

Appendix 5.5: Model Sensitivity Runs

Meteorological Data Sensitivity Comparison

Tables 5.75 to 5.77 show the Process Contribution (PC) (i.e. the impact from the proposed new configuration less the impact of the existing configuration), for the Option 1 scenario with emission based on the ELVs, for every receptor and for 11 years of meteorological data. Results are presented for the most significant pollutant averaging times, annual NO₂, annual PM₁₀ and 15 minute 99.9th percentile SO₂.

As the modelling has been based on the ELV as agreed with NRW at the meeting of the 2nd April 2014, in almost every case the PC is negative, meaning that the proposed new configuration would have a lower impact than the current configuration. For each receptor, the year of data that gives the greatest reduction in impact (best case) is highlighted in yellow and the least reduction or greatest increase (worst case) is highlighted in blue. There is no clear worst-case year or meteorological data when comparing the Rhoose and St Athan meteorological data show a random distribution of blue and yellow cells. The only set of data that does show a large number of yellow and blue highlighted cells is the Port Talbot data and this would be consistent with the findings of the 2011 AQEG report which noted that meteorological conditions in the Port Talbot region were effected by local terrain and that, as such, data from Rhoose and St Athan are less representative of local dispersion.

Overall the results of the sensitivity assessment demonstrate that the use of 1993 to 1997 data in the main air quality assessment is unlikely to make a significant difference to the outcome of the report. It should be noted that the Port Talbot data has been used in the main report to represent local meteorological conditions in the vicinity of the site.

Table 5.75: Annual Average NO ₂ Process Contribution, i.e. impact of new configuration minus impact of existing configuration											
Receptor	Rhoose					St Athan					Port Talbot
	1993	1994	1995	1996	1997	2009	2010	2011	2012	2013	2012/13
Talbot Court Nursing	-0.160	-0.192	-0.165	-0.190	-0.229	-0.165	-0.123	-0.128	-0.141	-0.151	-0.319
25 Lower West End Rd	-0.382	-0.417	-0.500	-0.483	-0.502	-0.390	-0.245	-0.251	-0.301	-0.360	-0.793
21 Duke Street	-3.489	-3.829	-3.256	-3.063	-3.377	-4.341	-3.172	-5.131	-4.696	-3.814	-3.352
Groeswen Park	-1.342	-1.499	-1.152	-1.422	-1.399	-1.749	-1.420	-2.180	-1.872	-1.481	-0.763
40 Byass Street	-0.725	-0.839	-0.800	-0.499	-0.530	-0.712	-0.689	-0.674	-0.719	-0.773	-0.775
1 Ten Acre Wood	-0.787	-0.897	-0.726	-0.607	-0.660	-0.898	-0.765	-0.925	-0.896	-0.773	-0.309
1 Conduit Place	-0.244	-0.248	-0.353	-0.320	-0.333	-0.361	-0.166	-0.323	-0.291	-0.322	-0.642
26 Curt Ucha Terrace	-0.246	-0.287	-0.367	-0.347	-0.341	-0.252	-0.155	-0.175	-0.205	-0.238	-0.567
20 Kings Street	-0.077	-0.098	-0.106	-0.117	-0.123	-0.094	-0.078	-0.070	-0.087	-0.079	-0.162
130a Water Street	-0.221	-0.196	-0.197	-0.231	-0.222	-0.286	-0.175	-0.215	-0.179	-0.179	-0.171
Port Talbot Fire Stn	-0.970	-1.008	-1.187	-1.119	-1.211	-1.426	-0.897	-1.531	-1.360	-1.261	-2.592
Dyffryn School	-0.708	-0.734	-0.602	-0.549	-0.586	-1.156	-1.188	-1.283	-1.599	-1.407	-0.461
Twll-yn-y Wal Park	-1.483	-1.666	-1.309	-1.204	-1.238	-2.630	-1.974	-2.517	-2.620	-2.034	-0.478
Theodore Road	-0.206	-0.235	-0.345	-0.285	-0.242	1.420	1.409	1.481	1.736	1.290	-0.539
Talbot Road	-0.156	-0.182	-0.149	-0.167	-0.211	-0.350	-0.261	-0.226	-0.178	-0.153	-0.282
Little Warren	-0.324	-0.286	-0.265	-0.320	-0.264	-0.253	-0.294	-0.438	-0.351	-0.435	-0.294
Port Talbot Docks	-0.362	-0.304	-0.301	-0.329	-0.347	-0.789	-0.517	-0.394	-0.275	-0.073	-0.267
Prince Street	-2.608	-2.924	-2.222	-2.307	-2.503	-5.028	-4.103	-5.726	-5.818	-4.637	-1.407
Victoria Gardens	-0.017	-0.019	-0.016	-0.023	-0.022	2.987	2.432	2.860	3.126	2.485	-0.023
Pontardawe Post Off	-0.014	-0.013	-0.014	-0.018	-0.015	0.004	0.014	-0.001	0.003	0.004	-0.012
Old Fire Station	-0.206	-0.185	-0.191	-0.226	-0.222	-0.944	-0.716	-0.678	-0.592	-0.509	-0.163
11 College Green	-0.638	-0.670	-0.571	-0.487	-0.543	-0.935	-1.021	-1.084	-1.361	-1.238	-0.576
12 Lower West End Rd	-0.475	-0.507	-0.705	-0.617	-0.540	-0.087	0.312	0.247	0.268	0.053	-1.064
Woodfield Street	-1.261	-1.282	-1.214	-1.396	-1.466	-2.329	-1.740	-3.139	-2.630	-2.324	-2.263

Table 5.75: Annual Average NO ₂ Process Contribution, i.e. impact of new configuration minus impact of existing configuration											
Receptor	Rhoose					St Athan					Port Talbot
	1993	1994	1995	1996	1997	2009	2010	2011	2012	2013	2012/13
Eastern Primary Sch	-0.681	-0.662	-0.800	-0.793	-0.886	-0.725	-0.314	-0.640	-0.557	-0.556	-1.689
Groes Primary School	-0.773	-0.797	-0.657	-0.576	-0.628	-1.052	-1.188	-0.910	-1.309	-0.987	-0.454
91 Talbot Road	-0.214	-0.250	-0.258	-0.280	-0.307	0.392	0.588	0.602	0.725	0.534	-0.445
74 Talbot Road	-0.209	-0.246	-0.265	-0.283	-0.302	-0.192	-0.130	-0.139	-0.169	-0.195	-0.446
44 Abbey Road	-0.206	-0.244	-0.344	-0.304	-0.274	-0.128	-0.055	-0.117	-0.137	-0.171	-0.510
9 Abbey Road	-0.185	-0.217	-0.320	-0.267	-0.228	-0.203	-0.101	-0.157	-0.151	-0.171	-0.483
1 Abbey Road	-0.169	-0.193	-0.289	-0.238	-0.201	-0.210	-0.101	-0.157	-0.149	-0.164	-0.441
Glen Afan Comp Sch	-0.103	-0.122	-0.098	-0.110	-0.141	-0.245	-0.175	-0.170	-0.100	-0.071	-0.181
Dyffryn Comp Sch	-0.150	-0.187	-0.219	-0.226	-0.229	-0.077	-0.066	-0.061	-0.151	-0.200	-0.339
Crymlyn Bog SAC	-0.067	-0.063	-0.068	-0.058	-0.057	0.172	0.139	0.079	0.185	0.214	-0.055
Kenfig/Cynffig SAC	-0.080	-0.043	-0.063	-0.060	-0.042	0.011	-0.146	0.069	-0.026	-0.064	-0.140
Cefn Cribwr SAC	-0.136	-0.132	-0.126	-0.108	-0.110	-0.316	-0.292	-0.345	-0.385	-0.332	-0.077
Blackmill Woods SAC	-0.061	-0.071	-0.059	-0.063	-0.062	-0.150	-0.039	-0.135	-0.124	-0.026	-0.045
Dunraven Bay SAC	-0.072	-0.073	-0.106	-0.043	-0.037	0.180	0.050	0.190	0.172	0.062	-0.101
Crymlyn Bog RAMSAR	-0.067	-0.063	-0.068	-0.059	-0.057	-0.152	-0.066	-0.159	-0.056	-0.045	-0.055
Kenfig Pool NNR	-0.087	-0.054	-0.078	-0.067	-0.049	-0.003	-0.160	0.058	-0.050	-0.081	-0.164
Merthyr Mawr NNR	-0.120	-0.128	-0.170	-0.069	-0.063	-0.143	-0.160	-0.146	-0.174	-0.213	-0.138
Crymlyn Bog NNR	-0.069	-0.065	-0.071	-0.060	-0.059	-0.123	-0.025	-0.130	-0.010	0.011	-0.057
Kenfig Pool LNR	-0.083	-0.046	-0.067	-0.062	-0.044	0.016	-0.142	0.074	-0.026	-0.063	-0.147
Locks Common LNR	-0.059	-0.032	-0.048	-0.044	-0.034	-0.060	-0.093	-0.032	-0.037	-0.054	-0.111
Pant y Sais LNR	-0.064	-0.060	-0.062	-0.057	-0.053	-0.227	-0.112	-0.226	-0.137	-0.119	-0.056
Eaglesbush Valley LNR	-0.020	-0.022	-0.020	-0.026	-0.028	0.079	0.086	0.077	0.050	0.053	-0.024
Frog Pond Wood LNR	-0.171	-0.189	-0.190	-0.124	-0.108	-0.271	-0.400	-0.279	-0.330	-0.406	-0.125
Craig y Parciau LNR	-0.102	-0.113	-0.111	-0.078	-0.068	-0.044	-0.055	-0.055	-0.046	-0.046	-0.067
Tremains Wood LNR	-0.091	-0.095	-0.088	-0.071	-0.070	-0.062	-0.049	-0.074	-0.107	-0.060	-0.050
Margam Moors SSSI	-0.144	-0.094	-0.127	-0.107	-0.077	-0.002	-0.129	0.087	0.008	-0.018	-0.240
Eglwys Nunydd SSSI	-0.372	-0.425	-0.524	-0.245	-0.242	-0.396	-0.442	-0.361	-0.470	-0.531	-0.469
Kenfig SSSI	-0.080	-0.043	-0.063	-0.060	-0.042	0.056	0.000	0.085	0.123	0.128	-0.140
Waun Cimla SSSI	-0.171	-0.177	-0.169	-0.122	-0.129	-0.320	-0.314	-0.363	-0.393	-0.373	-0.090
Caeau Cefn Cribwr SSSI	-0.155	-0.153	-0.146	-0.113	-0.122	-0.132	-0.139	-0.131	-0.167	-0.130	-0.081
Penycastell SSSI	-0.168	-0.187	-0.186	-0.123	-0.108	-0.122	-0.169	-0.106	-0.100	-0.165	-0.119
Waun Fawr SSSI	-0.149	-0.163	-0.159	-0.113	-0.103	-0.125	-0.141	-0.136	-0.154	-0.139	-0.094
Bryn-Bach SSSI	-0.136	-0.133	-0.127	-0.108	-0.111	-0.132	-0.111	-0.129	-0.180	-0.104	-0.077
Cwm Risca Meadow SSSI	-0.133	-0.140	-0.125	-0.120	-0.112	-0.279	-0.221	-0.224	-0.252	-0.182	-0.087
Merthyr Mawr SSSI	-0.115	-0.121	-0.166	-0.067	-0.060	0.178	0.084	0.170	0.157	0.070	-0.141
Southerndown SSSI	-0.072	-0.074	-0.107	-0.044	-0.037	-0.018	-0.030	-0.012	-0.016	-0.018	-0.102
Old Castle Down SSSI	-0.102	-0.110	-0.119	-0.063	-0.054	-0.134	-0.157	-0.134	-0.136	-0.181	-0.085
Eweny and Pant SSSI	-0.102	-0.109	-0.112	-0.070	-0.058	-0.106	-0.138	-0.104	-0.090	-0.118	-0.076
Clemenstone SSSI	-0.087	-0.096	-0.107	-0.052	-0.046	-0.019	-0.024	-0.012	-0.029	-0.035	-0.078
Blackmill Woods SSSI	-0.061	-0.071	-0.059	-0.063	-0.062	-0.292	-0.177	-0.289	-0.291	-0.147	-0.045
Cwm Du Woods SSSI	-0.053	-0.054	-0.041	-0.056	-0.056	0.035	0.026	-0.041	0.006	0.014	-0.086

Table 5.75: Annual Average NO ₂ Process Contribution, i.e. impact of new configuration minus impact of existing configuration											
Receptor	Rhoose					St Athan					Port Talbot
	1993	1994	1995	1996	1997	2009	2010	2011	2012	2013	2012/13
Cwm Cyffog SSSI	-0.037	-0.036	-0.026	-0.036	-0.038	0.057	0.045	0.060	0.042	0.041	-0.055
Crymlyn Burrows SSSI	-0.105	-0.097	-0.103	-0.092	-0.084	-0.224	-0.195	-0.175	-0.085	-0.138	-0.085
Crymlyn Bog SSSI	-0.067	-0.063	-0.068	-0.058	-0.057	-0.019	-0.019	-0.019	-0.002	-0.021	-0.055
Blackpill SSSI	-0.032	-0.027	-0.027	-0.043	-0.044	0.100	0.065	0.056	0.027	0.018	-0.027
Bracelet Bay SSSI	-0.028	-0.027	-0.029	-0.037	-0.046	-0.048	-0.056	-0.043	-0.058	-0.065	-0.028
Langland Bay SSSI	-0.025	-0.023	-0.025	-0.032	-0.040	-0.016	-0.017	-0.020	-0.017	-0.018	-0.024
Caswell Bay SSSI	-0.021	-0.018	-0.020	-0.027	-0.032	-0.007	-0.007	-0.011	-0.007	-0.008	-0.019
Bishops Wood SSSI	-0.022	-0.019	-0.020	-0.029	-0.034	-0.021	-0.022	-0.027	-0.023	-0.025	-0.020
Pant y Sais SSSI	-0.064	-0.060	-0.062	-0.057	-0.053	-0.272	-0.214	-0.222	-0.158	-0.155	-0.056
Glais Moraine SSSI	-0.025	-0.025	-0.024	-0.027	-0.021	0.063	0.083	0.063	0.049	0.043	-0.021
Penplas Grass SSSI	-0.038	-0.033	-0.035	-0.034	-0.030	0.004	-0.022	-0.025	-0.010	-0.010	-0.024
Crymlyn Bog SAC	-0.064	-0.060	-0.062	-0.057	-0.053	-0.228	-0.184	-0.182	-0.144	-0.147	-0.056
Kenfig/Cynffig SAC 1	-0.109	-0.111	-0.161	-0.066	-0.057	0.002	-0.130	0.019	-0.091	-0.142	-0.152
Kenfig/Cynffig SAC 2	-0.115	-0.121	-0.166	-0.067	-0.060	-0.088	-0.113	-0.080	-0.106	-0.127	-0.141
Kenfig/Cynffig SAC 3	-0.099	-0.047	-0.075	-0.073	-0.047	-0.026	-0.123	0.018	0.017	-0.002	-0.132
Cefn Cribwr SAC 1	-0.158	-0.155	-0.149	-0.116	-0.125	-0.321	-0.281	-0.358	-0.401	-0.347	-0.080
Cefn Cribwr SAC 2	-0.151	-0.165	-0.160	-0.114	-0.105	-0.119	-0.159	-0.112	-0.109	-0.150	-0.095
Cefn Cribwr SAC 3	-0.167	-0.186	-0.185	-0.123	-0.107	-0.117	-0.145	-0.112	-0.125	-0.152	-0.120
Crymlyn Bog RAMSAR	-0.064	-0.060	-0.062	-0.057	-0.053	-0.047	0.078	-0.023	0.064	0.119	-0.056
Fforest Goch Bog	-0.013	-0.013	-0.014	-0.017	-0.016	0.146	0.140	0.133	0.097	0.098	-0.013
Kenfig/Cynffig SSSI	-0.099	-0.047	-0.075	-0.073	-0.047	-0.109	-0.288	-0.049	-0.101	-0.155	-0.132
Margam Moors SSSI	-0.171	-0.104	-0.133	-0.117	-0.087	-0.125	-0.214	-0.074	-0.152	-0.168	-0.244
Eglwys Nunydd Res	-0.566	-0.660	-0.721	-0.355	-0.388	-0.626	-0.658	-0.605	-0.717	-0.772	-0.583
Crymlyn Bog SSSI	-0.079	-0.075	-0.080	-0.068	-0.066	-0.043	0.077	-0.064	0.118	0.156	-0.068
Merthyr Mawr SSSI	-0.109	-0.111	-0.161	-0.066	-0.057	-0.003	-0.135	0.016	-0.100	-0.148	-0.152
Crymlyn Bog NNR	-0.064	-0.060	-0.062	-0.057	-0.053	-0.170	-0.050	-0.161	-0.057	-0.028	-0.056
Kenfig Poll & Dunes	-0.099	-0.047	-0.075	-0.073	-0.047	0.055	-0.135	0.100	0.009	-0.044	-0.132
Merthyr Mawr Warren	-0.103	-0.104	-0.153	-0.063	-0.054	-0.128	-0.135	-0.121	-0.154	-0.173	-0.151
Eaglebush Valley	-0.019	-0.022	-0.019	-0.026	-0.027	0.004	0.100	-0.011	0.045	0.079	-0.027
Kenfig Poll & Dunes	-0.099	-0.047	-0.075	-0.073	-0.047	-0.062	-0.246	-0.008	-0.066	-0.121	-0.132
Lock's Common	-0.062	-0.034	-0.051	-0.047	-0.035	-0.065	-0.080	-0.033	-0.046	-0.054	-0.116
Mumbles Hill	-0.028	-0.026	-0.028	-0.037	-0.045	-0.005	0.047	-0.058	-0.037	-0.030	-0.027

Table 5.76: Annual Average PM ₁₀ Process Contribution, i.e. impact of new configuration minus impact of existing configuration											
Receptors	Rhoose					St Athan					Port Talbot
	1993	1994	1995	1996	1997	2009	2010	2011	2012	2013	2012/13
Talbot Court Nursing	-0.038	-0.043	-0.039	-0.042	-0.050	-0.046	-0.036	-0.035	-0.036	-0.038	-0.061
25 Lower West End Rd	-0.072	-0.078	-0.092	-0.089	-0.093	-0.084	-0.057	-0.054	-0.065	-0.073	-0.136
21 Duke Street	-0.601	-0.663	-0.559	-0.526	-0.580	-0.756	-0.558	-0.883	-0.815	-0.663	-0.571
Groeswen Park	-0.305	-0.343	-0.264	-0.289	-0.297	-0.380	-0.312	-0.446	-0.402	-0.321	-0.152



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Receptors	Rhoose					St Athan					Port Talbot
	1993	1994	1995	1996	1997	2009	2010	2011	2012	2013	2012/13
40 Byass Street	-0.139	-0.158	-0.159	-0.098	-0.102	-0.129	-0.129	-0.121	-0.134	-0.143	-0.155
1 Ten Acre Wood	-0.145	-0.166	-0.139	-0.112	-0.120	-0.159	-0.139	-0.164	-0.161	-0.141	-0.066
1 Conduit Place	-0.049	-0.049	-0.068	-0.064	-0.063	-0.072	-0.038	-0.062	-0.058	-0.064	-0.120
26 Curt Ucha Terrace	-0.050	-0.056	-0.070	-0.067	-0.066	-0.057	-0.040	-0.040	-0.047	-0.052	-0.101
20 Kings Street	-0.018	-0.022	-0.023	-0.025	-0.026	-0.024	-0.020	-0.019	-0.021	-0.021	-0.033
130a Water Street	-0.053	-0.046	-0.048	-0.051	-0.048	-0.066	-0.044	-0.050	-0.042	-0.040	-0.038
Port Talbot Fire Stn	-0.169	-0.174	-0.202	-0.193	-0.208	-0.247	-0.159	-0.262	-0.236	-0.222	-0.441
Dyffryn School	-0.151	-0.160	-0.138	-0.112	-0.123	-0.151	-0.132	-0.142	-0.156	-0.132	-0.102
Twll-yn-y Wal Park	-0.311	-0.348	-0.279	-0.237	-0.254	-0.334	-0.261	-0.326	-0.336	-0.267	-0.111
Theodore Road	-0.042	-0.046	-0.066	-0.057	-0.048	-0.054	-0.032	-0.042	-0.043	-0.047	-0.097
Talbot Road	-0.038	-0.042	-0.037	-0.039	-0.048	-0.047	-0.036	-0.036	-0.034	-0.036	-0.055
Little Warren	-0.069	-0.062	-0.056	-0.072	-0.062	-0.059	-0.051	-0.055	-0.046	-0.049	-0.067
Port Talbot Docks	-0.082	-0.070	-0.071	-0.072	-0.074	-0.097	-0.067	-0.070	-0.057	-0.053	-0.058
Prince Street	-0.490	-0.552	-0.421	-0.416	-0.459	-0.536	-0.448	-0.633	-0.596	-0.477	-0.256
Victoria Gardens	-0.004	-0.005	-0.004	-0.006	-0.005	-0.006	-0.005	-0.006	-0.005	-0.004	-0.005
Pontardawe Post Off	-0.003	-0.003	-0.004	-0.004	-0.004	-0.005	-0.003	-0.004	-0.003	-0.003	-0.003
Old Fire Station	-0.050	-0.044	-0.046	-0.050	-0.048	-0.063	-0.042	-0.047	-0.040	-0.038	-0.036
11 College Green	-0.134	-0.143	-0.128	-0.099	-0.111	-0.135	-0.121	-0.130	-0.139	-0.121	-0.120
12 Lower West End Rd	-0.086	-0.090	-0.123	-0.109	-0.096	-0.103	-0.065	-0.071	-0.081	-0.093	-0.179
Woodfield Street	-0.217	-0.220	-0.207	-0.239	-0.251	-0.308	-0.222	-0.361	-0.327	-0.286	-0.389
Eastern Primary Sch	-0.123	-0.119	-0.142	-0.144	-0.157	-0.169	-0.102	-0.189	-0.166	-0.158	-0.305
Groes Primary School	-0.163	-0.171	-0.149	-0.117	-0.130	-0.159	-0.141	-0.149	-0.166	-0.142	-0.103
91 Talbot Road	-0.046	-0.052	-0.053	-0.057	-0.062	-0.054	-0.039	-0.038	-0.043	-0.047	-0.082
74 Talbot Road	-0.045	-0.051	-0.054	-0.057	-0.061	-0.052	-0.039	-0.037	-0.043	-0.046	-0.082
44 Abbey Road	-0.042	-0.048	-0.065	-0.059	-0.054	-0.050	-0.033	-0.036	-0.041	-0.045	-0.091
9 Abbey Road	-0.038	-0.043	-0.061	-0.053	-0.045	-0.048	-0.030	-0.036	-0.038	-0.042	-0.088
1 Abbey Road	-0.035	-0.039	-0.056	-0.049	-0.041	-0.046	-0.028	-0.034	-0.035	-0.040	-0.081
Glen Afan Comp Sch	-0.027	-0.030	-0.026	-0.028	-0.034	-0.036	-0.027	-0.028	-0.025	-0.026	-0.037
Dyffryn Comp Sch	-0.033	-0.039	-0.045	-0.046	-0.047	-0.041	-0.031	-0.030	-0.034	-0.036	-0.064
Crymlyn Bog SAC	-0.015	-0.014	-0.015	-0.013	-0.013	-0.018	-0.016	-0.017	-0.012	-0.013	-0.012
Kenfig/Cynffig SAC	-0.016	-0.009	-0.012	-0.012	-0.008	-0.016	-0.026	-0.009	-0.012	-0.016	-0.028
Cefn Cribwr SAC	-0.029	-0.029	-0.027	-0.023	-0.023	-0.026	-0.028	-0.024	-0.030	-0.026	-0.017
Blackmill Woods SAC	-0.015	-0.017	-0.014	-0.016	-0.015	-0.021	-0.018	-0.021	-0.023	-0.017	-0.011
Dunraven Bay SAC	-0.015	-0.015	-0.022	-0.009	-0.008	-0.011	-0.016	-0.009	-0.013	-0.015	-0.021
Crymlyn Bog RAMSAR	-0.015	-0.014	-0.015	-0.013	-0.013	-0.018	-0.016	-0.017	-0.012	-0.013	-0.012
Kenfig Pool NNR	-0.017	-0.011	-0.015	-0.013	-0.010	-0.016	-0.027	-0.010	-0.014	-0.017	-0.032
Merthyr Mawr NNR	-0.025	-0.026	-0.035	-0.014	-0.013	-0.018	-0.024	-0.016	-0.020	-0.024	-0.029
Crymlyn Bog NNR	-0.016	-0.015	-0.015	-0.014	-0.013	-0.018	-0.016	-0.018	-0.012	-0.014	-0.012
Kenfig Pool LNR	-0.017	-0.009	-0.013	-0.012	-0.009	-0.016	-0.027	-0.009	-0.013	-0.017	-0.029
Locks Common LNR	-0.012	-0.006	-0.010	-0.009	-0.007	-0.013	-0.022	-0.007	-0.010	-0.013	-0.022
Pant y Sais LNR	-0.015	-0.014	-0.015	-0.013	-0.013	-0.019	-0.015	-0.017	-0.012	-0.013	-0.013

Table 5.76: Annual Average PM ₁₀ Process Contribution, i.e. impact of new configuration minus impact of existing configuration											
Receptors	Rhoose					St Athan					Port Talbot
	1993	1994	1995	1996	1997	2009	2010	2011	2012	2013	2012/13
EaglesbushValley LNR	-0.005	-0.005	-0.005	-0.007	-0.007	-0.007	-0.006	-0.006	-0.005	-0.005	-0.006
Frog Pond Wood LNR	-0.036	-0.040	-0.041	-0.026	-0.022	-0.027	-0.033	-0.027	-0.029	-0.033	-0.027
Craig y Parciau LNR	-0.023	-0.025	-0.025	-0.017	-0.015	-0.017	-0.021	-0.018	-0.019	-0.021	-0.015
Tremains Wood LNR	-0.020	-0.021	-0.020	-0.016	-0.015	-0.017	-0.020	-0.017	-0.020	-0.019	-0.012
Margam Moors SSSI	-0.028	-0.018	-0.024	-0.021	-0.015	-0.020	-0.035	-0.012	-0.021	-0.024	-0.045
Eglwys Nunydd SSSI	-0.070	-0.079	-0.097	-0.046	-0.045	-0.051	-0.064	-0.045	-0.060	-0.067	-0.088
Kenfig SSSI	-0.016	-0.009	-0.012	-0.012	-0.008	-0.016	-0.026	-0.009	-0.012	-0.016	-0.028
Waun Cimla SSSI	-0.036	-0.037	-0.036	-0.026	-0.026	-0.028	-0.032	-0.028	-0.034	-0.031	-0.020
CaeauCefnCribrwr SSSI	-0.032	-0.033	-0.031	-0.024	-0.025	-0.027	-0.029	-0.026	-0.032	-0.028	-0.018
Penycastell SSSI	-0.036	-0.040	-0.040	-0.026	-0.022	-0.026	-0.032	-0.027	-0.029	-0.032	-0.026
Waun Fawr SSSI	-0.032	-0.035	-0.034	-0.024	-0.021	-0.024	-0.029	-0.025	-0.029	-0.029	-0.021
Bryn-Bach SSSI	-0.029	-0.029	-0.027	-0.023	-0.023	-0.026	-0.028	-0.024	-0.030	-0.026	-0.017
CwmRisca Meadow SSSI	-0.028	-0.030	-0.027	-0.026	-0.024	-0.032	-0.030	-0.029	-0.034	-0.026	-0.019
Merthyr Mawr SSSI	-0.024	-0.025	-0.034	-0.014	-0.012	-0.017	-0.024	-0.015	-0.020	-0.023	-0.029
Southerndown SSSI	-0.015	-0.015	-0.022	-0.009	-0.008	-0.011	-0.016	-0.009	-0.013	-0.015	-0.022
Old Castle Down SSSI	-0.022	-0.023	-0.026	-0.013	-0.011	-0.017	-0.021	-0.015	-0.016	-0.020	-0.018
Ewenny and Pant SSSI	-0.022	-0.024	-0.025	-0.015	-0.012	-0.017	-0.022	-0.016	-0.016	-0.021	-0.017
Clemenstone SSSI	-0.018	-0.020	-0.023	-0.011	-0.010	-0.014	-0.018	-0.013	-0.014	-0.018	-0.017
Blackmill Woods SSSI	-0.015	-0.017	-0.014	-0.016	-0.015	-0.021	-0.018	-0.021	-0.023	-0.017	-0.011
Cwm Du Woods SSSI	-0.013	-0.013	-0.010	-0.013	-0.013	-0.016	-0.013	-0.019	-0.019	-0.014	-0.019
Cwm Cyffog SSSI	-0.008	-0.008	-0.006	-0.008	-0.008	-0.010	-0.009	-0.012	-0.012	-0.009	-0.011
Crymlyn Burrows SSSI	-0.023	-0.021	-0.022	-0.021	-0.019	-0.026	-0.022	-0.024	-0.017	-0.019	-0.018
Crymlyn Bog SSSI	-0.015	-0.014	-0.015	-0.013	-0.013	-0.018	-0.016	-0.017	-0.012	-0.013	-0.012
Blackpill SSSI	-0.006	-0.006	-0.006	-0.009	-0.009	-0.006	-0.006	-0.008	-0.006	-0.007	-0.005
Bracelet Bay SSSI	-0.006	-0.006	-0.006	-0.007	-0.010	-0.007	-0.007	-0.007	-0.008	-0.008	-0.005
Langland Bay SSSI	-0.005	-0.005	-0.005	-0.007	-0.008	-0.006	-0.006	-0.006	-0.007	-0.007	-0.005
Caswell Bay SSSI	-0.004	-0.004	-0.004	-0.005	-0.007	-0.005	-0.005	-0.005	-0.005	-0.006	-0.004
Bishops Wood SSSI	-0.004	-0.004	-0.004	-0.006	-0.007	-0.005	-0.005	-0.005	-0.005	-0.006	-0.004
Pant y Sais SSSI	-0.015	-0.014	-0.015	-0.013	-0.013	-0.019	-0.015	-0.017	-0.012	-0.013	-0.013
Glais Moraine SSSI	-0.006	-0.006	-0.006	-0.006	-0.005	-0.009	-0.006	-0.007	-0.006	-0.006	-0.005
Penplas Grass SSSI	-0.008	-0.007	-0.007	-0.007	-0.006	-0.008	-0.008	-0.009	-0.006	-0.007	-0.005
Crymlyn Bog SAC	-0.015	-0.014	-0.015	-0.013	-0.013	-0.019	-0.015	-0.017	-0.012	-0.013	-0.013
Kenfig/Cynffig SAC 1	-0.022	-0.022	-0.032	-0.014	-0.012	-0.017	-0.024	-0.014	-0.019	-0.022	-0.031
Kenfig/Cynffig SAC 2	-0.024	-0.025	-0.034	-0.014	-0.012	-0.017	-0.024	-0.015	-0.020	-0.023	-0.029
Kenfig/Cynffig SAC 3	-0.020	-0.009	-0.015	-0.014	-0.009	-0.016	-0.029	-0.010	-0.013	-0.017	-0.026
Cefn Cribrwr SAC 1	-0.033	-0.033	-0.032	-0.025	-0.025	-0.028	-0.030	-0.027	-0.032	-0.029	-0.018
Cefn Cribrwr SAC 2	-0.032	-0.035	-0.034	-0.024	-0.021	-0.025	-0.029	-0.025	-0.029	-0.029	-0.021
Cefn Cribrwr SAC 3	-0.036	-0.039	-0.040	-0.026	-0.022	-0.026	-0.032	-0.026	-0.029	-0.032	-0.026
Crymlyn Bog RAMSAR	-0.015	-0.014	-0.015	-0.013	-0.013	-0.019	-0.015	-0.017	-0.012	-0.013	-0.013
Fforest Goch Bog	-0.003	-0.003	-0.003	-0.004	-0.004	-0.004	-0.003	-0.004	-0.003	-0.003	-0.003
Kenfig/Cynffig SSSI	-0.020	-0.009	-0.015	-0.014	-0.009	-0.016	-0.029	-0.010	-0.013	-0.017	-0.026

Receptors	Rhoose					St Athan					Port Talbot
	1993	1994	1995	1996	1997	2009	2010	2011	2012	2013	2012/13
Margam Moors SSSI	-0.033	-0.020	-0.025	-0.023	-0.017	-0.021	-0.036	-0.013	-0.021	-0.025	-0.046
Eglwys Nunydd Res	-0.104	-0.120	-0.133	-0.066	-0.071	-0.081	-0.092	-0.077	-0.093	-0.098	-0.109
Crymlyn Bog SSSI	-0.018	-0.017	-0.018	-0.016	-0.015	-0.021	-0.019	-0.020	-0.014	-0.016	-0.015
Merthyr Mawr SSSI	-0.022	-0.022	-0.032	-0.014	-0.012	-0.017	-0.024	-0.014	-0.019	-0.022	-0.031
Crymlyn Bog NNR	-0.015	-0.014	-0.015	-0.013	-0.013	-0.019	-0.015	-0.017	-0.012	-0.013	-0.013
Kenfig Poll & Dunes	-0.020	-0.009	-0.015	-0.014	-0.009	-0.016	-0.029	-0.010	-0.013	-0.017	-0.026
Merthyr Mawr Warren	-0.021	-0.021	-0.031	-0.013	-0.011	-0.016	-0.023	-0.013	-0.018	-0.021	-0.031
Eaglebush Valley	-0.005	-0.005	-0.005	-0.006	-0.007	-0.006	-0.005	-0.006	-0.005	-0.005	-0.006
Kenfig Poll & Dunes	-0.020	-0.009	-0.015	-0.014	-0.009	-0.016	-0.029	-0.010	-0.013	-0.017	-0.026
Lock's Common	-0.013	-0.007	-0.010	-0.010	-0.007	-0.013	-0.022	-0.007	-0.011	-0.014	-0.023
Mumbles Hill	-0.006	-0.006	-0.006	-0.007	-0.009	-0.006	-0.007	-0.007	-0.007	-0.008	-0.005

Receptors	Rhoose					St Athan					Port Talbot
	1993	1994	1995	1996	1997	2009	2010	2011	2012	2013	2012/13
Talbot Court Nursing	-25.0	-34.2	-27.6	-19.3	-23.1	-21.7	-23.0	-26.5	-24.8	-22.3	-37.9
25 Lower West End Rd	-65.6	-61.7	-70.9	-58.5	-66.5	-50.4	-53.3	-47.1	-48.0	-49.9	-72.1
21 Duke Street	-70.3	-84.6	-75.7	-62.9	-172.7	-146.3	-204.9	-197.3	-146.0	-95.0	-191.3
Groeswen Park	1.5	-11.0	1.4	2.1	-14.7	-2.8	-10.9	2.0	-34.2	-2.7	-4.7
40 Byass Street	-20.5	-21.2	-24.0	-17.1	-39.6	-29.2	-23.0	-28.0	-30.8	-38.5	-43.5
1 Ten Acre Wood	-2.7	-9.9	-4.8	-4.1	-5.4	-5.6	-3.3	-6.6	-4.7	-5.9	-7.9
1 Conduit Place	-13.9	-7.6	-11.3	-17.5	-14.4	-8.7	-6.1	-14.9	-14.7	-8.0	-17.3
26 Curt Ucha Terrace	-36.8	-32.8	-39.7	-22.9	-38.6	-26.1	-23.2	-32.0	-26.8	-37.5	-53.0
20 Kings Street	-14.8	-14.2	-18.1	-11.8	-12.4	-2.6	-16.1	-12.2	-20.9	-20.3	-10.7
130a Water Street	-25.5	-11.4	-17.0	-13.5	-14.5	-21.8	-37.5	-41.5	-28.7	-45.6	-13.7
Port Talbot Fire Stn	-50.6	-46.0	-70.1	-42.1	-48.8	-48.4	-52.9	-49.9	-59.0	-31.7	-50.5
Dyffryn School	-0.4	-1.0	-7.4	-3.0	2.2	-63.7	-66.4	-52.6	-71.0	-68.2	-8.0
Twll-yn-y Wal Park	-18.0	-2.3	7.8	-32.2	-21.2	-27.0	13.4	5.4	-26.9	5.5	43.6
Theodore Road	-12.5	-19.3	-21.9	-20.5	-17.5	1.3	11.7	31.3	33.7	8.8	-27.6
Talbot Road	-22.2	-27.4	-25.3	-17.0	-25.3	-9.9	-8.1	-35.9	-14.4	-23.3	-32.2
Little Warren	-6.6	-6.0	-6.1	-7.0	-14.1	2.2	19.1	-4.9	18.1	13.8	-6.2
Port Talbot Docks	-39.3	-18.8	-17.0	-16.0	-21.9	-35.8	-35.2	-46.2	-36.7	-31.4	-26.5
Prince Street	-30.3	-30.1	-87.2	-32.3	-113.9	-95.7	-120.3	-46.0	-129.5	-71.1	-50.8
Victoria Gardens	-6.3	-6.7	-5.7	-7.6	-6.8	71.2	66.3	61.2	74.1	66.8	-9.1
Pontardawe Post Off	-3.2	-5.6	-4.7	-6.4	-4.5	9.0	9.4	3.4	4.3	-1.4	-7.3
Old Fire Station	-14.2	-12.5	-24.9	-26.1	-17.6	-96.9	-86.2	-83.5	-74.8	-81.6	-10.8
11 College Green	-1.2	0.0	-6.9	-10.1	6.1	-55.6	-71.5	-53.3	-58.5	-68.2	-22.6
12 Lower West End Rd	-75.1	-72.1	-81.8	-76.8	-79.2	-52.9	-20.9	-29.3	-47.4	-38.2	-91.1
Woodfield Street	-57.7	-57.4	-54.1	-44.1	-44.8	-281.2	-214.8	-228.5	-250.7	-127.5	-33.4
Eastern Primary Sch	-4.5	-6.8	-18.4	-6.3	-5.5	-13.4	-14.1	-23.4	-13.7	-20.1	-3.3

Table 5.77: 99.9 th Percentile 15-minute SO ₂ Process Contribution, i.e. impact of new configuration minus impact of existing configuration											
Receptors	Rhoose					St Athan					Port Talbot
	1993	1994	1995	1996	1997	2009	2010	2011	2012	2013	2012/13
Groes Primary School	1.0	-3.2	-9.0	-9.2	2.8	-17.2	-24.2	-0.3	-10.5	-4.8	-14.8
91 Talbot Road	-38.5	-42.1	-42.5	-29.8	-36.0	0.8	20.0	8.5	2.6	-5.2	-51.9
74 Talbot Road	-37.5	-44.7	-40.0	-26.6	-35.3	-23.4	-26.8	-24.3	-26.9	-30.1	-51.7
44 Abbey Road	-22.2	-27.4	-31.8	-26.2	-24.4	-20.0	-15.1	-21.9	-23.3	-23.6	-38.3
9 Abbey Road	-13.3	-10.8	-18.7	-19.0	-17.4	-14.9	-12.7	-25.7	-8.1	-6.5	-26.6
1 Abbey Road	-13.9	-12.7	-16.5	-14.1	-9.0	-12.8	-11.7	-18.5	-10.7	-5.9	-18.3
Glen Afan Comp Sch	-17.9	-21.7	-25.3	-11.7	-17.1	-8.9	-9.9	-30.6	-11.4	-45.5	-19.0
Dyffryn Comp Sch	-21.5	-18.5	-19.1	-20.7	-26.3	-32.5	-34.7	-22.7	-36.6	-27.3	-30.6
Crymlyn Bog SAC	-14.0	-12.3	-15.5	-16.1	-17.4	43.9	43.0	38.7	43.1	45.9	-16.0
Kenfig/Cynffig SAC	-13.0	-11.1	-13.0	-10.0	-15.1	-8.3	-15.1	-5.4	-7.6	-8.5	-14.5
Cefn Cribwr SAC	-7.8	-7.9	-7.1	-5.2	-5.8	-23.2	-11.5	-23.1	-20.8	-21.5	-6.9
Blackmill Woods SAC	-4.5	-6.6	-3.4	-7.2	-3.5	11.0	8.8	8.0	7.8	7.9	-6.1
Dunraven Bay SAC	-12.7	-12.1	-12.8	-12.7	-11.6	-20.5	-20.2	-17.6	-16.7	-20.4	-11.9
Crymlyn Bog RAMSAR	-12.9	-13.7	-14.4	-16.2	-18.5	-13.9	-16.3	-17.8	-13.3	-15.5	-15.2
Kenfig Pool NNR	-10.9	-13.0	-12.9	-16.8	-11.9	-13.5	-18.7	-10.7	-12.6	-10.4	-17.2
Merthyr Mawr NNR	-16.7	-16.5	-16.8	-16.5	-16.4	-29.7	-19.1	-30.2	-21.8	-29.4	-17.2
Crymlyn Bog NNR	-14.0	-12.4	-15.8	-16.3	-17.1	-9.1	-11.1	-13.7	-10.0	-10.8	-15.6
Kenfig Pool LNR	-14.6	-13.1	-14.2	-10.3	-15.8	-7.9	-16.3	-5.1	-6.9	-7.6	-15.6
Locks Common LNR	-12.8	-13.0	-14.0	-13.1	-13.2	-15.9	-2.8	-15.3	-10.5	-12.9	-13.9
Pant y Sais LNR	-9.7	-9.3	-11.1	-9.5	-6.9	-28.0	-22.2	-30.8	-30.0	-28.8	-6.6
EaglesbushValley LNR	-6.3	-7.2	-6.9	-12.4	-7.5	-8.1	-5.8	0.4	3.8	4.1	-7.1
Frog Pond Wood LNR	-14.9	-15.3	-15.0	-15.6	-14.5	-15.4	-27.0	-26.0	-27.8	-30.7	-11.6
Craig y Parciau LNR	-9.2	-5.7	-5.7	-5.8	-5.8	-1.5	0.1	-0.3	0.5	-2.3	-7.8
Tremains Wood LNR	-6.9	-7.9	-7.3	-5.6	-7.7	-0.2	-0.1	-0.1	0.1	-0.3	-7.2
Margam Moors SSSI	-25.9	-15.4	-16.2	-20.7	-22.5	-16.1	-54.5	-12.3	-37.6	-22.9	-15.0
Eglwys Nunydd SSSI	-29.1	-33.4	-43.3	-34.9	-38.3	-39.0	-30.4	-57.3	-43.7	-45.6	-14.3
Kenfig SSSI	-13.0	-11.1	-13.0	-10.0	-15.1	3.2	0.2	3.2	21.2	9.8	-14.5
Waun Cimla SSSI	-7.6	-7.2	-7.2	-7.2	-5.4	-30.4	-17.1	-31.4	-27.6	-30.2	-5.9
CaeauCefnCribwr SSSI	-6.6	-6.5	-6.6	-6.4	-7.2	-3.5	-3.5	-3.4	-5.0	-1.2	-8.5
Penycastell SSSI	-14.5	-14.5	-14.5	-14.5	-14.1	-13.7	-21.0	-19.0	-20.0	-18.7	-10.2
Waun Fawr SSSI	-9.0	-12.7	-10.6	-12.6	-10.2	-9.6	-6.4	-9.4	-8.9	-11.5	-6.9
Bryn-Bach SSSI	-7.8	-7.9	-7.2	-5.4	-5.7	-1.5	-1.3	-1.4	-1.5	0.1	-6.8
CwmRisca Meadow SSSI	-6.0	-6.7	-6.3	-6.8	-4.6	-9.2	-11.3	-10.8	-9.2	-12.2	-6.2
Merthyr Mawr SSSI	-15.7	-16.3	-15.8	-15.8	-20.4	-12.4	-13.0	-14.0	-11.9	-13.7	-16.3
Southerndown SSSI	-12.9	-12.7	-12.9	-12.8	-12.0	-5.4	-5.7	-4.7	-8.9	-5.6	-11.9
Old Castle Down SSSI	-13.4	-13.2	-13.3	-11.3	-7.9	-10.9	-17.6	-18.7	-15.7	-16.4	-11.1
Ewenny and Pant SSSI	-12.7	-11.7	-11.6	-12.1	-11.7	-9.5	-12.4	-12.2	-13.0	-12.5	-12.3
Clemenstone SSSI	-11.6	-11.8	-11.5	-10.1	-8.4	-6.8	-7.2	-7.2	-6.0	-7.2	-10.1
Blackmill Woods SSSI	-4.5	-6.6	-3.4	-7.2	-3.5	3.3	3.4	2.2	0.0	3.5	-6.1
Cwm Du Woods SSSI	-7.2	-6.9	-8.3	-8.5	-5.4	-22.5	-15.1	-21.1	-13.7	-20.4	-4.9
Cwm Cyffog SSSI	-5.5	-4.0	-4.8	-2.9	-4.0	13.1	3.4	7.7	2.4	6.4	-2.6

Table 5.77: 99.9 th Percentile 15-minute SO ₂ Process Contribution, i.e. impact of new configuration minus impact of existing configuration											
Receptors	Rhoose					St Athan					Port Talbot
	1993	1994	1995	1996	1997	2009	2010	2011	2012	2013	2012/13
Crymlyn Burrows SSSI	-10.0	-13.9	-14.4	-3.8	-15.0	-17.9	-28.1	-27.8	-29.0	-21.1	-12.2
Crymlyn Bog SSSI	-14.0	-12.3	-15.5	-16.1	-17.4	-8.9	-12.7	-13.3	-9.7	-19.2	-16.0
Blackpill SSSI	-2.8	-3.3	-3.0	-2.5	-3.9	9.6	8.6	5.9	7.5	6.8	-3.4
Bracelet Bay SSSI	-2.3	-3.6	-2.6	-5.4	-3.1	-10.6	-1.9	-4.8	-6.6	-4.4	-2.5
Langland Bay SSSI	-3.1	-3.6	-2.8	-4.0	-2.8	-2.0	-0.6	-0.6	-0.6	-1.8	-3.0
Caswell Bay SSSI	-3.5	-2.3	-3.4	-3.8	-2.3	-0.1	-1.2	-2.3	-2.9	-1.3	-2.7
Bishops Wood SSSI	-2.3	-2.6	-2.2	-2.8	-2.8	-2.5	-4.5	-3.3	-2.5	-2.7	-2.6
Pant y Sais SSSI	-9.7	-9.3	-11.1	-9.5	-6.9	-35.5	-31.8	-37.0	-38.4	-38.0	-6.6
Glais Moraine SSSI	-7.3	-6.8	-7.5	-6.5	-2.7	0.3	0.8	6.1	6.5	-2.7	-9.1
Penplas Grass SSSI	-7.1	-5.8	-7.3	-8.3	-6.5	5.4	-1.4	-2.1	-2.1	1.4	-9.7
Crymlyn Bog SAC	-9.7	-9.3	-11.1	-9.5	-6.9	-30.4	-24.1	-31.1	-30.7	-30.5	-6.6
Kenfig/Cynffig SAC 1	-17.2	-15.7	-17.6	-17.2	-14.8	-8.7	-14.3	-6.3	-6.4	-12.0	-15.9
Kenfig/Cynffig SAC 2	-15.7	-16.3	-15.8	-15.8	-20.4	-17.4	-17.3	-17.5	-17.1	-16.9	-16.3
Kenfig/Cynffig SAC 3	-16.5	-10.7	-23.4	-9.3	-9.0	2.8	-22.0	-6.4	-10.6	-6.1	-13.8
Cefn Cribwr SAC 1	-7.4	-7.5	-7.1	-7.8	-7.2	-25.3	-1.8	-25.0	-17.3	-9.9	-8.4
Cefn Cribwr SAC 2	-8.7	-13.2	-10.4	-12.7	-10.0	-13.8	-13.4	-13.9	-13.8	-17.1	-6.9
Cefn Cribwr SAC 3	-14.8	-14.8	-14.4	-14.9	-13.8	-10.9	-16.7	-16.4	-15.8	-14.8	-10.6
Crymlyn Bog RAMSAR	-9.7	-9.3	-11.1	-9.5	-6.9	-7.8	-0.6	-9.9	-8.9	-7.3	-6.6
Fforest Goch Bog	-2.8	-5.0	-5.1	-5.7	-4.2	13.2	10.5	13.2	18.3	9.4	-3.8
Kenfig/Cynffig SSSI	-16.5	-10.7	-23.4	-9.3	-9.0	-11.3	-38.0	-17.0	-23.0	-19.4	-13.8
Margam Moors SSSI	-29.5	-17.6	-22.1	-23.5	-20.5	-27.3	-35.8	-25.3	-36.6	-18.0	-15.2
Eglwys Nunydd Res	-19.2	-27.2	-23.7	-27.8	-18.9	-34.3	-30.7	-54.4	-38.9	-44.6	-20.7
Crymlyn Bog SSSI	-15.0	-16.4	-13.7	-15.4	-17.5	-0.8	15.0	1.0	15.0	19.5	-13.6
Merthyr Mawr SSSI	-17.2	-15.7	-17.6	-17.2	-14.8	-18.6	-15.2	-17.8	-17.4	-19.1	-15.9
Crymlyn Bog NNR	-9.7	-9.3	-11.1	-9.5	-6.9	-15.4	-10.4	-18.5	-18.2	-16.0	-6.6
Kenfig Poll & Dunes	-16.5	-10.7	-23.4	-9.3	-9.0	8.2	-21.8	2.6	0.3	-3.6	-13.8
Merthyr Mawr Warren	-14.7	-14.8	-14.8	-14.7	-14.8	-29.0	-5.3	-28.0	-19.0	-14.3	-16.0
Eaglebush Valley	-5.7	-7.8	-8.3	-8.3	-7.4	-16.5	-7.1	-10.8	-9.5	-5.9	-11.9
Kenfig Poll & Dunes	-16.5	-10.7	-23.4	-9.3	-9.0	8.5	-24.1	-5.6	-12.5	-13.4	-13.8
Lock's Common	-13.9	-12.5	-14.5	-12.5	-13.3	-16.0	6.3	-14.2	-5.1	-1.0	-14.6
Mumbles Hill	-4.3	-3.1	-3.3	-5.0	-2.7	-3.6	4.3	-0.5	-1.7	2.8	-3.0

Building Height Sensitivity Test

The dispersion modelling set out in the main air quality chapter for the assessment has been based on a stack height for the new boilers of 80 metres (2½ times the building height of 32 metres). This was based on the initial design of the boilers and the building which indicated that the apex of the building would be 32 metres. The original modelling was undertaken treating the building as if it had a flat rather than sloped roof at 32 metres. However, since the modelling was undertaken the height of the building has been increase from 32 to 35 metres (at its apex). In addition the length and the width of the building has changed, as presented in Table 5.78.

Table 5.78 Building characteristics				
Scenario	Source	Building Characteristics		
		Height (m)	Length (m)	Width (m)
Original	New boiler 8	32	45	23.3
	New boiler 9	32	45	23.3
Option 1	New boiler 8	35	60	32.5
	New boiler 9	35	60	32.5
Option 2 Phase 1	New boiler 8	35	60	45
Option 2 Phase 2	New boiler 8	35	60	45
	New boiler 9	35	60	20

To assess the significance of these changes to dispersion from the proposed stack the following sensitivity modelling was undertaken looking at the changes in annual NO₂, annual PM₁₀ and 15 minute 99.9th percentile SO₂ PCs (i.e. the modelled impact for the proposed new configuration minus the impact of the current configuration) between the original building layout and revised layout has been predicted based on the emissions at ELV and using the Rhoose 1997 meteorological data for consistency. The results of the modelling are presented in Table 5.79.

Table 5.79: Process Contribution, i.e. impact of new configuration minus impact of existing configuration

Configuration	Two new boilers, closure of									Intermediate - one new boiler,								
	Margam A, Margam B and Service Boilers and reduced flaring									reduced gas to Service Boilers and reduced flaring								
Pollutant	Annual average PM ₁₀			Annual average NO ₂			99.9 th %ile 15-min SO ₂			Annual average PM ₁₀			Annual average NO ₂			99.9 th %ile 15-min SO ₂		
Building dimensions	Original	Revised	Change	Original	Revised	Change	Original	Revised	Change	Original	Revised	Change	Original	Revised	Change	Original	Revised	Change
Talbot Court Nursing	-0.1	0.0	0.0	-0.2	-0.2	0.0	-23.1	-23.5	-0.4	0.0	0.0	0.0	0.0	0.0	0.0	12.6	12.6	0.0
25 Lower West End Rd	-0.1	-0.1	0.0	-0.4	-0.3	0.0	-66.5	-66.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	5.8	5.8	0.0
21 Duke Street	-0.6	-0.6	0.0	-2.4	-2.3	0.1	-172.7	-174.3	-1.7	0.1	0.1	0.0	0.3	0.3	0.0	10.3	10.3	0.0
Groeswen Park	-0.3	-0.3	0.0	-1.0	-0.9	0.1	-14.7	-3.9	10.8	0.1	0.1	0.0	0.4	0.4	0.0	12.8	12.8	0.0
40 Byass Street	-0.1	-0.1	0.0	-0.4	-0.4	0.0	-39.6	-39.6	0.1	0.0	0.0	0.0	0.1	0.1	0.0	16.2	15.2	-1.0
1 Ten Acre Wood	-0.1	-0.1	0.0	-0.5	-0.5	0.0	-5.4	-5.4	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	12.5	12.4	-0.1
1 Conduit Place	-0.1	-0.1	0.0	-0.2	-0.2	0.0	-14.4	-14.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	14.3	14.5	0.2
26 Curt Ucha Terrace	-0.1	-0.1	0.0	-0.2	-0.2	0.0	-38.6	-38.9	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	8.0	8.1	0.1
20 Kings Street	0.0	0.0	0.0	-0.1	-0.1	0.0	-12.4	-12.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.6	8.6	0.0
130a Water Street	0.0	0.0	0.0	-0.2	-0.2	0.0	-14.5	-14.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	5.1	5.1	0.0
Port Talbot Fire Stn	-0.2	-0.2	0.0	-0.8	-0.8	0.0	-48.8	-50.4	-1.6	0.0	0.0	0.0	0.1	0.1	0.0	22.4	21.3	-1.1
Dyffryn School	-0.1	-0.1	0.0	-0.4	-0.4	0.0	2.2	4.6	2.3	0.0	0.0	0.0	0.1	0.1	0.0	17.3	17.4	0.2
Twll-yn-y Wal Park	-0.3	-0.3	0.0	-0.9	-0.9	0.0	-21.2	-21.2	0.0	0.0	0.0	0.0	0.2	0.2	0.0	13.3	13.3	0.0
Theodore Road	0.0	0.0	0.0	-0.2	-0.2	0.0	-17.5	-17.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.4	15.6	0.2
Talbot Road	0.0	0.0	0.0	-0.1	-0.1	0.0	-25.3	-25.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.9	8.9	0.0
Little Warren	-0.1	-0.1	0.0	-0.2	-0.2	0.0	-14.1	-14.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0	6.8	6.8	0.0
Port Talbot Docks	-0.1	-0.1	0.0	-0.2	-0.2	0.0	-21.9	-21.9	0.0	0.0	0.0	0.0	0.1	0.1	0.0	6.6	6.5	-0.1
Prince Street	-0.5	-0.4	0.0	-1.8	-1.7	0.1	-113.9	-114.3	-0.4	0.0	0.0	0.0	0.2	0.2	0.0	24.2	24.2	0.0
Victoria Gardens	0.0	0.0	0.0	0.0	0.0	0.0	-6.8	-7.2	-0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.3	-0.2
Pontardawe Post Off	0.0	0.0	0.0	0.0	0.0	0.0	-4.5	-4.6	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.7	-0.3	-1.0
Old Fire Station	0.0	0.0	0.0	-0.2	-0.2	0.0	-17.6	-17.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	4.8	4.8	0.0
11 College Green	-0.1	-0.1	0.0	-0.4	-0.4	0.0	6.1	6.7	0.6	0.0	0.0	0.0	0.1	0.1	0.0	21.2	22.7	1.6
12 Lower West End Rd	-0.1	-0.1	0.0	-0.4	-0.4	0.0	-79.2	-79.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.6	9.6	0.0
Woodfield Street	-0.3	-0.2	0.0	-1.0	-1.0	0.0	-44.8	-43.2	1.6	0.0	0.0	0.0	0.1	0.1	0.0	114.6	114.6	0.0
Eastern Primary Sch	-0.2	-0.2	0.0	-0.6	-0.6	0.0	-5.5	-4.6	0.9	0.0	0.0	0.0	0.1	0.1	0.0	25.8	25.8	0.0
Groes Primary School	-0.1	-0.1	0.0	-0.4	-0.4	0.0	2.8	2.8	0.0	0.0	0.0	0.0	0.1	0.1	0.0	19.0	19.0	0.0
91 Talbot Road	-0.1	-0.1	0.0	-0.2	-0.2	0.0	-36.0	-36.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	8.6	8.6	0.0
74 Talbot Road	-0.1	-0.1	0.0	-0.2	-0.2	0.0	-35.3	-34.2	1.1	0.0	0.0	0.0	0.0	0.0	0.0	8.2	8.2	0.0
44 Abbey Road	-0.1	-0.1	0.0	-0.2	-0.2	0.0	-24.4	-24.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.6	15.0	0.4
9 Abbey Road	0.0	0.0	0.0	-0.2	-0.2	0.0	-17.4	-16.8	0.6	0.0	0.0	0.0	0.0	0.0	0.0	13.7	14.3	0.6
1 Abbey Road	0.0	0.0	0.0	-0.1	-0.1	0.0	-9.0	-9.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.4	12.6	0.2
Glen Afan Comp Sch	0.0	0.0	0.0	-0.1	-0.1	0.0	-17.1	-17.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	6.9	6.9	0.0
Dyffryn Comp Sch	0.0	0.0	0.0	-0.2	-0.2	0.0	-26.3	-25.2	1.0	0.0	0.0	0.0	0.0	0.0	0.0	10.6	10.6	0.0
Crymlyn Bog SAC	0.0	0.0	0.0	0.0	0.0	0.0	-17.4	-17.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8	2.9	0.2
Kenfig/Cynffig SAC	0.0	0.0	0.0	0.0	0.0	0.0	-15.1	-14.3	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Cefn Cribwr SAC	0.0	0.0	0.0	-0.1	-0.1	0.0	-5.8	-5.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.0



Blackmill Woods SAC	0.0	0.0	0.0	0.0	0.0	0.0	-3.5	-3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	1.4	0.0
Dunraven Bay SAC	0.0	0.0	0.0	0.0	0.0	0.0	-11.6	-11.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.0
Crymlyn Bog RAMSAR	0.0	0.0	0.0	0.0	0.0	0.0	-18.5	-18.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	2.1	0.0
Kenfig Pool NNR	0.0	0.0	0.0	0.0	0.0	0.0	-11.9	-12.4	-0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.4	-0.4
Merthyr Mawr NNR	0.0	0.0	0.0	0.0	0.0	0.0	-16.4	-16.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.0
Crymlyn Bog NNR	0.0	0.0	0.0	0.0	0.0	0.0	-17.1	-17.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	3.2	0.2
Kenfig Pool LNR	0.0	0.0	0.0	0.0	0.0	0.0	-15.8	-15.9	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Locks Common LNR	0.0	0.0	0.0	0.0	0.0	0.0	-13.2	-13.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.5	-0.5	0.0
Pant y Sais LNR	0.0	0.0	0.0	0.0	0.0	0.0	-6.9	-6.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.7	3.8	0.0
EaglesbushValley LNR	0.0	0.0	0.0	0.0	0.0	0.0	-7.5	-7.9	-0.4	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.3	-1.0
Frog Pond Wood LNR	0.0	0.0	0.0	-0.1	-0.1	0.0	-14.5	-14.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	2.2	0.0
Craig y Parciau LNR	0.0	0.0	0.0	0.0	0.0	0.0	-5.8	-5.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	2.6	0.0
Tremains Wood LNR	0.0	0.0	0.0	0.0	0.0	0.0	-7.7	-7.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.0
Margam Moors SSSI	0.0	0.0	0.0	-0.1	-0.1	0.0	-22.5	-22.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	4.0	-1.1
Eglwys Nunydd SSSI	0.0	0.0	0.0	-0.2	-0.2	0.0	-38.3	-38.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	-1.1	-1.1	0.0
Kenfig SSSI	0.0	0.0	0.0	0.0	0.0	0.0	-15.1	-14.3	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Waun Cimla SSSI	0.0	0.0	0.0	-0.1	-0.1	0.0	-5.4	-5.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.8	3.8	0.0
CaeauCefnCribrwr SSSI	0.0	0.0	0.0	-0.1	-0.1	0.0	-7.2	-7.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	1.9	0.0
Penycastell SSSI	0.0	0.0	0.0	-0.1	-0.1	0.0	-14.1	-14.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	1.4	0.0
Waun Fawr SSSI	0.0	0.0	0.0	-0.1	-0.1	0.0	-10.2	-10.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.2	3.2	0.0
Bryn-Bach SSSI	0.0	0.0	0.0	-0.1	-0.1	0.0	-5.7	-5.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.0
CwmRisca Meadow SSSI	0.0	0.0	0.0	-0.1	-0.1	0.0	-4.6	-4.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.5	0.0
Merthyr Mawr SSSI	0.0	0.0	0.0	0.0	0.0	0.0	-20.4	-20.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.8	-0.8	0.0
Southerndown SSSI	0.0	0.0	0.0	0.0	0.0	0.0	-12.0	-12.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.0
Old Castle Down SSSI	0.0	0.0	0.0	0.0	0.0	0.0	-7.9	-7.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	1.9	0.0
Ewenny and Pant SSSI	0.0	0.0	0.0	0.0	0.0	0.0	-11.7	-11.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.5	-0.5	0.0
Clemenstone SSSI	0.0	0.0	0.0	0.0	0.0	0.0	-8.4	-8.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.0
Blackmill Woods SSSI	0.0	0.0	0.0	0.0	0.0	0.0	-3.5	-3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	1.4	0.0
Cwm Du Woods SSSI	0.0	0.0	0.0	0.0	0.0	0.0	-5.4	-5.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.2	5.2	0.0
Cwm Cyffog SSSI	0.0	0.0	0.0	0.0	0.0	0.0	-4.0	-4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	2.1	0.0
Crymlyn Burrows SSSI	0.0	0.0	0.0	-0.1	-0.1	0.0	-15.0	-15.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8	2.8	0.0
Crymlyn Bog SSSI	0.0	0.0	0.0	0.0	0.0	0.0	-17.4	-17.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8	2.9	0.2
Blackpill SSSI	0.0	0.0	0.0	0.0	0.0	0.0	-3.9	-3.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	1.8	0.0
Bracelet Bay SSSI	0.0	0.0	0.0	0.0	0.0	0.0	-3.1	-3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.2	0.0
Langland Bay SSSI	0.0	0.0	0.0	0.0	0.0	0.0	-2.8	-2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	1.3	0.0
Caswell Bay SSSI	0.0	0.0	0.0	0.0	0.0	0.0	-2.3	-2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.8	0.0
Bishops Wood SSSI	0.0	0.0	0.0	0.0	0.0	0.0	-2.8	-2.8	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.7	0.0
Pant y Sais SSSI	0.0	0.0	0.0	0.0	0.0	0.0	-6.9	-6.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.7	3.8	0.0
Glais Moraine SSSI	0.0	0.0	0.0	0.0	0.0	0.0	-2.7	-2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.2
Penplas Grass SSSI	0.0	0.0	0.0	0.0	0.0	0.0	-6.5	-6.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0

Crymlyn Bog SAC	0.0	0.0	0.0	0.0	0.0	0.0	-6.9	-6.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.7	3.8	0.0
Kenfig/Cynffig SAC 1	0.0	0.0	0.0	0.0	0.0	0.0	-14.8	-14.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
Kenfig/Cynffig SAC 2	0.0	0.0	0.0	0.0	0.0	0.0	-20.4	-20.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.8	-0.8	0.0
Kenfig/Cynffig SAC 3	0.0	0.0	0.0	0.0	0.0	0.0	-9.0	-9.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	2.2	0.0
Cefn Cribwr SAC 1	0.0	0.0	0.0	-0.1	-0.1	0.0	-7.2	-7.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7	2.3	-0.4
Cefn Cribwr SAC 2	0.0	0.0	0.0	-0.1	-0.1	0.0	-10.0	-10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.2	3.2	0.0
Cefn Cribwr SAC 3	0.0	0.0	0.0	-0.1	-0.1	0.0	-13.8	-13.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	1.4	0.0
Crymlyn Bog RAMSAR	0.0	0.0	0.0	0.0	0.0	0.0	-6.9	-6.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.7	3.8	0.0
Fforest Goch Bog	0.0	0.0	0.0	0.0	0.0	0.0	-4.2	-5.0	-0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.4	-0.4	-0.8
Kenfig/Cynffig SSSI	0.0	0.0	0.0	0.0	0.0	0.0	-9.0	-9.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	2.2	0.0
Margam Moors SSSI	0.0	0.0	0.0	-0.1	-0.1	0.0	-20.5	-21.1	-0.7	0.0	0.0	0.0	0.0	0.0	0.0	9.3	7.4	-1.9
Eglwys Nunydd Res	-0.1	-0.1	0.0	-0.3	-0.3	0.0	-18.9	-18.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0	7.0	0.0
Crymlyn Bog SSSI	0.0	0.0	0.0	0.0	0.0	0.0	-17.5	-17.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	4.4	4.4	0.0
Merthyr Mawr SSSI	0.0	0.0	0.0	0.0	0.0	0.0	-14.8	-14.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0
Crymlyn Bog NNR	0.0	0.0	0.0	0.0	0.0	0.0	-6.9	-6.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.7	3.8	0.0
Kenfig Poll & Dunes	0.0	0.0	0.0	0.0	0.0	0.0	-9.0	-9.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	2.2	0.0
Merthyr Mawr Warren	0.0	0.0	0.0	0.0	0.0	0.0	-14.8	-14.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	-0.3	0.0
Eaglebush Valley	0.0	0.0	0.0	0.0	0.0	0.0	-7.4	-7.8	-0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.0
Kenfig Poll & Dunes	0.0	0.0	0.0	0.0	0.0	0.0	-9.0	-9.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	2.2	0.0
Lock's Common	0.0	0.0	0.0	0.0	0.0	0.0	-13.3	-13.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.2	0.0
Mumbles Hill	0.0	0.0	0.0	0.0	0.0	0.0	-2.7	-2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.5	0.0

When comparing the original modelling to the Option 1 scenario (two new boilers and closure of the four old boilers and reduced flaring):

- A maximum increase in annual average PM₁₀ concentrations occurs at Groeswen Park where the PC changes from -0.30 µg/m³ to -0.28 µg/m³ (a 0.012 µg/m³ decrease in the originally predicted improvement)
- A maximum increase in annual average NO₂ concentrations occurs at Groeswen Park where the PC changes from -0.98 µg/m³ to -0.90 µg/m³ (a by 0.08 µg/m³ decrease in the originally predicted improvement)
- For SO₂, the maximum increase in the 99.9th percentile of 15-minute averages is 10.8 µg/m³ (from a decrease of 14.7 µg/m³ with the original building to a decrease of 3.9 µg/m³ with the revised building dimensions) at Groeswen Park. For those cases where there was predicted to be an increase in short-term SO₂ with the new proposal, the maximum change is from an increase of 2.2 µg/m³ (0.82% of the AQS) to an increase of 4.6 µg/m³ (1.73% of the AQS). The proposed change will therefore still remain well below the H1 screening level of 10% change and can be considered non significant.

When comparing the original modelling to the Option 2, Phase 1 scenario (one new boiler, reduced gas to the Service Boilers and reduced flaring), the difference between the modelling results already submitted (with the 32 metre building) and those with the revised building dimensions is:

- A maximum increase in annual average PM_{10} concentrations occurs at Groeswen Park where the PC changes from $0.055 \mu\text{g}/\text{m}^3$ (0.14% of the annual PM_{10} AQS and 0.22% of the $PM_{2.5}$ AQS) to $0.058 \mu\text{g}/\text{m}^3$ (0.15% of the annual PM_{10} AQS and 0.23 of the $PM_{2.5}$ AQS), an increase of $0.003 \mu\text{g}/\text{m}^3$ with the resultant PC still well below the H1 screening level of 1%.
- A maximum increase in annual average NO_2 concentrations occurs at Groeswen Park where the PC changes from $0.36 \mu\text{g}/\text{m}^3$ (0.90% of the AQS) to $0.38 \mu\text{g}/\text{m}^3$ (0.95% of the AQS), an increase of $0.02 \mu\text{g}/\text{m}^3$ with the resultant PC still below the H1 screening level of 1%.
- For SO_2 , the maximum increase in the 99.9th percentile of 15-minute averages is $1.6 \mu\text{g}/\text{m}^3$ (from the originally predicated concentration of $21.2 \mu\text{g}/\text{m}^3$ (7.97% of the AQS) with the original building to $22.7 \mu\text{g}/\text{m}^3$ (8.53% of the AQS) with the revised building dimensions for Phase 2, Option 1) at 11 College Green. The resultant PC remains below the H1 screening level of 10%.

In both cases, the impact for short-term SO_2 may be lower at some receptors with the revised building dimensions. Based on the result presented in Table 5.79 the revised building dimensions do not make a significant change to the predicted PC at the modelled receptors included within the main chapter. As noted previously, the original modelling had been based on a worst-case assumption that the building had a flat roof, likewise the sensitivity modelling has also assumed that the building has a flat roof, where as in reality the building has sloped roof. As such the dispersion modelling undertaken is considered to represent a worst-case assumption when considering building dimensions.