

# Rampion 2 Wind Farm

## Category 6:

## Environmental Statement

### Volume 4, Appendix 19.2: Full results of construction plant modelling

**Date: August 2023**

**Revision A**

Document Reference: 6.4.19.2

Pursuant to: APFP Regulation 5 (2) (a)

Ecodoc number: 004866509-01



## Document revisions

---

Revision	Date	Status/reason for issue	Author	Checked by	Approved by
A	04/08/2023	Final for DCO Application	WSP	RED	RED

---

# Contents

---

<b>1.</b>	<b>Introduction</b>	<b>3</b>
<b>2.</b>	<b>Glossary of terms and abbreviations</b>	<b>23</b>
<b>3.</b>	<b>References</b>	<b>25</b>

---

Table 1-1	List of receptors where air quality impacts from construction plant are modelled	4
Table 1-2	Modelled maximum annual mean NO <sub>2</sub> impacts due to Landfall and Trenchless Crossing (TCs) at each receptor	8
Table 1-3	Modelled maximum annual mean PM <sub>10</sub> impacts due to Landfall and TCs at each receptor	11
Table 1-4	Modelled maximum annual mean PM <sub>2.5</sub> impacts due to Landfall and TCs at each receptor	14
Table 1-5	Modelled maximum annual mean NO <sub>2</sub> impacts due the Oakendene substation and existing National Grid Bolney substation extension	18
Table 1-6	Modelled maximum annual mean PM <sub>10</sub> impacts due the Oakendene substation and Bolney substation extension	19
Table 1-7	Modelled maximum annual mean PM <sub>2.5</sub> impacts due the Oakendene substation and existing National Grid Bolney substation extension	21
Table 2-1	Glossary of terms and abbreviations	23

Page intentionally blank

# 1. Introduction

---

- 1.1.1 This Appendix presents full quantitative results of the air quality modelling of the construction plant associated with Rampion 2. This should be read in conjunction with **Chapter 19: Air quality, Volume 2** (Document Reference: 6.2.19) of the ES. **Table 1-1** presents details of the receptors where air quality impacts have been modelled.
- 1.1.2 **Table 1-2** to **Table 1-7** present modelled annual mean nitrogen dioxide (NO<sub>2</sub>) and particulate matter (PM) (PM<sub>10</sub> and PM<sub>2.5</sub>) concentrations, along with the impact descriptor according to Institute of Air Quality Management (IAQM) and Environmental Protection UK (EPUK) (2017) guidance. Results are presented to several decimal places. This is to aid comparison against Air Quality Objectives (AQO), between receptors and between the 'With Proposed Development' and 'Without Proposed Development' scenarios. The number of decimal places should not be interpreted as an indication of the accuracy of the results.
- 1.1.3 The table headers use terminology promulgated by the Environment Agency (2023) but widely used in air quality assessments. The Process Contribution (PC) is the contribution to the concentration of pollutant arising from the Proposed Development, in this case from road traffic generated by construction activity. The Predicted Environmental Contribution (PEC) is the total concentration, including the contribution from the Proposed Development plus the contribution from all other sources, including background sources and road traffic not associated with the Proposed Development.
- 1.1.4 The results are presented for the following project components:
- Trenchless Crossings (TCs) and landfall area (Receptors H01-H84); and
  - Oakendene substation and existing National Grid Bolney substation extension (Receptors H71-H100). Note that receptors 71-84 are the closest receptors to the Oakendene substation and receptors 85-100 are the closest receptors to the existing National Grid Bolney substation extension.
- 1.1.5 The TCs and landfall have been modelled together to account for the TCs within the landfall area. Similarly, the Oakendene substation and existing National Grid Bolney substation extension were modelled together due to their relative proximity and the fact that they have the potential to impact the same receptors.

**Table 1-1 List of receptors where air quality impacts from construction plant are modelled**

Receptor ID	X coordinates	Y coordinates	Height (m)
H01	500859	101632	1.5
H02	500970	101912	1.5
H03	501620	102212	1.5
H04	502198	101931	1.5
H05	501551	101248	1.5
H06	500632	100896	1.5
H07	500242	101355	1.5
H08	501325	101019	1.5
H09	501571	104002	1.5
H10	501567	103949	1.5
H11	502921	106068	1.5
H12	514398	113632	1.5
H13	520920	120225	1.5
H14	520925	119999	1.5
H15	520923	119978	1.5
H16	520924	119957	1.5
H17	520923	119935	1.5
H18	520920	119916	1.5
H19	520917	119896	1.5
H20	520915	119878	1.5
H21	521035	119881	1.5
H22	520864	119927	1.5
H23	520828	119884	1.5
H24	501601	103410	1.5
H25	501587	103477	1.5

Receptor ID	X coordinates	Y coordinates	Height (m)
H26	501588	103534	1.5
H27	503289	106002	1.5
H28	503048	106040	1.5
H29	509191	112766	1.5
H30	509840	113106	1.5
H31	510493	112954	1.5
H32	512150	113276	1.5
H33	512226	113382	1.5
H34	512833	113307	1.5
H35	512682	112902	1.5
H36	512591	112921	1.5
H37	512337	112914	1.5
H38	512227	113043	1.5
H39	513583	113278	1.5
H40	519130	117583	1.5
H41	519557	116405	1.5
H42	518830	116153	1.5
H43	518759	116766	1.5
H44	521487	120192	1.5
H45	522355	120127	1.5
H46	522173	119646	1.5
H47	522264	121479	1.5
H48	522850	121323	1.5
H49	522447	121151	1.5
H50	521812	121065	1.5
H51	501626	102851	1.5

Receptor ID	X coordinates	Y coordinates	Height (m)
H52	502574	104669	1.5
H53	502542	104413	1.5
H54	502916	104768	1.5
H55	502865	104274	1.5
H56	502677	105811	1.5
H57	504117	105897	1.5
H58	503958	106622	1.5
H59	503963	106759	1.5
H60	504630	106621	1.5
H61	504774	107468	1.5
H62	506406	108114	1.5
H63	508213	108486	1.5
H64	503427	107243	1.5
H65	503411	107349	1.5
H66	507450	110460	1.5
H67	517006	114909	1.5
H68	517970	115613	1.5
H69	518006	115549	1.5
H70	518645	117096	1.5
H71	523188	121950	1.5
H72	522873	123002	1.5
H73	523341	123070	1.5
H74	523193	122668	1.5
H75	523978	122781	1.5
H76	524244	122224	1.5
H77	523878	121911	1.5



Receptor ID	X coordinates	Y coordinates	Height (m)
H78	523379	121920	1.5
H79	523227	121882	1.5
H80	522520	122016	1.5
H81	521865	122232	1.5
H82	522441	122564	1.5
H83	522765	122611	1.5
H84	522749	122775	1.5
H85	523846	121298	1.5
H86	524745	121510	1.5
H87	525453	121043	1.5
H88	525027	120721	1.5
H89	524499	120803	1.5
H90	524579	120618	1.5
H91	524096	120412	1.5
H92	523825	120264	1.5
H93	523598	120141	1.5
H94	523583	120568	1.5
H95	523596	120772	1.5
H96	523491	121131	1.5
H97	523787	121540	1.5
H98	524086	121817	1.5
H99	524170	121895	1.5
H100	524432	121752	1.5

**Table 1-2 Modelled maximum annual mean NO<sub>2</sub> impacts due to Landfall and Trenchless Crossing (TCs)<sup>1</sup> at each receptor**

Receptor ID	AQO (µg m <sup>-3</sup> )	PC (µg m <sup>-3</sup> )	PEC (µg m <sup>-3</sup> )	PC (% of AQO)	PEC (% of AQO)	Impact
H01	40	0.45	8.30	1.1%	20.8%	Negligible
H02	40	0.89	8.16	2.2%	20.4%	Negligible
H03	40	1.10	9.44	2.8%	23.6%	Negligible
H04	40	0.82	8.05	2.1%	20.1%	Negligible
H05	40	4.37	11.38	10.9%	28.5%	Moderate
H06	40	1.34	7.80	3.4%	19.5%	Negligible
H07	40	1.15	8.42	2.9%	21.1%	Negligible
H08	40	4.79	11.80	12.0%	29.5%	Moderate
H09	40	2.03	9.37	5.1%	23.4%	Negligible
H10	40	1.70	9.64	4.3%	24.1%	Negligible
H11	40	0.68	8.63	1.7%	21.6%	Negligible
H12	40	0.80	8.13	2.0%	20.3%	Negligible
H13	40	1.05	8.15	2.6%	20.4%	Negligible
H14	40	2.70	9.89	6.8%	24.7%	Slight
H15	40	2.36	9.55	5.9%	23.9%	Slight
H16	40	2.06	9.25	5.2%	23.1%	Negligible
H17	40	1.90	9.09	4.8%	22.7%	Negligible
H18	40	1.86	9.05	4.7%	22.6%	Negligible
H19	40	1.85	9.04	4.6%	22.6%	Negligible
H20	40	1.83	9.02	4.6%	22.6%	Negligible
H21	40	0.87	7.83	2.2%	19.6%	Negligible
H22	40	3.90	11.09	9.8%	27.7%	Slight
H23	40	3.74	10.93	9.4%	27.3%	Slight

<sup>1</sup> HDD: Trenchless crossings

Receptor ID	AQO ( $\mu\text{g m}^{-3}$ )	PC ( $\mu\text{g m}^{-3}$ )	PEC ( $\mu\text{g m}^{-3}$ )	PC (% of AQO)	PEC (% of AQO)	Impact
H24	40	3.62	11.56	9.1%	28.9%	Slight
H25	40	2.80	10.74	7.0%	26.9%	Slight
H26	40	2.20	10.14	5.5%	25.4%	Slight
H27	40	0.43	7.67	1.1%	19.2%	Negligible
H28	40	0.42	7.66	1.1%	19.2%	Negligible
H29	40	0.21	6.92	0.5%	17.3%	Negligible
H30	40	0.33	7.34	0.8%	18.4%	Negligible
H31	40	0.20	7.06	0.5%	17.7%	Negligible
H32	40	1.65	9.99	4.1%	25.0%	Negligible
H33	40	1.49	9.83	3.7%	24.6%	Negligible
H34	40	1.22	9.56	3.1%	23.9%	Negligible
H35	40	1.46	8.67	3.7%	21.7%	Negligible
H36	40	2.37	9.58	5.9%	24.0%	Slight
H37	40	6.25	13.46	15.6%	33.7%	Moderate
H38	40	3.03	11.37	7.6%	28.4%	Slight
H39	40	0.78	9.13	2.0%	22.8%	Negligible
H40	40	0.54	7.59	1.4%	19.0%	Negligible
H41	40	0.42	7.47	1.1%	18.7%	Negligible
H42	40	0.82	7.83	2.1%	19.6%	Negligible
H43	40	3.87	10.88	9.7%	27.2%	Slight
H44	40	0.67	7.63	1.7%	19.1%	Negligible
H45	40	0.53	7.47	1.3%	18.7%	Negligible
H46	40	0.49	7.46	1.2%	18.7%	Negligible
H47	40	0.66	7.67	1.7%	19.2%	Negligible
H48	40	0.91	7.92	2.3%	19.8%	Negligible
H49	40	1.03	8.04	2.6%	20.1%	Negligible

Receptor ID	AQO ( $\mu\text{g m}^{-3}$ )	PC ( $\mu\text{g m}^{-3}$ )	PEC ( $\mu\text{g m}^{-3}$ )	PC (% of AQO)	PEC (% of AQO)	Impact
H50	40	1.08	8.15	2.7%	20.4%	Negligible
H51	40	1.38	9.72	3.5%	24.3%	Negligible
H52	40	2.31	10.22	5.8%	25.6%	Slight
H53	40	2.70	10.61	6.8%	26.5%	Slight
H54	40	1.26	9.17	3.2%	22.9%	Negligible
H55	40	1.08	8.99	2.7%	22.5%	Negligible
H56	40	0.77	8.54	1.9%	21.4%	Negligible
H57	40	0.85	8.88	2.1%	22.2%	Negligible
H58	40	0.47	7.71	1.2%	19.3%	Negligible
H59	40	0.45	7.69	1.1%	19.2%	Negligible
H60	40	0.41	7.48	1.0%	18.7%	Negligible
H61	40	0.16	7.04	0.4%	17.6%	Negligible
H62	40	0.26	6.90	0.7%	17.3%	Negligible
H63	40	1.51	8.26	3.8%	20.7%	Negligible
H64	40	0.25	7.21	0.6%	18.0%	Negligible
H65	40	0.25	7.21	0.6%	18.0%	Negligible
H66	40	0.15	6.74	0.4%	16.9%	Negligible
H67	40	1.65	8.61	4.1%	21.5%	Negligible
H68	40	6.54	13.49	16.4%	33.7%	Moderate
H69	40	3.96	10.94	9.9%	27.4%	Slight
H70	40	1.71	8.71	4.3%	21.8%	Negligible
H71	40	1.75	8.80	4.4%	22.0%	Negligible
H72	40	0.45	7.62	1.1%	19.1%	Negligible
H73	40	0.45	7.55	1.1%	18.9%	Negligible
H74	40	1.26	8.62	3.2%	21.6%	Negligible
H75	40	0.58	7.94	1.5%	19.9%	Negligible

Receptor ID	AQO ( $\mu\text{g m}^{-3}$ )	PC ( $\mu\text{g m}^{-3}$ )	PEC ( $\mu\text{g m}^{-3}$ )	PC (% of AQO)	PEC (% of AQO)	Impact
H76	40	0.65	8.10	1.6%	20.3%	Negligible
H77	40	0.56	7.61	1.4%	19.0%	Negligible
H78	40	0.93	7.98	2.3%	20.0%	Negligible
H79	40	1.34	8.39	3.4%	21.0%	Negligible
H80	40	0.73	8.23	1.8%	20.6%	Negligible
H81	40	0.70	9.10	1.8%	22.8%	Negligible
H82	40	0.68	8.18	1.7%	20.5%	Negligible
H83	40	0.86	8.36	2.2%	20.9%	Negligible
H84	40	0.71	8.21	1.8%	20.5%	Negligible

**Table 1-3 Modelled maximum annual mean PM<sub>10</sub> impacts due to Landfall and TCs at each receptor**

Receptor ID	AQO ( $\mu\text{g m}^{-3}$ )	PC ( $\mu\text{g m}^{-3}$ )	PEC ( $\mu\text{g m}^{-3}$ )	PC (% of AQO)	PEC (% of AQO)	Impact
H01	40	0.01	12.87	0.0%	32.2%	Negligible
H02	40	0.01	12.87	0.0%	32.2%	Negligible
H03	40	0.01	12.97	0.0%	32.4%	Negligible
H04	40	0.01	11.96	0.0%	29.9%	Negligible
H05	40	0.12	12.67	0.3%	31.7%	Negligible
H06	40	0.02	11.41	0.1%	28.5%	Negligible
H07	40	0.01	12.87	0.0%	32.2%	Negligible
H08	40	0.11	12.67	0.3%	31.7%	Negligible
H09	40	0.03	12.64	0.1%	31.6%	Negligible
H10	40	0.02	13.15	0.1%	32.9%	Negligible
H11	40	0.00	12.61	0.0%	31.5%	Negligible
H12	40	0.15	13.15	0.4%	32.9%	Negligible
H13	40	0.13	13.23	0.3%	33.1%	Negligible

Receptor ID	AQO ( $\mu\text{g m}^{-3}$ )	PC ( $\mu\text{g m}^{-3}$ )	PEC ( $\mu\text{g m}^{-3}$ )	PC (% of AQO)	PEC (% of AQO)	Impact
H14	40	0.47	12.28	1.2%	30.7%	Negligible
H15	40	0.39	12.28	1.0%	30.7%	Negligible
H16	40	0.33	12.27	0.8%	30.7%	Negligible
H17	40	0.29	12.27	0.7%	30.7%	Negligible
H18	40	0.28	12.27	0.7%	30.7%	Negligible
H19	40	0.28	12.27	0.7%	30.7%	Negligible
H20	40	0.28	12.27	0.7%	30.7%	Negligible
H21	40	0.11	12.69	0.3%	31.7%	Negligible
H22	40	0.73	12.31	1.8%	30.8%	Negligible
H23	40	0.69	12.30	1.7%	30.8%	Negligible
H24	40	0.06	13.19	0.1%	33.0%	Negligible
H25	40	0.04	13.18	0.1%	32.9%	Negligible
H26	40	0.03	13.16	0.1%	32.9%	Negligible
H27	40	0.00	12.23	0.0%	30.6%	Negligible
H28	40	0.00	12.23	0.0%	30.6%	Negligible
H29	40	0.02	12.41	0.1%	31.0%	Negligible
H30	40	0.02	12.59	0.0%	31.5%	Negligible
H31	40	0.02	13.15	0.0%	32.9%	Negligible
H32	40	0.09	13.90	0.2%	34.7%	Negligible
H33	40	0.08	13.90	0.2%	34.7%	Negligible
H34	40	0.11	13.89	0.3%	34.7%	Negligible
H35	40	0.67	13.60	1.7%	34.0%	Negligible
H36	40	0.67	13.62	1.7%	34.0%	Negligible
H37	40	0.50	13.70	1.2%	34.0%	Negligible
H38	40	0.28	13.94	0.7%	34.7%	Negligible
H39	40	0.03	13.04	0.1%	32.6%	Negligible

Receptor ID	AQO ( $\mu\text{g m}^{-3}$ )	PC ( $\mu\text{g m}^{-3}$ )	PEC ( $\mu\text{g m}^{-3}$ )	PC (% of AQO)	PEC (% of AQO)	Impact
H40	40	0.04	12.30	0.1%	30.7%	Negligible
H41	40	0.03	12.66	0.1%	31.6%	Negligible
H42	40	0.09	12.55	0.2%	31.4%	Negligible
H43	40	0.56	12.61	1.4%	31.4%	Negligible
H44	40	0.07	13.08	0.2%	32.7%	Negligible
H45	40	0.06	12.45	0.1%	31.1%	Negligible
H46	40	0.05	12.63	0.1%	31.6%	Negligible
H47	40	0.06	12.33	0.2%	30.8%	Negligible
H48	40	0.08	12.33	0.2%	30.8%	Negligible
H49	40	0.10	12.33	0.3%	30.8%	Negligible
H50	40	0.12	12.60	0.3%	31.5%	Negligible
H51	40	0.02	12.97	0.0%	32.4%	Negligible
H52	40	0.03	13.21	0.1%	32.9%	Negligible
H53	40	0.04	13.22	0.1%	32.9%	Negligible
H54	40	0.02	13.19	0.0%	32.9%	Negligible
H55	40	0.02	13.18	0.0%	32.9%	Negligible
H56	40	0.00	12.87	0.0%	32.2%	Negligible
H57	40	0.00	13.92	0.0%	34.8%	Negligible
H58	40	0.00	12.23	0.0%	30.6%	Negligible
H59	40	0.00	12.23	0.0%	30.6%	Negligible
H60	40	0.01	12.28	0.0%	30.7%	Negligible
H61	40	0.01	12.85	0.0%	32.1%	Negligible
H62	40	0.02	12.32	0.1%	30.8%	Negligible
H63	40	0.07	12.35	0.2%	30.8%	Negligible
H64	40	0.00	12.04	0.0%	30.1%	Negligible
H65	40	0.00	12.04	0.0%	30.1%	Negligible

Receptor ID	AQO ( $\mu\text{g m}^{-3}$ )	PC ( $\mu\text{g m}^{-3}$ )	PEC ( $\mu\text{g m}^{-3}$ )	PC (% of AQO)	PEC (% of AQO)	Impact
H66	40	0.01	12.97	0.0%	32.4%	Negligible
H67	40	0.16	12.10	0.4%	30.2%	Negligible
H68	40	1.04	12.18	2.6%	30.2%	Negligible
H69	40	0.59	12.70	1.5%	31.6%	Negligible
H70	40	0.13	12.21	0.3%	30.5%	Negligible
H71	40	0.31	12.30	0.8%	30.7%	Negligible
H72	40	0.03	12.88	0.1%	32.2%	Negligible
H73	40	0.03	12.63	0.1%	31.6%	Negligible
H74	40	0.13	12.92	0.3%	32.3%	Negligible
H75	40	0.03	12.91	0.1%	32.3%	Negligible
H76	40	0.04	12.96	0.1%	32.4%	Negligible
H77	40	0.06	12.28	0.1%	30.7%	Negligible
H78	40	0.11	12.29	0.3%	30.7%	Negligible
H79	40	0.21	12.29	0.5%	30.7%	Negligible
H80	40	0.05	12.77	0.1%	31.9%	Negligible
H81	40	0.02	13.51	0.1%	33.8%	Negligible
H82	40	0.03	12.77	0.1%	31.9%	Negligible
H83	40	0.06	12.77	0.1%	31.9%	Negligible
H84	40	0.04	12.77	0.1%	31.9%	Negligible

**Table 1-4 Modelled maximum annual mean PM<sub>2.5</sub> impacts due to Landfall and TCs at each receptor**

Receptor ID	AQO ( $\mu\text{g m}^{-3}$ )	PC ( $\mu\text{g m}^{-3}$ )	PEC ( $\mu\text{g m}^{-3}$ )	PC (% of AQO)	PEC (% of AQO)	Impact
H01	10	0.0093	8.13	0.1%	81.3%	Negligible
H02	10	0.0088	8.13	0.1%	81.3%	Negligible



Receptor ID	AQO ( $\mu\text{g m}^{-3}$ )	PC ( $\mu\text{g m}^{-3}$ )	PEC ( $\mu\text{g m}^{-3}$ )	PC (% of AQO)	PEC (% of AQO)	Impact
H03	10	0.0109	8.38	0.1%	83.8%	Negligible
H04	10	0.0072	8.09	0.1%	80.9%	Negligible
H05	10	0.1132	8.17	1.1%	81.7%	Negligible
H06	10	0.0169	7.64	0.2%	76.4%	Negligible
H07	10	0.0109	8.14	0.1%	81.4%	Negligible
H08	10	0.1041	8.17	1.0%	81.7%	Negligible
H09	10	0.0277	8.19	0.3%	81.9%	Negligible
H10	10	0.0212	8.47	0.2%	84.7%	Negligible
H11	10	0.0016	8.27	0.0%	82.7%	Negligible
H12	10	0.0147	8.17	0.1%	81.7%	Negligible
H13	10	0.0108	8.37	0.1%	83.7%	Negligible
H14	10	0.0407	8.09	0.4%	80.9%	Negligible
H15	10	0.0341	8.09	0.3%	80.9%	Negligible
H16	10	0.0284	8.08	0.3%	80.8%	Negligible
H17	10	0.0252	8.08	0.3%	80.8%	Negligible
H18	10	0.0246	8.08	0.2%	80.8%	Negligible
H19	10	0.0243	8.08	0.2%	80.8%	Negligible
H20	10	0.0240	8.08	0.2%	80.8%	Negligible
H21	10	0.0095	8.06	0.1%	80.6%	Negligible
H22	10	0.0640	8.12	0.6%	81.2%	Negligible
H23	10	0.0609	8.11	0.6%	81.1%	Negligible
H24	10	0.0584	8.50	0.6%	85.0%	Negligible
H25	10	0.0425	8.49	0.4%	84.9%	Negligible
H26	10	0.0310	8.48	0.3%	84.8%	Negligible
H27	10	0.0017	7.98	0.0%	79.8%	Negligible
H28	10	0.0015	7.98	0.0%	79.8%	Negligible

Receptor ID	AQO ( $\mu\text{g m}^{-3}$ )	PC ( $\mu\text{g m}^{-3}$ )	PEC ( $\mu\text{g m}^{-3}$ )	PC (% of AQO)	PEC (% of AQO)	Impact
H29	10	0.0030	7.86	0.0%	78.6%	Negligible
H30	10	0.0025	8.00	0.0%	80.0%	Negligible
H31	10	0.0027	8.05	0.0%	80.5%	Negligible
H32	10	0.0200	8.38	0.2%	83.8%	Negligible
H33	10	0.0169	8.38	0.2%	83.8%	Negligible
H34	10	0.0123	8.37	0.1%	83.6%	Negligible
H35	10	0.0743	8.26	0.7%	81.8%	Negligible
H36	10	0.0725	8.25	0.7%	81.8%	Negligible
H37	10	0.1100	8.29	1.1%	81.8%	Negligible
H38	10	0.0468	8.41	0.5%	83.6%	Negligible
H39	10	0.0035	8.08	0.0%	80.7%	Negligible
H40	10	0.0045	7.97	0.0%	79.7%	Negligible
H41	10	0.0031	8.10	0.0%	81.0%	Negligible
H42	10	0.0092	8.03	0.1%	80.2%	Negligible
H43	10	0.0635	8.08	0.6%	80.2%	Negligible
H44	10	0.0068	8.27	0.1%	82.7%	Negligible
H45	10	0.0052	8.10	0.1%	81.0%	Negligible
H46	10	0.0044	8.03	0.0%	80.2%	Negligible
H47	10	0.0065	8.10	0.1%	80.9%	Negligible
H48	10	0.0095	8.10	0.1%	80.9%	Negligible
H49	10	0.0115	8.11	0.1%	80.9%	Negligible
H50	10	0.0132	8.20	0.1%	81.9%	Negligible
H51	10	0.0148	8.38	0.1%	83.7%	Negligible
H52	10	0.0336	8.58	0.3%	85.4%	Negligible
H53	10	0.0408	8.58	0.4%	85.4%	Negligible
H54	10	0.0159	8.56	0.2%	85.4%	Negligible

Receptor ID	AQO ( $\mu\text{g m}^{-3}$ )	PC ( $\mu\text{g m}^{-3}$ )	PEC ( $\mu\text{g m}^{-3}$ )	PC (% of AQO)	PEC (% of AQO)	Impact
H55	10	0.0150	8.56	0.2%	85.4%	Negligible
H56	10	0.0026	8.27	0.0%	82.6%	Negligible
H57	10	0.0046	8.57	0.0%	85.6%	Negligible
H58	10	0.0022	7.98	0.0%	79.8%	Negligible
H59	10	0.0020	7.98	0.0%	79.8%	Negligible
H60	10	0.0026	7.93	0.0%	79.3%	Negligible
H61	10	0.0015	8.01	0.0%	80.1%	Negligible
H62	10	0.0029	7.87	0.0%	78.7%	Negligible
H63	10	0.0191	7.92	0.2%	79.0%	Negligible
H64	10	0.0013	7.85	0.0%	78.5%	Negligible
H65	10	0.0013	7.85	0.0%	78.5%	Negligible
H66	10	0.0015	7.99	0.0%	79.9%	Negligible
H67	10	0.0208	7.89	0.2%	78.7%	Negligible
H68	10	0.1157	7.98	1.2%	78.6%	Negligible
H69	10	0.0655	8.09	0.7%	80.3%	Negligible
H70	10	0.0218	7.94	0.2%	79.2%	Negligible
H71	10	0.0278	8.10	0.3%	80.7%	Negligible
H72	10	0.0028	8.31	0.0%	83.1%	Negligible
H73	10	0.0033	8.20	0.0%	81.9%	Negligible
H74	10	0.0143	8.32	0.1%	83.1%	Negligible
H75	10	0.0032	8.31	0.0%	83.1%	Negligible
H76	10	0.0034	8.31	0.0%	83.1%	Negligible
H77	10	0.0050	8.08	0.1%	80.7%	Negligible
H78	10	0.0096	8.08	0.1%	80.7%	Negligible
H79	10	0.0188	8.09	0.2%	80.7%	Negligible
H80	10	0.0040	8.32	0.0%	83.2%	Negligible

Receptor ID	AQO ( $\mu\text{g m}^{-3}$ )	PC ( $\mu\text{g m}^{-3}$ )	PEC ( $\mu\text{g m}^{-3}$ )	PC (% of AQO)	PEC (% of AQO)	Impact
H81	10	0.0018	8.98	0.0%	89.8%	Negligible
H82	10	0.0036	8.32	0.0%	83.2%	Negligible
H83	10	0.0064	8.32	0.1%	83.2%	Negligible
H84	10	0.0042	8.32	0.0%	83.2%	Negligible

**Table 1-5 Modelled maximum annual mean NO<sub>2</sub> impacts due the Oakendene substation and existing National Grid Bolney substation extension**

Receptor ID	AQO ( $\mu\text{g m}^{-3}$ )	PC ( $\mu\text{g m}^{-3}$ )	PEC ( $\mu\text{g m}^{-3}$ )	PC (% of AQO)	PEC (% of AQO)	Impact
H71	40	12.11	19.16	30.3%	47.9%	Moderate
H72	40	3.14	10.31	7.9%	25.8%	Slight
H73	40	2.36	9.46	5.9%	23.7%	Slight
H74	40	10.84	18.20	27.1%	45.5%	Moderate
H75	40	1.58	8.94	4.0%	22.4%	Negligible
H76	40	0.87	8.32	2.2%	20.8%	Negligible
H77	40	1.76	8.81	4.4%	22.0%	Negligible
H78	40	4.62	11.67	11.6%	29.2%	Moderate
H79	40	8.76	15.81	21.9%	39.5%	Moderate
H80	40	1.24	8.74	3.1%	21.9%	Negligible
H81	40	0.62	9.02	1.6%	22.6%	Negligible
H82	40	2.89	10.39	7.2%	26.0%	Slight
H83	40	8.18	15.68	20.5%	39.2%	Moderate
H84	40	4.12	11.62	10.3%	29.1%	Moderate
H85	40	1.08	8.58	2.7%	21.5%	Negligible
H86	40	0.58	8.08	1.5%	20.2%	Negligible
H87	40	0.25	7.75	0.6%	19.4%	Negligible
H88	40	0.30	7.80	0.8%	19.5%	Negligible

Receptor ID	AQO ( $\mu\text{g m}^{-3}$ )	PC ( $\mu\text{g m}^{-3}$ )	PEC ( $\mu\text{g m}^{-3}$ )	PC (% of AQO)	PEC (% of AQO)	Impact
H89	40	1.01	8.51	2.5%	21.3%	Negligible
H90	40	0.52	8.02	1.3%	20.1%	Negligible
H91	40	0.92	8.42	2.3%	21.1%	Negligible
H92	40	0.75	8.25	1.9%	20.6%	Negligible
H93	40	0.71	8.21	1.8%	20.5%	Negligible
H94	40	0.99	8.49	2.5%	21.2%	Negligible
H95	40	1.20	8.70	3.0%	21.8%	Negligible
H96	40	1.86	9.36	4.7%	23.4%	Negligible
H97	40	1.22	8.72	3.1%	21.8%	Negligible
H98	40	1.26	8.76	3.2%	21.9%	Negligible
H99	40	1.12	8.62	2.8%	21.6%	Negligible
H100	40	0.81	8.31	2.0%	20.8%	Negligible

**Table 1-6 Modelled maximum annual mean PM<sub>10</sub> impacts due the Oakendene substation and Bolney substation extension**

Receptor ID	AQO ( $\mu\text{g m}^{-3}$ )	PC ( $\mu\text{g m}^{-3}$ )	PEC ( $\mu\text{g m}^{-3}$ )	PC (% of AQO)	PEC (% of AQO)	Impact
H71	40	0.24	12.52	0.6%	31.3%	Negligible
H72	40	0.06	12.94	0.2%	32.3%	Negligible
H73	40	0.05	12.67	0.1%	31.7%	Negligible
H74	40	0.22	13.13	0.5%	32.8%	Negligible
H75	40	0.03	12.94	0.1%	32.4%	Negligible
H76	40	0.02	12.98	0.0%	32.5%	Negligible
H77	40	0.04	12.31	0.1%	30.8%	Negligible
H78	40	0.09	12.37	0.2%	30.9%	Negligible
H79	40	0.17	12.45	0.4%	31.1%	Negligible
H80	40	0.03	12.79	0.1%	32.0%	Negligible

Receptor ID	AQO ( $\mu\text{g m}^{-3}$ )	PC ( $\mu\text{g m}^{-3}$ )	PEC ( $\mu\text{g m}^{-3}$ )	PC (% of AQO)	PEC (% of AQO)	Impact
H81	40	0.01	13.52	0.0%	33.8%	Negligible
H82	40	0.06	12.82	0.1%	32.1%	Negligible
H83	40	0.16	12.93	0.4%	32.3%	Negligible
H84	40	0.08	12.85	0.2%	32.1%	Negligible
H85	40	0.02	12.79	0.1%	32.0%	Negligible
H86	40	0.01	12.78	0.0%	31.9%	Negligible
H87	40	0.01	12.77	0.0%	31.9%	Negligible
H88	40	0.01	12.77	0.0%	31.9%	Negligible
H89	40	0.02	12.79	0.1%	32.0%	Negligible
H90	40	0.01	12.78	0.0%	31.9%	Negligible
H91	40	0.02	12.78	0.1%	32.0%	Negligible
H92	40	0.02	12.78	0.0%	32.0%	Negligible
H93	40	0.02	12.78	0.0%	32.0%	Negligible
H94	40	0.02	12.79	0.1%	32.0%	Negligible
H95	40	0.03	12.79	0.1%	32.0%	Negligible
H96	40	0.04	12.80	0.1%	32.0%	Negligible
H97	40	0.03	12.79	0.1%	32.0%	Negligible
H98	40	0.03	12.79	0.1%	32.0%	Negligible
H99	40	0.02	12.79	0.1%	32.0%	Negligible
H100	40	0.02	12.78	0.0%	32.0%	Negligible

**Table 1-7 Modelled maximum annual mean PM<sub>2.5</sub> impacts due the Oakendene substation and existing National Grid Bolney substation extension**

Receptor ID	AQO ( $\mu\text{g m}^{-3}$ )	PC ( $\mu\text{g m}^{-3}$ )	PEC ( $\mu\text{g m}^{-3}$ )	PC (% of AQO)	PEC (% of AQO)	Impact
H71	10	0.242	8.31	2.4%	83.1%	Slight
H72	10	0.064	8.37	0.6%	83.7%	Negligible
H73	10	0.048	8.24	0.5%	82.4%	Negligible
H74	10	0.216	8.52	2.2%	85.2%	Slight
H75	10	0.033	8.34	0.3%	83.4%	Negligible
H76	10	0.019	8.33	0.2%	83.3%	Negligible
H77	10	0.037	8.11	0.4%	81.1%	Negligible
H78	10	0.093	8.16	0.9%	81.6%	Negligible
H79	10	0.175	8.25	1.7%	82.5%	Slight
H80	10	0.027	8.34	0.3%	83.4%	Negligible
H81	10	0.014	9.00	0.1%	90.0%	Negligible
H82	10	0.059	8.38	0.6%	83.8%	Negligible
H83	10	0.163	8.48	1.6%	84.8%	Slight
H84	10	0.083	8.40	0.8%	84.0%	Negligible
H85	10	0.024	8.34	0.2%	83.4%	Negligible
H86	10	0.014	8.33	0.1%	83.3%	Negligible
H87	10	0.007	8.32	0.1%	83.2%	Negligible
H88	10	0.008	8.33	0.1%	83.3%	Negligible
H89	10	0.023	8.34	0.2%	83.4%	Negligible
H90	10	0.013	8.33	0.1%	83.3%	Negligible
H91	10	0.021	8.34	0.2%	83.4%	Negligible
H92	10	0.017	8.33	0.2%	83.3%	Negligible
H93	10	0.016	8.33	0.2%	83.3%	Negligible
H94	10	0.022	8.34	0.2%	83.4%	Negligible

Receptor ID	AQO ( $\mu\text{g m}^{-3}$ )	PC ( $\mu\text{g m}^{-3}$ )	PEC ( $\mu\text{g m}^{-3}$ )	PC (% of AQO)	PEC (% of AQO)	Impact
H95	10	0.026	8.34	0.3%	83.4%	Negligible
H96	10	0.039	8.36	0.4%	83.6%	Negligible
H97	10	0.026	8.34	0.3%	83.4%	Negligible
H98	10	0.027	8.34	0.3%	83.4%	Negligible
H99	10	0.024	8.34	0.2%	83.4%	Negligible
H100	10	0.018	8.34	0.2%	83.4%	Negligible



## 2. Glossary of terms and abbreviations

**Table 2-1 Glossary of terms and abbreviations**

<b>Term (acronym)</b>	<b>Definition</b>
<b>Air Quality Objective (AQO)</b>	The Air Quality Objectives are policy targets generally expressed as a maximum ambient concentration to be achieved, either without exception or with a permitted number of exceedances, within a specified timescale. The Objectives are set out in the UK Government's Air Quality Strategy for the key air pollutants.
<b>Construction</b>	Used both to refer to the whole construction phase of a project, and more specifically to refer to an activity involved in the provision of a new structure (building, road, etc.).
<b>IAQM</b>	Institute of Air Quality Management.
<b>NO<sub>2</sub></b>	Nitrogen dioxide.
<b>PC</b>	Process contribution.
<b>PEC</b>	Predicted environmental contribution.
<b>PM</b>	Particulate matter. Microscopic portions of solid matter suspended in air. This includes a wide range of particle sizes and different chemical constituents. It consists of both primary components, which are emitted directly into the atmosphere, and secondary components, which are formed within the atmosphere as a result of chemical reactions. Commonly used to refer to both PM <sub>10</sub> and PM <sub>2.5</sub> .
<b>PM<sub>10</sub></b>	Particulate matter smaller than 10 µm in diameter.
<b>PM<sub>2.5</sub></b>	Particulate matter smaller than 2.5 µm in diameter.
<b>Proposed Development</b>	The development that is subject to the application for development consent, as described in <a href="#">Chapter 4: The Proposed Development, Volume 2</a> of the ES (Document Reference: 6.2.4).
<b>Receptor</b>	These are as defined in Regulation 5(2) of The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 and include population and human health, biodiversity, land, soil, water, air, climate, material assets, cultural heritage and landscape that may be at risk from exposure to direct and indirect impacts which may arise as a result of the Proposed Development.



Page intentionally blank

## 3. References

---

Environment Agency, (2023). *Air emissions risk assessment for your environmental permit*. [Online]. Available at: <https://www.gov.uk/guidance/air-emissions-risk-assessment-for-your-environmental-permit> [Accessed 17 May 2023].

Institute of Air Quality Management (IAQM) and Environmental Protection UK (EPUK), (2017), *Land-Use Planning and Development Control: Planning For Air Quality*. Updated January 2017. [Online] Available at: <https://www.iaqm.co.uk/text/guidance/air-quality-planning-guidance.pdf> [Accessed 17 May 2023].

