Project

Atvari project_200903

Description: Liabilities.

EMD International A/S does not warrant, guarantee or make any representations regarding the delivered consultancy material caused by errors or omissions in the delivered data. EMD cannot be held liable for erroneous results caused by inaccuracy, limitations or malfunctioning of models or software used. For any claim whatsoever related to the subject matter of this consultancy service, the liability of EMD International A/S for actual damages, regardless of the form of action, shall be limited to the total amount paid to EMD International for the services provided as part of this consultancy service. Separate insurance cover for extended liability can be provided upon request, but at the expense of the Client.

Printed/Page

17-12-2009 11:48 / 1

Licensed use

EMD International A/S

Niels Jernesvej 10 DK-9220 Aalborg Ø +45 9635 4444

Thomas Sørensen, ts@emd.dk

17-12-2009 11:48/2.7.419

DECIBEL - Main Result

Calculation: Atvari

Noise calculation model:

ISO 9613-2 General

Wind speed:

8,0 m/s

Ground attenuation:

Alternative

Meteorological coefficient, C0:

0,0 dB

Type of demand in calculation:

1: WTG noise is compared to demand (DK, DE, SE, NL etc.)

Noise values in calculation:

All noise values are mean values (Lwa) (Normal)

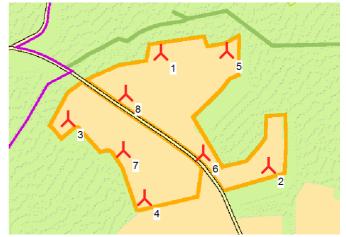
Pure tones:

Pure and Impulse tone penalty are added to WTG source noise

Height above ground level, when no value in NSA object:

1,5 m Don't allow override of model height with height from NSA object Deviation from "official" noise demands. Negative is more restrictive, positive is less restrictive.:

0,0 dB(A)



Scale 1:20.000

New WTG

WTGs

вс	BCS				WTG type				Noise data								
	East	North	Z	Row data/Description	Valid	Manufact.	Type-generator	Power,	Rotor	Hub	Creator	r Name		Wind	LwA,ref	Pure	Octave
								rated	diameter	height				speed		tones	data
	BCS		[m]					[kW]	[m]	[m]				[m/s]	[dB(A)]		
1 40	0.817,7	6.383.883,2	90,4	ENERCON E-82 2000 82.0 !O!	. Yes	ENERCON	E-82-2.000	2.000	82,0	108,0	EMD	Level 0 - guaranteed -	OM I/ Rev. 2.1 - 04/2006	8,0	104,0	0 dB	No
2 40	1.391,7	6.383.282,2	80,0) ENERCON E-82 2000 82.0 !O!	. Yes	ENERCON	E-82-2.000	2.000	82,0	108,0	EMD	Level 0 - guaranteed -	· OM I/ Rev. 2.1 - 04/2006	8,0	104,0	0 dB	No
3 40	0.326,6	6.383.529,5	85,0) ENERCON E-82 2000 82.0 !O!	. Yes	ENERCON	E-82-2.000	2.000	82,0	108,0	EMD	Level 0 - guaranteed -	OM I/ Rev. 2.1 - 04/2006	8,0	104,0	0 dB	No
4 40	0.733,5	6.383.111,1	83,0) ENERCON E-82 2000 82.0 !O!	. Yes	ENERCON	E-82-2.000	2.000	82,0	108,0	EMD	Level 0 - guaranteed -	OM I/ Rev. 2.1 - 04/2006	8,0	104,0	0 dB	No
5 40	1.168,5	6.383.892,7	85,0	ENERCON E-82 2000 82.0 !O!	. Yes	ENERCON	E-82-2.000	2.000	82,0	108,0	EMD	Level 0 - guaranteed -	OM I/ Rev. 2.1 - 04/2006	8,0	104,0	0 dB	No
6 40	1.044,3	6.383.347,6	85,0	ENERCON E-82 2000 82.0 !O!	. Yes	ENERCON	E-82-2.000	2.000	82,0	108,0	EMD	Level 0 - guaranteed -	OM I/ Rev. 2.1 - 04/2006	8,0	104,0	0 dB	No
7 40	0.619,6	6.383.366,4	85,0	ENERCON E-82 2000 82.0 !O!	. Yes	ENERCON	E-82-2.000	2.000	82,0	108,0	EMD	Level 0 - guaranteed -	OM I/ Rev. 2.1 - 04/2006	8,0	104,0	0 dB	No
8 40	0 632 9	6 383 666 1	85 (ENERCON E-82 2000 82 0 101	Yes	ENERCON	F-82-2 000	2 000	82.0	108.0	FMD	Level 0 - guaranteed -	OM I/ Rev 2 1 - 04/2006	8.0	104.0	0 dB	Nο

Calculation Results

Distances (m)

WTG

1

2

3 4

5

6

7

Project

Atvari project_200903

Description: Liabilities.

EMD International A/S does not warrant, guarantee or make any representations regarding the delivered consultancy material caused by errors or omissions in the delivered data. EMD cannot be held liable for erroneous results caused by inaccuracy, limitations or malfunctioning of models or software used. For any claim whatsoever related to the subject matter of this consultancy service, the liability of EMD International A/S for actual damages, regardless of the form of action, shall be limited to the total amount paid to EMD International for the services provided as part of this consultancy service. Separate insurance cover for extended liability can be provided upon request, but at the expense of the Client.

Printed/Page

17-12-2009 11:48 / 2

Licensed use

EMD International A/S Niels Jernesvej 10 DK-9220 Aalborg Ø +45 9635 4444

Thomas Sørensen, ts@emd.dk

17-12-2009 11:48/2.7.419

DECIBEL - Assumptions for noise calculation

Calculation: Atvari

Noise calculation model:

ISO 9613-2 General

Wind speed: 8,0 m/s

Ground attenuation:

Alternative

Meteorological coefficient, C0:

0,0 dB

Type of demand in calculation:

1: WTG noise is compared to demand (DK, DE, SE, NL etc.)

Noise values in calculation:

All noise values are mean values (Lwa) (Normal)

Pure tones:

Pure and Impulse tone penalty are added to WTG source noise

Height above ground level, when no value in NSA object:

1,5 m Don't allow override of model height with height from NSA object

Deviation from "official" noise demands. Negative is more restrictive, positive is less restrictive.:

0,0 dB(A)

Octave data not required Air absorption: 1,9 dB/km

WTG: ENERCON E-82 2000 82.0 !O!

Noise: Level 0 - guaranteed - OM I/ Rev. 2.1 - 04/2006

Source Source/Date Creator Edited

Enercon 21-04-2006 EMD 12-07-2006 16:47

According to Enercon specification SA-04-SPL Guarantee E-82-Rev2_1-ger-ger.pdf

Status Wind speed LwA,ref Pure tones

[m/s] [dB(A)]

From Windcat 8,0 104,0 No

Atvari project_200903

Description

Liabilities.

EMD International A/S does not warrant, guarantee or make any representations regarding the delivered consultancy material caused by errors or omissions in the delivered data. EMD cannot be held liable for erroneous results caused by inaccuracy, limitations or malfunctioning of models or software used. For any claim whatsoever related to the subject matter of this consultancy service, the liability of EMD International A/S for actual damages, regardless of the form of action, shall be limited to the total amount paid to EMD International for the services provided as part of this consultancy service. Separate insurance cover for extended liability can be provided upon request, but at the expense of the Client.

Printed/Page 17-12-2009 11:48 / 3

EMD International A/S Niels Jernesvej 10 DK-9220 Aalborg Ø +45 9635 4444

Thomas Sørensen, ts@emd.dk

17-12-2009 11:48/2.7.419

DECIBEL - Map 8,0 m/s

