85 MW

Total sheets = 03 Date : 19.04.17

	Sr. No.	Location	Capacity	Discom	Customer Name
Particulars of Customers	1	As per record			

Name of Connecting GSS	220 KV Grid Substation Amarsager RVPNL Jaisalmer
Ref No. and Date	No. JdVVNL/SE/M&P-PC/JU/S.Tech/F. D 37 Dt. 07/04/17
Capacity	9.85 MW
Supply Voltage	33 KV
Purpose of Visit	Joint Inspection report of metering arrangement No.SEL 04 connected at 220KV Grid substation Amarsager for the purpose of TVM meter replace with ABT Meter

Details of PT and CT :

Particulars	New Installed		Old Installed	
	CT	PT	CT	PT
Make	No New installation		As per record	
Serial No.				
Ratio				
Feeder Voltage				
Class				
V.A Burden				
Ownership				
Sealings				

Details of Meter

Particulars	Main Meter		Back UP Meter	
	Old	New	Old	New
S.No.	RJB01113	RJB90171	RJU00308	RJB90172
Make	Secure	Secure	Secure	Secure
Type	E3M025, 3 Ph. 4 Wire	E3M024, 3 Ph. 4 Wire	E3M025, 3 Ph. 4 Wire	E3M024, 3 Ph. 4 Wire
Amperage / Class of Accuracy	-/5A ,0.2s	-/5A ,0.2s	-/5A ,0.5s	-/5A ,0.2s
Voltage/	11KV//√3/110/√3	-/110/√3	11KV//√3/110/√3	-/110/√3
Pulse/Rev. Constant	160 pulses/KWh	16000 pulses/KWh	160 pulses/KWh	16000 pulses/KWh
Overall M.F	180 in KWh	18000 in KWh	180 in KWh	18000 in KWh

(M.K.Yadav)
Assistant Engineer
RVPNL, 220 KV GSS, Amarsagar

(S P Mathur)
Assistant Engineer (M&P)
JdVVNL, Jaisalmer

(Bihari Ram)
Representative of
M/s Suzlon

JODHPUR VIDHYUT VITRAN NIGAM LTD.

Joint Inspection report of metering arrangement No. 33/220KV Transformer no 1 (220KV PSS Mada) connected at 400 KV Akal substation of RRVPNL for the purpose of ABT meter replacement in district Jaisalmer.

Total Load = 224.50 MW

Total sheets = 03 Date : 18.04.17

Particulars of Customers	Sr. No.	Location	Capacity	Discom	Customer Name
	1	As per record			

Name of Connecting GSS	220 KV Grid Substation Akal RVPNL Jaisalmer
Ref No. and Date	No. JdVVNL/SE/M&P-PC/JU/S.Tech/F. D 37 Dt. 07/04/17
Capacity	224.50 MW
Supply Voltage	220 KV
Purpose of Visit	Joint Inspection report of metering arrangement No.33/220KV Transformer no 1 (220KV PSS Mada) connected at 400KV Grid substation Akal for the purpose of TVM meter replace with ABT Meter

Details of PT and CT -

Particulars	New Installed		Old Installed	
	CT	PT	CT	PT
Make	No New installation		As per record	
Serial No.				
Ratio				
Feeder Voltage				
Class				
V.A Burden				
Ownership				
Sealings				

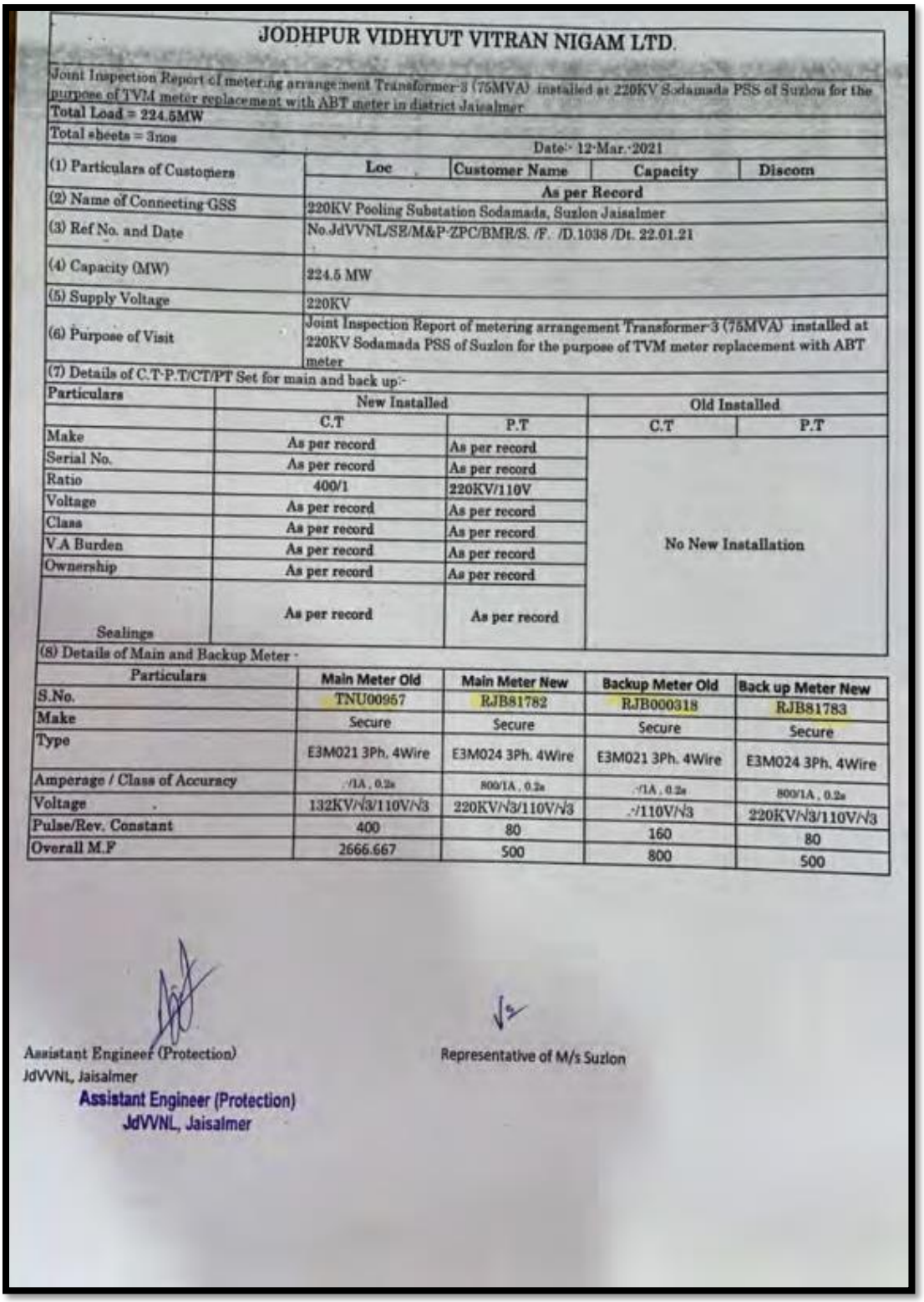
Details of Meter

Particulars	Main Meter		Back UP Meter	
	Old	New	Old	New
S.No.	RJB00316	RJB90212	RJB00317	RJB90213
Make	Secure	Secure	Secure	Secure
Type	E3M021, 3 Ph. 4 Wire	E3M024, 3 Ph. 4 Wire	E3M021, 3 Ph. 4 Wire	E3M024, 3 Ph. 4 Wire
Amperage / Class of Accuracy	-/1A ,0.2s	-/1A ,0.2s	-/1A ,0.2s	-/1A ,0.2s
Voltage/	-/110/√3	-/110/√3	-/110/√3	-/110/√3
Pulse/Rev. Constant	160 pulses/Wh	16000 pulses/KWh	160 pulses/Wh	16000 pulses/KWh
Overall M.F	800 in KWh	800000 in KWh	800 in KWh	800000 in KWh

(I.D. Singh)
Executive Engineer
RVPNL, 400 KV GSS, Akal

(S P Mathur)
Assistant Engineer (M&P)
JdVVNL, Jaisalmer

(Bihari Ram)
Representative of
M/s Suzlon



JODHPUR VIDHYUT VITRAN NIGAM LTD.

Joint Inspection Report of metering arrangement Transformer-3 (75MVA) installed at 220KV Sodamada PSS of Suzlon for the purpose of TVM meter replacement with ABT meter in district Jaisalmer

Total Load = 224.5MW

Total sheets = 3nos

Date:- 12-Mar.-2021

	Loc	Customer Name	Capacity	Discom
(1) Particulars of Customers	As per Record			
(2) Name of Connecting GSS	220KV Pooling Substation Sodamada, Suzlon Jaisalmer			
(3) Ref No. and Date	No.JdVVNL/SE/M&P-ZPC/BMR/S. /F. /D.1038 /Dt. 22.01.21			
(4) Capacity (MW)	224.5 MW			
(5) Supply Voltage	220KV			
(6) Purpose of Visit	Joint Inspection Report of metering arrangement Transformer-3 (75MVA) installed at 220KV Sodamada PSS of Suzlon for the purpose of TVM meter replacement with ABT meter			

(7) Details of C.T-P.T/CT/PT Set for main and back up:-

Particulars	New Installed		Old Installed	
	C.T	P.T	C.T	P.T
Make	As per record	As per record	No New Installation	
Serial No.	As per record	As per record		
Ratio	400/1	220KV/110V		
Voltage	As per record	As per record		
Class	As per record	As per record		
V.A Burden	As per record	As per record		
Ownership	As per record	As per record		
Sealings	As per record	As per record		

(8) Details of Main and Backup Meter -

Particulars	Main Meter Old	Main Meter New	Backup Meter Old	Back up Meter New
S.No.	TNU00957	RJB81782	RJB000318	RJB81783
Make	Secure	Secure	Secure	Secure
Type	E3M021 3Ph. 4Wire	E3M024 3Ph. 4Wire	E3M021 3Ph. 4Wire	E3M024 3Ph. 4Wire
Amperage / Class of Accuracy	-/1A , 0.2s	800/1A , 0.2s	-/1A , 0.2s	800/1A , 0.2s
Voltage	132KV/√3/110V/√3	220KV/√3/110V/√3	-/110V/√3	220KV/√3/110V/√3
Pulse/Rev. Constant	400	80	160	80
Overall M.F	2666.667	500	800	500

Assistant Engineer (Protection)
JdVVNL, Jaisalmer

Assistant Engineer (Protection)
JdVVNL, Jaisalmer

Representative of M/s Suzlon

ANNEXURE I (Emission Reduction Calculation)

5 MW BMD												
Month—Wise Energy Delivered to Grid (kWh)												
Year	Jan	Feb	March	April	May	June	July	August	Sept	Oct	Nov.	Dec
2013							905,781	434,891	337,385	124,816	90626	121433
2014	156862	116453	160275	105,863	279,960	544,284	378,542	359,567	308,533	145,318	105,507	144799
2015	147625	271556	218013	175542	365,729	239,180	385,628	544,345	341,937	298,260	204628	119992
2016	138581	188484	283369	286176	531606	521540	886613	401807	636682	326220	140491	142475
2017	277948	226488	236485	349365	445207	740253	585831	791610	330477	138548	120514	315973
2018	150414	163033	259762	418604	468064	798596	792338	802814	421919	105947	111605	164328
2019	196655	286669	284828	344109	555992	716186	1104401	498344	233346	133747	298053	280464
2020	295792	299239	379789	462879	554693	730421	667299	492448	279251	167226	147135	218753
2021	201881	139651	328344	342155	583653	337288	817406	987794	248922	330810	164488	155621
2022	166903	220739	316714	355574	724513	892537	528411	507488	502319	213666	258357	180055
2023	314725	254350	326117	419633	741731	883560	612029	1081603	410370	418994	151002	201943
Export from June 2013 to December 2023 in kWh												

Year	Energy Export to Grid	Emission Factor	CoU
2013	2014.932	0.9	1813
2014	2805.963	0.9	2525
2015	3312.435	0.9	2981
2016	4484.044	0.9	4035
2017	4558.699	0.9	4102
2018	4657.424	0.9	4191
2019	4932.794	0.9	4439
2020	4694.925	0.9	4225
2021	4638.013	0.9	4174
2022	4867.276	0.9	4380
2023	5816.057	0.9	5234
Total	**46,783**		**42,099**

Commissioning Certificates:

OFFICE OF THE EXECUTIVE ENGINEER (TCC IV) R.R.V.P.N. L. BARMER.

REF NO: - RRVPNL/XEN - III/TCC IV/BMR/D. 606 DATE: 4/10/4

WIND PROJECT – COMMISSIONING CERTIFICATE

To,
M/S. Transport Corporation Of India Limited,
TCI House
69 Industrial Area, Sector 32.
Gurgaon (Haryana)
122001

Sub: Commissioning Certificate

This is to certify that **M/S Transport Corporation Of India Limited** have successfully commissioned **2 Nos. X 1.25 MW** Suzlon make Wind Electric Generator on **30th Sept.2004**, at Village **Soda-Mada,** Dist. Jaisalmer, Rajasthan.

Brief details of the machineries commissioned:

1 Rating of Wind Electric Generators – **1.25 MW**
2 Quantity - **1 No.**
3 Location – **J-227 and J 228**
4 Date of Commissioning – **30th. Sept. 2004**

We further state that this Wind Electric Generator is interconnected to 132 KV Jaisalmer GSS through 132 KV Mada Substation via Amarsagar 132 KV Bay.

Executive Engineer - III (TCC- IV)
R.R.V.P.N.L. BARMER
III (TCC IV)
R.V.P.N. BARMER

OFFICE OF THE EXECUTIVE ENGINEER (O&M), J.V.V.N.L., JAISALMER.
Opp. Post Office, Old Power House, Jaisalmer ☎- 02992-252132

REF NO: -JVVNL/XEN/O&M/JSM/S: TECH/F: D.374 DATE: 16/06/2003

WIND PROJECT – COMMISSIONING CERTIFICATE

To,
M/S. TRANSPORT CORPORATION OF INDIA LTD.
TCI House
69, Industrial Area, Sector 32
Gurgaon (Haryana) – 122 001

Sub: Commissioning Certificate

This is to certify that **M/S TRANSPORT CORPORATION OF INDIA LTD.** has successfully Commissioned 2 Nos. X **1.25 MW** Suzlon make Wind Electric Generators on 16th June 2003 at Baramsar Village, Jaisalmer District Rajasthan.

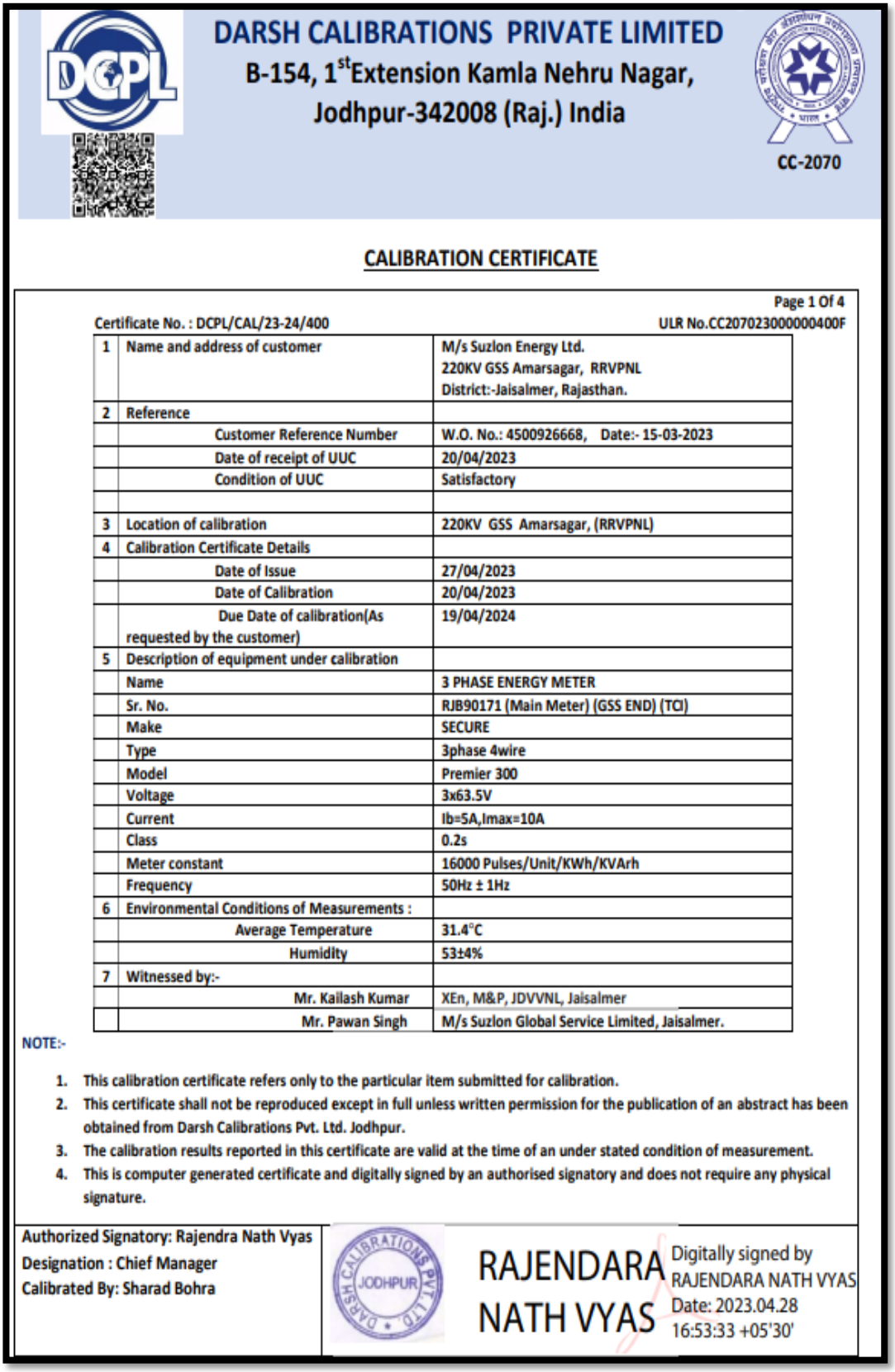
Brief details of the machineries commissioned:

1. Rating of Wind Electric Generators – **1.25 MW each (SUZLON MAKE)**
2. Quantity - **2 No.**
3. Location – **J-70 & J-71**
4. Date of Commissioning – **16th June 2003**

We further state that all these Wind Electric Generators are connected to 33KV Deva Feeder near Village Baramsar Dist. Jaisalmer (Rajasthan).

Executive Engineer (O&M)
J.V.V.N.L. JAISALMER
Authorised Signatory
Executive Engineer (O&M)
J.V.V.N.L., Jaisalmer

Calibration Certificates:



DARSH CALIBRATIONS PRIVATE LIMITED
B-154, 1st Extension Kamla Nehru Nagar,
Jodhpur-342008 (Raj.) India

CC-2070

CALIBRATION CERTIFICATE

Page 1 Of 4

Certificate No. : DCPL/CAL/23-24/400 ULR No.CC207023000000400F

1	Name and address of customer	M/s Suzlon Energy Ltd. 220KV GSS Amarsagar, RRVPNL District:-Jaisalmer, Rajasthan.
2	Reference	
	Customer Reference Number	W.O. No.: 4500926668, Date:- 15-03-2023
	Date of receipt of UUC	20/04/2023
	Condition of UUC	Satisfactory
3	Location of calibration	220KV GSS Amarsagar, (RRVPNL)
4	Calibration Certificate Details	
	Date of Issue	27/04/2023
	Date of Calibration	20/04/2023
	Due Date of calibration(As requested by the customer)	19/04/2024
5	Description of equipment under calibration	
	Name	3 PHASE ENERGY METER
	Sr. No.	RJB90171 (Main Meter) (GSS END) (TCI)
	Make	SECURE
	Type	3phase 4wire
	Model	Premier 300
	Voltage	3x63.5V
	Current	Ib=5A,Imax=10A
	Class	0.2s
	Meter constant	16000 Pulses/Unit/KWh/KVArh
	Frequency	50Hz ± 1Hz
6	Environmental Conditions of Measurements :	
	Average Temperature	31.4°C
	Humidity	53±4%
7	Witnessed by:-	
	Mr. Kailash Kumar	XEn, M&P, JDVVNL, Jaisalmer
	Mr. Pawan Singh	M/s Suzlon Global Service Limited, Jaisalmer.

NOTE:-

1. This calibration certificate refers only to the particular item submitted for calibration.
2. This certificate shall not be reproduced except in full unless written permission for the publication of an abstract has been obtained from Darsh Calibrations Pvt. Ltd. Jodhpur.
3. The calibration results reported in this certificate are valid at the time of an under stated condition of measurement.
4. This is computer generated certificate and digitally signed by an authorised signatory and does not require any physical signature.

Authorized Signatory: Rajendra Nath Vyas
Designation : Chief Manager
Calibrated By: Sharad Bohra

DARSH CALIBRATIONS PVT LTD JODHPUR

RAJENDARA NATH VYAS

Digitally signed by RAJENDARA NATH VYAS
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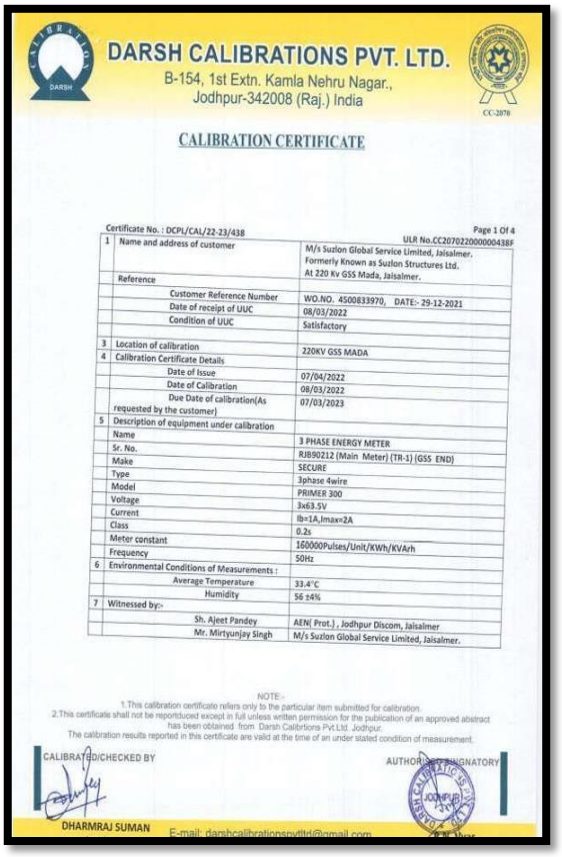


DARSH CALIBRATIONS PVT. LTD.
B-154, 1st Extn. Kamla Nehru Nagar.,
Jodhpur-342008 (Raj.) India

CALIBRATION CERTIFICATE

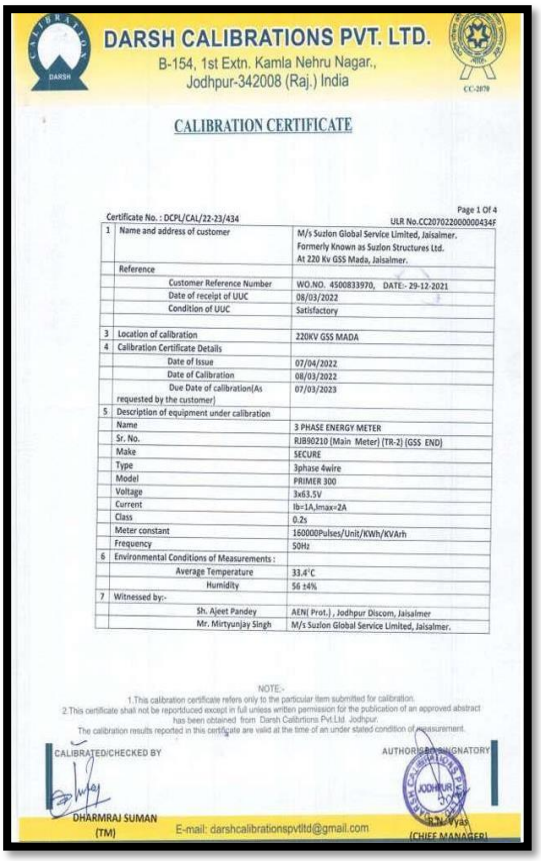
Certificate No. : DCPL/CAL/22-23/438 — Page 1 Of 4
ULR No.CC207022000000438F

1	Name and address of customer	M/s Suzlon Global Service Limited, Jaisalmer. Formerly Known as Suzlon Structures Ltd. At 220 Kv GSS Mada, Jaisalmer.
	Reference	
	Customer Reference Number	WO.NO. 4500833970, DATE:- 29-12-2021
	Date of receipt of UUC	08/03/2022
	Condition of UUC	Satisfactory
3	Location of calibration	220KV GSS MADA
4	Calibration Certificate Details	
	Date of Issue	07/04/2022
	Date of Calibration	08/03/2022
	Due Date of calibration(As requested by the customer)	07/03/2023
5	Description of equipment under calibration	
	Name	3 PHASE ENERGY METER
	Sr. No.	RJB90212 (Main Meter) (TR-1) (GSS END)
	Make	SECURE
	Type	3phase 4wire
	Model	PRIMER 300
	Voltage	3x63.5V
	Current	Ib=1A,Imax=2A
	Class	0.2s
	Meter constant	160000Pulses/Unit/KWh/KVArh
	Frequency	50Hz
6	Environmental Conditions of Measurements :	
	Average Temperature	33.4°C
	Humidity	56 ±4%
7	Witnessed by:-	
	Sh. Ajeet Pandey	AEN(Prot.) , Jodhpur Discom, Jaisalmer
	Mr. Mirtyunjay Singh	M/s Suzlon Global Service Limited, Jaisalmer.

NOTE:-
1.This calibration certificate refers only to the particular item submitted for calibration.
2.This certificate shall not be reportduced except in full unless written permission for the publication of an approved abstract has been obtained from Darsh Calibrtions Pvt.Ltd. Jodhpur.
The calibration results reported in this certificate are valid at the time of an under stated condition of measurement.

CALIBRATED/CHECKED BY — AUTHORISED SIGNATORY

DHARMRAJ SUMAN — E-mail: darshcalibrationspvtltd@gmail.com



DARSH CALIBRATIONS PVT. LTD.
B-154, 1st Extn. Kamla Nehru Nagar.,
Jodhpur-342008 (Raj.) India

CALIBRATION CERTIFICATE

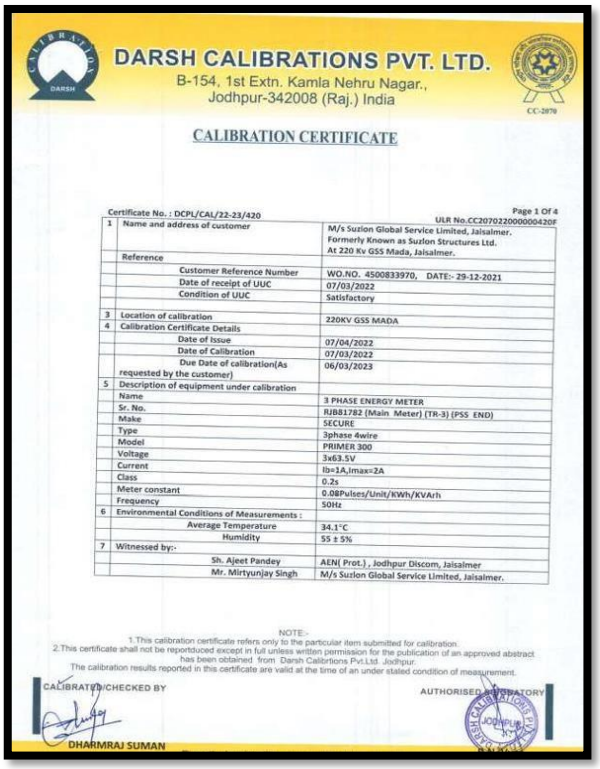
Certificate No. : DCPL/CAL/22-23/434 — Page 1 Of 4
ULR No.CC207022000000434F

1	Name and address of customer	M/s Suzlon Global Service Limited, Jaisalmer. Formerly Known as Suzlon Structures Ltd. At 220 Kv GSS Mada, Jaisalmer.
	Reference	
	Customer Reference Number	WO.NO. 4500833970, DATE:- 29-12-2021
	Date of receipt of UUC	08/03/2022
	Condition of UUC	Satisfactory
3	Location of calibration	220KV GSS MADA
4	Calibration Certificate Details	
	Date of Issue	07/04/2022
	Date of Calibration	08/03/2022
	Due Date of calibration(As requested by the customer)	07/03/2023
5	Description of equipment under calibration	
	Name	3 PHASE ENERGY METER
	Sr. No.	RJB90210 (Main Meter) (TR-2) (GSS END)
	Make	SECURE
	Type	3phase 4wire
	Model	PRIMER 300
	Voltage	3x63.5V
	Current	Ib=1A,Imax=2A
	Class	0.2s
	Meter constant	160000Pulses/Unit/KWh/KVArh
	Frequency	50Hz
6	Environmental Conditions of Measurements :	
	Average Temperature	33.4°C
	Humidity	56 ±4%
7	Witnessed by:-	
	Sh. Ajeet Pandey	AEN(Prot.) , Jodhpur Discom, Jaisalmer
	Mr. Mirtyunjay Singh	M/s Suzlon Global Service Limited, Jaisalmer.

NOTE:-
1.This calibration certificate refers only to the particular item submitted for calibration.
2.This certificate shall not be reportduced except in full unless written permission for the publication of an approved abstract has been obtained from Darsh Calibrtions Pvt.Ltd. Jodhpur.
The calibration results reported in this certificate are valid at the time of an under stated condition of measurement.

CALIBRATED/CHECKED BY — AUTHORISED SIGNATORY

DHARMRAJ SUMAN (TM) — E-mail: darshcalibrationspvtltd@gmail.com — (CHIEF MANAGER)



DARSH CALIBRATIONS PVT. LTD.
B-154, 1st Extn. Kamla Nehru Nagar.,
Jodhpur-342008 (Raj.) India

CALIBRATION CERTIFICATE

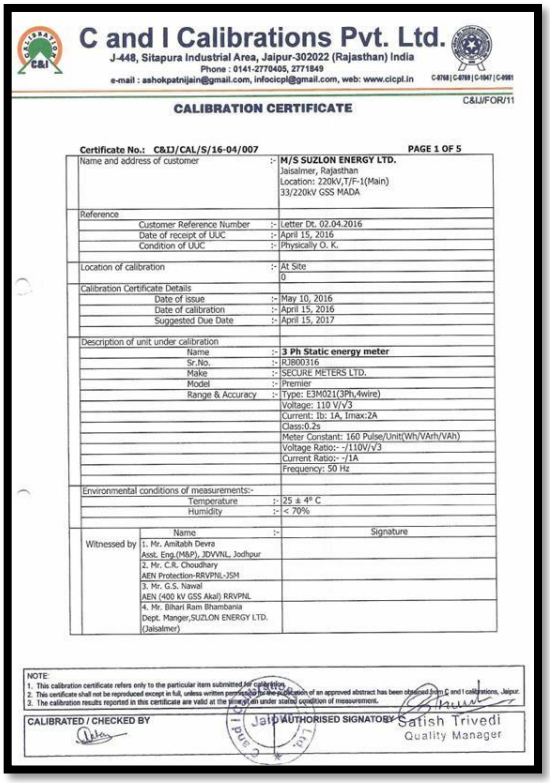
Certificate No. : DCPL/CAL/22-23/420 — Page 1 Of 4
ULR No.CC207022000000420F

1	Name and address of customer	M/s Suzlon Global Service Limited, Jaisalmer. Formerly Known as Suzlon Structures Ltd. At 220 Kv GSS Mada, Jaisalmer.
	Reference	
	Customer Reference Number	WO.NO. 4500833970, DATE:- 29-12-2021
	Date of receipt of UUC	07/03/2022
	Condition of UUC	Satisfactory
3	Location of calibration	220KV GSS MADA
4	Calibration Certificate Details	
	Date of Issue	07/04/2022
	Date of Calibration	07/03/2022
	Due Date of calibration(As requested by the customer)	06/03/2023
5	Description of equipment under calibration	
	Name	3 PHASE ENERGY METER
	Sr. No.	RJB81782 (Main Meter) (TR-3) (PSS END)
	Make	SECURE
	Type	3phase 4wire
	Model	PRIMER 300
	Voltage	3x63.5V
	Current	Ib=1A,Imax=2A
	Class	0.2s
	Meter constant	0.08Pulses/Unit/KWh/KVArh
	Frequency	50Hz
6	Environmental Conditions of Measurements :	
	Average Temperature	34.1°C
	Humidity	55 ± 5%
7	Witnessed by:-	
	Sh. Ajeet Pandey	AEN(Prot.) , Jodhpur Discom, Jaisalmer
	Mr. Mirtyunjay Singh	M/s Suzlon Global Service Limited, Jaisalmer.

NOTE:-
1.This calibration certificate refers only to the particular item submitted for calibration.
2.This certificate shall not be reportduced except in full unless written permission for the publication of an approved abstract has been obtained from Darsh Calibrtions Pvt.Ltd. Jodhpur.
The calibration results reported in this certificate are valid at the time of an under stated condition of measurement.

CALIBRATED/CHECKED BY — AUTHORISED SIGNATORY

DHARMRAJ SUMAN



C and I Calibrations Pvt. Ltd.
J-448, Sitapura Industrial Area, Jaipur-302022 (Rajasthan) India
Phone : 0141-2770405, 2771849
e-mail : ashokpatnijain@gmail.com, infocicpl@gmail.com, web: www.cicpl.in
C-0768 | C-0769 | C-1047 | C-4981

CALIBRATION CERTIFICATE — C&IJ/FOR/11

Certificate No.: C&IJ/CAL/S/16-04/007 — PAGE 1 OF 5

Name and address of customer		:-	M/S SUZLON ENERGY LTD. Jaisalmer, Rajasthan Location: 220kV,T/F-1(Main) 33/220kV GSS MADA
Reference			
	Customer Reference Number	:-	Letter Dt. 02.04.2016
	Date of receipt of UUC	:-	April 15, 2016
	Condition of UUC	:-	Physically O. K.
Location of calibration		:-	At Site
			0
Calibration Certificate Details			
	Date of issue	:-	May 10, 2016
	Date of calibration	:-	April 15, 2016
	Suggested Due Date	:-	April 15, 2017
Description of unit under calibration			
	Name	:-	3 Ph Static energy meter
	Sr.No.	:-	RJB00316
	Make	:-	SECURE METERS LTD.
	Model	:-	Premier
	Range & Accuracy	:-	Type: E3M021(3Ph,4wire)
			Voltage: 110 V/V3
			Current: Ib: 1A, Imax:2A
			Class:0.2s
			Meter Constant: 160 Pulse/Unit(Wh/VArh/VAh)
			Voltage Ratio:- -/110V/V3
			Current Ratio:- -/1A
			Frequency: 50 Hz
Environmental conditions of measurements:-			
	Temperature	:-	25 ± 4° C
	Humidity	:-	< 70%

Witnessed by	Name	:-	Signature
	1. Mr. Amitabh Devra Asst. Eng.(M&P), JDVVNL, Jodhpur		
	2. Mr. C.R. Choudhary AEN Protection-RRVPNL-JSM		
	3. Mr. G.S. Nawal AEN (400 kV GSS Akal) RRVPNL		
	4. Mr. Bihari Ram Bhambania Dept. Manger,SUZLON ENERGY LTD. (Jaisalmer)		

NOTE:
1. This calibration certificate refers only to the particular item submitted for calibration.
2. This certificate shall not be reproduced except in full, unless written permission for the publication of an approved abstract has been obtained from C and I calibrations, Jaipur.
3. The calibration results reported in this certificate are valid at the time of an under stated condition of measurement.

CALIBRATED / CHECKED BY — AUTHORISED SIGNATORY — Satish Trivedi, Quality Manager