

## **7 priedas**

**SĄVEIKA SU GRETIMOJE APLINKOJE PLANUOJAMA ANALOGIŠKA ŪKINE VEIKLA.  
PROGNOSTINIAI TRIUKŠMO IR ŠEŠĖLIAVIMO MODELIAVIMO REZULTATAI**

Project:

Prognostiniai triukšmo modeliavimo rezultatai - sąveika su UAB "Energijos žara"

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**VE modelis UAB "Atsinaujinantieji ištekčiai":** Nordex S77, 1500 kW, bokšto aukštis 111,5 m, rotoriaus skersmuo 77 m, bendras aukštis 150 m, maksimalus skleidžiamas triukšmo lygis 105,4 dB(A)

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Calculated:  
2018.08.13 11:02/2.9.269

## DECIBEL - Main Result

### Noise calculation model:

ISO 9613-2 General

### Wind speed:

10,0 m/s

### Ground attenuation:

General, Ground factor: 0,6

### Meteorological coefficient, C0:

2,0 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:

0,0 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)

## WTGs

Lithuanian TM LKS94-LKS94 (LT)				WTG type			Noise data			Wind speed [m/s]	Status	LwA,ref [dB(A)]	Pure tones		
East	North	Z	Row data/Description	Valid	Manufact.	Type-generator	Power, rated [kW]	Rotor diameter [m]	Hub height [m]					Creator	Name
E201	435.867	6.152.640	135,0	NORDEX N131/3000 3000 131,0 IOI ... Yes	NORDEX	N131/3000-3.000	3.000	131,0	114,0	EMD	Mode 0 - 104.5 dB(A) - R00	10,0	104,5	0 dB h	
E202	435.995	6.152.151	134,7	NORDEX N131/3000 3000 131,0 IOI ... Yes	NORDEX	N131/3000-3.000	3.000	131,0	114,0	EMD	Mode 0 - 104.5 dB(A) - R00	10,0	104,5	0 dB h	
E203	435.515	6.152.307	134,9	NORDEX N131/3000 3000 131,0 IOI ... Yes	NORDEX	N131/3000-3.000	3.000	131,0	114,0	EMD	Mode 0 - 104.5 dB(A) - R00	10,0	104,5	0 dB h	
E204	435.665	6.151.726	133,9	NORDEX N131/3000 3000 131,0 IOI ... Yes	NORDEX	N131/3000-3.000	3.000	131,0	114,0	EMD	Mode 0 - 104.5 dB(A) - R00	10,0	104,5	0 dB h	
E205	435.109	6.151.498	134,4	NORDEX N131/3000 3000 131,0 IOI ... Yes	NORDEX	N131/3000-3.000	3.000	131,0	114,0	EMD	Mode 0 - 104.5 dB(A) - R00	10,0	104,5	0 dB h	
E206	434.769	6.152.198	135,0	NORDEX N131/3000 3000 131,0 IOI ... Yes	NORDEX	N131/3000-3.000	3.000	131,0	114,0	EMD	Mode 0 - 104.5 dB(A) - R00	10,0	104,5	0 dB h	
E207	434.277	6.152.525	135,0	NORDEX N131/3000 3000 131,0 IOI ... Yes	NORDEX	N131/3000-3.000	3.000	131,0	114,0	EMD	Mode 0 - 104.5 dB(A) - R00	10,0	104,5	0 dB h	
E208	434.607	6.151.417	135,0	NORDEX N131/3000 3000 131,0 IOI ... Yes	NORDEX	N131/3000-3.000	3.000	131,0	114,0	EMD	Mode 0 - 104.5 dB(A) - R00	10,0	104,5	0 dB h	
E209	434.165	6.151.179	135,0	NORDEX N131/3000 3000 131,0 IOI ... Yes	NORDEX	N131/3000-3.000	3.000	131,0	114,0	EMD	Mode 0 - 104.5 dB(A) - R00	10,0	104,5	0 dB h	
E210	433.767	6.150.858	135,0	NORDEX N131/3000 3000 131,0 IOI ... Yes	NORDEX	N131/3000-3.000	3.000	131,0	114,0	EMD	Mode 0 - 104.5 dB(A) - R00	10,0	104,5	0 dB h	
E211	433.661	6.151.395	135,0	NORDEX N131/3000 3000 131,0 IOI ... Yes	NORDEX	N131/3000-3.000	3.000	131,0	114,0	EMD	Mode 0 - 104.5 dB(A) - R00	10,0	104,5	0 dB h	
E212	433.152	6.151.338	135,0	NORDEX N131/3000 3000 131,0 IOI ... Yes	NORDEX	N131/3000-3.000	3.000	131,0	114,0	EMD	Mode 0 - 104.5 dB(A) - R00	10,0	104,5	0 dB h	
E213	433.643	6.151.878	135,0	NORDEX N131/3000 3000 131,0 IOI ... Yes	NORDEX	N131/3000-3.000	3.000	131,0	114,0	EMD	Mode 0 - 104.5 dB(A) - R00	10,0	104,5	0 dB h	
E214	434.128	6.151.898	135,0	NORDEX N131/3000 3000 131,0 IOI ... Yes	NORDEX	N131/3000-3.000	3.000	131,0	114,0	EMD	Mode 0 - 104.5 dB(A) - R00	10,0	104,5	0 dB h	
E215	433.537	6.152.332	135,3	NORDEX N131/3000 3000 131,0 IOI ... Yes	NORDEX	N131/3000-3.000	3.000	131,0	114,0	EMD	Mode 0 - 104.5 dB(A) - R00	10,0	104,5	0 dB h	
E216	433.005	6.152.210	136,8	NORDEX N131/3000 3000 131,0 IOI ... Yes	NORDEX	N131/3000-3.000	3.000	131,0	114,0	EMD	Mode 0 - 104.5 dB(A) - R00	10,0	104,5	0 dB h	
E217	432.485	6.153.355	139,7	NORDEX N131/3000 3000 131,0 IOI ... Yes	NORDEX	N131/3000-3.000	3.000	131,0	114,0	EMD	Mode 0 - 104.5 dB(A) - R00	10,0	104,5	0 dB h	
E218	431.958	6.153.130	141,8	NORDEX N131/3000 3000 131,0 IOI ... Yes	NORDEX	N131/3000-3.000	3.000	131,0	114,0	EMD	Mode 0 - 104.5 dB(A) - R00	10,0	104,5	0 dB h	
E219	432.414	6.152.860	139,1	NORDEX N131/3000 3000 131,0 IOI ... Yes	NORDEX	N131/3000-3.000	3.000	131,0	114,0	EMD	Mode 0 - 104.5 dB(A) - R00	10,0	104,5	0 dB h	
E220	431.600	6.152.690	139,9	NORDEX N131/3000 3000 131,0 IOI ... Yes	NORDEX	N131/3000-3.000	3.000	131,0	114,0	EMD	Mode 0 - 104.5 dB(A) - R00	10,0	104,5	0 dB h	
VE01	434.404	6.153.700	140,0	NORDEX S77 1500 77,0 H hub: 111 ... Yes	NORDEX	S77-1.500	1.500	77,0	111,5	EMD	Level 0 - official - - 04-2005	10,0	Generic data based on turbine power (very uncertain)	105,4	0 dB a
VE02	433.941	6.153.477	137,3	NORDEX S77 1500 77,0 H hub: 111 ... Yes	NORDEX	S77-1.500	1.500	77,0	111,5	EMD	Level 0 - official - - 04-2005	10,0	Generic data based on turbine power (very uncertain)	105,4	0 dB a
VE03	434.518	6.154.191	140,0	NORDEX S77 1500 77,0 H hub: 111 ... Yes	NORDEX	S77-1.500	1.500	77,0	111,5	EMD	Level 0 - official - - 04-2005	10,0	Generic data based on turbine power (very uncertain)	105,4	0 dB a
VE04	433.978	6.154.139	140,4	NORDEX S77 1500 77,0 H hub: 111 ... Yes	NORDEX	S77-1.500	1.500	77,0	111,5	EMD	Level 0 - official - - 04-2005	10,0	Generic data based on turbine power (very uncertain)	105,4	0 dB a

a) Generic data based on turbine power (very uncertain)

h) Generic octave distribution used

## Calculation Results

### Sound Level

#### Noise sensitive area

No.	Name	Lithuanian TM LKS94-LKS94 (LT)			Imission height [m]	Demands Noise [dB(A)]	Sound Level From WTGs [dB(A)]	Demands fulfilled ? Noise
		East	North	Z				
A	Noise sensitive area: German TA Lärm - Unzoned countryside areas (1)	433.820	6.152.823	135,0	0,0	45,0	39,8	Yes
B	Noise sensitive area: German TA Lärm - Unzoned countryside areas (2)	434.301	6.153.204	136,6	0,0	45,0	40,7	Yes
C	Noise sensitive area: German TA Lärm - Unzoned countryside areas (3)	434.429	6.153.303	140,0	0,0	45,0	41,0	Yes
D	Noise sensitive area: German TA Lärm - Unzoned countryside areas (4)	434.627	6.153.224	137,8	0,0	45,0	39,0	Yes
E	Noise sensitive area: German TA Lärm - Unzoned countryside areas (5)	434.893	6.153.836	140,0	0,0	45,0	39,2	Yes
F	Noise sensitive area: German TA Lärm - Unzoned countryside areas (6)	434.935	6.153.925	140,0	0,0	45,0	38,8	Yes
G	Noise sensitive area: German TA Lärm - Unzoned countryside areas (7)	435.118	6.153.924	138,7	0,0	45,0	36,5	Yes
H	Noise sensitive area: German TA Lärm - Unzoned countryside areas (8)	435.145	6.153.836	138,4	0,0	45,0	36,2	Yes
I	Noise sensitive area: German TA Lärm - Unzoned countryside areas (9)	435.275	6.153.951	136,9	0,0	45,0	34,9	Yes
J	Noise sensitive area: German TA Lärm - Unzoned countryside areas (10)	435.435	6.153.820	134,7	0,0	45,0	33,9	Yes
K	Noise sensitive area: German TA Lärm - Unzoned countryside areas (11)	435.579	6.153.848	131,2	0,0	45,0	33,0	Yes

Project:

Prognostiniai triukšmo modeliavimo rezultatai - sąveika su UAB "Energijos žara"

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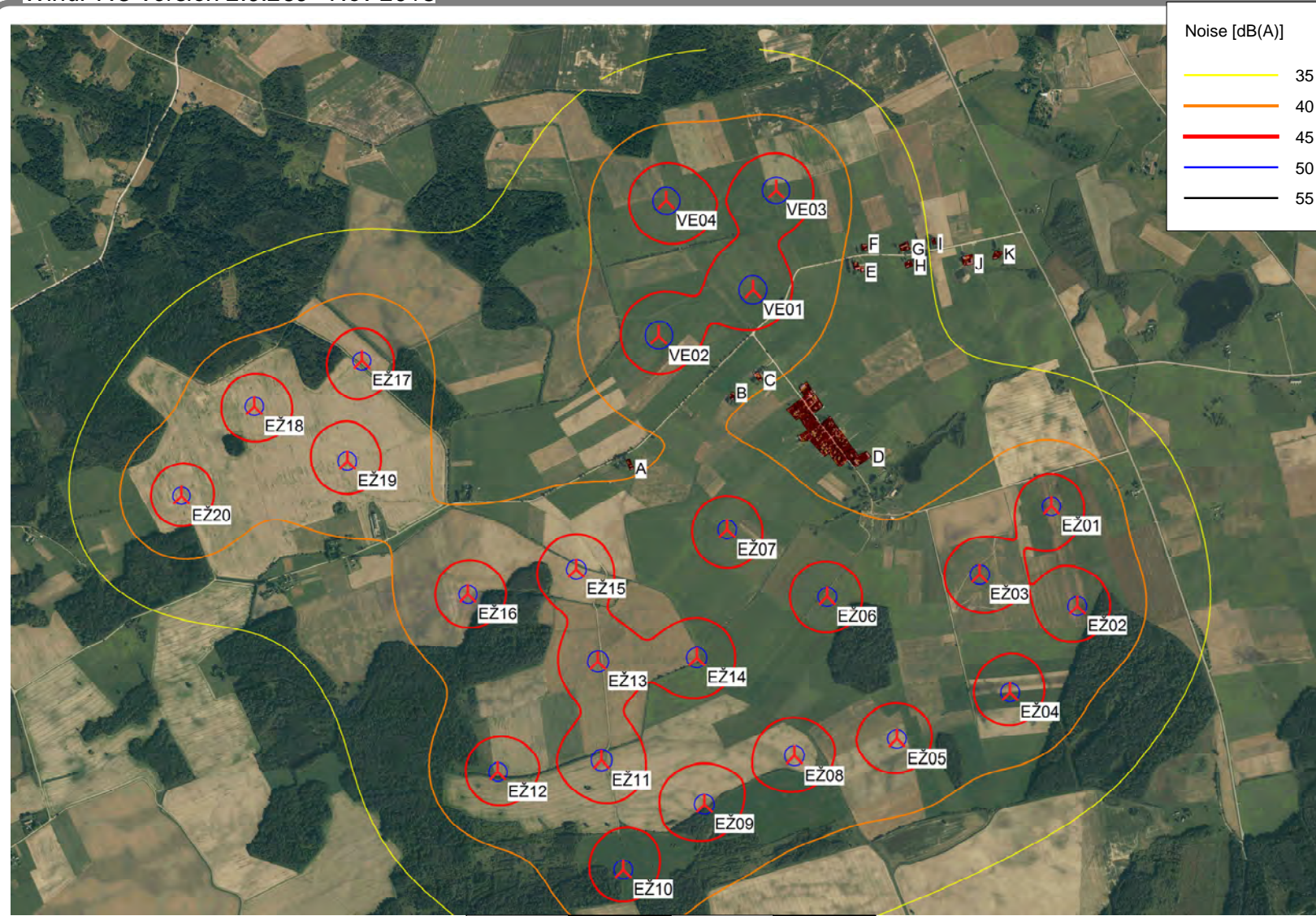
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Calculated:

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**DECIBEL - Main Result****Distances (m)**

WTG	A	B	C	D	E	F	G	H	I	J	K
EŽ01	2055	1642	1547	916	1470	1545	1438	1360	1405	1248	1241
EŽ02	2276	1966	1901	1248	1942	2025	1932	1853	1906	1753	1746
EŽ03	1772	1479	1429	783	1585	1680	1627	1543	1632	1515	1542
EŽ04	2146	1976	1956	1339	2182	2278	2227	2143	2229	2106	2123
EŽ05	1849	1847	1879	1346	2294	2400	2390	2309	2431	2344	2396
EŽ06	1135	1068	1106	633	1596	1706	1728	1654	1800	1753	1838
EŽ07	546	633	743	563	1417	1521	1608	1552	1723	1737	1856
EŽ08	1611	1768	1843	1429	2391	2500	2525	2451	2595	2541	2618
EŽ09	1676	1983	2090	1778	2717	2824	2875	2807	2963	2930	3020
EŽ10	1957	2360	2484	2238	3150	3255	3322	3258	3419	3399	3496
EŽ11	1427	1874	2010	1842	2703	2807	2893	2836	3004	3004	3113
EŽ12	1613	2151	2302	2197	3018	3119	3227	3178	3350	3372	3491
EŽ13	950	1438	1584	1467	2295	2397	2500	2449	2622	2642	2762
EŽ14	974	1271	1387	1164	2050	2155	2228	2166	2331	2324	2430
EŽ15	550	1123	1283	1264	2002	2099	2226	2188	2363	2411	2543
EŽ16	999	1604	1767	1791	2473	2564	2707	2676	2851	2915	3051
EŽ17	1384	1810	1922	2095	2455	2511	2694	2703	2853	2983	3133
EŽ18	1841	2329	2453	2608	3018	3076	3258	3264	3417	3543	3691
EŽ19	1366	1899	2037	2167	2658	2727	2904	2898	3060	3170	3315
EŽ20	2187	2730	2869	2996	3482	3548	3727	3724	3884	3998	4144
VE01	1023	507	398	520	507	568	748	753	906	1034	1184
VE02	618	452	502	722	1013	1080	1258	1256	1415	1533	1679
VE03	1500	1011	893	951	517	495	657	721	794	965	1108
VE04	1276	990	950	1122	964	981	1160	1206	1311	1473	1622



Noise [dB(A)]	
	35
	40
	45
	50
	55

Project:  
**Prognostiniai triukšmo modeliavimo rezultatai - sąveika su UAB "Energijos žara"**

**VE modelis UAB "Atsinaujinantieji išteklių":**  
 Nordex S77, 1500 kW, bokšto aukštis 111,5 m, rotoriaus skersmuo 77 m, bendras aukštis 150 m, maksimalus skleidžiamas triukšmo lygis 105,4 dB(A)

**DECIBEL - Map 10,0 m/s**

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 2018.08.13 11:02/2.9.269 81

New WTG

Noise sensitive area

Map: kelme1 , Print scale 1:30.000, Map center Lithuanian TM LKS94-LKS94 (LT) East: 433.890 North: 6.152.705

Noise calculation model: ISO 9613-2 General. Wind speed: 10,0 m/s  
 Height above sea level from active line object

Project:

Prognostiniai šešėliavimo modeliavimo rezultatai - sąveika su UAB "Energijos žara"

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**VE modelis UAB "Atsinaujinantieji ištekliai":** Nordex S77, 1500 kW, bokšto aukštis 111,5 m, rotoriaus skersmuo 77 m, bendras aukštis 150 m

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## SHADOW - Main Result

### 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) [KAUNAS]

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,41	2,36	4,03	5,55	8,35	8,36	8,16	7,72	5,06	3,23	1,33	0,98

Operational hours are calculated from WTGs in calculation and wind distribution:

Site data 12 sectors; Radius: 20.000 m (1)

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
908	527	250	278	545	617	743	970	1.148	994	761	551	8.292

Idle start wind speed: Cut in wind speed from power curve

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\_kelme1\_0.wpo (1)

Obstacles not used in calculation

Eye height: 1,5 m

Grid resolution: 10,0 m

### WTGs

	Lithuanian TM LKS94-LKS94 (LT)			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]
EŽ01	435.867	6.152.640	135,0	NORDEX N131/3000 3000 1... Yes	NORDEX	N131/3000-3.000	3.000	131,0	114,0	1.723	10,3	
EŽ02	435.995	6.152.151	134,7	NORDEX N131/3000 3000 1... Yes	NORDEX	N131/3000-3.000	3.000	131,0	114,0	1.723	10,3	
EŽ03	435.515	6.152.307	134,9	NORDEX N131/3000 3000 1... Yes	NORDEX	N131/3000-3.000	3.000	131,0	114,0	1.723	10,3	
EŽ04	435.665	6.151.726	133,9	NORDEX N131/3000 3000 1... Yes	NORDEX	N131/3000-3.000	3.000	131,0	114,0	1.723	10,3	
EŽ05	435.109	6.151.498	134,4	NORDEX N131/3000 3000 1... Yes	NORDEX	N131/3000-3.000	3.000	131,0	114,0	1.723	10,3	
EŽ06	434.768	6.152.198	135,0	NORDEX N131/3000 3000 1... Yes	NORDEX	N131/3000-3.000	3.000	131,0	114,0	1.723	10,3	
EŽ07	434.277	6.152.525	135,0	NORDEX N131/3000 3000 1... Yes	NORDEX	N131/3000-3.000	3.000	131,0	114,0	1.723	10,3	
EŽ08	434.607	6.151.417	135,0	NORDEX N131/3000 3000 1... Yes	NORDEX	N131/3000-3.000	3.000	131,0	114,0	1.723	10,3	
EŽ09	434.165	6.151.179	135,0	NORDEX N131/3000 3000 1... Yes	NORDEX	N131/3000-3.000	3.000	131,0	114,0	1.723	10,3	
EŽ10	433.767	6.150.858	135,0	NORDEX N131/3000 3000 1... Yes	NORDEX	N131/3000-3.000	3.000	131,0	114,0	1.723	10,3	
EŽ11	433.661	6.151.395	135,0	NORDEX N131/3000 3000 1... Yes	NORDEX	N131/3000-3.000	3.000	131,0	114,0	1.723	10,3	
EŽ12	433.152	6.151.338	135,0	NORDEX N131/3000 3000 1... Yes	NORDEX	N131/3000-3.000	3.000	131,0	114,0	1.723	10,3	
EŽ13	433.643	6.151.878	135,0	NORDEX N131/3000 3000 1... Yes	NORDEX	N131/3000-3.000	3.000	131,0	114,0	1.723	10,3	
EŽ14	434.128	6.151.898	135,0	NORDEX N131/3000 3000 1... Yes	NORDEX	N131/3000-3.000	3.000	131,0	114,0	1.723	10,3	
EŽ15	433.537	6.152.332	135,3	NORDEX N131/3000 3000 1... Yes	NORDEX	N131/3000-3.000	3.000	131,0	114,0	1.723	10,3	
EŽ16	433.005	6.152.210	136,8	NORDEX N131/3000 3000 1... Yes	NORDEX	N131/3000-3.000	3.000	131,0	114,0	1.723	10,3	
EŽ17	432.485	6.153.355	139,7	NORDEX N131/3000 3000 1... Yes	NORDEX	N131/3000-3.000	3.000	131,0	114,0	1.723	10,3	
EŽ18	431.958	6.153.130	141,8	NORDEX N131/3000 3000 1... Yes	NORDEX	N131/3000-3.000	3.000	131,0	114,0	1.723	10,3	
EŽ19	432.414	6.152.860	139,1	NORDEX N131/3000 3000 1... Yes	NORDEX	N131/3000-3.000	3.000	131,0	114,0	1.723	10,3	
EŽ20	431.600	6.152.690	139,9	NORDEX N131/3000 3000 1... Yes	NORDEX	N131/3000-3.000	3.000	131,0	114,0	1.723	10,3	
VE01	434.404	6.153.700	140,0	NORDEX S77 1500 77.0 !-! ... Yes	NORDEX	S77-1.500	1.500	77,0	111,5	1.502	17,3	
VE02	433.941	6.153.477	137,3	NORDEX S77 1500 77.0 !-! ... Yes	NORDEX	S77-1.500	1.500	77,0	111,5	1.502	17,3	
VE03	434.518	6.154.191	140,0	NORDEX S77 1500 77.0 !-! ... Yes	NORDEX	S77-1.500	1.500	77,0	111,5	1.502	17,3	
VE04	433.978	6.154.139	140,4	NORDEX S77 1500 77.0 !-! ... Yes	NORDEX	S77-1.500	1.500	77,0	111,5	1.502	17,3	

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Calculated:

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**SHADOW - Main Result****Shadow receptor-Input****Lithuanian TM LKS94-LKS94 (LT)**

No.	East	North	Z	Width	Height	Height a.g.l.	Degrees from south cw	Slope of window	Direction mode
	[m]	[m]	[m]	[m]	[m]	[m]	[°]	[°]	
A	433.792	6.152.842	135,0	1,0	1,0	1,0	0,0	90,0	"Green house mode"
B	434.307	6.153.172	136,4	1,0	1,0	1,0	0,0	90,0	"Green house mode"
C	434.432	6.153.267	140,0	1,0	1,0	1,0	0,0	90,0	"Green house mode"
D	434.652	6.153.152	139,5	1,0	1,0	1,0	0,0	90,0	"Green house mode"
E	434.922	6.153.807	140,0	1,0	1,0	1,0	0,0	90,0	"Green house mode"
F	434.947	6.153.912	140,0	1,0	1,0	1,0	0,0	90,0	"Green house mode"
G	435.152	6.153.902	138,6	1,0	1,0	1,0	0,0	90,0	"Green house mode"
H	435.165	6.153.825	138,4	1,0	1,0	1,0	0,0	90,0	"Green house mode"
I	435.293	6.153.939	136,9	1,0	1,0	1,0	0,0	90,0	"Green house mode"
J	435.453	6.153.841	134,8	1,0	1,0	1,0	0,0	90,0	"Green house mode"
K	435.597	6.153.877	131,2	1,0	1,0	1,0	0,0	90,0	"Green house mode"

**Calculation Results**

Shadow receptor

**Shadow, expected values**

No. Shadow hours

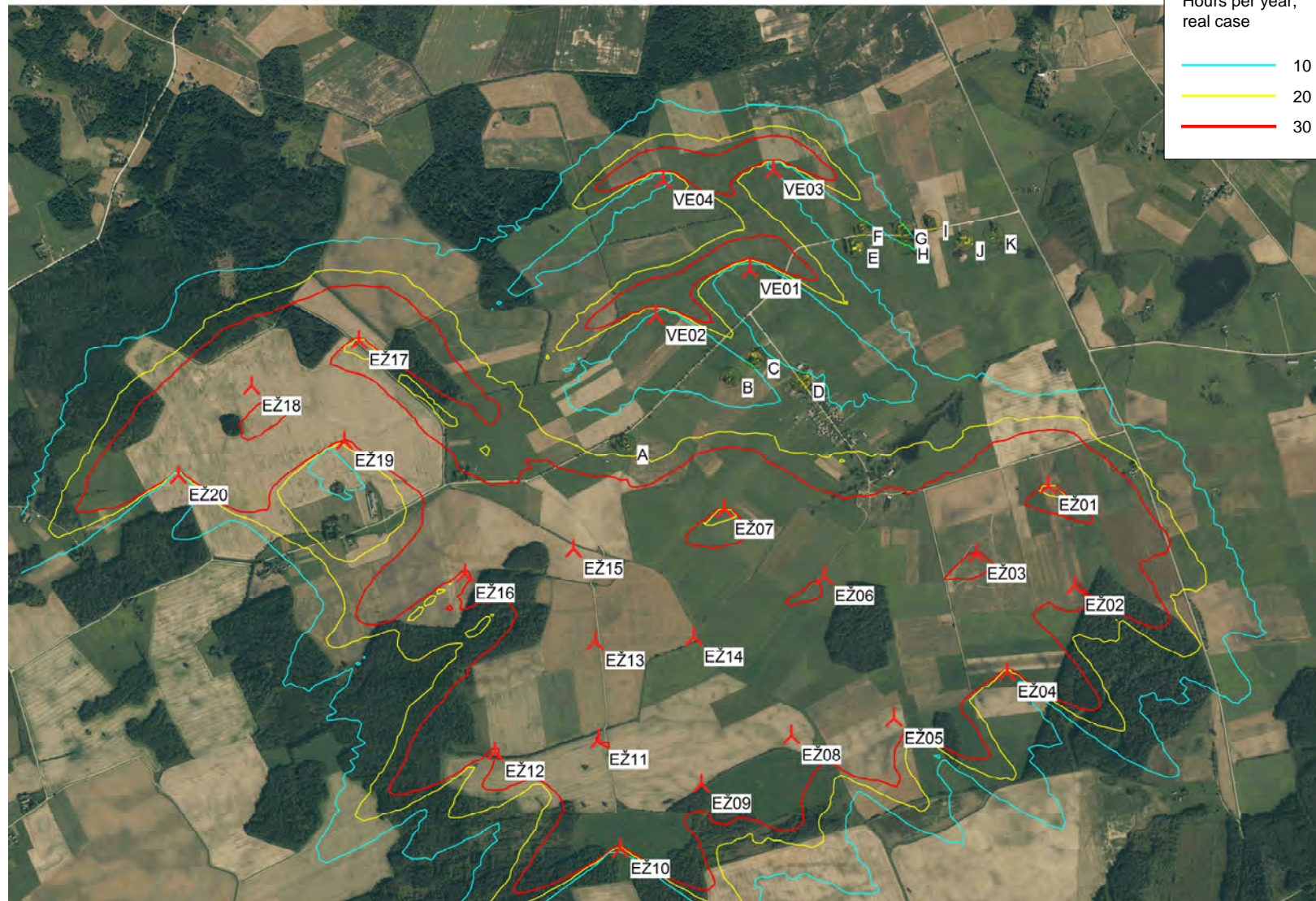
per year

[h/year]

A	26:18
B	10:52
C	18:25
D	17:14
E	8:26
F	6:58
G	13:03
H	12:43
I	5:48
J	3:17
K	2:09

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

No.	Name	Worst case [h/year]	Expected [h/year]
EŽ01	NORDEX N131/3000 3000 131.0 !O! hub: 114,0 m (TOT: 179,5 m) (74)	49:08	5:29
EŽ02	NORDEX N131/3000 3000 131.0 !O! hub: 114,0 m (TOT: 179,5 m) (75)	5:00	0:37
EŽ03	NORDEX N131/3000 3000 131.0 !O! hub: 114,0 m (TOT: 179,5 m) (76)	26:04	3:02
EŽ04	NORDEX N131/3000 3000 131.0 !O! hub: 114,0 m (TOT: 179,5 m) (77)	0:00	0:00
EŽ05	NORDEX N131/3000 3000 131.0 !O! hub: 114,0 m (TOT: 179,5 m) (78)	0:00	0:00
EŽ06	NORDEX N131/3000 3000 131.0 !O! hub: 114,0 m (TOT: 179,5 m) (79)	29:51	3:33
EŽ07	NORDEX N131/3000 3000 131.0 !O! hub: 114,0 m (TOT: 179,5 m) (80)	180:22	21:14
EŽ08	NORDEX N131/3000 3000 131.0 !O! hub: 114,0 m (TOT: 179,5 m) (81)	2:18	0:11
EŽ09	NORDEX N131/3000 3000 131.0 !O! hub: 114,0 m (TOT: 179,5 m) (82)	0:00	0:00
EŽ10	NORDEX N131/3000 3000 131.0 !O! hub: 114,0 m (TOT: 179,5 m) (83)	0:00	0:00
EŽ11	NORDEX N131/3000 3000 131.0 !O! hub: 114,0 m (TOT: 179,5 m) (84)	0:00	0:00
EŽ12	NORDEX N131/3000 3000 131.0 !O! hub: 114,0 m (TOT: 179,5 m) (85)	0:00	0:00
EŽ13	NORDEX N131/3000 3000 131.0 !O! hub: 114,0 m (TOT: 179,5 m) (86)	14:36	1:23
EŽ14	NORDEX N131/3000 3000 131.0 !O! hub: 114,0 m (TOT: 179,5 m) (87)	12:44	1:08
EŽ15	NORDEX N131/3000 3000 131.0 !O! hub: 114,0 m (TOT: 179,5 m) (88)	118:12	12:30
EŽ16	NORDEX N131/3000 3000 131.0 !O! hub: 114,0 m (TOT: 179,5 m) (89)	21:17	2:46
EŽ17	NORDEX N131/3000 3000 131.0 !O! hub: 114,0 m (TOT: 179,5 m) (90)	9:30	2:43
EŽ18	NORDEX N131/3000 3000 131.0 !O! hub: 114,0 m (TOT: 179,5 m) (91)	0:00	0:00
EŽ19	NORDEX N131/3000 3000 131.0 !O! hub: 114,0 m (TOT: 179,5 m) (92)	7:16	1:36
EŽ20	NORDEX N131/3000 3000 131.0 !O! hub: 114,0 m (TOT: 179,5 m) (93)	0:00	0:00
VE01	NORDEX S77 1500 77.0 !-! hub: 111,5 m (TOT: 150,0 m) (70)	48:58	10:10
VE02	NORDEX S77 1500 77.0 !-! hub: 111,5 m (TOT: 150,0 m) (71)	65:20	17:14
VE03	NORDEX S77 1500 77.0 !-! hub: 111,5 m (TOT: 150,0 m) (72)	68:54	19:41
VE04	NORDEX S77 1500 77.0 !-! hub: 111,5 m (TOT: 150,0 m) (73)	20:57	5:34



Hours per year, real case

- 10
- 20
- 30

Project:  
**Prognostiniai šešėliavimo modeliavimo rezultatai - sąveika su UAB "Energijos žara"**  
**VE modelis UAB "Atsinaujinantieji išteklių":**  
 Nordex S77, 1500 kW, bokšto aukštis 111,5 m, rotoriaus skersmuo 77 m, bendras aukštis 150 m

**SHADOW - Map**

Printed/Page  
 2018.08.13 12:47 / 1  
 Licensed user:  
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 Calculated:  
 2018.08.13 12:13/2.9.269 84

Map: kelme1 , Print scale 1:30.000, Map center Lithuanian TM LKS94-LKS94 (LT) East: 433.890 North: 6.152.705  
 New WTG 📍 Shadow receptor  
 Flicker map level: Height Contours: CONTOURLINE\_kelme1\_0.wpo (1)