



**Amplitude
Acoustics**

Carnsore Wind Farm

Noise & Vibration Chapter Appendices

D200405RP2 R0

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Document Information

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Revision Table

Report revision	Date	Description	Author	Reviewer
0	22/07/2021	For Issue	Benny Cryan MIEI	Dr Emmet English

Appendix 11-1 – Turbine and Receiver Coordinates

Table – Turbine and Met Mast coordinates in Irish Transverse Mercator

Turbine	ITM	
	Easting	Northing
T01	711836	604272
T02	711756	604032
T03	711942	603713
T04	711992	604163
T05	711867	603876
T06	712058	603820
T07	712129	603956
T08	712239	604149
T09	712287	604373
T10	712032	604318
T11	711863	604464
T12	712122	604482
T13	712041	604594
T14	712231	604686
Met Mast	711618	604102

Table - Receiver coordinate in Irish Transverse Mercator

Receiver	ITM		Nearest Proposed Turbine	Horizontal distance to nearest proposed Turbine, m
	Easting	Northing		
NSL001	711809	604817	T13	322
NSL002	711481	604703	T11	451
NSL003	712087	605165	T14	500
NSL004	711344	604376	T01	502
NSL005	711332	604339	T01	508
NSL006	711347	604422	T01	511
NSL007	711327	604382	T01	521
NSL008	711533	604880	T11	531
NSL009	711433	604776	T11	531
NSL010	711740	605033	T13	533
NSL011	711658	604980	T13	544
NSL012	711485	604869	T11	554
NSL013	711610	604963	T11	559
NSL014	711329	604640	T11	562
NSL015	711463	604859	T11	563
NSL016	711693	605063	T13	584
NSL017	711423	604851	T11	586
NSL018	711523	604947	T11	591
NSL019	711542	604960	T11	591
NSL020	711478	604918	T11	595
NSL021	711658	605073	T13	614
NSL022	711590	605014	T11	614
NSL023	711613	605037	T13	616
NSL024	711722	605123	T13	618

Receiver	ITM		Nearest Proposed Turbine	Horizontal distance to nearest proposed Turbine, m
	Easting	Northing		
NSL025	711279	604684	T11	624
NSL026	711634	605095	T13	645
NSL027	711738	605191	T13	669
NSL028	711210	604709	T11	698
NSL029	711747	605227	T13	698
NSL030	711217	604772	T11	715
NSL031	711762	605256	T13	718
NSL032	711893	605329	T14	726
NSL033	711192	604754	T11	731
NSL034	711949	605383	T14	751
NSL035	711760	605294	T13	754
NSL036	711784	605307	T13	758
NSL037	711155	604738	T11	760
NSL038	711904	605374	T14	762
NSL039	711818	605331	T14	765
NSL040	711092	604681	T11	801
NSL041	711808	605379	T14	812
NSL042	711094	604726	T11	813
NSL043	712020	605474	T14	815
NSL044	712048	605486	T14	821
NSL045	711057	604690	T11	837
NSL046	711686	605355	T13	839
NSL047	711065	604758	T11	850
NSL048	712469	605511	T14	858
NSL049	711022	604756	T11	891
NSL050	712217	605590	T14	904
NSL051	712469	605559	T14	905
NSL052	712546	605555	T14	924
NSL053	712563	605567	T14	941
NSL054	712527	605588	T14	949
NSL055	711971	605609	T14	958
NSL056	712178	605644	T14	959
NSL057	712575	605598	T14	975
NSL058	712314	605663	T14	981
NSL059	712432	605650	T14	984
NSL060	712561	605619	T14	990
NSL061	712632	605592	T14	991
NSL062	712687	605572	T14	996
NSL063	712357	605680	T14	1002
NSL064	712300	605688	T14	1004
NSL065	712398	605682	T14	1010
NSL066	712548	605654	T14	1018
NSL067	712348	605705	T14	1025
NSL068	712474	605685	T14	1028

Receiver	ITM		Nearest Proposed Turbine	Horizontal distance to nearest proposed Turbine, m
	Easting	Northing		
NSL069	712285	605715	T14	1030
NSL070	712640	605633	T14	1031
NSL071	712617	605644	T14	1032
NSL072	712373	605716	T14	1040
NSL073	712466	605705	T14	1045
NSL074	712678	605634	T14	1048
NSL075	712335	605729	T14	1048
NSL076	712534	605696	T14	1054
NSL077	712434	605743	T14	1076
NSL078	712678	605675	T14	1085
NSL079	712425	605764	T14	1095
NSL080	712377	605779	T14	1103
NSL081	710786	604756	T11	1116
NSL082	712412	605794	T14	1122
NSL083	712708	605718	T14	1136
NSL084	712393	605823	T14	1148
NSL085	711491	605616	T13	1161
NSL086	712433	605839	T14	1170
NSL087	712485	605831	T14	1172
NSL088	711525	605658	T13	1182
NSL089	712478	605858	T14	1197
NSL090	710622	604433	T02	1202
NSL091	712412	605886	T14	1213
NSL092	712459	605884	T14	1219
NSL093	710704	604850	T11	1221
NSL094	710702	604872	T11	1230
NSL095	711489	605716	T13	1251
NSL096	712382	605930	T14	1253
NSL097	710619	604632	T11	1256
NSL098	710648	604807	T11	1263
NSL099	712890	605765	T14	1264
NSL100	710573	604499	T02	1272
NSL101	710611	604702	T11	1274
NSL102	710539	604413	T02	1275
NSL103	710570	604514	T02	1280
NSL104	711452	605731	T13	1281
NSL105	710576	604623	T11	1297
NSL106	711412	605735	T13	1303
NSL107	710578	604707	T11	1308
NSL108	712264	606003	T14	1318
NSL109	712288	606010	T14	1325
NSL110	712328	606013	T14	1330
NSL111	712375	606013	T14	1335
NSL112	711376	605793	T13	1371

Receiver	ITM		Nearest Proposed Turbine	Horizontal distance to nearest proposed Turbine, m
	Easting	Northing		
NSL113	711429	605829	T13	1378
NSL114	712374	606058	T14	1379
NSL115	712432	606057	T14	1386
NSL116	710385	604284	T02	1394
NSL117	711363	605813	T13	1395
NSL118	711311	605784	T13	1396
NSL119	710487	604760	T11	1407
NSL120	712430	606086	T14	1414
NSL121	712441	606115	T14	1444
NSL122	712405	606130	T14	1454
NSL123	712360	606150	T14	1469
NSL124	711417	605925	T13	1470
NSL125	712402	606160	T14	1483
NSL126	712434	606165	T14	1493
NSL127	711398	605944	T13	1495
NSL128	712428	606188	T14	1515
NSL129	712386	606203	T14	1525
NSL130	711375	605973	T13	1532
NSL131	712422	606213	T14	1539
NSL132	711278	605945	T13	1552
NSL133	712375	606232	T14	1553
NSL134	711332	605988	T13	1564
NSL135	712406	606251	T14	1575
NSL136	712366	606275	T14	1594
NSL137	711291	606002	T13	1595
NSL138	712396	606276	T14	1599
NSL139	712316	606283	T14	1599
NSL140	711244	605994	T13	1611
NSL141	711281	606028	T13	1623
NSL142	711232	606019	T13	1639
NSL143	712307	606327	T14	1643
NSL144	712370	606324	T14	1643
NSL145	711269	606050	T13	1648
NSL146	711221	606044	T13	1666
NSL147	712250	606356	T14	1670
NSL148	712430	606347	T14	1673
NSL149	712271	606369	T14	1683
NSL150	712486	606367	T14	1700
NSL151	711208	606077	T13	1701
NSL152	712319	606390	T14	1706
NSL153	712348	606389	T14	1707
NSL154	712106	606394	T14	1712
NSL155	711656	606301	T14	1714
NSL156	712317	606404	T14	1720

Receiver	ITM		Nearest Proposed Turbine	Horizontal distance to nearest proposed Turbine, m
	Easting	Northing		
NSL157	712345	606406	T14	1724
NSL158	712061	606403	T14	1725
NSL159	712431	606405	T14	1731
NSL160	712312	606417	T14	1733
NSL161	712387	606413	T14	1733
NSL162	712448	606407	T14	1734
NSL163	712340	606421	T14	1738
NSL164	712466	606409	T14	1738
NSL165	711840	606382	T14	1740
NSL166	711185	606111	T13	1741
NSL167	712427	606417	T14	1742
NSL168	712487	606411	T14	1743
NSL169	712384	606424	T14	1745
NSL170	712306	606432	T14	1747
NSL171	712445	606421	T14	1748
NSL172	712336	606436	T14	1753
NSL173	712463	606424	T14	1753
NSL174	712813	606341	T14	1754
NSL175	710194	605006	T11	1754
NSL176	712410	606433	T14	1756
NSL177	712379	606437	T14	1757
NSL178	712302	606446	T14	1761
NSL179	712373	606448	T14	1768
NSL180	712333	606451	T14	1768
NSL181	711180	606142	T13	1771
NSL182	712515	606436	T14	1773
NSL183	712294	606458	T14	1773
NSL184	712745	606385	T14	1774
NSL185	712738	606386	T14	1774
NSL186	712403	606454	T14	1776
NSL187	712327	606463	T14	1780
NSL188	712367	606463	T14	1782
NSL189	712286	606470	T14	1785
NSL190	712476	606454	T14	1785
NSL191	712633	606426	T14	1786
NSL192	711189	606165	T13	1787
NSL193	712785	606386	T14	1788
NSL194	712395	606468	T14	1789
NSL195	712495	606457	T14	1790
NSL196	710087	604701	T11	1792
NSL197	712321	606477	T14	1793
NSL198	712511	606458	T14	1794
NSL199	712363	606476	T14	1795
NSL200	712279	606480	T14	1795

Receiver	ITM		Nearest Proposed Turbine	Horizontal distance to nearest proposed Turbine, m
	Easting	Northing		
NSL201	712315	606487	T14	1803
NSL202	712389	606484	T14	1805
NSL203	712356	606488	T14	1806
NSL204	712477	606477	T14	1807
NSL205	712272	606493	T14	1807
NSL206	712309	606498	T14	1814
NSL207	712468	606488	T14	1817
NSL208	712381	606499	T14	1819
NSL209	712349	606502	T14	1820
NSL210	712498	606490	T14	1823
NSL211	712266	606509	T14	1823
NSL212	712462	606498	T14	1826
NSL213	712377	606511	T14	1831
NSL214	712277	606519	T14	1834
NSL215	712342	606517	T14	1834
NSL216	712457	606507	T14	1835
NSL217	711262	606256	T13	1836
NSL218	712255	606524	T14	1838
NSL219	712490	606506	T14	1838
NSL220	712563	606495	T14	1839
NSL221	712291	606525	T14	1839
NSL222	712370	606524	T14	1843
NSL223	711488	606373	T14	1844
NSL224	712449	606518	T14	1845
NSL225	712269	606532	T14	1846
NSL226	712306	606533	T14	1848
NSL227	712563	606504	T14	1848
NSL228	712583	606503	T14	1850
NSL229	712596	606501	T14	1851
NSL230	712485	606522	T14	1853
NSL231	712320	606537	T14	1853
NSL232	712380	606534	T14	1853
NSL233	712283	606540	T14	1854
NSL234	711492	606387	T14	1855
NSL235	712443	606533	T14	1859
NSL236	712334	606542	T14	1859
NSL237	712559	606516	T14	1859
NSL238	712298	606545	T14	1860
NSL239	712597	606510	T14	1860
NSL240	712582	606514	T14	1861
NSL241	711464	606382	T14	1861
NSL242	712398	606541	T14	1862
NSL243	712250	606550	T14	1864
NSL244	712411	606542	T14	1864

Receiver	ITM		Nearest Proposed Turbine	Horizontal distance to nearest proposed Turbine, m
	Easting	Northing		
NSL245	712616	606511	T14	1865
NSL246	711479	606393	T14	1865
NSL247	712476	606536	T14	1865
NSL248	712349	606548	T14	1866
NSL249	712310	606551	T14	1866
NSL250	712265	606555	T14	1869
NSL251	712595	606520	T14	1869
NSL252	711468	606393	T14	1869
NSL253	712559	606527	T14	1870
NSL254	712424	606546	T14	1870
NSL255	712364	606552	T14	1870
NSL256	712583	606523	T14	1870
NSL257	712438	606546	T14	1871
NSL258	712322	606555	T14	1871
NSL259	711450	606387	T14	1872
NSL260	712239	606561	T14	1875
NSL261	712615	606522	T14	1875
NSL262	712278	606561	T14	1875
NSL263	712335	606559	T14	1875
NSL264	712380	606558	T14	1877
NSL265	712596	606528	T14	1878
NSL266	712256	606566	T14	1879
NSL267	712582	606533	T14	1880
NSL268	712469	606551	T14	1880
NSL269	711456	606400	T14	1880
NSL270	712395	606560	T14	1881
NSL271	712347	606565	T14	1882
NSL272	712556	606540	T14	1882
NSL273	712267	606572	T14	1886
NSL274	712615	606534	T14	1887
NSL275	712595	606538	T14	1887
NSL276	712415	606565	T14	1888
NSL277	712360	606570	T14	1888
NSL278	712580	606543	T14	1889
NSL279	711427	606397	T14	1890
NSL280	711471	606418	T14	1891
NSL281	711445	606407	T14	1892
NSL282	712377	606574	T14	1893
NSL283	711483	606426	T14	1894
NSL284	712555	606553	T14	1895
NSL285	712462	606568	T14	1896
NSL286	712233	606584	T14	1898
NSL287	711433	606408	T14	1898
NSL288	712392	606578	T14	1898

Receiver	ITM		Nearest Proposed Turbine	Horizontal distance to nearest proposed Turbine, m
	Easting	Northing		
NSL289	712594	606549	T14	1898
NSL290	712613	606547	T14	1899
NSL291	712579	606555	T14	1901
NSL292	711488	606436	T14	1901
NSL293	712187	606588	T14	1902
NSL294	711217	606309	T13	1902
NSL295	712246	606589	T14	1903
NSL296	711462	606427	T14	1903
NSL297	712408	606582	T14	1904
NSL298	712260	606590	T14	1904
NSL299	712211	606593	T14	1906
NSL300	712593	606559	T14	1908
NSL301	712553	606567	T14	1908
NSL302	712422	606585	T14	1909
NSL303	712613	606557	T14	1909
NSL304	712579	606566	T14	1912
NSL305	712444	606586	T14	1912
NSL306	711480	606445	T14	1912
NSL307	712231	606599	T14	1912
NSL308	712352	606596	T14	1913
NSL309	712462	606588	T14	1915
NSL310	712184	606602	T14	1916
NSL311	712244	606603	T14	1916
NSL312	712257	606603	T14	1917
NSL313	712368	606599	T14	1917
NSL314	712522	606582	T14	1917
NSL315	712594	606570	T14	1918
NSL316	712477	606589	T14	1919
NSL317	712381	606600	T14	1920
NSL318	712488	606590	T14	1921
NSL319	712210	606607	T14	1921
NSL320	712506	606588	T14	1922
NSL321	712397	606603	T14	1924
NSL322	712612	606572	T14	1924
NSL323	712412	606604	T14	1926
NSL324	712426	606607	T14	1930
NSL325	712183	606616	T14	1930
NSL326	712552	606590	T14	1931
NSL327	712274	606617	T14	1932
NSL328	712287	606618	T14	1933
NSL329	712352	606615	T14	1933
NSL330	712297	606619	T14	1934
NSL331	712441	606609	T14	1934
NSL332	712378	606615	T14	1934

Receiver	ITM		Nearest Proposed Turbine	Horizontal distance to nearest proposed Turbine, m
	Easting	Northing		
NSL333	712363	606617	T14	1935
NSL334	712310	606620	T14	1935
NSL335	712228	606623	T14	1937
NSL336	712321	606621	T14	1937
NSL337	712589	606590	T14	1937
NSL338	712242	606624	T14	1938
NSL339	712209	606624	T14	1938
NSL340	712464	606610	T14	1938
NSL341	712391	606620	T14	1941
NSL342	712551	606601	T14	1941
NSL343	712335	606624	T14	1941
NSL344	712480	606612	T14	1941
NSL345	712536	606604	T14	1941
NSL346	712257	606628	T14	1942
NSL347	712401	606622	T14	1943
NSL348	712183	606629	T14	1943
NSL349	712611	606593	T14	1944
NSL350	712492	606613	T14	1944
NSL351	711432	606459	T14	1944
NSL352	712306	606631	T14	1946
NSL353	712414	606624	T14	1946
NSL354	712285	606632	T14	1946
NSL355	712507	606615	T14	1948
NSL356	712427	606625	T14	1949
NSL357	712331	606635	T14	1951
NSL358	712268	606637	T14	1951
NSL359	712439	606627	T14	1952
NSL360	712180	606639	T14	1953
NSL361	712537	606616	T14	1954
NSL362	711490	606494	T14	1954
NSL363	712591	606607	T14	1954
NSL364	712206	606641	T14	1955
NSL365	711448	606478	T14	1956
NSL366	712553	606616	T14	1956
NSL367	711502	606502	T14	1957
NSL368	712246	606644	T14	1957
NSL369	711421	606469	T14	1958
NSL370	712612	606608	T14	1959
NSL371	712364	606642	T14	1960
NSL372	712265	606647	T14	1961
NSL373	712380	606642	T14	1961
NSL374	712274	606648	T14	1962
NSL375	711275	606401	T13	1962
NSL376	712393	606642	T14	1963

Receiver	ITM		Nearest Proposed Turbine	Horizontal distance to nearest proposed Turbine, m
	Easting	Northing		
NSL377	712575	606619	T14	1963
NSL378	712231	606650	T14	1963
NSL379	712350	606646	T14	1963
NSL380	712303	606650	T14	1965
NSL381	711427	606480	T14	1965
NSL382	712203	606652	T14	1966
NSL383	712405	606645	T14	1966
NSL384	712532	606630	T14	1966
NSL385	712319	606651	T14	1967
NSL386	711439	606487	T14	1967
NSL387	712176	606654	T14	1968
NSL388	712415	606646	T14	1968
NSL389	711208	606379	T13	1969
NSL390	712287	606655	T14	1969
NSL391	711494	606514	T14	1971
NSL392	712428	606648	T14	1971
NSL393	712551	606633	T14	1972
NSL394	712440	606648	T14	1973
NSL395	712348	606658	T14	1976
NSL396	712527	606640	T14	1976
NSL397	711475	606512	T14	1976
NSL398	712298	606663	T14	1977
NSL399	712225	606665	T14	1979
NSL400	712593	606632	T14	1979
NSL401	712575	606635	T14	1979
NSL402	712310	606664	T14	1979
NSL403	712330	606664	T14	1980
NSL404	712320	606665	T14	1980
NSL405	711485	606521	T14	1981
NSL406	712285	606667	T14	1981
NSL407	712201	606668	T14	1982
NSL408	711214	606396	T13	1982
NSL409	712371	606664	T14	1982
NSL410	712385	606663	T14	1983
NSL411	712176	606669	T14	1983
NSL412	712399	606664	T14	1985
NSL413	712614	606635	T14	1986
NSL414	712409	606665	T14	1987
NSL415	712351	606670	T14	1987
NSL416	712420	606666	T14	1989
NSL417	712594	606643	T14	1990
NSL418	712526	606655	T14	1991
NSL419	712222	606678	T14	1991
NSL420	712552	606652	T14	1991

Receiver	ITM		Nearest Proposed Turbine	Horizontal distance to nearest proposed Turbine, m
	Easting	Northing		
NSL421	712437	606668	T14	1992
NSL422	712369	606674	T14	1992
NSL423	712575	606650	T14	1993
NSL424	711462	606528	T14	1995
NSL425	712281	606681	T14	1995
NSL426	712200	606684	T14	1997
NSL427	711474	606535	T14	1998
NSL428	712348	606681	T14	1998
NSL429	712172	606684	T14	1998

Appendix 11-2 – Photos of Monitoring Equipment



Figure - Noise monitor in position at Site 1



Figure - Noise monitor in position at Site 2



Figure - Noise monitor in position at Site 3



Figure - Noise monitor in position at Site 4

Appendix 11-3 – Calibration Certificates



CALIBRATION CERTIFICATE

Date of issue: 17-03-2020

Certificate No: 14015067

Page: 1/8

OBJECT OF CALIBRATION

Manufacturer: **SVANTEK**
Model: **SV971**
Serial No.: 87014
Description: Sound Level Meter

SENSOR

Manufacturer: **ACO** **SVANTEK**
Model: **7052E** **SV18**
Serial No.: 67010 93431
Description: Microphone Preamplifier

APPLICANT

-
-

ENVIRONMENTAL CONDITIONS

Temperature: 25.2 – 25.5 °C
Humidity: 38 – 40 %
Pressure: 101.5 – 101.6 kPa

DATE OF CALIBRATION 17-03-2020

APPROVED BY B. Hunt



**AcSoft Calibration | Bedford Technology Park
Thurleigh | Bedford | MK44 2YA**

+44 (0) 1234 639550

www.acsoft.co.uk

This calibration was performed on behalf of Svantek UK by AcSoft Calibration.
AcSoft Calibration is a trading name of AcSoft Ltd, Bedford Technology Park, Thurleigh, Bedford, MK44 2YA.

FACTORY CALIBRATION DATA OF THE SVAN 971 No. 77796

with preamplifier SVANTEK type SV18 No. 78840 and with microphone ACO type 7052E No. 73980

1. CALIBRATION* (acoustical)

LEVEL METER function; Range: Low; Reference frequency: 1000Hz; Sound Pressure Level: 113,99 dB.

Characteristic	Correct value [dB]	Indication [dB]	Error [dB]
Z	113,99	113,86	-0,13
A	113,99	113,86	-0,13
C	113,99	113,86	-0,13

Calibration measured with the microphone ACO type 7052E No. 73980. Calibration factor: 0.41 dB.

2. LINEARITY TEST* (electrical)

LEVEL METER function; Range: Low; Characteristic: A; f_{ref} = 31.5 Hz

Nominal result LEQ [dB]	24.0	25.0	26.0	28.0	30.0	40.0	60.0	83.0
Error [dB]	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0

LEVEL METER function; Range: Low; Characteristic: A; f_{ref} = 1000 Hz

Nominal result LEQ [dB]	24.0	25.0	26.0	28.0	30.0	40.0	60.0	80.0	100.0	123.0
Error [dB]	0.1	0.0	0.0	0.0	0.0	-0.0	-0.0	-0.0	0.0	-0.0

LEVEL METER function; Range: Low; Characteristic: A; f_{ref} = 8000 Hz

Nominal result LEQ [dB]	24.0	25.0	26.0	28.0	30.0	40.0	60.0	80.0	100.0	122.0
Error [dB]	0.0	0.0	0.0	0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0

LEVEL METER function; Range: High; Characteristic: A; f_{ref} = 31.5 Hz

Nominal result LEQ [dB]	34.0	35.0	36.0	38.0	40.0	60.0	80.0	97.0
Error [dB]	0.0	0.0	0.0	0.0	-0.0	0.0	-0.0	0.0

LEVEL METER function; Range: High; Characteristic: A; f_{ref} = 1000 Hz

Nominal result LEQ [dB]	34.0	35.0	36.0	38.0	40.0	60.0	80.0	100.0	120.0	137.0
Error [dB]	0.0	0.0	0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0

LEVEL METER function; Range: High; Characteristic: A; f_{ref} = 8000 Hz

Nominal result LEQ [dB]	34.0	35.0	36.0	38.0	40.0	60.0	80.0	100.0	120.0	136.0
Error [dB]	0.0	0.0	0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0

1/3 OCTAVE (1kHz); Range: Low; f_{ref} = 1000 Hz

Nominal result [dB]	25.0	30.0	40.0	60.0	80.0	100.0	120.0	123.0
Error [dB]	0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0

3. TONE BURST RESPONSE*

LEVEL METER function; Characteristic: A; f_{ref} = 4000 Hz; Burst duration: 2s

Range: Low; Steady level nominal result = 120dB

Result	Detector	Duration [ms]	1000	500	200	100	50	20	10	5	2	1	0,5	0,25
MAX	Fast	Indication [dB]	120,0	119,9	119,0	117,4	115,2	111,7	108,8	105,9	102,0	98,9	95,9	92,9
		Error [dB]	-0,0	0,0	0,0	0,0	-0,0	-0,0	-0,0	0,0	-0,0	-0,0	-0,1	-0,1
	Slow	Indication [dB]	117,9	115,8	112,5	109,7	106,8	102,8	99,9	96,8	92,9	-	-	-
		Error [dB]	-0,1	-0,0	-0,1	-0,1	-0,1	-0,1	-0,1	-0,1	-0,1	-	-	-
SEL	-	Indication [dB]	120,0	117,0	113,0	110,0	107,0	103,0	100,0	97,0	93,0	89,9	86,9	83,8
		Error [dB]	0,0	-0,0	0,0	0,0	-0,0	0,0	-0,0	-0,0	-0,0	-0,1	-0,1	-0,1

*** SVAN 971 No. 77796 page 1 ***

FACTORY CALIBRATION DATA OF THE SVAN 971 No. 94098
with preamplifier SVANTEK type SV18 No. 97241 and with microphone ACO type 7052E No. 77761

1. CALIBRATION* (acoustical)

LEVEL METER function: Range: Low; Reference frequency: 1000Hz; Sound Pressure Level: 114.00 dB.

Characteristic	Correct value [dB]	Indication [dB]	Error [dB]
Z	114.00	114.00	0.00
A	114.00	114.00	0.00
C	114.00	114.00	0.00

Calibration measured with the microphone ACO type 7052E No. 77761. Calibration factor: -0.31 dB.

2. LINEARITY TEST* (electrical)

 LEVEL METER function: Range: Low; Characteristic: A; f_{ref} = 31.5 Hz

Nominal result LEQ [dB]	24.0	25.0	26.0	28.0	30.0	40.0	60.0	83.0
Error [dB]	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0

 LEVEL METER function: Range: Low; Characteristic: A; f_{ref} = 1000 Hz

Nominal result LEQ [dB]	24.0	25.0	26.0	28.0	30.0	40.0	60.0	80.0	100.0	123.0
Error [dB]	0.1	0.1	0.0	0.0	0.0	-0.0	-0.0	-0.0	0.0	-0.0

 LEVEL METER function: Range: Low; Characteristic: A; f_{ref} = 8000 Hz

Nominal result LEQ [dB]	24.0	25.0	26.0	28.0	30.0	40.0	60.0	80.0	100.0	122.0
Error [dB]	0.0	0.0	0.0	0.0	-0.0	-0.0	-0.0	-0.0	0.0	-0.0

 LEVEL METER function: Range: High; Characteristic: A; f_{ref} = 31.5 Hz

Nominal result LEQ [dB]	34.0	35.0	36.0	38.0	40.0	60.0	80.0	97.0
Error [dB]	0.1	0.0	0.0	0.0	0.0	0.0	-0.0	0.0

 LEVEL METER function: Range: High; Characteristic: A; f_{ref} = 1000 Hz

Nominal result LEQ [dB]	34.0	35.0	36.0	38.0	40.0	60.0	80.0	100.0	120.0	137.0
Error [dB]	0.0	0.0	0.0	-0.0	0.0	-0.0	-0.0	-0.0	-0.0	-0.0

 LEVEL METER function: Range: High; Characteristic: A; f_{ref} = 8000 Hz

Nominal result LEQ [dB]	34.0	35.0	36.0	38.0	40.0	60.0	80.0	100.0	120.0	136.0
Error [dB]	0.0	0.0	0.0	0.0	-0.0	-0.0	0.0	-0.0	-0.0	-0.0

 1/3 OCTAVE (1/3Hz); Range: Low; f_{ref} = 1000 Hz

Nominal result [dB]	25.0	30.0	40.0	60.0	80.0	100.0	120.0	123.0
Error [dB]	0.1	0.0	-0.0	-0.0	-0.0	0.0	-0.0	-0.0

3. TONE BURST RESPONSE*

 LEVEL METER function: Characteristic: A; f_{ref} = 4000 Hz; Burst duration: 2s

Range: Low; Steady level nominal result = 120dB

Result	Detector	Duration [ms]	1000	500	200	100	50	20	10	5	2	1	0.5	0.25
MAX	Fast	Indication [dB]	120.0	120.0	119.1	117.5	115.2	111.7	108.9	106.0	102.0	99.0	96.0	92.9
		Error [dB]	0.0	0.0	0.0	0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.1	-0.1
	Slow	Indication [dB]	118.0	115.9	112.5	109.7	106.8	102.9	99.9	96.9	92.9	-	-	-
		Error [dB]	-0.0	-0.0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-	-	-
SEL		Indication [dB]	120.0	117.0	113.0	110.0	107.0	103.0	100.0	97.0	93.0	90.0	86.9	83.9
		Error [dB]	0.0	-0.0	0.0	0.0	-0.0	0.0	0.0	-0.0	-0.0	-0.0	-0.1	-0.1

*** SVAN 971 No. 94098 page 1 ***

6. INTERNAL NOISE LEVEL (acoustical - compensated)

LEVEL METER function: Characteristic: A; (Backlight - off)

Range	Low	High
Indication (dB)	≤15	19,6

Noise measured in special chamber, with reference microphone G.R.A.S type 40AN No. 7421

ENVIRONMENTAL CONDITIONS

Temperature	24 °C	Ambient pressure	1008 hPa
Relative humidity	21%		

TEST EQUIPMENT

Item	Manufacturer	Model	Serial no.	Description
1	SVANTEK	SVAN 001	127	Signal generator
2	SVANTEK	SVAN 912A	4269	Sound & Vibration Analyser
3	RIGOL	DM3068	DM30151100773	Digital multimeter
4	SVANTEK	SV33B	93171	Acoustic calibrator
5	SVANTEK	ST02	-	Microphone equivalent electrical impedance (1pF)

CONFORMITY & TEST DECLARATION

1. Herevub Svantek company declares that this instrument has been calibrated and tested in compliance with the internal ISO9001 procedures and meets all specification given in the Manual(s) or respectively surplus item.
2. The acoustic calibration was performed using the Sound Calibrator and is traceable to the GUM (Central Office of Measures) reference standard - 4231 No. 292273.
3. The information appearing on this sheet has been compiled specifically for this instrument. This form is produced with advanced equipment & procedures which permit comprehensive quality assurance verification of all data supplied herein.
4. This calibration sheet shall not be reproduced except in full, without written permission of the SVANTEK Ltd.

Calibration specialist: Krzysztof Kubel

Krzysztof Kubel

Test date: 2020-04-09

Range: Low, Steady level nominal result = 66dB

Result	Detector	Duration (ms)	1000	500	200	100	50	20	10	5	2	1	0,5
MAX	Fast	Indication (dB)	60,0	60,0	59,1	57,5	55,2	51,7	48,9	46,0	42,0	39,0	36,0
		Error (dB)	0,0	0,0	0,0	0,0	-0,0	-0,0	-0,0	-0,0	-0,0	-0,0	-0,1
	Slow	Indication (dB)	58,0	55,9	52,5	49,7	46,8	42,9	39,9	36,9	32,9	-	-
		Error (dB)	-0,1	-0,0	-0,1	-0,1	-0,1	-0,1	-0,1	-0,1	-0,1	-0,1	-
SEL	-	Indication (dB)	60,0	57,0	53,1	50,0	47,0	43,0	40,0	37,0	33,0	30,0	27,1
		Error (dB)	0,0	-0,0	0,0	0,0	-0,0	0,0	0,0	-0,0	0,0	-0,0	-0,0

Range: Low, Steady level nominal result = 35dB

Result	Detector	Duration (ms)	1000	500	200
MAX	Fast	Indication (dB)	35,0	35,0	34,0
		Error (dB)	0,0	0,0	0,0
	Slow	Indication (dB)	33,0	30,9	27,5
		Error (dB)	-0,1	-0,0	-0,1
SEL	-	Indication (dB)	35,0	32,0	28,1
		Error (dB)	0,0	0,0	0,0

Range: High, Steady level nominal result = 134dB

Result	Detector	Duration (ms)	1000	500	200	100	50	20	10	5	2	1	0,5
MAX	Fast	Indication (dB)	134,0	133,0	131,1	131,4	129,2	125,7	122,9	120,0	116,0	111,0	109,9
		Error (dB)	0,0	0,0	0,0	0,0	-0,0	-0,0	-0,1	0,0	-0,0	-0,0	-0,1
	Slow	Indication (dB)	132,9	129,9	126,5	123,7	120,8	116,9	113,9	110,9	106,9	-	-
		Error (dB)	-0,1	-0,0	-0,1	-0,1	-0,1	-0,1	-0,1	-0,1	-0,1	-	-
SEL	-	Indication (dB)	134,0	130,0	127,0	124,0	121,0	118,0	115,0	112,0	109,0	106,9	103,9
		Error (dB)	0,0	-0,0	0,0	0,0	-0,0	-0,0	-0,0	-0,0	-0,0	-0,0	-0,1

Range: High, Steady level nominal result = 54dB

Result	Detector	Duration (ms)	1000	500	200	100
MAX	Fast	Indication (dB)	54,0	54,0	53,0	51,4
		Error (dB)	0,0	0,0	0,0	-0,0
	Slow	Indication (dB)	52,0	49,0	46,5	43,7
		Error (dB)	-0,0	-0,0	-0,0	-0,0
SEL	-	Indication (dB)	54,0	51,0	47,0	44,0
		Error (dB)	0,0	0,0	0,0	0,0

Range: High, Steady level nominal result = 45dB

Result	Detector	Duration (ms)	1000	500	200
MAX	Fast	Indication (dB)	45,0	44,0	44,0
		Error (dB)	0,0	0,0	0,0
	Slow	Indication (dB)	42,9	40,9	37,5
		Error (dB)	-0,1	-0,0	-0,1
SEL	-	Indication (dB)	45,0	44,0	38,0
		Error (dB)	0,0	0,0	0,0

4. FREQUENCY RESPONSE* (electrical)

LEVEL METER function: Characteristic: Z; Range: Low; Input signal = 120 dB.



Measured Filter Response with Preampifier ST18 (Frequency, Level)

Frequency (Hz)	Level (dB)
125	0,0
150	0,0
200	0,0
250	0,0
315	0,0
400	0,0
500	0,0
630	0,0
800	0,0
1000	0,0
1250	0,0
1600	0,0
2000	0,0
2500	0,0
3150	0,0
4000	0,0
5000	0,0
6300	0,0
8000	0,0
10000	0,0

All frequencies are nominal center values for the 1/1 octave bands

5. INTERNAL NOISE LEVEL* (electrical - compensated)

LEVEL METER function: Range: Low; (Backlight - off); Calibration factor (dB)

Characteristic	Z	A	C
Level (dB)	≤20	≤12	≤12

* measured with preamplifier SVANTEK type SV18 No. 97241.

FACTORY CALIBRATION DATA OF THE SVAN 971 No. 77789

with preamplifier SVANTEK type SV18 No. 72287 and with microphone ACO type 7052E No. 63240

1. CALIBRATION* (acoustical)

LEVEL METER function; Range: Low; Reference frequency: 1000Hz; Sound Pressure Level: 113.99 dB.

Characteristic	Correct value [dB]	Indication [dB]	Error [dB]
Z	113.99	114.01	0.02
A	113.99	114.01	0.02
C	113.99	114.01	0.02

Calibration measured with the microphone ACO type 7052E No. 63240. Calibration factor: -0.49 dB.

2. LINEARITY TEST* (electrical)

LEVEL METER function; Range: Low; Characteristic: A; f_{ref} = 31.5 Hz

Nominal result LEQ [dB]	24.0	25.0	26.0	28.0	30.0	40.0	60.0	83.0
Error [dB]	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0

LEVEL METER function; Range: Low; Characteristic: A; f_{ref} = 1000 Hz

Nominal result LEQ [dB]	24.0	25.0	26.0	28.0	30.0	40.0	60.0	80.0	100.0	123.0
Error [dB]	0.1	0.0	0.0	0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0

LEVEL METER function; Range: Low; Characteristic: A; f_{ref} = 8000 Hz

Nominal result LEQ [dB]	24.0	25.0	26.0	28.0	30.0	40.0	60.0	80.0	100.0	122.0
Error [dB]	0.0	0.0	0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0

LEVEL METER function; Range: High; Characteristic: A; f_{ref} = 31.5 Hz

Nominal result LEQ [dB]	34.0	35.0	36.0	38.0	40.0	60.0	80.0	97.0
Error [dB]	0.1	0.0	0.0	0.0	0.0	0.0	-0.0	0.0

LEVEL METER function; Range: High; Characteristic: A; f_{ref} = 1000 Hz

Nominal result LEQ [dB]	34.0	35.0	36.0	38.0	40.0	60.0	80.0	100.0	120.0	137.0
Error [dB]	0.1	0.1	0.0	0.0	0.0	-0.0	-0.0	-0.0	-0.0	-0.0

LEVEL METER function; Range: High; Characteristic: A; f_{ref} = 8000 Hz

Nominal result LEQ [dB]	34.0	35.0	36.0	38.0	40.0	60.0	80.0	100.0	120.0	136.0
Error [dB]	0.0	0.0	0.0	0.0	0.0	0.0	-0.0	-0.0	-0.0	-0.0

1/3 OCTAVE (1kHz); Range: Low; f_{ref} = 1000 Hz

Nominal result [dB]	25.0	30.0	40.0	60.0	80.0	100.0	120.0	123.0
Error [dB]	0.0	0.0	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0

3. TONE BURST RESPONSE*

LEVEL METER function; Characteristic: A; f_{ref} = 4000 Hz; Burst duration: 2s

Range: Low; Steady level nominal result = 120dB

Result	Detector	Duration [ms]	1000	500	200	100	50	20	10	5	2	1	0.5	0.25
MAX	Fast	Indication [dB]	120.0	119.9	119.0	117.4	115.2	111.7	108.8	105.9	102.0	99.0	95.9	92.9
		Error [dB]	0.0	0.0	0.0	0.0	-0.0	-0.0	-0.0	0.0	-0.0	-0.0	-0.1	-0.1
	Slow	Indication [dB]	117.9	115.9	112.5	109.7	106.8	102.8	99.9	96.9	92.9	-	-	-
		Error [dB]	-0.0	-0.0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-	-	-
SEL	-	Indication [dB]	120.0	117.0	113.0	110.0	107.0	103.0	100.0	97.0	93.0	89.9	86.9	83.9
		Error [dB]	0.0	-0.0	0.0	0.0	-0.0	0.0	0.0	-0.0	-0.0	-0.0	-0.1	-0.1

*** SVAN 971 No. 77789 page 1 ***

6. INTERNAL NOISE LEVEL (acoustical - compensated)

LEVEL METER function: Characteristic: A; (Backlight – off)

Range	Low	High
Indication (dB)	S15	18.1

Noise measured in special chamber, with reference microphone G.R.A.S type 40AN No. 73421

ENVIRONMENTAL CONDITIONS

Temperature	27.9°C	Relative humidity	21%	Ambient pressure	1004 hPa
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TEST EQUIPMENT

Item	Manufacturer	Model	Serial no.	Description
1.	SVANTEK	SVAN 412A	15844	Signal generator
2.	SVANTEK	DM 3068	DM410155100773	Signal generator analyzer
3.	RIGOL	SV11	19372	Digital oscilloscope
4.	SVANTEK	SV11	-	Acoustic calibrator
5.	SVANTEK	SV102	-	Microphone equivalent electrical impedance (1kΩF)

CONFORMITY & TEST DECLARATION

1. Herewith Svantek company declares that this instrument has been calibrated and tested in compliance with the internal ISO9001 procedures and meets all specification given in the Manual(s) or respectively surpasses them.
2. The acoustic calibration was performed using the Sound Calibrator and is traceable to the OUM (Central Office of Measures) reference standard - sound level calibrator type 4231 No. 2392773.
3. The information appearing on this sheet has been compiled specifically for this instrument. This form is produced with advanced equipment & procedures which permit comprehensive quality assurance verification of all data supplied herein.
4. This calibration sheet shall not be reproduced except in full, without written permission of the SVANTEK Ltd.

Calibration specialist: Iurii Iuzva



Test date: 2020-04-23

Range: Low; Steady level nominal result = 60dB

Result	Detector	Duration [ms]	1000	500	200	100	50	20	10	5	2	1	0.5
MAX	Fast	Indication (dB)	60.0	59.9	59.0	57.4	55.2	51.7	48.9	45.9	42.0	39.0	35.9
		Error (dB)	0.0	0.0	0.0	-0.0	-0.0	-0.0	-0.0	0.0	-0.0	-0.0	-0.1
	Slow	Indication (dB)	58.0	55.9	52.5	49.7	46.8	42.9	39.9	36.9	32.9	-	-
SEL		Error (dB)	-0.0	-0.0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-	-
		Indication (dB)	60.0	57.0	53.0	50.0	47.0	43.0	40.0	37.0	33.0	30.0	27.0
		Error (dB)	0.0	-0.0	0.0	0.0	-0.0	0.0	0.0	-0.0	0.0	-0.0	-0.0

Range: Low; Steady level nominal result = 35dB

Result	Detector	Duration [ms]	1000	500	200
MAX	Fast	Indication (dB)	35.0	34.9	34.0
		Error (dB)	0.0	0.0	-0.0
	Slow	Indication (dB)	33.0	30.9	27.6
SEL		Error (dB)	-0.0	-0.0	-0.0
		Indication (dB)	35.0	32.0	28.0
		Error (dB)	0.0	0.0	0.0

Range: High; Steady level nominal result = 134dB

Result	Detector	Duration [ms]	1000	500	200	100	50	20	10	5	2	1	0.5
MAX	Fast	Indication (dB)	134.0	133.9	133.0	131.4	129.2	125.7	122.8	119.9	115.9	112.9	109.9
		Error (dB)	-0.0	0.0	0.0	-0.0	-0.0	-0.0	-0.1	-0.1	0.0	-0.0	-0.1
	Slow	Indication (dB)	131.9	129.8	126.5	123.7	120.8	116.8	113.8	110.8	106.8	-	-
SEL		Error (dB)	-0.1	-0.0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-	-
		Indication (dB)	134.0	131.0	127.0	124.0	121.0	117.0	114.0	110.0	107.0	103.0	100.0
		Error (dB)	-0.0	-0.0	0.0	-0.0	0.0	-0.0	0.0	-0.0	-0.0	-0.0	-0.1

Range: High; Steady level nominal result = 54dB

Result	Detector	Duration [ms]	1000	500	200	100	50
MAX	Fast	Indication (dB)	54.0	53.9	53.0	51.4	49.2
		Error (dB)	0.0	0.0	0.0	0.0	-0.0
	Slow	Indication (dB)	52.0	49.9	46.5	43.7	40.8
SEL		Error (dB)	-0.0	-0.0	-0.1	-0.1	-0.1
		Indication (dB)	54.0	51.0	47.0	44.0	41.0
		Error (dB)	0.0	0.0	0.0	0.0	0.0

Range: High; Steady level nominal result = 45dB

Result	Detector	Duration [ms]	1000	500	200
MAX	Fast	Indication (dB)	45.0	44.9	44.0
		Error (dB)	0.0	0.0	-0.0
	Slow	Indication (dB)	42.9	40.9	37.5
SEL		Error (dB)	-0.1	-0.0	-0.1
		Indication (dB)	45.0	42.0	38.0
		Error (dB)	0.0	0.0	0.0

4. FREQUENCY RESPONSE* (electrical)

LEVEL METER function: Characteristic: Z; Range: Low; Input signal = 120 dB;



Measured Filter Response with Preamplifier SV18

f [Hz]	100	200	500	1000	2000	5000	10000
Indication (dB)	39.4	43.5	45.0	46.0	46.0	45.0	43.0
Error (dB)	0.0	0.0	0.0	0.0	0.0	0.0	0.0

All frequencies are nominal center values for the 1/3 octave bands

5. INTERNAL NOISE LEVEL* (electrical - compensated)

LEVEL METER function: Range: Low; (Back-light – off); Calibration factor: (dB)

Characteristic Level (dB)	Z	A	C
	≤20	≤12	≤12

* measured with preamplifier SVANTEK type SV18 No. 72287.

Calibration Certificate

Certificate Number 2020010477

Customer:
PCB Synotech GmbH
Porsche Str 20-30
Huckelhoven, 41836, Germany

Model Number	CAL200	Procedure Number	D0001.8386
Serial Number	18194	Technician	Scott Montgomery
Test Results	Pass	Calibration Date	17 Sep 2020
Initial Condition	As Manufactured	Calibration Due	
Description	Larson Davis CAL200 Acoustic Calibrator	Temperature	24 °C ± 0.3 °C
		Humidity	32 %RH ± 3 %RH
		Static Pressure	101.2 kPa ± 1 kPa

Evaluation Method - The data is acquired by the insert voltage calibration method using the reference microphone's open circuit sensitivity. Data reported in dB re 20 µPa.

Compliance Standards Compliant to Manufacturer Specifications per D0001.8190 and the following standards:
IEC 60942:2017 ANSI S1.40-2006

Issuing lab certifies that the instrument described above meets or exceeds all specifications as stated in the referenced procedure (unless otherwise noted). It has been calibrated using measurement standards traceable to the SI through the National Institute of Standards and Technology (NIST), or other national measurement institutes, and meets the requirements of ISO/IEC 17025:2017. **Test points marked with a ‡ in the uncertainties column do not fall within this laboratory's scope of accreditation.**

The quality system is registered to ISO 9001:2015.

This calibration is a direct comparison of the unit under test to the listed reference standards and did not involve any sampling plans to complete. No allowance has been made for the instability of the test device due to use, time, etc. Such allowances would be made by the customer as needed.

The uncertainties were computed in accordance with the ISO Guide to the Expression of Uncertainty in Measurement (GUM). A coverage factor of approximately 2 sigma (k=2) has been applied to the standard uncertainty to express the expanded uncertainty at approximately 95% confidence level.

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Standards Used

Description	Cal Date	Cal Due	Cal Standard
Agilent 34401A DMM	08/04/2020	08/04/2021	001021
Larson Davis Model 2900 Real Time Analyzer	04/02/2020	04/02/2021	001051
Microphone Calibration System	03/03/2020	03/03/2021	005446
1/2" Preamplifier	08/27/2020	08/27/2021	006506
Larson Davis 1/2" Preamplifier 7-pin LEMO	08/06/2020	08/06/2021	006507
1/2 inch Microphone - RI - 200V	06/04/2020	06/04/2021	006510
Pressure Transducer	10/18/2019	10/18/2020	007204

LARSON DAVIS - A PCB PIEZOTRONICS DIV.
1681 West 820 North
Provo, UT 84601, United States
716-684-0001



9/17/2020 4:05:49PM

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D0001.8410 Rev C

Appendix 11-4 – Predicted Noise Contours

Carnsore Wind Farm Life Extension Project

Predicted LA90 noise contours at 4m above ground level (AGL) at standardised 10m wind speed (V10).

Basemap Sources: Esri, DigitalGlobe, GeoEye, i-cubed, USDA FSA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User

Predicted LA90 (dB) @ 4m AGL, V10 10m/s

- >35
- >40
- >43
- >45
- >50
- ◆ Monitoring Locations
- Met Mast
- NSLs within 2km
- ▲ Proposed Development Turbines [14]

0 500 1000 m



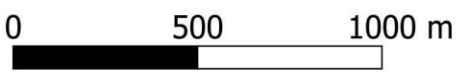
Carnsore Wind Farm Life Extension Project

Predicted LA90 noise contours at 4m above ground level (AGL) at standardised 10m wind speed (V10).

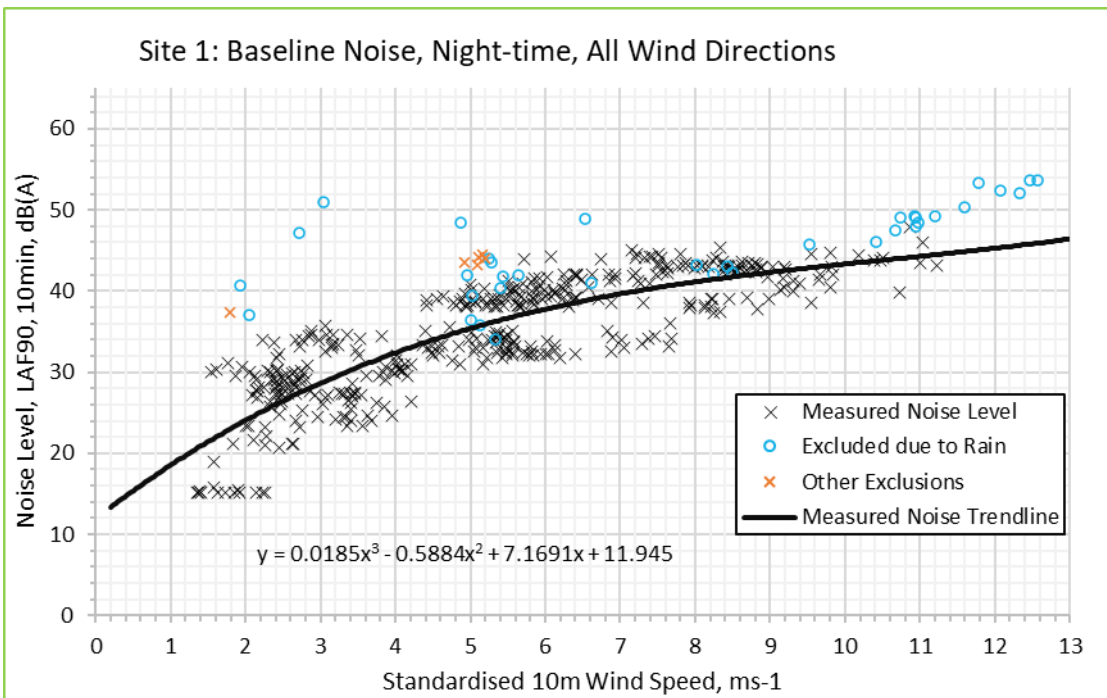
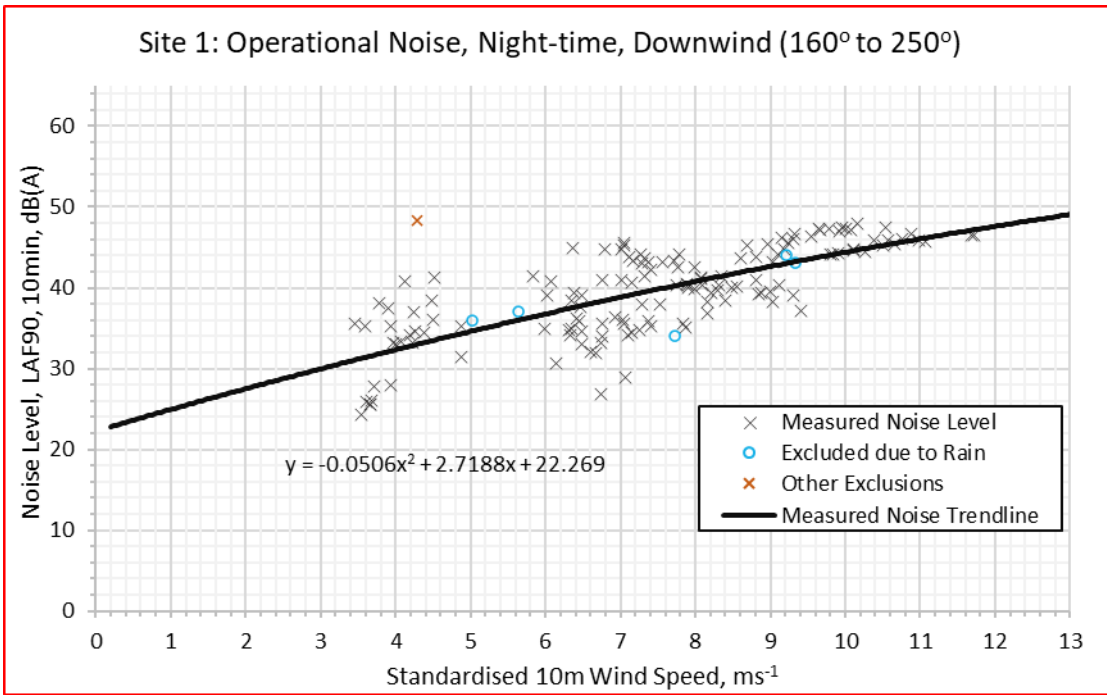
Basemap Sources: Esri, DigitalGlobe, GeoEye, i-cubed, USDA FSA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User

Predicted LA90 (dB) @ 4m AGL, V10 7m/s

- >35
- >40
- >43
- >45
- >50
- ◆ Monitoring Locations
- Met Mast
- NSLs within 2km
- ▲ Proposed Development Turbines [14]

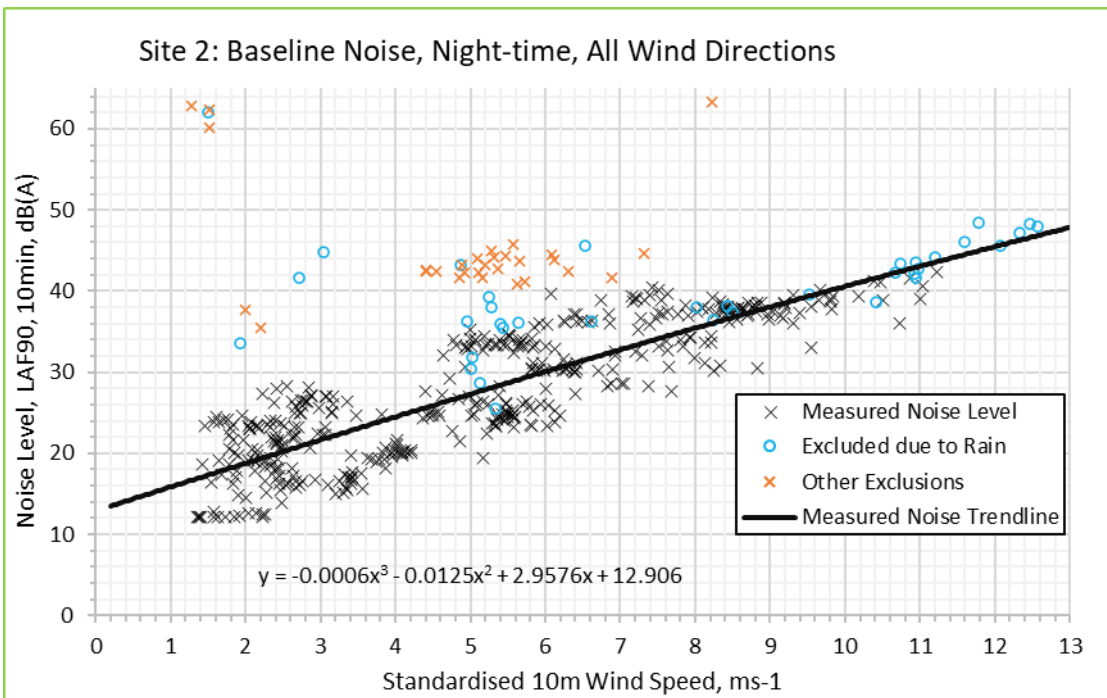
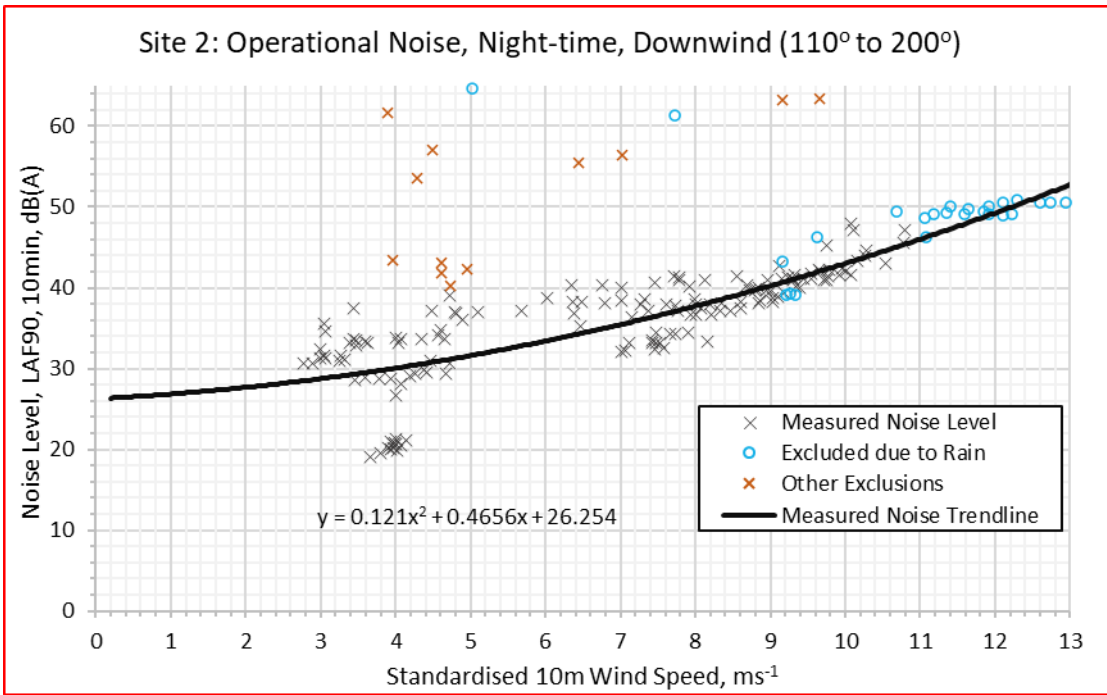


Appendix 11-5 – Measured Operational Noise Levels



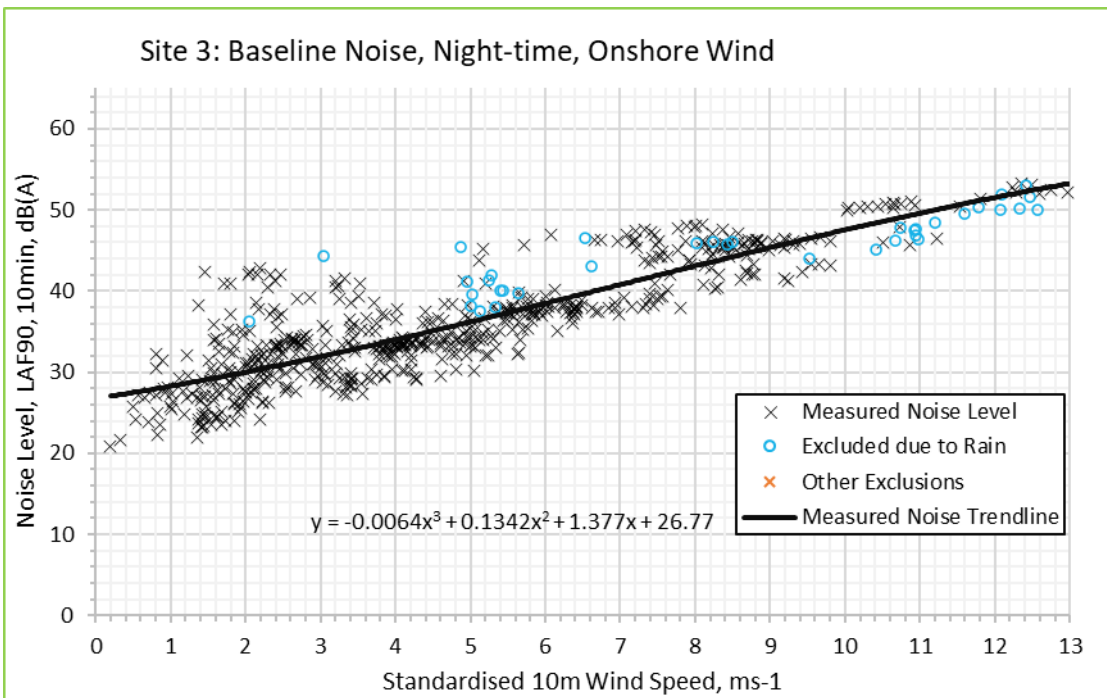
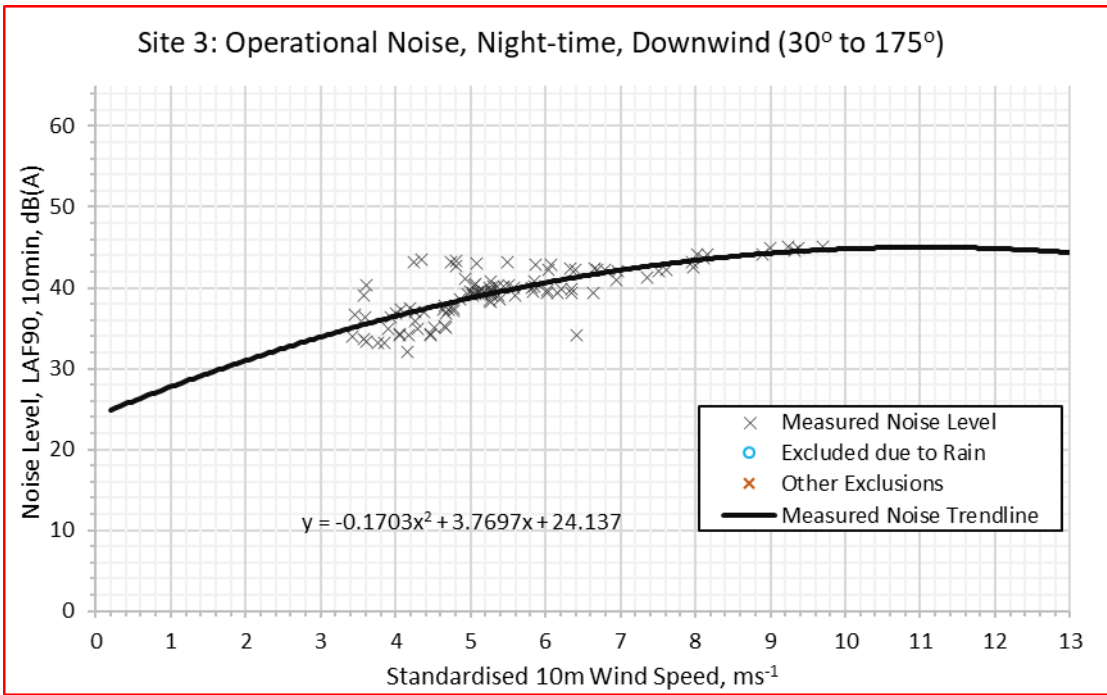
Site 1 Trendline Values (dB LA90) at Integer Wind Speeds						
m/s	4	5	6	7	8	9
Total Operational	27.5	31.5	35.1	38.3	41.2	43.7
Baseline	32.5	35.3	37.7	39.6	41	42.4
Operational less Baseline	0.0	0.0	0.0	0.0	18	37.6

Analysis indicates that wind turbine noise is not measurable at Site 1 as total operational noise levels would be required to be greater than +3dB above baseline levels.



Site 2 Trendline Values (dB LA90) at Integer Wind Speeds						
m/s	4	5	6	7	8	9
Total Operational	30.1	31.6	33.4	35.4	37.7	40.2
Baseline	24.5	27.3	30.1	32.8	35	38.1
Operational less Baseline	28.6	29.6	30.7	32.0	34	36.2

Analysis indicates that wind turbine noise is not measurable at Site 2 as total operational noise levels would be required to be greater than +3dB above baseline levels.



Site 3 Trendline Values (dB LA90) at Integer Wind Speeds						
m/s	4	5	6	7	8	9
Total Operational	36.5	38.7	40.6	42.2	43.4	44.3
Baseline	33.7	35.9	38.2	40.6	43	45.3
Operational less Baseline	33.3	35.6	37.0	37.1	33	0.0

Analysis indicates that wind turbine noise is not measurable at Site 3 as total operational noise levels would be required to be greater than +3dB above baseline levels.