

Project:
Gullberg

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Licensed user:
Nordex Sverige AB
Kungsängsvägen 21
SE-750 23 Uppsala
+46 18 185 900
KB
Calculated:
2009.03.25 16:47/2.6.1.252

SHADOW - Main Result

Calculation: 20090325 Gullberg 11WTG

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

The calculated times are "worst case" given by the following assumptions:
The sun is shining all the day, from sunrise to sunset
The rotor plane is always perpendicular to the line from the WTG to the sun
The WTG is always operating

To avoid flicker from WTGs not visible a ZVI calculation is performed before the flicker calculation. The ZVI calculation is based on the following assumptions

Height contours used: Height Contours: HeightContoursGullberg.WPO (14
Obstacles not used in calculation
Eye height: 1,5 m
Grid resolution: 10 m



New WTG

Scale 1:100 000
Shadow receptor

WTGs

RN	RN			Row data/Description	WTG type			Power, rated [kW]	Rotor diameter [m]	Hub height [m]	Shadow data	
	East	North	Z [m]		Valid	Manufact.	Type-generator				Calculation distance [m]	RPM [RPM]
1	1 554 479	6 789 715	229,1	NORDEX N90/2500 LS 250..Yes	Yes	NORDEX	N90/2500 LS-2 500 2 500	2 500	90,0	100,0	1 438	16,9
2	1 554 481	6 789 284	249,8	NORDEX N90/2500 LS 250..Yes	Yes	NORDEX	N90/2500 LS-2 500 2 500	2 500	90,0	100,0	1 438	16,9
3	1 554 483	6 788 853	240,0	NORDEX N90/2500 LS 250..Yes	Yes	NORDEX	N90/2500 LS-2 500 2 500	2 500	90,0	100,0	1 438	16,9
4	1 554 485	6 788 422	240,0	NORDEX N90/2500 LS 250..Yes	Yes	NORDEX	N90/2500 LS-2 500 2 500	2 500	90,0	100,0	1 438	16,9
5	1 554 491	6 788 017	239,8	NORDEX N90/2500 LS 250..Yes	Yes	NORDEX	N90/2500 LS-2 500 2 500	2 500	90,0	100,0	1 438	16,9
6	1 555 168	6 788 094	227,0	NORDEX N90/2500 LS 250..Yes	Yes	NORDEX	N90/2500 LS-2 500 2 500	2 500	90,0	100,0	1 438	16,9
7	1 555 120	6 788 529	221,0	NORDEX N90/2500 LS 250..Yes	Yes	NORDEX	N90/2500 LS-2 500 2 500	2 500	90,0	100,0	1 438	16,9
8	1 555 194	6 788 949	221,5	NORDEX N90/2500 LS 250..Yes	Yes	NORDEX	N90/2500 LS-2 500 2 500	2 500	90,0	100,0	1 438	16,9
9	1 554 990	6 789 390	227,7	NORDEX N90/2500 LS 250..Yes	Yes	NORDEX	N90/2500 LS-2 500 2 500	2 500	90,0	100,0	1 438	16,9
10	1 553 616	6 788 660	223,4	NORDEX N90/2500 LS 250..Yes	Yes	NORDEX	N90/2500 LS-2 500 2 500	2 500	90,0	100,0	1 438	16,9
11	1 553 648	6 789 109	220,0	NORDEX N90/2500 LS 250..Yes	Yes	NORDEX	N90/2500 LS-2 500 2 500	2 500	90,0	100,0	1 438	16,9

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SHADOW - Terrain map

Calculation: 20090325 Gullberg 11WTG File: 3151927301 9.jpg



0 500 1000 1500 2000 m

Map: , Print scale 1:40 000, Map center Rikets Net (SE) East: 1 554 567 North: 6 788 882

▲ New WTG

● Shadow receptor

Isolines showing shadow in Shadow hours per year. Worst case calculation.

— 0	— 10	— 30	— 100	— 200
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