



Appendix 2

Noise Cumulative Inputs

Appendix 2 Noise

Turbine Coordinates

In preparing the noise predictions and cumulative noise assessment presented at **Section 1.6** of the **Additional information 2, Technical update Report**, the following details about cumulative windfarm sites were used. Specific details for each turbine considered are presented in tabular form and easting and northing coordinates are in m referencing the OSGB36 datum.

Windfarm	Easting	Northing	Hub Height (m)	Turbine Model
Artfield Fell	223097	566028	43	Siemens SWT 1.3-62
Artfield Fell	222893	566104	43	Siemens SWT 1.3-62
Artfield Fell	222734	566294	43	Siemens SWT 1.3-62
Artfield Fell	223180	566249	43	Siemens SWT 1.3-62
Artfield Fell	222935	566391	43	Siemens SWT 1.3-62
Artfield Fell	222710	566663	43	Siemens SWT 1.3-62
Artfield Fell	223426	566350	43	Siemens SWT 1.3-62
Artfield Fell	222997	566694	43	Siemens SWT 1.3-62
Artfield Fell	222788	566906	43	Siemens SWT 1.3-62
Artfield Fell	223261	566540	43	Siemens SWT 1.3-62
Artfield Fell	223143	566957	43	Siemens SWT 1.3-62
Artfield Fell	223019	567144	43	Siemens SWT 1.3-62
Artfield Fell	222774	567530	43	Siemens SWT 1.3-62
Artfield Fell	222966	567639	43	Siemens SWT 1.3-62
Artfield Fell	223118	567459	43	Siemens SWT 1.3-62
Airies Farm	227625	567468	85	Siemens SWT 2.3-93
Airies Farm	227597	567872	85	Siemens SWT 2.3-93
Airies Farm	227373	568127	85	Siemens SWT 2.3-93
Airies Farm	227078	568310	85	Siemens SWT 2.3-93
Airies Farm	226912	568592	85	Siemens SWT 2.3-93
Airies Farm	227203	567586	85	Siemens SWT 2.3-93
Airies Farm	226795	567749	85	Siemens SWT 2.3-93
Airies Farm	226625	568113	85	Siemens SWT 2.3-93
Airies Farm	226507	568496	85	Siemens SWT 2.3-93
Airies Farm	227092	567164	85	Siemens SWT 2.3-93
Airies Farm	226626	566981	85	Siemens SWT 2.3-93

Windfarm	Easting	Northing	Hub Height (m)	Turbine Model
Airies Farm	226393	567324	85	Siemens SWT 2.3-93
Airies Farm	226304	567711	85	Siemens SWT 2.3-93
Airies Farm	226223	568129	85	Siemens SWT 2.3-93
Artfield Forest	223529	569173	105	Vestas V150 5.6MW
Artfield Forest	222922	569174	105	Vestas V150 5.6MW
Artfield Forest	222907	568795	105	Vestas V150 5.6MW
Artfield Forest	223539	568745	105	Vestas V150 5.6MW
Artfield Forest	222556	568392	105	Vestas V150 5.6MW
Artfield Forest	223260	568206	105	Vestas V150 5.6MW
Artfield Forest	223700	568345	105	Vestas V150 5.6MW
Artfield Forest	223753	567904	105	Vestas V150 5.6MW
Artfield Forest	224092	567786	105	Vestas V150 5.6MW
Artfield Forest	224381	567472	105	Vestas V150 5.6MW
Artfield Forest	224800	567475	105	Vestas V150 5.6MW
Artfield Forest	224553	567788	105	Vestas V150 5.6MW
Balmurrie Fell	222078	567079	49	Siemens SWT 1.3-62
Balmurrie Fell	221917	566769	49	Siemens SWT 1.3-62
Balmurrie Fell	222219	566892	49	Siemens SWT 1.3-62
Balmurrie Fell	221814	566983	49	Siemens SWT 1.3-62
Balmurrie Fell	221802	567227	49	Siemens SWT 1.3-62
Balmurrie Fell	222061	567341	49	Siemens SWT 1.3-62
Balmurrie Fell	221894	567486	49	Siemens SWT 1.3-62
Garvilland	221465	564201	91	Nordex N117
Garvilland	221371	563737	91	Nordex N117
Garvilland	221530	563380	91	Nordex N117
Garvilland	221530	562919	91	Nordex N117
Garvilland	220943	563316	91	Nordex N117
Glenchamber	222661	564952	80	Siemens SWT 2.3-93
Glenchamber	222672	564596	80	Siemens SWT 2.3-93
Glenchamber	222324	564655	80	Siemens SWT 2.3-93
Glenchamber	221970	564324	80	Siemens SWT 2.3-93
Glenchamber	222342	564275	80	Siemens SWT 2.3-93
Glenchamber	222797	564255	80	Siemens SWT 2.3-93
Glenchamber	223044	564657	80	Siemens SWT 2.3-93
Glenchamber	223025	565031	80	Siemens SWT 2.3-93

Windfarm	Easting	Northing	Hub Height (m)	Turbine Model
Glenchamber	222368	563901	80	Siemens SWT 2.3-93
Glenchamber	221841	563930	80	Siemens SWT 2.3-93
Glenchamber	222185	563577	80	Siemens SWT 2.3-93
Kilgallioch	221284	573400	100	Gamesa G114
Kilgallioch	220072	571827	100	Gamesa G114
Kilgallioch	220465	572195	100	Gamesa G114
Kilgallioch	220731	571792	100	Gamesa G114
Kilgallioch	220900	572396	100	Gamesa G114
Kilgallioch	221247	572719	100	Gamesa G114
Kilgallioch	221199	572116	100	Gamesa G114
Kilgallioch	221608	571791	100	Gamesa G114
Kilgallioch	221210	571510	100	Gamesa G114
Kilgallioch	221179	570928	100	Gamesa G114
Kilgallioch	220800	573102	100	Gamesa G114
Kilgallioch	219695	571534	100	Gamesa G114
Kilgallioch	219965	571108	100	Gamesa G114
Kilgallioch	220294	571452	100	Gamesa G114
Kilgallioch	220778	571135	100	Gamesa G114
Kilgallioch	220429	570856	100	Gamesa G114
Kilgallioch	220832	570468	100	Gamesa G114
Kilgallioch	221199	570161	100	Gamesa G114
Kilgallioch	220407	572794	100	Gamesa G114
Kilgallioch	220401	570143	100	Gamesa G114
Kilgallioch	220800	569809	100	Gamesa G114
Kilgallioch	221144	569561	100	Gamesa G114
Kilgallioch	221229	568759	100	Gamesa G114
Kilgallioch	222009	569497	100	Gamesa G114
Kilgallioch	222379	569253	100	Gamesa G114
Kilgallioch	221696	569041	100	Gamesa G114
Kilgallioch	220795	573770	100	Gamesa G114
Kilgallioch	220426	573419	100	Gamesa G114
Kilgallioch	219980	573695	100	Gamesa G114
Kilgallioch	220007	573051	100	Gamesa G114
Kilgallioch	219920	572490	100	Gamesa G114
Kilgallioch	219573	572156	100	Gamesa G90

Windfarm	Easting	Northing	Hub Height (m)	Turbine Model
Kilgallioch	219210	571758	100	Gamesa G114
Kilgallioch	219203	571191	100	Gamesa G90
Kilgallioch	219598	570802	100	Gamesa G114
Kilgallioch	220035	570428	100	Gamesa G114
Kilgallioch	221495	575014	100	Gamesa G114
Kilgallioch	221598	574380	100	Gamesa G114
Kilgallioch	221574	573804	100	Gamesa G114
Kilgallioch	221226	574707	100	Gamesa G114
Kilgallioch	221199	575371	100	Gamesa G114
Kilgallioch	221121	574061	100	Gamesa G114
Kilgallioch	220828	574343	100	Gamesa G114
Kilgallioch	220477	574663	100	Gamesa G114
Kilgallioch	220827	574957	100	Gamesa G114
Kilgallioch	220309	574003	100	Gamesa G114
Kilgallioch	223205	576313	100	Gamesa G114
Kilgallioch	222765	576211	100	Gamesa G114
Kilgallioch	222150	576169	100	Gamesa G114
Kilgallioch	222434	575755	100	Gamesa G114
Kilgallioch	222795	575397	100	Gamesa G114
Kilgallioch	222359	575141	100	Gamesa G114
Kilgallioch	222000	574733	100	Gamesa G114
Kilgallioch	222001	575362	100	Gamesa G114
Kilgallioch	222478	574551	100	Gamesa G114
Kilgallioch	222005	574092	100	Gamesa G114
Kilgallioch	222408	573742	100	Gamesa G114
Kilgallioch	222299	573074	100	Gamesa G114
Kilgallioch	221970	572787	100	Gamesa G114
Kilgallioch	222409	572360	100	Gamesa G114
Kilgallioch	222006	570712	100	Gamesa G114
Kilgallioch	221566	570520	100	Gamesa G114
Kilgallioch	221608	571141	100	Gamesa G114
Kilgallioch	222282	570371	100	Gamesa G114
Kilgallioch	221918	570112	100	Gamesa G114
Kilgallioch	222295	569800	100	Gamesa G114
Kilgallioch	223192	574519	100	Gamesa G114

Windfarm	Easting	Northing	Hub Height (m)	Turbine Model
Kilgallioch	223644	574783	100	Gamesa G114
Kilgallioch	223955	574311	100	Gamesa G114
Kilgallioch	224402	574111	100	Gamesa G114
Kilgallioch	224307	573559	100	Gamesa G114
Kilgallioch	222864	574135	100	Gamesa G114
Kilgallioch	222799	573434	100	Gamesa G114
Kilgallioch	222798	572774	100	Gamesa G114
Kilgallioch	223198	573124	100	Gamesa G114
Kilgallioch	223186	573757	100	Gamesa G114
Kilgallioch	223583	575959	100	Gamesa G114
Kilgallioch	224010	575746	100	Gamesa G114
Kilgallioch	223613	575445	100	Gamesa G114
Kilgallioch	223223	575738	100	Gamesa G114
Kilgallioch	223248	575133	100	Gamesa G114
Kilgallioch	224078	575118	100	Gamesa G114
Kilgallioch	224502	575413	100	Gamesa G114
Kilgallioch	224895	575753	100	Gamesa G114
Kilgallioch	224910	575156	100	Gamesa G114
Kilgallioch	225581	575208	100	Gamesa G114
Kilgallioch	225264	574811	100	Gamesa G114
Kilgallioch	224916	574456	100	Gamesa G114
Kilgallioch	224534	574857	100	Gamesa G114
Kilgallioch	224899	573767	100	Gamesa G114
Kilgallioch	225275	574090	100	Gamesa G114
Kilgallioch	225647	574462	100	Gamesa G114
Kilgallioch	226200	574760	100	Gamesa G114
Kilgallioch	225954	574032	100	Gamesa G114
Kilgallioch	226365	573720	100	Gamesa G114
Kilgallioch	225656	573721	100	Gamesa G114
Stranoch 1	215819	574361	90	Vestas 90 3MW
Stranoch 1	216150	574191	90	Vestas 90 3MW
Stranoch 1	216169	573816	90	Vestas 90 3MW
Stranoch 1	215804	573999	90	Vestas 90 3MW
Stranoch 1	215816	573564	90	Vestas 90 3MW
Stranoch 1	216040	573272	90	Vestas 90 3MW

Windfarm	Easting	Northing	Hub Height (m)	Turbine Model
Stranoch 1	216541	573928	90	Vestas 90 3MW
Stranoch 1	216385	573527	90	Vestas 90 3MW
Stranoch 1	216755	573468	90	Vestas 90 3MW
Stranoch 1	216985	574069	90	Vestas 90 3MW
Stranoch 1	215279	571126	90	Vestas 90 3MW
Stranoch 1	214937	570835	90	Vestas 90 3MW
Stranoch 1	215307	570735	90	Vestas 90 3MW
Stranoch 1	215640	571004	90	Vestas 90 3MW
Stranoch 1	215869	570628	90	Vestas 90 3MW
Stranoch 1	215669	570252	90	Vestas 90 3MW
Stranoch 1	215689	569802	90	Vestas 90 3MW
Stranoch 1	215214	570240	90	Vestas 90 3MW
Stranoch 1	214869	570418	90	Vestas 90 3MW
Stranoch 1	214861	570006	90	Vestas 90 3MW
Stranoch 1	215356	569910	90	Vestas 90 3MW
Stranoch 1	215614	569376	90	Vestas 90 3MW
Stranoch 1	215273	569492	90	Vestas 90 3MW
Stranoch 1	214977	569669	90	Vestas 90 3MW
Stranoch 2	216654	574715	90	Vestas 90 3MW
Stranoch 2	217091	574517	90	Vestas 90 3MW
Stranoch 2	215768	574133	90	Vestas 90 3MW
Stranoch 2	216323	574133	90	Vestas 90 3MW
Stranoch 2	216786	573961	90	Vestas 90 3MW
Stranoch 2	217448	574173	90	Vestas 90 3MW
Stranoch 2	215821	573591	90	Vestas 90 3MW
Stranoch 2	216271	573459	90	Vestas 90 3MW
Stranoch 2	217263	573670	90	Vestas 90 3MW
Stranoch 2	215953	572969	90	Vestas 90 3MW
Stranoch 2	216323	572850	90	Vestas 90 3MW
Stranoch 2	216786	573220	90	Vestas 90 3MW
Stranoch 2	215331	571196	90	Vestas 90 3MW
Stranoch 2	214921	570614	90	Vestas 90 3MW
Stranoch 2	215688	570866	90	Vestas 90 3MW
Stranoch 2	214822	570077	90	Vestas 90 3MW
Stranoch 2	215351	570104	90	Vestas 90 3MW

Windfarm	Easting	Northing	Hub Height (m)	Turbine Model
Stranoch 2	215933	570163	90	Vestas 90 3MW
Stranoch 2	215179	569555	90	Vestas 90 3MW
Stranoch 2	215682	569555	90	Vestas 90 3MW
Kilgallioch Extension	222904	570588	105	Vestas V150 5.6MW
Kilgallioch Extension	223603	570349	105	Vestas V150 5.6MW
Kilgallioch Extension	222907	569869	105	Vestas V150 5.6MW
Kilgallioch Extension	224015	570834	105	Vestas V150 5.6MW
Kilgallioch Extension	224832	570361	105	Vestas V150 5.6MW
Kilgallioch Extension	224572	570851	105	Vestas V150 5.6MW
Kilgallioch Extension	223403	570880	105	Vestas V150 5.6MW
Kilgallioch Extension	224228	569777	105	Vestas V150 5.6MW
Kilgallioch Extension	223551	569794	105	Vestas V150 5.6MW

Table App2.1: Cumulative Development Site Details

Sound Power Levels

The EIA noise chapter presented octave band noise spectra normalised to the maximum sound power level for the unrestricted mode of operation for the candidate turbine assumed for the noise predictions. The table below represents an update to Table 10.4.2 to include sound power level spectra for all the turbine models included in the cumulative noise predictions.

Turbine	Total, dB L _{WA}	Octave Band Centre Frequency (Hz)							
		63	125	250	500	1k	2k	4k	8k
Vesta V150 5.6MW	106.9	87.6	95.4	100.2	102.1	100.9	96.8	89.7	79.6
Vestas 90 3MW	108.5	93.7	95.7	98.4	100.7	103.2	102.4	98.5	88.2
Gamesa G114	109.0	86.7	94.1	100	103.7	104.1	101.4	95.1	83.6
Gamesa G90	108.5	89.7	96.3	101.4	103.8	102.8	98.5	90.5	77.2
Siemens SWT 2.3-93	107.4	86.6	95.6	102.3	102.7	99.8	96.3	91	87.3
Siemens SWT 1.3-62	101.6	85.7	92.3	95.2	94.3	94.2	94.5	88.9	80.7
Nordex N117	107.8	88.7	95	102.3	103.6	100.7	95.7	87.9	70.7

Table App2.2: Sound Power Levels