Annex 17.1

Air Quality: Detailed Methodology and Results

(ERM)

1   *FURTHER DETAILS ON METHODOLOGY*

1.1   OVERVIEW

1.1.1   In addition to the summary methodology set out in the main report, further details of the base data and methodology used to derive the emissions utilised in the assessment are set out here.

1.2   SHIPPING

1.2.1   Emissions were derived for existing shipping in the Humber Estuary and the additional vessels generated by the AMEP operations. The following process was used to estimate emissions from vessels:

- Step 1. Existing shipping movements in the Humber Estuary were derived from the Department for Transport (2010) and cited previously by ERM.

- Step 2. Shipping emissions associated with the AMEP were derived from information provided by Able.

- Step 3. Emissions of NO_x, VOCs, CO_2, particulate matter and SO_2 were derived from emission factors set out in the COMPASS document (European Commission, 2010). These emissions are set pout on the basis of kg pollutant per tonne vessel per kilometre. Assumptions were made as to the types of vessels currently using the Humber in order to derive existing emissions. Data were provided on the predicted tonnage of shipping associated with the AMEP; this was used to derive emissions for the AMEP associated shipping.

- Step 4. In order to model the shipping emissions, it is necessary to define a series of line sources that represent ships moving through the estuary. Work previously undertaken by ERM on behalf of Able identified shipping route densities in the Humber, and these were used as the basis to define as a series of routes in the Estuary. Line sources were then defined for the model on the basis of these routes; it was necessary to reduce the total number of sources in order to reasonably incorporate these into the model. This is illustrated in *Annex 17.1 Figure 17.1*.

- Step 5. Emissions were therefore defined for each line source depending upon the tonnage of existing and AMEP shipping.

1.2.2   Models were undertaken for 'Do Nothing' which reflected existing shipping movements and 'Do Something' which reflected the existing shipping movements added to the AMEP associated shipping. The delta was then used to define the Process Contribution of shipping emissions. This approach was used as the 'Do Nothing' could be usefully compared to monitored baseline to validate the model to some extent.

1.2.3   *Table A17.1* sets out the emission factors and shipping tonnage used in the model.

Table A17.1   *Emission factors for shipping*

Pollutant	Emissions (kg pollutant/ton/km)
Volatile Organic Compounds	0.00001
Carbon dioxide	0.01693
Oxides of nitrogen	0.00035
Sulphur dioxide	0.00014
Particulate matter	0.00002
Vessel movements – existing shipping	
2007	92,634,000 tonnes/year
2008	91,010,000 tonnes/year
2009	76,676,000 tonnes/year
Average	86,773,000 tonnes/year
Vessel movements – MEP shipping	3,254,600 tonnes/year

1.3   MAIN SITE

Overview

1.3.1   The emissions arising from the main site were split into two elements: emissions arising from the spray painting of turbine components and emissions from trains accessing the site.

Spray painting emissions

1.3.2   Emissions of Volatile Organic Compounds were assumed to arise from the spray paining of components. Emissions were calculated on the basis of estimated surface areas of components painted, and emission factors derived from the United States Environmental Protection Agency (USEPA) AP-42 document. AP-42 describes emissions of VOCs from 'large appliances' in the following terms:

Emission of VOC = 2.09×10^{-6} x area coated x $(75/(100/75))$ * $(1/0.9)$

1.3.3   Emissions of VOCs were therefore calculated on the basis of this emission factor, and from calculations of the surface area of the components to be spray painted. The derivation of emissions is set out in *Table A17.2*.

Table A17.1   Derivation of main site emissions

Parameter			
Towers		http://www.bwea.com/pdf/Wind-Energy-and-aviation-interim-guidelines.pdf	
	Tower height	85	m
	tower diameter base	4.3	m
	tower diameter top	2.7	m
	average	3.5	m
	circumference (average)	11.0	m
	area	935	m2
	area	10060.21	ft2
emissions of VOC	0.021025833	tonnes/tower	
number of towers	200	towers/year	
	4.205166524	tonnes VOC/year for towers	
	0.133	g/s	
Blades			
fibreglass epoxy resin			
surface area (estimated) for 70m blade (2m in average width, double sided)	280	m2	
	3013.894912	ft2	
emissions of VOC	0.00629904	tonnes/blade	
number of towers	600	blades/year	
	3.77942422	tonnes VOC/year for blades	
	0.120	g/s	
Nacelles	for 100m hub turbine	http://192.107.92.31/test/owemes/26.doc	
dimensions of nacelle			
height	6	m	
width	6	m	
length	24	m	
Surface area	648	m2	
	6975	ft2	
emissions of VOC	0.014577779	tonnes/nacelle	
number of towers	900	nacelles/year	
	13.12000122	tonnes VOC/year for nacelles	
	0.416	g/s	
Total VOC emissions	**21.1**	**tonnes VOCs/annum**	

1.3.4 On the basis of the data set out in *Table A17.3*, emissions data have been derived, as set out in *Table 1.6*. Where additional data sources have been utilised to derive further parameters, these are set out in the notes column.

Table A17.2 Model parameters for spray painting

Towers	Value	Units	Notes
Height	23	m	maximum building height +3m (minimum recommended heights from D1)
Diameter	0.419	m	*calculated*
velocity	15	m/s	assumed from D1 (minimum exit velocity for large plant)
temperature	150	Celsius	assumed fromAP42
VOCs	0.133	g/s	*calculated*
VOC emission limit	100	mg/Nm3	assumed from process guidance note: http://www.defra.gov.uk/environment/quality/pollution/ppc/localauth/pubs/guidance/notes/pgnotes/documents/pg6-07.pdf
Volume flow rate	1.33	Nm3/s	*calculated*
Volume flow rate	2.1	Am3/s	*calculated*
Blades			
Height	23	m	maximum building height +3m (minimum recommended heights from D1)
Diameter	0.397	m	*calculated*
velocity	15	m/s	assumed from D1 (minimum exit velocity for large plant)
temperature	150	Celsius	assumed fromAP42
VOCs	0.120	g/s	*calculated*
VOC emission limit	100	mg/Nm3	assumed from process guidance note: http://www.defra.gov.uk/environment/quality/pollution/ppc/localauth/pubs/guidance/notes/pgnotes/documents/pg6-07.pdf
Volume flow rate	1.20	Nm3/s	*calculated*
Volume flow rate	1.9	Am3/s	*calculated*
Nacelles			
Height	23	m	maximum building height +3m (minimum recommended heights from D1)
Diameter	0.740	m	*calculated*
velocity	15	m/s	assumed from D1 (minimum exit velocity for large plant)
temperature	150	Celsius	assumed from AP42
VOCs	0.416	g/s	*calculated*
VOC emission limit	100	mg/Nm3	assumed from process guidance note: http://www.defra.gov.uk/environment/quality/pollution/ppc/localauth/pubs/guidance/notes/pgnotes/documents/pg6-07.pdf
Volume flow rate	4.16	Nm3/s	*calculated*
Volume flow rate	6.4	Am3/s	*calculated*

Rail emissions

1.3.5   The emissions from trains accessing the site were derived from emission factors set out by the Strategic Rail Authority (Strategic Rail Authority (2001) Rail Emission Model for the Class 66). The derivation of emissions and model inputs are set out in *Table A17.4*.

Table A17.3 Emissions from rail sources

Emission factors	Class 66 loco	g/unit/km/train movement		
	NO_x	*120*		
	SO_2	*24.4*		
	PM_{10}	*2.9*		
	1 unit per train			
Emission rates				
	NO_x	per train	0.12	g/m
		annual total	60	g/m/year
	SO_2	per train	0.0244	g/m
		annual total	12.2	g/m/year
	PM_{10}	per train	0.0029	g/m
		annual total	1.45	g/m/year
Emission period	Total trains	weekdays	2	per day
		weekend	0	on a Saturday
			500	trains per year
Model inputs	Height		3.5	m
	Velocity		10	m/s
	Temperature		200	Celsius
	Line source width		0.3	m
	NO_x		1.9×10^{-6}	g/m/s
	SO_2		3.9×10^{-7}	g/m/s
	PM_{10}		4.6×10^{-8}	g/m/s

1.4   ROAD EMISSIONS

1.4.1   The road model inputs are set out in *Table A17.5*.

Table A17.4   Road model inputs

Road	Road link	Operational				Construction				Road width	Speed
		Do nothing		Do something		Do nothing		Do something		m	kph
		LGV	HGV	LGV	HGV	LGV	HGV	LGV	HGV	a	a
M180	West of M180 J5	1294	337	1404	338	1294	337	1307	338	35	112
A180	East of M180 J5	1122	339	1268	340	1122	339	1136	340	23	112
A15	North of M180 J5	832	48	868	48	832	48	834	48	23	96
A18	South of M180 J5	696	35	696	35	696	35	696	35	14	96
A160	South of K	514	265	660	266	514	265	529	267	11	96
A1077 Ulceby Rd	West of K	91	35	129	35	91	35	93	35	8	96
A160	Between K and D	523	277	707	278	523	277	540	279	8	96
A160	Between D and L	357	292	541	293	357	292	374	293	16	96
A160	Between L and E	307	166	491	167	307	166	324	167	16	96
Humber Rd	Between E and C	244	219	586	220	244	219	279	220	16	96
Rosper Rd	North of C	157	74	500	75	157	74	192	75	8	96
Access Rd	East of Rosper Rd	0	0	343	1	0	0	35	2	5	96
Humber Rd	East of C	171	170	172	170	171	170	171	170	9	96
A1173	South of E	379	94	537	94	379	94	396	94	15	112
A1173	North of A	379	94	537	94	379	94	396	94	8	64
Manby Rd	South of A	106	12	154	12	106	12	112	12	8	48
A1173	East of A	385	73	496	73	385	73	398	73	10	64
A1173	North of G	385	73	385	73	385	73	385	73	8	48
A1173	Between G and H	419	50	529	50	419	50	431	50	8	96

Road	Road link	Operational				Construction				Road width	Speed
North Moss Lane	East of H	333	116	335	116	333	116	333	116	8	64
A1173	Between H and I	685	95	793	95	685	95	697	95	8	96
A180	Between I and J	1099	97	1207	97	1099	97	1111	97	20	112

2   *ADDITIONAL AMBIENT AIR QUALITY DATA*

2.1.1   In addition to the summary of the baseline data set out in *Table A17.6*, Table A17.9 sets out additional NO$_2$ air quality monitoring data within North Lincolnshire District. The results are from the NLDC diffusion tube survey. These data are for locations potentially impacted by emissions from the AMEP site or traffic accessing the AMEP site.

TableA17.6   Summary of relevant air quality monitoring from NLDC

Site	Year	NO$_2$ (μg/m^3) Ratified	NO$_2$ (μg/m^3) Non-Ratified	Period
Humber Road, Chip shop	2011		38	Jan-Mar
	2010		36	Annual
	2009	24	35	Annual
	2008	30	34	Annual
Humber Road, LP 695	2011		53	Jan-Mar
	2010		46	Annual
	2009	29	41	Annual
	2008	37	41	Annual
Killingholme 1 Humber Road	2010/11		42	May-Aug, Oct 2010
Killingholme 2 Humber Road	2010/11		38	May-Aug, Oct 2010
Killingholme 3 Humber Road	2010/11		33	May-Oct 2010
Killingholme 4 Humber Road	2010/11		66	May 2010-Mar2011
Killingholme 5 Humber Road	2010/11		55	May 2010-Mar2011
Killingholme 6 Town Street	2010/11		44	Aug-Oct 2010, Dec. 2010-Mar 2011

2.1.2   The data are presented as ratified data, meaning that the results have been corrected on the basis of national survey results, and unratified, or raw, data. It should be noted that where ratified and unratified data are available, the raw monitoring data is overestimating impacts, by 31 percent in 2009 and 10 percent in 2008. Therefore some caution should be exercised in interpreting unratified data as these may be substantially overestimated.

2.1.3   These data are obtained from roadside sites, in the case of Killingholme 4 and 5, these sites are immediately adjacent to the A160, Humber Road

and therefore overestimate pollutant concentrations at actual receptors adjacent to the road.

2.1.4   The data suggest that at some roadside locations the NO_2 annual mean air quality standard may be approached or exceeded.

3 RECEPTOR LOCATIONS

3.1.1   *Table A17.7* sets out the locations of receptors utilised in the modelling. Receptors HR1 to HR17 represent receptors in the vicinity of the site itself; receptors HRH1 to HRH79 represent receptors in the proximity of roads used to access the proposed development.

A17.7   ***Sensitive receptor locations***

Ref	X	Y	Name
HR_1	515307	418775	
HR_2	514427	418212	old vicarage
HR_3	514650	418797	Fairfield (Brick Lane)
HR_4	514407	419071	Scrub Lane
HR_5	514394	419346	Swinster Lane
HR_6	514091	419851	Lease Farm
HR_7	514066	420301	The Willows Farm
HR_8	514463	417708	Manor Farm - N Killingholme
HR_9	514758	417330	Nicholson Road - N Killingholme
HR_10	514695	416772	Westfield Farm
HR_11	515312	416292	Community Centre - S Killingholme
HR_12	515649	415824	Cow Farm
HR_13	516331	415721	East End Farm
HR_14	517233	416783	Fire Station (south of site)
HR_15	516500	418185	Rosper Road
HR_16	517341	418344	Onsite building
HR_17	517801	415361	Church Field House - Immingham
RHR_1	514620	415948	
RHR_2	514604	415940	
RHR_3	514587	415933	
RHR_4	514571	415925	
RHR_5	514380	415873	
RHR_6	514350	415865	
RHR_7	513720	415474	
RHR_8	514793	415893	
RHR_9	514816	415898	
RHR_10	514847	415900	
RHR_11	514827	416004	
RHR_12	514842	416011	
RHR_13	514862	416019	
RHR_14	514881	416028	
RHR_15	514902	416034	
RHR_16	514921	416042	
RHR_17	514942	416051	

Ref	X	Y	Name
RHR_18	514962	416059	
RHR_19	514980	416067	
RHR_20	515017	416054	
RHR_21	515050	416082	
RHR_22	515089	416078	
RHR_23	515094	416095	
RHR_24	515110	416112	
RHR_25	515208	416118	
RHR_26	515026	415998	
RHR_27	515186	416048	
RHR_28	515212	416049	
RHR_29	515239	416057	
RHR_30	515268	416065	
RHR_31	515033	415961	
RHR_32	515019	415962	
RHR_33	515006	415953	
RHR_34	515331	416055	
RHR_35	515349	416061	
RHR_36	515357	416068	
RHR_37	515229	416157	
RHR_38	515464	416102	
RHR_39	515477	416107	
RHR_40	515488	416109	
RHR_41	515514	416117	
RHR_42	515502	416114	
RHR_43	515547	416119	
RHR_44	515559	416135	
RHR_45	515491	414162	
RHR_46	515089	414248	
RHR_47	515074	415978	
RHR_48	515146	415999	
RHR_49	515211	416009	
RHR_50	515195	416022	
RHR_51	515243	416022	
RHR_52	515255	416032	
RHR_53	515152	416009	
RHR_54	515296	416052	
RHR_55	515305	416048	
RHR_56	515286	416036	
RHR_57	515065	416098	
RHR_58	514997	416082	
RHR_59	515001	416081	
RHR_60	515008	416083	
RHR_61	515022	416089	
RHR_62	515089	416109	
RHR_63	515201	416125	
RHR_64	517334	417313	
RHR_65	517337	418351	
RHR_66	517778	418446	
RHR_67	517232	416783	
RHR_68	516511	418179	
RHR_69	515267	414045	
RHR_70	515264	414028	

Ref	X	Y	Name
RHR_71	515250	414029	
RHR_72	515225	414014	
RHR_73	515416	414303	
RHR_74	515505	414307	
RHR_75	515482	414422	
RHR_76	515474	414447	
RHR_77	515446	414585	
RHR_78	515427	414330	
RHR_79	516187	419838	

4   DETAILED RESULTS

Operational phase- road traffic impacts

4.1.1   The detailed results of the roads modelling are set out in *Table A17.8* to
             Table A17.12. These data refer to the seventy-nine sensitive human
             receptors identified in the vicinity of the roads assessed. The results are
             the maximum of any of the five years assessed.

Table A47.8Detailed results of traffic modelling, NO₂ annual mean

Receptor	PEC Do Nothing	PEC Do Something	Difference	Magnitude	PEC Do Something/ AQS	Significance
	µg/m³	µg/m³	%		%	
AQS µg/m³	40					
Baseline µg/m³	18.0					
1	23.2	23.3	0.47%	Imperceptible	58.2%	Not Significant
2	23.2	23.3	0.47%	Imperceptible	58.2%	Not Significant
3	23.1	23.2	0.46%	Imperceptible	58.0%	Not Significant
4	23.1	23.2	0.46%	Imperceptible	57.9%	Not Significant
5	22.1	22.2	0.29%	Imperceptible	55.4%	Not Significant
6	22.0	22.1	0.27%	Imperceptible	55.2%	Not Significant
7	21.6	21.7	0.22%	Imperceptible	54.2%	Not Significant
8	21.7	21.8	0.24%	Imperceptible	54.5%	Not Significant
9	21.8	21.8	0.24%	Imperceptible	54.5%	Not Significant
10	21.7	21.8	0.23%	Imperceptible	54.4%	Not Significant
11	23.2	23.3	0.46%	Imperceptible	58.2%	Not Significant
12	22.9	23.0	0.42%	Imperceptible	57.5%	Not Significant
13	22.7	22.8	0.38%	Imperceptible	57.0%	Not Significant
14	22.6	22.6	0.36%	Imperceptible	56.6%	Not Significant

Receptor	PEC Do Nothing	PEC Do Something	Difference	Magnitude	PEC Do Something/ AQS	Significance
15	22.5	22.6	0.35%	Imperceptible	56.5%	Not Significant
16	22.5	22.5	0.34%	Imperceptible	56.3%	Not Significant
17	22.4	22.5	0.33%	Imperceptible	56.2%	Not Significant
18	22.3	22.4	0.33%	Imperceptible	56.0%	Not Significant
19	22.3	22.4	0.32%	Imperceptible	55.9%	Not Significant
20	22.8	22.9	0.40%	Imperceptible	57.3%	Not Significant
21	22.4	22.5	0.33%	Imperceptible	56.2%	Not Significant
22	22.7	22.8	0.39%	Imperceptible	57.1%	Not Significant
23	22.4	22.5	0.34%	Imperceptible	56.2%	Not Significant
24	22.2	22.3	0.31%	Imperceptible	55.7%	Not Significant
25	22.6	22.7	0.37%	Imperceptible	56.7%	Not Significant
26	23.2	23.4	0.54%	Imperceptible	58.4%	Not Significant
27	23.5	23.6	0.57%	Imperceptible	59.0%	Not Significant
28	22.9	23.0	0.48%	Imperceptible	57.5%	Not Significant
29	22.9	23.0	0.49%	Imperceptible	57.5%	Not Significant
30	22.8	22.9	0.50%	Imperceptible	57.4%	Not Significant
31	21.9	22.0	0.26%	Imperceptible	55.0%	Not Significant
32	22.0	22.1	0.28%	Imperceptible	55.2%	Not Significant
33	21.9	22.0	0.27%	Imperceptible	55.0%	Not Significant
34	22.0	22.1	0.28%	Imperceptible	55.1%	Not Significant
35	22.0	22.1	0.29%	Imperceptible	55.2%	Not Significant
36	22.1	22.1	0.29%	Imperceptible	55.4%	Not Significant
37	22.1	22.2	0.29%	Imperceptible	55.4%	Not Significant
38	22.1	22.2	0.31%	Imperceptible	55.4%	Not Significant

Receptor	PEC Do Nothing	PEC Do Something	Difference	Magnitude	PEC Do Something/ AQS	Significance
39	22.1	22.2	0.31%	Imperceptible	55.5%	Not Significant
40	22.1	22.2	0.30%	Imperceptible	55.4%	Not Significant
41	22.1	22.2	0.30%	Imperceptible	55.4%	Not Significant
42	22.1	22.2	0.31%	Imperceptible	55.5%	Not Significant
43	22.0	22.0	0.27%	Imperceptible	55.1%	Not Significant
44	22.2	22.3	0.31%	Imperceptible	55.7%	Not Significant
45	20.8	20.9	0.049%	Imperceptible	52.1%	Not Significant
46	20.9	20.9	0.053%	Imperceptible	52.2%	Not Significant
47	22.0	22.1	0.28%	Imperceptible	55.2%	Not Significant
48	22.0	22.1	0.28%	Imperceptible	55.1%	Not Significant
49	21.9	21.9	0.26%	Imperceptible	54.8%	Not Significant
50	22.1	22.2	0.30%	Imperceptible	55.5%	Not Significant
51	21.9	22.0	0.26%	Imperceptible	54.9%	Not Significant
52	22.0	22.1	0.28%	Imperceptible	55.1%	Not Significant
53	22.1	22.2	0.29%	Imperceptible	55.5%	Not Significant
54	22.1	22.2	0.30%	Imperceptible	55.5%	Not Significant
55	22.0	22.1	0.29%	Imperceptible	55.2%	Not Significant
56	21.9	22.0	0.27%	Imperceptible	54.9%	Not Significant
57	22.2	22.3	0.31%	Imperceptible	55.7%	Not Significant
58	22.2	22.2	0.30%	Imperceptible	55.6%	Not Significant
59	22.2	22.3	0.30%	Imperceptible	55.7%	Not Significant
60	22.2	22.3	0.30%	Imperceptible	55.7%	Not Significant
61	22.2	22.2	0.30%	Imperceptible	55.6%	Not Significant
62	22.2	22.2	0.30%	Imperceptible	55.6%	Not Significant

Receptor	PEC Do Nothing	PEC Do Something	Difference	Magnitude	PEC Do Something/ AQS	Significance
63	22.4	22.5	0.34%	Imperceptible	56.2%	Not Significant
64	20.8	21.0	0.90%	Imperceptible	52.4%	Not Significant
65	20.5	20.6	0.42%	Imperceptible	51.5%	Not Significant
66	20.5	20.5	0.10%	Imperceptible	51.2%	Not Significant
67	23.5	24.1	2.3%	Small	60.2%	Not Significant
68	20.9	21.1	0.98%	Imperceptible	52.7%	Not Significant
69	20.8	20.9	0.048%	Imperceptible	52.1%	Not Significant
70	20.8	20.9	0.048%	Imperceptible	52.1%	Not Significant
71	20.8	20.9	0.048%	Imperceptible	52.1%	Not Significant
72	20.8	20.9	0.048%	Imperceptible	52.1%	Not Significant
73	20.9	20.9	0.052%	Imperceptible	52.2%	Not Significant
74	20.9	20.9	0.052%	Imperceptible	52.2%	Not Significant
75	20.9	20.9	0.054%	Imperceptible	52.2%	Not Significant
76	20.9	20.9	0.054%	Imperceptible	52.2%	Not Significant
77	20.9	20.9	0.056%	Imperceptible	52.2%	Not Significant
78	20.9	20.9	0.052%	Imperceptible	52.2%	Not Significant
79	20.5	20.5	-0.004%	Imperceptible	51.2%	Not Significant

Table A47.9 Detailed results of traffic modelling, NO$_2$ 99.7th percentile of 1 hour means

Receptor	PEC Do Nothing	PEC Do Something	Difference	Magnitude	PEC Do Some-thing/ AQS	Significance
	µg/m³	µg/m³	%		%	
AQS µg/m³	200					
Baseline µg/m³	36.0					
1	103.0	103.2	0.22%	Imperceptible	51.6%	Not Significant
2	103.0	103.2	0.22%	Imperceptible	51.6%	Not Significant
3	102.7	102.9	0.21%	Imperceptible	51.5%	Not Significant
4	102.7	102.9	0.21%	Imperceptible	51.4%	Not Significant
5	100.5	100.7	0.15%	Imperceptible	50.3%	Not Significant
6	100.4	100.4	0.043%	Imperceptible	50.2%	Not Significant
7	99.9	100.0	0.11%	Imperceptible	50.0%	Not Significant
8	100.8	100.9	0.065%	Imperceptible	50.4%	Not Significant
9	100.7	100.8	0.065%	Imperceptible	50.4%	Not Significant
10	100.7	100.8	0.061%	Imperceptible	50.4%	Not Significant
11	103.4	103.6	0.16%	Imperceptible	51.8%	Not Significant
12	102.9	103.1	0.18%	Imperceptible	51.5%	Not Significant
13	102.2	102.4	0.18%	Imperceptible	51.2%	Not Significant
14	101.6	101.8	0.16%	Imperceptible	50.9%	Not Significant
15	101.4	101.5	0.15%	Imperceptible	50.8%	Not Significant
16	101.1	101.3	0.14%	Imperceptible	50.6%	Not Significant
17	101.0	101.1	0.14%	Imperceptible	50.5%	Not Significant
18	100.8	101.0	0.13%	Imperceptible	50.5%	Not Significant
19	100.7	100.9	0.13%	Imperceptible	50.4%	Not Significant
20	102.1	102.2	0.18%	Imperceptible	51.1%	Not Significant

Receptor	PEC Do Nothing	PEC Do Something	Difference	Magnitude	PEC Do Something/ AQS	Significance
21	100.9	101.1	0.13%	Imperceptible	50.5%	Not Significant
22	101.8	102.0	0.17%	Imperceptible	51.0%	Not Significant
23	100.9	101.1	0.13%	Imperceptible	50.5%	Not Significant
24	100.5	100.6	0.12%	Imperceptible	50.3%	Not Significant
25	101.5	101.6	0.15%	Imperceptible	50.8%	Not Significant
26	103.2	103.3	0.13%	Imperceptible	51.7%	Not Significant
27	103.5	103.5	0.0029%	Imperceptible	51.7%	Not Significant
28	102.7	103.2	0.52%	Imperceptible	51.6%	Not Significant
29	102.6	103.2	0.58%	Imperceptible	51.6%	Not Significant
30	102.4	103.1	0.69%	Imperceptible	51.5%	Not Significant
31	100.3	100.4	0.062%	Imperceptible	50.2%	Not Significant
32	100.5	100.5	0.063%	Imperceptible	50.3%	Not Significant
33	100.4	100.4	0.059%	Imperceptible	50.2%	Not Significant
34	100.7	100.8	0.16%	Imperceptible	50.4%	Not Significant
35	100.8	100.9	0.16%	Imperceptible	50.5%	Not Significant
36	101.0	101.1	0.17%	Imperceptible	50.6%	Not Significant
37	100.2	100.3	0.13%	Imperceptible	50.1%	Not Significant
38	100.9	101.1	0.18%	Imperceptible	50.5%	Not Significant
39	101.0	101.2	0.18%	Imperceptible	50.6%	Not Significant
40	101.0	101.2	0.18%	Imperceptible	50.6%	Not Significant
41	101.1	101.3	0.18%	Imperceptible	50.6%	Not Significant
42	101.1	101.2	0.18%	Imperceptible	50.6%	Not Significant
43	100.9	101.1	0.16%	Imperceptible	50.5%	Not Significant
44	101.4	101.4	0.00%	Imperceptible	50.7%	Not Significant

Receptor	PEC Do Nothing	PEC Do Something	Difference	Magnitude	PEC Do Some-thing/ AQS	Significance
45	99.9	99.9	0.026%	Imperceptible	50.0%	Not Significant
46	99.9	99.9	0.031%	Imperceptible	50.0%	Not Significant
47	100.3	100.3	0.065%	Imperceptible	50.2%	Not Significant
48	100.2	100.4	0.16%	Imperceptible	50.2%	Not Significant
49	100.2	100.4	0.14%	Imperceptible	50.2%	Not Significant
50	100.7	100.9	0.17%	Imperceptible	50.4%	Not Significant
51	100.3	100.5	0.15%	Imperceptible	50.2%	Not Significant
52	100.6	100.7	0.16%	Imperceptible	50.4%	Not Significant
53	100.6	100.8	0.17%	Imperceptible	50.4%	Not Significant
54	100.8	100.9	0.18%	Imperceptible	50.5%	Not Significant
55	100.6	100.7	0.17%	Imperceptible	50.4%	Not Significant
56	100.4	100.6	0.15%	Imperceptible	50.3%	Not Significant
57	100.5	100.6	0.12%	Imperceptible	50.3%	Not Significant
58	100.4	100.5	0.12%	Imperceptible	50.3%	Not Significant
59	100.5	100.6	0.12%	Imperceptible	50.3%	Not Significant
60	100.5	100.6	0.12%	Imperceptible	50.3%	Not Significant
61	100.4	100.5	0.12%	Imperceptible	50.3%	Not Significant
62	100.4	100.5	0.11%	Imperceptible	50.2%	Not Significant
63	101.0	101.1	0.13%	Imperceptible	50.6%	Not Significant
64	99.3	99.2	-0.13%	Imperceptible	49.6%	Not Significant
65	99.4	99.4	0.00%	Imperceptible	49.7%	Not Significant
66	99.3	99.2	-0.0079%	Imperceptible	49.6%	Not Significant
67	104.9	108.2	3.1%	Imperceptible	54.1%	Not Significant
68	100.7	99.6	-1.1%	Imperceptible	49.8%	Not Significant

Receptor	PEC Do Nothing	PEC Do Something	Difference	Magnitude	PEC Do Something/ AQS	Significance
69	99.9	99.9	0.025%	Imperceptible	49.9%	Not Significant
70	99.9	99.9	0.025%	Imperceptible	49.9%	Not Significant
71	99.9	99.9	0.025%	Imperceptible	49.9%	Not Significant
72	99.9	99.9	0.025%	Imperceptible	49.9%	Not Significant
73	99.9	100.0	0.029%	Imperceptible	50.0%	Not Significant
74	99.9	100.0	0.029%	Imperceptible	50.0%	Not Significant
75	99.9	100.0	0.032%	Imperceptible	50.0%	Not Significant
76	100.0	100.0	0.032%	Imperceptible	50.0%	Not Significant
77	100.0	100.0	0.037%	Imperceptible	50.0%	Not Significant
78	99.9	100.0	0.030%	Imperceptible	50.0%	Not Significant
79	99.5	99.5	-0.00030%	Imperceptible	49.7%	Not Significant

Table A47.10 Detailed results of traffic modelling, PM₁₀ annual mean

Receptor	PEC Do Nothing	PEC Do Something	Difference	Magnitude	PEC Do Something/ AQS	Significance
	μg/m³	μg/m³	%		%	
AQS μg/m³	40					
Baseline μg/m³	18.5					
1	10.4	10.5	0.45%	Imperceptible	26.1%	Not Significant
2	10.4	10.5	0.44%	Imperceptible	26.1%	Not Significant
3	10.4	10.4	0.42%	Imperceptible	26.1%	Not Significant
4	10.4	10.4	0.42%	Imperceptible	26.1%	Not Significant
5	10.2	10.2	0.20%	Imperceptible	25.5%	Not Significant
6	10.2	10.2	0.18%	Imperceptible	25.5%	Not Significant
7	10.1	10.2	0.12%	Imperceptible	25.4%	Not Significant
8	10.2	10.2	0.13%	Imperceptible	25.4%	Not Significant
9	10.2	10.2	0.14%	Imperceptible	25.4%	Not Significant
10	10.2	10.2	0.13%	Imperceptible	25.4%	Not Significant
11	10.4	10.4	0.44%	Imperceptible	26.1%	Not Significant
12	10.3	10.4	0.38%	Imperceptible	25.9%	Not Significant
13	10.3	10.3	0.33%	Imperceptible	25.8%	Not Significant
14	10.3	10.3	0.29%	Imperceptible	25.7%	Not Significant
15	10.2	10.3	0.28%	Imperceptible	25.7%	Not Significant
16	10.2	10.3	0.27%	Imperceptible	25.6%	Not Significant
17	10.2	10.2	0.26%	Imperceptible	25.6%	Not Significant
18	10.2	10.2	0.25%	Imperceptible	25.6%	Not Significant
19	10.2	10.2	0.24%	Imperceptible	25.6%	Not Significant
20	10.3	10.3	0.36%	Imperceptible	25.9%	Not Significant

Receptor	PEC Do Nothing	PEC Do Something	Difference	Magnitude	PEC Do Some-thing/ AQS	Significance
21	10.2	10.2	0.26%	Imperceptible	25.6%	Not Significant
22	10.3	10.3	0.34%	Imperceptible	25.8%	Not Significant
23	10.2	10.2	0.26%	Imperceptible	25.6%	Not Significant
24	10.2	10.2	0.22%	Imperceptible	25.5%	Not Significant
25	10.3	10.3	0.31%	Imperceptible	25.7%	Not Significant
26	10.4	10.5	0.48%	Imperceptible	26.2%	Not Significant
27	10.5	10.5	0.53%	Imperceptible	26.3%	Not Significant
28	10.4	10.4	0.40%	Imperceptible	26.0%	Not Significant
29	10.4	10.4	0.39%	Imperceptible	26.0%	Not Significant
30	10.4	10.4	0.39%	Imperceptible	26.0%	Not Significant
31	10.2	10.2	0.18%	Imperceptible	25.5%	Not Significant
32	10.2	10.2	0.19%	Imperceptible	25.5%	Not Significant
33	10.2	10.2	0.18%	Imperceptible	25.5%	Not Significant
34	10.2	10.2	0.19%	Imperceptible	25.5%	Not Significant
35	10.2	10.2	0.20%	Imperceptible	25.5%	Not Significant
36	10.2	10.2	0.21%	Imperceptible	25.6%	Not Significant
37	10.2	10.2	0.20%	Imperceptible	25.5%	Not Significant
38	10.2	10.2	0.22%	Imperceptible	25.6%	Not Significant
39	10.2	10.2	0.23%	Imperceptible	25.6%	Not Significant
40	10.2	10.2	0.22%	Imperceptible	25.6%	Not Significant
41	10.2	10.2	0.22%	Imperceptible	25.6%	Not Significant
42	10.2	10.2	0.23%	Imperceptible	25.6%	Not Significant
43	10.2	10.2	0.19%	Imperceptible	25.5%	Not Significant
44	10.2	10.3	0.25%	Imperceptible	25.6%	Not Significant

Receptor	PEC Do Nothing	PEC Do Something	Difference	Magnitude	PEC Do Something/ AQS	Significance
45	10.1	10.1	0.012%	Imperceptible	25.1%	Not Significant
46	10.1	10.1	0.015%	Imperceptible	25.1%	Not Significant
47	10.2	10.2	0.19%	Imperceptible	25.5%	Not Significant
48	10.2	10.2	0.19%	Imperceptible	25.5%	Not Significant
49	10.2	10.2	0.17%	Imperceptible	25.5%	Not Significant
50	10.2	10.2	0.22%	Imperceptible	25.6%	Not Significant
51	10.2	10.2	0.17%	Imperceptible	25.5%	Not Significant
52	10.2	10.2	0.19%	Imperceptible	25.5%	Not Significant
53	10.2	10.2	0.22%	Imperceptible	25.6%	Not Significant
54	10.2	10.2	0.22%	Imperceptible	25.6%	Not Significant
55	10.2	10.2	0.20%	Imperceptible	25.5%	Not Significant
56	10.2	10.2	0.18%	Imperceptible	25.5%	Not Significant
57	10.2	10.2	0.22%	Imperceptible	25.5%	Not Significant
58	10.2	10.2	0.21%	Imperceptible	25.5%	Not Significant
59	10.2	10.2	0.22%	Imperceptible	25.5%	Not Significant
60	10.2	10.2	0.21%	Imperceptible	25.5%	Not Significant
61	10.2	10.2	0.21%	Imperceptible	25.5%	Not Significant
62	10.2	10.2	0.21%	Imperceptible	25.5%	Not Significant
63	10.2	10.3	0.27%	Imperceptible	25.6%	Not Significant
64	10.1	10.1	0.14%	Imperceptible	25.2%	Not Significant
65	10.1	10.1	0.22%	Imperceptible	25.2%	Not Significant
66	10.1	10.1	0.045%	Imperceptible	25.1%	Not Significant
67	10.6	10.9	2.99%	Small	27.2%	Not Significant
68	10.1	10.1	0.34%	Imperceptible	25.3%	Not Significant

Receptor	PEC Do Nothing	PEC Do Something	Difference	Magnitude	PEC Do Something/ AQS	Significance
69	10.1	10.1	0.013%	Imperceptible	25.1%	Not Significant
70	10.1	10.1	0.013%	Imperceptible	25.1%	Not Significant
71	10.1	10.1	0.012%	Imperceptible	25.1%	Not Significant
72	10.1	10.1	0.013%	Imperceptible	25.1%	Not Significant
73	10.1	10.1	0.013%	Imperceptible	25.1%	Not Significant
74	10.1	10.1	0.013%	Imperceptible	25.1%	Not Significant
75	10.1	10.1	0.014%	Imperceptible	25.1%	Not Significant
76	10.1	10.1	0.014%	Imperceptible	25.1%	Not Significant
77	10.1	10.1	0.015%	Imperceptible	25.1%	Not Significant
78	10.1	10.1	0.013%	Imperceptible	25.1%	Not Significant
79	10.0	10.0	0.015%	Imperceptible	25.1%	Not Significant

Table A47.11 Detailed results of traffic modelling, 90.4th percentile of PM$_{10}$ 24 hour means

Receptor	PEC Do Nothing	PEC Do Something	Difference	Magnitude	PEC Do Something/ AQS	Significance
	μg/m³	μg/m³	%		%	
AQS μg/m³	50					
Baseline μg/m³	33.2					
1	19.2	19.3	0.35%	Imperceptible	38.5%	Not Significant
2	19.2	19.3	0.35%	Imperceptible	38.5%	Not Significant
3	19.2	19.2	0.33%	Imperceptible	38.5%	Not Significant
4	19.2	19.2	0.33%	Imperceptible	38.5%	Not Significant

Receptor	PEC Do Nothing	PEC Do Something	Difference	Magnitude	PEC Do Something/ AQS	Significance
5	18.9	18.9	0.16%	Imperceptible	37.8%	Not Significant
6	18.9	18.9	0.14%	Imperceptible	37.8%	Not Significant
7	18.8	18.8	0.11%	Imperceptible	37.6%	Not Significant
8	18.8	18.8	0.11%	Imperceptible	37.6%	Not Significant
9	18.8	18.8	0.11%	Imperceptible	37.6%	Not Significant
10	18.8	18.8	0.11%	Imperceptible	37.6%	Not Significant
11	19.2	19.2	0.35%	Imperceptible	38.5%	Not Significant
12	19.1	19.1	0.30%	Imperceptible	38.3%	Not Significant
13	19.0	19.1	0.26%	Imperceptible	38.1%	Not Significant
14	19.0	19.0	0.23%	Imperceptible	38.0%	Not Significant
15	19.0	19.0	0.22%	Imperceptible	38.0%	Not Significant
16	18.9	19.0	0.21%	Imperceptible	38.0%	Not Significant
17	18.9	19.0	0.20%	Imperceptible	37.9%	Not Significant
18	18.9	19.0	0.19%	Imperceptible	37.9%	Not Significant
19	18.9	18.9	0.19%	Imperceptible	37.9%	Not Significant
20	19.0	19.1	0.28%	Imperceptible	38.2%	Not Significant
21	18.9	19.0	0.20%	Imperceptible	37.9%	Not Significant
22	19.0	19.1	0.27%	Imperceptible	38.2%	Not Significant
23	18.9	19.0	0.20%	Imperceptible	37.9%	Not Significant
24	18.9	18.9	0.17%	Imperceptible	37.8%	Not Significant
25	19.0	19.0	0.24%	Imperceptible	38.1%	Not Significant
26	19.2	19.3	0.38%	Imperceptible	38.6%	Not Significant
27	19.3	19.4	0.45%	Imperceptible	38.7%	Not Significant
28	19.1	19.2	0.32%	Imperceptible	38.3%	Not Significant

Receptor	PEC Do Nothing	PEC Do Something	Difference	Magnitude	PEC Do Something/ AQS	Significance
29	19.1	19.2	0.31%	Imperceptible	38.3%	Not Significant
30	19.1	19.1	0.31%	Imperceptible	38.3%	Not Significant
31	18.8	18.9	0.14%	Imperceptible	37.7%	Not Significant
32	18.9	18.9	0.15%	Imperceptible	37.8%	Not Significant
33	18.8	18.9	0.14%	Imperceptible	37.7%	Not Significant
34	18.9	18.9	0.16%	Imperceptible	37.8%	Not Significant
35	18.9	18.9	0.16%	Imperceptible	37.8%	Not Significant
36	18.9	18.9	0.17%	Imperceptible	37.8%	Not Significant
37	18.9	18.9	0.15%	Imperceptible	37.8%	Not Significant
38	18.9	18.9	0.18%	Imperceptible	37.8%	Not Significant
39	18.9	18.9	0.18%	Imperceptible	37.9%	Not Significant
40	18.9	18.9	0.18%	Imperceptible	37.8%	Not Significant
41	18.9	18.9	0.18%	Imperceptible	37.8%	Not Significant
42	18.9	18.9	0.18%	Imperceptible	37.8%	Not Significant
43	18.9	18.9	0.16%	Imperceptible	37.8%	Not Significant
44	18.9	18.9	0.20%	Imperceptible	37.9%	Not Significant
45	18.7	18.7	0.012%	Imperceptible	37.3%	Not Significant
46	18.7	18.7	0.013%	Imperceptible	37.3%	Not Significant
47	18.9	18.9	0.15%	Imperceptible	37.8%	Not Significant
48	18.9	18.9	0.15%	Imperceptible	37.8%	Not Significant
49	18.8	18.8	0.13%	Imperceptible	37.7%	Not Significant
50	18.9	18.9	0.18%	Imperceptible	37.8%	Not Significant
51	18.8	18.9	0.14%	Imperceptible	37.7%	Not Significant
52	18.9	18.9	0.15%	Imperceptible	37.8%	Not Significant

Receptor	PEC Do Nothing	PEC Do Something	Difference	Magnitude	PEC Do Something/ AQS	Significance
53	18.9	18.9	0.18%	Imperceptible	37.8%	Not Significant
54	18.9	18.9	0.18%	Imperceptible	37.8%	Not Significant
55	18.9	18.9	0.16%	Imperceptible	37.8%	Not Significant
56	18.8	18.9	0.14%	Imperceptible	37.7%	Not Significant
57	18.9	18.9	0.17%	Imperceptible	37.8%	Not Significant
58	18.9	18.9	0.17%	Imperceptible	37.8%	Not Significant
59	18.9	18.9	0.17%	Imperceptible	37.8%	Not Significant
60	18.9	18.9	0.17%	Imperceptible	37.8%	Not Significant
61	18.9	18.9	0.17%	Imperceptible	37.8%	Not Significant
62	18.9	18.9	0.17%	Imperceptible	37.8%	Not Significant
63	18.9	19.0	0.21%	Imperceptible	38.0%	Not Significant
64	18.7	18.7	0.12%	Imperceptible	37.4%	Not Significant
65	18.7	18.7	0.21%	Imperceptible	37.4%	Not Significant
66	18.7	18.7	0.045%	Imperceptible	37.3%	Not Significant
67	19.4	19.9	2.4%	Small	39.8%	Not Significant
68	18.7	18.8	0.31%	Imperceptible	37.5%	Not Significant
69	18.7	18.7	0.012%	Imperceptible	37.3%	Not Significant
70	18.7	18.7	0.011%	Imperceptible	37.3%	Not Significant
71	18.7	18.7	0.012%	Imperceptible	37.3%	Not Significant
72	18.7	18.7	0.011%	Imperceptible	37.3%	Not Significant
73	18.7	18.7	0.013%	Imperceptible	37.3%	Not Significant
74	18.7	18.7	0.012%	Imperceptible	37.3%	Not Significant
75	18.7	18.7	0.013%	Imperceptible	37.3%	Not Significant
76	18.7	18.7	0.013%	Imperceptible	37.3%	Not Significant

Receptor	PEC Do Nothing	PEC Do Something	Difference	Magnitude	PEC Do Something/ AQS	Significance
77	18.7	18.7	0.013%	Imperceptible	37.3%	Not Significant
78	18.7	18.7	0.013%	Imperceptible	37.3%	Not Significant
79	18.6	18.6	0.018%	Imperceptible	37.3%	Not Significant

Table A47.12 Detailed results of traffic modelling, PM$_{2.5}$ annual mean

Receptor	PEC Do Nothing	PEC Do Something	Difference	Magnitude	PEC Do Something/ AQS	Significance
	µg/m³	µg/m³	%		%	
AQS µg/m³	25					
Baseline µg/m³	25.0					
1	10.4	10.5	0.45%	Imperceptible	20.9 %	Not Significant
2	10.4	10.5	0.44%	Imperceptible	20.9 %	Not Significant
3	10.4	10.4	0.42%	Imperceptible	20.9 %	Not Significant
4	10.4	10.4	0.42%	Imperceptible	20.9 %	Not Significant
5	10.2	10.2	0.20%	Imperceptible	20.4 %	Not Significant
6	10.2	10.2	0.18%	Imperceptible	20.4 %	Not Significant
7	10.1	10.2	0.12%	Imperceptible	20.3 %	Not Significant
8	10.2	10.2	0.13%	Imperceptible	20.3 %	Not Significant
9	10.2	10.2	0.14%	Imperceptible	20.3 %	Not Significant
10	10.2	10.2	0.13%	Imperceptible	20.3 %	Not Significant
11	10.4	10.4	0.44%	Imperceptible	20.9 %	Not Significant
12	10.3	10.4	0.38%	Imperceptible	20.7 %	Not Significant
13	10.3	10.3	0.33%	Imperceptible	20.6 %	Not Significant

Receptor	PEC Do Nothing	PEC Do Something	Difference	Magnitude	PEC Do Something/ AQS	Significance
14	10.3	10.3	0.29%	Imperceptible	20.6%	Not Significant
15	10.2	10.3	0.28%	Imperceptible	20.5%	Not Significant
16	10.2	10.3	0.27%	Imperceptible	20.5%	Not Significant
17	10.2	10.2	0.26%	Imperceptible	20.5%	Not Significant
18	10.2	10.2	0.25%	Imperceptible	20.5%	Not Significant
19	10.2	10.2	0.24%	Imperceptible	20.5%	Not Significant
20	10.3	10.3	0.36%	Imperceptible	20.7%	Not Significant
21	10.2	10.2	0.26%	Imperceptible	20.5%	Not Significant
22	10.3	10.3	0.34%	Imperceptible	20.6%	Not Significant
23	10.2	10.2	0.26%	Imperceptible	20.5%	Not Significant
24	10.2	10.2	0.22%	Imperceptible	20.4%	Not Significant
25	10.3	10.3	0.31%	Imperceptible	20.6%	Not Significant
26	10.4	10.5	0.48%	Imperceptible	21.0%	Not Significant
27	10.5	10.5	0.53%	Imperceptible	21.1%	Not Significant
28	10.4	10.4	0.40%	Imperceptible	20.8%	Not Significant
29	10.4	10.4	0.39%	Imperceptible	20.8%	Not Significant
30	10.4	10.4	0.39%	Imperceptible	20.8%	Not Significant
31	10.2	10.2	0.18%	Imperceptible	20.4%	Not Significant
32	10.2	10.2	0.19%	Imperceptible	20.4%	Not Significant
33	10.2	10.2	0.18%	Imperceptible	20.4%	Not Significant
34	10.2	10.2	0.19%	Imperceptible	20.4%	Not Significant
35	10.2	10.2	0.20%	Imperceptible	20.4%	Not Significant
36	10.2	10.2	0.21%	Imperceptible	20.5%	Not Significant
37	10.2	10.2	0.20%	Imperceptible	20.4%	Not Significant

Receptor	PEC Do Nothing	PEC Do Something	Difference	Magnitude	PEC Do Something/ AQS	Significance
38	10.2	10.2	0.22%	Imperceptible	20.5 %	Not Significant
39	10.2	10.2	0.23%	Imperceptible	20.5 %	Not Significant
40	10.2	10.2	0.22%	Imperceptible	20.5 %	Not Significant
41	10.2	10.2	0.22%	Imperceptible	20.5 %	Not Significant
42	10.2	10.2	0.23%	Imperceptible	20.5 %	Not Significant
43	10.2	10.2	0.19%	Imperceptible	20.4 %	Not Significant
44	10.2	10.3	0.25%	Imperceptible	20.5 %	Not Significant
45	10.1	10.1	0.012%	Imperceptible	20.1 %	Not Significant
46	10.1	10.1	0.015%	Imperceptible	20.1 %	Not Significant
47	10.2	10.2	0.19%	Imperceptible	20.4 %	Not Significant
48	10.2	10.2	0.19%	Imperceptible	20.4 %	Not Significant
49	10.2	10.2	0.17%	Imperceptible	20.4 %	Not Significant
50	10.2	10.2	0.22%	Imperceptible	20.5 %	Not Significant
51	10.2	10.2	0.17%	Imperceptible	20.4 %	Not Significant
52	10.2	10.2	0.19%	Imperceptible	20.4 %	Not Significant
53	10.2	10.2	0.22%	Imperceptible	20.5 %	Not Significant
54	10.2	10.2	0.22%	Imperceptible	20.5 %	Not Significant
55	10.2	10.2	0.20%	Imperceptible	20.4 %	Not Significant
56	10.2	10.2	0.18%	Imperceptible	20.4 %	Not Significant
57	10.2	10.2	0.22%	Imperceptible	20.4 %	Not Significant
58	10.2	10.2	0.21%	Imperceptible	20.4 %	Not Significant
59	10.2	10.2	0.22%	Imperceptible	20.4 %	Not Significant
60	10.2	10.2	0.21%	Imperceptible	20.4 %	Not Significant
61	10.2	10.2	0.21%	Imperceptible	20.4 %	Not Significant

Receptor	PEC Do Nothing	PEC Do Something	Difference	Magnitude	PEC Do Something/ AQS	Significance
62	10.2	10.2	0.21%	Imperceptible	20.4 %	Not Significant
63	10.2	10.3	0.27%	Imperceptible	20.5 %	Not Significant
64	10.1	10.1	0.14%	Imperceptible	20.2 %	Not Significant
65	10.1	10.1	0.22%	Imperceptible	20.2 %	Not Significant
66	10.1	10.1	0.045%	Imperceptible	20.1 %	Not Significant
67	10.6	10.9	3.0%	Small	21.8 %	Not Significant
68	10.1	10.1	0.34%	Imperceptible	20.2 %	Not Significant
69	10.1	10.1	0.013%	Imperceptible	20.1 %	Not Significant
70	10.1	10.1	0.013%	Imperceptible	20.1 %	Not Significant
71	10.1	10.1	0.012%	Imperceptible	20.1 %	Not Significant
72	10.1	10.1	0.013%	Imperceptible	20.1 %	Not Significant
73	10.1	10.1	0.013%	Imperceptible	20.1 %	Not Significant
74	10.1	10.1	0.013%	Imperceptible	20.1 %	Not Significant
75	10.1	10.1	0.014%	Imperceptible	20.1 %	Not Significant
76	10.1	10.1	0.014%	Imperceptible	20.1 %	Not Significant
77	10.1	10.1	0.015%	Imperceptible	20.1 %	Not Significant
78	10.1	10.1	0.013%	Imperceptible	20.1 %	Not Significant
79	10.0	10.0	0.015%	Imperceptible	20.1 %	Not Significant