

## **4 priedas**

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

Project: <b>5 VE statyba Akmenės rajone</b>	Description: Organizatorius: UAB "GREEN CHARGE"	Printed/Page 2018.10.19 09:14 / 1
Prognostiniai triukšmo modeliavimo rezultatai		Licensed user: <b>Alytaus Kolegija</b> Merkines str. 2b LT-62252 Alytus +370 612 64346
VE modelis: Vestas V150-4.2, 4200 kW, bokšto aukštis 166 m, rotoriaus skersmuo 150 m, bendras aukštis 241 m, maksimalus sklaidžiamas triukšmo lygis 104,9 dB(A)		user / nerijus.cesiulis@akolegija.lt Calculated: 2018.10.19 09:14/2.9.269

## DECIBEL - Main Result --- Sąveika su gretimoje aplinkoje planuojama analogiška ūkine veikla

### Calculation: GREEN CHARGE

#### 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:

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)

## WTGs

	Lithuanian TM LKS94-LKS94 (LT)				WTG type			Noise data			Wind speed [m/s]	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
			[m]											
SVE1	436.218	6.242.046	75,0	REpower MD 77 1500 77.0 !-... No	REpower	MD 77-1.500	1.500	77,0	85,0	EMD	Level 0 - guaranteed - - 05-2003	10,0	103,5	0 dB h
SVE2	435.983	6.242.269	75,0	REpower MD 77 1500 77.0 !-... No	REpower	MD 77-1.500	1.500	77,0	85,0	EMD	Level 0 - guaranteed - - 05-2003	10,0	103,5	0 dB h
SVE3	435.969	6.242.576	75,0	REpower MD 77 1500 77.0 !-... No	REpower	MD 77-1.500	1.500	77,0	85,0	EMD	Level 0 - guaranteed - - 05-2003	10,0	103,5	0 dB h
SVE4	435.934	6.241.944	75,0	REpower MD 77 1500 77.0 !-... No	REpower	MD 77-1.500	1.500	77,0	85,0	EMD	Level 0 - guaranteed - - 05-2003	10,0	103,5	0 dB h
VE01	436.894	6.242.632	75,0	VESTAS V150-4.2 4200 150.... Yes	VESTAS	V150-4.2-4.200	4.200	150,0	166,0	EMD	Level 0 - - Mode 0/PO1 - 10-2017	10,0	104,9	0 dB h
VE02	437.205	6.242.132	75,0	VESTAS V150-4.2 4200 150.... Yes	VESTAS	V150-4.2-4.200	4.200	150,0	166,0	EMD	Level 0 - - Mode 0/PO1 - 10-2017	10,0	104,9	0 dB h
VE03	437.702	6.242.746	75,0	VESTAS V150-4.2 4200 150.... Yes	VESTAS	V150-4.2-4.200	4.200	150,0	166,0	EMD	Level 0 - - Mode 0/PO1 - 10-2017	10,0	104,9	0 dB h
VE04	438.120	6.243.221	75,0	VESTAS V150-4.2 4200 150.... Yes	VESTAS	V150-4.2-4.200	4.200	150,0	166,0	EMD	Level 0 - - Mode 0/PO1 - 10-2017	10,0	104,9	0 dB h
VE05	438.797	6.243.113	75,0	VESTAS V150-4.2 4200 150.... Yes	VESTAS	V150-4.2-4.200	4.200	150,0	166,0	EMD	Level 0 - - Mode 0/PO1 - 10-2017	10,0	104,9	0 dB h
VTP1	436.467	6.242.486	75,0	ENERCON E-66/18.70 1800 ... No	ENERCON	E-66/18.70-1.800	1.800	70,0	63,0	EMD	Level 0 - guaranteed - - 07-2003	10,0	103,0	0 dB h

h) Generic octave distribution used

## Calculation Results

### Sound Level

Noise sensitive area No.	Name	Lithuanian TM LKS94-LKS94 (LT)			Demands Noise	Sound Level From WTGs	Demands fulfilled ? Noise	
		East	North	Z				
				Imission height				
				[m]	[dB(A)]	[dB(A)]		
A	Noise sensitive area: German TA Lärm - Unzoned countryside areas (32)	437.076	6.241.462	75,0	1,5	45,0	37,4	Yes
B	Noise sensitive area: German TA Lärm - Unzoned countryside areas (33)	438.130	6.242.137	75,0	1,5	45,0	37,5	Yes
C	Noise sensitive area: German TA Lärm - Unzoned countryside areas (34)	438.273	6.242.153	75,0	1,5	45,0	36,8	Yes
D	Noise sensitive area: German TA Lärm - Unzoned countryside areas (35)	438.923	6.242.408	75,0	1,5	45,0	36,0	Yes

### Distances (m)

WTG	A	B	C	D
SVE1	906	1900	2057	2729
SVE2	1229	2141	2292	2943
SVE3	1474	2201	2342	2959
SVE4	1062	2189	2348	3025
VE01	1184	1332	1459	2041
VE02	683	913	1068	1740
VE03	1259	744	823	1267
VE04	1763	1082	1074	1143
VE05	1911	1171	1055	710
VTP1	1162	1696	1836	2457

Project:  
**5 VE statyba Akmenės rajone**

Description:  
 Organizatorius: UAB "GREEN CHARGE"

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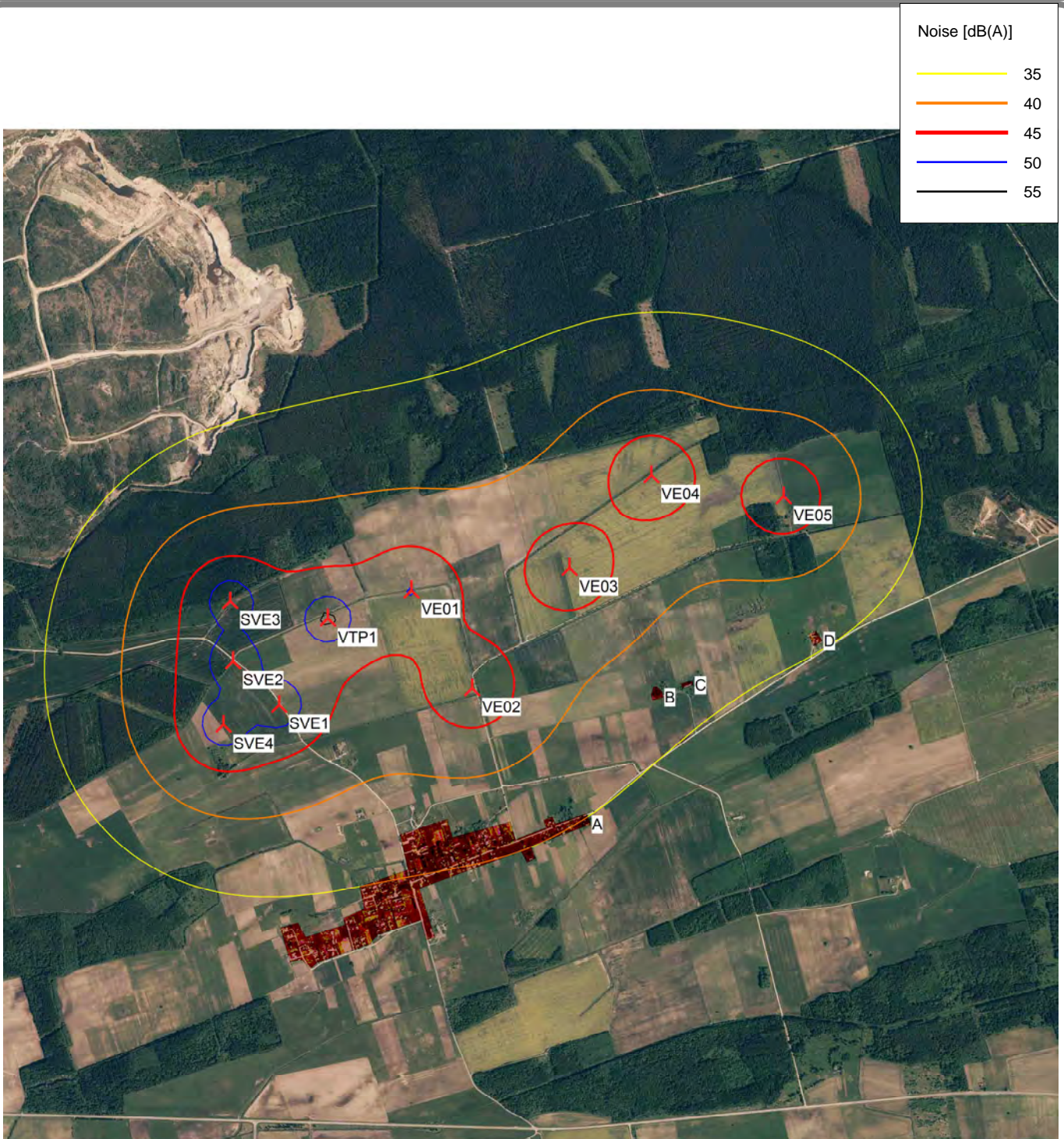
**Prognostiniai triukšmo modeliavimo rezultatai**

**VE modelis: Vestas V150-4.2, 4200 kW, bokšto aukštis 166 m, rotoriaus skersmuo 150 m, bendras aukštis 241 m, maksimalus skleidžiamas triukšmo lygis 104,9 dB(A)**

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**DECIBEL - Map 10,0 m/s --- Sąveika su gretimoje aplinkoje planuojama analogiška ūkine veikla**

Calculation: GREEN CHARGE



0 500 1000 1500 2000 m

Map: Akmene (2) , Print scale 1:30.000, Map center Lithuanian TM LKS94-LKS94 (LT) East: 437.366 North: 6.242.582

New WTG

Noise sensitive area

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

Project:

5 VE statyba Akmenės rajone

Description:

Organizatorius: UAB "GREEN CHARGE"

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**Prognostiniai triukšmo modeliavimo rezultatai**

**VE modelis: Nordex N149/4.0-4.5, 4500 kW, bokšto aukštis 164 m, rotoriaus skersmuo 149 m, bendras aukštis 238,5 m, maksimalus skleidžiamas triukšmo lygis 106,1 dB(A)**

**DECIBEL - Main Result --- Sąveika su gretimoje aplinkoje planuojama analogiška ūkine veikla****Calculation: GREEN CHARGE****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:**

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)

**WTGs**

Lithuanian TM LKS94-LKS94 (LT)				WTG type			Noise data				Wind speed	LwA_ref	Pure tones	
East	North	Z	Row data/Description	Valid	Manufact.	Type-generator	Power, rated [kW]	Rotor diameter [m]	Hub height [m]	Creator	Name	[m/s]	[dB(A)]	
SVE1	436.218	6.242.046	75,0 REpower MD 77 1500 77.0 !...No	REpower	MD 77-1.500	1.500	77,0	85,0	EMD	Level 0 - guaranteed - - 05-2003		10,0	103,5	0 dB h
SVE2	435.983	6.242.269	75,0 REpower MD 77 1500 77.0 !...No	REpower	MD 77-1.500	1.500	77,0	85,0	EMD	Level 0 - guaranteed - - 05-2003		10,0	103,5	0 dB h
SVE3	435.969	6.242.576	75,0 REpower MD 77 1500 77.0 !...No	REpower	MD 77-1.500	1.500	77,0	85,0	EMD	Level 0 - guaranteed - - 05-2003		10,0	103,5	0 dB h
SVE4	435.934	6.241.944	75,0 REpower MD 77 1500 77.0 !...No	REpower	MD 77-1.500	1.500	77,0	85,0	EMD	Level 0 - guaranteed - - 05-2003		10,0	103,5	0 dB h
VE01	436.894	6.242.632	75,0 NORDEX N149/4.0-4.5 4500 ...Yes	NORDEX	N149/4.0-4.5-4.500	4.500	149,0	164,0	EMD	Mode 04 - 106.1 dB(A) - octave		10,0	106,1	0 dB
VE02	437.205	6.242.132	75,0 NORDEX N149/4.0-4.5 4500 ...Yes	NORDEX	N149/4.0-4.5-4.500	4.500	149,0	164,0	EMD	Mode 04 - 106.1 dB(A) - octave		10,0	106,1	0 dB
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VTP1	436.467	6.242.486	75,0 ENERCON E-66/18.70 1800 ...No	ENERCON	E-66/18.70-1.800	1.800	70,0	63,0	EMD	Level 0 - guaranteed - - 07-2003		10,0	103,0	0 dB h

h) Generic octave distribution used

**Calculation Results****Sound Level****Noise sensitive area**

No.	Name	Lithuanian TM LKS94-LKS94 (LT)			Demands Noise	Sound Level From WTGs	Demands fulfilled ? Noise	
		East	North	Z	Imission height			
					[m]	[dB(A)]	[dB(A)]	
A	Noise sensitive area: German TA Lärm - Unzoned countryside areas (32)	437.076	6.241.462	75,0	1,5	45,0	38,3	Yes
B	Noise sensitive area: German TA Lärm - Unzoned countryside areas (33)	438.130	6.242.137	75,0	1,5	45,0	38,6	Yes
C	Noise sensitive area: German TA Lärm - Unzoned countryside areas (34)	438.273	6.242.153	75,0	1,5	45,0	37,9	Yes
D	Noise sensitive area: German TA Lärm - Unzoned countryside areas (35)	438.923	6.242.408	75,0	1,5	45,0	37,2	Yes

**Distances (m)**

WTG	A	B	C	D
SVE1	906	1900	2057	2729
SVE2	1229	2141	2292	2943
SVE3	1474	2201	2342	2959
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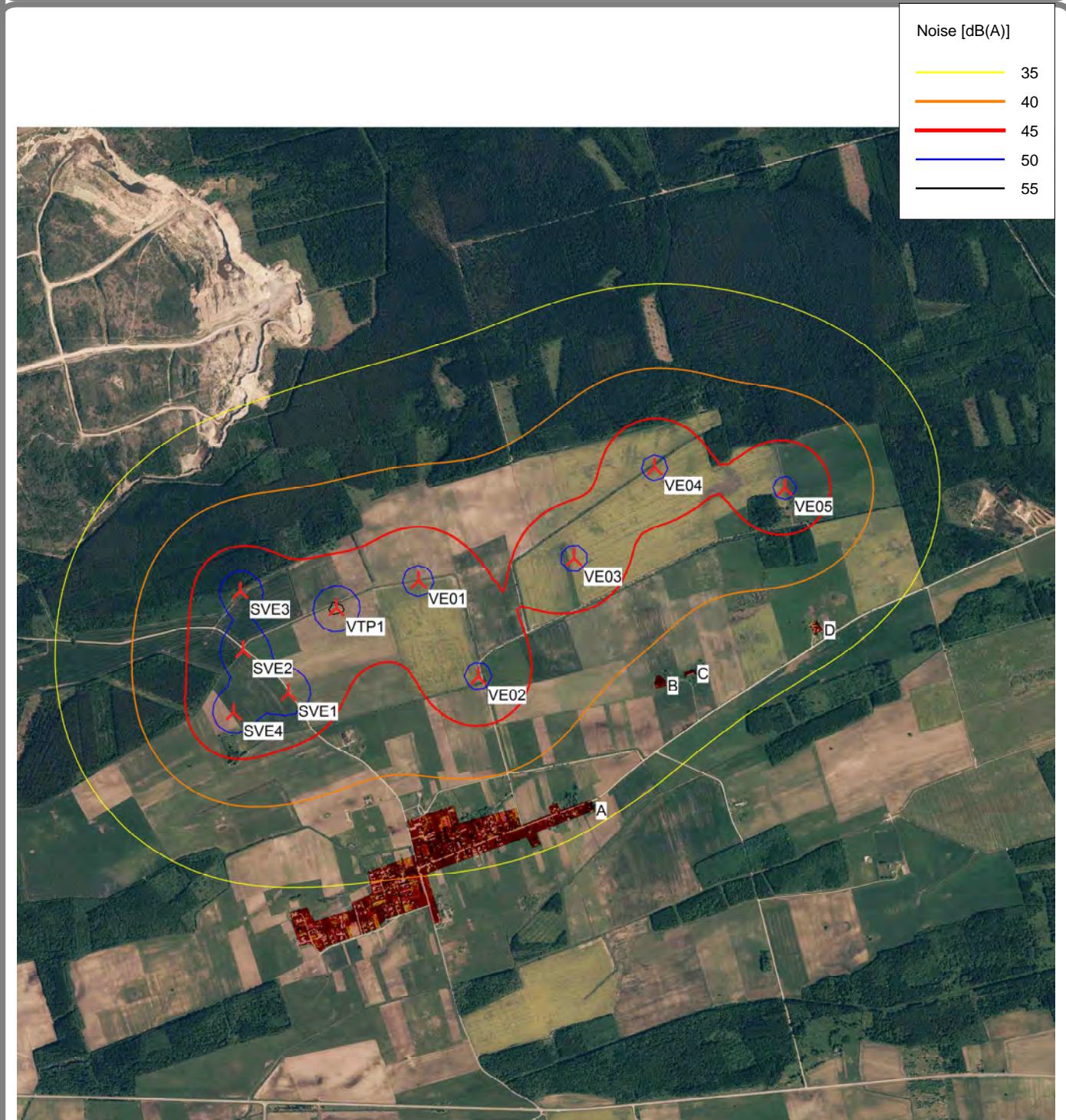
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**DECIBEL - Map 10,0 m/s --- Sąveika su gretimoje aplinkoje planuojama analogiška ūkine veikla**

Calculation: GREEN CHARGE



Map: Akmene (2) , Print scale 1:30.000, Map center Lithuanian TM LKS94-LKS94 (LT) East: 437.366 North: 6.242.582  
 New WTG      Noise sensitive area  
 Noise calculation model: ISO 9613-2 General. Wind speed: 10,0 m/s  
 Height above sea level from active line object