

Project

Projekt Kępno

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Calculated

2011-11-16 09:09/2.7.486

DECIBEL - Main Result

Calculation: Pilot, variant 2

Noise calculation model:

ISO 9613-2 General

Wind speed:

8,0 m/s

Ground attenuation:

General, Ground factor: 1,0

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:

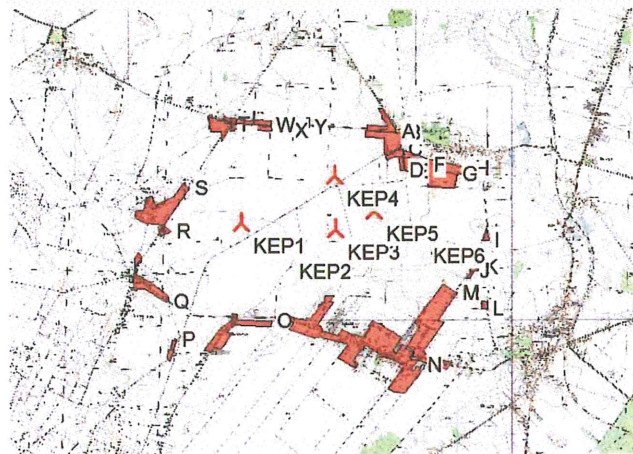
Pure and impulse tone penalty are added to WTG source noise

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

1,5 m 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)



New WTG

Noise sensitive area

WTGs

Poland UKLAD 65 4			Z	Row data/Description	WTG type			Power, rated [kW]	Rotor diameter [m]	Hub height [m]	Noise data		Wind speed [m/s]	Hub height [m]	LwA_ref [dB(A)]	Pure tones	Octave data
East	North				Valid	Manufact.	Type-generator				Creator	Name					
Poland UKLAD 65 4				[m]													
KEP1	3 791 814	5 579 558	190,6	KEP1	Yes	Siemens	SWT-2.3-101-2 300	2 300	101,0	99,5	EMD	Level 0 - Calculated - 05-2010	8,0	99,5	107,0	0 dB	Yes
KEP2	3 792 301	5 579 313	190,1	KEP2	Yes	Siemens	SWT-2.3-101-2 300	2 300	101,0	99,5	EMD	Level 0 - Calculated - 05-2010	8,0	99,5	107,0	0 dB	Yes
KEP3	3 792 797	5 579 525	183,4	KEP3	Yes	Siemens	SWT-2.3-101-2 300	2 300	101,0	99,5	EMD	Level 0 - Calculated - 05-2010	8,0	99,5	107,0	0 dB	Yes
KEP4	3 792 775	5 580 084	187,9	KEP4	Yes	VESTAS	V90-2 000	2 000	90,0	105,0	EMD	Level 1 - calculated - Mode 1 - 07-2009	8,0	105,0	104,0	0 dB	Generic *)
KEP5	3 793 197	5 579 732	187,9	KEP5	Yes	Siemens	SWT-2.3-101-2 300	2 300	101,0	99,5	EMD	Level 0 - Calculated - 05-2010	8,0	99,5	107,0	0 dB	Yes
KEP6	3 793 689	5 579 519	180,0	KEP6	Yes	Siemens	SWT-2.3-101-2 300	2 300	101,0	99,5	EMD	Level 0 - Calculated - 05-2010	8,0	99,5	107,0	0 dB	Yes

*)Notice: One or more noise data for this WTG is generic or input by user

Calculation Results

Sound Level

Noise sensitive area		Poland UKLAD 65 4			Demands		Sound Level	Demands fulfilled ?	
No.	Name	East	North	Z	Imission height	Noise	From WTGs	Noise	
				[m]	[m]	[dB(A)]	[dB(A)]		
	A 6MN/RM	3 793 091	5 580 564	180,5	1,5	40,0	37,0	Yes	
	B 7MN/RM	3 793 284	5 580 316	181,7	1,5	40,0	39,3	Yes	
	C 8MN/RM	3 793 307	5 580 259	184,1	1,5	40,0	39,9	Yes	
	D 1RM	3 793 450	5 580 160	186,3	1,5	45,0	40,5	Yes	
	E 2RM	3 793 503	5 580 157	186,3	1,5	45,0	40,1	Yes	
	F 9MN/RM	3 793 487	5 580 295	183,5	1,5	40,0	38,5	Yes	
	G 1TR	3 793 736	5 579 997	182,7	1,5	45,0	40,6	Yes	
	H 10MN/RM	3 793 871	5 580 174	182,1	1,5	40,0	37,4	Yes	
	I 11MN/RM	3 794 334	5 579 466	180,0	1,5	40,0	36,2	Yes	
	J 1M	3 794 207	5 579 136	177,5	1,5	40,0	36,3	Yes	
	K 12MN/RM	3 794 238	5 579 219	177,5	1,5	40,0	36,5	Yes	
	L 2M	3 794 347	5 578 829	177,5	1,5	40,0	32,7	Yes	
	M 3M	3 793 930	5 578 996	182,5	1,5	40,0	37,6	Yes	
	N 4/5/6/7/8M	3 792 711	5 578 841	187,1	1,5	40,0	39,1	Yes	
	O 9/10M	3 792 157	5 578 557	190,6	1,5	40,0	36,0	Yes	
	P 11M	3 791 178	5 578 337	193,4	1,5	40,0	30,0	Yes	
	Q 12/13M	3 791 070	5 578 785	185,8	1,5	40,0	31,9	Yes	
	R 14M	3 791 077	5 579 451	185,3	1,5	40,0	34,9	Yes	
	S 15M	3 791 258	5 579 908	185,0	1,5	40,0	36,1	Yes	
	T 1MN/RM	3 791 575	5 580 408	187,8	1,5	40,0	34,1	Yes	
	U 2MN/RM	3 791 701	5 580 594	187,5	1,5	40,0	33,1	Yes	
	V 3MN/RM	3 792 094	5 580 529	186,1	1,5	40,0	35,1	Yes	
	W 3MN/RM	3 792 090	5 580 584	187,0	1,5	40,0	34,6	Yes	
	X 4MN/RM	3 792 280	5 580 531	186,1	1,5	40,0	35,9	Yes	
	Y 5MN/RM	3 792 489	5 580 577	188,8	1,5	40,0	36,4	Yes	

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DECIBEL - Main Result

Calculation: Pilot, wariant 2

Distances (m)**WTG**

NSA	KEP1	KEP2	KEP3	KEP4	KEP5	KEP6
A	1626	1480	1081	575	832	1085
B	1574	1405	929	512	590	894
C	1648	1380	894	555	538	818
D	1743	1427	911	679	497	673
E	1792	1469	948	731	523	656
F	1828	1540	1034	743	633	712
G	1972	1590	1051	963	601	481
H	2148	1791	1255	1100	806	680
I	2522	2039	1538	1669	1168	648
J	2414	1891	1454	1718	1173	645
K	2431	1915	1463	1699	1160	626
L	2636	2102	1699	2011	1462	953
M	2072	1526	1232	1587	1039	576
N	1093	625	682	1242	972	1026
O	941	769	1160	1647	1569	1808
P	1378	1488	2008	2367	2455	2775
Q	1073	1340	1879	2144	2329	2720
R	744	1232	1721	1812	2138	2612
S	656	1201	1586	1527	1947	2462
T	882	1314	1508	1203	1739	2273
U	1042	1415	1531	1186	1726	2259
V	963	1234	1226	814	1361	1888
W	1029	1289	1274	848	1397	1921
X	1058	1218	1131	667	1216	1734
Y	1098	1267	1096	570	1102	1599

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DECIBEL - Detailed results**Calculation: Pilot, variant 2 Noise calculation model: ISO 9613-2 General 8,0 m/s****Assumptions**

Calculated L(DW) = LWA,ref + K + Dc - (Adiv + Aatm + Agr + Abar + Amisc) - Cmet
 (when calculated with ground attenuation, then Dc = Domega)

LWA,ref: Sound pressure level at WTG
 K: Pure tone
 Dc: Directivity correction
 Adiv: the attenuation due to geometrical divergence
 Aatm: the attenuation due to atmospheric absorption
 Agr: the attenuation due to ground effect
 Abar: the attenuation due to a barrier
 Amisc: the attenuation due to miscellaneous other effects
 Cmet: Meteorological correction

Calculation Results**Noise sensitive area: A 6MN/RM**

WTG		Wind speed: 8,0 m/s										
No.	Distance	Sound distance	Calculated	LwA,ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A	Cmet
	[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
KEP1	1 626	1 629	23,89	107,0	0,00	75,24	-	-	0,00	0,00	-	0,00
KEP2	1 480	1 484	25,08	107,0	0,00	74,43	-	-	0,00	0,00	-	0,00
KEP3	1 081	1 085	28,92	107,0	0,00	71,71	-	-	0,00	0,00	-	0,00
KEP4	575	585	31,96	104,0	0,00	66,34	-	-	0,00	0,00	-	0,00
KEP5	839	845	31,85	107,0	0,00	69,53	-	-	0,00	0,00	-	0,00
KEP6	1 204	1 208	27,63	107,0	0,00	72,64	-	-	0,00	0,00	-	0,00

Sum 37,01

- Data undefined due to calculation with octave data

Noise sensitive area: B 7MN/RM

WTG		Wind speed: 8,0 m/s										
No.	Distance	Sound distance	Calculated	LwA,ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A	Cmet
	[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
KEP1	1 654	1 657	23,68	107,0	0,00	75,39	-	-	0,00	0,00	-	0,00
KEP2	1 405	1 408	25,73	107,0	0,00	73,97	-	-	0,00	0,00	-	0,00
KEP3	929	934	30,68	107,0	0,00	70,41	-	-	0,00	0,00	-	0,00
KEP4	559	569	32,25	104,0	0,00	66,11	-	-	0,00	0,00	-	0,00
KEP5	590	599	35,73	107,0	0,00	66,54	-	-	0,00	0,00	-	0,00
KEP6	894	899	31,13	107,0	0,00	70,07	-	-	0,00	0,00	-	0,00

Sum 39,29

- Data undefined due to calculation with octave data

Noise sensitive area: C 8MN/RM

WTG		Wind speed: 8,0 m/s										
No.	Distance	Sound distance	Calculated	LwA,ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A	Cmet
	[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
KEP1	1 649	1 652	23,72	107,0	0,00	75,36	-	-	0,00	0,00	-	0,00
KEP2	1 380	1 384	25,95	107,0	0,00	73,82	-	-	0,00	0,00	-	0,00
KEP3	894	898	31,14	107,0	0,00	70,07	-	-	0,00	0,00	-	0,00
KEP4	559	569	32,26	104,0	0,00	66,10	-	-	0,00	0,00	-	0,00
KEP5	538	547	36,72	107,0	0,00	65,75	-	-	0,00	0,00	-	0,00
KEP6	833	838	31,95	107,0	0,00	69,46	-	-	0,00	0,00	-	0,00

Sum 39,94

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DECIBEL - Detailed results**Calculation: Pilot, wariant 2 Noise calculation model: ISO 9613-2 General 8,0 m/s****Noise sensitive area: D 1RM**

		Wind speed: 8,0 m/s										
WTG	No.	Distance	Sound distance	Calculated	LwA,ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A Cmet
		[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
	KEP1	1 743	1 746	23,00	107,0	0,00	75,84	-	-	0,00	0,00	- 0,00
	KEP2	1 427	1 431	25,54	107,0	0,00	74,11	-	-	0,00	0,00	- 0,00
	KEP3	911	916	30,92	107,0	0,00	70,23	-	-	0,00	0,00	- 0,00
	KEP4	679	687	30,19	104,0	0,00	67,74	-	-	0,00	0,00	- 0,00
	KEP5	497	506	37,55	107,0	0,00	65,09	-	-	0,00	0,00	- 0,00
	KEP6	684	690	34,15	107,0	0,00	67,78	-	-	0,00	0,00	- 0,00

Sum 40,46

- Data undefined due to calculation with octave data

Noise sensitive area: E 2RM

		Wind speed: 8,0 m/s										
WTG	No.	Distance	Sound distance	Calculated	LwA,ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A Cmet
		[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
	KEP1	1 792	1 795	22,64	107,0	0,00	76,08	-	-	0,00	0,00	- 0,00
	KEP2	1 469	1 472	25,18	107,0	0,00	74,36	-	-	0,00	0,00	- 0,00
	KEP3	948	952	30,46	107,0	0,00	70,58	-	-	0,00	0,00	- 0,00
	KEP4	732	739	29,37	104,0	0,00	68,37	-	-	0,00	0,00	- 0,00
	KEP5	523	532	37,01	107,0	0,00	65,52	-	-	0,00	0,00	- 0,00
	KEP6	664	670	34,47	107,0	0,00	67,53	-	-	0,00	0,00	- 0,00

Sum 40,13

- Data undefined due to calculation with octave data

Noise sensitive area: F 9MN/RM

		Wind speed: 8,0 m/s										
WTG	No.	Distance	Sound distance	Calculated	LwA,ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A Cmet
		[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
	KEP1	1 828	1 831	22,38	107,0	0,00	76,26	-	-	0,00	0,00	- 0,00
	KEP2	1 540	1 544	24,58	107,0	0,00	74,77	-	-	0,00	0,00	- 0,00
	KEP3	1 034	1 039	29,43	107,0	0,00	71,33	-	-	0,00	0,00	- 0,00
	KEP4	743	750	29,21	104,0	0,00	68,50	-	-	0,00	0,00	- 0,00
	KEP5	633	641	34,97	107,0	0,00	67,14	-	-	0,00	0,00	- 0,00
	KEP6	802	808	32,37	107,0	0,00	69,15	-	-	0,00	0,00	- 0,00

Sum 38,47

- Data undefined due to calculation with octave data

Noise sensitive area: G 1TR

		Wind speed: 8,0 m/s										
WTG	No.	Distance	Sound distance	Calculated	LwA,ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A Cmet
		[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
	KEP1	1 972	1 975	21,39	107,0	0,00	76,91	-	-	0,00	0,00	- 0,00
	KEP2	1 590	1 593	24,18	107,0	0,00	75,05	-	-	0,00	0,00	- 0,00
	KEP3	1 051	1 056	29,24	107,0	0,00	71,47	-	-	0,00	0,00	- 0,00
	KEP4	965	971	26,28	104,0	0,00	70,75	-	-	0,00	0,00	- 0,00
	KEP5	601	609	35,53	107,0	0,00	66,69	-	-	0,00	0,00	- 0,00
	KEP6	481	490	37,90	107,0	0,00	64,80	-	-	0,00	0,00	- 0,00

Sum 40,57

- Data undefined due to calculation with octave data

Noise sensitive area: H 10MN/RM

		Wind speed: 8,0 m/s										
WTG	No.	Distance	Sound distance	Calculated	LwA,ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A Cmet
		[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
	KEP1	2 148	2 150	20,25	107,0	0,00	77,65	-	-	0,00	0,00	- 0,00
	KEP2	1 791	1 794	22,65	107,0	0,00	76,08	-	-	0,00	0,00	- 0,00
	KEP3	1 255	1 259	27,12	107,0	0,00	73,00	-	-	0,00	0,00	- 0,00
	KEP4	1 100	1 105	24,79	104,0	0,00	71,87	-	-	0,00	0,00	- 0,00
	KEP5	806	812	32,30	107,0	0,00	69,19	-	-	0,00	0,00	- 0,00

To be continued on next page...

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DECIBEL - Detailed results**Calculation: Pilot, variant 2 Noise calculation model: ISO 9613-2 General 8,0 m/s**

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WTG		Wind speed: 8,0 m/s										
No.	Distance	Sound distance	Calculated	LwA,ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A	Cmet
	[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
KEP6	680	687	34,20	107,0	0,00	67,74	-	-	0,00	0,00	-	0,00
Sum	37,35											

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Noise sensitive area: I 11MN/RM

WTG		Wind speed: 8,0 m/s										
No.	Distance	Sound distance	Calculated	LwA,ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A	Cmet
	[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
KEP1	2 522	2 525	18,06	107,0	0,00	79,04	-	-	0,00	0,00	-	0,00
KEP2	2 039	2 042	20,94	107,0	0,00	77,20	-	-	0,00	0,00	-	0,00
KEP3	1 538	1 542	24,60	107,0	0,00	74,76	-	-	0,00	0,00	-	0,00
KEP4	1 677	1 681	19,80	104,0	0,00	75,51	-	-	0,00	0,00	-	0,00
KEP5	1 168	1 173	27,98	107,0	0,00	72,39	-	-	0,00	0,00	-	0,00
KEP6	648	656	34,72	107,0	0,00	67,33	-	-	0,00	0,00	-	0,00
Sum	36,20											

- Data undefined due to calculation with octave data

Noise sensitive area: J 1M

WTG		Wind speed: 8,0 m/s										
No.	Distance	Sound distance	Calculated	LwA,ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A	Cmet
	[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
KEP1	2 431	2 433	18,57	107,0	0,00	78,72	-	-	0,00	0,00	-	0,00
KEP2	1 914	1 917	21,78	107,0	0,00	76,65	-	-	0,00	0,00	-	0,00
KEP3	1 463	1 466	25,23	107,0	0,00	74,33	-	-	0,00	0,00	-	0,00
KEP4	1 718	1 721	19,51	104,0	0,00	75,72	-	-	0,00	0,00	-	0,00
KEP5	1 173	1 178	27,93	107,0	0,00	72,42	-	-	0,00	0,00	-	0,00
KEP6	645	652	34,78	107,0	0,00	67,29	-	-	0,00	0,00	-	0,00
Sum	36,30											

- Data undefined due to calculation with octave data

Noise sensitive area: K 12MN/RM

WTG		Wind speed: 8,0 m/s										
No.	Distance	Sound distance	Calculated	LwA,ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A	Cmet
	[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
KEP1	2 448	2 450	18,47	107,0	0,00	78,78	-	-	0,00	0,00	-	0,00
KEP2	1 939	1 942	21,61	107,0	0,00	76,77	-	-	0,00	0,00	-	0,00
KEP3	1 473	1 476	25,14	107,0	0,00	74,38	-	-	0,00	0,00	-	0,00
KEP4	1 699	1 703	19,64	104,0	0,00	75,62	-	-	0,00	0,00	-	0,00
KEP5	1 160	1 165	28,06	107,0	0,00	72,33	-	-	0,00	0,00	-	0,00
KEP6	626	634	35,10	107,0	0,00	67,04	-	-	0,00	0,00	-	0,00
Sum	36,54											

- Data undefined due to calculation with octave data

Noise sensitive area: L 2M

WTG		Wind speed: 8,0 m/s										
No.	Distance	Sound distance	Calculated	LwA,ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A	Cmet
	[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
KEP1	2 636	2 638	17,45	107,0	0,00	79,43	-	-	0,00	0,00	-	0,00
KEP2	2 102	2 105	20,54	107,0	0,00	77,46	-	-	0,00	0,00	-	0,00
KEP3	1 699	1 702	23,34	107,0	0,00	75,62	-	-	0,00	0,00	-	0,00
KEP4	2 011	2 014	17,57	104,0	0,00	77,08	-	-	0,00	0,00	-	0,00
KEP5	1 462	1 466	25,23	107,0	0,00	74,32	-	-	0,00	0,00	-	0,00
KEP6	953	959	30,38	107,0	0,00	70,63	-	-	0,00	0,00	-	0,00
Sum	32,71											

- Data undefined due to calculation with octave data

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2011-11-16 09:09/2.7.486

DECIBEL - Detailed results**Calculation: Pilot, wariant 2 Noise calculation model: ISO 9613-2 General 8,0 m/s****Noise sensitive area: M 3M**

WTG		Wind speed: 8,0 m/s										
No.	Distance	Sound distance	Calculated	LwA,ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A	Cmet
	[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
KEP1	2 190	2 193	19,98	107,0	0,00	77,82	-	-	0,00	0,00	-	0,00
KEP2	1 660	1 664	23,63	107,0	0,00	75,42	-	-	0,00	0,00	-	0,00
KEP3	1 251	1 255	27,16	107,0	0,00	72,97	-	-	0,00	0,00	-	0,00
KEP4	1 587	1 591	20,47	104,0	0,00	75,03	-	-	0,00	0,00	-	0,00
KEP5	1 039	1 045	29,36	107,0	0,00	71,38	-	-	0,00	0,00	-	0,00
KEP6	576	585	35,98	107,0	0,00	66,34	-	-	0,00	0,00	-	0,00

Sum 37,63

- Data undefined due to calculation with octave data

Noise sensitive area: N 4/5/6/7/8M

WTG		Wind speed: 8,0 m/s										
No.	Distance	Sound distance	Calculated	LwA,ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A	Cmet
	[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
KEP1	1 149	1 154	28,18	107,0	0,00	72,24	-	-	0,00	0,00	-	0,00
KEP2	625	634	35,10	107,0	0,00	67,04	-	-	0,00	0,00	-	0,00
KEP3	689	696	34,05	107,0	0,00	67,85	-	-	0,00	0,00	-	0,00
KEP4	1 245	1 249	23,35	104,0	0,00	72,93	-	-	0,00	0,00	-	0,00
KEP5	1 016	1 021	29,64	107,0	0,00	71,18	-	-	0,00	0,00	-	0,00
KEP6	1 190	1 193	27,77	107,0	0,00	72,53	-	-	0,00	0,00	-	0,00

Sum 39,12

- Data undefined due to calculation with octave data

Noise sensitive area: O 9/10M

WTG		Wind speed: 8,0 m/s										
No.	Distance	Sound distance	Calculated	LwA,ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A	Cmet
	[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
KEP1	1 058	1 063	29,16	107,0	0,00	71,53	-	-	0,00	0,00	-	0,00
KEP2	769	775	32,83	107,0	0,00	68,79	-	-	0,00	0,00	-	0,00
KEP3	1 160	1 163	28,08	107,0	0,00	72,31	-	-	0,00	0,00	-	0,00
KEP4	1 647	1 650	20,03	104,0	0,00	75,35	-	-	0,00	0,00	-	0,00
KEP5	1 569	1 572	24,35	107,0	0,00	74,93	-	-	0,00	0,00	-	0,00
KEP6	1 808	1 810	22,53	107,0	0,00	76,15	-	-	0,00	0,00	-	0,00

Sum 35,95

- Data undefined due to calculation with octave data

Noise sensitive area: P 11M

WTG		Wind speed: 8,0 m/s										
No.	Distance	Sound distance	Calculated	LwA,ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A	Cmet
	[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
KEP1	1 378	1 381	25,98	107,0	0,00	73,80	-	-	0,00	0,00	-	0,00
KEP2	1 488	1 491	25,02	107,0	0,00	74,47	-	-	0,00	0,00	-	0,00
KEP3	2 008	2 010	21,15	107,0	0,00	77,07	-	-	0,00	0,00	-	0,00
KEP4	2 367	2 369	15,53	104,0	0,00	78,49	-	-	0,00	0,00	-	0,00
KEP5	2 455	2 457	18,44	107,0	0,00	78,81	-	-	0,00	0,00	-	0,00
KEP6	2 775	2 777	16,73	107,0	0,00	79,87	-	-	0,00	0,00	-	0,00

Sum 29,99

- Data undefined due to calculation with octave data

Noise sensitive area: Q 12/13M

WTG		Wind speed: 8,0 m/s										
No.	Distance	Sound distance	Calculated	LwA,ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A	Cmet
	[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
KEP1	1 073	1 078	28,99	107,0	0,00	71,65	-	-	0,00	0,00	-	0,00
KEP2	1 340	1 343	26,32	107,0	0,00	73,56	-	-	0,00	0,00	-	0,00
KEP3	1 879	1 881	22,03	107,0	0,00	76,49	-	-	0,00	0,00	-	0,00
KEP4	2 144	2 146	16,78	104,0	0,00	77,63	-	-	0,00	0,00	-	0,00
KEP5	2 329	2 331	19,16	107,0	0,00	78,35	-	-	0,00	0,00	-	0,00

To be continued on next page...

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DECIBEL - Detailed results**Calculation: Pilot, wariant 2 Noise calculation model: ISO 9613-2 General 8,0 m/s**

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WTG			Wind speed: 8,0 m/s									
No.	Distance	Sound distance	Calculated	LwA,ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A	Cmet
	[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
KEP6	2 720	2 721	17,01	107,0	0,00	79,70	-	-	0,00	0,00	-	0,00
Sum	31,94											

- Data undefined due to calculation with octave data

Noise sensitive area: R 14M

WTG		Wind speed: 8,0 m/s										
No.	Distance	Sound distance	Calculated	LwA,ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A	Cmet
	[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
KEP1	744	751	33,20	107,0	0,00	68,51	-	-	0,00	0,00	-	0,00
KEP2	1 232	1 236	27,35	107,0	0,00	72,84	-	-	0,00	0,00	-	0,00
KEP3	1 721	1 724	23,17	107,0	0,00	75,73	-	-	0,00	0,00	-	0,00
KEP4	1 812	1 815	18,86	104,0	0,00	76,18	-	-	0,00	0,00	-	0,00
KEP5	2 138	2 141	20,31	107,0	0,00	77,61	-	-	0,00	0,00	-	0,00
KEP6	2 612	2 614	17,58	107,0	0,00	79,34	-	-	0,00	0,00	-	0,00
Sum	34,89											

- Data undefined due to calculation with octave data

Noise sensitive area: S 15M

WTG		Wind speed: 8,0 m/s										
No.	Distance	Sound distance	Calculated	LwA,ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A	Cmet
	[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
KEP1	656	664	34,57	107,0	0,00	67,45	-	-	0,00	0,00	-	0,00
KEP2	1 201	1 205	27,65	107,0	0,00	72,62	-	-	0,00	0,00	-	0,00
KEP3	1 586	1 589	24,21	107,0	0,00	75,02	-	-	0,00	0,00	-	0,00
KEP4	1 527	1 531	20,93	104,0	0,00	74,70	-	-	0,00	0,00	-	0,00
KEP5	1 947	1 950	21,56	107,0	0,00	76,80	-	-	0,00	0,00	-	0,00
KEP6	2 462	2 463	18,40	107,0	0,00	78,83	-	-	0,00	0,00	-	0,00
Sum	36,07											

- Data undefined due to calculation with octave data

Noise sensitive area: T 1MN/RM

WTG		Wind speed: 8,0 m/s										
No.	Distance	Sound distance	Calculated	LwA,ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A	Cmet
	[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
KEP1	882	888	31,27	107,0	0,00	69,97	-	-	0,00	0,00	-	0,00
KEP2	1 314	1 318	26,56	107,0	0,00	73,40	-	-	0,00	0,00	-	0,00
KEP3	1 508	1 511	24,85	107,0	0,00	74,58	-	-	0,00	0,00	-	0,00
KEP4	1 243	1 247	23,37	104,0	0,00	72,92	-	-	0,00	0,00	-	0,00
KEP5	1 757	1 760	22,90	107,0	0,00	75,91	-	-	0,00	0,00	-	0,00
KEP6	2 293	2 295	19,37	107,0	0,00	78,21	-	-	0,00	0,00	-	0,00
Sum	34.14											

- Data undefined due to calculation with octave data

Noise sensitive area: U 2MN/RM

WTG		Wind speed: 8,0 m/s										
No.	Distance	Sound distance	Calculated	LwA,ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A	Cmet
	[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
KEP1	1 042	1 046	29,35	107,0	0,00	71,39	-	-	0,00	0,00	-	0,00
KEP2	1 415	1 418	25,65	107,0	0,00	74,04	-	-	0,00	0,00	-	0,00
KEP3	1 531	1 534	24,66	107,0	0,00	74,72	-	-	0,00	0,00	-	0,00
KEP4	1 189	1 193	23,89	104,0	0,00	72,54	-	-	0,00	0,00	-	0,00
KEP5	1 726	1 729	23,13	107,0	0,00	75,76	-	-	0,00	0,00	-	0,00
KEP6	2 260	2 261	19,57	107,0	0,00	78,09	-	-	0,00	0,00	-	0,00
Sum	33,14											

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2011-11-16 09:09/2.7.486

DECIBEL - Detailed results**Calculation: Pilot, wariant 2 Noise calculation model: ISO 9613-2 General 8,0 m/s****Noise sensitive area: V 3MN/RM****WTG** **Wind speed: 8,0 m/s**

No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
KEP1	1 010	1 015	29,71	107,0	0,00	71,13	-	-	0,00	0,00	-	0,00
KEP2	1 234	1 238	27,33	107,0	0,00	72,85	-	-	0,00	0,00	-	0,00
KEP3	1 226	1 230	27,40	107,0	0,00	72,80	-	-	0,00	0,00	-	0,00
KEP4	814	821	28,20	104,0	0,00	69,28	-	-	0,00	0,00	-	0,00
KEP5	1 361	1 365	26,13	107,0	0,00	73,70	-	-	0,00	0,00	-	0,00
KEP6	1 888	1 890	21,97	107,0	0,00	76,53	-	-	0,00	0,00	-	0,00

Sum 35,12

- Data undefined due to calculation with octave data

Noise sensitive area: W 3MN/RM**WTG** **Wind speed: 8,0 m/s**

No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
KEP1	1 062	1 067	29,12	107,0	0,00	71,56	-	-	0,00	0,00	-	0,00
KEP2	1 289	1 293	26,79	107,0	0,00	73,23	-	-	0,00	0,00	-	0,00
KEP3	1 274	1 277	26,94	107,0	0,00	73,13	-	-	0,00	0,00	-	0,00
KEP4	848	855	27,74	104,0	0,00	69,64	-	-	0,00	0,00	-	0,00
KEP5	1 397	1 401	25,80	107,0	0,00	73,93	-	-	0,00	0,00	-	0,00
KEP6	1 921	1 923	21,74	107,0	0,00	76,68	-	-	0,00	0,00	-	0,00

Sum 34,64

- Data undefined due to calculation with octave data

Noise sensitive area: X 4MN/RM**WTG** **Wind speed: 8,0 m/s**

No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
KEP1	1 078	1 083	28,93	107,0	0,00	71,69	-	-	0,00	0,00	-	0,00
KEP2	1 218	1 223	27,48	107,0	0,00	72,75	-	-	0,00	0,00	-	0,00
KEP3	1 131	1 135	28,37	107,0	0,00	72,10	-	-	0,00	0,00	-	0,00
KEP4	667	675	30,38	104,0	0,00	67,59	-	-	0,00	0,00	-	0,00
KEP5	1 216	1 220	27,50	107,0	0,00	72,73	-	-	0,00	0,00	-	0,00
KEP6	1 734	1 737	23,07	107,0	0,00	75,80	-	-	0,00	0,00	-	0,00

Sum 35,89

- Data undefined due to calculation with octave data

Noise sensitive area: Y 5MN/RM**WTG** **Wind speed: 8,0 m/s**

No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
KEP1	1 222	1 226	27,44	107,0	0,00	72,77	-	-	0,00	0,00	-	0,00
KEP2	1 278	1 282	26,90	107,0	0,00	73,16	-	-	0,00	0,00	-	0,00
KEP3	1 096	1 100	28,75	107,0	0,00	71,83	-	-	0,00	0,00	-	0,00
KEP4	570	579	32,06	104,0	0,00	66,26	-	-	0,00	0,00	-	0,00
KEP5	1 102	1 106	28,68	107,0	0,00	71,88	-	-	0,00	0,00	-	0,00
KEP6	1 599	1 602	24,11	107,0	0,00	75,09	-	-	0,00	0,00	-	0,00

Sum 36,43

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2011-11-16 09:09/2.7.486

DECIBEL - Assumptions for noise calculation**Calculation:** Pilot, variant 2 **Noise calculation model:** ISO 9613-2 General 8,0 m/s**Noise calculation model:**

ISO 9613-2 General

Wind speed:

8,0 m/s

Ground attenuation:

General, Ground factor: 1,0

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 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 required

Air absorption

63	125	250	500	1 000	2 000	4 000	8 000
[db/km]	[db/km]	[db/km]	[db/km]	[db/km]	[db/km]	[db/km]	[db/km]
0,1	0,4	1,0	1,9	3,7	9,7	32,8	117,0

WTG: Siemens SWT-2.3-101 2300 101.0 !O!**Noise:** Level 0 - Calculated - 05-2010

Source	Source/Date	Creator	Edited
Siemens	2010-05-12	EMD	2011-01-21 11:12
Rev 3			

Octave data

Status	Hub height	Wind speed	LwA,ref	Pure tones	63	125	250	500	1000	2000	4000	8000
	[m]	[m/s]	[dB(A)]		[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
From Windcat	99,5	8,0	107,0	No	83,5	94,4	98,1	102,1	102,1	98,4	91,2	87,2

WTG: VESTAS V90 2000 90.0 !O!**Noise:** Level 1 - calculated - Mode 1 - 07-2009

Source	Source/Date	Creator	Edited
Manufacturer	2009-07-09	EMD	2009-10-20 11:49

Noise based on Document no.: 0004-6207 V01 2009-07-09.
Please contact Vestas on information on the latest noise data.
Accuracy = +/- 2 dB(A)

Octave data

Status	Hub height	Wind speed	LwA,ref	Pure tones	63	125	250	500	1000	2000	4000	8000
	[m]	[m/s]	[dB(A)]		[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
From Windcat	105,0	8,0	104,0	No	Generic data	84,6	91,6	95,0	97,6	97,4	94,5	89,7

NSA: 6MN/RM-A**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 40,0 dB(A)**Distance demand:** 0,0 m**NSA:** 7MN/RM-B**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 40,0 dB(A)**Distance demand:** 0,0 m

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DECIBEL - Assumptions for noise calculation**Calculation:** Pilot, variant 2 **Noise calculation model:** ISO 9613-2 General 8,0 m/s**NSA:** 8MN/RM-C**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 40,0 dB(A)**Distance demand:** 0,0 m**NSA:** 1RM-D**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 45,0 dB(A)**Distance demand:** 0,0 m**NSA:** 2RM-E**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 45,0 dB(A)**Distance demand:** 0,0 m**NSA:** 9MN/RM-F**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 40,0 dB(A)**Distance demand:** 0,0 m**NSA:** 1TR-G**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 45,0 dB(A)**Distance demand:** 0,0 m**NSA:** 10MN/RM-H**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 40,0 dB(A)**Distance demand:** 0,0 m**NSA:** 11MN/RM-I**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 40,0 dB(A)**Distance demand:** 0,0 m**NSA:** 1M-J**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 40,0 dB(A)**Distance demand:** 0,0 m**NSA:** 12MN/RM-K**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 40,0 dB(A)**Distance demand:** 0,0 m

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Calculated

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DECIBEL - Assumptions for noise calculation**Calculation:** Pilot, wariant 2 **Noise calculation model:** ISO 9613-2 General 8,0 m/s**NSA: 2M-L****Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 40,0 dB(A)**Distance demand:** 0,0 m**NSA: 3M-M****Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 40,0 dB(A)**Distance demand:** 0,0 m**NSA: 4/5/6/7/8M-N****Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 40,0 dB(A)**Distance demand:** 0,0 m**NSA: 9/10M-O****Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 40,0 dB(A)**Distance demand:** 0,0 m**NSA: 11M-P****Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 40,0 dB(A)**Distance demand:** 0,0 m**NSA: 12/13M-Q****Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 40,0 dB(A)**Distance demand:** 0,0 m**NSA: 14M-R****Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 40,0 dB(A)**Distance demand:** 0,0 m**NSA: 15M-S****Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 40,0 dB(A)**Distance demand:** 0,0 m**NSA: 1MN/RM-T****Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 40,0 dB(A)**Distance demand:** 0,0 m

Project

Projekt Kêpno

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Calculated

2011-11-16 09:09/2.7.486

DECIBEL - Assumptions for noise calculation

Calculation: Pilot, variant 2 Noise calculation model: ISO 9613-2 General 8,0 m/s

NSA: 2MN/RM-U

Predefined calculation standard:

Emission height(a.g.l.): Use standard value from calculation model

Noise demand: 40,0 dB(A)

Distance demand: 0,0 m

NSA: 3MN/RM-V

Predefined calculation standard:

Emission height(a.g.l.): Use standard value from calculation model

Noise demand: 40,0 dB(A)

Distance demand: 0,0 m

NSA: 3MN/RM-W

Predefined calculation standard:

Emission height(a.g.l.): Use standard value from calculation model

Noise demand: 40,0 dB(A)

Distance demand: 0,0 m

NSA: 4MN/RM-X

Predefined calculation standard:

Emission height(a.g.l.): Use standard value from calculation model

Noise demand: 40,0 dB(A)

Distance demand: 0,0 m

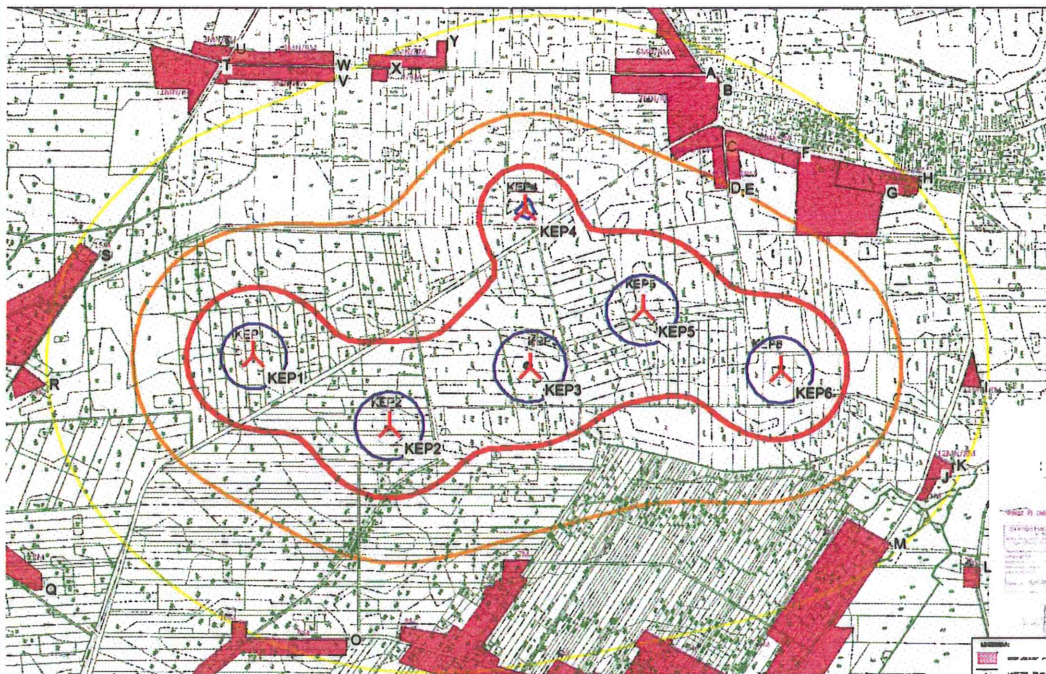
NSA: 5MN/RM-Y

Predefined calculation standard:

Emission height(a.g.l.): Use standard value from calculation model

Noise demand: 40,0 dB(A)

Distance demand: 0,0 m



Map: Ewidencja z zbudow⁴ z MPZP, Print scale 1:18 000, Map center Poland UJLAD 65 4 East: 3 792 875 North: 5 579 740
 Noise calculation model: ISO 9613-2 General. Wind speed: 8,0 m/s

▲ New WTG
 ■ Noise sensitive area
 — 35,0 dB(A) — 40,0 dB(A) — 45,0 dB(A) — 50,0 dB(A) — 55,0 dB(A)
 Height above sea level from active line object

DECIBEL -
Map 8,0 m/s
Calculation:
 Pilot, variant 2
Noise calculation model:
 ISO 9613-2 General 8,0 m/s

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