761 Kemptown

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Kirk Schmidt / kirk.schmidt@al-pro.ca

10/3/2014 11:11 AM/2.9.269

DECIBEL - Main Result

Calculation: July 2014 Layout + 3.0 dBA Uncertainty Alternative case

Noise calculation model:

ISO 9613-2 General

Wind speed:

 $7.0 \, \text{m/s}$

Ground attenuation:

Alternati∨e

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 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)



Noise sensiti∨e area

WTGs

ı	U	TM (north)-NAD83 (L	JS+CA)) Zone: 20		WTG	type					Noise d	ata			
		East	North	Z	Row data/Descriptio	n	Valid	Manufact.	Type-generator	Power,	Rotor	Hub	Creator	Name	Wind	LwA,ref	Pure
										rated	diameter	height			speed		tones
		[m] 489,997 5,037,881 234.4 GE WIND ENERGY 6							[kW]	[m]	[m]			[m/s]	[dB(A)]		
	1	489,997	5,037,881	234.4	GE WIND ENERGY	GE 1.6	Yes	GE WIND ENERGY	GE 1.6-1,600	1,600	82.5	0.08	USER	06.2 1.6 1.68 -82.5 Acoustic Spec	7.0	109.0	0dB h
	2	490,622	5,037,960	244.2	GE WIND ENERGY	GE 1.6	Yes	GE WIND ENERGY	GE 1.6-1,600	1,600	82.5	0.08	USER	06.2 1.6 1.68 -82.5 Acoustic Spec	7.0	109.0	0dB h
	3	491,130	5,038,040	241.0	GE WIND ENERGY	GE 1.6	Yes	GE WIND ENERGY	GE 1.6-1,600	1,600	82.5	80.0	USER	06.2 1.6 1.68 -82.5 Acoustic Spec	7.0	109.0	0dB h
	h) G	eneric oct	ave distrib	ution u	sed												

Calculation Results

To be continued on next page...

Sound Level

Noise se	nsitive area	UTM (north	i)-NAD83 (U	S+CA)	Zone: 20	Demands	Sound Level		Demands fulfilled?
No.	Name	East	North	Z	Imission height	Noise	From WTGs	Distance to noise	Noise
								demand	
				[m]	[m]	[dB(A)]	[dB(A)]	[m]	
	A Noise sensiti∨e point: (1)	492,164	5,039,708	221.4	1.5	40.0	29.6	1,242	Yes
	B Noise sensiti∨e point: (2)	492,218	5,039,437	210.0	1.5	40.0	30.6	1,055	Yes
	C Noise sensitive point: (3)	492,221	5,039,568	216.3	1.5	40.0	30.0	1,160	Yes
	D Noise sensiti∨e point: (4)	492,231	5,039,590	217.1	1.5	40.0	29.9	1,183	Yes
	E Noise sensiti∨e point: (5)	492,235	5,039,435	209.4	1.5	40.0	30.5	1,064	Yes
	F Noise sensiti∨e point: (6)	492,240	5,039,275	200.0	1.5	40.0	31.2	947	Yes
	G Noise sensiti∨e point: (7)	492,247	5,039,420	208.1	1.5	40.0	30.5	1,061	Yes
	H Noise sensiti∨e point: (8)	492,247	5,039,432	208.8	1.5	40.0	30.5	1,070	Yes
	I Noise sensiti∨e point: (9)	492,260	5,039,282	200.0	1.5	40.0	31.0	966	Yes
	J Noise sensiti∨e point: (10)	492,262	5,039,678	220.0	1.5	40.0	29.4	1,273	Yes
	K Noise sensiti∨e point: (11)	492,266	5,039,459	209.6	1.5	40.0	30.3	1,103	Yes
	L Noise sensiti∨e point: (12)	492,266	5,039,214	196.6	1.5	40.0	31.3	921	Yes
	M Noise sensiti∨e point: (13)	492,269	5,039,177	195.0	1.5	40.0	31.4	898	Yes
	N Noise sensiti∨e point: (14)	492,269	5,039,428	207.8	1.5	40.0	30.4	1,081	Yes
	O Noise sensitive point: (15)	492,280	5,039,196	195.1	1.5	40.0	31.3	919	Yes
	P Noise sensiti∨e point: (16)	492,284	5,039,214	196.1	1.5	40.0	31.2	934	Yes
	Q Noise sensiti∨e point: (17)	492,365	5,039,383	201.6	1.5	40.0	30.1	1,111	Yes
	R Noise sensiti∨e point: (18)	492,385	5,039,401	201.6	1.5	40.0	30.0	1,138	Yes
	S Noise sensiti∨e point: (19)	492,400	5,039,388	200.2	1.5	40.0	29.9	1,139	Yes
	T Noise sensiti∨e point: (20)	492,422	5,039,170	195.9	1.5	40.0	30.7	1,006	Yes
	U Noise sensiti∨e point: (21)	492,432	5,039,154	196.5	1.5	40.0	30.7	1,003	Yes
	V Noise sensiti∨e point: (22)	492,447	5,039,181	195.5	1.5	40.0	30.5	1,032	Yes
	W Noise sensiti∨e point: (23)	492,522	5,038,018	217.8	1.5	40.0	32.8	673	Yes
	X Noise sensiti∨e point: (24)	492,568	5,038,026	216.4	1.5	40.0	32.5	718	Yes

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DECIBEL - Main Result

Calculation: July 2014 Layout + 3.0 dBA Uncertainty Alternative case

continued from previous page Noise sensitive area	UTM (north)-NAD83 (U	S+CA)	Zone: 20	Demands	Sound Level		Demands fulfilled ?
No. Name	East	North	Z	lmission height	Noise	From WTGs	Distance to noise	Noise
							demand	
			[m]	[m]	[dB(A)]	[dB(A)]	[m]	
Y Noise sensiti∨e point: (25)	492,581	5,038,037	216.8	1.5	40.0	32.4	731	Yes
Z Noise sensiti∨e point: (26)	492,597	5,038,013	214.2	1.5	40.0	32.2	748	Yes
AA Noise sensiti∨e point: (27)	492,685	5,038,057	215.0	1.5	40.0	31.6	835	Yes
AB Noise sensiti∨e point: (28)	493,060	5,038,039	225.0	1.5	40.0	29.3	1,210	Yes

Distances (m)

JIST	MTG													
	WTG													
VSA	1	2	3											
Α	2834	2331	1962											
В	2712	2175	1771											
С	2791	2268	1878											
D	2813	2290	1901											
Ε	2725	2186	1780											
F	2641	2085	1661											
G	2726	2185	1775											
Н	2733	2193	1785											
- 1	2662	2105	1679											
J	2891	2375	1991											
K	2764	2225	1818											
L	2632	2068	1634											
Μ	2616	2048	1609											
Ν	2749	2206	1796											
0	2635	2068	1631											
Р	2647	2082	1646											
Q	2804	2250	1825											
R	2831	2277	1851											
S	2836	2280	1852											
Т	2746	2169	1716											
U	2748	2168	1714											
V	2774	2196	1743											
W	2529	1901	1392											
X	2575	1947	1438											
Υ	2589	1961	1451											
Z	2603	1976	1467											
AA	2694	2065	1555											
AB	3067	2439	1930											

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alculated:

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DECIBEL - Detailed results

Calculation: July 2014 Layout + 3.0 dBA Uncertainty Alternative case Noise calculation model: ISO 9613-2 General 7.0 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

29.58

Sum

Noise sensitive area: A Noise sensitive point: (1)

WT	3				Wind speed	d: 7.0 m/s								
No.	Distance	Sound distance	Mean height	Visible	Calculated	LwA,ref	Dc	Adi∨	Aatm	Agr	Abar	Amisc	Α	Cmet
	[m]	[m]	[m]		[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
1	2,834	2,836	46.3	Yes	21.85	109.0	3.01	80.05	5.86	4.24	0.00	0.00	90.16	0.00
2	2,331	2,333	52.1	Yes	24.47	109.0	3.01	78.36	5.14	4.04	0.00	0.00	87.53	0.00
3	1,962	1,965	56.4	Yes	26.76	109.0	3.01	76.87	4.56	3.82	0.00	0.00	85.25	0.00

Noise sensitive area: B Noise sensitive point: (2)

WTG	;				Wind speed	d: 7.0 m/s								
No.	Distance	Sound distance	Mean height	Visible	Calculated	LwA,ref	Dc	Adi∨	Aatm	Agr	Abar	Amisc	Α	Cmet
	[m]	[m]	[m]		[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
1	2,712	2,714	42.3	Yes	22.37	109.0	3.01	79.67	5.69	4.27	0.00	0.00	89.63	0.00
2	2,175	2,177	48.9	Yes	25.31	109.0	3.01	77.76	4.90	4.03	0.00	0.00	86.69	0.00
3	1,771	1,774	53.9	Yes	28.02	109.0	3.01	75.98	4.25	3.76	0.00	0.00	83.99	0.00
Sun	n 30.59)												

Noise sensitive area: C Noise sensitive point: (3)

WTG	;				Wind speed	d: 7.0 m/s								
No.	Distance	Sound distance	Mean height	Visible	Calculated	LwA,ref	Dc	Adi∨	Aatm	Agr	Abar	Amisc	Α	Cmet
	[m]	[m]	[m]		[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
1	2,791	2,793	44.9	Yes	22.03	109.0	3.01	79.92	5.80	4.25	0.00	0.00	89.97	0.00
2	2,268	2,270	50.9	Yes	24.81	109.0	3.01	78.12	5.04	4.03	0.00	0.00	87.19	0.00
3	1,878	1,880	56.3	Yes	27.32	109.0	3.01	76.48	4.43	3.77	0.00	0.00	84.68	0.00
Sun	n 30.01	II.												

Noise sensitive area: D Noise sensitive point: (4)

WTG	i				Wind speed	d: 7.0 m/s								
No.	Distance	Sound distance	Mean height	Visible	Calculated	LwA,ref	Dc	Adi∨	Aatm	Agr	Abar	Amisc	Α	Cmet
	[m]	[m]	[m]		[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
1	2,813	2,814	45.2	Yes	21.93	109.0	3.01	79.99	5.83	4.25	0.00	0.00	90.07	0.00
2	2,290	2,293	51.1	Yes	24.68	109.0	3.01	78.21	5.08	4.04	0.00	0.00	87.32	0.00
3	1,901	1,904	56.6	Yes	27.16	109.0	3.01	76.59	4.46	3.78	0.00	0.00	84.84	0.00
Sum	າ 29.87													

Sum

30.53

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DECIBEL - Detailed results

Calculation: July 2014 Layout + 3.0 dBA Uncertainty Alternative case Noise calculation model: ISO 9613-2 General 7.0 m/s

Noise sensitive area: E Noise sensitive point: (5)

WTG	;				Wind speed	d: 7.0 m/s								
No.	Distance	Sound distance	Mean height	Visible	Calculated	LwA,ref	Dc	Adi∨	Aatm	Agr	Abar	Amisc	Α	Cmet
	[m]	[m]	[m]		[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
1	2,725	2,727	42.1	Yes	22.31	109.0	3.01	79.71	5.71	4.27	0.00	0.00	89.69	0.00
2	2,186	2,189	48.8	Yes	25.25	109.0	3.01	77.80	4.92	4.04	0.00	0.00	86.76	0.00
3	1,780	1,783	53.7	Yes	27.95	109.0	3.01	76.02	4.26	3.77	0.00	0.00	84.05	0.00
Sun	n 30.52	2												

Noise sensitive area: F Noise sensitive point: (6)

WTG	i				Wind speed	d: 7.0 m/s								
No.	Distance	Sound distance	Mean height	Visible	Calculated	LwA,ref	Dc	Adi∨	Aatm	Agr	Abar	Amisc	Α	Cmet
	[m]	[m]	[m]		[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
1	2,641	2,643	37.6	Yes	22.66	109.0	3.01	79.44	5.59	4.31	0.00	0.00	89.35	0.00
2	2,085	2,089	44.1	Yes	25.77	109.0	3.01	77.40	4.76	4.08	0.00	0.00	86.23	0.00
3	1,661	1,665	48.7	Yes	28.72	109.0	3.01	75.43	4.06	3.80	0.00	0.00	83.28	0.00
Sum	n 31.16	3												

Noise sensitive area: G Noise sensitive point: (7)

WTG	€				Wind speed	d: 7.0 m/s								
No.	Distance	Sound distance	Mean height	Visible	Calculated	LwA,ref	Dc	Adi∨	Aatm	Agr	Abar	Amisc	Α	Cmet
	[m]	[m]	[m]		[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
1	2,726	2,728	41.6	Yes	22.30	109.0	3.01	79.72	5.71	4.28	0.00	0.00	89.71	0.00
2	2,185	2,188	48.5	Yes	25.25	109.0	3.01	77.80	4.91	4.04	0.00	0.00	86.76	0.00
3	1,775	1,779	53.1	Yes	27.97	109.0	3.01	76.00	4.26	3.78	0.00	0.00	84.03	0.00

Noise sensitive area: H Noise sensitive point: (8)

WTG	;				Wind speed	d: 7.0 m/s								
No.	Distance	Sound distance	Mean height	Visible	Calculated	LwA,ref	Dc	Adi∨	Aatm	Agr	Abar	Amisc	Α	Cmet
	[m]	[m]	[m]		[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
1	2,733	2,735	41.9	Yes	22.27	109.0	3.01	79.74	5.72	4.28	0.00	0.00	89.73	0.00
2	2,193	2,196	48.7	Yes	25.20	109.0	3.01	77.83	4.93	4.04	0.00	0.00	86.80	0.00
3	1,785	1,788	53.4	Yes	27.91	109.0	3.01	76.05	4.27	3.77	0.00	0.00	84.10	0.00
Sun	n 30.48	3												

Noise sensitive area: I Noise sensitive point: (9)

WTG	;				Wind speed	d: 7.0 m/s								
No.	Distance	Sound distance	Mean height	Visible	Calculated	LwA,ref	Dc	Adi∨	Aatm	Agr	Abar	Amisc	Α	Cmet
	[m]	[m]	[m]		[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
1	2,662	2,664	37.8	Yes	22.56	109.0	3.01	79.51	5.62	4.31	0.00	0.00	89.44	0.00
2	2,105	2,109	44.3	Yes	25.65	109.0	3.01	77.48	4.79	4.08	0.00	0.00	86.35	0.00
3	1,679	1,683	48.8	Yes	28.58	109.0	3.01	75.52	4.09	3.80	0.00	0.00	83.42	0.00
Sun	n 31.03	3												

sensitive area: J Noise sensitive point: (10)

ac aciiai	tive alea. O it	Olac actiait	ive po	1116. (10)									
;				Wind speed	l: 7.0 m/s								
Distance	Sound distance	Mean height	Visible	Calculated	LwA,ref	Dc	Adi∨	Aatm	Agr	Abar	Amisc	Α	Cmet
[m]	[m]	[m]		[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
2,891	2,893	46.2	Yes	21.58	109.0	3.01	80.23	5.94	4.25	0.00	0.00	90.42	0.00
2,375	2,377	52.0	Yes	24.23	109.0	3.01	78.52	5.20	4.05	0.00	0.00	87.78	0.00
1,991	1,994	57.3	Yes	26.59	109.0	3.01	76.99	4.61	3.81	0.00	0.00	85.42	0.00
n 29.37													
	Distance [m] 2,891 2,375 1,991	Distance Sound distance [m] [m] 2,893 2,375 2,377 1,991 1,994	Distance Sound distance Mean height [m] [m] [m] 2,891 2,893 46.2 2,375 2,377 52.0 1,991 1,994 57.3	Distance Sound distance Mean height Visible [m] [m] [m] 2,891 2,893 46.2 Yes 2,375 2,377 52.0 Yes 1,991 1,994 57.3 Yes	Distance [m] Sound distance [m] Mean height [m] Visible [dB(A)] 2,891 2,893 46.2 Yes 21.58 2,375 2,377 52.0 Yes 24.23 1,991 1,994 57.3 Yes 26.59	Wind speed: 7.0 m/s Distance Sound distance Mean height Visible Calculated LwA,ref [m] [m] [m] [dB(A)] [dB(A)] 2,891 2,893 46.2 Yes 21.58 109.0 2,375 2,377 52.0 Yes 24.23 109.0 1,991 1,994 57.3 Yes 26.59 109.0	Wind speed: 7.0 m/s Distance Sound distance Mean height Visible Calculated LwA,ref Dc [m] [m] [m] [dB(A)] [dB(A)] [dB] 2,891 2,893 46.2 Yes 21.58 109.0 3.01 2,375 2,377 52.0 Yes 24.23 109.0 3.01 1,991 1,994 57.3 Yes 26.59 109.0 3.01	Wind speed: 7.0 m/s Distance Sound distance Mean height Visible Calculated LwA,ref Dc Adiv [m] [m] [m] [dB(A)] [dB(A)] [dB] [dB] 2,891 2,893 46.2 Yes 21.58 109.0 3.01 80.23 2,375 2,377 52.0 Yes 24.23 109.0 3.01 78.52 1,991 1,994 57.3 Yes 26.59 109.0 3.01 76.99	Wind speed: 7.0 m/s Distance Sound distance Mean height Visible Calculated LwA,ref Dc Adiv Aatm [m] [m] [m] [dB(A)] [dB(A)] [dB] [dB] 2,891 2,893 46.2 Yes 21.58 109.0 3.01 80.23 5.94 2,375 2,377 52.0 Yes 24.23 109.0 3.01 78.52 5.20 1,991 1,994 57.3 Yes 26.59 109.0 3.01 76.99 4.61	Wind speed: 7.0 m/s Distance Sound distance Mean height Visible Calculated LwA,ref Dc Adiv Aatm Agr [m] [m] [m] [dB(A)] [dB(A)] [dB] [dB] [dB] 2,891 2,893 46.2 Yes 21.58 109.0 3.01 80.23 5.94 4.25 2,375 2,377 52.0 Yes 24.23 109.0 3.01 78.52 5.20 4.05 1,991 1,994 57.3 Yes 26.59 109.0 3.01 76.99 4.61 3.81	Wind speed: 7.0 m/s Distance Sound distance Mean height Visible Calculated LwA,ref Dc Adiv Aatm Agr Abar [m] [m] [m] [dB(A)] [dB(A)] [dB] [dB] [dB] [dB] 2,891 2,893 46.2 Yes 21.58 109.0 3.01 80.23 5.94 4.25 0.00 2,375 2,377 52.0 Yes 24.23 109.0 3.01 78.52 5.20 4.05 0.00 1,991 1,994 57.3 Yes 26.59 109.0 3.01 76.99 4.61 3.81 0.00	Wind speed: 7.0 m/s Distance Sound distance Mean height Visible Calculated LwA,ref Dc Adiv Aatm Agr Abar Amisc [m] [m] [m] [dB(A)] [dB(A)] [dB] [dB] [dB] [dB] [dB] [dB] 2,891 2,893 46.2 Yes 21.58 109.0 3.01 80.23 5.94 4.25 0.00 0.00 2,375 2,377 52.0 Yes 24.23 109.0 3.01 78.52 5.20 4.05 0.00 0.00 1,991 1,994 57.3 Yes 26.59 109.0 3.01 76.99 4.61 3.81 0.00 0.00	Wind speed: 7.0 m/s Distance Sound distance Mean height Visible Calculated LwA,ref Dc Adiv Aatm Agr Abar Amisc A [m] [m] [m] [dB(A)] [dB(A)] [dB] [dB] [dB] [dB] [dB] [dB] [dB] 2,891 2,893 46.2 Yes 21.58 109.0 3.01 80.23 5.94 4.25 0.00 0.00 90.42 2,375 2,377 52.0 Yes 24.23 109.0 3.01 78.52 5.20 4.05 0.00 0.00 87.78 1,991 1,994 57.3 Yes 26.59 109.0 3.01 76.99 4.61 3.81 0.00 0.00 85.42

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31.27

31.41

Sum

Sum

Sum

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DECIBEL - Detailed results

Calculation: July 2014 Layout + 3.0 dBA Uncertainty Alternative case Noise calculation model: ISO 9613-2 General 7.0 m/s

Noise sensitive area: K Noise sensitive point: (11)

WT	2				Wind speed	d: 7.0 m/c								
4414					100									
No.	Distance	Sound distance	Mean height	Visible	Calculated	LwA,ref	Dc	Adi∨	Aatm	Agr	Abar	Amisc	Α	Cmet
	[m]	[m]	[m]		[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
1	2,764	2,766	42.4	Yes	22.13	109.0	3.01	79.84	5.76	4.28	0.00	0.00	89.87	0.00
2	2,225	2,228	49.2	Yes	25.03	109.0	3.01	77.96	4.98	4.04	0.00	0.00	86.98	0.00
3	1,818	1,821	53.9	Yes	27.68	109.0	3.01	76.21	4.33	3.78	0.00	0.00	84.32	0.00

Noise sensitive area: L Noise sensitive point: (12)

WTG	•				Wind speed	d: 7.0 m/s								
No.	Distance	Sound distance	Mean height	Visible	Calculated	LwA,ref	Dc	Adi∨	Aatm	Agr	Abar	Amisc	Α	Cmet
	[m]	[m]	[m]		[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
1	2,632	2,634	35.4	Yes	22.67	109.0	3.01	79.41	5.58	4.34	0.00	0.00	89.33	0.00
2	2,068	2,072	41.9	Yes	25.84	109.0	3.01	77.33	4.73	4.11	0.00	0.00	86.17	0.00
3	1,634	1,638	46.5	Yes	28.87	109.0	3.01	75.29	4.02	3.82	0.00	0.00	83.13	0.00

Noise sensitive area: M Noise sensitive point: (13)

WTG	€				Wind speed	d: 7.0 m/s								
No.	Distance	Sound distance	Mean height	Visible	Calculated	LwA,ref	Dc	Adi∨	Aatm	Agr	Abar	Amisc	Α	Cmet
	[m]	[m]	[m]		[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
1	2,616	2,618	34.4	Yes	22.74	109.0	3.01	79.36	5.55	4.35	0.00	0.00	89.27	0.00
2	2,048	2,052	41.0	Yes	25.94	109.0	3.01	77.24	4.70	4.12	0.00	0.00	86.06	0.00
3	1,609	1,614	45.7	Yes	29.04	109.0	3.01	75.16	3.97	3.83	0.00	0.00	82.96	0.00

Noise sensitive area: N Noise sensitive point: (14)

WTG	;				Wind speed	d: 7.0 m/s								
No.	Distance	Sound distance	Mean height	Visible	Calculated	LwA,ref	Dc	Adi∨	Aatm	Agr	Abar	Amisc	Α	Cmet
	[m]	[m]	[m]		[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
1	2,749	2,751	41.7	Yes	22.19	109.0	3.01	79.79	5.74	4.28	0.00	0.00	89.81	0.00
2	2,206	2,209	48.5	Yes	25.12	109.0	3.01	77.88	4.95	4.05	0.00	0.00	86.88	0.00
3	1,796	1,799	53.1	Yes	27.82	109.0	3.01	76.10	4.29	3.79	0.00	0.00	84.18	0.00
Sun	n 30.40)												

Noise sensitive area: O Noise sensitive point: (15)

WTG	;				Wind speed	d: 7.0 m/s								
No.	Distance	Sound distance	Mean height	Visible	Calculated	LwA,ref	Dc	Adi∨	Aatm	Agr	Abar	Amisc	Α	Cmet
	[m]	[m]	[m]		[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
1	2,635	2,637	34.9	Yes	22.65	109.0	3.01	79.42	5.58	4.35	0.00	0.00	89.35	0.00
2	2,068	2,072	41.5	Yes	25.83	109.0	3.01	77.33	4.73	4.11	0.00	0.00	86.18	0.00
3	1,631	1,635	46.1	Yes	28.89	109.0	3.01	75.27	4.01	3.83	0.00	0.00	83.11	0.00
Sun	n 31.27	•												

Noise sensitive area: P Noise sensitive point: (16)

1401	JC JCIIJI	cive aica. i i	ioise selisi	iive po	1116. (10)									
WTG	;				Wind speed	l: 7.0 m/s								
No.	Distance	Sound distance	Mean height	Visible	Calculated	LwA,ref	Dc	Adi∨	Aatm	Agr	Abar	Amisc	Α	Cmet
	[m]	[m]	[m]		[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
1	2,647	2,650	35.3	Yes	22.59	109.0	3.01	79.46	5.60	4.34	0.00	0.00	89.41	0.00
2	2,082	2,086	41.9	Yes	25.75	109.0	3.01	77.39	4.76	4.11	0.00	0.00	86.25	0.00
3	1,646	1,651	46.5	Yes	28.78	109.0	3.01	75.35	4.04	3.83	0.00	0.00	83.22	0.00
Sun	n 31.18													

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30.13

29.97

29.95

30.67

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Kirk Schmidt / kirk.schmidt@al-pro.ca

10/3/2014 11:11 AM/2.9.269

DECIBEL - Detailed results

Calculation: July 2014 Layout + 3.0 dBA Uncertainty Alternative case Noise calculation model: ISO 9613-2 General 7.0 m/s

Noise sensitive area: Q Noise sensitive point: (17)

WT	3				Wind speed	1. 7.0 m/s								
					154									
No.	Distance	Sound distance	Mean height	Visible	Calculated	LwA,ref	Dc	Adi∨	Aatm	Agr	Abar	Amisc	Α	Cmet
	[m]	[m]	[m]		[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
1	2,804	2,806	39.5	Yes	21.90	109.0	3.01	79.96	5.82	4.32	0.00	0.00	90.10	0.00
2	2,250	2,253	46.2	Yes	24.83	109.0	3.01	78.06	5.02	4.10	0.00	0.00	87.17	0.00
3	1,825	1,828	50.5	Yes	27.57	109.0	3.01	76.24	4.34	3.85	0.00	0.00	84.43	0.00

Noise sensitive area: R Noise sensitive point: (18)

WTG	3				Wind speed	d: 7.0 m/s								
No.	Distance	Sound distance	Mean height	Visible	Calculated	LwA,ref	Dc	Adi∨	Aatm	Agr	Abar	Amisc	Α	Cmet
	[m]	[m]	[m]		[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
1	2,831	2,833	39.7	Yes	21.78	109.0	3.01	80.04	5.86	4.32	0.00	0.00	90.22	0.00
2	2,277	2,280	46.5	Yes	24.68	109.0	3.01	78.16	5.06	4.10	0.00	0.00	87.32	0.00
3	1,851	1,855	50.8	Yes	27.39	109.0	3.01	76.37	4.38	3.86	0.00	0.00	84.61	0.00

Noise sensitive area: S Noise sensitive point: (19)

WTG	•				Wind speed	d: 7.0 m/s								
No.	Distance	Sound distance	Mean height	Visible	Calculated	LwA,ref	Dc	Adi∨	Aatm	Agr	Abar	Amisc	Α	Cmet
	[m]	[m]	[m]		[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
1	2,836	2,839	39.2	Yes	21.75	109.0	3.01	80.06	5.86	4.33	0.00	0.00	90.25	0.00
2	2,280	2,284	45.9	Yes	24.66	109.0	3.01	78.17	5.06	4.11	0.00	0.00	87.35	0.00
3	1,852	1,856	50.3	Yes	27.38	109.0	3.01	76.37	4.38	3.87	0.00	0.00	84.63	0.00

Noise sensitive area: T Noise sensitive point: (20)

WTG	€				Wind speed	l: 7.0 m/s								
No.	Distance	Sound distance	Mean height	Visible	Calculated	LwA,ref	Dc	Adi∨	Aatm	Agr	Abar	Amisc	Α	Cmet
	[m]	[m]	[m]		[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
1	2,746	2,749	35.3	Yes	22.12	109.0	3.01	79.78	5.74	4.36	0.00	0.00	89.88	0.00
2	2,169	2,173	42.1	Yes	25.23	109.0	3.01	77.74	4.89	4.14	0.00	0.00	86.77	0.00
3	1,716	1,721	46.6	Yes	28.26	109.0	3.01	75.72	4.16	3.87	0.00	0.00	83.74	0.00

Noise sensitive area: U Noise sensitive point: (21)

WTG	WTG Wind speed: 7.0 m/s													
No.	Distance	Sound distance	Mean height	Visible	Calculated	LwA,ref	Dc	Adi∨	Aatm	Agr	Abar	Amisc	Α	Cmet
	[m]	[m]	[m]		[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
1	2,748	2,750	35.4	Yes	22.11	109.0	3.01	79.79	5.74	4.36	0.00	0.00	89.89	0.00
2	2,168	2,172	42.2	Yes	25.24	109.0	3.01	77.74	4.89	4.13	0.00	0.00	86.76	0.00
3	1,714	1,718	46.7	Yes	28.28	109.0	3.01	75.70	4.15	3.87	0.00	0.00	83.72	0.00
_	20.00	0												
Sun	n 30.68	5												

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IVUI	Noise sensitive area. V Noise sensitive point. (22)													
WTG	;				Wind speed	l: 7.0 m/s								
No.	Distance	Sound distance	Mean height	Visible	Calculated	LwA,ref	Dc	Adi∨	Aatm	Agr	Abar	Amisc	Α	Cmet
	[m]	[m]	[m]		[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
1	2,774	2,776	35.4	Yes	21.99	109.0	3.01	79.87	5.78	4.36	0.00	0.00	90.01	0.00
2	2,196	2,199	42.2	Yes	25.08	109.0	3.01	77.85	4.93	4.14	0.00	0.00	86.92	0.00
3	1,743	1,747	46.6	Yes	28.07	109.0	3.01	75.85	4.20	3.88	0.00	0.00	83.93	0.00
Sun	n 30.50)												

Sum

32.37

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Kirk Schmidt / kirk.schmidt@al-pro.ca Calculated: 10/3/2014 11:11 AM/2.9.269

DECIBEL - Detailed results

Calculation: July 2014 Layout + 3.0 dBA Uncertainty Alternative case Noise calculation model: ISO 9613-2 General 7.0 m/s

Noise sensitive area: W Noise sensitive point: (23)

10,000														
WTG	;				Wind speed	d: 7.0 m/s								
No.	Distance	Sound distance	Mean height	Visible	Calculated	LwA,ref	Dc	Adi∨	Aatm	Agr	Abar	Amisc	Α	Cmet
	[m]	[m]	[m]		[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
1	2,529	2,531	40.4	Yes	23.26	109.0	3.01	79.06	5.43	4.25	0.00	0.00	88.75	0.00
2	1,901	1,904	44.8	Yes	26.95	109.0	3.01	76.59	4.46	3.99	0.00	0.00	85.05	0.00
3	1,392	1,396	46.1	Yes	30.86	109.0	3.01	73.90	3.58	3.66	0.00	0.00	81.14	0.00
Sun	n 32.85	5												

Noise sensitive area: X Noise sensitive point: (24)

WTG	WTG Wind speed: 7.0 m/s													
No.	Distance	Sound distance	Mean height	Visible	Calculated	LwA,ref	Dc	Adi∨	Aatm	Agr	Abar	Amisc	Α	Cmet
	[m]	[m]	[m]		[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
1	2,575	2,577	39.5	Yes	23.01	109.0	3.01	79.22	5.50	4.27	0.00	0.00	88.99	0.00
2	1,947	1,950	44.0	Yes	26.64	109.0	3.01	76.80	4.54	4.03	0.00	0.00	85.37	0.00
3	1,438	1,442	45.2	Yes	30.44	109.0	3.01	74.18	3.67	3.72	0.00	0.00	81.57	0.00
Sum	n 32.47	•												

Noise sensitive area: Y Noise sensitive point: (25)

WTG	€				Wind speed	d: 7.0 m/s								
No.	Distance	Sound distance	Mean height	Visible	Calculated	LwA,ref	Dc	Adi∨	Aatm	Agr	Abar	Amisc	Α	Cmet
	[m]	[m]	[m]		[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
1	2,589	2,590	39.5	Yes	22.94	109.0	3.01	79.27	5.51	4.28	0.00	0.00	89.06	0.00
2	1,961	1,963	43.9	Yes	26.55	109.0	3.01	76.86	4.56	4.03	0.00	0.00	85.45	0.00
3	1,451	1,455	45.0	Yes	30.32	109.0	3.01	74.25	3.69	3.73	0.00	0.00	81.68	0.00

Noise sensitive area: Z Noise sensitive point: (26)

WTG	}				Wind speed	d: 7.0 m/s								
No.	Distance	Sound distance	Mean height	Visible	Calculated	LwA,ref	Dc	Adi∨	Aatm	Agr	Abar	Amisc	Α	Cmet
	[m]	[m]	[m]		[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
1	2,603	2,605	39.2	Yes	22.86	109.0	3.01	79.32	5.54	4.28	0.00	0.00	89.14	0.00
2	1,976	1,979	43.7	Yes	26.45	109.0	3.01	76.93	4.59	4.04	0.00	0.00	85.56	0.00
3	1,467	1,471	44.8	Yes	30.18	109.0	3.01	74.35	3.72	3.75	0.00	0.00	81.82	0.00
Sun	n 32.24	l .												

Noise sensitive area: AA Noise sensitive point: (27)

WTG	;				Wind speed	d: 7.0 m/s								
No.	Distance	Sound distance	Mean height	Visible	Calculated	LwA,ref	Dc	Adi∨	Aatm	Agr	Abar	Amisc	Α	Cmet
	[m]	[m]	[m]		[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
1	2,694	2,696	38.2	Yes	22.41	109.0	3.01	79.61	5.66	4.31	0.00	0.00	89.59	0.00
2	2,065	2,068	42.7	Yes	25.87	109.0	3.01	77.31	4.73	4.09	0.00	0.00	86.13	0.00
3	1,555	1,559	43.7	Yes	29.43	109.0	3.01	74.85	3.88	3.84	0.00	0.00	82.57	0.00
Sun	n 31.58	3												

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Noise sensitive area. Ab noise sensitive point. (20)													
WTG Wind speed: 7.0 m/s													
Distance	Sound distance	Mean height	Visible	Calculated	LwA,ref	Dc	Adi∨	Aatm	Agr	Abar	Amisc	Α	Cmet
[m]	[m]	[m]		[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
3,067	3,068	45.3	Yes	20.79	109.0	3.01	80.74	6.17	4.30	0.00	0.00	91.21	0.00
2,439	2,441	49.6	Yes	23.85	109.0	3.01	78.75	5.30	4.10	0.00	0.00	88.15	0.00
1,930	1,932	49.8	Yes	26.85	109.0	3.01	76.72	4.51	3.92	0.00	0.00	85.15	0.00
n 29.28	,												
	Distance [m] 3,067 2,439 1,930	Distance Sound distance [m] [m] 3,067 3,068 2,439 2,441 1,930 1,932	Distance Sound distance Mean height [m] [m] [m] 3,067 3,068 45.3 2,439 2,441 49.6 1,930 1,932 49.8	Distance Sound distance Mean height Visible [m] [m] [m] 3,067 3,068 45.3 Yes 2,439 2,441 49.6 Yes 1,930 1,932 49.8 Yes	Wind speed Distance Sound distance Mean height Visible Calculated [m] [m] [m] [dB(A)] 3,067 3,068 45.3 Yes 20.79 2,439 2,441 49.6 Yes 23.85 1,930 1,932 49.8 Yes 26.85	Wind speed: 7.0 m/s Distance Sound distance Mean height Visible Calculated LwA,ref [m] [m] [m] [dB(A)] [dB(A)] 3,067 3,068 45.3 Yes 20.79 109.0 2,439 2,441 49.6 Yes 23.85 109.0 1,930 1,932 49.8 Yes 26.85 109.0	Distance [m] Sound distance [m] Mean height [m] Visible [dB(A)] Calculated [dB(A)] LwA,ref [dB(A)] Dc [dB(A)] [dB(A)]	Wind speed: 7.0 m/s Distance Sound distance Mean height Visible Calculated LwA,ref Dc Adiv [m] [m] [m] [dB(A)] [dB(A)] [dB] [dB] 3,067 3,068 45.3 Yes 20.79 109.0 3.01 80.74 2,439 2,441 49.6 Yes 23.85 109.0 3.01 78.75 1,930 1,932 49.8 Yes 26.85 109.0 3.01 76.72	Wind speed: 7.0 m/s Distance Sound distance Mean height Visible Calculated LwA,ref Dc Adiv Aatm [m] [m] [m] [dB(A)] [dB(A)] [dB] [dB] [dB] 3,067 3,068 45.3 Yes 20.79 109.0 3.01 80.74 6.17 2,439 2,441 49.6 Yes 23.85 109.0 3.01 78.75 5.30 1,930 1,932 49.8 Yes 26.85 109.0 3.01 76.72 4.51	Wind speed: 7.0 m/s Distance Sound distance Mean height Visible Calculated LwA,ref Dc Adiv Aatm Agr [m] [m] [m] [dB(A)] [dB(A)] [dB] [dB] [dB] 3,067 3,068 45.3 Yes 20.79 109.0 3.01 80.74 6.17 4.30 2,439 2,441 49.6 Yes 23.85 109.0 3.01 78.75 5.30 4.10 1,930 1,932 49.8 Yes 26.85 109.0 3.01 76.72 4.51 3.92	Wind speed: 7.0 m/s Distance Sound distance Mean height Visible Calculated LwA,ref Dc Adiv Aatm Agr Abar [m] [m] [m] [dB(A)] [dB(A)] [dB] [dB] [dB] [dB] 3,067 3,068 45.3 Yes 20.79 109.0 3.01 80.74 6.17 4.30 0.00 2,439 2,441 49.6 Yes 23.85 109.0 3.01 78.75 5.30 4.10 0.00 1,930 1,932 49.8 Yes 26.85 109.0 3.01 76.72 4.51 3.92 0.00	Wind speed: 7.0 m/s Distance [m] Sound distance [m] Mean height [m] Visible [dB(A)] Calculated [dB(A)] LwA,ref [dB(A)] Dc [dB] Adiv [dB] A	Wind speed: 7.0 m/s Distance Sound distance Mean height Visible Calculated LwA,ref Dc Adiv Aatm Agr Abar Amisc A [m] [m] [m] [dB(A)] [dB(A)] [dB] [dB] [dB] [dB] [dB] [dB] [dB] 3,067 3,068 45.3 Yes 20.79 109.0 3.01 80.74 6.17 4.30 0.00 0.00 91.21 2,439 2,441 49.6 Yes 23.85 109.0 3.01 78.75 5.30 4.10 0.00 0.00 88.15 1,930 1,932 49.8 Yes 26.85 109.0 3.01 76.72 4.51 3.92 0.00 0.00 85.15

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10/3/2014 11:11 AM/2.9.269

DECIBEL - Assumptions for noise calculation

Calculation: July 2014 Layout + 3.0 dBA Uncertainty Alternative case Noise calculation model: ISO 9613-2 General 7.0 m/s

Noise calculation model:

ISO 9613-2 General

Wind speed:

 $7.0 \, \text{m/s}$

Ground attenuation:

Alternati∨e

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 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)

Octave data required

Air absorption

63 250 125 500 1,000 2,000 4,000 8,000 [db/km] [db/km] [db/km] [db/km] [db/km] [db/km] [db/km] 0.4 1.0 1.9 3.7 0.1 9.7 32.8 117.0

WTG: GE WIND ENERGY GE 1.6 1600 82.5 !O! Noise: 06.2 1.6 1.68 -82.5 Acoustic Spec

Source Source/Date Creator Edited

GE 11/6/2012 USER 10/3/2014 10:54 AM

Added 3.0 dBa for calculated sound cur∨e uncertainty. GE recommends 2.0 dBA

Octave data

Hub height Wind speed LwA,ref Pure tones 125 250 4000 8000 500 1000 2000 Status [m/s][dB] [dB] [dB] [dB] [dB] [dB(A)][dB] [dB] [dB] [m] From Windcat 80.0 7.0 109.0 No Generic data 90.6 97.6 101.0 103.6 103.4 100.5 95.7 86.2

NSA: Noise sensiti∨e point: (1)-A
Predefined calculation standard:

Imission height(a.g.l.): Use standard ∨alue from calculation model

Noise demand: 40.0 dB(A)
Distance demand:

NSA: Noise sensiti∨e point: (2)-B Predefined calculation standard:

Imission height(a.g.l.): Use standard ∨alue from calculation model

Noise demand: 40.0 dB(A)

Distance demand:

NSA: Noise sensitive point: (3)-C
Predefined calculation standard:

Imission height(a.g.l.): Use standard ∨alue from calculation model

Noise demand: 40.0 dB(A)

Distance demand:

761 Kemptown

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Kirk Schmidt / kirk.schmidt@al-pro.ca

10/3/2014 11:11 AM/2.9.269

DECIBEL - Assumptions for noise calculation

Calculation: July 2014 Layout + 3.0 dBA Uncertainty Alternative case Noise calculation model: ISO 9613-2 General 7.0 m/s

NSA: Noise sensiti∨e point: (4)-D Predefined calculation standard:

Imission height(a.g.l.): Use standard ∨alue from calculation model

Noise demand: 40.0 dB(A) Distance demand:

NSA: Noise sensiti∨e point: (5)-E Predefined calculation standard:

Imission height(a.g.l.): Use standard ∨alue from calculation model

Noise demand: 40.0 dB(A) Distance demand:

NSA: Noise sensiti∨e point: (6)-F Predefined calculation standard:

Imission height(a.g.l.): Use standard ∨alue from calculation model

Noise demand: 40.0 dB(A) Distance demand:

NSA: Noise sensiti∨e point: (7)-G Predefined calculation standard:

Imission height(a.g.l.): Use standard ∨alue from calculation model

Noise demand: 40.0 dB(A) Distance demand:

NSA: Noise sensiti∨e point: (8)-H Predefined calculation standard:

Imission height(a.g.l.): Use standard ∨alue from calculation model

Noise demand: 40.0 dB(A) Distance demand:

NSA: Noise sensiti∨e point: (9)-I Predefined calculation standard:

Imission height(a.g.l.): Use standard ∨alue from calculation model

Noise demand: 40.0 dB(A) Distance demand:

NSA: Noise sensiti∨e point: (10)-J Predefined calculation standard:

Imission height(a.g.l.): Use standard ∨alue from calculation model

Noise demand: 40.0 dB(A) Distance demand:

NSA: Noise sensiti∨e point: (11)-K Predefined calculation standard:

Imission height(a.g.l.): Use standard ∨alue from calculation model

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DECIBEL - Assumptions for noise calculation

Calculation: July 2014 Layout + 3.0 dBA Uncertainty Alternative case Noise calculation model: ISO 9613-2 General 7.0 m/s

NSA: Noise sensitive point: (12)-L Predefined calculation standard:

Imission height(a.g.l.): Use standard ∨alue from calculation model

Noise demand: 40.0 dB(A)
Distance demand:

NSA: Noise sensitive point: (13)-M Predefined calculation standard:

Imission height(a.g.l.): Use standard ∨alue from calculation model

Noise demand: 40.0 dB(A)
Distance demand:

NSA: Noise sensiti∨e point: (14)-N Predefined calculation standard:

Imission height(a.g.l.): Use standard ∨alue from calculation model

Noise demand: 40.0 dB(A)
Distance demand:

NSA: Noise sensitive point: (15)-O
Predefined calculation standard:

Imission height(a.g.l.): Use standard ∨alue from calculation model

Noise demand: 40.0 dB(A)
Distance demand:

NSA: Noise sensiti∨e point: (16)-P Predefined calculation standard:

Imission height(a.g.l.): Use standard ∨alue from calculation model

Noise demand: 40.0 dB(A)
Distance demand:

NSA: Noise sensiti∨e point: (17)-Q Predefined calculation standard:

Imission height(a.g.l.): Use standard ∨alue from calculation model

Noise demand: 40.0 dB(A)
Distance demand:

NSA: Noise sensitive point: (18)-R Predefined calculation standard:

Imission height(a.g.l.): Use standard ∨alue from calculation model

Noise demand: 40.0 dB(A)
Distance demand:

NSA: Noise sensiti∨e point: (19)-S Predefined calculation standard:

lmission height(a.g.l.): Use standard ∨alue from calculation model

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DECIBEL - Assumptions for noise calculation

Calculation: July 2014 Layout + 3.0 dBA Uncertainty Alternative case Noise calculation model: ISO 9613-2 General 7.0 m/s

NSA: Noise sensiti∨e point: (20)-T Predefined calculation standard:

Imission height(a.g.l.): Use standard ∨alue from calculation model

Noise demand: 40.0 dB(A)
Distance demand:

NSA: Noise sensitive point: (21)-U Predefined calculation standard:

Imission height(a.g.l.): Use standard ∨alue from calculation model

Noise demand: 40.0 dB(A)
Distance demand:

NSA: Noise sensiti∨e point: (22)-V Predefined calculation standard:

Imission height(a.g.l.): Use standard ∨alue from calculation model

Noise demand: 40.0 dB(A)
Distance demand:

NSA: Noise sensiti∨e point: (23)-W Predefined calculation standard:

Imission height(a.g.l.): Use standard ∨alue from calculation model

Noise demand: 40.0 dB(A)
Distance demand:

NSA: Noise sensitive point: (24)-X
Predefined calculation standard:

Imission height(a.g.l.): Use standard ∨alue from calculation model

Noise demand: 40.0 dB(A)
Distance demand:

NSA: Noise sensiti∨e point: (25)-Y Predefined calculation standard:

Imission height(a.g.l.): Use standard ∨alue from calculation model

Noise demand: 40.0 dB(A)
Distance demand:

NSA: Noise sensitive point: (26)-Z Predefined calculation standard:

Imission height(a.g.l.): Use standard ∨alue from calculation model

Noise demand: 40.0 dB(A)
Distance demand:

NSA: Noise sensitive point: (27)-AA Predefined calculation standard:

lmission height(a.g.l.): Use standard ∨alue from calculation model

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Calculated:
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DECIBEL - Assumptions for noise calculation

Calculation: July 2014 Layout + 3.0 dBA Uncertainty Alternative case Noise calculation model: ISO 9613-2 General 7.0 m/s

NSA: Noise sensiti∨e point: (28)-AB Predefined calculation standard:

lmission height(a.g.l.): Use standard ∨alue from calculation model



VALLEY - KEMPTOWN & DISTRICT FIRE BRIGADE

P. O. BOX 1224, TRURO, N.S. B2N 5N2

To whom it may concern:

On behalf of the Valley- Kemptown and District Fire Brigade please accept this letter of support for the Affinity Renewables wind turbine development application which is being proposed for East Mountain, Colchester County.

Affinity Renewables have a proven track record in developing and operating wind power projects such as their Dalhousie Mountain project. We believe that this company has demonstrated that they value, involve and respect the communities where they plan their wind projects. In particular, the proposed East Mountain project promises to provide direct support back into the community in several ways. As a major partner, the project will support the Nova Scotia Society for the Prevention of Cruelty to Animals. Additionally, Affinity Renewables is proposing support for local community groups through an annual community fundraising account. This initiative will provide support directly back into our local community for the benefit of its residents and represents a unique way for businesses like Affinity Renewables to give back to the communities where they operate.

Our Fire Brigade would be pleased to work with Affinity Renewables in bringing additional benefit back to our Community and look forward to the approval and development of their East Mountain Wind project.

Sincerely;

Nigel Leggett

Fire Chief

FIRE
The Name

- Jegget.

PREVENTION

The Game

Cobequid Eco-Trails Society Cobequid Eco Trails 3361 Highway 2 Economy, NS BOM 1J0



Date: March 9th, 2011

Affinity Renewables Small Wind Project

I am writing on behalf of Cobequid Eco-Trails Society to support the proposed wind farm development under the COMFIT program. CETS has had a very positive experience working with this company in the past. The proposed project has engaged local community minded not-for-profits at the early stage of the planning process that has not been the case with other wind farm developers in the region.

Cobequid Eco-Trails Currently manage 32km of Wilderness Trail near the proposed site. If the project is approved we look forward to working with Affinity Renewables Small Wind Project.

Sincerely,

Garnet McLaughlin (Chairperson)

KAREN CASEY, MLA COLCHESTER NORTH

30 Duke Street, Constituency Office Truro, Nova Scotia B2N 2A1

> Phone 902-893-2180 Fax 902-893-3064

February 27, 2012

To Whom It May Concern:

As the MLA for Colchester North, which includes the property development area of East Mountain, please accept this letter of support for Affinity Renewables Wind Turbine Development application.

Affinity Renewables is 51% owned by a not for profit organization, namely Nova Scotia Society for the Prevention of Cruelty to Animals. This partnership demonstrates the value that Affinity Renewables places on the community and the importance of working with both individuals and organizations within the communities where the wind turbine development is proposed.

Affinity Renewables have established credibility in other communities where they have development projects. They do this by personally contacting communities to ensure that all available information is shared and understood by those who may be impacted by the development. The partnership with SPCA will allow this not for profit organization to earn an annual income by selling power to NSP. In addition, Affinity Renewables will establish an annual community fundraising account. This account will be managed by the local fire department, with the funds going to support the fire department, as well as other local community groups identified by the fire department as being eligible.

I am impressed by the success of earlier projects by Affinity and I recognize that the scope of their application is within their means to manage and finance. Affinity Renewables are well aware of Municipal By-laws and set back requirements and this has been confirmed by the Development Officer with the Municipality of the County of Colchester. I strongly support Affinity's participation in the COMFIT program. They are good corporate citizens who value the move towards wind energy through wind power. Their financial backing is strong. They have proven through the Dalhousie Project to be efficient and effective. I look forward to having Affinity work within my constituency on the East Mountain Project.

Yours truly,

Karen Casey, MLA Colchester North

PLEASE JOIN US

AT THE KEMPTOWN COMMUNITY CENTER

Who – Affinity Wind

What – Open house to discuss the proposed 4.99 megawatt wind project behind the Balefill Facility

- Project will consist of 3 wind turbines

Topics – Project description, project timeline, partnership with SPCA, community benefits, environmental study results (birds, bats, moose, wetlands, botany and wildlife), archaeological and First Nations study results, sound and visual analysis, safety, construction and operation, decommissioning.

When – Thursday, January 9, 2014

From 7 – 9 pm

Presentation to begin approximately 7:15

Lights refreshments

Contact Lisa Fulton at 759-6626 or lisa@rmsenergy.ca for further details.

We encourage you to attend and ask any questions that you may have.

September 25, 2014

Affinity Wind is holding a 2nd public meeting for the Kemptown Wind Power Project and you're invited.

Dear Landowner;

You have received this letter because you own one or more properties with a 2.5km radius of the proposed Kemptown Wind Project. This project is made up of three 1.6 megawatt wind turbines. All details about the project will be discussed at an Open House meeting on October 20, 2014 from 7:00 until 9:00 pm. This meeting will be held at the Kemptown Community Centre.

Topics to discuss include:

- ✓ Detailed Environmental Review
- ✓ Mapping including sound and visual studies
- ✓ Benefits of Renewable Energy in communities
- ✓ Connection to local electricity grid
- ✓ Colchester Municipal Wind Turbine Bylaw
- ✓ Location and proximity of turbines
- ✓ Other project specific details and study results

Monday, October 20, 2014

Kemptown Community Centre

7.00 to 9.00 pm

www.rmsenergy.ca

Contact Reuben at 902-771-0322 or Lisa at 902-759-6626 or email info@rmsenergy.ca

ATTENTION

Affinity Wind LP is having a 2nd Open House meeting to discuss details of the Kemptown Wind Power Project in Kemptown, Colchester County, Nova Scotia.

The project will consist of three 1.68 MW wind turbines and will be located on privately owned land.

The meeting will be held on Monday, October 20, 2014 from 7:00 to 9:00 pm at the Kemptown Community Center.

Email info@rmsenergy.ca for more details

Municipality of the County of Colchester

Chapter 56 Wind Turbine Development By-law

1. Title and Scope

- 1.1. This By-law is enacted pursuant to Section 172 of the *Municipal Government Act*, SNS 1998, c.18 and shall be known and may be cited as the "Wind Turbine Development By-law" of the Municipality of the County of Colchester and shall apply to all lands within the Municipality.
- 1.2. This By-law does not exempt any person from complying with the requirements of other by-laws or regulations in force within the Municipality of the County of Colchester and from obtaining any licence, permission, permit, authority or approval as otherwise required by the Municipality, the Province of Nova Scotia, and/or the Government of Canada.
- 1.3. This By-law shall apply to all Large Scale Wind Turbines and all Small Scale Wind Turbines including those existing prior to the effective date of this By-law, except Section 5 of this By-law which shall not apply so as to invalidate the location of any Large Scale Wind Turbine or Small Scale Wind Turbine existing prior to the effective date of this By-law.
- 1.4. This By-law shall not apply to Micro Scale Wind Turbines.

2. Definitions

For the purposes of this By-law:

- 2.1. "A-Weighted Decibel" or "dB(A)" means a measurement of Environmental Noise, whereby A-frequency weighting is used to compensate for the varying sensitivity of the human ear to sounds at different frequencies;
- 2.2. "Ambient Degradation Noise Standard" means the average noise level over a specified period of time, usually composed of sound from many sources, near and far;
- 2.3. "Camp" means a recreational shelter typically used for weekend or short term activities such as hunting, fishing or snowmobiling, which is not intended for regular human occupation or living;

- 2.4. "Cottage" means a seasonal home, which is typically but not necessarily serviced with running water, onsite sewage disposal system and electricity, and which is equipped to accommodate an extended period of stay of regular human occupation and living;
- 2.5. "Council" means the Council for the Municipality of the County of Colchester;
- 2.6. "Decibel" or "dB" means a measurement of sound, namely the scale in which sound pressure level is expressed. When measuring Environmental Noise, a weighting network is used which filters the frequency of sound, and is expressed as "dB(A)";
- 2.7. "**Decommission Plan**" means a plan approved for the Decommissioning of a Wind Power Project as part of the successful application for a License;
- 2.8. "**Decommissioning**" means the final closing down and dismantling of a Wind Power Project and associated infrastructure once a Wind Power Project has reached the end of its operation life;
- 2.9. "Development Officer" means the Development Officer appointed by the Council of the Municipality of the County of Colchester or their designate;
- 2.10. "Dwelling" means all structures intended for regular human occupation and living, such as a house or cottage but not a camp or an accessory structure such as a shed or storage area;
- 2.11. "Environmental Assessment" means all documentation required under the Canadian Environmental Assessment Act of Canada and any Regulations thereto and Environment Act of Nova Scotia and any Regulations thereto;
- 2.12. "Environmental Noise" means a measurement of the noise level already present within an environment in the absence of a Wind Power Project;
- 2.13. "External Property Line" means a common boundary with any parcel of land which is adjacent to those parcels of land which form part of a Wind Power Project;
- 2.14. "kW" means kilowatt;
- 2.15. "Large Scale Wind Turbine" means any Wind Turbine which has a Nameplate Capacity greater than 100 kW, which may be developed as a stand-alone Wind Turbine or in combination with other Wind Turbines in a Wind Farm;
- 2.16. "Licence" means a Licence issued pursuant to this By-law permitting the installation and operation of a Wind Power Project;

- 2.17. "Nacelle" means the frame and housing at the top of the tower that is part of a Wind Turbine which encloses components such as the gearbox and generator, protecting them from the weather;
- 2.18. "Nameplate Capacity" means the manufacturer's maximum rated output of the Wind Turbine expressed in kilowatts;
- 2.19. "Micro Scale Wind Turbine" means a Wind Turbine which has a Nameplate Capacity of less than 1 kW;
- 2.20. "Municipality" means the Municipality of the County of Colchester;
- 2.21. "Owner" and "Operator" mean respectively any owner or operator of a Wind Turbine licensed under this By-law;
- 2.22. "Small Scale Wind Turbine" means a Wind Turbine which has a Nameplate Capacity equal to or less than 100 kW but not less than 1 kW, which may be developed as a stand-alone Wind Turbine or in combination with other Wind Turbines in a Wind Farm;
- 2.23. "**Setback**" means the measured distance from the base of the Wind Turbine to any point referenced in this By-law;
- 2.24. "**Temporary Test Tower Facilities**" means temporary measurement towers for the assessment of potential wind energy resources;
- 2.25. "Wind Farm" means two or more Large Scale Wind Turbines electrically connected to the transmission grid or local distribution network;
- 2.26. "Wind Power Project" means a Wind Turbine or Wind Farm and associated property, substations and other utility systems;
- 2.27. "Wind Turbine" means a wind energy conversion system erected to produce electrical power by capturing the kinetic energy in wind and converting it into electricity;
- 2.28. "Wind Turbine Height" means the distance measured from grade to the highest point of the rotor blade's arc.

3. License Required to Install or Operate Wind Turbine in Municipality

3.1. No individual or organization shall install or operate a Wind Turbine in the Municipality without first having obtained a Licence from the Development Officer.

3.2. No individual or organization who obtains a License pursuant to this By-law shall install or operate a Wind Turbine except in accordance with the provisions of this By-law and with the terms of the License issued pursuant to this By-law.

4. Licensing

- 4.1. A Licence for a Wind Turbine shall be issued by the Development Officer subject to the following requirements:
 - a. The Owner or Operator shall submit a completed application in such form as is approved from time to time by the Development Officer;
 - b. The application shall be co-signed by the registered property owner if the land upon which a Wind Turbine is proposed to be installed and operated is not owned by the Owner and/or Operator of the Wind Turbine;
 - c. The completed application shall be accompanied with an application fee in an amount determined by Council from time to time by Policy;
 - d. The requirements contained in clauses 4, 5 and 7 of this By-law shall be satisfied by the applicant in their completed application, and no application shall be considered complete for the purposes of clause 4.3 until such time as clauses 4, 5 and 7 are satisfied by an applicant.

4.2. Duration of Licence:

- a. A Licence issued under this By-law will be in effect for twenty-five (25) years unless otherwise cancelled or suspended. If a License is not renewed pursuant to this By-law before the License expires, a License shall automatically terminate at the end of the twenty-five (25) year period of the License.
- b. An Owner or Operator may apply to renew a Licence by way of:
 - i. submitting a completed application to the Development Officer no less than thirty (30) days prior to the expiry date of the Licence in the same form and with the same requirements as set out in clause 4.1 of this By-law.
 - ii. submitting an application fee in an amount determined by Council from time to time by Policy.
- c. An application for renewal of a License shall be considered by the Development Officer in accordance with the By-law in effect at the time that a completed application for renewal of such License is submitted.

- d. If the renewal application is approved by the Development Officer, the License shall be renewed for a period of twenty (25) years.
- e. A Licence issued or renewed under this By-law shall be automatically terminated if, in the opinion of the Development Officer:
 - i. construction of the Wind Power Project has not commenced within eighteen (18) months of the date the Licence was issued;
 - ii. substantial completion of the Wind Power Project has not occurred within five (5) years of the date that the Licence was issued;
 - iii. following the issuance of a Licence, new or corrected information that materially affects the application is brought to the attention of the Development Officer;
 - iv. the applicant fails to meet the requirements of Section 7 of this Bylaw; or
- 4.3. the entire Wind Power Project has ceased operation for a period of at least one (1) year, unless the Owner or Operator thereof can reasonably establish that additional time is needed to repair or rebuild part or all of the Wind Power Project if the repair is delayed as a result of circumstances beyond his control.

4.4. Notice of Decision:

- a. Within a reasonable amount of time of receiving a completed application for a Licence or renewal of a License, the Development Officer shall either issue or renew the Licence or notify the applicant of a decision to refuse the issuance or renewal of the License.
- b. A decision to refuse an application for a Licence or renewal of a License shall be made in writing and delivered to the applicant by ordinary mail to the mailing address designated in the application, and shall include the Development Officer's reasons for not issuing or renewing the License.

5. Location Conditions

A Wind Power Project shall meet the following conditions:

5.1. The minimum Setback for a Large Scale Wind Turbine from an External Property Line and public roads is one (1) times the Wind Turbine Height. This minimum Setback shall not apply where the adjoining property is part of the Wind Power Project, in which case there shall be provided to the Development Officer a letter of agreement from the adjoining property owner if different than the applicant.

- 5.2. The minimum Setback for the location of a Large Scale Wind Turbine from an existing Dwelling on a neighbouring property is 1,000 metres, subject to clause 5.3 of this By-law.
- 5.3. An increased setback may be required for certain Large Scale Wind Turbines, in excess of the minimum Setback of 1,000 metres as set out in clause 5.2 of this Bylaw, if an increased minimum Setback is necessary to satisfy the maximum Ambient Degradation Noise Standard in accordance with clause 5.4 of this By-law.
- 5.4. Large Scale Wind Turbines must not have an Ambient Degradation Noise Standard greater than 36 dB(A) as measured at existing Dwellings.
- 5.5. a) Subject to 5.5 (b), an applicant may request a reduction of the 1,000 metres minimum Setback provided by clause 5.2 of this By-law, to a minimum Setback of 700 metres, with written permission from all landowners who own parcels of land that share a common boundary with any parcels of land which form part of the Wind Power Project, in a form approved by the Development Officer from time to time. The Development Officer may, in their discretion, grant or refuse such request after considering whether the reduced Setback would be injurious or potentially injurious to any parcels of land or its occupants for any reason.
 - b) No request pursuant to Section 5.5 (a) shall be granted if it has the impact of reducing the protection of the Location Conditions for any other landowner who has not provided written permission.
- 5.6. a) Subject to 5.6 (b), an applicant may request a waiver of the maximum Ambient Degradation Noise Standard provided by clause 5.4 of this By-law, to a maximum Ambient Degradation Noise Standard of 40 dB(A), with written permission from all landowners who own parcels of land that share a common boundary with any parcels of land which form part of the Wind Power Project, in a form approved by the Development Officer from time to time. The Development Officer may, in their discretion, grant or refuse such request after considering whether the reduced Setback would be injurious or potentially injurious to any parcels of land or its occupants for any reason.
 - b) No request pursuant to Section 5.6 (a) shall be granted if it has the impact of reducing the protection of the Location Conditions for any other landowner who has not provided written permission.
- 5.7. The minimum Setback for the location of a Small Scale Wind Turbine from an External Property Line is two (2) times the Wind Turbine Height. This minimum Setback shall not apply where the adjoining property is part of the Wind Power Project, in which case there shall be provided to the Development Officer written permission from the adjoining property owner, if different than the applicant, in a form approved by the Development Officer from time to time.

6. Conditions of Operation

6.1. Finish

a. A Wind Turbine shall have a non-reflective matte finish in an unobtrusive colour.

6.2. Lettering and Signage

- a. A Wind Turbine shall not contain any commercial advertising.
- b. The Nacelle of a Wind Turbine may display the name or logo of the manufacturer of the Wind Turbine or the name or the logo of the Owner or Operator of the Wind Turbine.
- c. Site signs will be limited to those which identify the Wind Power Project, those which locate access points and those which provide safety and educational information.

6.3. Lighting

 A Wind Turbine shall not have artificial lighting, except for lighting that is required by Transport Canada or other Provincial or Federal regulatory authorities.

6.4. Access and Safety

- a. A Wind Power Project shall be protected from unauthorized access by:
 - i. having a security fence, which shall have a minimum height of 1.8 metres and a lockable gate; or
 - ii. having any ladder or permanent tower access located no closer to the ground than 3.7 metres; or
 - iii. for monopole designs with internal access only, a lockable door.
- b. The minimum ground clearance for a rotor blade shall be 7.5 metres.

6.5. Temporary Test Tower Facilities

a. Temporary Test Tower Facilities may remain erected for a maximum of two (2) years after the issuance of a License, after which time any such Temporary Test Tower Facilities must be dismantled unless an Owner and/or Operator satisfies the Development Officer that the Temporary Test Tower Facilities continue to be necessary. The Development Officer may, in their

- discretion, permit the Temporary Test Tower Facilities to remain erected for such period of time as the Development Officer deems appropriate.
- b. For the purposes of clarity, a failure to dismantle Temporary Test Tower Facilities as directed by clause 6.5(a) of this By-law shall be an offence punishable pursuant to Part 10 of this By-law.

6.6. Outdoor Storage

a. Outdoor storage shall be considered an accessory use to a Wind Power Project, and any such outdoor storage occurring after the completion of installation or construction of the Wind Power Project shall be screened from the view from adjacent Dwellings and public highways.

7. Information Required at Time of Application

- 7.1. Along with the application for a Licence, an applicant shall provide, both in hard copy and in digital format:
 - A site plan, drawn to scale by an engineer or surveyor who is licensed to practice in the Province of Nova Scotia, showing the proposed location of the Wind Turbines and accessory components of the Wind Power Project;
 - b. A plan, drawn to scale by an engineer or surveyor who is licensed to practice in the Province of Nova Scotia, showing the location of adjacent structures and land parcels and identifying all dwellings, structures and public roads within two (2) kilometres of any proposed Wind Turbine. The plan must also demonstrate compliance with the required minimum Setbacks, where applicable, for the entire Wind Power Project. The plan must also include tables which provide the distance, in metres, from each Wind Turbine to External Property Lines, public roads, Dwellings, Cottages and Camps;
 - c. The results of a Wind Turbine Noise Modelling Study or an equivalent study deemed satisfactory to the Development Officer, which demonstrates that the Wind Power Project will have an Ambient Degradation Noise Standard as required by clause 5 of this By-law;
 - If applicable, a copy of an Environmental Assessment and notice of the issuance of any Federal and/or Provincial approvals, along with any changes, comments or conditions imposed by Federal and/or Provincial regulatory authorities;
 - e. A certified copy of the complete manufacturer's specifications for all proposed Wind Turbines:

- f. A copy of the applicant's Decommission Plan, which must identify the following:
 - i. any above ground components of the Wind Power Project to be removed from the site along with any site remediation, excluding roads, required to return the site to a natural state:
 - confirmation that Decommissioning will commence within one (1) year after the Owner or Operator has surrendered the License or the Owner or Operator's License has been terminated;
 - iii. confirmation that Decommissioning will be completed within twelve (12) months after commencement; and
 - iv. a cost estimate for carrying the Decommission Plan through to completion, prepared by an engineer who is licensed to practice in the Province of Nova Scotia or by another professional individual who has been deemed appropriate by the Development Officer to prepare the requisite cost estimate;
- g. Written acknowledgement from the landowner(s) of the parcel(s) of land which form part of the proposed Wind Power Project that the Municipality shall not be liable for any costs, fees or expenses of any kind which may be incurred by the landowner in relation to the Decommissioning of the Wind Power Project in the event that the Decommission Plan is not completed to the landowner's satisfaction or in accordance with any agreement that may have been entered into between the landowner and the applicant;
- h. If applicable, confirmation that the applicant has given notice to, and has received approval from, any Federal or Provincial regulatory authorities including but not limited to the Department of National Defense, Natural Resources Canada, Transportation Canada, NAV Canada and any other applicable department or agency with respect to any potential radio, telecommunications, radar and seismoacoustic interference that may result from the proposed Wind Power Project. Copies of all such approvals must be obtained and provided to the Development Officer before an application will be considered complete for the purposes of clause 4.3;
- any other information that may be requested by the Development Officer to ensure compliance with the requirements of this By-law, including any other information that the Development Officer deems necessary as a result of any community meetings; and
- j. demonstration that public notification has been, and will be, complied with as required by clause 9 of this By-law.

8. Requirements of the Applicant During the Construction Phase

The following shall be conditions of any License issued under this By-law:

- 8.1. Once determined, the applicant shall submit to the Development Officer drawings which demonstrate that the foundations to support a Wind Turbine will satisfy both manufacturer's specifications for the Wind Turbine as well as industry standards for foundations for the Wind Turbine, to be prepared by an engineer who is licensed to practice in the Province of Nova Scotia; and
- 8.2. Within two (2) months of the installation of a Wind Turbine or the completion of a phase in a multi-phased Wind Power Project, the applicant will submit a Location Certificate prepared by a surveyor who is licensed to practice in the Province of Nova Scotia or a drawing prepared by an engineer who is licensed to practice in the Province of Nova Scotia which confirms that the location of installed Wind Turbine(s), or preparation for the installation of Wind Turbine(s), is in compliance with the minimum Setbacks as required in this By-law.

9. Public Consultation and Notification

Public Notice prior to Installation of Temporary Test Tower Facilities

- 9.1. Prior to the installation of any Temporary Test Tower Facilities, the applicant must provide written notice to all land owners who own land within two (2) kilometres of the location on which Temporary Test Tower Facilities are intended to be installed, by way of regular mail to the registered address of the land owner, no later than three (3) weeks prior to the commencement of construction. Such written notice must identify:
 - a. What Temporary Test Tower Facilities are to be installed;
 - b. Where the Temporary Test Tower Facilities will be located;
 - c. When the Temporary Test Tower Facilities will installed and when the Temporary Test Tower Facilities will be active;
 - d. The purpose of the Temporary Test Tower Facilities, including but not limited to the purpose of completing testing in contemplation of a future Wind Power Project and a general description of such future Wind Power Project.
- 9.2. A copy of the written notice prescribed by clause 9.1 shall also be sent to the Mayor and all Councillors of the Municipality, no later than three (3) weeks prior to the commencement of construction.

9.3. Citizen Monitoring Committee

- a. Upon receiving notice of the installation of Temporary Test Tower Facilities, Council may establish a Citizen Monitoring Committee which will be established with respect to the Temporary Test Tower Facilities, which may remain in existence for the life of the Temporary Test Tower Facilities, or for a shorter period if deemed necessary by Council.
- b. A Citizen Monitoring Committee established pursuant to clause 9.3(a) may be continued pursuant to clause 9.6(a) in the event that Temporary Test Tower Facilities give rise to an application for a Wind Power Project.
- c. The Citizen Monitoring Committee shall be chaired by the Municipal Councillor for the area in which the Temporary Test Tower Facilities are being installed.
- d. The function of a Citizen Monitoring Committee established pursuant to clause 9.3(a) of this By-law shall be as determined from time to time by Policy.

Public Notice and Consultation as part of application for Wind Power Project

9.4. As part of the application for a Wind Power Project, the applicant must demonstrate that it has made plans to conduct a community meeting in accordance with this clause, held in the community where the proposed Wind Power Project is to be installed, where the applicant will present to the community on the application it has submitted to the Municipality to install and operate a Wind Power Project, including showing the site plan included with its application and answering any questions concerning the Wind Power Project for which the License has been applied for. This community meeting shall be held at the convenience of the applicant, however the applicant's application shall not be considered complete for the purposes of clause 4.3 of the By-law until such time as this community meeting is held.

9.5. Notice of Community Meeting

a. The applicant shall schedule the community meeting in consultation with the Development Officer and the Chair of the Citizen Monitoring Committee, no later than three (3) weeks before the applicant wishes to hold such community meeting. Immediately after the applicant, the Development Officer and the and the Chair of the Citizen Monitoring Committee reach agreement as to the date, time and location of the community meeting, the applicant shall give written notice of the community meeting to the Mayor and all Councillors of the Municipality, which notice shall include the date, time and location of the community meeting along with an explanation as to which proposed Wind Power Project the community meeting pertains.

- b. The applicant shall provide written notice of a community meeting held pursuant to this clause to all land owners who own land within two (2) kilometres of the boundaries of the proposed Wind Power Project by way of regular mail to the registered address of the land owner, no later than three (3) weeks prior to any scheduled community meeting. This written notice shall include the date and time of the community meeting. The applicant shall provide the Development Officer with a complete list of land owners to whom written notice was given pursuant to this clause within two (2) days of such written notices being given.
- c. Notice of a community meeting held pursuant to this clause will be advertised in the local daily newspaper at least two (2) times, the first notice to be published at least fourteen (14) days before the date of the meeting and the second notice being at least seven (7) days before the date of the meeting.
- d. At the time of publishing a first notice pursuant to clause 9.5(c) of this By-law, the applicant shall provide to the Development Officer a copy of the newspaper in which the first notice was published.
- e. At the time of publishing a second notice pursuant to clause 9.5(c) of this Bylaw, the applicant shall provide to the Development Officer a copy of the newspaper in which the second notice was published.

9.6. Citizen Monitoring Committee

- a. During the community meeting, Council may give notice of the continuation of, or the establishment of, a Citizen Monitoring Committee which will be continued or established with respect to the proposed Wind Power Project after the issuance of the License or renewal of a License, which may remain in existence for five (5) years or for a different time period if deemed necessary by the Chair of the Citizen Monitoring Committee.
- The Citizen Monitoring Committee shall be chaired by the Municipal Councillor for the area in which in which the proposed Wind Power Project will be located.
- c. The function of a Citizen Monitoring Committee continued or established pursuant to clause 9.6(a) of this By-law shall be as determined from time to time by Policy.

9.7. Notice of Approval

a. Notice of an approval of a License shall be sent by the Development Officer to those land owners who own land within two (2) kilometres of the boundaries of the approved Wind Power Project, by way of regular mail within five (5) days following the issuance of the License.

10. Enforcement

10.1. Right of Inspection

- a. The Development Officer may, for the purpose of ensuring compliance with this By-law and the terms of a License issued pursuant to this By-law, enter in or upon any land or premises at any reasonable time upon reasonable notice.
- b. If any individual or organization attempts to interfere or interferes with the Development Officer in the exercise of a power pursuant to this By-law, the Development Officer may apply to a judge of the Supreme Court of Nova Scotia for an order to allow the Development Officer to enter in or upon the premises for the purpose of ensuring compliance with this By-law and the terms of a License issued pursuant to this By-law and for an order restraining the individual or organization from further interference.

10.2. Offence

It shall be an offence to:

- a. contravene any provision of this By-law;
- contravene any condition in a Licence issued or renewed pursuant to this Bylaw; or
- c. fail to comply with any representations contained within an application upon which a Licence was issued or renewed pursuant to this By-law.

10.3. Punishment

- a. Any individual or organization who commits an offence pursuant to clause 10.2 of this By-law shall be punishable on summary conviction as follows:
 - i. for a first offence, by a fine of not less than \$1,000 and not more than \$5,000 and to imprisonment of not more than two (2) months in default of payment thereof;
 - ii. for a second offence, by a fine of not less than \$2,000 and not more than \$10,000 and to imprisonment of not more than two (2) months in default of payment thereof; and
 - iii. for a third and subsequent offence, by a fine of not less than \$5,000 and not more than \$20,000 and to imprisonment of not more than two (2) months in default of payment thereof.

10.4. Additional Penalty

- a. In addition to any penalty under clause 10.3 of this By-law, in the event of an offence under this By-law, the Development Officer may:
 - i. suspend a Licence for a period of up to three (3) months for a first conviction, and
 - ii. revoke a Licence for a second conviction within any three (3) year period.
- b. A suspension or revocation shall preclude any individual or organization from
 - i. in the event of a suspension, receiving a Licence or renewal of a License for the period of the suspension, and
 - ii. in the event of a revocation, receiving a License or renewal of a License for five (5) years,

in respect of the same Wind Power Project in relation to which the offence was committed.

10.5. Enforcement of Decommission Plan

- a. At the end of the operational life of a Wind Power Project or part thereof, occurring either at the choice of the Owner and/or Operator or for any other reason contemplated in this By-law, and upon a finding by the Development Officer that the Decommission Plan has not been carried out in a way satisfactory to the Development Officer, the Development Officer may:
 - give notice to the Owner and/or Operator advising them of any steps necessary to complete the Decommission Plan and directing the Owner and/or Operator to take such steps to complete Decommissioning of the Wind Power Project within a reasonable period of time and at the Owner and/or Operator's expense;
 - ii. if the Owner and/or Operator does not abide by direction of the Development Officer within a reasonable period of time after notice is given pursuant to clause 10.5(a)(i) of this By-law, carry out any steps the Development Officer had deemed necessary to complete Decommission of the Wind Power Project on behalf of the Owner and/or Operator. All costs incurred in the course of such Decommissioning undertaken by the Development Officer shall be the responsibility of the Owner and/or Operator and shall be immediately payable by the Owner and/or Operator to the Development Officer upon demand.

b. This Section shall operate in addition to the provisions contained on clause 10.3 of this By-law.

10.6. Appeals

- a. Any applicant whose application for a Licence or renewal of a License has been refused may, within thirty (30) days from the date of the Development Officer's decision, file an appeal to Council or to a Committee designated by Council from time to time by Policy, in writing and in such form as is approved from time to time by Council by Policy.
- b. Any individual or organization whose License has been suspended or revoked may, within thirty (30) days from the date of the Development Officer's decision, file an appeal to Council or to a Committee designated by Council from time to time by Policy, in writing and in such form as is approved from time to time by Council by Policy.
- c. Council or the Committee designated by Council from time to time by Policy shall hear an appeal commenced pursuant to clauses 10.6(a) or 10.6(b) at a hearing held within a reasonable period of time after the filing of the appeal and Council may dismiss the appeal, allow the appeal and reverse the decision under appeal, or vary the decision under appeal.
- d. The filing of an appeal pursuant this clauses 10.6(a) and 10.6(b) does not vary, suspend or stay the decision of the Development Officer, and decision of the Development Officer shall remain in full force and effect unless and until it is reversed or varied by Council or the Committee designated by Council.
- e. The right of appeal provided by clauses 10.6(a) and 10.6(b) shall expire thirty (30) days after the date of the Development Officer's decision.
- f. All other decisions made by the Development Officer pursuant to this By-law shall be final.

11. Transition

11.1. Any application for a License or renewal of a License submitted prior to the date of the coming into force of this By-law, and which is undecided as of the coming into force of this By-law, shall be deemed to be a new application for a License or renewal of a License submitted as of the date of the coming into force of this By-law, and shall be decided in accordance with this By-law.

12. Severability

12.1 Each and every of the foregoing clauses of this By-law is severable and that if any provision of this By-law should for any reason be declared invalid by any court, it is the intention and desire of the Council of the Municipality that each and every of the then remaining provisions hereof should remain in full force and effect.

THIS IS TO CERTIFY, that By-law # 56, Wind Turbine Development By-law, was duly approved at a duly called meeting of the Municipal Council of the Municipality of the County of Colchester, duly convened and held on the 30th day of October, A.D., 2013.

GIVEN under the hand of the Municipal Clerk and under the corporate seal of said Municipality this 6th day of November, A.D., 2013.

I, Ramesh Ummat, Municipal Clerk of the Municipality of the County of Colchester, do hereby certify that the adjacent Notice of Approval of Chapter 56 – Wind Turbine Development Bylaw, duly advertised in the Wednesday, November 6, 2013 issue of the Truro Daily News.

Given under the hand of the Municipal Clerk and under the corporate seal of said Municipality this 6th day of November, 2013.

Municipal Clerk

Ramesh Ummat Municipal Clerk



TAKE NOTICE that on Wednesday, October 30, 2013, the Council of the Municipality of the County of Colchester approved amendments to Chapter 56 - Wind Turbine Development By-law.

The amendments to the By-law, effective immediately, increase the minimum setback requirement for large scale wind turbines, in combination with meeting an established maximum sound pressure level to determine location. Enhanced public consultation and communication requirements are also in place.

Copies of the By-law are available from the Community Development Office, 1 Church Street, Truro, or through the County's website at www.colchester.ca

Dated November 6, 2013

Ramesh Ummat Chief Administrative Officer