

MONITORING REPORT

PUBLICATION DATE 14.10.2020

VERSION v. 1.1

RELATED SUPPORT – **TEMPLATE GUIDE Monitoring Report v. 1.1**

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KEY PROJECT INFORMATION

Key Project Information

GS ID (s) of Project (s)	GS3969
Title of the project (s) covered by monitoring report	100.5 MW Wind Power Project in Madhya Pradesh, India
Version number of the PDD / VPA-DD (s) applicable to this monitoring report	2.0
Version number of the monitoring report	3.0
Completion date of the monitoring report	25/03/2021
Date of project design certification	21/12/2015
Date of Last Annual Report	NA
Monitoring period number	04
Duration of this monitoring period	01/10/2019 to 31/07/2020 (Both days included)
Project Representative	Orange Mamatkhedha Wind Private Limited (OMWPL)
Host Country	India
Activity Requirements applied	☐ Community Services Activities ☒ Renewable Energy Activities ☐ Land Use and Forestry Activities/Risks & Capacities ☐ N/A
Methodology (ies) applied and version number	ACM0002 "Grid-connected electricity generation from renewable sources" Version 16.0
Product Requirements applied	☒ GHG Emissions Reduction & Sequestration ☐ Renewable Energy Label ☐ N/A

Table 1 - Sustainable Development Contributions Achieved

Sustainable Development Goals Targeted	SDG Impact	Amount Achieved	Units / Products
SDG 7: Affordable and Clean Energy	MWh of renewable energy generated	144,604	MWh
SDG 8: Decent Work and Economic Growth	Trainings Employees INR	7 Trainings 92 Staff 86,414,856	Training Employees INR
SDG 13: Climate Action	Emission Reduction	141,278	VERs

Table 2 – Product Vintages

		Amount Achieved
Start Dates	End Dates	VERs
01/10/2019	31/12/2019	27,712
01/01/2020	31/07/2020	113,566

SECTION A. DESCRIPTION OF PROJECT

A.1. General description of project

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The project activity is a 100.5 MW wind power project, promoted by Orange Mamatkhedha Wind Private Limited (OMWPL). The purpose of the project activity is to generate clean electricity with utilization of wind energy. The project consists of 67 Wind Turbine Generators (WTGs) of 1.5 MW class ReGenV87 make.

The electricity generated by the project is exported to the electricity grid. The project activity is therefore displacing an equivalent amount of electricity which would have otherwise been generated by fossil fuel dominant electricity grid and there by reduces the associated CO₂ emissions.

Board decision for investing in Project and securing carbon credits Investment decision took place on 01/11/2013. Placements of the Purchase Orders i.e. start date of the project activity 27/12/2013. Commissioning Dates of the WTGs are 20/08/2014 to 28/04/2015.

The Emission Reductions as per the vintage break-up (2019 and 2020) in the monitoring report in the following format:

01/10/2019 to 31/12/2019: 27,712 tCO₂e

01/01/2020 to 31/07/2020: 113,566 tCO₂e

A.2. Location of project

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OMWPL has installed WTGs at Bagiya, Kanser, Mawta, Nandwell, Ranigaon, Thikriya, Bhandariya, Bhepur, Chandakhedi, Dehari, Dhandhoda, Garoda, Karju and Sagwali, villages of Ratlam & Mandsaur districts of Madhya Pradesh in India. Geographical coordinates of the all WTGs are given below:

S. No	WTG ID	Commissioning dates	Latitude N	Longitude E
1	RM_01	07/11/2014	23° 44' 28.075"	74° 58' 17.419"
2	RM_02	05/04/2015	23° 46' 2.550"	74° 57' 0.942"
3	RM_03	05/04/2015	23° 45' 50.778"	74° 56' 56.742"
4	RM_04	05/04/2015	23° 45' 44.175"	74° 56' 52.646"
5	RM_05	05/04/2015	23° 45' 31.851"	74° 56' 53.004"
6	RM_06	05/04/2015	23° 45' 20.438"	74° 56' 52.126"
7	RM_07	05/04/2015	23° 45' 13.024"	74° 56' 51.705"
8	RM_08	05/04/2015	23° 45' 5.869"	74° 56' 50.400"
9	RM_09	05/04/2015	23° 44' 48.409"	74° 56' 53.869"
10	RM_10	05/04/2015	23° 44' 40.539"	74° 56' 51.258"
11	RM_11	05/04/2015	23° 44' 33.286"	74° 56' 47.552"
12	RM_12	05/04/2015	23° 45' 41.015"	74° 58' 44.783"
13	RM_13	05/04/2015	23° 45' 29.701"	74° 59' 0.506"
14	RM_16	05/04/2015	23° 45' 0.957"	74° 59' 7.999"
15	RM_18	05/04/2015	23° 44' 53.801"	74° 58' 49.207"
16	RM_19	05/04/2015	23° 44' 40.957"	74° 58' 53.907"
17	RM_20	05/04/2015	23° 44' 30.029"	74° 58' 36.282"
18	RM_21	05/04/2015	23° 44' 16.855"	74° 58' 12.264"
19	RM_22	05/04/2015	23° 44' 10.581"	74° 58' 20.178"
20	RM_25	05/04/2015	23° 44' 45.641"	75° 0' 49.350"
21	RM_26	05/04/2015	23° 45' 8.242"	74° 59' 40.994"
22	RM_28	05/04/2015	23° 44' 21.253"	75° 0' 46.839"
23	RM_29	05/04/2015	23° 44' 13.059"	75° 0' 50.582"
24	RM_33	05/04/2015	23° 45' 57.626"	74° 58' 12.594"
25	RM_34	05/04/2015	23° 45' 15.104"	74° 59' 42.831"
26	RM_36	05/04/2015	23° 45' 18.452"	74° 59' 29.123"
27	RM_37	05/04/2015	23° 45' 35.434"	74° 57' 10.526"
28	RM_38	05/04/2015	23° 45' 49.225"	74° 57' 22.745"

29	RM_39	05/04/2015	23° 45' 45.789"	74° 56' 18.906"
30	RM_41	05/04/2015	23° 45' 55.547"	74° 56' 25.826"
31	RM_42	05/04/2015	23° 45' 23.728"	74° 57' 10.318"
32	RM_43	07/11/2014	23° 47' 32.845"	74° 59' 21.058"
33	RM_44	05/04/2015	23° 47' 29.747"	74° 58' 12.750"
34	RM_45	05/04/2015	23° 47' 36.152"	74° 58' 6.070"
35	RM_48	05/04/2015	23° 47' 39.118"	74° 58' 44.623"
36	RM_49	05/04/2015	23° 47' 43.316"	74° 59' 23.990"
37	RM3_01	20/08/2014	23° 50' 29.519"	74° 57' 14.203"
38	RM3_02	20/08/2014	23° 50' 37.583"	74° 57' 11.973"
39	RM3_03	20/08/2014	23° 50' 45.583"	74° 57' 15.470"
40	RM3_08	20/08/2014	23° 50' 32.270"	74° 58' 39.328"
41	RM3_09	20/08/2014	23° 50' 21.832"	74° 58' 37.456"
42	RM3_10	20/08/2014	23° 50' 6.553"	74° 59' 14.328"
43	RM3_11	20/08/2014	23° 50' 25.804"	74° 59' 32.992"
44	RM3_12	25/08/2014	23° 50' 48.892"	74° 59' 48.864"
45	RM3_13	20/08/2014	23° 50' 46.517"	74° 59' 20.122"
46	RM3_14	20/08/2014	23° 51' 3.231"	74° 59' 30.267"
47	RM3_16	20/08/2014	23° 51' 6.901"	74° 58' 44.060"
48	RM3_17	20/08/2014	23° 51' 23.579"	74° 58' 21.783"
49	RM3_18	20/08/2014	23° 51' 31.349"	74° 58' 18.175"
50	RM3_19	20/08/2014	23° 51' 1.759"	74° 58' 16.979"
51	RM3_22	20/08/2014	23° 51' 51.604"	74° 58' 0.138"
52	RM3_23	20/08/2014	23° 51' 25.764"	74° 59' 13.401"
53	RM3_28	20/08/2014	23° 52' 5.757"	74° 58' 51.263"
54	RM3_30	20/08/2014	23° 52' 22.990"	74° 58' 41.855"
55	RM3_32	20/08/2014	23° 51' 59.161"	74° 59' 53.317"
56	RM3_33	20/08/2014	23° 52' 14.671"	75° 0' 15.699"
57	RM3_34	20/08/2014	23° 52' 24.199"	75° 0' 11.174"
58	RM3_35	20/08/2014	23° 50' 51.456"	74° 58' 50.107"
59	RM3_39	20/08/2014	23° 51' 51.292"	75° 0' 0.743"
60	RM3_40	25/08/2014	23° 51' 1.443"	74° 59' 57.136"
61	RM3_41	20/08/2014	23° 49' 57.904"	74° 59' 28.398"
62	RM3_42	20/08/2014	23° 49' 42.687"	74° 59' 32.712"
63	RM3_43	07/11/2014	23° 53' 28.641"	74° 58' 41.490"
64	RM3_44	07/11/2014	23° 53' 41.388"	74° 58' 41.630"
65	RM3_45	07/11/2014	23° 53' 52.021"	74° 58' 44.457"
66	RM3_46	07/11/2014	23° 54' 1.191"	74° 58' 44.809"
67	RM3_48	07/11/2014	23° 54' 27.171"	74° 58' 42.683"

The geographical location of the project site is as shown below:



A.3. Reference of applied methodology

Title: Consolidated baseline and monitoring methodology for “Grid-connected electricity generation from renewable sources”

References: Approved consolidated baseline methodology ACM0002 “Grid-connected electricity generation from renewable sources” (Version 16.0, EB 81¹)

A.4. Crediting period of project

Type of Crediting Period: Renewable

Start date of the crediting period: 01/01/2015 (Retroactive crediting start date)

Length of the current crediting period: 7 years

SECTION B. IMPLEMENTATION OF PROJECT

B.1. Description of implemented project

The project activity comprises of 67 WTGs of ReGen's V87 model 1500kW. All the WTGs have been commissioned. The technical details of the WTGs are given below:

POWER	
Rated power	1500 kW
Cut-in wind speed (10 min.	3 m/s
Rated Wind Speed (10 min.	Approx. 12.5 m/s

¹ <http://cdm.unfccc.int/methodologies/DB/EY2CL7RTEHRC9V6YQHLAR6MJ6VEU83>

Cut-out wind speed (10 min.)	22 m/s
Survival wind speed	52.5 m/s
Generator	Variable Speed, Multi-pole Synchronous with Permanent Magnet Excitation
ROTOR	
Diameter	86.7 m
Swept area	5325 m ²
Speed range (variable)	9 to 17.3 rpm
TOWER AND FOUNDATION	
Hub height	85 m
Design	Tubular, Four sections
Foundation type	Floating foundation
CONTROL AND SAFETY SYSTEMS	
Control of output	Pitch Regulation
Speed control	Variable, Micro-controller based
Low Voltage Ride Through (LVRT)	3 seconds
Primary brake system	Aerodynamic Brake, Single Pitch Control/triple redundant
Pitch System	Electromechanical, Maintenance Free Toothed Belt Drive (Patented)
Remote Monitoring	VPN, Visualization via web-browser
TYPE CLASSES	
Wind turbine type class	GL III A

B.1.1. Forward Action Requests

No FARs envisaged from previous verification and or Validation.

B.2. Post-Design Certification changes

B.2.1. Temporary deviations from the approved Monitoring & Reporting Plan, methodology or standardized baseline

There are no deviations/delays regarding the implementation status from registered PDD, Monitoring & Reporting Plan, applied methodology or applied standardized baseline.

B.2.2. Corrections

Not Applicable

B.2.3. Changes to start date of crediting period

Not Applicable

B.2.4. Permanent changes from the Design Certified monitoring plan, applied methodology or applied standardized baseline

Not Applicable

B.2.5. Changes to project design of approved project

Not Applicable

SECTION C. DESCRIPTION OF MONITORING SYSTEM APPLIED BY THE PROJECT

The project proponent has entered into agreement with the WTG Suppliers (ReGen) for the operation and maintenance of WTGs. The WTG supplier has dedicated and technically well-equipped O&M team for day-to-day operations and maintenance of each WTG. O&M contractor is provided a monthly report, which includes generation data, major breakdown events, and machine availability.

Months	Export (kWh)	Import (kWh)	Net Generation in MWh
Oct-19	7,924,000	24,000	7,900
Nov-19	5,974,000	36,000	5,938
Dec-19	14,536,000	10,000	14,526
Jan-20	12,264,000	14,000	12,250
Feb-20	10,832,000	16,000	10,816
Mar-20	15,696,000	16,000	15,680
Apr-20	13,536,000	10,000	13,526
May-20	25,990,000	6,000	25,984
Jun-20	21,598,000	4,000	21,594
Jul-20	16,400,000	10,000	16,390
Total	144,750,000	146,000	144,604

The project activity has entered a power purchase agreement for a period of 25 years with the MP Power Management Company Limited (MPPMCL). The electricity is fed in the regional grid

and monitored in the presence of MP Power Transmission Company Limited (MPPTCL). Monitoring consists of metering the net electricity supplied to the grid ($EG_{\text{facility},y}$). This parameter is based on the monthly JMRs (share certificates) undertaken by MPPTCL and ReGen which is continuously through energy meter. The PP has raised monthly electricity sales invoices to MPPMCL based on the JMR reading. All the meters used in the project activity is calibrated on an annual basis.

The monitored data is reported by the PP on a monthly basis for the calculation and estimation of emission reductions. This data is checked against invoices raised.

There are four feeders in the substation and 67 WTGs are connected to those feeders. The feeder details of the power plant are as follows:

Feeder No	Project	No of WTGs	Capacity
Feeder 1	OMWPL	RM3-34, RM3-33, RM3-32, RM3-39, RM3-16, RM3-35, RM3-14, RM3-13, RM3-40, RM3-12, RM3-08, RM3-09, RM3-11, RM3-10, RM3-41 & RM3-42	24
Feeder 2	OMWPL	RM3-48, RM3-46, RM3-45, RM3-44, RM3-43, RM3-30, RM3-28, RM3-22, RM3-18, RM3-17, RM3-23, RM3-19, RM3-03, RM3-02, RM3-01	22.5
Feeder 3	OMWPL	RM-49, RM-43, RM-33, RM-12, RM-13, RM-36, RM-34, RM-26, RM-16, RM-18, RM-19, RM-20, RM-21, RM-22, RM-25, RM-28, RM-29	25.5
Feeder 4	OMWPL	RM-48, RM-45, RM-44, RM-01, RM-02, RM-03, RM-04, RM-41, RM-39, RM-05, RM-37, RM-06, RM-42, RM-07, RM-08, RM-09, RM-10, RM-11, RM-38	28.5
Total		67	100.5

WIND POWER EVACUATION LAYOUT



Data storage and Archiving

In accordance with the methodology all, the data collected during the crediting period is archived electronically and kept for at least two years after the end of crediting period. 100% of the data is monitored and the meters owned by DISCOM/PP are calibrated at regular intervals to ensure low uncertainty in the monitored.

SECTION D. DATA AND PARAMETERS

D.1. Data and parameters fixed ex ante or at renewal of crediting period

Relevant SDG Indicator 13: Take urgent action to combat climate change and its impacts

Data / parameter:	EF _{OM, y}
Unit	tCO ₂ e/MWh
Description	Operating Margin Emission Factor of INDIAN Grid
Source of data	Central Electricity Authority: "CO ₂ Emission Database CEA CO ₂ Baseline database Version 10" published by Central Electricity Authority (CEA), Ministry of Power, Government of India. http://cea.nic.in/reports/others/thermal/tpece/cdm_co2/user_guide_ver10.pdf
Value(s) applied)	0.9862
Choice of data or measurement methods and procedures	Operating Margin Emission Factor has been calculated by the Central Electricity Authority using the Simple OM approach in accordance with the procedures prescribed in the approved "Tool to calculate the emission factor for an electricity system"
Purpose of data	The data is used to calculate baseline emission reductions.
Additional comments	The operating margin emission factor is a 3-year generation-weighted average (2011-14) Data calculated to be 0.9862. The operating Margin is calculated ex ante and fixed during the crediting period

Data / parameter:	EF _{BM, y}
Unit	tCO ₂ e/MWh
Description	Build Margin Emission Factor of INDIAN Grid

Source of data	Central Electricity Authority: "CO ₂ Emission Database CEA CO ₂ Baseline database Version 10" published by Central Electricity Authority (CEA), Ministry of Power, Government of India. http://cea.nic.in/reports/others/thermal/tpece/cdm_co2/user_guide_ver10.pdf
Value(s) applied)	0.9495
Choice of data or measurement methods and procedures	Build Margin Emission Factor has been calculated by the Central Electricity Authority with the approved "Tool to calculate the emission factor for an electricity system".
Purpose of data	The data is used to calculate baseline emission reductions.
Additional comments	The Build Margin would be calculated ex ante and fixed during the crediting period. For ex ante calculation the most recent data (2013-14) available has been used and the build margin thus calculated is 0.9495.

Data / parameter:	EF _{CM, y}
Unit	tCO ₂ e/MWh
Description	Combined Margin Emission Factor of INDIAN Grid
Source of data	Central Electricity Authority: "CO ₂ Emission Database CEA CO ₂ Baseline database Version 10" published by Central Electricity Authority (CEA), Ministry of Power, Government of India. http://cea.nic.in/reports/others/thermal/tpece/cdm_co2/user_guide_ver10.pdf
Value(s) applied)	0.9770
Choice of data or measurement methods and procedures	Combined Margin Emission Factor has been calculated with the approved "Tool to calculate the emission factor for an electricity system" as weighted average of 75% of OM (three years average) and 25% of BM for the latest year.
Purpose of data	The data is used to calculate baseline emission reductions.
Additional comments	-

D.2. Data and parameters monitored

Relevant SDG Indicator 7.2: By 2030, increase substantially the share of renewable energy in the global energy mix

Data / parameter:	EG _{facility,y}
Unit	MWh
Description	Quantity of net electricity supplied to the grid during the year y.
Measured/calculated/default	Calculated
Source of data	Share Certificate Issued by ReGen and JMR (Joint Meter Reading)
Value(s) of monitored parameter	Quantity of net electricity supplied to the grid: 144,604 MWh

Monitoring equipment	The electricity exported & imported measured by Energy meter installed at substation. One set of energy meter (main & check) were installed. The details are the meters are given below:		
	Details	Main meter	Check meter
	Meter Number	MPC65127	MPC65126
	Make	Secure	Secure
	Accuracy class	0.2S	0.2S
	Location	Substation	Substation
	Date of calibration	20/03/2019	20/03/2019
	Validity	19/03/2020	19/03/2020
	Latest date of calibration	10/03/2020	10/03/2020
	Validity	09/03/2021	09/03/2021
Measuring/reading /recording frequency:	Measuring Frequency: Continuous Frequency of Recording: Monthly		
Calculation method (if applicable):	Net Electricity is calculated difference between export & import which is measured by energy meter.		
QA/QC procedures:	The net export is cross-checked with the invoice copies and import with electricity bill.		
Purpose of data:	Calculation of baseline emission		
Additional comments:	As per the registered PDD “The meter(s) shall be calibrated and maintained by the state utility as per their own schedule, and this frequency of meter calibration is not within the control of the Project Proponent.”		

Relevant SDG Indicator 13.2: Integrate climate change measures into national policies, strategies and planning

Data / parameter:	Air quality
Unit	CO2 emission reduction and reduction in dust generation
Description	In order to reduce dust emissions during the construction phase, the following dust suppression measures stipulated and implemented: • Spraying water and covering material trucks' body to minimize dust; • Reuse of water for sprinkling of unpaved roads. • Imposition of speed controls for vehicles and unpaved site roads; • Well-maintained diesel-powered mechanical equipment to avoid black smoke emissions; • Shut-down of diesel-powered mechanical equipment or trucks inside the worksites when they are not in operation.
Measured/calculated/default	Calculated
Source of data	Central Electricity Authority: "CO2 Emission Database CEA CO2 Baseline database Version 10" published by Central Electricity Authority (CEA), Ministry of Power, Government of India. http://cea.nic.in/reports/others/thermal/tpece/cdm_co2/user_guide_ver10.pdf

Value(s) of monitored parameter	141,278 tCO₂ emission reductions achieved during the reported monitoring period. The applied OM & BM for the project are as following: Operating Margin: 0.9862 tCO₂/MWh Build Margin: 0.9495 tCO₂/MWh The applied Combined margin for the project activity is 0.9770 tCO₂/MWh. This high emission factor signifies the fact that the electricity being fed in the Indian grid (earlier INDIAN) is highly carbon intensive. Every MWh of electricity generated by the project activity prevents further emissions. During Commissioning phase dust generation was controlled through strict practice of control measures at site which includes no soil piles, open trucks, controlled vehicle speed. It also includes sprinkling of water if required. The current monitoring period there has been no activity of excavation or road pavements. The project makes positive impact on this parameter. It resulted in emission reductions hence is helping in climate change mitigation.
Monitoring equipment	Project logbook, O&M policy and interview with O&M team. The interview with the O&M team revealed that the project operation has minimalistic ground activities which does not result in any dust emissions.
Measuring/reading /recording frequency:	Once every monitoring period
Calculation method (if applicable):	-
QA/QC procedures:	O&M policy and interview with O&M team. The interview with the O&M team revealed that the project operation has minimalistic ground activities which does not result in any dust emissions.
Purpose of data:	Future target for parameter Continuation of strict control measures for prevention of dust generation. Optimal operation of wind power project to generate clean energy and associated emission reductions.
Additional comments:	-

Relevant SDG Indicator 8.5: By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value.

Data / parameter:	Quality of employment
Unit	Number of Trainings provided to employees & O&M staffs
Description	Trainings provided to employees & O&M staff
Measured/calculate d/default	Measured
Source of data	Training Records (HSE & HR) & Employee feedback forms
Value(s) of monitored parameter	Trainings & workshops were conducted to the O&M staffs by management of Regeneration. Total 07 trainings were held between the monitoring period. One training related to WTG operations was conducted in 2019 and 06 trainings were conducted in 2020. The details of the trainings are provided in the table below: -

Monitoring equipment	The ReGen personnel observes and take records in Training Records once in a year; there is no equipment to monitor it.
Measuring/reading /recording frequency:	Annually
Calculation method (if applicable):	Manually by O & M Contractor
QA/QC procedures:	Transparent data collection, analysis and reporting is done to identify and record the no. of trainings provided to the employees as well as employment generated due to project activity.
Purpose of data:	Continuation of regular trainings/workshops for employees & O&M staffs. Further, HSE trainings have also been conducted during the monitoring period which impacts positively to the Safeguarding principle 3.3 'Community Health, Safety and Working Conditions'
Additional comments:	The records of training & workshops have been submitted to the assessment team. The training programmes help in making the workforce efficient and skilled at their job. This not only helps the company but also adds to growth of individual employees. Thus, the project has a positive impact on the parameter.

Training held in 2019

S. No.	Training Topic	Date	Number of Beneficiaries
1.	Snake bite prevention and treatment	09/12/2019	09
2.	Maintenance, Commissioning and Troubleshooter	02/11/2019	12

Training held in 2020

S. No.	Training Topic	Date	Number of Beneficiaries
1.	Code of conduct in ethics	11/06/2020	19
2.	Empathy of work	23/07/2020	8
3.	Waste management	17/07/2020	9
4.	Personality Development	17/07/2020	11
5.	Covid-19 Awareness	16/07/2020	20
6.	Adaptability & change in mindset	10/07/2020	21

Relevant SDG Indicator 8.5: By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value

Data / parameter:	Quantitative employment and income generation
Unit	1. INR for the Cost spent for O&M 2. Number of employees involved in the project
Description	Number of people employed directly due to the project activity
Measured/calculated /default	Measured
Source of data	Plant employment records

Value(s) of monitored parameter	For the monitoring period from 01/10/2019 to 31/07/2020, the O & M cost was 86,414,856 INR for all the 67 WTGs of the project as per the O & M Contract signed with ReGen. <table border="1"> <tr> <th>Monitoring period</th><th>Total Cost of O & M (INR)</th></tr> <tr> <td>01/10/2019 to 31/12/2019</td><td>25,924,457</td></tr> <tr> <td>01/01/2020 to 31/07/2020</td><td>60,490,399</td></tr> </table> The total number of O&M staffs employed by the ReGen and Orange for the operation & maintenance of the project activity are 92. This includes 43 numbers of O&M team of ReGen & Greenko, 35 Site Securities, 6 Asset management, 8 Drivers employed at project site. <table border="1"> <tr> <th>Monitoring period</th><th>No of Employees</th></tr> <tr> <td>01/10/2019 to 31/12/2019</td><td>92</td></tr> <tr> <td>01/01/2019 to 31/07/2020</td><td>92</td></tr> </table> The parameter has a positive impact as the project results in direct employment and income generation.	Monitoring period	Total Cost of O & M (INR)	01/10/2019 to 31/12/2019	25,924,457	01/01/2020 to 31/07/2020	60,490,399	Monitoring period	No of Employees	01/10/2019 to 31/12/2019	92	01/01/2019 to 31/07/2020	92
Monitoring period	Total Cost of O & M (INR)												
01/10/2019 to 31/12/2019	25,924,457												
01/01/2020 to 31/07/2020	60,490,399												
Monitoring period	No of Employees												
01/10/2019 to 31/12/2019	92												
01/01/2019 to 31/07/2020	92												
Monitoring equipment	The ReGen personnel keep the records in the employees register and records once in a year; there is no equipment to monitor it.												
Measuring/reading/recording frequency:	Annually												
Calculation method (if applicable):	Manually by O & M Contractor												
QA/QC procedures:	The number of persons employed would be mentioned in the plant register, which can be crossed checked with daily attendance register.												
Purpose of data :	To monitor the contribution to SDG 8												
Additional comments:	The record of Number of employees involved in the project has been submitted to the assessment team.												

Relevant SDG Indicator 3.8: Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all.

Data / parameter:	Livelihood of the poor
Unit	Health Camps, Knowledge and information dissemination regarding natural disasters.
Description	
Measured/calculated/default	Measured
Source of data	CSR records and photographic evidence.

Value(s) of monitored parameter	PP conducted survey during construction phase of the project in the villages near project locations to check the requirement of facilities by the villages. From the survey, PP has identified several scope of developmental activities such as health camps, toilet requirements in government schools, drinking water requirements etc. PP has started implementing the CSR activities. During the monitoring period the CSR activities like: General Medical Eye Camp Dated. 20/02/2020 The project has positive impact on this parameter as there were no socially oriented CSR activities before the project activity. Thus, the project has positive impact on the indicator.
Monitoring equipment	-
Measuring/reading /recording frequency:	Annually
Calculation method (if applicable):	-
QA/QC procedures:	-
Purpose of data:	To monitor the contribution to SDG 3 (Ensure healthy lives and promote well-being for all at all ages.
Additional comments:	-

Safeguarding Principle 4.2.2: Erosion and/or Water Body Instability

Data / parameter:	Soil Erosion
Unit	"A" per unit area.

Description	General soil erosion and sediment control measures include: • Keep open areas of excavation to a minimum and construction activities restricted to dry months to avoid heavy rain falls; • Using existing roads and lanes used by landowner. • Stockpiles of materials placed away from drainage lines and formed with sediment control structures placed immediately down slope; • Construction debris and excavated material were cleared up at regular intervals. • Excavated material stock piled and used for backfilling of foundations, platforms etc. • Minimization of traffic in construction zones and use of a dedicated parking area, i.e., site compound; • Re-vegetation taken up as necessary after construction, in order to reduce the risk of soil erosion. Specific mitigation measures followed in the operational phase of the project: • Waste oil generated shall be stored separately in containers in a secured location in the maintenance room. The storage location and the containers are properly marked. • The waste / used waste oil from the WTGs to be disposed of to a CPCB/SPCB authorized vendor. • A hazardous waste inventory is maintained as per the provisions of the Hazardous Waste (Management, Handling and Trans-boundary Movement) Rules, 2008.
Measured/calculated/default	Measured
Source of data	Project O&M HSE logbook, or interview with maintenance staff.
Value(s) of monitored parameter	The O&M log book records all the parameters as listed: • Hazardous waste generated, disposed, any spillages • Waste oil generated, disposed, any spillages • Leakage of any diesel or waste oil The same O&M HSE logbook is submitted to DOE. This parameter has a neutral (0) impact as there has been no incidence of oil leakage or inappropriate disposal of hazardous or waste oil during the monitoring period. Hazardous waste generated in form of oil-soaked cotton have been collected and disposed in line with the disposal procedure.
Monitoring equipment	-
Measuring/reading/recording frequency:	Annually
Calculation method (if applicable):	By Project/Plant Manager, O & M Contractor
QA/QC procedures:	The number of persons employed would be mentioned in the plant register, which can be cross checked with daily attendance register.
Purpose of data :	To monitor compliance to Safeguarding Principle 4.2.2 (Release of pollutants)
Additional comments:	-

Safeguarding Principle 4.3.1: Landscape Modification and Soil

Data / parameter:	Maintenance of Landscape visual impact
Unit	Aesthetics
Description	Detailed ESIA study conducted to understand if any of the location needs to be altered. Locals were consulted wherever a WTG location or access road was in vicinity to a settlement. The WTGs are painted with non-reflect paints and are not glary. Re-vegetation taken up as necessary after construction, in order to reduce the risk of soil erosion.
Measured/calculated/default	Measured
Source of data	Project Grievance register, or interview with local villagers
Value(s) of monitored parameter	No significant visual impact observed and no grievances received. Vegetation has been grown wherever possible in the project's land. Apart from this, the project proponent has planted a number of trees to improve the landscape visual impact. The parameter has a neutral (0) impact as there are no grievances received or registered. The WTGs are spread across the terrain and hence have minimalistic presence.
Monitoring equipment	-
Measuring/reading/recording frequency:	Annually
Calculation method (if applicable):	Manually by Project/Plant Manager, O & M Contractor
QA/QC procedures:	Project Grievance register, or interview with local villagers
Purpose of data :	This parameter is included to be in line with the GS4GG Transition Annex, however and it positively impacts Safeguarding Principle 9.1: Landscape Modification and Soil.
Additional comments:	-

Relevant SDG Indicator: Ensuring mitigation measures towards incidents relating to bird's mortality in the project region

Data / parameter:	Bird & Bat Deaths
Unit	Bird Carcass Count
Description	- During the siting activity, it was ensured that there are no water bodies beside WTGs. - Water pits are not allowed around the WTGs. - None of the area of WTGs erection or transmission lines are under sensitive or under areas of conservation importance. - The transmission lines wherever required has reflectors. - Storm water control around within 100m of every WTG
Measured/calculated/default	Measured
Source of data	Bird Strike register, or interview with local villagers

Value(s) of monitored parameter	The O&M team maintains a Bird strike register. As per the record, there are no observed carcasses in vicinity of the WTGs. The dead of birds by other reasons including prey and accidents has been observed however as this is not caused by the project's WTGs and its ancillary; it is not recorded. The impact of parameter is neutral as there is no impact observed during the current monitoring period. The DoE has been provided with details of observations.
Monitoring equipment	-
Measuring/reading/recording frequency:	Annually
Calculation method (if applicable):	-
QA/QC procedures:	-
Purpose of data :	-
Additional comments:	-

D.3. Comparison of monitored parameters with last monitoring period

Data / Parameter	Value obtained in this monitoring period	Value obtained last monitoring period
EG _{facility,y}	144,604 MWh	328,221 MWh
Air quality	141,278 tCO ₂	320,672 tCO ₂
Quality of employment	7 Trainings	3 Trainings
Quantitative employment and income generation	92 Employees INR 86,414,856	83 Employees INR 23,802,478
Soil Erosion	0	0
Maintenance of Landscape visual impact	0	0

D.4. Implementation of sampling plan

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No sampling process is involved, hence not applicable. The details of sampling any of carried out during the course of verification will be included.

SECTION E. CALCULATION OF SDG IMPACTS

E.1. Calculation of baseline value or estimation of baseline situation of each SDG Impact

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In the baseline, there were no Social Development activities taking place; whereas baseline Emissions for electricity supplied by project activity, BE_y is calculated as:

$$BE_y = EG_{PJ,y} * EF_{grid,CM,y}$$

Where,

BE_y = Baseline emissions in year y (tCO₂/yr)

$EG_{PJ,y}$ = Quantity of net electricity generation that is produced and fed into the grid as a result of the implementation of the CDM project activity in year y (MWh/yr).

$EF_{grid,CM,y}$ = Combined margin CO₂ emission factor for grid connected power generation in year y calculated using the latest version of the “Tool to calculate the emission factor for an electricity system” (tCO₂/MWh).

Thus, the estimated baseline situation of each SDG outcome are summarised as follows;

Item	Baseline value
SDG 7: Affordable and Clean Energy	No Activities in the baseline
SDG 8: Decent Work and Economic Growth	No Activities in the baseline
SDG 13: Climate Action	Emission of 141,278 tCO₂

E.2. Calculation of project value or estimation of project situation of each SDG Impact

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The company conducts regular surveys during construction as well as O&M phases in the villages near project locations to check the requirement of facilities by the villages. Based on the surveys, PP identifies and works on several scope(s) of developmental activities such as health camps, distribution of furniture & sports kits in schools, toilet requirements in government schools, drinking water requirements etc. Apart from these activities, some or all of which is conducted in any given year, following SDGs is impacted every year:

SDG 7: Ensure access to affordable, reliable, sustainable and modern energy for all	<u>Method:</u> Monitored through energy meter. Net electricity is calculated by DISCOM and O&M operator on monthly basis and provided in the share certificate. The quantity of net electricity supplied to the grid during this monitoring period is calculated with the help of JMR. Net Electricity is calculated by the difference between export & import which is measured by energy meter. However, there was delay in the calibration of the meters whose details are mentioned below: <table><tr><th>Details</th><th>Main meter</th><th>Check meter</th></tr><tr><td>Meter Number</td><td>MPC65127</td><td>MPC65126</td></tr><tr><td>Make</td><td>Secure</td><td>Secure</td></tr><tr><td>Accuracy class</td><td>0.2S</td><td>0.2S</td></tr><tr><td>Location</td><td>Substation</td><td>Substation</td></tr><tr><td>Date of calibration</td><td>20/03/2019</td><td>20/03/2019</td></tr><tr><td>Validity</td><td>19/03/2020</td><td>19/03/2020</td></tr><tr><td>Latest date of calibration</td><td>10/03/2020</td><td>10/03/2020</td></tr><tr><td>Validity</td><td>09/03/2021</td><td>09/03/2021</td></tr></table> <u>Frequency:</u> Monthly <u>QA/QC procedures:</u> Net electricity supplied to the grid by the project activity is cross checked with invoices submitted to EB. The meter(s) shall be calibrated on a regular basis. <u>Purpose:</u> To measure the electricity produced and supplied to the grid SDG.	Details	Main meter	Check meter	Meter Number	MPC65127	MPC65126	Make	Secure	Secure	Accuracy class	0.2S	0.2S	Location	Substation	Substation	Date of calibration	20/03/2019	20/03/2019	Validity	19/03/2020	19/03/2020	Latest date of calibration	10/03/2020	10/03/2020	Validity	09/03/2021	09/03/2021
Details	Main meter	Check meter																										
Meter Number	MPC65127	MPC65126																										
Make	Secure	Secure																										
Accuracy class	0.2S	0.2S																										
Location	Substation	Substation																										
Date of calibration	20/03/2019	20/03/2019																										
Validity	19/03/2020	19/03/2020																										
Latest date of calibration	10/03/2020	10/03/2020																										
Validity	09/03/2021	09/03/2021																										
SDG 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	<u>Method:</u> Ongoing data collection and storage under HSE records & HR Records. <u>Frequency:</u> Annually <u>Purpose:</u> To identify and record the number of trainings provided to the employees as well as employment generated due to project activity.																											
SDG 13: Take urgent action to combat climate change and its impacts	Method: Monitored through energy meter. Net electricity is calculated by DISCOM and O&M operator on monthly basis and provided in the share certificate. Further, the emission factor is calculated using “Tool to calculate the emission factor for an electricity system”, v5 and referencing data from CEA database v10. Frequency: Every monitoring period Purpose: To calculate emissions avoided due to the project activity																											

E.3. Calculation of leakage

As per applied methodology ACM0002, version 16 Leakage emissions are not considered for the project activity.

E.4. Calculation of net benefits or direct calculation for each SDG Impact

SDG	SDG Impact	Baseline estimate	Project estimate	Net benefit
7	MWh of renewable energy generated	0	144,604	144,604
8	SDG 8: Decent Work and Economic Growth	0	7 Training 92 Employees 86,414,856 INR	7 Training 92 Employees 86,414,856 INR
13	Emission Reduction	141,278	0	141,278

E.5. Comparison of actual SDG Impacts with estimates in approved PDD

SDG	Values estimated in ex ante calculation of approved PDD for this monitoring period	Actual values ² achieved during this monitoring period
7	180,478 MWh/Year (365 days) 150,810.38 MWh for the Monitoring period (305 days)	144,604 MWh
8	3 training INR 93.8 million/year 89 staff	7 trainings 92 Staff 86,414,856 INR
13	1,76,331 tCO ₂ /Year 147,345 tCO ₂ for the monitoring period (305 days)	141,278 tCO ₂

² Whenever emission reductions are capped, both the original and capped values used for calculations must be transparently reported. Use brackets to denote original values.

E.5.1. Explanation of calculation of value estimated ex ante calculation of approved PDD for this monitoring period

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It is to be noted here that as per the estimated emission reduction to be achieved from the project activity for the current monitoring period is 147,345 tCO₂e

$$= 176,331 * 305(\text{days}) / 365$$

$$= 147,345 \text{ tCO}_2\text{e}$$

whereas actual emission reductions achieved are 141,278 tCO₂e, which is approximately 4.12% lesser than the estimated emission reductions.

E.6. Remarks on increase in achieved SDG Impacts from estimated value in approved PDD

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The actual achieved emission reduction for this monitoring period is 4.12% lesser than estimated value in the PDD and is within the sensitivity range which does not breach even with the increase of 10% in line with the registered PDD. The PLF chosen is for the lifetime of the project activity and generation in some years may significantly vary; this is due to variation in wind speed and density year on year.

SECTION F. SAFEGUARDS REPORTING

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Question 1 - Explain how the project reflects the key issues and requirements of Gender Sensitive design and implementation as outlined in the Gender Policy?	As per Gold Standard Gender Policy “Foundational gender-sensitive requirement, the project strengthens Gold Standard’s ‘do no harm’ approach and addresses safeguards to prevent or mitigate adverse impacts on women or men and girls and boys. India ratified the International Convention on the Elimination of All Forms of Racial Discrimination³ on 03/12/1968 with certain reservation. The project activity is in line with strategy of elimination of discrimination. The project is a renewable wind energy project and is not gender sensitive project. The project does not adversely impact women or men.
Question 2 - Explain how the project aligns with existing country policies, strategies and best practices	India is party to “Convention on the Elimination of All Forms of Discrimination against Women” and the project has aligned its policies which does not discriminate on gender. Also, the principle of gender equality is enshrined in the Indian Constitution in its Preamble, Fundamental Rights, Fundamental Duties and Directive Principles
Question 3 - Is an Expert required for the Gender Safeguarding Principles & Requirements?	The project does not employ any personnel based on gender, race, religion, sexual orientation or any other basis. The Project was not designed to increase women’s workload nor add care responsibilities. The Project does not limit women’s ability regarding natural resources. The project being wind power project thus does not have any major impact on natural resources of the region. The Project does not expose women and girls to further risks or hazards. The project proponent has a grievance cell which would look into complaints. The Project does not restrict women’s rights or access regarding natural resources.
Question 4 - Is an Expert required to assist with Gender issues at the Stakeholder Consultation?	Yes, the project applies the stakeholder-related procedures. From the GS Stakeholder guidelines, section 1.4 “In developing a Project, taking gender issues into account would require that local stakeholder consultation processes reach a wide range of community representatives in ways that ensure equal and effective participation of women and men in consultation, and that gender issues are fully factored into comprehensive social and environmental impact assessments.” The Local Stakeholder Consultation Meeting had an overall healthy participation from women in the meeting. The meeting was held on not to interfere with the regular schedule of the week. It was held during the day, as women tend to circulate more freely and safely than after sunset. All the villagers were invited for the consultation through News Paper Advertisement & invitation pasted in Gram Panchayat (local administration) Office. The meeting was conducted in local language.

SECTION G. STAKEHOLDER INPUTS AND LEGAL DISPUTES

G.1. List all Inputs and Grievances which have been received via the Continuous Input and Grievance Mechanism together with their respective responses / mitigations.

> >

No grievances received

G.2. Report on any stakeholder mitigations that were agreed to be monitored.

> >

No grievances received in the previous monitoring period, thus no follow up required.

G.3. Provide details of any legal contest that has arisen with the project during the monitoring period

> >

Not applicable

³ https://nhrc.nic.in/documents/india_ratification_status.pdf

ANNEX 1 – CSR Activity – Supporting Evidence

General Medical & Eye Camp

Location :- Behpur Village , Mandsaur District



Patient Registration



Hypertension (BP) and Diabetic Check-up



Identified beneficiaries were ready for the Cataract Surgery

Revision History

Version	Date	Remarks
1.1	14 October 2020	Hyperlinked section summary to enable quick access to key sections Improved clarity on Key Project Information Section for POA monitoring Forward action request section Improved Clarity on SDG contribution/SDG Impact term used throughout Clarity on safeguard reporting Clarity on design changes Leakage section added for VER/CER projects Addition of Comparison of monitored parameters with last monitoring period Provision of an accompanying Guide to help the user understand detailed rules and requirements
1.0	10 July 2017	Initial adoption