

Minutes of “Wind Zone Classification and Evaluation Committee” meeting held on
dtd. 27.02.17

Subject:- Finalization of wind zone class of Wind Power projects developed by
Following developer for their Investors:-

Meeting of “Wind Zone Classification and Evaluation Committee” held on
06.02.17 at MEDA conference hall under chairmanship of Shri. U. M. Pande, Chairman
and Sr. General Manager (Adm. & Pub.). Following Committee Members were
present for the meeting:-

1	Shri. U. M. Pande	Sr. General Manager (Adm. & Pub.)	Chairman
2	Shri. Purushottam Jadhav	General Manager (Co-ord.)	Member
3	Shri. M. A. Pise	General Manager ((PG-I/IDD)	Member
4	Shri. S. V. Gore	Assistant Director (Finance)	Member
5	Shri. S. R. Patil	Manager (IDD)	Member Secretary

Manager (ID) presented the information, site verification report related to the
following proposals before Committee:-

1) Developer:- M/s. Wind World (India) Ltd.

- Site:- Khanapur, Tal. Khatav/Khanapur, Dist. Satara/Sangli (Vetted by NIWE for M/s Enercon India Ltd/ M/s. Windworld India Ltd).
- Investor:- M/s. Khandke Wind Energy Pvt Ltd:- 7.20MW (9x800KW).

2) Developer:- M/s. Acorn Properties Pvt Ltd. (M/s Tata Power Renewable Energy Ltd)

- Site:- Girijashankarwadi, Tal. Khatav, Dist. Satara (Vetted by NIWE for M/s Kenersys India Pvt Ltd, Pune).
- Investor:-M/s Tata Power Renewable Energy Ltd :-2.0MW (1x2000KW).The project is commissioned during the financial year 2014-15.

3) Developer:- M/s. Regen Powertech Pvt.Ltd.

- Site:- Isapur, Tal. Pusad, Dist. Yewatmal (Vetted by NIWE Chennai).
- Investor:- M/s.Hetero Med Solutions Ltd Hyderabad :- 10.50 MW (7x1500KW).

4) Developer:- M/s. Sri Maruti Wind Park Developers.

- Site:- Bhendwade, Tal. Shahuwadi, Dist. Kolhapur (Vetted by NIWE Chennai for MEDA).
- Investor:- M/s.S.Kumar, Rajkot:- 0.85 MW (1x850KW).

5) Developer:- M/s. K.P.Power Pvt.Ltd.

- Site:- Pedhewadi, Tal. Akole, Dist.Ahmednagar (Vetted by NIWE for M/s Gamesa Wind Turbines Pvt. Ltd.Chennai).
- Investor:- M/s.SJVN Ltd.: - 2.55 MW (3x850KW).

6) Developer:- M/s Sri Maruti Wind Park Developers.

- Site:- Vaspeth, Tal. Jath, Dist.Sangli (NIWE Declared site).
- Investor:- M/s. Sarla Performance Fibers Ltd...:- 4.0 MW (2x1000KW).

1) Developer - M/s. Wind World (India) Ltd.

- Site:- Khanapur, Tal.Khatav/Khanapur, Dist. Satara/Sangli (Vetted by NIWE for M/s Enercon India Ltd/ M/s. Windworld India Ltd).
- Investor:- M/s. Khandke Wind Energy Pvt Ltd:- 7.20MW (9x800KW).
- The project is commissioned during the financial year 2014-15.
- The WTG location wise observations are as below:-

WTG Location No.	WTG Cap. MW	Distance from Ref. wind mast in km		WTG Elev. MASL in mtrs.	Ref. Mast Elev. MASL in mtrs.	Diff. between Ref. wind mast and WTG Elev. (Mtr.)	Date of Commissioning	Remark
		Pvt. Mast	NIWE/ MEDA Mast					
			Khanapur					
15	0.8	4.97	-	892	911	-19	25.11.14	Within (+/-) 60 m elev. difference
56	0.8	0.323	-	903	911	-8	09.10.14	Within (+/-) 60 m elev. difference
B6	0.8	5.54	-	847	911	-64	02.02.15	Above(+/-) 60 m elev. difference
B7	0.8	5.38	-	853	911	-58	02.02.15	Within (+/-) 60 m elev. difference
D1	0.8	5.32	-	887	911	-24	30.1.15	Within (+/-) 60 m elev. difference
N16	0.8	4.89	-	847	911	-64	02.02.15	Above(+/-) 60 m elev. difference
N17	0.8	4.68	-	841	911	-70	02.02.15	Above(+/-) 60 m elev. difference
N18	0.8	4.35	-	845	911	-66	02.02.15	Above(+/-) 60 m elev. difference
N19	0.8	4.16	-	842	911	-69	02.02.15	Above(+/-) 60 m elev. difference

- As per ZEC (dated 18.8.16) it is advised to M/s Wind World (India) Limited to approach NIWE, Chennai for obtaining the project specific Annual Wind Power Density report from NIWE addressed to MEDA.
- In view of above NIWE has sent copy of final report on preparing WPD map at 50m & 80m agl of Khanapur site in Sangli and Satara district to MEDA. The site specific WPD estimation is carried out for M/s Wind World (India) Limited, Mumbai and the following WTG locations are found to be falling over the said area-

WTG Location No.	WTG Cap. MW	Average WPD (W/m ²) at 50m height	Average WPD (W/m ²) at 80m height
15	0.8	173.67	200.84
56	0.8	203.67	230.38
B6	0.8	136.44	168.10
B7	0.8	136.44	168.10
D1	0.8	173.67	200.84
N16	0.8	136.44	168.10
N17	0.8	136.44	168.10

N18	0.8	136.44	168.10
N19	0.8	136.44	168.10

Committee's observations:-

- As per NIWE report of specific WPD estimation for 7.20MW(9x800KW) wind power project of M/s. Wind World (India) Ltd. at Khanapur, Dist. Satara & Sangli the Average WPD (W/m^2) at 50m height are found $\leq 250W/m^2$

Suggestions - As per the procedure for classification of wind power projects into wind zone class, committee discussed and evaluated the said proposal with respect to above points and committee suggested to issue the wind zone - I letter to M/s. Wind World (India) Ltd. for their 7.20MW(9x800KW) capacity wind power project as per above list.

Minutes of hearing - No one is present from M/s. Wind World (India) Ltd. Further, no objection raised by other developer present in the hearing.

Committee Recommendation-

Representative of applicant / Developer / Investor who present in the hearing has not raised any objection regarding committee suggestion. In view of this, Committee concluded to issue a **Wind Zone - I** letter to M/s. Wind World (India) Ltd. for their 7.20 MW (9x800KW) capacity wind power project

2) Developer - M/s. Acorn Properties Pvt Ltd. (M/s Tata Power Renewable Energy Ltd)

- Site:- Girijashankarwadi, Tal. Khatav, Dist. Satara (Vetted by NIWE for M/s Kenersys India Pvt Ltd, Pune).
- Investor:-M/s Tata Power Renewable Energy Ltd :-2.0MW (1x2000KW).
- The project is commissioned during the financial year 2014-15.
- The WTG location wise observations are as below:-

WTG Location No.	WTG Cap. MW	Distance from Ref. wind mast in km		WTG Elev. MASL in mtrs.	Ref. Mast Elev. MASL in mtrs.	Diff. between Ref. wind mast and WTG Elev. (Mtr.)	Date of Commissioning	Remark
		Pvt. Mast	NIWE/MEDA Mast					
			Girijashan karwadi					
GSW-19	2.00	-	3.370	956	892	64	15.08.14	Above (+/-) 60 m elev. difference

- As per ZEC (dated 18.8.16) it is advised to M/s. Acorn Properties Pvt Ltd. (M/s Tata Power Renewable Energy Ltd) to approach NIWE, Chennai for obtaining the project specific Annual Wind Power Density report from NIWE addressed to MEDA.
- In view of above NIWE has sent copy of final report on preparing WPD map at 50m agl of Girijashankarwadi site in Satara district to MEDA. The site specific WPD estimation is carried out for M/s Kenersys India Pvt. Ltd, Pune and the following WTG locations are found to be falling over the said area-

WTG Location No.	WTG Cap. MW	Average WPD (W/m ²) at 50m height
GSW-19	2.0	226.93

Committee's observations:-

- As per NIWE report of specific WPD estimation for 2.0MW (1x2000KW) wind power project of M/s Kenersys India Pvt. Ltd, Pune at Girijashankarwadi, Dist. Satara the Average WPD (W/m²) at 50m height are found to be falling $\leq 250 \text{ W/m}^2$

Suggestion - As per the procedure for classification of wind power projects into wind zone class, committee discussed and evaluated the said proposal with respect to above points and committee suggested to issue the wind zone - I letter to M/s Tata Power Renewable Energy Ltd for their 2.0MW (1x2000KW) capacity wind power project.

Minutes of hearing - Shri. Feroz Tamboli from M/s. Acorn Properties Pvt Ltd., present on behalf of M/s Tata Power Renewable Energy Ltd. No objection raised by them and by representative of other developers present in the meeting.

Committee Recommendation-

Representative of applicant / Developer / Investor who present in the hearing has not raised any objection regarding committee suggestion. In view of this, Committee concluded to issue a **Wind Zone - I** letter to M/s Tata Power Renewable Energy Ltd for their 2.0MW (1x2000KW) capacity wind power project.

3) Developer - M/s. Regen Powertech Pvt. Ltd.

- Site:- Isapur, Tal. Pusad, Dist. Yewatmal (Vetted by NIWE Chennai).
- Investor:- M/s. Hetero Med Solutions Ltd., Hyderabad :- 10.50 MW (7x1500KW).
- The project is commissioned during the financial year 2015-16.
- The WTG location wise observations are as below:-

WTG Location No.	WTG Cap. MW	Distance from Ref. wind mast in km		WTG Elev. MASL in mtrs.	Ref. Mast Elev. MASL in mtrs.	Diff. between Ref. wind mast and WTG Elev. (Mtr.)	Date of Commissioning	Remark
		Pvt. Mast	NIWE/MEDA Mast					
			Isapur					
ISP-22	1.50	-	7441	527	439	88	31.10.15	Above (+/-) 60 m elev. difference
ISP-24	1.50		6202	524	439	85	31.10.15	Above (+/-) 60 m elev. difference
ISP-25	1.50		6094	527	439	88	31.10.15	Above (+/-) 60 m elev. difference
ISP-26	1.50		5875	525	439	86	31.10.15	Above (+/-) 60 m elev. difference
ISP-23	1.50		5195	515	439	76	31.10.15	Above (+/-) 60 m elev. difference
ISP-28	1.50		5167	518	439	79	31.10.15	Above (+/-) 60 m elev. difference
ISP-27	1.50		4923	510	439	71	31.10.15	Above (+/-) 60 m elev. difference

- As per ZEC (dated 18.8.16) it is advised to M/s.Hetero Med Solutions Ltd Hyderabad to approach NIWE, Chennai for obtaining the project specific Annual Wind Power Density report from NIWE addressed to MEDA.
- In view of above NIWE has sent copy of final report on preparing WPD map at 50m & 80 m agl of Isapur site in Yevatmal district to MEDA. The site specific WPD estimation is carried out for M/s Regen Powertech Pvt Ltd, Chennai and it is found that project site WPD at 50m & 80m are 170.66 W/m² & 218.14 W/m² respectively.

Committee's observations:-

- As per NIWE report of specific WPD estimation for 10.50 MW (7x1500KW) wind power project of M/s Regen Powertech Pvt Ltd, Chennai at Isapur, Dist. Yavatmal the Average WPD (W/m²) at 50m height are found <=170.66 W/m².

Suggestion - As per the procedure for classification of wind power projects into wind zone class, committee discussed and evaluated the said proposal with respect to above points and committee suggested to issue the wind zone - I letter to M/s. Hetero Med Solutions Ltd Hyderabad for their 10.50 MW (7x1500KW) capacity wind power project.

Minutes of hearing - Shri. Harshal Bhaskare from M/s. Regen Powertech Pvt Ltd., and Shri Mani Deep from M/s. Hetero Med Solutions Ltd., Present in the hearing. They have suggested on correction in the spelling i.e "HETERO" instead of HETRO. Further no objection on other issues raised by them and by representative of other developers present in the meeting.

Committee Recommendation-

Committee recommended that correct the spelling i.e "HETERO" instead of HETRO. Further representative of applicants / Developers / Investors who present in the hearing has not raised any other objection regarding committee suggestion. In view of this, Committee concluded to issue a **Wind Zone - I** letter to M/s. Hetero Med Solutions Ltd Hyderabad for their 10.50 MW (7x1500KW) capacity wind power project.

4) Developer:- M/s. Sri Maruti Wind Park Developers.

- Site:- Bhendwade, Tal. Shahuwadi, Dist. Kolhapur (Vetted by NIWE Chennai for MEDA).
- Investor:- M/s. S. Kumar, Rajkot:- 0.85 MW (1x850KW).
- The project is commissioned during the financial year 2014-15.
- The WTG location wise observations are as below:-

WTG Location No.	WTG Cap. MW	Distance from Ref. wind mast in km		WTG Elev. MASL in mtrs.	Ref. Mast Elev. MASL in mtrs.	Diff. between Ref. wind mast and WTG Elev. (Mtr.)	Date of Commissioning	Remark
		Pvt. Mast	NIWE/MEDA Mast					
			Bhendwade					
GAL-29	0.850	-	2.33	794	858	-64	31.3.15	Above(+/-) 60 m elev. difference

- As per ZEC (dated 18.8.16) it is advised to M/s. S. Kumar, Rajkot to approach NIWE, Chennai for obtaining the project specific Annual Wind Power Density report from NIWE addressed to MEDA.
- In view of above NIWE has sent copy of final report on preparing WPD map at 50m agl of Bhendwade site in Kolhapur district to MEDA. The site specific WPD estimation is carried out for M/s Gamesa Renewables Pvt. Ltd., Chennai and the following WTG locations are found to be falling over the said area-

WTG Location No.	WTG Cap. MW	Average WPD (W/m ²) at 50m height
GAL-29	0.850	224.37

Committee's observations:-

- As per NIWE report of specific WPD estimation for 0.850 MW (1x850KW) wind power project of M/s Gamesa Renewables Pvt. Ltd., Chennai at Bhendwade, Dist. Kolhapur the Average WPD (W/m²) at 50m height are found to be falling $\leq 250 \text{ W/m}^2$

Suggestion:- As per the procedure for classification of wind power projects into wind zone class, committee discussed and evaluated the said proposal with respect to above points and committee suggested to issue the wind zone - I letter to M/s. S. Kumar, Rajkot for their 0.850 MW (1x850KW) capacity wind power project.

Minutes of hearing – Shri. Arul Balan from M/s. Gamesa Renewable Pvt Ltd., present on behalf of M/s. S. Kumar. Further, no objection raised by them and representative of other developers present in the hearing.

Committee Recommendation-

Representative of applicant / Developer / Investor who present in the hearing has not raised any objection regarding committee suggestion. In view of this, Committee concluded to issue a **Wind Zone - I** letter to M/s. S. Kumar for their 0.850 MW (1x850KW) capacity wind power project.

4) Developer:- M/s. K. P. Power Pvt. Ltd.

- Site:- Muthalne, Tal. Akole, Dist.Ahmednagar (Vetted by NIWE for M/s Gamesa Wind Turbines Pvt. Ltd.Chennai).
- Site:- Pedhewadi, Tal. Akole, Dist.Ahmednagar (Vetted by NIWE for M/s Gamesa Wind Turbines Pvt. Ltd.Chennai).
- Investor:- M/s. SJVN Ltd.:- 2.55 MW (3x850KW).
- The project is commissioned during the financial year 2014-15.
- As per site visit on 27/12/2016 of Shri. R. A. Karandikar, Technician, Girye the WTG location wise observations are as below:-

Sr. No.	Final file no.	WTG Location No.	ME DA WTG No.	WTG Cap. MW	WTG Latitude (N)			WTG Longitude (E)			WTG Elev. MASL in mtrs.	Ref. Mast Elev. MASL in mtrs.	Forest Comp/Survey/Gut No.	Village Taluka District	Distance from Ref. wind mast in km		Diff. betwn. Ref. wind mast and WTG Elev. (Mtr.)	Date of commissioning	Remark
					De g	M i n	Se c	De g	M i n	Se c					Pvt. Mast	NIWE / MED A Mast			
1	266	GKA-51	4222	0.85	19	37	30.6	73	55	45.9	977	1047	177	Kombhalne, Akole, Ahmednagar	2.7	-	-70	24.7.14	Above 60 m elev. difference
2	266	GKA-13	4221	0.85	19	36	14.7	73	54	16.7	969	1047	43	Poperewadi, Akole, Ahmednagar	4.9	-	-78	24.4.14	Above 60 m elev. difference
3	266	GKA-18	4174	0.85	19	38	18.3	73	54	09.1	1006	1047	913	Kombhalne, Akole, Ahmednagar	5.9	-	-41	24.4.14	Within (+/-) 60 m elev. difference

Committee's observations:-

- Nearest reference Wind Mast for the above mentioned wind power project is at location - Muthalne Dist. Ahmednagar (Latitude- N 19° 38' 18.4" Longitude- E 73° 54' 9.1" Elev.- 1047 m amsl) having WPD- 245.18 watt/m² @ 50 m AGL and adjacent Wind Mast is at location - Pedhewadi Dist. Ahmednagar (Latitude- N 19° 40' 59.2" Longitude- E 73° 52' 43.7" Elev.- 1040 m amsl) having WPD- 218.39 watt/m² @ 50 m AGL declared by NIWE Chennai for M/s Gamesa Wind Turbines Pvt. Ltd.Chennai.
- More than 50% WTGs of above wind power project are within effective area (10 km radial distance) of referred nearest wind mast but above (+/-) 60 m elevation difference of referred nearest reference wind mast.

Suggestions - As per the procedure for classification of wind power projects into wind zone class, committee discussed and evaluated the said proposal with respect to above points and committee suggested to issue the letter to M/s.SJVN Ltd to obtain project specific wind power density report from NIWE for their 2.55 MW (3x850KW) capacity wind power project.

Minutes of hearing - Shri. Arul Balan from M/s. Gamesa Renewable Pvt Ltd., Present in the meeting. Further, no objection raised by them and representative of other developers present in the hearing.

Committee Recommendation-

Representative of applicant / Developer / Investor who present in the hearing has not raised any objection regarding committee suggestion. In view of this, Committee recommended to issue the letter to M/s.SJVN Ltd to obtain project specific wind power density report from NIWE for their 2.55 MW (3x850KW) capacity wind power project.

6) Developer:- M/s Sri Maruti Wind Park Developers

- Site:- Vaspeth, Tal. Jath, Dist. Sangli (Vetted by NIWE for MEDA).
- Investor:- M/s. Sarla Performance Fiber Ltd.:- 4.0 MW (2x2000 KW)
- The project is commissioned during the financial year 2011-12.
- As per site visit on 29/12/2016 of Shri. R. A. Karandikar, Technician, Girye the WTG location wise observations are as below:-

Sr. No.	Final file no.	WTG Location No.	MED A WTG No.	WTG Cap. MW	WTG Latitude (N)			WTG Longitude (E)			WTG Elev. MASL in mtrs.	Ref. Mast Elev. MASL in mtrs.	Forest Comp /Survey/ Gut No.	Village Taluka District	Distance from Ref. wind mast in km		Diff. betwn. Ref. wind mast and WTG Elev. (Mtr.)	Date of Commissioning	Remark
					Deg	Min	Sec	Deg	Min	Sec					Pvt. Mast	NIWE / MED A Mast			
1	2	3	4	5	6			7			8	9	10	11	12	13	14= (8-9)		15
				MW	Deg	Min	Sec	Deg	Min	Sec	MASL in m.		Gut No.				Vaspeth		
1	351	SHE-01	3392	2.0	17	01	17.1	75	19	26.3	664	676	370	Shedyal, Jath, Sangli		9.71	-12	30.9.12	Within (+/-) 60 m elev. difference
2	351	SHE-02	3393	2.0	17	01	26.8	75	19	16.0	667	676	411	Shedyal, Jath, Sangli		9.55	-9	30.9.12	Within (+/-) 60 m elev. difference

Committee's observations:-

- Nearest reference Wind Mast for the above mentioned wind power project is at location - Vaspeth Tal. Jat Dist. Sangli (Latitude- N 17° 06' 10.2" Longitude- E 75° 21' 24.5" Elev.- 676 m amsl) having WPD- 220.0 watt/m² @ 50 m AGL declared by NIWE Chennai.
- As per wind classification procedure, all WTGs are within effective area (10 km radial distance) of referred nearest wind mast and overall 100% WTG location coordinates of wind power project are within (+/-) 60 m elevation difference of referred nearest reference wind mast.

Suggestion - As per the procedure for classification of wind power projects into wind zone class, committee discussed and evaluated the said proposal with respect to above points and committee suggested to issue the wind zone - I letter to M/s. Sarla Performance Fiber Ltd for their 4.0 MW (2x2000 KW) capacity wind power project.

Minutes of hearing - Shri. Pramod korde from M/s. Sarla Performance Fiber Ltd., Present in the meeting. Further, no objection raised by them and representative of other developers present in the hearing.

Committee Recommendation-

Representative of applicant / Developer / Investor who present in the hearing has not raised any objection regarding committee suggestion. In view of this, Committee concluded to issue a **Wind Zone - I** letter to M/s. Sarla Performance Fiber Ltd for their 4.0 MW (2x2000 KW) capacity wind power project.

---x---