

Project:
Mackinnon - Croish House

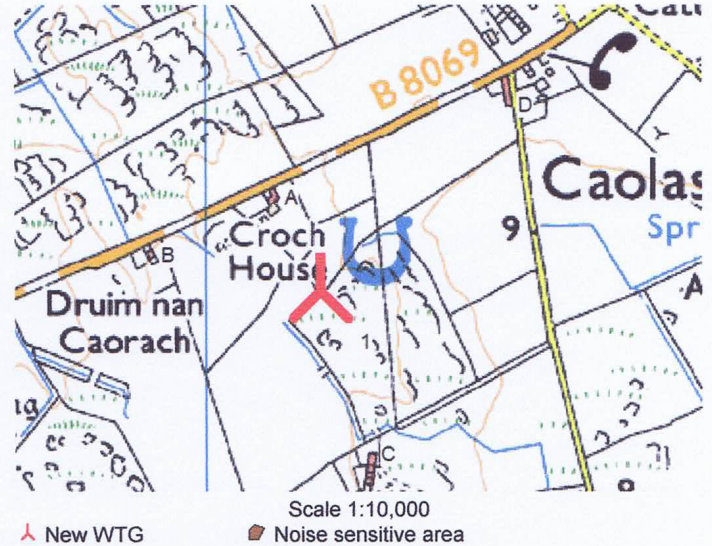
Printed/Page
07/03/2012 18:51 / 1



Licensed user:
Mint Energy (Scotland) Ltd
Station House South Street
GB-MILNATHORT KY13 9XB
+44 1577 865 910
Kirstin Gardner / k.gardner@mint-energy.co.uk
Calculated:
07/03/2012 18:51/2.7.490

DECIBEL - Main Result

Calculation: Croish
Noise propagation model:
ISO 9613-2 United Kingdom
Wind speed:
4.0 m/s - 12.0 m/s, step 1.0 m/s
Ground attenuation:
General, Ground factor: 0.5
Type of demand in calculation:
WTG noise is compared to ambient noise plus 5dB margin with the option of a floor setting (e.g. 35dB)
Noise values in calculation:
All noise values are 90% exceedence values (L90) designed to show compliance with ETSU-R-97 limits
Pure tones:
Pure and Impulse tone penalty are added to WTG source noise
Calculation height above ground level:
4.0 m
Octave band data required



WTGs

BN (AIRY) (Normal) East	North	Z	Row data/Description	WTG type			Power, rated [kW]	Rotor diameter [m]	Hub height [m]	Noise data		First wind speed [m/s]	LwaRef [dB(A)]	Last wind speed [m/s]	LwaRef [dB(A)]	Pure tones	Octave data
				Valid	Manufact.	Type-generator				Creator	Name						
1	108,150	748,584	20.0 C&F CF15 15 11.1 IO! hub: 15...No	C&F	CF15-15	15	11.1	15.4	USER	Test data 2012	4.0	81.7	12.0	95.3	0 dB	Generic *	

*Notice: One or more noise data for this WTG is generic or input by user

Calculation Results

Sound Level

Noise sensitive area No.	Name	BN (AIRY) (Normal)			Imission height [m]	Max Noise demand [dB(A)]	Max From WTGs [dB(A)]	Sound Level Max exceedence [dB(A)]	Demands fulfilled ? Noise
		East	North	Z [m]					
A	Noise sensitive area: British - British (2)	108,093	748,712	20.0	4.0	46.0	40.7	0.0	Yes
B	Noise sensitive area: British - British (3)	107,935	748,641	20.0	4.0	46.0	35.8	0.0	Yes
C	Noise sensitive area: British - British (4)	108,212	748,381	20.0	4.0	46.0	35.8	0.0	Yes
D	Noise sensitive area: British - British (5)	108,390	748,835	15.0	4.0	46.0	31.7	0.0	Yes

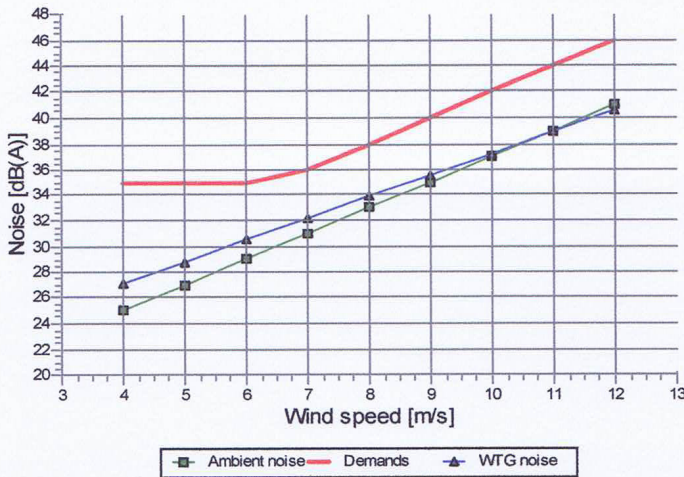
Distances (m)

NSA	WTG	Distance (m)
1	1	131
A	1	220
B	1	222
C	1	340

DECIBEL - Detailed results

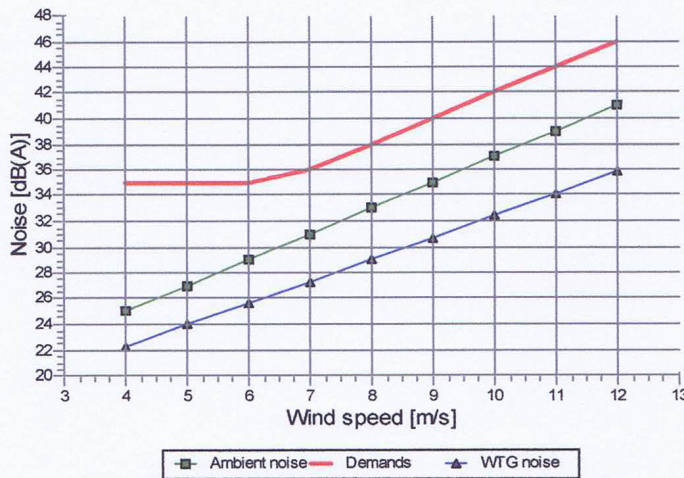
Calculation: CroishNoise calculation model: ISO 9613-2 United Kingdom

Noise sensitive area: **British - British (2) (A)**



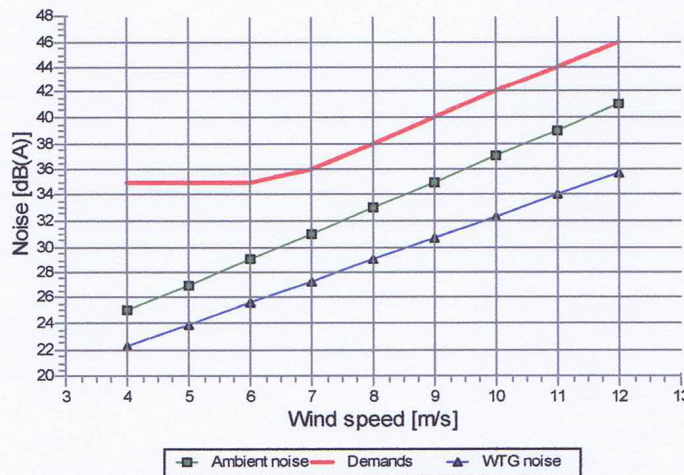
Wind speed [m/s]	Ambient noise [dB(A)]	Demands		Sound Level		Demands fulfilled ?
		Margin [dB(A)]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?	
4.0	25.0	5.0	35.0	27.1	Yes	
5.0	27.0	5.0	35.0	28.8	Yes	
6.0	29.0	5.0	35.0	30.5	Yes	
7.0	31.0	5.0	36.0	32.2	Yes	
8.0	33.0	5.0	38.0	33.9	Yes	
9.0	35.0	5.0	40.0	35.6	Yes	
10.0	37.0	5.0	42.0	37.3	Yes	
11.0	39.0	5.0	44.0	39.0	Yes	
12.0	41.0	5.0	46.0	40.7	Yes	

Noise sensitive area: **British - British (3) (B)**



Wind speed [m/s]	Ambient noise [dB(A)]	Demands		Sound Level		Demands fulfilled ?
		Margin [dB(A)]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?	
4.0	25.0	5.0	35.0	22.2	Yes	
5.0	27.0	5.0	35.0	23.9	Yes	
6.0	29.0	5.0	35.0	25.6	Yes	
7.0	31.0	5.0	36.0	27.3	Yes	
8.0	33.0	5.0	38.0	29.0	Yes	
9.0	35.0	5.0	40.0	30.7	Yes	
10.0	37.0	5.0	42.0	32.4	Yes	
11.0	39.0	5.0	44.0	34.1	Yes	
12.0	41.0	5.0	46.0	35.8	Yes	

Noise sensitive area: **British - British (4) (C)**



Wind speed [m/s]	Ambient noise [dB(A)]	Demands		Sound Level		Demands fulfilled ?
		Margin [dB(A)]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled ?	
4.0	25.0	5.0	35.0	22.2	Yes	
5.0	27.0	5.0	35.0	23.9	Yes	
6.0	29.0	5.0	35.0	25.6	Yes	
7.0	31.0	5.0	36.0	27.3	Yes	
8.0	33.0	5.0	38.0	29.0	Yes	
9.0	35.0	5.0	40.0	30.7	Yes	
10.0	37.0	5.0	42.0	32.4	Yes	
11.0	39.0	5.0	44.0	34.1	Yes	
12.0	41.0	5.0	46.0	35.8	Yes	

Project:
Mackinnon - Croish House

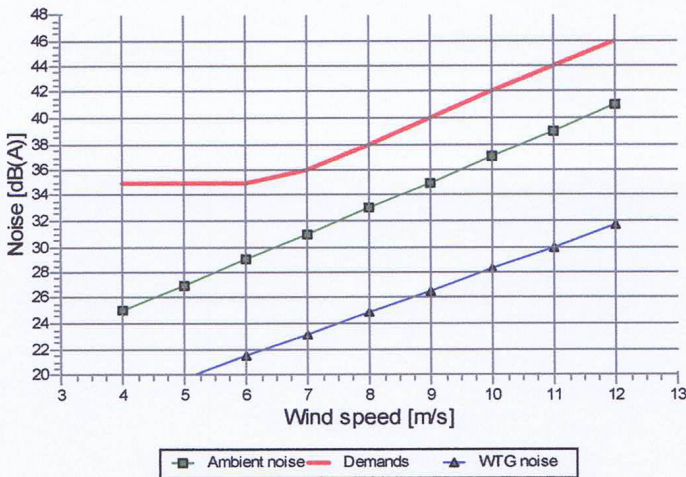
Printed/Page
 07/03/2012 18:53 / 2



Licensed user:
Mint Energy (Scotland) Ltd
 Station House South Street
 GB-MILNATHORT KY13 9XB
 +44 1577 865 910
 Kirstin Gardner / k.gardner@mint-energy.co.uk
 Calculated:
 07/03/2012 18:51/2.7.490

DECIBEL - Detailed results

Calculation: CroishNoise calculation model: ISO 9613-2 United Kingdom
 Noise sensitive area: British - British (5) (D)



Wind speed [m/s]	Demands			Sound Level		Demands fulfilled ?
	Ambient noise [dB(A)]	Margin [dB(A)]	Demands [dB(A)]	WTG noise [dB(A)]	Demands fulfilled	
4.0	25.0	5.0	35.0	18.1	Yes	
5.0	27.0	5.0	35.0	19.8	Yes	
6.0	29.0	5.0	35.0	21.5	Yes	
7.0	31.0	5.0	36.0	23.2	Yes	
8.0	33.0	5.0	38.0	24.9	Yes	
9.0	35.0	5.0	40.0	26.6	Yes	
10.0	37.0	5.0	42.0	28.3	Yes	
11.0	39.0	5.0	44.0	30.0	Yes	
12.0	41.0	5.0	46.0	31.7	Yes	