MONITORING REPORT
CARBON OFFSET UNIT (CoU) PROECT

Title: 6.5 MW Wind Power Project by M/s Transport Corporation of India Limited (TCIL) at Maharashtra.

Version 1.0
Date of MR: 25th June 2024
UCR ID: 440
1st CoU Issuance Period: 01.01.2013 to 31.12.2023 (11 Years)
1st Monitoring Period: 01.01.2013 to 31.12.2023 (11 Years)
1st Crediting Period: 01.01.2013 to 31.12.2023 (11 Years)

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

Monitoring Report	
Title of the project activity	6.5 MW Wind Power Project by M/s Transport Corporation of India Limited, (TCIL) in Maharashtra.
UCR Project Registration Number	440
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 (01/01/2013 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, India.
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: 10,584 CoUs (10,584 tCO2eq)
	2014: 8,958 CoUs (8,958 tCO2eq)
	2015: 7,991 CoUs (7,991 tCO2eq)
	2016: 9,615 CoUs (9,615 tCO2eq)
	2017: 9,388 CoUs (9,388 tCO2eq)
	2018: 6,961 CoUs (6,961 tCO2eq)
	2019: 3,971 CoUs (3,971 tCO2eq)
	2020: 7,507 CoUs (7,507 tCO2eq)
	2021: 8,059 CoUs (8,059 tCO2eq)
	2022: 8,864 CoUs (8,864 tCO2eq)
	2023: 8,267 CoUs (8,267 tCO2eq)
Total:	**90,165 CoUs (90,165 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 **6.5 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.

Sr No	Name of Wind Farm	Installed Capacity (MW)	State	District	Site
01	**Transport Corporation of India Limited**	6.5	Maharashtra	Sangali	Ghatnandare Birenwadi Jarandi

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 Wind Project is 6.5 MW wind power project in Maharashtra. The Transport Corporation of India Limited Wind Projects consists of 5 WTGs. The entire Engineering, Procurement and Construction (EPC) are provided by M/S Suzlon Energy Ltd.

The generated electricity from the WTGs is grid connected wind power project located in Ghatnandare, Birenwadi and Jarandi village of Sangali District in the state of Maharashtra (India). The purpose of this plant installation to supply electricity to regional Grid. Electricity generated after 2021 was sold through short-term open access.

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 1,00,191 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 are 90,165 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 Limited.
Capacity & Units: - 6.5 MW & 5 No's WTG
Project Evacuation Details:

	Meter No	Wind Turbine number
220/33 KV Feeder No 2	14796415	G367, G368
220/33 KV Feeder No 6	14796410	G32, G39
220/33 KV Feeder No 7	14796406	N70

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

1	**Main Data**		
	Turbine Type	Horizontal axis wind turbine, with flexible slip control	
	Rated Power	1,500 kW	
	Rotor Diameter	82 m	
	Swept area	5,281 m^2	
	Hub height	Including 1 m foundation height : 78.5 m	Foundation top equal to ground level : 77.5 m
	Rotational Speed	15.6 - 18.4 rpm	
2	**Main Frame**		
	Frame type	Cast Box frame / Cast skeleton frame	
	Material	EN-GJS-400-18U-LT	
	Corrosion Protection	Corrosion proof painting	
3	**Rotor**		
	Number of blades	3	
	Rotor cone angle	4.3º	
	Rotor diameter	82 m	
	Rotor speed (at rated power)	16.30 rpm	
	Tip speed (at rated power)	70 m/sec	
	Rotor Shaft tilt	5º	
	Power regulation	Independent electromechanical pitch system for each blade & SUZLON-FLEXI-SLIP SYSTEM	
	Rotor Orientation	Upwind	

4	**Rotor Blades**	
	Rotor blade type	AE 40 (With Vortex)
	Blade length	40 m
	Material	Fibre glass / epoxy
	Type of rotor air brake	Pitch / Full blade
	Blade profiles	TU delft family
5	**Pitch System**	
	Pitch type	Electrical
	Drive type	One electric motor with gearbox & electrical brake / blade
	Backup system	1 battery set per blade
	Pitch angle range	-2° to +88°
	Pitch speed (angular)	0.1 – 8 ° / sec
6	**Hub**	
	Hub type	Cast Spherical hub
	Material	EN-GJS-400-18U-LT
	Corrosion Protection	Corrosion proof painting
7	**Main Bearing**	
	Bearing type	Spherical roller bearing
	Quantity	1

8	**Main Bearing Housing**	
	Material	EN-GJS-400-18U-LT or EN-JS-1049
	Quantity	1
9	**Gear Box**	
	Type of Gear box	1 planetary stage / 2 helical stages
	Gear house material	Cast
	Gear ratio	1: 95.09
	Power	1,650 kW
	Shaft seals	Maintenance-free labyrinth
10	**Oil Pump**	
	Oil pump voltage	3 phase – 690 V AC
11	**Mechanical brake (For maintenance purpose only)**	
	Brake type	Hydraulic disc brake, activated by hydraulic pressure + mechanical rotor lock, activated by hydraulic pressure
	Brake disc	Steel, mounted on high speed shaft
	Caliper	1
12	**Hydraulic Power unit for Mechanical Brake**	
	Voltage	3 phase – 690 V AC
	Max. operating pressure	110 bar
	Oil capacity	4.5 liters

13	**Coupling System on fast shaft**	
	Coupling type	1. Flexible coupling
14	**Generator System**	
	Generator type	Single speed induction generator with slip rings, variable rotor resistance via SUZLON-FLEXI-SLIP system.
	Rated power	1,500 kW
	Rated Voltage	690 V AC (Phase to phase)
	Frequency	50 Hz
	Number of Poles	4
	Synchronous speed	1,500 rpm
	Speed at rated power & shortcut rotor	1,511 rpm
	Speed range for operation with SUZLON-FLEXISLIP	1,500 – 1,750 rpm
	Speed range for constant power with SUZLON-FLEXISLIP	1,500 – 1,750 rpm
	Speed range for operation with SUZLON-FLEXISLIP	1,545 rpm
	Max rotor slip	16.7%
	Power factor (FL)	0.92 (uncompensated)
	Full load current	1,365 A
	Stator / Rotor winding connections	Delta / Star
	Ingress Protection (Generator)	IP 54

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 : 440

Commissioning Date of the project : 29/09/2005

Start Date of Crediting Period : 01/01/2013

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:

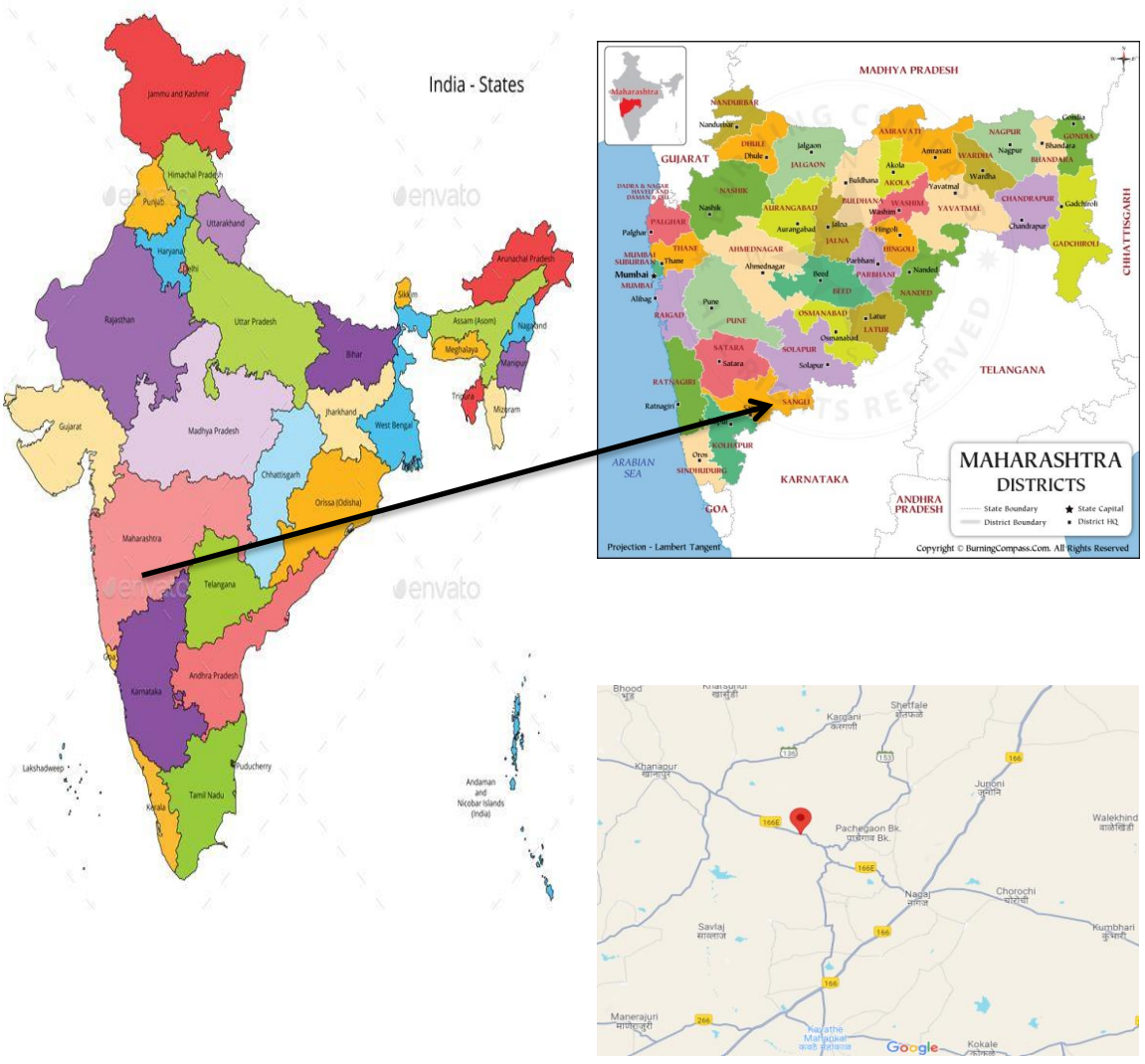
Summary of the Project Activity and ERs Generated for the Monitoring Period	
Start date of this Monitoring Period	01/01/2013
Carbon credits claimed up-to	31/12/2023
Total ERs generated (tCO_2eq)	90,165 tCO_2eq
Leakage	0

B. Location of project activity>>

The project location is situated at village- Ghatnandre, Birenwadi, Jarandi and, District- Sangali in the state of Maharashtra. 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 (TCIL)				
Sr. No.	Location	INSTLLED CAPACITY (MW)	Latitude	Longitude
1	G32	1.25	17.191696	74.864785
2	G39	1.25	17.185187	74.876958
3	G367	1.25	17.17675	74.726193
4	G368	1.25	17.179114	74.726082
5	N70	1.5	17.203874	74.840661

Country: India
State : Maharashtra
District : Sangali
Tehsil : Kawate Mahakal, Tasgoan.



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: 01/01/2013

Length of the crediting period corresponding to this monitoring period: 11 years
i.e., 01/01/2013 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 5 WTGs commissioned on three following phases.
The TCIL Wind Turbine Project demonstrates the effective implementation and scalability of wind energy projects. Initiated in September 2005 and completed with the commissioning of the final turbine in March 2007, the project successfully harnesses wind energy across multiple sites—Ghatnandre, Birenwadi, and Jarandi. With a combined capacity of 6.5 MW

Phases of Commissioning

Initial Phase

- **Commission Date:** 29 September 2005
- **Location:** Ghatnandre site, Taluka Kawathe Mahakal
- **Turbines:** G-32 and G-39
- **Capacity:** 1.25 MW each
- **Total Initial Capacity:** 2.5 MW
- **Description:** The initial phase involved the commissioning of two wind turbines, G-32 and G-39, each with a capacity of 1.25 MW. These turbines marked the beginning of the wind energy project at the Ghatnandre site, contributing 2.5 MW to the local grid.

Second Phase

- **Commission Date:** 25 March 2006, 31 march 2006
- **Location:** Birenwadi taluka Tasgoan.
- **Turbines:** G-367 and G-368
- **Capacity:** 1.25 MW each
- **Total Added Capacity:** 2.5 MW
- **Description:** In the second phase, two additional wind turbines, G-367 and G-368, were commissioned at Birenwadi. 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.

Final Phase

- **Commission Date:** 27 March 2007
- **Location:** Jarandi Tal. Tasgoan

- **Turbine:** N-70
- **Capacity:** 1.5 MW
- **Total Added Capacity:** 1.5 MW
- **Description:** The final phase saw the commissioning of the N-70 wind turbine at Jarandi. This turbine has the highest capacity among the project's turbines, contributing an additional 1.5 MW to the overall capacity.

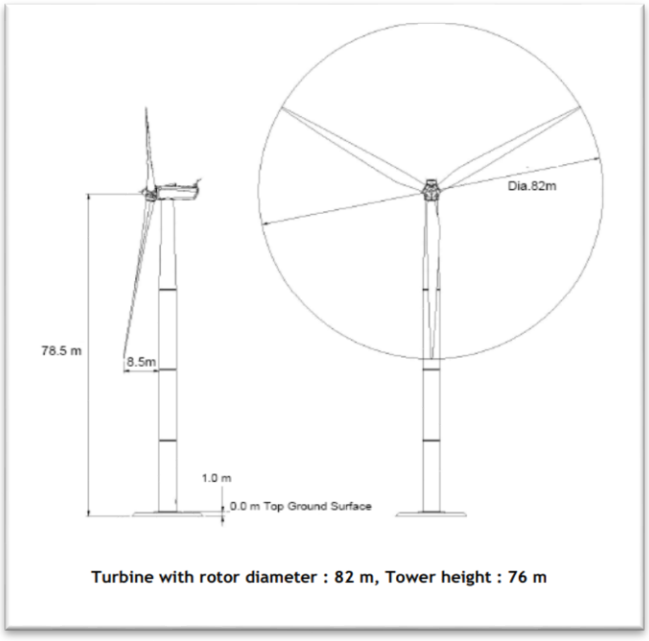
Total Project Capacity

- **Initial Phase:** 2.5 MW (G-32 and G-39)
- **Second Phase:** 2.5 MW (G-367 and G-368)
- **Final Phase:** 1.5 MW (N-70)
- **Total Capacity:** 6.5 MW

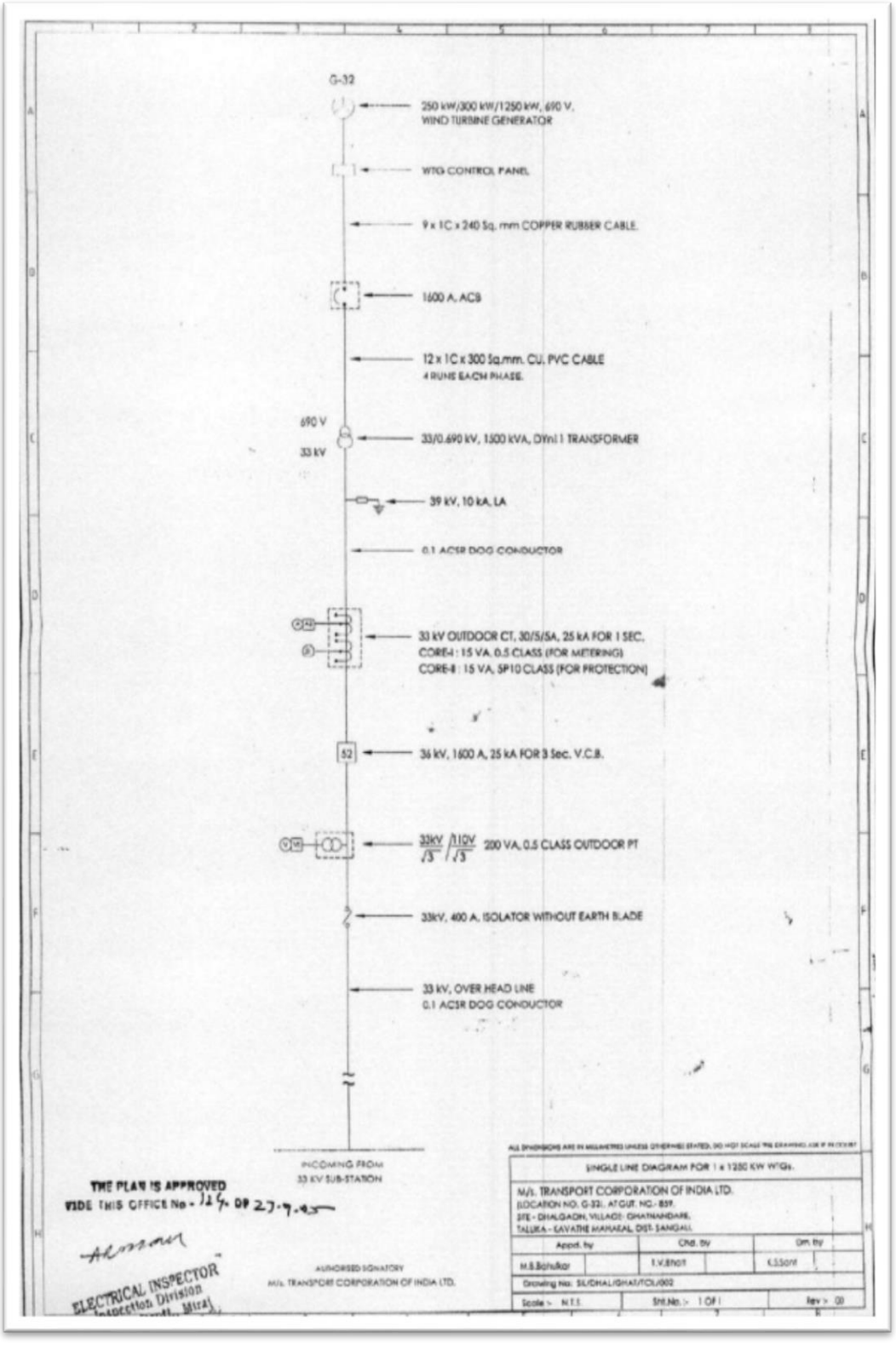
b) For the description of the installed technology, technical process and equipment, include diagrams, where appropriate>>

Wind Turbines are manufactured and supplied by SUZLON with an aggregate installed capacity of 6.5 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.

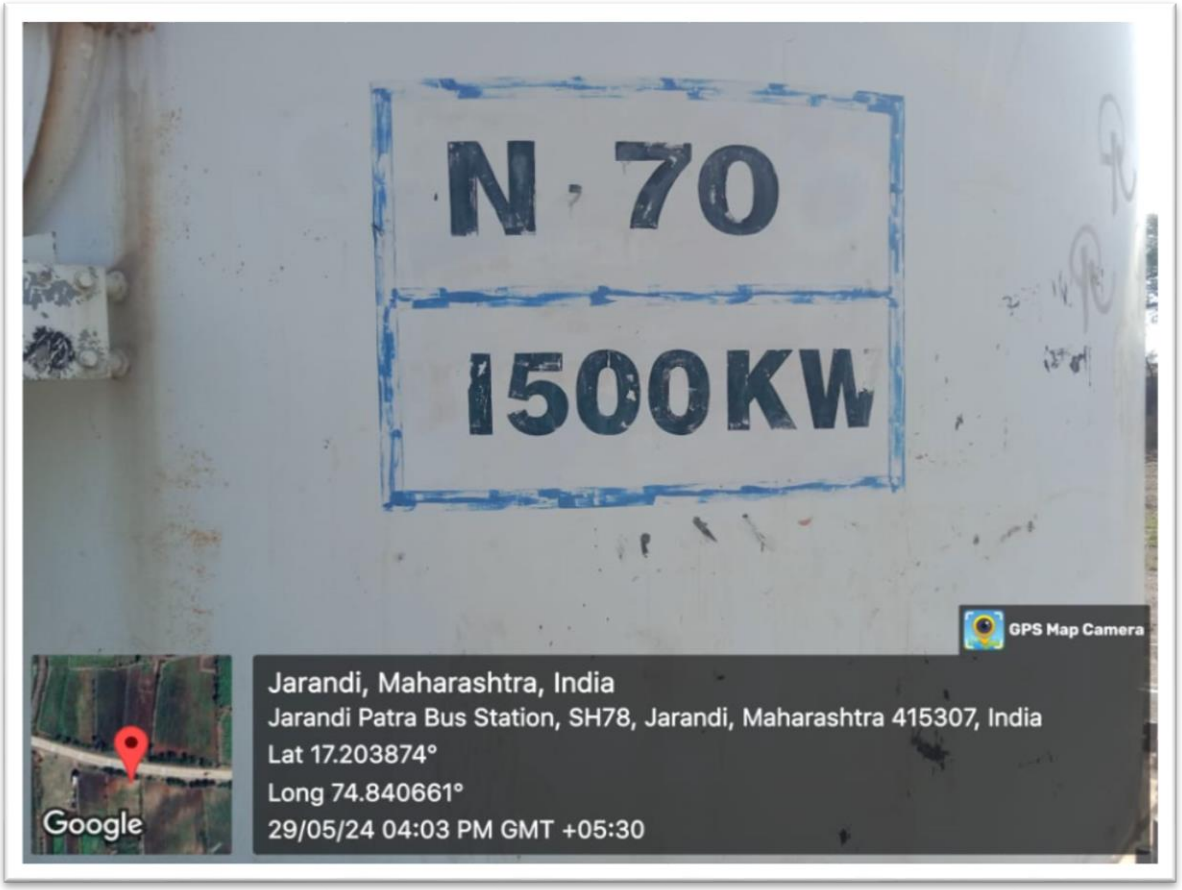
Technical details of the machines installed are explained in A1. B):



Turbine with rotor diameter : 82 m, Tower height : 76 m



Single line diagram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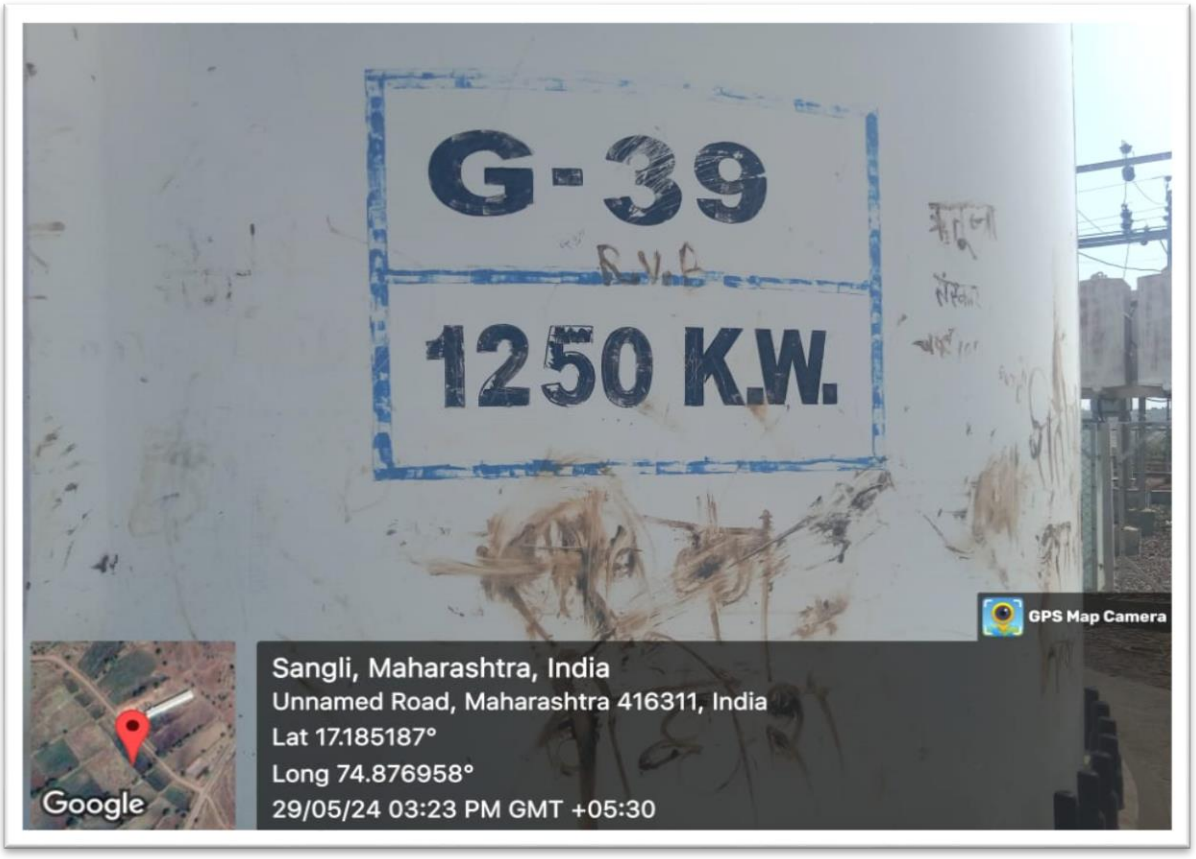
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Site Images

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:

1. Social Well-being

Employment Generation

- **Direct Employment**: Created jobs in construction, operation, and maintenance of the wind turbines.
- **Indirect Employment**: Stimulated ancillary industries such as manufacturing of turbine components, transportation, and services.

Infrastructure Development

- **Road Improvements**: Developed or upgraded road networks to facilitate transportation of turbine components and maintenance equipment.

2. Environmental Well-being

Pollution Reduction

- **Clean Energy Generation**: Generated electricity without air pollution, water pollution, or solid waste. The project utilized wind energy for generating electricity which otherwise would have been generated through alternate fuel (most likely - fossil fuel) based power plants, contributing to reduction in specific emissions (emissions of pollutant/unit of energy generated) including GHG emissions.
- **GHG Emission Reduction**: Contributed to lowering greenhouse gas emissions by displacing coal-based power generation. Being a renewable resource, using wind energy to generate electricity contributes to resource conservation. Thus, the project activity causes no negative impact on the surrounding environment.

Resource Conservation

- **Renewable Resource Use**: Utilized wind energy, a renewable resource, thereby conserving finite natural resources like coal.

3. Economic Well-being

Economic Diversification

- **Local Economic Growth**: Encouraged the establishment of new businesses and industries by improving infrastructure and energy availability.

Land Value Enhancement

- **Fair Compensation**: Ensured that local landowners receive fair compensation for land used for wind turbines.
- **Economic Upliftment**: Enhanced land value and provide new economic opportunities through improved infrastructure and energy access.

4. Technological Well-being

Advanced Technology Deployment

- **Modern Turbines**: Installed 1.25 MW wind turbine generators, introducing advanced technology to the region.
- **Technical Training**: Provided training programs for local technicians and engineers to build capacity in wind energy technology.

Energy Quality Improvement

- **Reliable Power Supply**: Increased energy availability and improve the quality of power supplied to the local grid.
- **Grid Stability**: Contributed to grid stability and reliability by integrating wind energy into the national grid.

Innovation Promotion

- **Research and Development**: Encouraged R&D activities related to wind energy technology and grid integration.
- **Best Practices**: Promoted the adoption of best practices in renewable energy generation and maintenance.

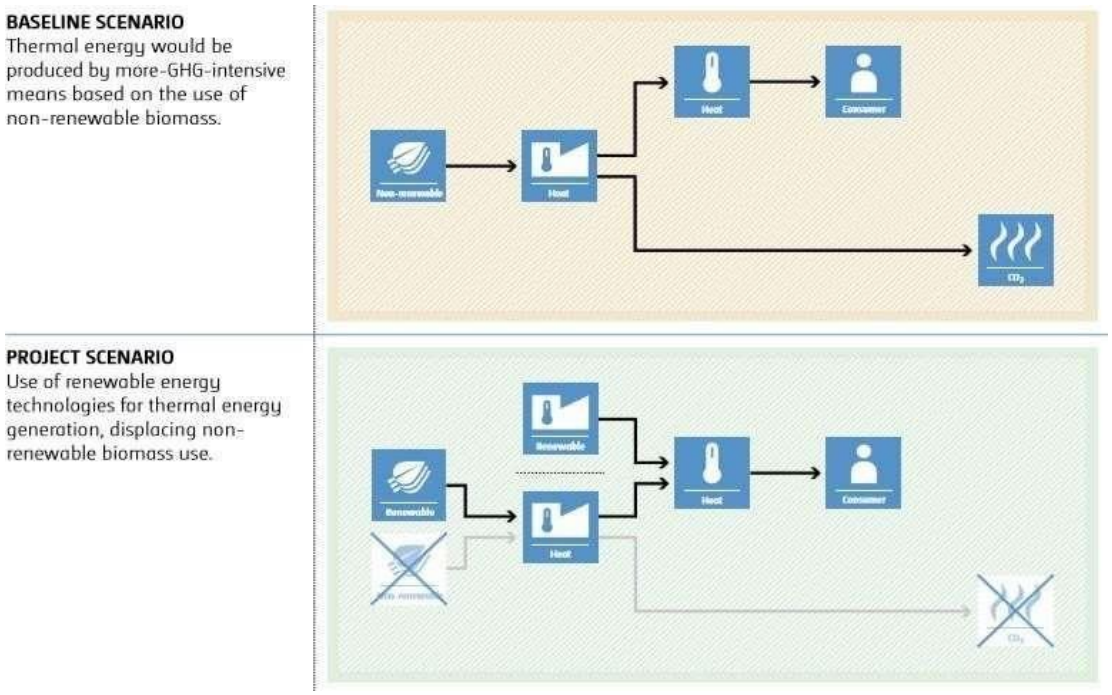
B.3. Baseline Emissions>>

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:

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 2021-23, 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.



B.4. 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 under the Power Purchase Agreement (PPA) signed between the Project Proponent (PP) and the MSEDCL.
The project activity has installed 5 WTGs of capacity 1.25 MW and 1.5 MW which is 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 **6.5 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 from the existing units.	There is no other existing renewable energy power generation facility at the project site. Therefore, this criterion is not applicable.
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 was not applied under any other GHG mechanism. Hence project will not cause double accounting of carbon credits (i.e., COUs).

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. 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 CO_2 emission factor (tCO_2/MWh) which will be associated with each unit of electricity provided by an electricity system. The UCR recommends an emission factor of 0.9 tCO_2/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

$ER_y = BE_y – PE_y – LE_y$

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)

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

$BE_y = 100,191 * 0.9 = 90,165$ (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, PEy=0

Leakage Emissions

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

Hence, LEy=0

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

Hence, ERy =90165 – 0 – 0 = 90,165 CoUs

C.6. Prior History>>

The project was not applied under any other GHG mechanism. Hence project will not cause double accounting of carbon credits (i.e., COUs).

First Monitoring Period: 11 years.

C.7. Monitoring period number and duration>>

01/01/2013 to 31/12/2023 (inclusive of both dates)

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

Crediting period start date is 01/01/2013.

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 (MSEDCL).

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, MESDCL). Both parties sign the recorded reading

Data/Parameter:	***EGy***
Data unit:	MWh
Description:	Quantity of net electricity supplied by the Project Activity to the grid in year y.

Year	MWh Supplied to Grid
2013	11761.00118
2014	9954.42317
2015	8879.45307
2016	10684.0881
2017	10431.94969
2018	7734.904141
2019	4412.95513
2020	8341.85579
2021	8954.59726
2022	9849.572123
2023	9186.627857

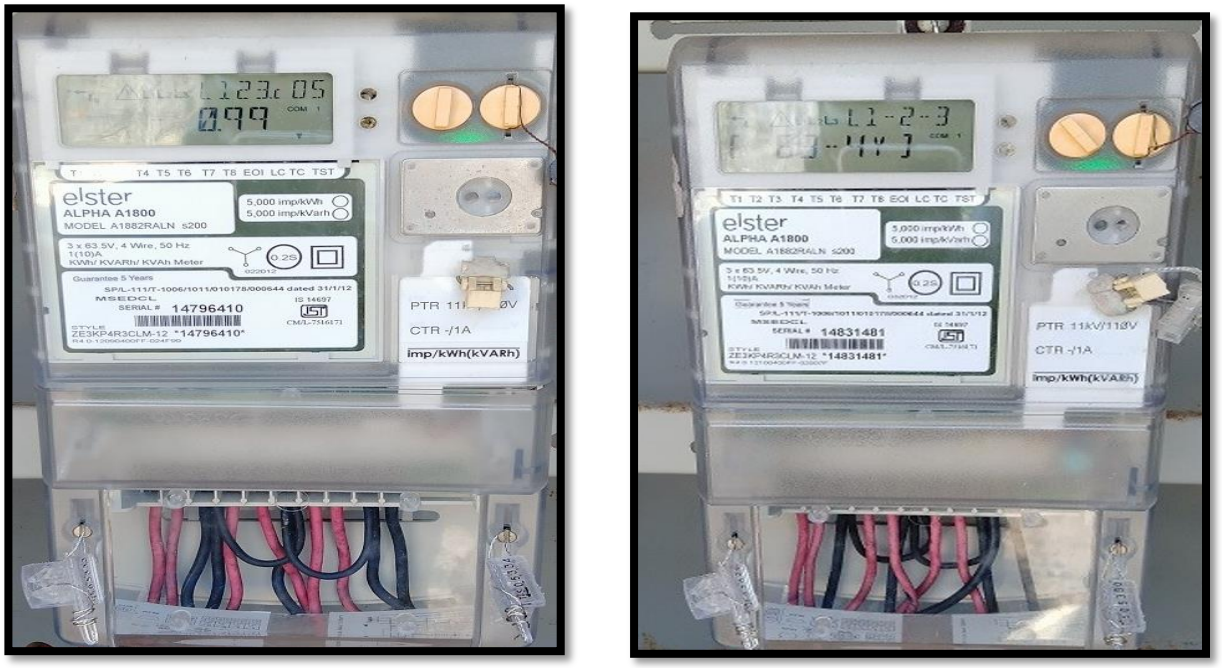
Source of the Data:	JMR. Statement of net export power to the grid, issued Monthly by State Electricity Board or any other competent authority as applicable
Measurement Procedure (if any):	Total MWh supplied to the grid during this MR=**100,191 mwh (Round down)**
Monitoring frequency:	Monitoring frequency: Continuous Measurement frequency: Hourly Recording frequency: Monthly
QA/QC procedures:	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 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 Energy purchase Agreement or relevant National standards amended/modified from time to time. Calibration Frequency: 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 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 representatives. The meter shall be jointly inspected, and sealed by authorized representatives of the company and the state utility. 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

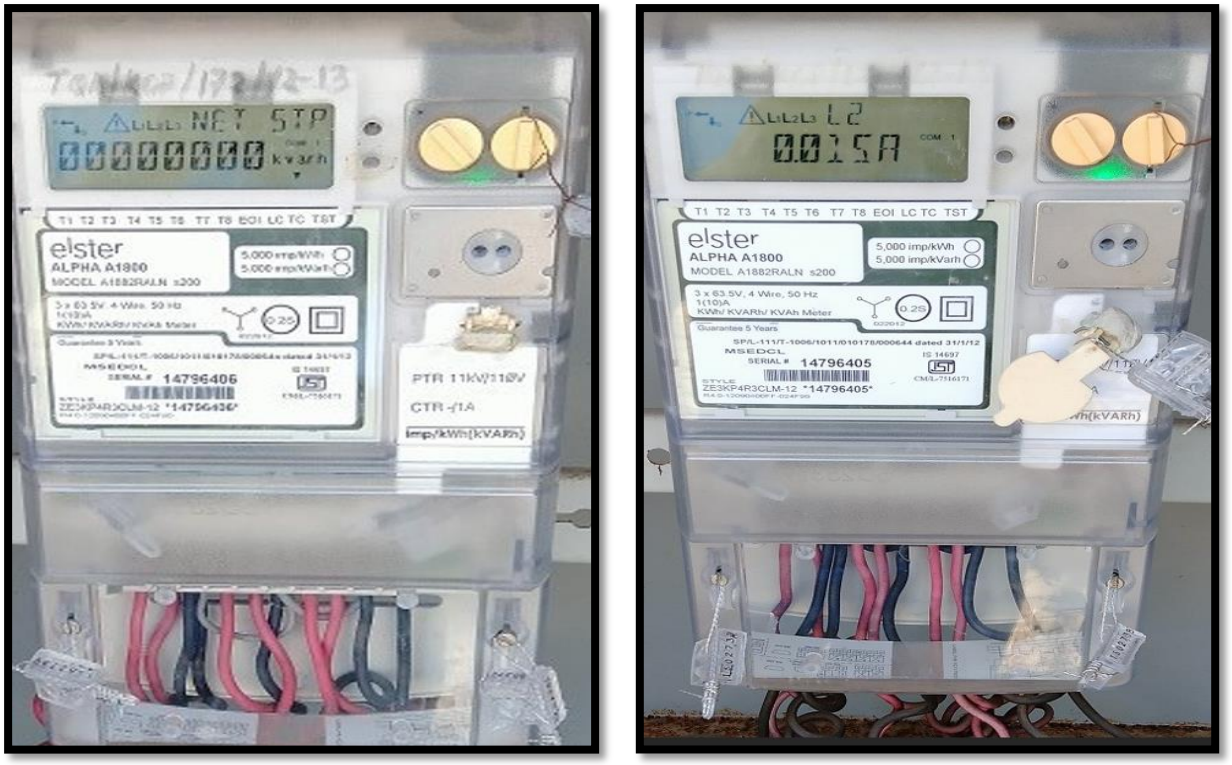
Energy Meter Details:

	Main meter	Check meter
Feeder 2	14796415	16351028
Feeder 6	14796410	14831481
Feeder 7	14796406	14796405

Feeder 2 : Main meter and check meter photo



Feeder 6 : Main meter and check meter photo

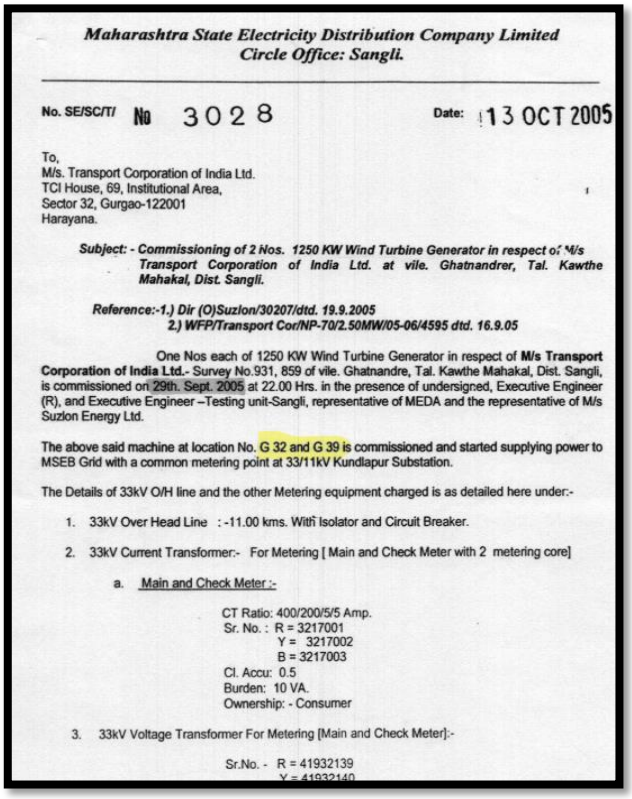


Feeder 7 : Main meter and check meter photo

ANNEXURE I (Emission Reduction Sheet)

6.5 MW Wind power project (TCIL)												
Month—Wise Energy Delivered to Grid (kWh)												
Year	Jan	Feb	March	April	May	June	July	August	Sept	Oct	Nov.	Dec
2013	258172.70	374462.60	487427.90	767877.40	1110103.70	2138551.52	2453531.39	2170292.56	874286.57	781157.67	279946.91	65190.26
2014	228704.47	412939.73	373177.12	559328.56	742669.74	1270915.04	2616163.20	1348974.61	1368864.91	345887.15	327691.13	359107.51
2015	257642.26	320768.95	435990.88	274806.53	790990.95	1973725.25	1653862.17	1494447.89	592401.12	229986.79	438037.07	416793.21
2016	256180.70	369167.09	502146.81	651123.33	1181903.34	1706966.34	1959735.01	1920128.01	932596.52	527988.21	276274.82	399877.92
2017	319790.76	371638.34	427180.82	592366.83	971426.10	1937404.44	2616972.18	1606628.41	656606.77	237133.35	290865.93	403935.76
2018	191891.94	221270.39	220953.10	465165.77	865621.01	1740652.47	2411203.83	1668548..23	759320.37	364357.70	213176.01	281291.55
2019	195662.41	212458.10	180914.20	138946.62	644518.43	462704.92	666028.44	680979.66	507249.32	95929.11	283868.14	343695.78
2020	246427.27	353213.19	406556.12	556445.43	794234.81	1598499.06	1235732.44	2205856.01	591488.95	341166.96	12235.55	0.00
2021	122682.67	181975.04	158926.31	311089.51	833950.57	1584863.02	2064385.06	1317692.20	1320434.47	402398.85	419008.65	237190.91
2022	335254.15	302229.85	437493.45	488279.39	1395317.88	1453665.43	1726504.12	1686703.99	1022837.89	312366.65	380497.67	308421.66
2023	285054.32	287721.17	517580.25	175096.90	0.00	1870802.99	2224915.21	1706858.19	1307286.82	235994.07	271084.46	304233.48
Export from January 2013 to December 2023 in kWh												

Year	Energy Export to Grid	Emission Factor	CoU
2013	11761.00118	0.9	10584
2014	9954.42317	0.9	8958
2015	8879.45307	0.9	7991
2016	10684.0881	0.9	9615
2017	10431.94969	0.9	9388
2018	7734.904141	0.9	6961
2019	4412.95513	0.9	3971
2020	8341.85579	0.9	7507
2021	8954.59726	0.9	8059
2022	9849.572123	0.9	8864
2023	9186.627857	0.9	8267
Total	**100,191**		**90,165**



Maharashtra State Electricity Distribution Company Limited
Circle Office: Sangli.

No. SE/SC/T/ No 3028 Date: 13 OCT 2005

To,
M/s. Transport Corporation of India Ltd.
TCI House, 69, Institutional Area,
Sector 32, Gurgao-122001
Harayana.

Subject: - Commissioning of 2 Nos. 1250 KW Wind Turbine Generator in respect of M/s Transport Corporation of India Ltd. at vile. Ghatnandrer, Tal. Kawthe Mahakal, Dist. Sangli.

Reference:-1.) Dir (O)Suzlon/30207/dtd. 19.9.2005
2.) WFP/Transport Cor/NP-70/2.50MW/05-06/4595 dtd. 16.9.05

One Nos each of 1250 KW Wind Turbine Generator in respect of **M/s Transport Corporation of India Ltd.**- Survey No.931, 859 of vile. Ghatnandre, Tal. Kawthe Mahakal, Dist. Sangli, is commissioned on 29th. Sept. 2005 at 22.00 Hrs. in the presence of undersigned, Executive Engineer (R), and Executive Engineer –Testing unit-Sangli, representative of MEDA and the representative of M/s Suzlon Energy Ltd.

The above said machine at location No. G 32 and G 39 is commissioned and started supplying power to MSEB Grid with a common metering point at 33/11kV Kundlapur Substation.

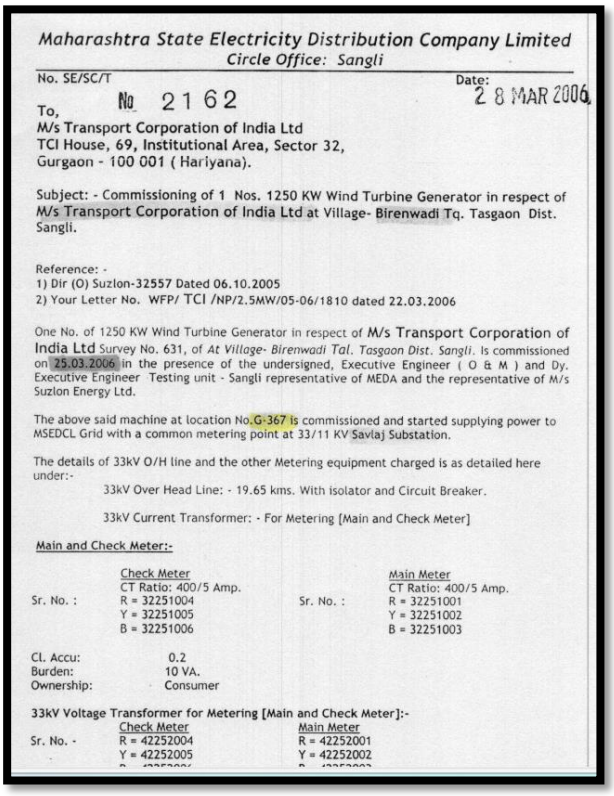
The Details of 33kV O/H line and the other Metering equipment charged is as detailed here under:-

1. 33kV Over Head Line : -11.00 kms. With Isolator and Circuit Breaker.
2. 33kV Current Transformer:- For Metering [Main and Check Meter with 2 metering core]
   a. Main and Check Meter :-

CT Ratio: 400/200/5/5 Amp.
Sr. No. : R = 3217001
Y = 3217002
B = 3217003
Cl. Accu: 0.5
Burden: 10 VA.
Ownership: - Consumer

3. 33kV Voltage Transformer For Metering [Main and Check Meter]:-

Sr.No. - R = 41932139
Y = 41932140



Maharashtra State Electricity Distribution Company Limited
Circle Office: Sangli

No. SE/SC/T Date: 28 MAR 2006
No 2162

To,
M/s Transport Corporation of India Ltd
TCI House, 69, Institutional Area, Sector 32,
Gurgaon - 100 001 (Hariyana).

Subject: - Commissioning of 1 Nos. 1250 KW Wind Turbine Generator in respect of M/s Transport Corporation of India Ltd at Village- Birenwadi Tq. Tasgaon Dist. Sangli.

Reference: -
1) Dir (O) Suzlon-32557 Dated 06.10.2005
2) Your Letter No. WFP/ TCI /NP/2.5MW/05-06/1810 dated 22.03.2006

One No. of 1250 KW Wind Turbine Generator in respect of M/s Transport Corporation of India Ltd Survey No. 631, of *At Village- Birenwadi Tal. Tasgaon Dist. Sangli.* is commissioned on 25.03.2006 in the presence of the undersigned, Executive Engineer (O & M) and Dy. Executive Engineer Testing unit - Sangli representative of MEDA and the representative of M/s Suzlon Energy Ltd.

The above said machine at location No.G-367 is commissioned and started supplying power to MSEDCL Grid with a common metering point at 33/11 KV Savlaj Substation.

The details of 33kV O/H line and the other Metering equipment charged is as detailed here under:-

33kV Over Head Line: - 19.65 kms. With isolator and Circuit Breaker.

33kV Current Transformer: - For Metering [Main and Check Meter]

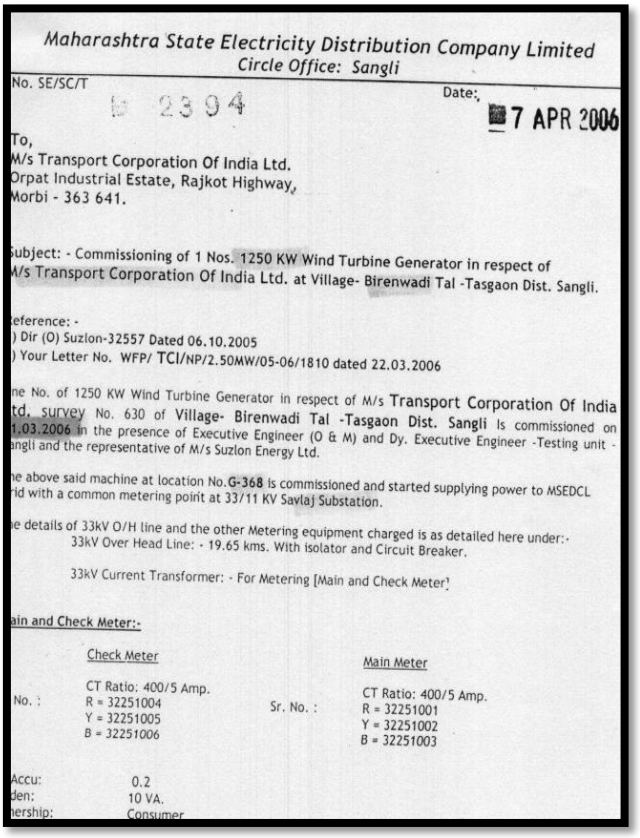
Main and Check Meter:-

	Check Meter		Main Meter
	CT Ratio: 400/5 Amp.		CT Ratio: 400/5 Amp.
Sr. No. :	R = 32251004	Sr. No. :	R = 32251001
	Y = 32251005		Y = 32251002
	B = 32251006		B = 32251003

Cl. Accu: 0.2
Burden: 10 VA.
Ownership: Consumer

33kV Voltage Transformer for Metering [Main and Check Meter]:-

	Check Meter	Main Meter
Sr. No. -	R = 42252004	R = 42252001
	Y = 42252005	Y = 42252002



Maharashtra State Electricity Distribution Company Limited
Circle Office: Sangli

No. SE/SC/T
2394 Date: 7 APR 2006

To,
M/s Transport Corporation Of India Ltd.
Orpat Industrial Estate, Rajkot Highway,
Morbi - 363 641.

Subject: - Commissioning of 1 Nos. 1250 KW Wind Turbine Generator in respect of M/s Transport Corporation Of India Ltd. at Village- Birenwadi Tal -Tasgaon Dist. Sangli.

eference: -
) Dir (O) Suzlon-32557 Dated 06.10.2005
) Your Letter No. WFP/ TCI/NP/2.50MW/05-06/1810 dated 22.03.2006

ne No. of 1250 KW Wind Turbine Generator in respect of M/s Transport Corporation Of India td. survey No. 630 of Village- Birenwadi Tal -Tasgaon Dist. Sangli Is commissioned on 1.03.2006 in the presence of Executive Engineer (O & M) and Dy. Executive Engineer -Testing unit - angli and the representative of M/s Suzlon Energy Ltd.

he above said machine at location No.G-368 is commissioned and started supplying power to MSEDCL rid with a common metering point at 33/11 KV Savlaj Substation.

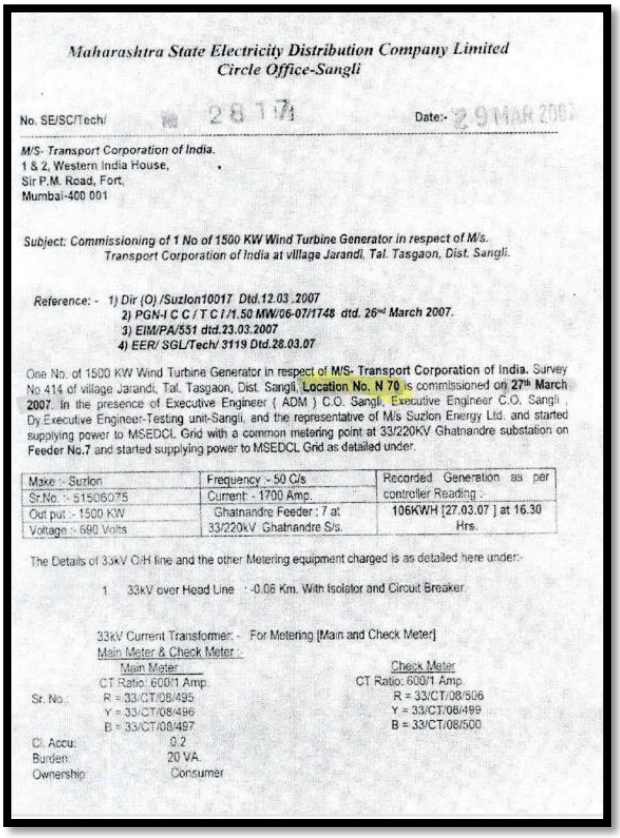
e details of 33kV O/H line and the other Metering equipment charged is as detailed here under:-
33kV Over Head Line: - 19.65 kms. With isolator and Circuit Breaker.

33kV Current Transformer: - For Metering [Main and Check Meter]

ain and Check Meter:-

	Check Meter		Main Meter
	CT Ratio: 400/5 Amp.		CT Ratio: 400/5 Amp.
No. :	R = 32251004	Sr. No. :	R = 32251001
	Y = 32251005		Y = 32251002
	B = 32251006		B = 32251003

Accu: 0.2
den: 10 VA.
ership: Consumer



Maharashtra State Electricity Distribution Company Limited
Circle Office-Sangli

No. SE/SC/Tech/ 2817 Date:- 29 MAR 2007

M/S- Transport Corporation of India.
1 & 2, Western India House,
Sir P.M. Road, Fort,
Mumbai-400 001

Subject: Commissioning of 1 No of 1500 KW Wind Turbine Generator in respect of M/s. Transport Corporation of India at villlage Jarandi, Tal. Tasgaon, Dist. Sangli.

Reference: - 1) Dir (O) /Suzlon10017 Dtd.12.03 .2007
2) PGN-I C C / T C I /1.50 MW/06-07/1748 dtd. 26nd March 2007.
3) EIM/PA/551 dtd.23.03.2007
4) EER/ SGL/Tech/ 3119 Dtd.28.03.07

One No. of 1500 KW Wind Turbine Generator in respect of M/S- Transport Corporation of India. Survey No 414 of village Jarandi, Tal. Tasgaon, Dist. Sangli, Location No. N 70 is commissioned on 27th March 2007. In the presence of Executive Engineer (ADM) C.O. Sangli, Executive Engineer C.O. Sangli , Dy.Executive Engineer-Testing unit-Sangli, and the representative of M/s Suzlon Energy Ltd. and started supplying power to MSEDCL Grid with a common metering point at 33/220KV Ghatnandre substation on Feeder No.7 and started supplying power to MSEDCL Grid as detailed under.

Make :- Suzlon	Frequency :- 50 C/s	Recorded Generation as per controller Reading :-
Sr.No. :- S1506075	Current :- 1700 Amp.	
Out put :- 1500 KW	Ghatnandre Feeder : 7 at	106KWH [27.03.07] at 16.30
Voltage :- 690 Volts	33/220kV Ghatnandre S/s.	Hrs.

The Details of 33kV O/H line and the other Metering equipment charged is as detailed here under:-

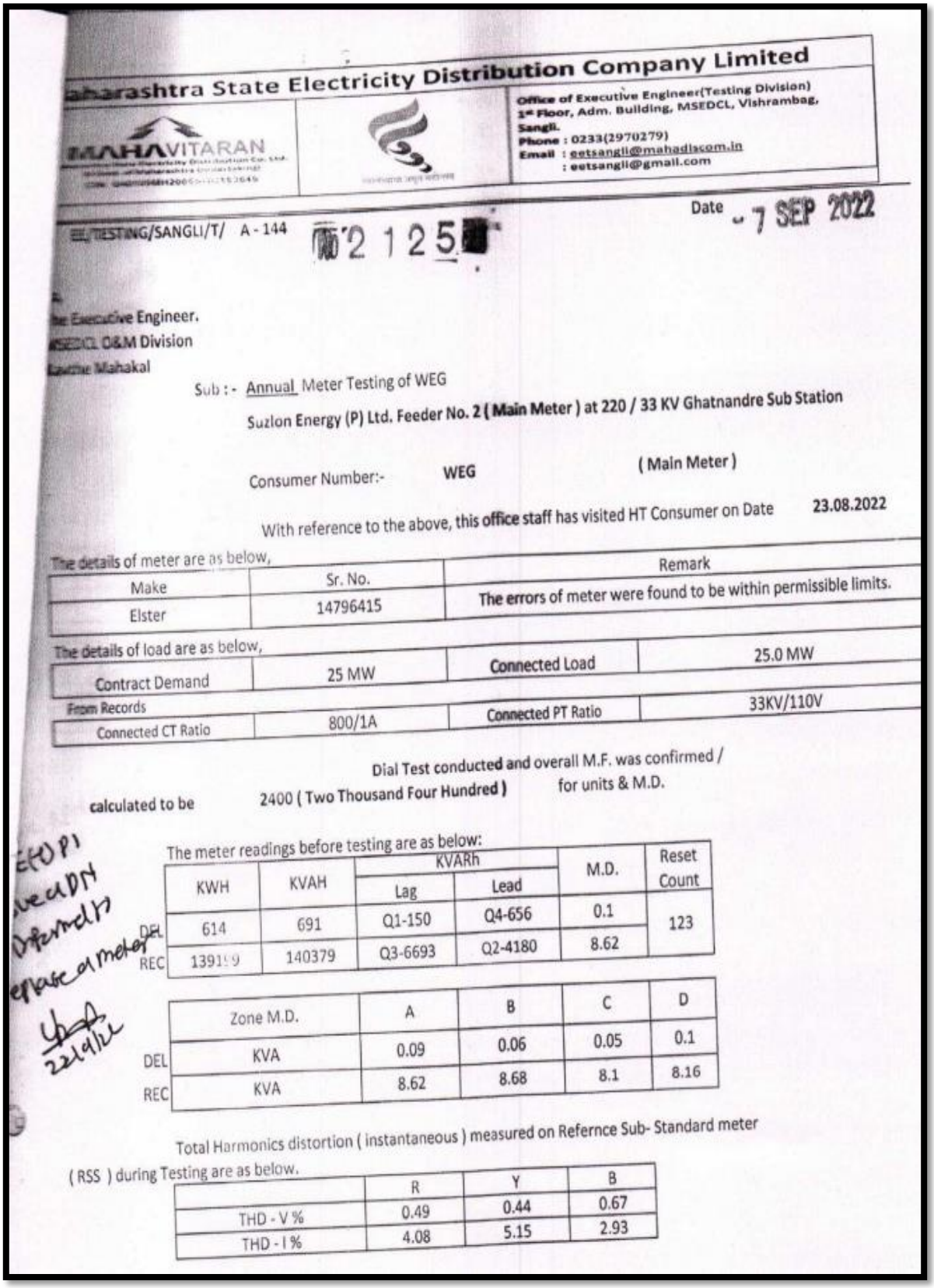
1 33kV over Head Line : -0.06 Km. With Isolator and Circuit Breaker

33kV Current Transformer: - For Metering [Main and Check Meter]
Main Meter & Check Meter :-

	Main Meter	Check Meter
	CT Ratio: 600/1 Amp.	CT Ratio: 600/1 Amp.
Sr. No. :	R = 33/CT/08/495	R = 33/CT/08/506
	Y = 33/CT/08/496	Y = 33/CT/08/499
	B = 33/CT/08/497	B = 33/CT/08/500

Cl. Accu: 0.2
Burden: 20 VA.
Ownership: Consumer

Commissioning Certificates



aharashtra State Electricity Distribution Company Limited

MAHAVITARAN

Office of Executive Engineer(Testing Division)
1st Floor, Adm. Building, MSEDCL, Vishrambag,
Sangli.
Phone : 0233(2970279)
Email : eetsangli@mahadiscom.in
: eetsangli@gmail.com

EE TESTING/SANGLI/T/ A - 144 No 2125

Date - 7 SEP 2022

To,
The Executive Engineer,
MSEDCL O&M Division
Kavthe Mahakal

Sub :- Annual Meter Testing of WEG

Suzlon Energy (P) Ltd. Feeder No. 2 (Main Meter) at 220 / 33 KV Ghatnandre Sub Station

Consumer Number:- WEG (Main Meter)

With reference to the above, this office staff has visited HT Consumer on Date 23.08.2022

The details of meter are as below,

Make	Sr. No.	Remark
Elster	14796415	The errors of meter were found to be within permissible limits.

The details of load are as below,

Contract Demand	25 MW	Connected Load	25.0 MW
From Records			
Connected CT Ratio	800/1A	Connected PT Ratio	33KV/110V

Dial Test conducted and overall M.F. was confirmed / calculated to be 2400 (Two Thousand Four Hundred) for units & M.D.

The meter readings before testing are as below:

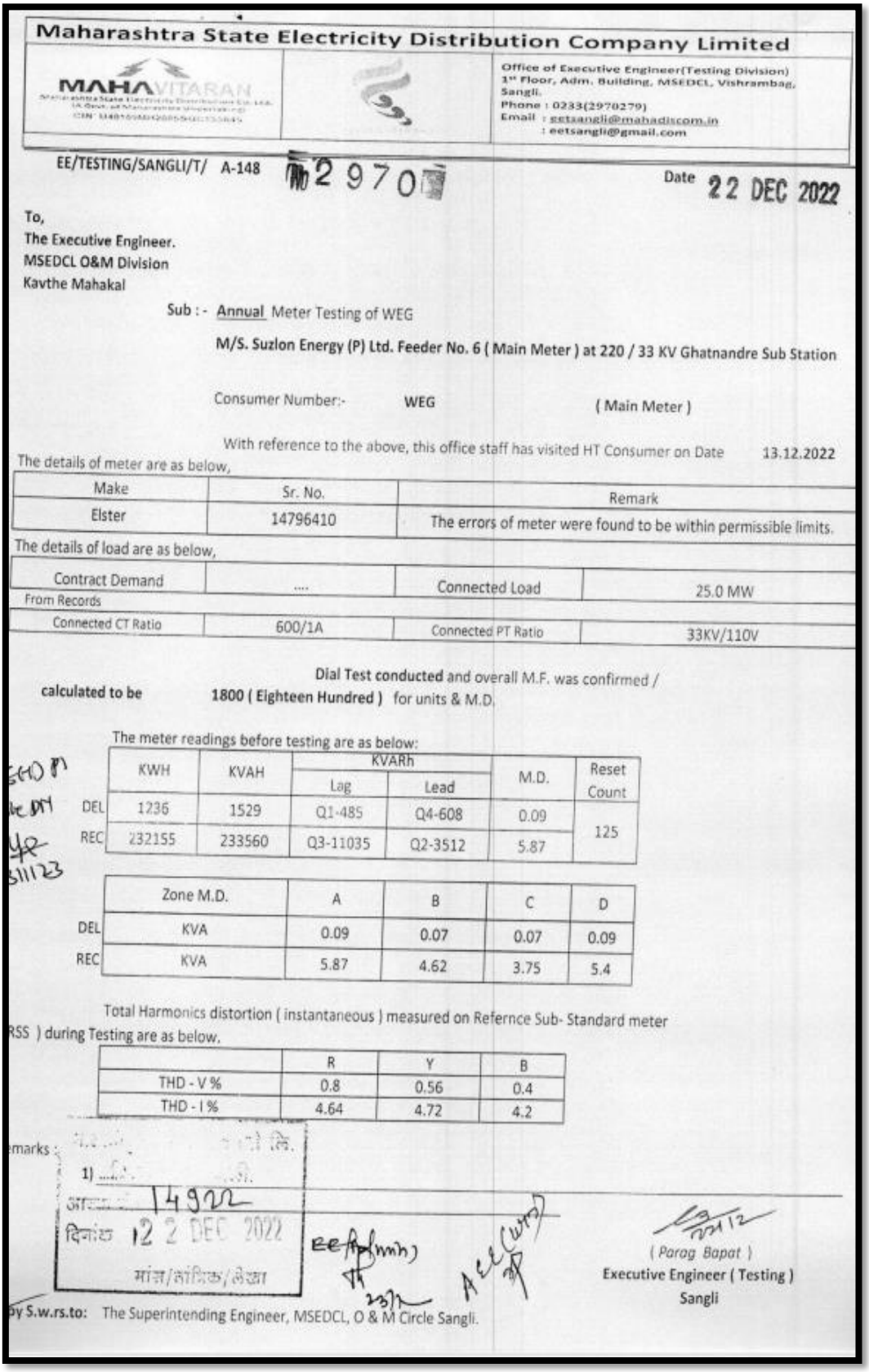
	KWH	KVAH	KVARh Lag	KVARh Lead	M.D.	Reset Count
DEL	614	691	Q1-150	Q4-656	0.1	123
REC	139159	140379	Q3-6693	Q2-4180	8.62	

	Zone M.D.	A	B	C	D
DEL	KVA	0.09	0.06	0.05	0.1
REC	KVA	8.62	8.68	8.1	8.16

Total Harmonics distortion (instantaneous) measured on Refernce Sub- Standard meter (RSS) during Testing are as below.

	R	Y	B
THD - V %	0.49	0.44	0.67
THD - I %	4.08	5.15	2.93

Calibration Certificate of Feeder 2 energy meter.



Maharashtra State Electricity Distribution Company Limited

MAHAVITARAN

Office of Executive Engineer(Testing Division)
1st Floor, Adm. Building, MSEDCL, Vishrambag, Sangli.
Phone : 0233(2970279)
Email : eetsangli@mahadiscom.in
: eetsangli@gmail.com

EE/TESTING/SANGLI/T/ A-148 2970

Date 22 DEC 2022

To,
The Executive Engineer.
MSEDCL O&M Division
Kavthe Mahakal

Sub :- Annual Meter Testing of WEG

M/S. Suzlon Energy (P) Ltd. Feeder No. 6 (Main Meter) at 220 / 33 KV Ghatnandre Sub Station

Consumer Number:- WEG (Main Meter)

With reference to the above, this office staff has visited HT Consumer on Date 13.12.2022

The details of meter are as below,

Make	Sr. No.	Remark
Elster	14796410	The errors of meter were found to be within permissible limits.

The details of load are as below,

Contract Demand	....	Connected Load	25.0 MW

From Records

Connected CT Ratio	600/1A	Connected PT Ratio	33KV/110V

Dial Test conducted and overall M.F. was confirmed / calculated to be 1800 (Eighteen Hundred) for units & M.D.

The meter readings before testing are as below:

	KWH	KVAH	KVARh Lag	KVARh Lead	M.D.	Reset Count
DEL	1236	1529	Q1-485	Q4-608	0.09	125
REC	232155	233560	Q3-11035	Q2-3512	5.87	

	Zone M.D.	A	B	C	D
DEL	KVA	0.09	0.07	0.07	0.09
REC	KVA	5.87	4.62	3.75	5.4

Total Harmonics distortion (instantaneous) measured on Refernce Sub- Standard meter RSS) during Testing are as below.

	R	Y	B
THD - V %	0.8	0.56	0.4
THD - I %	4.64	4.72	4.2

Remarks :

1) ...

14922

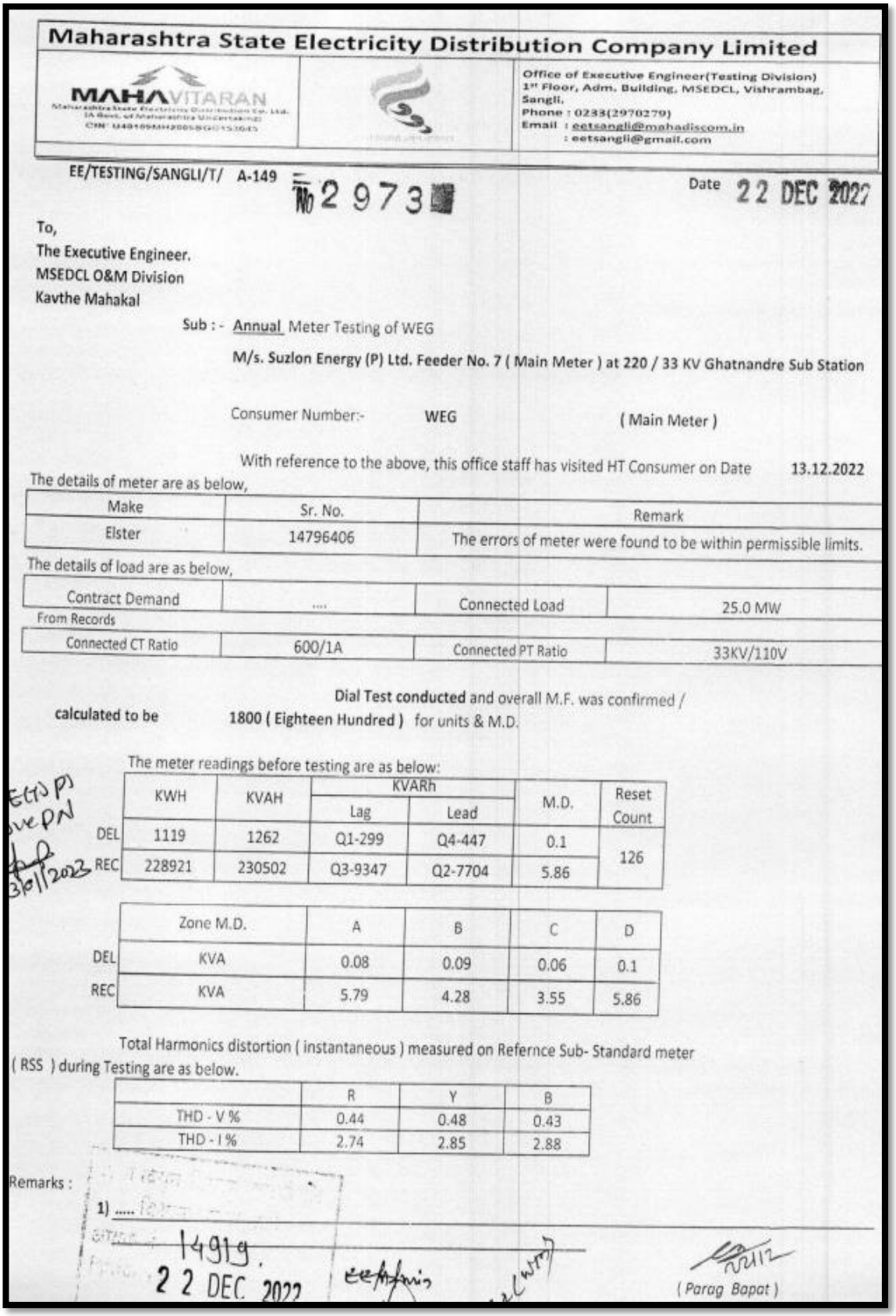
दिनांक 12 DEC 2022

मांज/सांगिक/लेखा

(Parag Bapat)
Executive Engineer (Testing)
Sangli

Copy S.w.rs.to: The Superintending Engineer, MSEDCL, O & M Circle Sangli.

Calibration Certificate of Feeder 6 energy meter.



Maharashtra State Electricity Distribution Company Limited

MAHAVITARAN

Office of Executive Engineer(Testing Division)
1st Floor, Adm. Building, MSEDCL, Vishrambag, Sangli.
Phone : 0233(2970279)
Email : eetsangli@mahadiscom.in
: eetsangli@gmail.com

EE/TESTING/SANGLI/T/ A-149 No 2973

Date 22 DEC 2022

To,
The Executive Engineer.
MSEDCL O&M Division
Kavthe Mahakal

Sub :- Annual Meter Testing of WEG

M/s. Suzlon Energy (P) Ltd. Feeder No. 7 (Main Meter) at 220 / 33 KV Ghatnandre Sub Station

Consumer Number:- WEG (Main Meter)

With reference to the above, this office staff has visited HT Consumer on Date 13.12.2022

The details of meter are as below,

Make	Sr. No.	Remark
Elster	14796406	The errors of meter were found to be within permissible limits.

The details of load are as below,

Contract Demand	....	Connected Load	25.0 MW

From Records

Connected CT Ratio	600/1A	Connected PT Ratio	33KV/110V

Dial Test conducted and overall M.F. was confirmed / **calculated to be** **1800 (Eighteen Hundred)** for units & M.D.

The meter readings before testing are as below:

	KWH	KVAH	KVARh		M.D.	Reset Count
			Lag	Lead		
DEL	1119	1262	Q1-299	Q4-447	0.1	126
REC	228921	230502	Q3-9347	Q2-7704	5.86	

	Zone M.D.	A	B	C	D
DEL	KVA	0.08	0.09	0.06	0.1
REC	KVA	5.79	4.28	3.55	5.86

Total Harmonics distortion (instantaneous) measured on Refernce Sub- Standard meter (RSS) during Testing are as below.

	R	Y	B
THD - V %	0.44	0.48	0.43
THD - I %	2.74	2.85	2.88

Remarks :

1) .....

1491g.
22 DEC 2022

(Parag Bapat)

Calibration Certificate of Feeder 7 energy meter.