

Project:  
VC22362\_Mezaine-LV\_SIA-K2

Description:  
Pavilostas Wind Farm  
Draft Layout - Final Calculation/assessment will be made in the  
Technical State  
Flicker Calculation according to German Standard

Licensed user:  
Deutsche WindGuard GmbH  
Oldenburger Str. 65  
DE-26316 Varel  
+49 (0)4451 9515 0  
Johannes Cordes / cfr@windguard.de  
Calculated:  
14.04.2024 20:23/4.0.531

## SHADOW - Main Result

Calculation: Flicker impact

### Assumptions for shadow calculations

Maximum distance for influence  
Calculate only when more than 20 % of sun is covered by the blade  
Please look in WTG table

Minimum sun height over horizon for influence 3 °  
Day step for calculation 1 days  
Time step for calculation 1 minutes

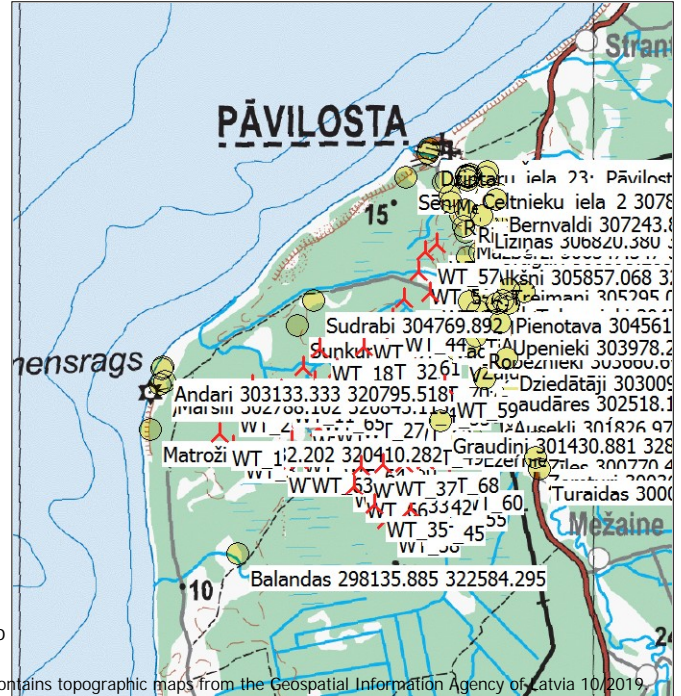
Sunshine probability S (Average daily sunshine hours) [VISBY AEROL OG. STN.]  
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec  
1.88 2.10 3.74 7.42 11.12 10.06 9.30 7.35 5.38 3.30 1.17 1.10

Operational hours are calculated from WTGs in calculation and wind distribution:  
Lidar-166m-inkl.DH

Operational time  
N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum  
574 374 467 532 553 744 933 1 102 1 435 950 577 519 8 760

Idle start wind speed 2.5m/s  
A ZVI (Zones of Visual Influence) calculation is performed before flicker calculation so non visible WTG do not contribute to calculated flicker values. A WTG will be visible if it is visible from any part of the receiver window. The ZVI calculation is based on the following assumptions:  
Height contours used: Height Contours: CONTOURLINE\_ONLINEDATA\_0.wpo  
Receptor grid resolution: 1.0 m

All coordinates are in  
Latvian TM LKS92-LKS92 (LV)



### WTGs

WTG	Y	X	Z	Row data/Description	WTG type		Power, rated [kW]	Rotor diameter [m]	Hub height [m]	Shadow data	
					Valid	Manufact. Type-generator				Calculation distance [m]	RPM [RPM]
WT_1	322 246	301 375	19.0	NORDEX N163/6.X 7000 163.0 !...	Yes	NORDEX N163/6.X-7 000	7 000	163.0	164.0	1 784	10.7
WT_10	323 729	300 596	11.9	NORDEX N163/6.X 7000 163.0 !...	Yes	NORDEX N163/6.X-7 000	7 000	163.0	164.0	1 784	10.7
WT_11	323 919	302 436	20.0	NORDEX N163/6.X 7000 163.0 !...	Yes	NORDEX N163/6.X-7 000	7 000	163.0	164.0	1 784	10.7
WT_12	324 148	301 088	10.1	NORDEX N163/6.X 7000 163.0 !...	Yes	NORDEX N163/6.X-7 000	7 000	163.0	164.0	1 784	10.7
WT_13	324 385	301 646	12.3	NORDEX N163/6.X 7000 163.0 !...	Yes	NORDEX N163/6.X-7 000	7 000	163.0	164.0	1 784	10.7
WT_14	324 536	303 025	16.4	NORDEX N163/6.X 7000 163.0 !...	Yes	NORDEX N163/6.X-7 000	7 000	163.0	164.0	1 784	10.7
WT_16	324 820	302 628	19.8	NORDEX N163/6.X 7000 163.0 !...	Yes	NORDEX N163/6.X-7 000	7 000	163.0	164.0	1 784	10.7
WT_17	324 859	301 410	20.0	NORDEX N163/6.X 7000 163.0 !...	Yes	NORDEX N163/6.X-7 000	7 000	163.0	164.0	1 784	10.7
WT_18	324 974	303 490	20.0	NORDEX N163/6.X 7000 163.0 !...	Yes	NORDEX N163/6.X-7 000	7 000	163.0	164.0	1 784	10.7
WT_19	325 030	301 847	20.0	NORDEX N163/6.X 7000 163.0 !...	Yes	NORDEX N163/6.X-7 000	7 000	163.0	164.0	1 784	10.7
WT_2	322 487	302 235	20.0	NORDEX N163/6.X 7000 163.0 !...	Yes	NORDEX N163/6.X-7 000	7 000	163.0	164.0	1 784	10.7
WT_21	325 270	302 387	20.0	NORDEX N163/6.X 7000 163.0 !...	Yes	NORDEX N163/6.X-7 000	7 000	163.0	164.0	1 784	10.7
WT_23	325 415	302 940	20.0	NORDEX N163/6.X 7000 163.0 !...	Yes	NORDEX N163/6.X-7 000	7 000	163.0	164.0	1 784	10.7
WT_24	325 441	301 275	20.0	NORDEX N163/6.X 7000 163.0 !...	Yes	NORDEX N163/6.X-7 000	7 000	163.0	164.0	1 784	10.7
WT_27	325 737	301 952	20.0	NORDEX N163/6.X 7000 163.0 !...	Yes	NORDEX N163/6.X-7 000	7 000	163.0	164.0	1 784	10.7
WT_28	325 952	300 336	20.0	NORDEX N163/6.X 7000 163.0 !...	Yes	NORDEX N163/6.X-7 000	7 000	163.0	164.0	1 784	10.7
WT_29	325 973	302 492	20.0	NORDEX N163/6.X 7000 163.0 !...	Yes	NORDEX N163/6.X-7 000	7 000	163.0	164.0	1 784	10.7
WT_3	322 584	301 021	13.7	NORDEX N163/6.X 7000 163.0 !...	Yes	NORDEX N163/6.X-7 000	7 000	163.0	164.0	1 784	10.7
WT_30	326 018	300 882	20.0	NORDEX N163/6.X 7000 163.0 !...	Yes	NORDEX N163/6.X-7 000	7 000	163.0	164.0	1 784	10.7
WT_31	326 099	304 015	20.0	NORDEX N163/6.X 7000 163.0 !...	Yes	NORDEX N163/6.X-7 000	7 000	163.0	164.0	1 784	10.7
WT_32	326 140	303 490	20.0	NORDEX N163/6.X 7000 163.0 !...	Yes	NORDEX N163/6.X-7 000	7 000	163.0	164.0	1 784	10.7
WT_33	326 314	299 910	20.0	NORDEX N163/6.X 7000 163.0 !...	Yes	NORDEX N163/6.X-7 000	7 000	163.0	164.0	1 784	10.7
WT_35	326 275	299 261	20.0	NORDEX N163/6.X 7000 163.0 !...	Yes	NORDEX N163/6.X-7 000	7 000	163.0	164.0	1 784	10.7
WT_36	326 449	301 352	20.0	NORDEX N163/6.X 7000 163.0 !...	Yes	NORDEX N163/6.X-7 000	7 000	163.0	164.0	1 784	10.7
WT_37	326 533	300 343	20.0	NORDEX N163/6.X 7000 163.0 !...	Yes	NORDEX N163/6.X-7 000	7 000	163.0	164.0	1 784	10.7
WT_38	326 551	298 861	20.0	NORDEX N163/6.X 7000 163.0 !...	Yes	NORDEX N163/6.X-7 000	7 000	163.0	164.0	1 784	10.7
WT_41	327 019	302 863	20.0	NORDEX N163/6.X 7000 163.0 !...	Yes	NORDEX N163/6.X-7 000	7 000	163.0	164.0	1 784	10.7
WT_42	326 948	299 825	20.0	NORDEX N163/6.X 7000 163.0 !...	Yes	NORDEX N163/6.X-7 000	7 000	163.0	164.0	1 784	10.7
WT_43	326 891	302 295	20.0	NORDEX N163/6.X 7000 163.0 !...	Yes	NORDEX N163/6.X-7 000	7 000	163.0	164.0	1 784	10.7
WT_44	326 946	304 192	20.0	NORDEX N163/6.X 7000 163.0 !...	Yes	NORDEX N163/6.X-7 000	7 000	163.0	164.0	1 784	10.7
WT_45	327 220	299 126	20.0	NORDEX N163/6.X 7000 163.0 !...	Yes	NORDEX N163/6.X-7 000	7 000	163.0	164.0	1 784	10.7
WT_46	327 115	300 367	20.0	NORDEX N163/6.X 7000 163.0 !...	Yes	NORDEX N163/6.X-7 000	7 000	163.0	164.0	1 784	10.7

To be continued on next page...

Project:

VC22362\_Mezaine-LV\_SIA-K2

Description:

Pavilostas Wind Farm  
 Draft Layout - Final Calculation/assessment will be made in the  
 Technical State  
 Flicker Calculation according to German Standard

Licensed user:

Deutsche WindGuard GmbH  
 Oldenburger Str. 65  
 DE-26316 Varel  
 +49 (0)4451 9515 0  
 Johannes Cordes / cfr@windguard.de  
 Calculated:  
 14.04.2024 20:23/4.0.531

## SHADOW - Main Result

Calculation: Flicker impact

...continued from previous page

	Y	X	Z	Row data/Description	WTG type			Power, rated [kW]	Rotor diameter [m]	Hub height [m]	Shadow data	
					Valid	Manufact.	Type-generator				Calculation distance [m]	RPM [RPM]
			[m]									
WT_48	327 281	304 718	20.0	NORDEX N163/6.X 7000 163.0 !...	Yes	NORDEX	N163/6.X-7 000	7 000	163.0	164.0	1 784	10.7
WT_49	327 291	301 167	20.0	NORDEX N163/6.X 7000 163.0 !...	Yes	NORDEX	N163/6.X-7 000	7 000	163.0	164.0	1 784	10.7
WT_51	327 385	303 937	20.0	NORDEX N163/6.X 7000 163.0 !...	Yes	NORDEX	N163/6.X-7 000	7 000	163.0	164.0	1 784	10.7
WT_52	327 438	299 785	20.0	NORDEX N163/6.X 7000 163.0 !...	Yes	NORDEX	N163/6.X-7 000	7 000	163.0	164.0	1 784	10.7
WT_53	327 498	302 205	20.0	NORDEX N163/6.X 7000 163.0 !...	Yes	NORDEX	N163/6.X-7 000	7 000	163.0	164.0	1 784	10.7
WT_54	327 699	305 402	20.0	NORDEX N163/6.X 7000 163.0 !...	Yes	NORDEX	N163/6.X-7 000	7 000	163.0	164.0	1 784	10.7
WT_55	327 818	299 469	20.0	NORDEX N163/6.X 7000 163.0 !...	Yes	NORDEX	N163/6.X-7 000	7 000	163.0	164.0	1 784	10.7
WT_56	327 894	302 705	20.0	NORDEX N163/6.X 7000 163.0 !...	Yes	NORDEX	N163/6.X-7 000	7 000	163.0	164.0	1 784	10.7
WT_57	327 898	305 947	20.0	NORDEX N163/6.X 7000 163.0 !...	Yes	NORDEX	N163/6.X-7 000	7 000	163.0	164.0	1 784	10.7
WT_58	327 982	304 826	20.0	NORDEX N163/6.X 7000 163.0 !...	Yes	NORDEX	N163/6.X-7 000	7 000	163.0	164.0	1 784	10.7
WT_59	328 256	302 370	20.0	NORDEX N163/6.X 7000 163.0 !...	Yes	NORDEX	N163/6.X-7 000	7 000	163.0	164.0	1 784	10.7
WT_60	328 291	299 906	20.0	NORDEX N163/6.X 7000 163.0 !...	Yes	NORDEX	N163/6.X-7 000	7 000	163.0	164.0	1 784	10.7
WT_61	326 787	303 573	20.0	NORDEX N163/6.X 7000 163.0 !...	Yes	NORDEX	N163/6.X-7 000	7 000	163.0	164.0	1 784	10.7
WT_62	327 025	301 743	20.0	NORDEX N163/6.X 7000 163.0 !...	Yes	NORDEX	N163/6.X-7 000	7 000	163.0	164.0	1 784	10.7
WT_63	324 336	300 576	11.7	NORDEX N163/6.X 7000 163.0 !...	Yes	NORDEX	N163/6.X-7 000	7 000	163.0	164.0	1 784	10.7
WT_64	325 200	300 734	20.0	NORDEX N163/6.X 7000 163.0 !...	Yes	NORDEX	N163/6.X-7 000	7 000	163.0	164.0	1 784	10.7
WT_65	324 701	302 180	15.5	NORDEX N163/6.X 7000 163.0 !...	Yes	NORDEX	N163/6.X-7 000	7 000	163.0	164.0	1 784	10.7
WT_66	325 747	299 794	20.0	NORDEX N163/6.X 7000 163.0 !...	Yes	NORDEX	N163/6.X-7 000	7 000	163.0	164.0	1 784	10.7
WT_67	325 411	300 094	19.5	NORDEX N163/6.X 7000 163.0 !...	Yes	NORDEX	N163/6.X-7 000	7 000	163.0	164.0	1 784	10.7
WT_68	327 677	300 429	20.0	NORDEX N163/6.X 7000 163.0 !...	Yes	NORDEX	N163/6.X-7 000	7 000	163.0	164.0	1 784	10.7
WT_69	328 199	306 131	20.0	NORDEX N163/6.X 7000 163.0 !...	Yes	NORDEX	N163/6.X-7 000	7 000	163.0	164.0	1 784	10.7
WT_7	323 146	302 611	20.0	NORDEX N163/6.X 7000 163.0 !...	Yes	NORDEX	N163/6.X-7 000	7 000	163.0	164.0	1 784	10.7
WT_70	327 512	302 836	20.0	NORDEX N163/6.X 7000 163.0 !...	Yes	NORDEX	N163/6.X-7 000	7 000	163.0	164.0	1 784	10.7

## Shadow receptor-Input

No.	Name	Y	X	Z	Width	Height	Elevation a.g.l.	Slope of window [°]	Direction mode	Eye height (ZVI) a.g.l. [m]
				[m]	[m]	[m]	[m]			[m]
	Akmenu_iela_1 307495.254 329156.187 Akmenu_iela_1	329 156	307 495	10.0	0.1	0.1	2.0	90.0	"Green house mode"	2.1
	Aleksandri 302730.683 320706.294 Aleksandri	320 706	302 731	6.8	0.1	0.1	2.0	90.0	"Green house mode"	2.1
	Alks ni 305857.068 329344.296Alks ni	329 344	305 857	13.0	0.1	0.1	2.0	90.0	"Green house mode"	2.1
	Andari 303133.333 320795.518 Andari	320 796	303 133	10.0	0.1	0.1	2.0	90.0	"Green house mode"	2.1
	Apsses 304032.225 329508.700 Apsses	329 509	304 032	10.0	0.1	0.1	2.0	90.0	"Green house mode"	2.1
	Atvari 302965.167 329835.007 Atvari	329 835	302 965	12.0	0.1	0.1	2.0	90.0	"Green house mode"	2.1
	Ausekli 301826.970 329745.685 Ausekli	329 746	301 827	20.0	0.1	0.1	2.0	90.0	"Green house mode"	2.1
	Balandas 298135.885 322584.295 Balandas	322 584	298 136	10.0	0.1	0.1	2.0	90.0	"Green house mode"	2.1
	Balgall 303509.648 329647.385 Balgall	329 647	303 510	10.0	0.1	0.1	2.0	90.0	"Green house mode"	2.1
	Baltnieki 302477.355 329994.126 Baltnieki	329 994	302 477	13.2	0.1	0.1	2.0	90.0	"Green house mode"	2.1
	Bernvaldi 307243.870 329850.019 Bernvaldi	329 850	307 244	10.0	0.1	0.1	2.0	90.0	"Green house mode"	2.1
	Bruveri 301306.314 330510.547 Bruveri	330 511	301 306	10.5	0.1	0.1	2.0	90.0	"Green house mode"	2.1
	Berzmales 304570.861 328995.957 Berzmales	328 996	304 571	20.0	0.1	0.1	2.0	90.0	"Green house mode"	2.1
	Berzu_Gatve 307429.909 328649.149 Berzu_Gatve	328 649	307 430	15.0	0.1	0.1	2.0	90.0	"Green house mode"	2.1
	Celmini 305777.592 329482.374 Celmini	329 482	305 778	10.0	0.1	0.1	2.0	90.0	"Green house mode"	2.1
	Celtnieku_iela_1 307361.051 329576.434 Celtnieku_iela_1	329 576	307 361	10.0	0.1	0.1	2.0	90.0	"Green house mode"	2.1
	Celtnieku_iela_1 307906.984 329081.163 Celtnieku_iela_1	329 081	307 907	10.0	0.1	0.1	2.0	90.0	"Green house mode"	2.1
	Celtnieku_iela_1A 307872.656 329071.192 Celtnieku_iela_1A	329 071	307 873	10.0	0.1	0.1	2.0	90.0	"Green house mode"	2.1
	Celtnieku_iela_1B/Celtnieku_iela_1C 307784.854 329084.210 Celtnieku_iela_1B/Celtnieku_iela_1C	329 084	307 785	10.0	0.1	0.1	2.0	90.0	"Green house mode"	2.1
	Celtnieku_iela_2 307889.385 329131.165 Celtnieku_iela_2	329 131	307 889	10.0	0.1	0.1	2.0	90.0	"Green house mode"	2.1
	Celtnieku_iela_2A 307854.181 329120.159 Celtnieku_iela_2A	329 120	307 854	10.0	0.1	0.1	2.0	90.0	"Green house mode"	2.1
	Celtnieku_iela_4 307929.788 329173.225 Celtnieku_iela_4	329 173	307 930	10.0	0.1	0.1	2.0	90.0	"Green house mode"	2.1
	Ceptuve 304047.998 329750.233 Ceptuve	329 750	304 048	10.0	0.1	0.1	2.0	90.0	"Green house mode"	2.1
	Cepurnieki 303186.472 320814.403 Cepurnieki	320 814	303 186	9.8	0.1	0.1	2.0	90.0	"Green house mode"	2.1
	Cirulu_iela_6;_Soc._aprup._cent. 307382.482 329864.392 Cirulu_iela_6;_Soc._aprup._cent.	329 864	307 382	10.0	0.1	0.1	2.0	90.0	"Green house mode"	2.1
	Cirulu_iela_7 307319.726 329821.205 Cirulu_iela_7	329 821	307 320	10.0	0.1	0.1	2.0	90.0	"Green house mode"	2.1
	Druvinas 303145.675 329489.245 Druvinas	329 489	303 146	13.6	0.1	0.1	2.0	90.0	"Green house mode"	2.1
	Durbenieki 302580.010 330713.275 Durbenieki	330 713	302 580	10.0	0.1	0.1	2.0	90.0	"Green house mode"	2.1
	Dziedataji 303009.368 329940.014 Dziedataji	329 940	303 009	10.0	0.1	0.1	2.0	90.0	"Green house mode"	2.1
	Dzintaru_iela_23;_Pavilostas_muzikas_skola 308527.794 328081.518 Dzintaru_iela_23;_Pavilostas_muzikas_skola	328 082	308 528	5.8	0.1	0.1	2.0	90.0	"Green house mode"	2.1
	Dzintaru_iela_52;_Pamatkola 307809.475 329570.053 Dzintaru_iela_52;_Pamatkola	329 570	307 809	10.0	0.1	0.1	2.0	90.0	"Green house mode"	2.1
	Dikenieki 306084.441 329542.171 Dikenieki	329 542	306 084	10.0	0.1	0.1	2.0	90.0	"Green house mode"	2.1
	Eglenieki 305171.263 329464.661 Eglenieki	329 465	305 171	10.0	0.1	0.1	2.0	90.0	"Green house mode"	2.1
	Ernesta_Sneidera_Laikums_2;_Maksilas_skola 308660.949 328102.460 Ernesta_Sneidera_Laikums_2;_Maksilas_skola	328 102	308 661	4.0	0.1	0.1	2.0	90.0	"Green house mode"	2.1
	Ezernieki 301057.138 328894.067 Ezernieki	328 894	301 057	20.0	0.1	0.1	2.0	90.0	"Green house mode"	2.1
	Freiberigi 306247.919 329648.318 Freiberigi	329 648	306 248	10.0	0.1	0.1	2.0	90.0	"Green house mode"	2.1
	Gralles 306418.377 329511.101 Gralles	329 511	306 418	10.0	0.1	0.1	2.0	90.0	"Green house mode"	2.1
	Graudini 301430.881 328128.811 Graudini	328 129	301 431	20.0	0.1	0.1	2.0	90.0	"Green house mode"	2.1
	Graudares 302518.141 329340.371 Graudares	329 340	302 518	20.0	0.1	0.1	2.0	90.0	"Green house mode"	2.1
	Ievlejas 304003.776 329686.000 Ievlejas	329 686	304 004	10.0	0.1	0.1	2.0	90.0	"Green house mode"	2.1
	Jaunzemji 304294.563 329242.175 Jaunzemji	329 242	304 295	18.9	0.1	0.1	2.0	90.0	"Green house mode"	2.1
	Kalnaraji 305044.891 330029.409 Kalnaraji	330 029	305 045	10.0	0.1	0.1	2.0	90.0	"Green house mode"	2.1
	Kalnmal 307302.319 329123.447 Kalnmal	329 123	307 302	10.0	0.1	0.1	2.0	90.0	"Green house mode"	2.1
	Kalvenes 303546.477 330267.095 Kalvenes	330 267	303 546	13.0	0.1	0.1	2.0	90.0	"Green house mode"	2.1
	Katrinass 305037.338 329582.437 Katrinass	329 582	305 037	10.0	0.1	0.1	2.0	90.0	"Green house mode"	2.1
	Krastini 304363.654 330027.830 Krastini	330 028	304 364	10.0	0.1	0.1	2.0	90.0	"Green house mode"	2.1
	Krastmalas 307137.624 329891.616 Krastmalas	329 892	307 138	10.0	0.1	0.1	2.0	90.0	"Green house mode"	2.1
	Kraujass 304404.738 329775.142 Kraujass	329 775	304 405	10.0	0.1	0.1	2.0	90.0	"Green house mode"	2.1
	Kraujienas 304377.255 329814.309 Kraujienas	329 814	304 377	10.0	0.1	0.1	2.0	90.0	"Green house mode"	2.1

To be continued on next page...

Project:

VC22362\_Mezaine-LV\_SIA-K2

Description:

Pavilostas Wind Farm
Draft Layout - Final Calculation/assessment will be made in the
Technical State
Flicker Calculation according to German Standard

Licensed user:

Deutsche WindGuard GmbH
Oldenburger Str. 65
DE-26316 Varel
+49 (0)4451 9515 0
Johannes Cordes / cfr@windguard.de
Calculated:
14.04.2024 20:23/4.0.531

SHADOW - Main Result

Calculation: Flicker impact

...continued from previous page

Table with columns: No., Name, Y, X, Z, Width, Height, Elevation a.g.l., Slope of window, Direction mode, Eye height (ZVI) a.g.l. It lists various locations and their coordinates.

Calculation Results

Shadow receptor

Table with columns: No., Name, Shadow hours per year, Shadow days per year, Max shadow hours per day, Shadow, expected value per year. It shows shadow impact data for various receptors.

To be continued on next page...

Project:

VC22362\_Mezaine-LV\_SIA-K2

Description:

Pavilostas Wind Farm  
Draft Layout - Final Calculation/assessment will be made in the  
Technical State  
Flicker Calculation according to German Standard

Licensed user:

Deutsche WindGuard GmbH  
Oldenburger Str. 65  
DE-26316 Varel  
+49 (0)4451 9515 0  
Johannes Cordes / cfr@windguard.de  
Calculated:  
14.04.2024 20:23/4.0.531

## SHADOW - Main Result

Calculation: Flicker impact

...continued from previous page

No.	Name	Shadow, worst case			Shadow, expected value
		Shadow hours per year	Shadow days per year	Max shadow hours per day	Shadow hours per year
		[h/year]	[days/year]	[h/day]	[h/year]
	Bruveri 301306.314 330510.547 Bruveri	0:00	0	0:00	0:00
	Berzmales 304570.861 328995.957 Berzmales	71:06	194	0:37	22:37
	Berzu_Gatve 307429.909 328649.149 Berzu_Gatve	31:32	46	0:51	3:53
	Celmini 305777.592 329482.374 Celmini	34:37	105	0:29	9:30
	Celtnieku_iela_1 307361.051 329576.434 Celtnieku_iela_1	0:00	0	0:00	0:00
	Celtnieku_iela_1 307906.984 329081.163 Celtnieku_iela_1	0:00	0	0:00	0:00
	Celtnieku_iela_1A 307872.656 329071.192 Celtnieku_iela_1A	0:00	0	0:00	0:00
	Celtnieku_iela_1B/Celtnieku_iela_1C 307784.854 329084.210 Celtnieku_iela_1B/Celtnieku_iela_1C	0:00	0	0:00	0:00
	Celtnieku_iela_2 307889.385 329131.165 Celtnieku_iela_2	0:00	0	0:00	0:00
	Celtnieku_iela_2A 307854.181 329120.159 Celtnieku_iela_2A	0:00	0	0:00	0:00
	Celtnieku_iela_4 307929.788 329173.225 Celtnieku_iela_4	0:00	0	0:00	0:00
	Ceptuve 304047.998 329750.233 Ceptuve	0:00	0	0:00	0:00
	Cepurnieki 303186.472 320814.403 Cepurnieki	0:00	0	0:00	0:00
	Cirulu_iela_6;_Soc._aprup._cent. 307382.482 329864.392 Cirulu_iela_6;_Soc._aprup._cent.	0:00	0	0:00	0:00
	Cirulu_iela_7 307319.726 329821.205 Cirulu_iela_7	0:00	0	0:00	0:00
	Druvinas 303145.675 329489.245 Druvinas	20:55	65	0:26	3:51
	Durbenieki 302580.010 330713.275 Durbenieki	0:00	0	0:00	0:00
	Dziedataji 303009.368 329940.014 Dziedataji	0:00	0	0:00	0:00
	Dzintaru_iela_23;_Pavilostas_muzikas_skola 308527.794 328081.518 Dzintaru_iela_23;_Pavilostas_muzikas_skola	0:00	0	0:00	0:00
	Dzintaru_iela_52;_Pamatskola 307809.475 329570.053 Dzintaru_iela_52;_Pamatskola	0:00	0	0:00	0:00
	Dikenieki 306084.441 329542.171 Dikenieki	21:51	59	0:33	5:48
	Eglenieki 305171.263 329464.661 Eglenieki	50:41	158	0:26	15:56
	Ernesta_Sneidera_Laikums_2;_Maksklas_skola 308660.949 328102.460 Ernesta_Sneidera_Laikums_2;_Maksklas_skola	0:00	0	0:00	0:00
	Ezernieki 301057.138 328894.067 Ezernieki	53:07	133	0:31	9:09
	Freiberghi 306247.919 329648.318 Freiberghi	17:49	50	0:32	4:08
	Gralles 306418.377 329511.101 Gralles	18:40	49	0:31	4:00
	Graudini 301430.881 328128.811 Graudini	145:21	275	0:58	33:27
	Graudares 302518.141 329340.371 Graudares	30:39	73	0:34	8:06
	Ievlejas 304003.776 329686.000 Ievlejas	0:00	0	0:00	0:00
	Jaunzemji 304294.563 329242.175 Jaunzemji	18:41	50	0:29	6:31
	Kalnaraji 305044.891 330029.409 Kalnaraji	0:00	0	0:00	0:00
	Kalnmalis 307302.319 329123.447 Kalnmalis	22:21	68	0:27	3:01
	Kalvenes 303546.477 330267.095 Kalvenes	0:00	0	0:00	0:00
	Katrinis 305037.338 329582.437 Katrinis	26:25	82	0:23	8:01
	Krastini 304363.654 330027.830 Krastini	0:00	0	0:00	0:00
	Krastmalas 307137.624 329891.616 Krastmalas	0:00	0	0:00	0:00
	Kraujas 304404.738 329775.142 Kraujas	0:00	0	0:00	0:00
	Kraujienas 304377.255 329814.309 Kraujienas	0:00	0	0:00	0:00
	Krejotava 304545.168 329960.309 Krejotava	0:00	0	0:00	0:00
	Klavinas 305420.459 330014.646 Klavinas	0:00	0	0:00	0:00
	Lagzdini 306735.305 329704.495 Lagzdini	9:12	30	0:24	1:47
	Lejzemnieki 304853.379 330090.352 Lejzemnieki	0:00	0	0:00	0:00
	Liepinas 304477.693 329762.681 Liepinas	0:00	0	0:00	0:00
	Lizinas 306820.380 329446.065 Lizinas	13:54	41	0:27	2:30
	Lici 305837.165 330238.088 Lici	0:00	0	0:00	0:00
	Matrozi 301532.202 320410.282 Matrozi	0:00	0	0:00	0:00
	Mazberzi 306547.347 328944.781 Mazberzi	48:04	105	0:43	8:42
	Mazplateri 300585.615 330578.207 Mazplateri	0:00	0	0:00	0:00
	Meza_iela_11 307770.430 328465.490 Meza_iela_11	0:00	0	0:00	0:00
	Meza_iela_3 307791.790 328522.060 Meza_iela_3	0:00	0	0:00	0:00
	Macitajmaja 304037.241 329555.664 Macitajmaja	11:59	41	0:22	4:17
	Marsili 302788.102 320845.115 Marsili	7:43	27	0:22	1:30
	Novadi 305138.731 328782.720 Novadi	62:09	105	1:03	16:00
	Ozoli 305069.640 329242.098 Ozoli	51:20	147	0:29	15:51
	Pienotava 304561.473 329909.293 Pienotava	0:00	0	0:00	0:00
	Pilskalnis 304467.862 330067.404 Pilskalnis	0:00	0	0:00	0:00
	Plateri 304737.260 330556.625 Plateri	0:00	0	0:00	0:00
	Priedaine 307378.904 328609.837 Priedaine	37:16	50	0:54	4:37
	Remsas 307210.043 328645.084 Remsas	62:56	70	1:03	8:05
	Riekstini 306990.718 329020.237 Riekstini	31:25	56	0:45	4:03
	Robeznieki 303660.698 329144.701 Robeznieki	45:28	136	0:26	7:21
	Reki 306861.416 328887.933 Reki	40:24	61	0:52	5:34
	Sakaslejas_baznica 304421.258 329917.266 Sakaslejas_baznica	0:00	0	0:00	0:00
	Sakas_iela_7/Sakas_iela_6C 306625.610 330142.144 Sakas_iela_7/Sakas_iela_6C	0:00	0	0:00	0:00
	Sakas_pasts 304808.804 329865.343 Sakas_pasts	0:00	0	0:00	0:00
	Sakas_skola 304599.001 329944.733 Sakas_skola	0:00	0	0:00	0:00
	Sakas_stacija 304421.286 329352.822 Sakas_stacija	14:02	41	0:27	4:22
	Snikeri 305504.197 329432.559 Snikeri	51:53	158	0:29	15:36
	Sprideji 302089.104 330626.083 Sprideji	0:00	0	0:00	0:00

To be continued on next page...

Project:

VC22362\_Mezaine-LV\_SIA-K2

Description:

Pavilostas Wind Farm  
Draft Layout - Final Calculation/assessment will be made in the  
Technical State  
Flicker Calculation according to German Standard

Licensed user:

Deutsche WindGuard GmbH  
Oldenburger Str. 65  
DE-26316 Varel  
+49 (0)4451 9515 0  
Johannes Cordes / cfr@windguard.de  
Calculated:  
14.04.2024 20:23/4.0.531

## SHADOW - Main Result

Calculation: Flicker impact

...continued from previous page

No.	Name	Shadow, worst case			Shadow, expected value
		Shadow hours per year	Shadow days per year	Max shadow hours per day	Shadow hours per year
		[h/year]	[days/year]	[h/day]	[h/year]
Stadiona_iela_6;PPII_"DzintarinS "	307987.467 329655.410Stadiona_iela_6;PPII_"DzintarinS "	0:00	0	0:00	0:00
Strautmali	302361.335 330076.303 Strautmali	0:00	0	0:00	0:00
Strazdi	305038.087 330308.521 Strazdi	0:00	0	0:00	0:00
Sudrabi	304769.892 324872.960 Sudrabi	24:02	72	0:26	3:25
Sunkuri	304123.581 324442.297 Sunkuri	90:35	166	0:53	12:27
Senu_iela_7	307902.537 327455.757 Senu_iela_7	0:00	0	0:00	0:00
Tebrenieki	304765.838 330471.783 Tebrenieki	0:00	0	0:00	0:00
Tiltnieki	304033.032 329115.668 Tiltnieki	36:29	94	0:30	11:49
Treimani	305295.051 329802.807 Treimani	0:00	0	0:00	0:00
Turaidas	300070.328 330713.617 Turaidas	0:00	0	0:00	0:00
Upenieki	303978.298 329801.058 Upenieki	0:00	0	0:00	0:00
Upeskrasti	303238.575 330406.769 Upeskrasti	0:00	0	0:00	0:00
Upeslejas	305203.865 329764.942 Upeslejas	0:00	0	0:00	0:00
Upes_iela_3/Upes_iela_1	306766.186 330098.582 Upes_iela_3/Upes_iela_1	0:00	0	0:00	0:00
Upes_iela_5	306832.223 330093.169 Upes_iela_5	0:00	0	0:00	0:00
Upes_iela_7	306861.799 330098.925 Upes_iela_7	0:00	0	0:00	0:00
Vadenieki	303955.576 328239.000 Vadenieki	137:00	244	1:07	30:32
Vairogi	306994.077 329911.686 Vairogi	0:00	0	0:00	0:00
Vaskupi	305722.878 329009.676 Vaskupi	109:14	220	0:44	32:31
Vecvagari	306393.285 329003.330 Vecvagari	50:57	108	0:44	10:16
Varpas	303470.136 329694.814 Varpas	0:00	0	0:00	0:00
Veberi	303301.731 328633.576 Veberi	135:00	230	0:55	25:31
Vejkalni	304900.766 330181.681 Vejkalni	0:00	0	0:00	0:00
Vitoli	307272.947 329788.237 Vitoli	0:00	0	0:00	0:00
Zalumi	303362.388 328947.139 Zalumi	75:25	185	0:41	13:37
Zemturi	300362.735 330609.313 Zemturi	0:00	0	0:00	0:00
Zemites	304048.281 328910.043 Zemites	53:52	171	0:25	12:34
Zvejnieki	303809.951 329020.220 Zvejnieki	39:49	124	0:25	6:33
Ziles	300770.406 330629.896 Ziles	0:00	0	0:00	0:00
Kesteri	303078.583 329969.030 Kesteri	0:00	0	0:00	0:00
Kuki	304751.083 329386.589 Kuki	12:11	35	0:27	3:31
S kapari	301639.238 329476.040S kapari	31:32	85	0:28	11:10

Total amount of flickering on the shadow receptors caused by each WTG

No.	Name	Worst case [h/year]	Expected [h/year]
WT_1	NORDEX N163/6.X 7000 163.0 !O! hub: 164.0 m (TOT: 245.5 m) (795)	0:00	0:00
WT_10	NORDEX N163/6.X 7000 163.0 !O! hub: 164.0 m (TOT: 245.5 m) (799)	0:00	0:00
WT_11	NORDEX N163/6.X 7000 163.0 !O! hub: 164.0 m (TOT: 245.5 m) (800)	0:00	0:00
WT_12	NORDEX N163/6.X 7000 163.0 !O! hub: 164.0 m (TOT: 245.5 m) (801)	0:00	0:00
WT_13	NORDEX N163/6.X 7000 163.0 !O! hub: 164.0 m (TOT: 245.5 m) (802)	0:00	0:00
WT_14	NORDEX N163/6.X 7000 163.0 !O! hub: 164.0 m (TOT: 245.5 m) (803)	26:40	3:11
WT_16	NORDEX N163/6.X 7000 163.0 !O! hub: 164.0 m (TOT: 245.5 m) (804)	6:22	0:39
WT_17	NORDEX N163/6.X 7000 163.0 !O! hub: 164.0 m (TOT: 245.5 m) (805)	0:00	0:00
WT_18	NORDEX N163/6.X 7000 163.0 !O! hub: 164.0 m (TOT: 245.5 m) (806)	52:18	6:43
WT_19	NORDEX N163/6.X 7000 163.0 !O! hub: 164.0 m (TOT: 245.5 m) (807)	0:00	0:00
WT_2	NORDEX N163/6.X 7000 163.0 !O! hub: 164.0 m (TOT: 245.5 m) (796)	7:43	1:30
WT_21	NORDEX N163/6.X 7000 163.0 !O! hub: 164.0 m (TOT: 245.5 m) (808)	0:00	0:00
WT_23	NORDEX N163/6.X 7000 163.0 !O! hub: 164.0 m (TOT: 245.5 m) (809)	16:20	1:50
WT_24	NORDEX N163/6.X 7000 163.0 !O! hub: 164.0 m (TOT: 245.5 m) (810)	0:00	0:00
WT_27	NORDEX N163/6.X 7000 163.0 !O! hub: 164.0 m (TOT: 245.5 m) (811)	0:00	0:00
WT_28	NORDEX N163/6.X 7000 163.0 !O! hub: 164.0 m (TOT: 245.5 m) (812)	0:00	0:00
WT_29	NORDEX N163/6.X 7000 163.0 !O! hub: 164.0 m (TOT: 245.5 m) (813)	0:00	0:00
WT_3	NORDEX N163/6.X 7000 163.0 !O! hub: 164.0 m (TOT: 245.5 m) (797)	0:00	0:00
WT_30	NORDEX N163/6.X 7000 163.0 !O! hub: 164.0 m (TOT: 245.5 m) (814)	0:00	0:00
WT_31	NORDEX N163/6.X 7000 163.0 !O! hub: 164.0 m (TOT: 245.5 m) (815)	20:33	4:15
WT_32	NORDEX N163/6.X 7000 163.0 !O! hub: 164.0 m (TOT: 245.5 m) (816)	0:00	0:00
WT_33	NORDEX N163/6.X 7000 163.0 !O! hub: 164.0 m (TOT: 245.5 m) (817)	0:00	0:00
WT_35	NORDEX N163/6.X 7000 163.0 !O! hub: 164.0 m (TOT: 245.5 m) (818)	0:00	0:00
WT_36	NORDEX N163/6.X 7000 163.0 !O! hub: 164.0 m (TOT: 245.5 m) (819)	8:01	1:53
WT_37	NORDEX N163/6.X 7000 163.0 !O! hub: 164.0 m (TOT: 245.5 m) (820)	0:00	0:00
WT_38	NORDEX N163/6.X 7000 163.0 !O! hub: 164.0 m (TOT: 245.5 m) (821)	0:00	0:00
WT_41	NORDEX N163/6.X 7000 163.0 !O! hub: 164.0 m (TOT: 245.5 m) (822)	20:53	3:15
WT_42	NORDEX N163/6.X 7000 163.0 !O! hub: 164.0 m (TOT: 245.5 m) (823)	0:00	0:00

To be continued on next page...

Project:

VC22362\_Mezaine-LV\_SIA-K2

Description:

Pavilostas Wind Farm  
 Draft Layout - Final Calculation/assessment will be made in the  
 Technical State  
 Flicker Calculation according to German Standard

Licensed user:

Deutsche WindGuard GmbH  
 Oldenburger Str. 65  
 DE-26316 Varel  
 +49 (0)4451 9515 0  
 Johannes Cordes / cfr@windguard.de  
 Calculated:  
 14.04.2024 20:23/4.0.531

## SHADOW - Main Result

### Calculation: Flicker impact

...continued from previous page

No.	Name	Worst case [h/year]	Expected [h/year]
WT_43	NORDEX N163/6.X 7000 163.0 !O! hub: 164.0 m (TOT: 245.5 m) (824)	27:38	9:35
WT_44	NORDEX N163/6.X 7000 163.0 !O! hub: 164.0 m (TOT: 245.5 m) (825)	15:08	4:37
WT_45	NORDEX N163/6.X 7000 163.0 !O! hub: 164.0 m (TOT: 245.5 m) (826)	0:00	0:00
WT_46	NORDEX N163/6.X 7000 163.0 !O! hub: 164.0 m (TOT: 245.5 m) (827)	17:53	2:18
WT_48	NORDEX N163/6.X 7000 163.0 !O! hub: 164.0 m (TOT: 245.5 m) (828)	44:40	13:22
WT_49	NORDEX N163/6.X 7000 163.0 !O! hub: 164.0 m (TOT: 245.5 m) (829)	38:08	9:07
WT_51	NORDEX N163/6.X 7000 163.0 !O! hub: 164.0 m (TOT: 245.5 m) (830)	94:31	28:19
WT_52	NORDEX N163/6.X 7000 163.0 !O! hub: 164.0 m (TOT: 245.5 m) (831)	1:54	0:12
WT_53	NORDEX N163/6.X 7000 163.0 !O! hub: 164.0 m (TOT: 245.5 m) (832)	14:30	1:50
WT_54	NORDEX N163/6.X 7000 163.0 !O! hub: 164.0 m (TOT: 245.5 m) (833)	107:20	28:24
WT_55	NORDEX N163/6.X 7000 163.0 !O! hub: 164.0 m (TOT: 245.5 m) (834)	0:00	0:00
WT_56	NORDEX N163/6.X 7000 163.0 !O! hub: 164.0 m (TOT: 245.5 m) (835)	122:26	19:56
WT_57	NORDEX N163/6.X 7000 163.0 !O! hub: 164.0 m (TOT: 245.5 m) (836)	199:48	46:47
WT_58	NORDEX N163/6.X 7000 163.0 !O! hub: 164.0 m (TOT: 245.5 m) (837)	202:34	54:10
WT_59	NORDEX N163/6.X 7000 163.0 !O! hub: 164.0 m (TOT: 245.5 m) (838)	189:38	37:46
WT_60	NORDEX N163/6.X 7000 163.0 !O! hub: 164.0 m (TOT: 245.5 m) (839)	30:28	3:55
WT_61	NORDEX N163/6.X 7000 163.0 !O! hub: 164.0 m (TOT: 245.5 m) (840)	10:16	2:08
WT_62	NORDEX N163/6.X 7000 163.0 !O! hub: 164.0 m (TOT: 245.5 m) (841)	22:33	7:16
WT_63	NORDEX N163/6.X 7000 163.0 !O! hub: 164.0 m (TOT: 245.5 m) (842)	0:00	0:00
WT_64	NORDEX N163/6.X 7000 163.0 !O! hub: 164.0 m (TOT: 245.5 m) (843)	0:00	0:00
WT_65	NORDEX N163/6.X 7000 163.0 !O! hub: 164.0 m (TOT: 245.5 m) (844)	0:00	0:00
WT_66	NORDEX N163/6.X 7000 163.0 !O! hub: 164.0 m (TOT: 245.5 m) (845)	0:00	0:00
WT_67	NORDEX N163/6.X 7000 163.0 !O! hub: 164.0 m (TOT: 245.5 m) (846)	0:00	0:00
WT_68	NORDEX N163/6.X 7000 163.0 !O! hub: 164.0 m (TOT: 245.5 m) (847)	53:47	7:39
WT_69	NORDEX N163/6.X 7000 163.0 !O! hub: 164.0 m (TOT: 245.5 m) (848)	335:45	77:46
WT_7	NORDEX N163/6.X 7000 163.0 !O! hub: 164.0 m (TOT: 245.5 m) (798)	0:00	0:00
WT_70	NORDEX N163/6.X 7000 163.0 !O! hub: 164.0 m (TOT: 245.5 m) (849)	53:13	8:18

Total times in Receptor wise and WTG wise tables can differ, as a WTG can lead to flicker at 2 or more receptors simultaneously and/or receptors may receive flicker from 2 or more WTGs simultaneously.

The calculation of the total expected values for a given receptor assumes a weighted average directional reduction for all WTGs contributing to shadow flicker within the same day. In the case where shadow flicker from different WTGs is not concurrent within the day, the total expected time at a given receptor may deviate marginally from the individual flicker time caused by each turbine separately.