



**Verified Carbon
Standard**

BUNDLED WIND POWER PROJECT BY MYTRAH GROUP



Document Prepared by EKI Energy Services Limited

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1 PROJECT DETAILS

1.1 Summary Description of the Implementation Status of the Project

The purpose of the project activity is to generate electrical energy using renewable energy source (wind) and selling the generated electrical energy to the respective state utility. The generated electricity is exported to the regional grid system which is under the purview of the Indian grid of India. The details of the project activity bundle have been mentioned below.

S. No.	Project site	Location (State)	Name of SPVs	Project Capacity (MW)	Number of WTGs
1	Bhesada	Rajasthan	Mytrah Vayu (Indravati) Pvt. Ltd.	8.4	4
2	Pottipadu	Andhra Pradesh	Mytrah Vayu (Indravati) Pvt. Ltd.	105	50
3	Nidhi ¹	Rajasthan	Mytrah Vayu (Som) Pvt. Ltd.	90	53
4	Nipaniya	Madhya Pradesh	Mytrah Vayu (Som) Pvt. Ltd.	30	15
5	Nazeerabad	Telangana	Mytrah Vayu (Godavari) Pvt. Ltd.	100.8	48
6	Burgula-II	Andhra Pradesh	Mytrah Vayu (Krishna) Pvt. Ltd.	10.8	6
7	Aspari-I	Andhra Pradesh	Mytrah Vayu (Tungabhadra) Pvt. Ltd.	98.3	47
8	Aspari-II	Andhra Pradesh	Mytrah Vayu (Tungabhadra) Pvt. Ltd.	50.6	30
	Total			493.9	

The power produced displaces an equivalent amount of power from the grid, which is fed mainly by fossil fuel fired power plants. Hence, it results in reduction of GHG emissions. GHG emission reductions from the project activity will be 921,296 and total GHG emission reductions for the chosen 10 year crediting period will be 9,212,960 tonnes of CO₂.

The total emission reductions achieved during the current monitoring period are 842, 554 tCO₂e.

The total capacity of the project activity is 493.9. The commissioning details of the WTGs have been mentioned in the section 1.5 of this document.

In this process there is no consumption of any fossil fuel and hence the project does not lead to any greenhouse gas emissions. Thus, electricity would be generated through sustainable means without causing any negative impact on the environment.

¹As per PPA, Project activity capacity restricts as 90 MW though total capacity comes as 90.10 MW (53 WTGs of 1.7 MW each), thus project activity capacity is considered as 90 MW, however conservatively total capacity of 90.10 MW based on individual rated WTG capacity is considered for IRR calculation

In the Pre- project scenario the equivalent amount of electricity delivered to the grid by the project activity, would have otherwise been generated by the operation of grid-connected fossil fuel based power plants and by the addition of new generation sources.

1.2 Sectoral Scope and Project Type

Sectoral scope : Energy Industries (renewable / non-renewable sources).

Project type : Renewable energy project (Wind)

Methodology : ACM0002: Grid-connected electricity generation from renewable sources - Version 17.0²

The project activity is not a grouped project.

1.3 Project Proponent

Organization name	Mytrah Vayu (Indravati) Pvt. Ltd.
Contact person	Mr. Ravinder Kumar Rana
Title	Assistant Manager
Address	8001, 8th Floor, Q-City, Nanakramguda, Gachibowli, Hyderabad 500032, Telangana, India.
Telephone	+ 91 99075 34900
Email	manish@enkingint.org

Organization name	Mytrah Vayu (Som) Pvt. Ltd.
Contact person	Mr. Ravinder Kumar Rana
Title	Assistant Manager
Address	8001, 8th Floor, Q-City, Nanakramguda, Gachibowli, Hyderabad 500032, Telangana, India.
Telephone	+ 91 99075 34900
Email	manish@enkingint.org

Organization name	Mytrah Vayu (Godavari) Pvt. Ltd.
Contact person	Mr. Ravinder Kumar Rana
Title	Assistant Manager
Address	8001, 8th Floor, Q-City, Nanakramguda, Gachibowli, Hyderabad 500032, Telangana, India.
Telephone	+ 91 99075 34900
Email	manish@enkingint.org

² <http://cdm.unfccc.int/methodologies/DB/8W400U6E7LFHHYH2C4JR1RJWWO4PVN>

Organization name	Mytrah Vayu (Krishna) Pvt. Ltd.
Contact person	Mr. Ravinder Kumar Rana
Title	Assistant Manager
Address	8001, 8th Floor, Q-City, Nanakramguda, Gachibowli, Hyderabad 500032, Telangana, India.
Telephone	+ 91 99075 34900
Email	manish@enkingint.org

Organization name	Mytrah Vayu (Tungabhadra) Pvt. Ltd.
Contact person	Mr. Ravinder Kumar Rana
Title	Assistant Manager
Address	8001, 8th Floor, Q-City, Nanakramguda, Gachibowli, Hyderabad 500032, Telangana, India.
Telephone	+ 91 99075 34900
Email	manish@enkingint.org

1.4 Other Entities Involved in the Project

Organization name	EKI Energy Services Limited
Role in the Project	Project Consultant
Contact person	Anjali Rao
Title	Project Manager
Address	Office No 201, Plot No 48, Scheme 78, Vijay Nagar Part- II, Indore 452010, India
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1.5 Project Start Date

Project Start date is 30-December-2015.

The project start date is the date on which first WTG was commissioned under the Project activity. The total capacity of the project is 493.9 MW.

The commissioning details for the Bhesada project site is given below:

Location No	Commissioning Date
RSA 126	30-December-2015
RSA 128	30-December-2015
RSA 286	30-December-2015
RSA 280	30-December-2015

The commissioning details for the Pottipadu project site is given below:

Location No	Commissioning Date
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PPD-045	31-December-2015
PPD-046	31-December-2015
PPD-047	31-December-2015
PPD-058	31-December-2015
PPD-076	31-December-2015
PPD-078	31-December-2015
PPD-081	31-December-2015
PPD-082	31-December-2015
PPD-084	31-December-2015
PPD-085	31-December-2015
PPD-052	05-March-2016
PPD-055	05-March-2016
PPD-056	05-March-2016
PPD-057	05-March-2016
PPD-001	06- March -2016
PPD-002	06- March -2016
PPD-005	06- March -2016
PPD-006	06- March -2016
PPD-011	06- March -2016
PPD-012	06- March -2016
PPD-013	06- March -2016
PPD-014	06- March -2016
PPD-015	06- March -2016
PPD-016	06- March -2016
PPD-038	06- March -2016
PPD-039	06- March -2016
PPD-040	06- March -2016
PPD-060	06- March -2016
PPD-061	06- March -2016
PPD-062	06- March -2016
PPD-063	06- March -2016
PPD-064	06- March -2016
PPD-073	06- March -2016
PPD-074	06- March -2016
PPD-075	06- March -2016
PPD-049	26- March -2016
PPD-050	26- March -2016
PPD-053	26- March -2016
PPD-054	26- March -2016
PPD-027	27-March-2016
PPD-028	27-March-2016
PPD-029	27-March-2016
PPD-030	27-March-2016
PPD-031	27-March-2016
PPD-032	27-March-2016
PPD-033	27-March-2016
PPD-034	27-March-2016
PPD-035	27-March-2016
PPD-044	27-March-2016

The commissioning details for the Nidhi project site is given below:

Location No.	Commissioning Date
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NDH 01	31-March-2016
NDH 02	31-March-2016
NDH 03	31-March-2016
NDH 04	31-March-2016
NDH 05	31-March-2016
NDH 06	31-March-2016
NDH 07	31-March-2016
NDH 21	31-March-2016
NDH 22	31-March-2016
NDH 23	31-March-2016
NDH 24	31-March-2016
NDH 25	31-March-2016
NDH 26	31-March-2016
NDH 08	31-March-2016
NDH 09	31-March-2016
NDH 10	31-March-2016
NDH 11	31-March-2016
NDH 12	31-March-2016
NDH 16	31-March-2016
NDH 17	31-March-2016
NDH 18	31-March-2016
NDH 19	31-March-2016
NDH 20	31-March-2016
NDH 27	31-March-2016
NDH 28	31-March-2016
NDH 29	31-March-2016
NDH 30	31-March-2016
NDH 31	31-March-2016
NDH 32	31-March-2016
NDH 33	31-March-2016
NDH 34	31-March-2016
NDH 35	31-March-2016
NDH 36	31-March-2016
NDH 37	31-March-2016
NDH 38	31-March-2016
NDH 39	31-March-2016
NDH 44	31-March-2016
NDH 13	21-July-2020
NDH 14	21-July-2020
NDH 15	21-July-2020
NDH 40	21-July-2020
NDH 41	21-July-2020
NDH 42	21-July-2020
NDH 43	21-July-2020
NDH 45	21-July-2020
NDH 46	21-July-2020
NDH 47	21-July-2020
NDH 49	21-July-2020
NDH 50	21-July-2020
NDH 51	21-July-2020
NDH 52	21-July-2020
NDH 53	21-July-2020

The commissioning details for the Nipaniya project site is given below:

Location No.	Commissioning Date
NPY-P-58	19-March-2016
NPY-P3-41	19-March-2016
NPY-P3-41	19-March-2016
NPY-P3-114	19-March-2016
NPY-P3-116	19-March-2016
NPY-P3-117	19-March-2016
NPY-P3-120	20-January-2016
NPY-P3-127	19-March-2016
NPY-P-59	19-March-2016
NPY-P3-157	19-March-2016
NPY-P3-112	27-March-2016
NPY-P3-124	29-March-2016
NPY-P3-154	29-March-2016
NPY-P3-119	19-March-2016
NPY-P-51	29-March-2016
NPY-P3-128	27-March-2016

The commissioning details for the Nazeerabad project site is given below:

Location No	Commissioning Date
NRB-2	27-March-2016
NRB-3	27-March-2016
NRB-4	27-March-2016
NRB-5	27-March-2016
NRB-6	27-March-2016
NRB-15	27-March-2016
NRB-14	27-March-2016
NRB-16	27-March-2016
NRB-17	27-March-2016
NRB-26	27-March-2016
NRB-28	27-March-2016
NRB-31	27-March-2016
NRB-34	27-March-2016
NRB-40	27-March-2016
NRB-41	27-March-2016
NRB-43	27-March-2016
NRB-35	27-March-2016
NRB-72	27-March-2016
NRB-49	27-March-2016
NRB-56	27-March-2016
NRB-58	27-March-2016
NRB-57	27-March-2016
NRB-54	31-March-2016
NRB-30	31-March-2016
NRB-62	31-March-2016
NRB-07	31-March-2016
NRB-44	31-March-2016
NRB-71	31-March-2016
NRB-36	31-March-2016
NRB-63	31-March-2016

NRB-19	31-March-2016
NRB-69	31-March-2016
NRB-23	31-March-2016
NRB-22	31-March-2016
NRB-01	31-March-2016
NRB-64	31-March-2016
NRB-27	31-March-2016
NRB-11	31-May-2016
NRB-39	31-May-2016
NRB-24	31-May-2016
NRB-29	31-May-2016
NRB-18	31-May-2016
NRB-66	31-May-2016
NRB-60	31-May-2016
NRB-68	31-May-2016
NRB-67	31-May-2016
NRB-20	31-May-2016
NRB-48	06-March-2017

The commissioning details for the Burgula-II project site is given below:

Location No	Commissioning date
BRG-552	30-March-2017
BRG-553	30-March-2017
BRG-506	03-March-2018
BRG-556	26-February-2018
BRG-558	26-February-2018
BRG-559	26-February-2018

The commissioning details for the Aspari-I project site is given below:

Location No	Commissioning date
ASP-5	15-October-2016
ASP-6	15-October-2016
ASP-7	15-October-2016
ASP-8	15-October-2016
ASP-9	15-October-2016
ASP-10	15-October-2016
ASP-11	15-October-2016
ASP-12	15-October-2016
ASP-13	15-October-2016
ASP-14	15-October-2016
ASP-15	15-October-2016
ASP-16	15-October-2016
ASP-17	15-October-2016
ASP-18	15-October-2016
ASP-19	15-October-2016
ASP-20	15-October-2016
ASP-21	15-October-2016
ASP-22	15-October-2016
ASP-23	15-October-2016
ASP-24	15-October-2016
ASP-25	15-October-2016
ASP-26	15-October-2016

ASP-27	15-October-2016
ASP-28	15-October-2016
ASP-29	15-October-2016
ASP-61	15-October-2016
ASP-62	15-October-2016
ASP-63	15-October-2016
ASP-64	15-October-2016
ASP-65	15-October-2016
ASP-66	15-October-2016
ASP-31	20- October-2016
ASP-30	20- October-2016
ASP-87	20- October-2016
ASP-33	20- October-2016
ASP-90	20- October-2016
ASP-32	20- October-2016
ASP-88	20- October-2016
ASP-89	20- October-2016
ASP-43	20- October-2016
ASP-36	20- October-2016
ASP-42	20- October-2016
ASP-35	20- October-2016
ASP-37	20- October-2016
ASP-91	20- October-2016
ASP-92	20- October-2016
ASP-38	20- October-2016
ASP-39	20- October-2016

The commissioning details for the Aspari-II project site is given below:

Location No	Commissioning date
ASP-1	16-March-2017
ASP-2	16-March-2017
ASP-3	16-March-2017
ASP-44	16-March-2017
ASP-139	16-March-2017
ASP-93	16-March-2017
ASP-94	16-March-2017
ASP-95	16-March-2017
ASP-53	25- March-2017
ASP-54	25- March-2017
ASP-50	25- March-2017
ASP-40	25- March-2017
ASP-71	25- March-2017
ASP-72	25- March-2017
ASP-46	25- March-2017
ASP-73	25- March-2017
ASP-81	25- March-2017
ASP-86	25- March-2017
ASP-84	25- March-2017
ASP-55	25- March-2017
ASP-130	25- March-2017
ASP-138	25- March-2017
ASP-131	25- March-2017

ASP-132	25- March-2017
ASP-82	25- March-2017
ASP-83	25- March-2017
ASP-47	25- March-2017
ASP-48	25- March-2017
ASP-74	25- March-2017
ASP-52	25- March-2017

1.6 Project Crediting Period

Crediting Period Start date: 30-December-2015³

Crediting Period End date: 29-December-2025

The project activity adopts renewable crediting period of 10 years period which can be renewed for maximum 2 times.

1.7 Project Location

The project activity is located in the states of Rajasthan, Madhya Pradesh, Andhra Pradesh and Telangana. The site wise location details of the project is given below.

The location details for the Bhesada project site:

WTG Location No	Village	District	Latitude (N)	Longitude (E)
RSA 126	Naya luna kalan	Jaisalmer	26.6985	71.4897
RSA 128	Naya luna kalan	Jaisalmer	26.6859	71.4923
RSA 286	Pratap pura	Jaisalmer	26.5989	71.6356
RSA 280	Khuda	Jaisalmer	26.6027	71.6137

The location details for the Pottipadu project site:

WTG Location No	Village	District	Latitude (N)	Longitude (E)
PPD-045	Pottipadu	Anantapur	15.0403	77.3681
PPD-046	Pottipadu	Anantapur	15.0442	77.3645
PPD-047	Pottipadu	Anantapur	15.0483	77.3662
PPD-058	Pottipadu	Anantapur	15.0478	77.3818
PPD-076	Pottipadu	Anantapur	15.0515	77.4067
PPD-077	Pottipadu	Anantapur	15.0559	77.3951
PPD-078	Pottipadu	Anantapur	15.0602	77.3949
PPD-081	Pottipadu	Anantapur	15.0731	77.3780
PPD-082	Pottipadu	Anantapur	15.0793	77.3781
PPD-084	Pottipadu	Anantapur	15.0720	77.4075
PPD-085	Pottipadu	Anantapur	15.0673	77.4060
PPD-052	Gulyapalyam	Anantapur	15.0712	77.3578
PPD-055	Gulyapalyam	Anantapur	15.0603	77.3668

³ Start date of crediting period is 30/12/2015, as on this day 1st set of WTGs associated to the one of the bundle Bhesada project activity starts its commercial operations. Accordingly end date of the crediting period is also been revised

PPD-056	Vajrakarur	Anantapur	15.0567	77.3694
PPD-057	Vajrakarur	Anantapur	15.0532	77.3721
PPD-001	Gadehothur	Anantapur	15.0324	77.3214
PPD-002	Gadehothur	Anantapur	15.0274	77.3169
PPD-005	Gadehothur	Anantapur	15.0123	77.3205
PPD-006	Gadehothur	Anantapur	15.0086	77.3231
PPD-011	Pottipadu	Anantapur	15.0308	77.3411
PPD-012	Pottipadu	Anantapur	15.0354	77.3414
PPD-013	Pottipadu	Anantapur	15.0393	77.3407
PPD-014	Pottipadu	Anantapur	15.0442	77.3287
PPD-015	Pottipadu	Anantapur	15.0520	77.3317
PPD-016	Vajrakarur	Anantapur	15.0378	77.3228
PPD-038	Ganjikunta	Anantapur	15.0150	77.3756
PPD-039	Tatrakallu	Anantapur	15.0078	77.3709
PPD-040	Vajrakarur	Anantapur	15.0014	77.3654
PPD-060	Vajrakarur	Anantapur	15.0378	77.3899
PPD-061	Vajrakarur	Anantapur	15.0347	77.3933
PPD-062	Vajrakarur	Anantapur	15.0266	77.3957
PPD-063	Vajrakarur	Anantapur	15.0304	77.3946
PPD-064	Vajrakarur	Anantapur	15.0206	77.3980
PPD-073	Vajrakarur	Anantapur	15.0366	77.4091
PPD-074	Vajrakarur	Anantapur	15.0416	77.4102
PPD-075	Kamalapadu	Anantapur	15.0462	77.4074
PPD-049	Konakondla	Anantapur	15.0811	77.3511
PPD-050	Konakondla	Anantapur	15.0768	77.3517
PPD-053	Gulyapalyam	Anantapur	15.0669	77.3609
PPD-054	Gulyapalyam	Anantapur	15.0659	77.3696
PPD-027	Gulyapalyam	Anantapur	15.0637	77.3432
PPD-028	Gulyapalyam	Anantapur	15.0577	77.3453
PPD-029	Vajrakarur	Anantapur	15.0537	77.3471
PPD-030	Vajrakarur	Anantapur	15.0492	77.3496
PPD-031	Vajrakarur	Anantapur	15.0446	77.3500
PPD-032	Vajrakarur	Anantapur	15.0361	77.3539
PPD-033	Vajrakarur	Anantapur	15.0319	77.3562
PPD-034	Vajrakarur	Anantapur	15.0272	77.3528
PPD-035	Vajrakarur	Anantapur	15.0207	77.3548
PPD-044	Vajrakarur	Anantapur	15.0322	77.3748

The location details for the Nidhi project site for all 53 WTGs:

WTG Location No	Village	District	Latitude (N)	Longitude (E)
NDH-001	Habur	Jaisalmer	27.1770	70.6009
NDH-002	Habur	Jaisalmer	27.1712	70.6035
NDH-003	Habur	Jaisalmer	27.1687	70.6069
NDH-004	Habur	Jaisalmer	27.1646	70.6093
NDH-005	Habur	Jaisalmer	27.1606	70.6123
NDH-006	Habur	Jaisalmer	27.1562	70.6147
NDH-007	Habur	Jaisalmer	27.1520	70.6182
NDH-008	Habur	Jaisalmer	27.1480	70.6210
NDH-009	Habur	Jaisalmer	27.1426	70.6231

NDH-010	Habur	Jaisalmer	27.1403	70.6258
NDH-011	Habur	Jaisalmer	27.1340	70.6296
NDH-012	Habur	Jaisalmer	27.1306	70.6328
NDH-013	Habur	Jaisalmer	27.1264	70.6457
NDH-014	Habur	Jaisalmer	27.1303	70.6428
NDH-015	Habur	Jaisalmer	27.1401	70.6367
NDH-016	Habur	Jaisalmer	27.1439	70.6337
NDH-017	Habur	Jaisalmer	27.1484	70.6290
NDH-018	Habur	Jaisalmer	27.1540	70.6268
NDH-019	Habur	Jaisalmer	27.1575	70.6242
NDH-020	Habur	Jaisalmer	27.1616	70.6214
NDH-021	Habur	Jaisalmer	27.1657	70.6191
NDH-022	Habur	Jaisalmer	27.1701	70.6160
NDH-023	Habur	Jaisalmer	27.1741	70.6130
NDH-024	Habur	Jaisalmer	27.1792	70.6095
NDH-025	Habur	Jaisalmer	27.1827	70.6066
NDH-026	Habur	Jaisalmer	27.1856	70.6040
NDH-027	Habur	Jaisalmer	27.1531	70.6382
NDH-028	Habur	Jaisalmer	27.1490	70.6412
NDH-029	Habur	Jaisalmer	27.1437	70.6439
NDH-030	Habur	Jaisalmer	27.1409	70.6470
NDH-031	Habur	Jaisalmer	27.1359	70.6493
NDH-032	Habur	Jaisalmer	27.1321	70.6526
NDH-033	Habur	Jaisalmer	27.1283	70.6552
NDH-034	Habur	Jaisalmer	27.1242	70.6571
NDH-035	Habur	Jaisalmer	27.1139	70.6741
NDH-036	Habur	Jaisalmer	27.1174	70.6718
NDH-037	Habur	Jaisalmer	27.1216	70.6693
NDH-038	Habur	Jaisalmer	27.1256	70.6667
NDH-039	Habur	Jaisalmer	27.1287	70.6636
NDH-040	Habur	Jaisalmer	27.1337	70.6390
NDH-041	Habur	Jaisalmer	27.1331	70.6707
NDH-042	Habur	Jaisalmer	27.1289	70.6744
NDH-043	Habur	Jaisalmer	27.1266	70.6777
NDH-044	Habur	Jaisalmer	27.1192	70.6606
NDH-045	Habur	Jaisalmer	27.1351	70.6808
NDH-046	Habur	Jaisalmer	27.1407	70.6771
NDH-047	Habur	Jaisalmer	27.1431	70.6942
NDH-048	Habur	Jaisalmer	27.1398	70.6974
NDH-049	Habur	Jaisalmer	27.1357	70.7002
NDH-050	Habur	Jaisalmer	27.1306	70.7023
NDH-051	Habur	Jaisalmer	27.1267	70.7054
NDH-052	Habur	Jaisalmer	27.1358	70.7070

NDH-053	Habur	Jaisalmer	27.1430	70.7026
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The location details for the Nipaniya project site:

WTG Location No	Village	District	Latitude (N)	Longitude (E)
NPY-P-58	Jamuniya	Mandsaur	24.2041	75.6108
NPY-P3-41	Dhamniya Diwan	Mandsaur	24.1484	75.6209
NPY-P3-114	Nariya Bujurg	Mandsaur	24.2625	75.6194
NPY-P3-116	Manpura	Mandsaur	24.2537	75.6161
NPY-P3-117	Nariya Bujurg	Mandsaur	24.2484	75.6159
NPY-P3-120	Aakli Shivdas	Mandsaur	24.2349	75.6133
NPY-P3-127	Sagoriya	Mandsaur	24.2197	75.6075
NPY-P-59	Sagoriya	Mandsaur	24.2145	75.6107
NPY-P3-157	Jamuniya	Mandsaur	24.2073	75.6093
NPY-P3-112	Bardiya Amra	Mandsaur	24.2740	75.6223
NPY-P3-124	Jamuniya	Mandsaur	24.2257	75.5991
NPY-P3-154	Guradiyamata	Mandsaur	24.2361	75.6432
NPY-P3-119	Manpura	Mandsaur	24.2300	75.5993
NPY-P-51	Barkheda Uda	Mandsaur	24.1654	75.6055
NPY-P3-128	Sagoriya	Mandsaur	24.2174	75.6098

The location details for the Nazeerabad project site:

WTG Location No	Village	District	Latitude (N)	Longitude (E)
NRB01	Nazeerabad	Rangareddy	17.2224	77.9471
NRB02	Nazeerabad	Rangareddy	17.2187	77.9479
NRB03	Nazeerabad	Rangareddy	17.2162	77.9491
NRB04	Nazeerabad	Rangareddy	17.2129	77.9502
NRB05	Nazeerabad	Rangareddy	17.2099	77.9513
NRB06	Nazeerabad	Rangareddy	17.2068	77.9510
NRB07	Nazeerabad	Rangareddy	17.2040	77.9518
NRB11	Nazeerabad	Rangareddy	17.1909	77.9314
NRB14	Nazeerabad	Rangareddy	17.1886	77.9362
NRB15	Nazeerabad	Rangareddy	17.1844	77.9300
NRB16	Nazeerabad	Rangareddy	17.1788	77.9233
NRB17	Nazeerabad	Rangareddy	17.1752	77.9234
NRB18	Nazeerabad	Rangareddy	17.1716	77.9242
NRB19	Nazeerabad	Rangareddy	17.1700	77.9295
NRB20	Nazeerabad	Rangareddy	17.1675	77.9230
NRB22	Nazeerabad	Rangareddy	17.1617	77.9171
NRB23	Nazeerabad	Rangareddy	17.1598	77.9247
NRB24	Nazeerabad	Rangareddy	17.1554	77.9300
NRB26	Nazeerabad	Rangareddy	17.1506	77.9221

NRB27	Nazeerabad	Rangareddy	17.1480	77.9295
NRB28	Nazeerabad	Rangareddy	17.1473	77.9220
NRB29	Nazeerabad	Rangareddy	17.1442	77.9128
NRB30	Nazeerabad	Rangareddy	17.1443	77.9282
NRB31	Nazeerabad	Rangareddy	17.1420	77.9208
NRB34	Nazeerabad	Rangareddy	17.1352	77.9174
NRB35	Nazeerabad	Rangareddy	17.1328	77.9273
NRB36	Nazeerabad	Rangareddy	17.1299	77.9436
NRB39	Nazeerabad	Rangareddy	17.1307	77.9328
NRB40	Nazeerabad	Rangareddy	17.1247	77.9443
NRB41	Nazeerabad	Rangareddy	17.1267	77.9321
NRB43	Nazeerabad	Rangareddy	17.1223	77.9303
NRB44	Nazeerabad	Rangareddy	17.1203	77.9405
NRB48	Nazeerabad	Rangareddy	17.1189	77.9478
NRB49	Nazeerabad	Rangareddy	17.1155	77.9566
NRB54	Nazeerabad	Rangareddy	17.1047	77.9537
NRB56	Nazeerabad	Rangareddy	17.0990	77.9548
NRB57	Nazeerabad	Rangareddy	17.0960	77.9551
NRB58	Nazeerabad	Rangareddy	17.0895	77.9509
NRB60	Nazeerabad	Rangareddy	17.1978	77.9525
NRB62	Nazeerabad	Rangareddy	17.1431	77.9875
NRB63	Nazeerabad	Rangareddy	17.1390	77.9877
NRB64	Nazeerabad	Rangareddy	17.1354	77.9894
NRB66	Nazeerabad	Rangareddy	17.1292	77.9909
NRB67	Nazeerabad	Rangareddy	17.1248	77.9920
NRB68	Nazeerabad	Rangareddy	17.1214	77.9941
NRB69	Nazeerabad	Rangareddy	17.1153	77.9932
NRB71	Nazeerabad	Rangareddy	17.1042	77.9862
NRB72	Nazeerabad	Rangareddy	17.0866	77.9500

The location details for the Burgula-II project site:

WTG Location No	Village	District	Latitude (N)	Longitude (E)
BRG-552	Burugula	Kurnool	15.19516	77.93793
BRG-553	Burugula	Kurnool	15.19682	77.93758
BRG-506	Burugula	Kurnool	15.19245	77.92797
BRG-556	Burugula	Kurnool	15.20163	77.93601
BRG-558	Burugula	Kurnool	15.20490	77.93719
BRG-559	Burugula	Kurnool	15.20673	77.93761

The location details for the Aspari-I project site:

WTG Location No	Village	District	Latitude (N)	Longitude (E)
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ASP-005	Aspari	Kurnool	15.4721	77.3977
ASP-006	Aspari	Kurnool	15.4685	77.3975
ASP-007	Aspari	Kurnool	15.4651	77.3981
ASP-008	Aspari	Kurnool	15.4613	77.3984
ASP-009	Aspari	Kurnool	15.4561	77.3998
ASP-010	Aspari	Kurnool	15.4527	77.3985
ASP-011	Aspari	Kurnool	15.4491	77.4002
ASP-012	Aspari	Kurnool	15.4455	77.4004
ASP-013	Aspari	Kurnool	15.4424	77.3998
ASP-014	Aspari	Kurnool	15.4383	77.3990
ASP-015	Aspari	Kurnool	15.4350	77.3975
ASP-016	Aspari	Kurnool	15.4315	77.3978
ASP-017	Aspari	Kurnool	15.4280	77.3981
ASP-018	Aspari	Kurnool	15.4228	77.4094
ASP-019	Aspari	Kurnool	15.4191	77.4079
ASP-021	Aspari	Kurnool	15.4149	77.4068
ASP-022	Aspari	Kurnool	15.4093	77.4092
ASP-023	Aspari	Kurnool	15.4057	77.4099
ASP-024	Aspari	Kurnool	15.4011	77.4110
ASP-025	Aspari	Kurnool	15.4455	77.4124
ASP-026	Aspari	Kurnool	15.4413	77.4126
ASP-027	Aspari	Kurnool	15.4369	77.4140
ASP-028	Aspari	Kurnool	15.4319	77.4140
ASP-029	Aspari	Kurnool	15.4266	77.4136
ASP-061	Aspari	Kurnool	15.3893	77.4220
ASP-062	Aspari	Kurnool	15.3856	77.4186
ASP-063	Aspari	Kurnool	15.3826	77.4137
ASP-064	Aspari	Kurnool	15.3792	77.4111
ASP-065	Aspari	Kurnool	15.3754	77.4103
ASP-066	Aspari	Kurnool	15.3721	77.4079
ASP-030	Aspari	Kurnool	15.4416	77.4269
ASP-031	Aspari	Kurnool	15.4379	77.4272
ASP-032	Aspari	Kurnool	15.4339	77.4278
ASP-033	Aspari	Kurnool	15.4305	77.4279
ASP-035	Aspari	Kurnool	15.4242	77.4302
ASP-036	Aspari	Kurnool	15.4200	77.4328
ASP-037	Aspari	Kurnool	15.4165	77.4356
ASP-038	Aspari	Kurnool	15.4124	77.4365
ASP-039	Aspari	Kurnool	15.4089	77.4376
ASP-042	Aspari	Kurnool	15.4211	77.4504
ASP-043	Aspari	Kurnool	15.4159	77.4571

ASP-087	Aspari	Kurnool	15.4340	77.4495
ASP-088	Aspari	Kurnool	15.4406	77.4480
ASP-089	Aspari	Kurnool	15.4444	77.4465
ASP-090	Aspari	Kurnool	15.4474	77.4443
ASP-091	Aspari	Kurnool	15.4518	77.4434
ASP-092	Aspari	Kurnool	15.4553	77.4430

The location details for the Aspari-II project site:

WTG Location No	Village	District	Latitude (N)	Longitude (E)
ASP-001	Aspari	Kurnool	15.4834	77.4121
ASP-002	Aspari	Kurnool	15.4791	77.4161
ASP-003	Aspari	Kurnool	15.4745	77.4177
ASP-040	Aspari	Kurnool	15.3942	77.4422
ASP-044	Aspari	Kurnool	15.4117	77.4612
ASP-046	Aspari	Kurnool	15.4053	77.4667
ASP-047	Aspari	Kurnool	15.3907	77.4695
ASP-048	Aspari	Kurnool	15.3969	77.4698
ASP-050	Aspari	Kurnool	15.4208	77.4773
ASP-052	Aspari	Kurnool	15.4161	77.4829
ASP-053	Aspari	Kurnool	15.4096	77.4789
ASP-054	Aspari	Kurnool	15.4059	77.4797
ASP-055	Aspari	Kurnool	15.3993	77.4840
ASP-071	Aspari	Kurnool	15.3902	77.4451
ASP-072	Aspari	Kurnool	15.3864	77.4443
ASP-073	Aspari	Kurnool	15.3826	77.4443
ASP-074	Aspari	Kurnool	15.3779	77.4442
ASP-081	Aspari	Kurnool	15.3792	77.4878
ASP-082	Aspari	Kurnool	15.3758	77.4913
ASP-083	Aspari	Kurnool	15.3722	77.4924
ASP-084	Aspari	Kurnool	15.3688	77.4934
ASP-086	Aspari	Kurnool	15.3616	77.4953
ASP-093	Aspari	Kurnool	15.4658	77.4388
ASP-094	Aspari	Kurnool	15.4705	77.4381
ASP-095	Aspari	Kurnool	15.4740	77.4383
ASP-130	Aspari	Kurnool	15.4631	77.4228
ASP-131	Aspari	Kurnool	15.4528	77.4126
ASP-132	Aspari	Kurnool	15.4492	77.4123
ASP-138	Aspari	Kurnool	15.4570	77.4138
ASP-139	Aspari	Kurnool	15.4758	77.3987

1.8 Title and Reference of Methodology

Title	: Grid-connected electricity generation from renewable sources
Reference	: The project activity meets the eligibility criteria of large scale project as it is more than 15 MW
Methodology	: ACM0002: Grid-connected electricity generation from renewable sources - Version 17.0 ⁴
Type I	: Energy industries (renewable / non-renewable sources)
Category	: Approved Consolidated Methodology (ACM0002)

Tools referred with above methodology and applicable for project activity are:

- Tool to calculate the emission factor for an electricity system⁵ - Version 06.0 (EB 97, Annex 07)
- Methodological Tool- Tool for the demonstration and assessment of additionality⁶- Version 07.0.0 (EB 70, Annex 08)

1.9 Participation under other GHG Programs

The Project activity has not applied for any other GHG programs.

1.10 Other Forms of Credit

Emissions Trading Programs and Other Binding Limits

Net GHG emission reductions or removals generated by the Project will not be used for compliance with an emissions trading program or to meet binding limits on GHG emissions in any Emission Trading program or other binding limits.

Other Forms of Environmental Credit

The Project has no intend to generate any other form of GHG-related environmental credit for GHG emission reductions or removals claimed under the VCS Program.

However, it can be crosschecked that PP is not claiming REC benefits, the same can be verified with the REC accreditation body of India⁷.

1.11 Sustainable Development

Contribution to sustainable development

Ministry of Environment and Forests, Govt. of India has specified the social well-being, economic well-being, environmental well-being and technological well-being as the four

⁴ <http://cdm.unfccc.int/methodologies/DB/8W400U6E7LFHHYH2C4JR1RJWWO4PVN>

⁵ <https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-07-v6.pdf>

⁶ <http://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-01-v7.0.0.pdf>

⁷ https://recregistryindia.nic.in/index.php/general/publics/accredited_regens_pdf

indicators for sustainable development in host country approval eligibility criteria for Clean Development Mechanism (CDM) projects. The project contributes to sustainable development using the following ways.

- a). Social and Economic well-being
- b). Environmental well-being
- c). Technological well-being
- d). Environmental well-being

The project activity would contribute to the above indicators in the following manner:

- **Social well-being:** The project helps in generating employment opportunities during the construction and operation phases. The project activity leads to development in infrastructure in the region like development of roads, telecommunication and also may promote business with improved power generation.
- **Economic well-being:** The project is a clean technology investment in the region, which would not have been taken place in the absence of the VCS benefits the project activity also helps to reduce the demand supply gap in the state. The project activity generates power using zero emissions Wind based power generation which helps to reduce GHG emissions and specific pollutants like SO_x, NO_x, and SPM associated with the conventional thermal power generation facilities.
- **Technological well-being:** The successful operation of project activity would lead to promotion of Wind based power generation and would encourage other entrepreneurs to participate in similar projects
- **Environmental well-being:** The project activity being a renewable source of energy, it reduces the dependence on fossil fuels and conserves natural resources which are on the verge of depletion. Due to its zero emission the project activity also helps in avoiding significant amount of GHG emissions

2 SAFEGUARDS

2.1 No Net Harm

The project activity does not involve any major construction activity. It primarily requires the installation of the WTGs, interfacing the generators with the State Electricity Board by setting up HT transmission lines and installation of other accessories.

The report on “Developmental Impacts and Sustainable Governance Aspects of Renewable Energy Projects” prepared by MNRE dated September 2013. This report clearly mentioned that wind project activity operations do not result in direct air pollution, noise pollution. Please refer below web link for the same⁸.

⁸ <http://mnre.gov.in/file-manager/UserFiles/report-on-developmental-impacts-of-RE.pdf>

Thus there are no any significant impacts due to implementation of project activity on air, water, soil quality and ambience are envisaged due to the project activity.

2.2 Local Stakeholder Consultation

As a part of continual improvement process, feedback from the associated stakeholders is vital, therefore a dedicated Visitor register cum grievance register has been placed at the project site which is accessible to stakeholders to provide their feedback on the project. It is appropriate publicly accessible location at which local stakeholders can provide their feedback on the project. This location is also conducive to continuous and regular checks for stakeholder comments.

The stakeholders are requested to share their experiences and grievances on continuous basis. Registers is used to records the grievances and feedback. During the current monitoring period, positive feedbacks had been received regarding site operation. No any grievances received during the current monitoring period, therefore, no any mitigation measures were required. Incase of grievances, the nature of probable resolution is discussed with the plant head office and implemented by the site incharge

2.3 AFOLU-Specific Safeguards

Not applicable to this as this is not an AFOLU project activity.

3 IMPLEMENTATION STATUS

3.1 Implementation Status of the Project Activity

The proposed project activity involves the installation of Wind Power Projects. The total installed capacity of the project is 493.9 MW. The project is promoted by Mytrah Energy (India) Pvt. Limited with different SPVs. Details of the installation of project in respective state is as follows:

Sl. No.	Name of the SPVs	Project Site	Location (State)	Project Capacity (MW)
1	Mytrah Vayu (Indravati) Pvt. Ltd.	Bhesada	Rajasthan	8.4
2	Mytrah Vayu (Indravati) Pvt. Ltd.	Pottipadu	Andhra Pradesh	105
3	Mytrah Vayu (Som) Pvt. Ltd.	Nidhi	Rajasthan	90
4	Mytrah Vayu (Som) Pvt. Ltd.	Nipaniya	Madhya Pradesh	30
5	Mytrah Vayu (Godavari) Pvt. Ltd.	Nazeerabad	Telangana	100.8
6	Mytrah Vayu (Krishna) Pvt. Ltd.	Burgula-II	Andhra Pradesh	10.8
7	Mytrah Vayu (Tungabhadra) Pvt. Ltd.	Aspari-I	Andhra Pradesh	98.3

8	Mytrah Vayu (Tungabhadra) Pvt. Ltd.	Aspari-II	Andhra Pradesh	50.6
	Total			493.9

The Project activity is a new facility (Greenfield) and the electricity generated by the Project is be exported to the Indian Grid. The Project, therefore displace an equivalent amount of electricity which would have otherwise been generated by fossil fuel dominant electricity grid. The Project Proponent plans to avail the VCS benefits for the Project. In the Pre- project scenario the equivalent amount of electricity, either fetched (under captive cases) or delivered to the grid by the project activity, would have otherwise been generated by the operation of grid-connected fossil fuel based power plants and by the addition of new generation sources. The project activity is replacing anthropogenic emissions of greenhouse gases (GHG's) which is equal to 921,296 tCO₂e during the entire monitoring period, thereon displacing 954,418 MWh amount of electricity from the grid for the entire crediting period. With the total commissioned capacity of 493.9 MW till date, the wind plant is operating smoothly with scheduled maintenance. No events or situations happened during the reported monitoring period that can alter the applicability of the applied methodology or impact the GHG emission reductions or removals. The major breakdown details that occurred during the monitoring period has been provided in the Appendix-II of this report.

Wind Power Project Technology Details –

The technology employed, converts wind energy to electrical energy. In wind power generation, energy of wind is converted into mechanical energy and subsequently into electrical energy. The technology is an environment friendly technology since there are no GHG emissions associated with the electricity generation. There is no transfer of technology involved in the project activity.

The project activity comprises of WTG's of Suzlon Energy Limited Model No. S97, WTG's of GE India Industrial Pvt Limited GE 1.7 & 2.3, WTGs of Inox Wind Limited Model No. DF-100 and WTGs of Wind World India Limited Model No. WW-53. The commissioning of these WTGs of the project activity is completed and details are mentioned in section 1.5.

The Specification of 50 WTG (105 MW at Pottipadu site), 4 WTG (8.4 MW at Bhesada site) and 48 WTG (100.8 MW at Nazeerabad site) Suzlon Energy Limited's model: S-97/2100 kW at Pottipadu Site, Bhesada site and Nazeerabad site respectively are as follows:

Power	
Rated power:	2,100.0 kW
Cut-in wind speed:	3.5 m/s
Rated wind speed:	11.0 m/s
Cut-out wind speed:	20.0 m/s
Survival wind speed:	60.0 m/s
Rotor	

Diameter:	97.0 m
Swept area:	7,386.0 m ²
Number of blades:	3
Power density 1:	284.3 W/m ²
Power density 2:	3.5 m ² /kW
Generator	
Type:	Asynchronous
Number:	1
Voltage:	690.0 V
Grid connection:	DFIG
Grid frequency:	50/60 Hz
Tower	
Hub height:	80/90/100/120 m
Type:	Steel tube
Shape:	Conical
Corrosion protection:	Painted

The Specification of 47 WTG (79.9 MW at Aspari I) and 90 MW at Nidhi site of GE India Industrial Pvt. Ltd. model: GE 1.7 at Aspari-I Site and Nidhi site respectively are as follows:

Power	
Rated power:	1,700.0 kW
Cut-in wind speed:	3.0 m/s
Rated wind speed:	10.0 m/s
Cut-out wind speed:	23.0 m/s
Wind class (IEC):	S
Rotor	
Diameter:	103.0 m
Swept area:	8,332.0 m ²
Number of blades:	3
Type:	50.2m
Material:	GFRP
Power density 1:	204.0 W/m ²
Power density 2:	4.9 m ² /kW
Gear box	
Type:	spur/planetary
Generator	
Type:	Double Fed Asyn
Number:	1
Grid connection:	IGBT
Grid frequency:	50/60 Hz

Tower	
Hub height:	80/96 m
Type:	Steel tube
Shape:	Conical
Corrosion protection:	Painted

The Specification of 30 WTG (69 MW) GE India Industrial Pvt. Ltd. model- GE 2.3 at Aspari-II and 4 WTGs at burgulla-II are as follows:

Rated Power (MW):	2.3
Wind Class:	IIIs
Cut-In Wind Speed:	3
Nominal Wind speed (8 m/s):	14m/s
Cut-Out Wind Speed:	23
Annual Output (8 m/s) in MWh:	10,887 @ 8.5m/s
Nominal Rotor Diameter (m):	107
Hub Height (m):	80,94
Swept Area (m ²):	8,992
Gearbox Ratio :	130.4 (50hz)
Generator Type:	DFIG
Turbine Output (V):	690
Frequency (HZ):	50

The Specification of 15 WTG (30 MW) Inox Wind Ltd. model: DF 100 at Nipaniya are as follows:

Power	
Rated power:	2,000.0 kW
Cut-in wind speed:	3.0 m/s
Rated wind speed:	11.0 m/s
Cut-out wind speed:	20.0 m/s
Survival wind speed:	52.5 m/s
Wind class (IEC):	IIIb
Rotor	
Diameter:	100.0 m
Swept area:	7,894.0 m ²
Number of blades:	3
Rotor speed, max:	15.7 U/min
Tipspeed:	82 m/s
Material:	Epoxy glass fibre
Power density 1:	253.4 W/m ²
Power density 2:	3.9 m ² /kW
Gear box	

Type:	spur/planetary
Stages:	3
Ratio:	0.121528
Generator	
Type:	doubly fed induction
Number:	1
Speed, max:	1,800.0 U/min
Voltage:	690.0 V
Grid connection:	IGBT
Grid frequency:	50.0 Hz
Tower	
Hub height:	80/92 m
Type:	Steel tube
Shape:	Conical
Corrosion protection:	Painted

The Specification of 1.6 MW Wind World India Limited's model: WW-53 at Burgula-II are as follows:

Power	
Rated power:	800.0 kW
Cut-in wind speed:	3.0 m/s
Rated wind speed:	11.5 m/s
Cut-out wind speed:	28.0 m/s
Rotor	
Diameter:	52.9 m
Swept area:	2,007.0 m ²
Number of blades:	3
Rotor speed, max:	29.5 U/min
Tipspeed:	82 m/s
Material:	fiberglass-epoxy resin
Power density 1:	398.6 W/m ²
Power density 2:	2.5 m ² /kW
Gear box	
Type:	direct drive
Generator	
Type:	Synchronous
Number:	1
Speed, max:	29.5 U/min

Grid connection:	Inverters
Grid frequency:	WindWorld India
Tower	
Hub height:	74 m
Type:	Concrete
Shape:	Conical

Emission Reductions from anthropogenic sources:

The wind power generated from the Project is displacing the electricity generated from thermal power stations feeding into Indian grid and replacing the usage of diesel generators for meeting the power demand during shortage periods. Since, the wind power is Green House Gas (GHG) emissions free, the power generated prevents the anthropogenic GHG emissions generated by the fossil fuel based thermal power stations comprising coal, diesel, furnace oil and gas. The estimation of GHG reductions by this project is limited to carbon dioxide (CO₂) only.

3.2 Deviations

2.3.1 Methodology Deviations

No methodology deviation is applied during the monitoring period.

2.3.2 Project Description Deviations

Deviation-1: During the time of registration, project capacity for Burgulla-II is registered as 10.4 MW which is a typo-error. The actual capacity for this site is 10.8 MW. This deviation doesn't impacts the applicability of the methodology, additionality or the appropriateness of the baseline scenario.

The actual capacity can be verified by commissioning certificates provided as well as PPAs signed for this project activity and deviation regarding the same has been requested during the current monitoring period.

3.3 Grouped Projects

The project is not a grouped project thus this is not applicable.

4 DATA AND PARAMETERS

4.1 Data and Parameters Available at Validation

Data / Parameter	EF _{grid, OM, y}
Data unit	tCO ₂ /MWh
Description	Operating margin CO ₂ emission factor in year y

Source of data	Calculated from CEA database, Version 12, May 2017 ⁹
Value applied	0.9843
Justification of choice of data or description of measurement methods and procedures applied	Calculated as per “Tool to calculate the emission factor for an electricity system, version 06” as 3-year generation weighted average using data for the years 2013-14, 2014-15 & 2015-16. The data are obtained from “CO ₂ Baseline Database for Indian Power Sector” version 12, published by the Central Electricity Authority, Ministry of Power, Government of India.
Purpose of Data	For the calculation of the Baseline Emission
Comments	This parameter is fixed ex-ante for the entire crediting period.

Data / Parameter	$EF_{grid, BM, y}$
Data unit	tCO ₂ /MWh
Description	Build margin CO ₂ emission factor in year y
Source of data	Calculated from CEA database, Version 12, May 2017 ¹⁰
Value applied	0.9083
Justification of choice of data or description of measurement methods and procedures applied	Calculated as per “Tool to calculate the emission factor for an electricity system, version 06” as per the latest data available for the most recent year 2015-16. The data is obtained from “CO ₂ Baseline Database for Indian Power Sector” version 12, published by the Central Electricity Authority, Ministry of Power, Government of India.
Purpose of Data	For the calculation of the Baseline Emission
Comments	This parameter is fixed ex-ante for the entire crediting period.

Data / Parameter	$EF_{grid, CM, y}$
Data unit	tCO ₂ /MWh
Description	Combined margin CO ₂ emission factor in year y
Source of data	Central Electricity Authority(CEA) of India Database Version 12, May 2017 ¹¹
Value applied	0.9653
Justification of choice of data or description of	The combined margin emissions factor is calculated as follows: $EF_{grid, CM, y} = EF_{grid, OM, y} * W_{OM} + EF_{grid, BM, y} * W_{BM}$

⁹ http://www.cea.nic.in/reports/others/thermal/tpece/cdm_co2/user_guide_ver12.pdf
¹⁰ http://www.cea.nic.in/reports/others/thermal/tpece/cdm_co2/user_guide_ver12.pdf
¹¹ http://www.cea.nic.in/reports/others/thermal/tpece/cdm_co2/user_guide_ver12.pdf

measurement methods and procedures applied	Where: $EF_{grid,BM,y}$ = Build margin CO₂ emission factor in year y (tCO₂/MWh) $EF_{grid,OM,y}$ = Operating margin CO₂ emission factor in year y (tCO₂/MWh) W_{OM} = Weighting of operating margin emissions factor (%) = 75% W_{BM} = Weighting of build margin emissions factor (%) = 25%
Purpose of Data	For the calculation of Baseline Emission
Comments	This parameter is fixed ex-ante for the entire crediting period.

4.2 Data and Parameters Monitored

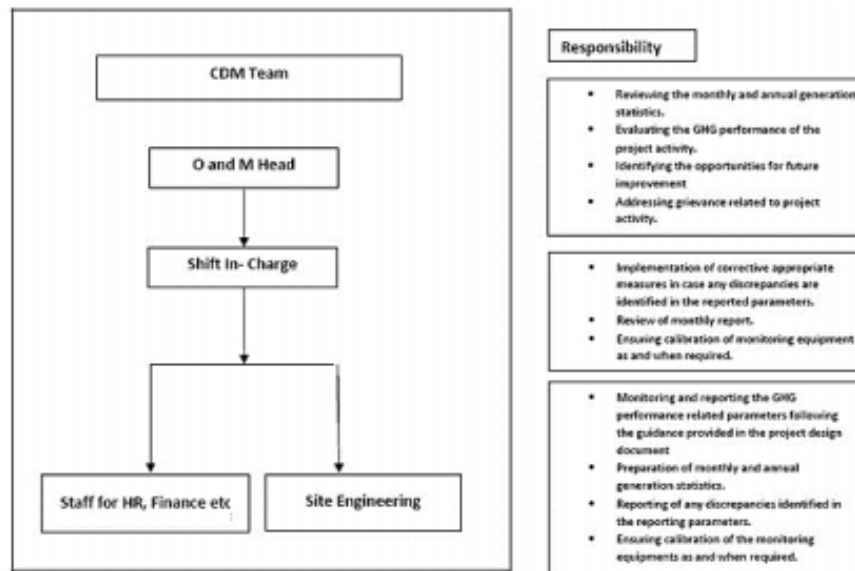
Data / Parameter	$EG_{PJ,y}$
Data unit	MWh
Description	Quantity of net electricity generation supplied by the project (Wind) plant/unit to the grid in year y
Source of data	Credit note/ JMR/Form B reports/ monthly generation report from respective state electricity board/DISCOM
Description of measurement methods and procedures to be applied	The value of net electricity generation supplied to the grid as per Monthly electricity form B /Credit Note or Joint Meter Reading Report forms the basis for calculation of the emission reductions; which can be cross checked from the invoice raised to DISCOM. Net electricity supplied to grid is calculated as the difference of the measured values of “export” and “import” of electricity through the dedicated SEB energy meter installed at the delivery point. Monthly meter readings are taken from the main and check meter installed at metering point and certified by the representatives of SEB Officials and the representatives of the project proponent for apportioning procedure refer section 4.3
Frequency of monitoring/recording	Continuous monitoring, hourly measurement and at least monthly recording
Value monitored	872,848 MWh
Monitoring equipment	Monitoring: Bidirectional Tri vector meter is used Data type: Measured Type of meter: Static type meter (Main & Check). Both are Bidirectional meters. Class of meter: 0.2s.
QA/QC procedures to be applied	The calibration of all the meters are undertaken at required intervals (once is five years as per CEA notification) and faulty meters if detected will be duly replaced immediately. The meters are of accuracy class 0.2s. The meter accuracy class and

	calibration interval is under purview of state electricity board and PP do not have any control on it. It is also noted that apportioning procedure is under control of state electricity board and PP do not have any control on it. The available parameter to PP is the net electricity supplied to grid and same parameter is mentioned as monitoring parameter
	The Net electricity exported to the grid is cross checked against the invoice raised by the PP towards the DISCOM
Purpose of the data	Calculation of baseline emissions
Calculation method	-
Comments	The data would be archived electronically and maintained for the entire crediting period plus two years.

4.3 Monitoring Plan

The monitoring plan is developed in accordance with the modalities and procedures for CDM project activities and is proposed for grid-connected wind power project. The monitoring plan, which implemented by the project participant describes about the monitoring organisation, parameters to be monitored, monitoring practices, quality assurance, quality control procedures, data storage and archiving.

The authority and responsibility for registration, monitoring, measurement, reporting and reviewing of the data rests with the project participant. PP proposed the following structure for data monitoring, collection, data archiving and calibration of equipments for this project activity. The team comprises of the following members:



Data Measurement

The export and import energy is measured continuously using above mentioned Main and Check meters located at the substations. Readings of meters are taken on monthly basis by authorized officer of SEB in the presence of PP or representative of PP. Based on the Meter Reading Statement, invoices are raised. These invoices can be used for cross checking the meter readings taken for the respective project activity.

Data collection and archiving

Readings from meters are collected in the presence of the plant in-charge. Export and Import data are recorded and stored in logs as well as in electronic form on a daily basis. The records are checked periodically by the Plant Manager and discussed thoroughly with the plant supervisor. The period of storage of the monitored data will be 2 years after the end of crediting period or till the last issuance of VERs for the project activity whichever occurs later.

Emergency preparedness

The project activity does not result in any unidentified activity that can result in substantial emissions from the project activity. No need for emergency preparedness in data monitoring is visualized.

Personnel training

In order to ensure a proper functioning of the project activity and a properly monitoring of emission reductions, the staff is trained. The plant helpers are trained in equipment operation, data recording, reports writing, operation and maintenance and emergency procedures in compliance with the monitoring plan.

Apportioning

In case the dates of a particular monitoring period do not match with the dates of the billing cycle, the net electricity exported to the grid would be calculated from:

- Apportioning the net electricity exported to grid, as recorded in the consolidated Share Certificate / JMR Report / Credit Notes certified by the respective state discom, based on the number of days in the monitoring period and the number of days for which Share Certificate / JMR Report / Credit Notes was prepared.

5 QUANTIFICATION OF GHG EMISSION REDUCTIONS AND REMOVALS

5.1 Baseline Emissions

As per the approved consolidated Methodology ACM0002 (Version 17.0, EB 89, Annex 1) para 44:

Baseline emissions include only CO₂ emissions from electricity generation in fossil fuel fired 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:

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

Where:

BE_y = Baseline Emissions in year y (tCO₂)

$EG_{PJ,y}$ = 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)

$EF_{grid,CM,y}$ = 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)

Baseline emission factor (EF_y):

The baseline emission factor is calculated using the combined margin approach as described in Step 6 above:

Therefore, $EF_y = EF_{grid,CM,y} = 0.9653$ t CO₂/MWh.

$BE_y = 872,848 \times 0.9653 = 842,554$ tCO₂e (round down values)

5.2 Project Emissions

No project emissions are applicable to this wind electric power project, since the electricity generation is based on wind resources, which does not involve in combustion or generation of emissions from fossil fuels. Hence, these emission sources are neglected.

$$PE_y = 0$$

5.3 Leakage

No leakage emissions are considered. The main emissions potentially giving rise to leakage in the context of electric sector projects are emissions arising due to activities such as power plant construction and upstream emissions from fossil fuel use (e.g. extraction, processing, and transport). These emission sources are neglected.

$$LE_y = 0$$

5.4 Net GHG Emission Reductions and Removals

The Formula used to calculate the net emission reduction for the project activity is

$$ER_y = BE_y - PE_y - LE_y$$

Where,

ER_y = Emission Reduction in tCO₂/year

BE_y = Baseline emission in tCO₂/year

PE_y = Project emissions in tCO₂/year

LE_y = Leakage Emissions in tCO₂/year

For the project activity during the current monitoring period, as per section 5.1

$BE_y = 842,554 \text{ tCO}_2\text{e}$

$PE_y = 0 \text{ tCO}_2\text{e}$

$LE_y = 0 \text{ tCO}_2\text{e}$

Year	Baseline emissions or removals (tCO ₂ e)	Project emissions or removals (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Net GHG emission reductions or removals (tCO ₂ e)
2020	581,558	0	0	581,558
2021	260,996	0	0	260,996
Total	842,554	0	0	842,554

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 1,075,266 tCO₂e, whereas actual emission reductions achieved are 842,554 tCO₂e, which is approximately 22% lower than the estimated emission reductions. The generation of electricity depends upon many other climatic conditions, which are not within the control of the project participant.

APPENDIX I: METER CALIBRATION DETAILS

The main meter and Check meter details of Nazeerabad Site are as follows:

Main Meter		Check Meter	
Make	L & T	Make	L & T
Meter Sl. No	15624894	Meter Sl. No.	15624896
Accuracy Class	0.2 s	Accuracy Class	0.2 s
Calibration Date	22-August-2017	Calibration Date	22-August-2017
Calibration Due Date	21-August-2022	Calibration Due Date	21-August-2022

The Main meter and Check meter details of Pottipadu Site are as follows:

For 65.1 MW					
PPD-06 (21 MW)					
Main Meter		Check Meter		Backup Meter	
Make	Secure	Make	Secure	Make	Secure
Meter Sl. No.	XC559930	Meter Sl. No	XC559931	Meter Sl. No	XC559924
Accuracy Class	0.2 s	Accuracy Class	0.2 s	Accuracy Class	0.2 s
Calibration date	20-November-2017	Calibration date	20-November-2017	Calibration date	20-November-2017
Calibration Due Date	19-November-2022	Calibration Due Date	19-November-2022	Calibration Due Date	19-November-2022

PPD-40 (23.1 MW)					
Main Meter		Check Meter		Backup Meter	
Make	Secure	Make	Secure	Make	Secure
Meter Sl. No.	XC559921	Meter Sl. No	XC559922	Meter Sl. No	XC559923
Accuracy Class	0.2 s	Accuracy Class	0.2 s	Accuracy Class	0.2 s
Calibration date	20-November-2017	Calibration date	20-November-2017	Calibration date	20-November-2017
Calibration Due Date	19-November-2022	Calibration Due Date	19-November-2022	Calibration Due Date	19-November-2022

PPD-35 (21 MW)					
Main Meter		Check Meter		Backup Meter	
Make	Secure	Make	Secure	Make	Secure

Meter Sl. No.	XC559932	Meter Sl. No.	XC559933	Meter Sl. No.	XC559934
Accuracy Class	0.2 s	Accuracy Class	0.2 s	Accuracy Class	0.2 s
Calibration date	22-November-2017	Calibration date	22-November-2017	Calibration date	22-November-2017
Calibration Due Date	19-November-2022	Calibration Due Date	19-November-2022	Calibration Due Date	19-November-2022

For 39.9 MW					
Feeder-01					
Main Meter		Check Meter		Backup Meter	
Make	Elster	Make	Elster	Make	Elster
Meter Sl. No.	13720861	Meter Sl. No.	13720862	Meter Sl. No.	13720866
Accuracy Class	0.2 s	Accuracy Class	0.2 s	Accuracy Class	0.2 s
Calibration date	21-November-2017	Calibration date	21-November-2017	Calibration date	21-November-2017
Calibration Due Date	19-November-2022	Calibration Due Date	19-November-2022	Calibration Due Date	19-November-2022

Feeder-02					
Main Meter		Check Meter		Backup Meter	
Make	Elster	Make	Elster	Make	Elster
Meter Sl. No.	13720867	Meter Sl. No.	13720868	Meter Sl. No.	13720872
Accuracy Class	0.2 s	Accuracy Class	0.2 s	Accuracy Class	0.2 s
Calibration date	21-11-2017	Calibration date	21-11-2017	Calibration date	21-11-2017
Calibration Due Date	20-11-2022	Calibration Due Date	20-11-2022	Calibration Due Date	20-11-2022

The Main meter and Check meter details of Nidhi Site are as follows:

Feeder-09			
Main Meter		Check Meter	
Make	Genus	Make	Genus
Meter Sl.No.	A 3015605	Meter Sl.No.	A 3015606
Accuracy class	0.2 s	Accuracy class	0.2 s
Calibration date	29-May-2017	Calibration date	29-May-2017
Calibration Due Date	28-May-2022	Calibration Due Date	28-May-2022
Feeder-10			
Main Meter		Check Meter	
Make	Genus	Make	Genus
Meter Sl.No.	A 3015607	Meter Sl.No.	A 3015608

Accuracy Class	0.2 s	Accuracy Class	0.2 s
Calibration date	29-May-2017	Calibration date	29-May-2017
Calibration Due Date	28-May-2022	Calibration Due Date	28-May-2022

The Main meter and Check meter details of Bhesada Site are as follows:

Feeder 12 (SEL-197)			
Main Meter		Check Meter	
Make	Secure	Make	Secure
Meter Sl. No.	RJB 78188	Meter Sl. No	RJB 78189
Accuracy Class	0.2 s	Accuracy Class	0.2 s
Calibration date	28-April-2016	Calibration date	28-April-2016
Calibration Due Date	27-April-2021	Calibration Due Date	27-April-2021
Calibration Date	21-February-2021	Calibration Due Date	21-February-2021
Calibration Due Date	20-February-2026	Calibration Due Date	20-February-2026

Feeder 03 (SEL-195)			
Main Meter		Check Meter	
Make	Secure	Make	Secure
Meter Sl. No.	RJB 78194	Meter Sl. No	RJB 78200
Accuracy Class	0.2 s	Accuracy Class	0.2 s
Calibration date	28-April-2016	Calibration date	28-April-2016
Calibration Due Date	27-April-2021	Calibration Due Date	27-April-2021
Calibration Date	21-February-2021	Calibration Due Date	21-February-2021
Calibration Due Date	20-February-2026	Calibration Due Date	20-February-2026

Feeder 04 (SEL-04)			
Main Meter		Check Meter	
Make	Secure	Make	Secure
Meter Sl. No.	RJB 78201	Meter Sl. No	RJB 78203
Accuracy Class	0.2 s	Accuracy Class	0.2 s
Calibration date	28-April-2016	Calibration date	28-April-2016
Calibration Due Date	27-April-2021	Calibration Due Date	27-April-2021
Calibration Date	21-February-2021	Calibration Due Date	21-February-2021
Calibration Due Date	20-February-2026	Calibration Due Date	20-February-2026

The Main meter and Check meter details of Aspari Site are as follows:

Aspari-I			
Main Meter		Check Meter	
Make	Secure	Make	Secure
Meter Sl. No.	APX01010	Meter Sl. No	APX01011

Accuracy Class	0.2 s	Accuracy Class	0.2 s
Calibration date	13-October-2017	Calibration date	13-October-2017
Calibration Due Date	12-October-2022	Calibration Due Date	12-October-2022

Aspari-II			
Main Meter		Check Meter	
Make	Secure	Make	Secure
Meter Sl. No.	APX01012	Meter Sl. No	APX01013
Accuracy Class	0.2 s	Accuracy Class	0.2 s
Calibration date	13-October-2017	Calibration date	13-October-2017
Calibration Due Date	12-October-2022	Calibration Due Date	12-October-2022

The Main meter and Check meter details of Burgulla Site are as follows:

Burgulla-II			
Main Meter		Check Meter	
Make	Secure	Make	Secure
Meter Sl. No.	APX01021	Meter Sl. No	APX01022
Accuracy Class	0.2 s	Accuracy Class	0.2 s
Calibration date	30-March-2017	Calibration date	30-March-2017
Calibration Due Date	29-March-2022	Calibration Due Date	29-March-2022

The Main meter and Check meter details of Nipaniya Site are as follows:

Nipaniya			
Main Meter		Check Meter	
Make	Secure	Make	Secure
Meter Sl. No.	MPC70481	Meter Sl. No	MPC70480
Accuracy Class	0.2 s	Accuracy Class	0.2 s
Calibration date	09-May-2016	Calibration date	09-May-2016
Calibration Due Date	08-May-2021	Calibration Due Date	08-May-2021
Calibration Date	21-February-2021	Calibration Date	21-February-2021
Calibration Due Date	20-February-2026	Calibration Due Date	20-February-2026

APPENDIX II: BREAK-DOWN DETAILS

For Bhesada

Month	Section	Loc No.	Breakdown remark	Breakdown Hrs.
May-20	Bhesada	RSA004,RSA050, RSA057,RSA128, RSA280, RSA057	Elec MFR DFDT, Elec YawSensor ErrStop, Elec FB GearOil PumpHighLow, DFIG Inverter Overspeed	124.0
July-20	Bhesada	RSA050	Mech Rpm Encoder Proximity DiffStop	23.7
August-20	Bhesada	RSA007, RSA128	BatteryVoltage Blade2 LowStop	38.9
November-20	Bhesada	RSA286,RSA342, RSA058	Preventive Check, Pitch EmergencyRun, Battery Charger2 Disconnected	146.3
December-20	Bhesada	RSA051	Pitch EmergencyRun	21.0
January-21	Bhesada	RSA128,RSA052, RSA007, RSA057	Mech Rpm Encoder Proximity DiffStop, Pitch EmergencyRun, Battery Charger2 Disconnected	96
February-21	Bhesada	RSA053, RSA007	Pitch EmergencyRun, Elec SafetyChainStop, Elec SafetyChainStop	59
April-21	Bhesada	RSA054	BatteryVoltage Blade1 LowStop	25

For Nazeerabad

Month	Section	Loc No.	Breakdown remark	Breakdown Hrs.
April-20	Nazeerabad	NRB15, NRB02	PitchMotor Brake2 Malfunction, DFIG Inverter Fault Shutdown	50.1
May-20	Nazeerabad	NRB31	DFIG Inverter Fault Shutdown	49.7
August-20	Nazeerabad	NRB18	Generator Bearing problem	21.0
November-20	Nazeerabad	NRB01	Pitch Blade3 95degLimit Error	19.3
December-20	Nazeerabad	NRB31,NRB58	Pitch EmergencyRun, DFIG Inverter Fault Shutdown	41.2
January-21	Nazeerabad	NRB24, NRB58	Pitch ResolveEncoderDiff3Stop, Gearbox Failure	71.5

March-21	Nazeerabad	NRB02, NRB15	Gearbox Failure	88.5
May-21	Nazeerabad	NRB03, NRB24	Generator Bearing problem, Gearbox Failure	22.8

For Pottipadu

Gen. Date	Section	Loc. No.	Breakdown Remark	Breakdown Hrs.
15-April-2020	Pottipadu	PPD014	Pitch Akku2Voltage LowStop	22.4
18-May-2020	Pottipadu	PPD052	Battery Charger3 Disconnected	24.0
20-June-2020	Pottipadu	PPD014	Battery Charger2 Disconnected	19.8
11-August-2020	Pottipadu	PPD014	Pitch Akku2Voltage LowStop	24.0
25-December-2020	Pottipadu	PPD050	Battery Charger3 Disconnected	24.0
09-January-2021	Pottipadu	PPD052	Pitch Akku2Voltage LowStop	24.0
21-March-2021	Pottipadu	PPD014	Battery Charger3 Disconnected	18.9
08-April-2021	Pottipadu	PPD052	Pitch Akku2Voltage LowStop	24.0
14-April-2021	Pottipadu	PPD050	Battery Charger3 Disconnected	24.0

For Nidhi

Month	Section	Loc No.	Breakdown remark	Breakdown Hrs.
August-20	Nidhi	NDH-02, NDH-05, NDH-22, NDH-30	Manual stop due to pitch bearing abnormality, Pitch thysistor Fault, Manual stop due to pich bearing abnormality	297.2
October-20	Nidhi	NDH-11, NDH-02, NDH-05, NDH-30	Manual stop against Main bearing boroscopic work, Battery Voltage not OK, Manual stop due to Main bearing overtemperature issue, Converter rotor current fault	1408.4
November-20	Nidhi	NDH-02,NDH-05, NDH-22, NDH-30,	Manual stop due to pich bearing abnormality, Line ccu collective fault,	188.3

		NDH-38, NDH-20, NDH-24, NDH-26, NDH-10	Battery Voltage not ok Axis3, Battery voltage not ok Axis2	
December-20	Nidhi	NDH-02, NDH-05, ADH-22, NDH-30, NDH-26	Manual stop due to pitch bearing abnormality, Manual stop against Gearbox Radiator hose pipe restored active	2087.3
January-21	Nidhi	NDH-02, NDH-05, NDH-22, NDH-30	Manual stop due to pitch bearing abnormality, Battery Voltage not ok Axis3, Battery voltage not ok Axis2	3155.6
March-21	Nidhi	NDH-11, NDH-02, NDH-05, NDH-30	Manual stop due to pitch bearing abnormality, Converter rotor current fault WTG stop due to Material unavailability	2148.5
April-21	Nidhi	NDH-02, NDH-05, NDH-22, NDH-30, NDH-09, NDH-12,	Manual stop against Main bearing boroscopic work, Battery Charging Voltage not OK	4245.9
May-21	Nidhi	NDH-02,NDH-05, NDH-22, NDH-30, NDH-38, NDH-20, NDH-24, NDH-26, NDH-10	Battery Voltage not OK, Pitch thyristor Fault, stop due to pitch bearing abnormality & SEMI Annual Main, Gearbox oil pressure too low fault	4987.5

For Nipaniya

Month	Section	Loc No.	Breakdown remark	Breakdown Hrs.
June-20	Nipaniya	NPYP3128, NPYP3112	Breakdown Maintenance	300.8
August-20	Nipaniya	NPYP3124, NPYP59	Breakdown Maintenance	245.6
November-20	Nipaniya	NPYP3112, NPYP3116, NPYP3120, NPYP51	Breakdown Maintenance	418.9
January-21	Nipaniya	NPYP3114, NPYP3128, NPYP59	Breakdown Maintenance	589.5

April-21	Nipaniya	NPYP 3114, NPYP3120	Breakdown Maintenance	208.9
May-21	Nipaniya	NPYP3116, NPYP3120	Breakdown Maintenance	457.8

For Burgulla-10.8

Month	Section	Loc No.	Breakdown remark	Breakdown Hrs.
April-20	Burgula	BRG506	Gearbox oil pressure too low, Turbine under stopped condition due to TFR failure	240.0
June-20	Burgula	BRG506, BRG559	Turbine under stopped condition due to TFR failure	168.0
August-20	Burgula	BRG506, BRG559	Turbine under stopped condition due to TFR failure	216.0
October-20	Burgula	BRG559, BRG506	Gearbox oil pressure too low, Turbine under stopped condition due to TFR failure	480.0
December-20	Burgula	BRG559, BRG506	Gearbox oil pressure too low, Turbine under stopped condition due to TFR failure	160.0
January-21	Burgula	BRG559, BRG506	Gearbox oil pressure too low, Turbine under stopped condition due to TFR failure	240.0
February-21	Burgula	BRG559, BRG506	Turbine under stopped condition due to TFR failure	408.0
April-21	Burgula	BRG559, BRG506	Turbine under stopped condition due to TFR failure	216.0

For Aspari-I

Month	Section	Loc No.	Breakdown remark	Breakdown Hrs.
May-20	Aspari-1	ASP-90, ASP-65, ASP-10, ASP-43, ASP-12, ASP-26, , ASP-23, ASP-24,	Manually stopped by GE for Pitch bearing crack, Battery voltage not ok axis-3, Top Box Fuse or Motor protection alarm,	856.0

		ASP-92, ASP-21, ASP-22, ASP-29, ASP-31, ASP-42, ASP-92, ASP-09, ASP-27, ASP-61, ASP-62, ASP-63, ASP-64,		
August-20	Aspari-1	ASP-28, ASP-88, ASP-65	Manual stop for Gear box issue, Top Box Fuse or Motor protection alarm, Pitch controller communications fault, EVENT_214 Battery voltage not OK axis 3	1387.0
October-20	Aspari-1	ASP-28, ASP-88, ASP-65, ASP-10, ASP-43, ASP-12, ASP-26, ASP-33, ASP-89, ASP-09, ASP-11, ASP-13, ASP-14, ASP-16, ASP-17, ASP-18, ASP-23, ASP-24, ASP-92, ASP-21, ASP-22, ASP-29, ASP-31, ASP-42, ASP-92, ASP-09, ASP-27, ASP-61, ASP-62, ASP-63, ASP-64,	Battery voltage not ok axis-3, Manual stop for Gear box issue, Top Box Fuse or Motor protection alarm, EVENT_214 Battery voltage not OK axis 3, EVENT_052 Gearbox oil pressure too low	1158.0
December-20	Aspari-1	ASP-28, ASP-33, ASP-89, ASP-09, ASP-11, ASP-13, ASP-14, ASP-16, ASP-17, ASP-18	Manual stop for Gearbox issue	518.0
January-21	Aspari-1	SP-05, ASP-42, ASP-87, ASP-88, ASP-11, ASP-18, ASP-28, ASP-19	EVENT_134 Battery charging voltage not ok, Manual stop, Manual stop for Gearbox issue	546.0
February-21	Aspari-1	ASP-28, ASP-89,	Manual stop for Gearbox issue,	648.0

		ASP-05	Manual stop	
March-21	Aspari-1	ASP-90, ASP-28, ASP-89, ASP-05, ASP-11, ASP-18, ASP-19, ASP-21, ASP-25, ASP-27, ASP-08, ASP-16, ASP-17, ASP-62, ASP-63, ASP-64, ASP-66, ASP-42, ASP-87, ASP-88, ASP-21, ASP-29	Battery voltage not ok axis-3, Manual stop for Gearbox issue, EVENT_214 Battery voltage not OK axis 3, EVENT_142 Line side CCU collective faults, Secondary rotor brake does not close, Successful; Emergency Break System Test Needed, Pitch Control deviation Axis 3	6578.0
Apr-21	Aspari-1	ASP-88, ASP-87, ASP-66, ASP-09, A, ASP-19, ASP-21, ASP-25, ASP-27, ASP-29, ASP-08, ASP-16, ASP-17, ASP-62, ASP-63, ASP-64, ASP-66,	Manually stopped by GE for Pitch bearing crack, Manual stop for Gearbox issue	1543.0

For Aspari-II

Gen. Date	Section	Loc. No.	Breakdown Remark	Breakdown Hrs.
April-20	Aspari-2	ASP-50	Pitch Conv. Inc. encoder correction axis 1	50.9
June-20	Aspari-2	ASP-84, ASP-46, ASP-130, ASP-81	Timed Over-Current, Rotor converter or stator, Top Box Fuse or Motor protection alarm, NGC Gearbox oil leakage arrest work, IOC, Rotor Converter	298.5
September-20	Aspari-2	ASP-73, , ASP-50, ASP-52, ASP-53, ASP-54, ASP-55, ASP-93, ASP-94, ASP-95	Top Box Fuse or Motor protection alarm, Rotor speed sensor failure, Thermo turbine Shutdown, Blown Fuses	2179.3
December-20	Aspari-2	ASP-46, ASP-81, ASP-40, ASP-138,	Successful Emergency Break System test Needed, Thermo turbine	2054.8

		ASP-139, ASP-40, ASP-44	Shutdown,Blown Fuses	
Jaunuary-21	Aspari-2	ASP-71, ASP-72, ASP-74, ASP-130, ASP-131, ASP- 132, ASP-47	Top Box Fuse or Motor protection alarm, Secondary rotor brake does not close	415.3
March-21	Aspari-2	ASP-01	Battery carging voltage not OK Axis2	418.6