Riverside Energy Park

Clarifications and Corrections Report

VOLUME NUMBER:

08

PLANNING INSPECTORATE REFERENCE NUMBER:

EN010093

DOCUMENT REFERENCE:

8.02.05

May 2019 | Revision 0 (Deadline 2) | APFP Regulation 5(2)(a) and (q)

Planning Act 2008 | Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

CORY
RIVERSIDE ENERGY

Contents

Tables

1 Introduction

1.1 Purpose of this document

1.1.1 An application for a Development Consent Order (DCO) for powers to construct, operate and maintain an integrated Energy Park, to be known as Riverside Energy Park (REP) (the Proposed Development), was made by Cory Environmental Holdings Limited, trading as Cory Riverside Energy (Cory, or "the Applicant"), to the Secretary of State for Business, Energy and Industrial Strategy under the Planning Act 2008 (PA 2008) in November 2018. The Proposed Development is described in **Chapter 3 Project and Site Description** of the **Environmental Statement (ES) (6.1, Rev 1)**. The Application was accepted by the Planning Inspectorate (PINS) for examination on 14th December 2018 on behalf of the Secretary of State.

1.1.2 This document provides 'Clarifications and Corrections' relating to the submitted DCO Application documents and should be read alongside the suite of application documents. **Table 1.1** sets out the structure of this document.

Table 1.1: Structure of this document

Section	Summary
1	Introduction
2	Table of clarifications and corrections, addressing errors identified following submission of the Application.
3	Specific clarifications in relation to: i. **Chapter 11 Terrestrial Biodiversity** of the **ES (6.1, APP-048)**. ii. **Habitat Regulations No Significant Effects Report (6.5, APP-101)**
4	Revised tables which supersede those contained in the application documents (as referenced in **Sections 2** and **3** of this report).
Appendix 1	Revised **Figure 7.5** in relation to **Chapter 7 Air Quality** of the **ES (6.1, Rev 1)**.
Appendix 2	Revised Appendices in relation to **Chapter 7 Air Quality** of the **ES (6.3, Rev 1)**.

2 Table of Clarifications and Corrections

2.1 Clarifications and Corrections

2.1.1 **Table 2.1** provides clarifications and corrections, with an explanation of the change where required.

2.1.2 Corrected text is shown in blue with, where appropriate, the original text to be deleted shown struck through in red.

2.1.3 The clarifications and corrections set out in this report do not alter the significance of the likely significant environmental effects as reported in the submitted ES.

Table 2.1: Table of ES Clarifications Corrections

Document	Document page number (as submitted)	Paragraph Reference	Text as Submitted	Clarification or Correction	Explanation
Chapter 5 Alternatives Considered of the **ES (6.1, APP-042)**	6	5.5.2	During the early feasibility work for the grid connection for REP, UKPN investigated the use of other existing cables routed through the tunnel and found that all the cables were in use and could not be removed to accommodate cables for RRRF.	During the early feasibility work for the grid connection for REP, UKPN investigated the use of other existing cables routed through the tunnel and found that all the cables were in use and could not be removed to accommodate cables for ~~RRRF~~REP.	N/A
Chapter 6 Transport of the ES **(6.1, APP-043)**	54	6.4.32	As a result of this, the details included within Plate 6.1 and Error! Reference source not found. indicate a	As a result of this, the details included within Plate 6.1 and ~~Error! Reference source not found~~ Plate 6.2	N/A

Document	Document page number (as submitted)	Paragraph Reference	Text as Submitted	Clarification or Correction	Explanation
			difference in the origins of traffic.	indicate a difference in the origins of traffic.	
Chapter 6 Transport of the ES **(6.1, APP-043)**	55	6.4.34	The process for determining the trip generation for the nominal scenario, which would include 25% of the waste transported by road and 75% by river, is identified in Error! Reference source not found.	The process for determining the trip generation for the nominal scenario, which would include 25% of the waste transported by road and 75% by river, is identified in ~~Error! Reference source not found~~ Plate 6.2.	N/A
Chapter 6 Transport of the ES **(6.1, APP-043)**	80	6.7.24	This is graphically represented in Error! Reference source not found.	This is graphically represented in ~~Error! Reference source not found~~Plate 6.5.	N/A
Chapter 6 Transport of the ES **(6.1, APP-043)**	80	6.7.25	The following junctions and roads, located as indicated in Error! Reference source not found., have been analysed:	The following junctions and roads, located as indicated in ~~Error! Reference source not found.~~Plate 6.5, have been analysed:	N/A
Chapter 7 Air Quality of the ES	9	7.2.18	In 1997, the government produced its first	In 1997, the government produced its	N/A

Document	Document page number (as submitted)	Paragraph Reference	Text as Submitted	Clarification or Correction	Explanation
(6.1, APP-044)			Air Quality Strategy setting out an analysis of existing air quality for eight key pollutants. This was successively updated with the most recent version published in 2007. The Air Quality Strategy (2007) establishes the policy framework for ambient air quality management and assessment in the UK (DETR, 2007).	first Air Quality Strategy setting out an analysis of existing air quality for eight key pollutants. This was successively updated with the most recent version published in 2007. The Air Quality Strategy (2007) establishes the policy framework for ambient air quality management and assessment in the UK (DE~~TR~~FRA, 2007).	
Chapter 7 Air Quality of the ES **(6.1, APP-044)**	19	Table 7.9 - LBH consultation response, row 2	HV1 has been used alongside the diffusion tube site at Blewitts Cottages to verify the model. Rainham Tesco has not been used for verification of the traffic model as it is located adjacent to a bus stop. Given	HV1 has been used ~~alongside the diffusion tube site at blewitts Cottages~~ to verify the model due to availability of 2017 data. Rainham Tesco has not been used for verification of the traffic	The Blewitts Cottages diffusion tube (HAV50) had only 50% data capture in 2017 and therefore was not suitable for model verification. Whilst the resultant verification factor is

Document	Document page number (as submitted)	Paragraph Reference	Text as Submitted	Clarification or Correction	Explanation
			the difficulty in accurately representing conditions at this location due the bus wait times and stopping and starting, this is not considered an appropriate location for model verification. Appropriate traffic data is not available to be able to include Rainham Village School for model verification. Overall, it is considered that two verification sites are sufficient for verification of the traffic modelling which covers the Rainham area.	model as it is located adjacent to a bus stop. Given the difficulty in accurately representing conditions at this location due the bus wait times and stopping and starting, this is not considered an appropriate location for model verification. Appropriate traffic data is not available to be able to include Rainham Village School for model verification. ~~Overall, it is considered that two verification sites are sufficient for verification of the traffic modelling which covers the Rainham area.~~	relatively high, the predicted impacts of road traffic emissions are still negligible and therefore an appropriately conservative assessment has been undertaken. The verification site used is sufficient for verification of the traffic modelling which covers the Rainham area.
Chapter 7 Air Quality of the ES **(6.1, APP-**	32/33	Table 7.9 - GLA response regarding	Figure 7.7 is an isopleth of the maximum annual mean	Figure 7.7 is an isopleth of the maximum annual mean	N/A

Document	Document page number (as submitted)	Paragraph Reference	Text as Submitted	Clarification or Correction	Explanation
044)		arsenic, nickel and NO2	NO2 concentration from the ERF from the 5-years' worth of data modelled assuming that the ERF operates at the maximum emission limits all year round. The predicted annual mean concentration ranges from 0.4 to 0.6 µg/m3 in Rainham. Specific receptor locations have been chosen in Rainham Town Centre (reference Figure 7.3.1) where the cumulative impacts of emissions from the ERF, road traffic emissions, background concentrations and other point sources are evaluated. The predicted concentrations are shown in Appendix C.2, Table C3.2.9. Receptors 7, 18,	NO2 concentration from the ERF from the 5-years' worth of data modelled assuming that the ERF operates at the maximum emission limits all year round. The predicted annual mean concentration ranges from 0.4 to 0.6 µg/m3 in Rainham. Specific receptor locations have been chosen in Rainham Town Centre (reference Figure 7.3.1) where the cumulative impacts of emissions from the ERF, road traffic emissions, background concentrations and other point sources are evaluated. The predicted concentrations are shown in Appendix C.2, Table C~~3~~2.2.9.	

Document	Document page number (as submitted)	Paragraph Reference	Text as Submitted	Clarification or Correction	Explanation
			20 and 22 represent Rainham Town Centre. The maximum predicted environmental concentration is 31.1 µg/m3 at Receptor 7. There is therefore no risk of non-compliance with air quality strategy objectives or EU Limit Values in Rainham Town Centre. Both the Arsenic and Nickle isopleths show that whilst predicted concentrations are very low in absolute terms, they are above levels which are potentially significant and therefore one needs to take into account the existing baseline concentrations to which the ERF contribution is added. As with the annual mean NO2	Receptors 7, 18, 20 and 22 represent Rainham Town Centre. The maximum predicted environmental concentration is ~~31.1~~29.0 µg/m3 at Receptor 7. There is therefore no risk of non-compliance with air quality strategy objectives or EU Limit Values in Rainham Town Centre. Both the Arsenic and Nick~~le~~el isopleths show that whilst predicted concentrations are very low in absolute terms, they are above levels which are potentially significant and therefore one needs to take into account the existing baseline concentrations to which the	

Document	Document page number (as submitted)	Paragraph Reference	Text as Submitted	Clarification or Correction	Explanation
			concentrations, the assessment levels apply at locations of relevant exposure. Taking into account baseline concentrations, the maximum annual mean Arsenic predicted environmental concentrations are approximately 41% of the assessment level, and the maximum annual mean Nickel predicted environmental concentrations are approximately 24% of the assessment level.	ERF contribution is added. As with the annual mean NO2 concentrations, the assessment levels apply at locations of relevant exposure. Taking into account baseline concentrations, the maximum annual mean Arsenic predicted environmental concentrations are approximately ~~41~~38% of the assessment level, and the maximum annual mean Nickel predicted environmental concentrations are approximately ~~24~~50% of the assessment level.	
Chapter 7 Air Quality of the ES **(6.1, APP-044)**	36	Table 7.9 - Public Health England response, row 2	The air quality impacts from combined emission sources have been evaluated	The air quality impacts from combined emission sources have been	Reworded to clarify assessment approach.

Document	Document page number (as submitted)	Paragraph Reference	Text as Submitted	Clarification or Correction	Explanation
			where they are significant	evaluated where they are not insignificant	
Chapter 7 Air Quality of the ES **(6.1, APP-044)**	39	7.4.9	For the assessment of road traffic emissions, future year model inputs have been based on 2022 emissions factors and background concentrations, whilst utilising traffic flows for 2024. The model has been verified against 2016 monitoring data. This is considered to provide an appropriately conservative assessment taking into account the uncertainties regarding future vehicle emission factors.	For the assessment of road traffic emissions, future year model inputs have been based on 2022 emissions factors and background concentrations , whilst utilising traffic flows for 2024. The model has been verified against 2017~~6~~ monitoring data. This is considered to provide an appropriately conservative assessment taking into account the uncertainties regarding future vehicle emission factors.	N/A
Chapter 7 Air Quality of the ES **(6.1, APP-044)**	46	7.5.28	Road or river transport emissions during construction and operational phases which	Road ~~or river~~ transport emissions during construction and operational	Clarification as to the assessment methodology; river transport emissions are not subject to

Document	Document page number (as submitted)	Paragraph Reference	Text as Submitted	Clarification or Correction	Explanation
			are assessed as being potentially significant, have been predicted using dispersion modelling.	phases which are assessed as being potentially significant, have been predicted using dispersion modelling.	dispersion modelling.
Chapter 7 Air Quality of the ES **(6.1, APP-044)**	47	7.5.29	Traffic speeds were based on local speed restrictions, taking into account congestion and proximity to junctions. Traffic data used for this assessment has been summarised in Appendix C.1. The modelling has been verified against 2016 monitoring data, as this was the most recent available at the time of the assessment.	Traffic speeds were based on local speed restrictions, taking into account congestion and proximity to junctions. Traffic data used for this assessment has been summarised in Appendix C.1. The modelling has been verified against 2017~~6~~ monitoring data, as this was the most recent available at the time of the assessment.	N/A
Chapter 7 Air Quality of the ES **(6.1, APP-044)**	52	Table 7.18	*No text change. Table 7.18 has been replaced with Table 7.18a (see Section 4 below)*		N/A
Chapter 7 Air Quality	56	7.5.62	the magnitude of the changes	the magnitude of the changes	N/A

Document	Document page number (as submitted)	Paragraph Reference	Text as Submitted	Clarification or Correction	Explanation
of the ES **(6.1, APP-044)**			and the descriptions of the impacts at the receptors i.e. Table 7.15 and Table 7.16 findings;	and the descriptions of the impacts at the receptors i.e. Table 7.~~15~~20 ~~and~~to Table 7.~~16~~22 findings;	
Chapter 7 Air Quality of the ES **(6.1, APP-044)**	58	7.6.3	The complete development traffic modelling has been based on 2022 emission factors and background concentrations (EFT v.8), whilst utilising forecast traffic flows for 2024. The model has been verified against 2016 monitoring data. This is considered to provide an appropriately conservative assessment taking into account the uncertainties regarding future vehicle emission factors and further information regarding emissions factors for roads models is provided in Appendix C.1.	The complete development traffic modelling has been based on 2022 emission factors and background concentrations (EFT v.8), whilst utilising forecast traffic flows for 2024. The model has been verified against 2017~~6~~ monitoring data. This is considered to provide an appropriately conservative assessment taking into account the uncertainties regarding future vehicle emission factors and further information regarding emissions factors for roads models	N/A

Document	Document page number (as submitted)	Paragraph Reference	Text as Submitted	Clarification or Correction	Explanation
				is provided in Appendix C.1.	
Chapter 7 Air Quality of the ES **(6.1, APP-044)**	58/59	Table 7.23	*Table 7.23 has been replaced with amended Table 7.23a (see Section 4 below)*		Table 7.23 replaced to provide data capture for 2017.
Chapter 7 Air Quality of the ES **(6.1, APP-044)**	59	Table 7.24	*Table 7.24 has been replaced with amended Table 7.24a, and re-titled "Local Authority Monitoring NO2 Concentrations (2014 - 2017~~6~~)" (see Section 4 below)*		Table 7.24 replaced to add in 2017 monitoring data (to match model verification year).
Chapter 7 Air Quality of the ES **(6.1, APP-044)**	60	Table 7.25	*Table 7.25 has been replaced with the amended Table 7.25a, and re-titled "Local Authority Monitoring PM10 concentrations (2014 - 2017~~6~~) (see Section 4 below))*		Table 7.25 replaced to add in 2017 monitoring data (to match model verification year).
Chapter 7 Air Quality of the ES **(6.1, APP-044)**	61	Table 7.26	*Table 7.26 has been replaced with the amended Table 7.26a, and re-titled "Local Authority Monitoring PM2.5 concentrations (2014 – 2017~~6~~) (see Section 4 below)*		Table 7.26 replaced to add in 2017 monitoring data (to match model verification year).
Chapter 7 Air Quality of the ES **(6.1, APP-044)**	61	Table 7.27	*Table 7.27 has been replaced with the amended Table 7.27a (see Section 4 below)*		Data amended to 2017 (model verification year). No effect on predicted results.
Chapter 7 Air Quality	61	7.7.10	These background	These background	N/A

Document	Document page number (as submitted)	Paragraph Reference	Text as Submitted	Clarification or Correction	Explanation
of the ES **(6.1, APP-044)**			maps have been calibrated against measured local background concentrations for Bexley to provide a better estimate of the influence of any local sources. As an example, the 2016 and 2024 background concentrations for grid square 549000, 180000 are presented below in the Table 7.27.	maps have been calibrated against measured local background concentrations for Bexley to provide a better estimate of the influence of any local sources. As an example, the 2017~~6~~ and 2024 background concentrations for grid square 549000, 180000 are presented below in the Table 7.27a.	
Chapter 7 Air Quality of the ES **(6.1, APP-044)**	64	Table 7.29	*No text change. Table 7.29 has been replaced with Table 7.29a (see Section 4 below)*		N/A
Chapter 7 Air Quality of the ES **(6.1, APP-044)**	68	7.7.17	Estimates of existing background levels and loads within the specified habitat locations were obtained from the APIS website and are provided in the Table 7.31	Estimates of existing background levels and loads within the specified habitat locations were obtained from the APIS website and are provided in	Provides additional clarification as to the exclusion of habitats from the assessment.

Document	Document page number (as submitted)	Paragraph Reference	Text as Submitted	Clarification or Correction	Explanation
			below. The sites for which the habitats had been designated on the basis of their geological interest only have not been included as they are not sensitive to acid or nitrogen deposition.	Table 7.31a below. The sites for which the habitats had been designated on the basis of their geological interest only or which are not sensitive to air pollution (i.e. littoral sediment) have not been included as they are not sensitive to acid or nitrogen deposition.	
Chapter 7 Air Quality of the ES **(6.1, APP-044)**	68/69	Table 7.31	*No text change. Table 7.31 has been replaced with Table 7.31a (see Section 4 below)*		N/A
Chapter 7 Air Quality of the ES **(6.1, APP-044)**	70	7.7.21	Modelled baseline concentrations of NO2, PM10 and PM2.5 which are related to road traffic emissions, are shown in Table 7.32, below. This confirms that concentrations of all three pollutants will reduce over this	Modelled baseline concentrations of NO2, PM10 and PM2.5 which are related to road traffic emissions, are shown in Table 7.32a, below. This confirms that concentrations of all three pollutants will reduce over	N/A

Document	Document page number (as submitted)	Paragraph Reference	Text as Submitted	Clarification or Correction	Explanation
			period. Furthermore, although there are exceedances of the NO2 objective predicted in 2016 (shown in bold in Table 7.32), there are no exceedances in 2024. No exceedances are predicted in either year for particulate matter.	this period. Furthermore, although there are exceedances of the NO2 objective predicted in 2017~~6~~ (shown in bold in Table 7.32a), there are no exceedances in 2024. No exceedances are predicted in either year for particulate matter.	
Chapter 7 Air Quality of the ES **(6.1, APP-044)**	71	Table 7.32	*Table 7.32 has been replaced with the amended 7.32a, and re-titled Baseline concentrations of NO2, PM10 and in 201~~6~~7 and 2024) (see Section 4 below)*		Provides baseline concentrations in 2017 (model verification year).
Chapter 7 Air Quality of the ES **(6.1, APP-044)**	75	7.9.16	For Tier II emission vessel movements (the same as currently used for RRRF), the annual mean NO_x concentration at the point of exposure was modelled to be 0.08µg/m^3, equivalent to approximately 0.06µg/m^3 of NO_2. This is	For Tier II emission vessel movements (emissions as a result of vessel movements on the River Thames from vessels with emissions complying with International Maritime Organisation (IMO) Tier II	N/A

Document	Document page number (as submitted)	Paragraph Reference	Text as Submitted	Clarification or Correction	Explanation
			approximately 0.14% of the assessment level and therefore imperceptible. The Navigational Risk Assessment (NRA) (Marico, 2018) estimated the increase in river traffic movements by stretch of the river from REP. For the majority of the river, the increase in hourly river usage was less than 10%. The three stretches of the river with increases above 10% are Barking Reach (11%), Tilbury Docks (13%) and Halfway Reach (27%).	emission standards) (the same as currently used for RRRF), the annual mean NO_x concentration at the point of exposure was modelled to be 0.08µg/m^3, equivalent to approximately 0.06µg/m^3 of NO_2. This is approximately 0.14% of the assessment level and therefore imperceptible. The Navigational Risk Assessment (NRA) (Marico, 2018) estimated the increase in river traffic movements by stretch of the river from REP. For the majority of the river, the increase in hourly river usage was less than 10%. The three stretches of the river with	

Document	Document page number (as submitted)	Paragraph Reference	Text as Submitted	Clarification or Correction	Explanation
				increases above 10% are Barking Reach (11%), Tilbury Docks (13%) and Halfway Reach (27%).	
Chapter 7 Air Quality of the ES **(6.1, APP-044)**	75	7.9.17	The increases at Barking Reach and Halfway Reach reflect the approaches to the REP site from the west and east respectively. The increase in movements at Tilbury Docks reflects increased loadings of waste there. Annual mean NO2 concentrations as a result of the predicted increase in vessel movements would increase by approximately 0.006 µg/m3 at Barking Reach, 0.008 µg/m3 at Tilbury Docks and 0.02 µg/m3 at Halfway Reach respectively. In	The increases at Barking Reach and Halfway Reach reflect the approaches to the REP site from the west and east respectively. The increase in movements at Tilbury Docks reflects increased loadings of waste there. Annual mean NO2 concentrations as a result of the predicted increase in vessel movements ~~would~~are therefore estimated to increase by approximately 0.006 µg/m3 at Barking Reach, 0.008 µg/m3 at Tilbury Docks and 0.02	Clarifies the methodology for the estimation of the increase in concentrations.

Document	Document page number (as submitted)	Paragraph Reference	Text as Submitted	Clarification or Correction	Explanation
			all cases the increases are imperceptible and the impact Negligible in relation to Air Quality.	µg/m3 at Halfway Reach respectively. In all cases the increases are imperceptible and the impact Negligible in relation to Air Quality.	
Chapter 7 Air Quality of the ES **(6.1, APP-044)**	78	7.9.22	The PC for nitrogen dioxide (NO2) at human health receptors ranges from 0.2% to 1.4% of the annual mean objective. Once background and other existing sources of NO2 (including road sources where relevant) have been taken into account, total concentrations range from 48.6% to 87.3% of the objective. Based on the IAQM significance criteria, combined NO2 impacts of both vehicle and on-site emissions are Negligible at all receptors.	The PC for nitrogen dioxide (NO2) at human health receptors ranges from 0.~~2~~1% to 1.4% of the annual mean objective. Once background and other existing sources of NO2 (including road sources where relevant) have been taken into account, total concentrations range from 47.7~~48.6~~% to 82.7~~87.3~~% of the objective. Based on the IAQM significance criteria, combined NO2 impacts of	N/A

Document	Document page number (as submitted)	Paragraph Reference	Text as Submitted	Clarification or Correction	Explanation
				both vehicle and on-site emissions are Negligible at all receptors.	
Chapter 7 Air Quality of the ES **(6.1, APP-044)**	78	7.9.24	The PC for Arsenic at human health receptors ranges from 0.8% to 5.7% of the relevant long term assessment level. Once background concentrations and existing local sources of Arsenic have been taken into consideration, total concentrations at receptors range from 34.2% to 41.5% of the assessment level. Based on the IAQM assessment criteria, there are Negligible impacts at most receptors and Minor impacts at two receptors. The two receptors with Minor impacts are both located within a business park	The PC for Arsenic at human health receptors ranges from 0.8% to 5.7% of the relevant long term assessment level. Once background concentrations and existing local sources of Arsenic have been taken into consideration, total concentrations at receptors range from 33.7~~34.2~~% to 41.5% of the assessment level. Based on the IAQM assessment criteria, there are Negligible impacts at most receptors and Minor impacts at two receptors. The two receptors with Minor impacts are both located	Typographical error and there is no short term assessment objective for arsenic

Document	Document page number (as submitted)	Paragraph Reference	Text as Submitted	Clarification or Correction	Explanation
			where the long term objective is not relevant and short term objectives are met.	within a business park where the long term objective is not relevant ~~and short term objectives are met~~.	
Chapter 7 Air Quality of the ES **(6.1, APP-044)**	79	7.9.26	For Benzo(a)pyrene, the PC is less than 0.6% of the relevant assessment level at all of the receptor locations. The PEC is predicted to be between 82% and 84% of the relevant assessment level, and the impacts are all Negligible.	For Benzo(a)pyrene, the PC is less than 0.6% of the relevant assessment level at all of the receptor locations. The PEC is predicted to be between 82% and 84.1% of the relevant assessment level, and the impacts are all Negligible.	N/A
Chapter 7 Air Quality of the ES **(6.1, APP-044)**	82	7.9.43	For the International and Nationally Designated sites, all of the PCs are less than 1% of the critical level, or the PECs do not exceed the critical level apart from at two receptor locations for predicted annual average NOx	For the International and Nationally Designated sites, all of the PCs are less than 1% of the critical level, or the PECs do not exceed the critical level apart from at two receptor locations for predicted annual average NOx	Takes account of change to Table C.2.3.6 to include nitrogen deposition from ammonia which was inadvertently omitted from the assessment table. This matter was agreed and

Document	Document page number (as submitted)	Paragraph Reference	Text as Submitted	Clarification or Correction	Explanation
			concentrations. The annual mean NOx PC is 2.8% and 2.1% of the critical level at Inner Thames Marshes / Rainham Marshes and Ingrebourne Marshes respectively, and the critical level is exceeded. Whilst the PC is above the threshold for potential significance this reflects the annual mean NOx concentrations whereas the determining factor which could potentially affect habitats is the nutrient nitrogen deposition. In all cases, the nutrient nitrogen deposition PC is less than 1% of the relevant critical load and therefore it is unlikely that there will be a significant effect on the habitats.	concentrations . The annual mean NOx PC is 2.8% and 2.1% of the critical level at Inner Thames Marshes / Rainham Marshes and Ingrebourne Marshes respectively, and the critical level is exceeded. Whilst the PC is above the threshold for potential significance this reflects the annual mean NOx concentrations whereas the determining factor which could potentially affect habitats is the nutrient nitrogen deposition. In all cases, apart from the Ingrebourne Marshes, the nutrient nitrogen deposition PC is less than 1% of the relevant critical load or	addressed in the Statement of Common Ground (SoCG) with Natural England and is included as Appendix A to that SoCG.

Document	Document page number (as submitted)	Paragraph Reference	Text as Submitted	Clarification or Correction	Explanation
			The acid deposition PC is less than 1% of the critical load, or the PECs do not exceed the critical load at all of the International and Nationally Designated sites.	the PECs do not exceed the critical load and therefore it is unlikely that there will be a significant effect on the habitats. The predicted nitrogen deposition PC at Ingrebourne Marshes is 2.3% of the critical load and as the PEC is 115%, the potential significance of this is discussed in Chapter 11, where it is concluded that the effect is Not Significant. The acid deposition PC is less than 1% of the critical load, or the PECs do not exceed the critical load at all of the International and Nationally Designated sites.	
Chapter 7 Air Quality of the ES **(6.1, APP-**	88	7.13.1	Assessments on the potential emissions to air quality from	Assessments o~~n~~f the potential emissions to	N/A

Document	Document page number (as submitted)	Paragraph Reference	Text as Submitted	Clarification or Correction	Explanation
044)			construction, decommissioning of the Proposed Development have been conducted. Effects from construction and decommissioning dust has been identified as being not significant based on a suite of identified mitigation measures. The impact on local air quality from construction traffic has also been assessed as being not significant.	air quality from construction, decommissioning of the Proposed Development have been conducted. Effects from construction and decommissioning dust has been identified as being not significant based on a suite of identified mitigation measures. The impact on local air quality from construction traffic has also been assessed as being not significant.	
Chapter 7 Air Quality of the ES **(6.1, APP-044)**	89	7.14 - references	Department of the Environment, Transport and the Regions (DETR, 2007) in Partnership with the Welsh Office, Scottish Office and Department of the Environment for Northern Ireland (2007). 'The Air Quality	Department of the ~~Environment, Transport and the Regions~~ Environment, Food and Rural Affairs (DE~~TR~~FRA, 2007) in Partnership with the Welsh Office, Scottish Office and Department of	N/A

Document	Document page number (as submitted)	Paragraph Reference	Text as Submitted	Clarification or Correction	Explanation
			Strategy for England, Scotland, Wales, Northern Ireland' HMSO, London.	the Environment for Northern Ireland (2007). 'The Air Quality Strategy for England, Scotland, Wales, Northern Ireland' HMSO, London.	
Chapter 9 TVIA of the ES **(6.1, APP-046)**	35	Table 9.6 - row 3, column 2	No Change or Negligible A negligible effect can be due to a Neutral Nature of Effect	No Change or Negligible or Moderate[1] ~~A negligible effect can be due to a Neutral Nature of Effect~~	N/A
Chapter 9 TVIA of the ES **(6.1, APP-046)**	35	Table 9.6 - row 3 column 4	No Change or Negligible	No change or Negligible. A Negligible residual effect can be due to a Natural Nature of Effect	N/A
Chapter 9 TVIA of the ES **(6.1, APP-046)**	35	Table 9.6 - row 5, column 2	Slight or Moderate Moderate, slight (4) There will be the	Slight or Moderate Moderate, slight (45) There will be	N/A

[1] Note – this inclusion relates to magnitude, not the significance of effect. This is therefore not a new significant effect.

Document	Document page number (as submitted)	Paragraph Reference	Text as Submitted	Clarification or Correction	Explanation
			creation of a new roofline and distinctive landmark/focal point in the view	the creation of a new roofline and distinctive landmark/focal point in the view	
Chapter 9 TVIA of the ES **(6.1, APP-046)**	36	Table 9.6 - row 7, column 2	Creation of a new focal point, and skyline interest to the view with positive variation to the elevational built form	Moderate Creation of a new focal point, and skyline interest to the view with positive variation to the elevational built form	N/A
Chapter 9 TVIA of the ES **(6.1, APP-046)**	39	9.9.12	In summary, views from the Thames Path; Crossness Nature Reserve; Green Chain Walk at Erith Marshes, Crossness Conservation Area; Lesnes Abbey; the London Loop, and PRoW near Horseshoe Corner (SA-1 East, SA-1 West 2, 3, 6, 7, 8, 10 and 11), there is the potential that the construction of the Proposed Development could give rise to Adverse	In summary, in views from the Thames Path; Crossness Nature Reserve; Green Chain Walk at Erith Marshes, Crossness Conservation Area; Lesnes Abbey; the London Loop, and PRoW near Horseshoe Corner (SA-1 East, SA-1 West 2, 3, 6, 7, 8, 10 and 11), there is the potential that the construction of the Proposed	N/A

Document	Document page number (as submitted)	Paragraph Reference	Text as Submitted	Clarification or Correction	Explanation
			visual effects with a Moderate level of significance.	Development could give rise to Adverse visual effects with a Moderate level of significance.	
Chapter 9 TVIA of the ES **(6.1, APP-046)**	39	9.9.13	The construction of the Proposed Development could give rise to townscape effects on the Character of the REP Site with a Moderate level of significance of effect.	The construction of the Proposed Development could give rise to adverse townscape effects on the Character of the REP Site with a Moderate level of significance of effect.	N/A
Chapter 9 TVIA of the ES **(6.1, APP-046)**	55	9.13.6	Additional combined or incremental cumulative visual effects from 'Other Developments' are mostly of a Negligible, or Minor magnitude, and are therefore not significant. However, there are adverse cumulative incremental visual effects of a Moderate level of significance close to the site	Additional combined or incremental cumulative visual effects from 'Other Developments' are mostly of a Negligible, or Minor magnitude, and are therefore not significant. However, there are adverse cumulative incremental visual effects of a Moderate level of	N/A

Document	Document page number (as submitted)	Paragraph Reference	Text as Submitted	Clarification or Correction	Explanation
			from VP,2,3,4, and from VP 8 Lesnes Abbey. An adverse cumulative combined visual effect which is a Moderate level of significance, during construction and on operation from VP SA1-East, and VP6, and during construction only from VP7 Crossness Conservation Area and VP8 Lesnes Abbey.	significance close to the site from VP,2,3,4, and from VP 8 Lesnes Abbey. There are~~An~~ adverse cumulative combined visual effects which ~~is~~ are of a Moderate level of significance, during construction and on operation, from VP SA1-East, and VP6, and during construction only from VP7 Crossness Conservation Area and VP8 Lesnes Abbey.	
Chapter 12 Hydrology, Flood Risk and Water Resources of the ES **(6.1, APP-049)**	14	Table 12.2 - London Borough of Bexley, Row 31, Column 3	A FRA has been prepared and forms an appendix (Document Reference 5.2) to the ES. Details regarding proposals for surface water management are set out in the FRA	A FRA has been prepared and forms an appendix (Document Reference 5.2) ~~to the ES~~. Details regarding proposals for surface water management are set out in the FRA	N/A
Chapter 12	17	12.5.2 -	http://maps/envi	~~http://maps/en~~	N/A

Document	Document page number (as submitted)	Paragraph Reference	Text as Submitted	Clarification or Correction	Explanation
Hydrology, Flood Risk and Water Resources of the ES **(6.1, APP-049)**		3rd bullet point	ronment-agency.gov.uk/wiyby	~~vironment-agency.gov.uk/wiyby~~	
Chapter 13 Ground Conditions of the ES **(6.1, APP-050)**	15	13.7.6	The recent (Terraconsult, 2018) ground investigations (GI) generally confirms the anticipated geology and indicates the presence of Made Ground up to 5.95 m thick in localised areas (typically <1 m thick). The Made Ground was generally described as a soft to firm black mottled dark brownish grey slightly sandy slightly gravelly to cobbly clay where the gravel/cobbles typically comprised brick, concrete and flint. Less commonly the Made Ground contained glass, metal, wire, plastic, textiles, string, ash, ceramic pieces,	The recent (Terraconsult, 2018) and historical ground investigations (GI) generally confirms the anticipated geology and indicates the presence of Made Ground up to 5.95 m thick in localised areas (typically <1 m thick). The Made Ground was generally described as a soft to firm black mottled dark brownish grey slightly sandy slightly gravelly to cobbly clay where the gravel/cobbles typically comprised brick, concrete and flint. Less commonly the Made Ground contained	N/A

Document	Document page number (as submitted)	Paragraph Reference	Text as Submitted	Clarification or Correction	Explanation
			asphalt, 'slag', cables and rubber ducting.	glass, metal, wire, plastic, textiles, string, ash, ceramic pieces, asphalt, 'slag', cables and rubber ducting.	
Chapter 14 Socio-economics of the ES **(6.1, APP-051)**	43	14.9.18	The Proposed Development would represent a new entrant and thus provide increased capacity and employment within the residual waste treatment subsector of the wider waste management sector (a Medium Sensitivity Receptor). Taking account of potential displacement and deadweight effects, the operational phase of the Proposed Development is predicted to generate 39 FTE net additional direct jobs, which is expected to contribute approximately	The Proposed Development would represent a new entrant and thus provide increased capacity and employment within the residual waste treatment subsector of the wider waste management sector (a Medium Sensitivity Receptor). Taking account of potential displacement and deadweight effects, the operational phase of the Proposed Development is predicted to generate 4939 FTE net additional	N/A

Document	Document page number (as submitted)	Paragraph Reference	Text as Submitted	Clarification or Correction	Explanation
			£7.2 million GVA to the wider economy. However, as the Proposed Development focusses on the treatment of residual waste it would not result in any direct effects (beneficial or adverse) on the recycling or materials re-use subsectors within the overall waste management sector.	direct jobs, which is expected to contribute approximately £7.2 million GVA to the wider economy. However, as the Proposed Development focusses on the treatment of residual waste it would not result in any direct effects (beneficial or adverse) on the recycling or materials re-use subsectors within the overall waste management sector.	
Chapter 18 Glossary of the ES **(6.1, APP-055)**	11	N/A	Reference to International Maritime Organisation not defined in submitted ES	IMO – International Maritime Organisation	N/A
Chapter 18 Glossary of the ES **(6.1, APP-055)**	21	N/A	*Reference to Tier II emission vessel movement was not defined in submitted ES.*	Tier II emission vessel movements - Emissions as a result of vessel movements on the River Thames from	N/A

Document	Document page number (as submitted)	Paragraph Reference	Text as Submitted	Clarification or Correction	Explanation
				vessels with emissions complying with International Maritime Organisation Tier II emission standards.	
Transport Assessment (6.3, APP-066)	71	6.3.13	The 2028 Do Minimum traffic flows for the AM and PM peak hours have been included in Appendix I .	The 2028 Do Minimum traffic flows for the AM and PM peak hours have been included in Appendix ~~I~~ J.	N/A
Transport Assessment – Appendix J (6.3, APP-066)	262	N/A	2028 Do Minimum Traffic Flows – AP Peak 07:45-0845 (in Vehicles)	202~~8~~2 Do Minimum Traffic Flows – AM Peak 07:45-0845 (in Vehicles)	N/A
Outline Code of Construction Practice (7.5, APP-106)	iv	N/A	This outline CoCP is intended to provide assurance to the decision maker and stakeholders that appropriate measures will be taken forward into the construction phase to limkt ahyh potential impacts and encourage a safe working through the submission and	This outline CoCP is intended to provide assurance to the decision maker and stakeholders that appropriate measures will be taken forward into the construction phase to ~~limkt~~limit ~~ahyh~~ any potential impacts and encourage a	N/A

Document	Document page number (as submitted)	Paragraph Reference	Text as Submitted	Clarification or Correction	Explanation
			approval of the final CoCP prior to the commencement of each, or part of, the numbered works which comprise REP.	safe working through the submission and approval of the final CoCP prior to the commencement of each, or part of, the numbered works which comprise REP.	
Outline Code of Construction Practice (7.5, APP-106)	18	4.2.3	A construction logistics plan setting out the management of non-construction related traffic to and from Work Nos. 1,2,3,4,5,6,7, and 8;	A construction logistics plan setting out the management of ~~non-~~ construction related traffic to and from Work Nos. 1,2,3,4,5,6,7, and 8;	N/A

2.1.4 In addition to the corrections identified in **Table 2.1** above, a paragraph referencing error has been identified within **Chapter 3 Project and Site Description** of the **ES (6.1, APP-040)**. **Paragraph 3.3.1**, on page 27 of **Chapter 3 Project and Site Description** of the **ES (6.1, APP-040)** as submitted and Paragraph 3.3.2, 3.3.3 and 3.3.4 on page 28 of **Chapter 3 Project and Site Description** of the **ES (6.1, APP-040)** as submitted, have been amended to be referred to as paragraphs 3.3.76, 3.3.77, 3.3.78 and 3.3.79 respectively.

2.2 Corrections to the Access and Rights of Way Plans

2.2.1 The **Access and Rights of Way (AROW) Plans (2.3, APP-009)** have undergone substantial amendments in light of project decisions relating to refinement of Electrical Connection route options. Within the refined Application Boundary the following corrections have been made in the drawings which are included the Deadline 2 submission.

Table 2.2: Corrections to the Access and Rights of Way Plans

Description of change	OS Coordinate
FP4 extended to meet with Norman Road to align with LBB highway plans (Sheet 2)	OS X (Eastings) 549681 OS Y (Northings) 180517
FP3 extended to edge of page on Sheet 2	OS X (Eastings) 549891 OS Y (Northings) 180739
Extent of highway corrected in east side of existing highway bridge at the southern end of Norman Road (Sheet 3)	OS X (Eastings) 549641 OS Y (Northings) 179929
FP1 full extent shown on Sheet 3 from Eastern Way southwards	OS X (Eastings) 549211 OS Y (Northings) 179921
Removal of small area shown as public highway adjacent to footbridge (Sheet 7)	OS X (Eastings) 551586 OS Y (Northings) 177426
Additional areas of public highway included north of Bob Dunn Way (Sheet 13)	OS X (Eastings) 553176 OS Y (Northings) 175351
Small amended areas of public highway north and south of Bob Dunn Way at the River Darent (Sheet 13)	OS X (Eastings) 553721 OS Y (Northings) 175638
Removal of small area shown as public highway at entrance to Ivy Cottage (Sheet 14)	OS X (Eastings) 554286 OS Y (Northings) 175761
Small adjustment to marker ‘BT’ and associated highway extent (Sheet 14)	OS X (Eastings) 554486 OS Y (Northings) 175853
Additional area of public highway at Marsh Street North crossing (Sheet 15)	OS X (Eastings) 555146 OS Y (Northings) 175968
Correction of small area of public highway at entrance to National Grid substation (Sheet 16)	OS X (Eastings) 555991 OS Y (Northings) 175837

3 Terrestrial Biodiversity Corrections and Clarifications

3.1 Terrestrial Biodiversity

3.1.1 In light of the air quality clarifications and corrections reported in **Section 2**, the following text replaces **Paragraph 11.9.29** in **Chapter 11 Terrestrial Biodiversity** of the **ES** (**6.1 APP-048**).

Changes to habitats could occur as a result of emissions from the stack. In line with standard guidance (Environment Agency guidance AQTAG06), the modelling of air quality effects to biodiversity receptors has focused on designated areas, and therefore those habitats within designated areas are considered within the sections above. No modelling has been undertaken of air quality effects to habitats located outside designated areas. No significant effects to any designated areas from air quality have been identified through the modelling work, therefore it is considered reasonable to conclude that effects to habitats outside designated areas will also be Not Significant.

3.1.2 In light of the air quality clarifications and corrections reported in **Section 2**, the following text replaces **Paragraph 11.9.23** in **Chapter 11 Terrestrial Biodiversity** of the **ES** (**6.1, APP-048**). This update to the assessment of potential Air Quality effects to terrestrial biodiversity receptors has been agreed with Natural England, as reflected in the Statement of Common Ground (SoCG) submitted at Deadline 2. As in the earlier case, the clarifications and corrections set out in this section do not alter the significance of the likely significant environmental effects as reported in the submitted ES:

All of the PCs from the ERF are less than 1% of the critical loads (or 100% for LNRs and SINCs), or the PECs do not exceed the critical level, apart from two receptor locations for predicted annual average oxides of nitrogen concentrations: the PC is 2.8% and 2.1% of the critical load at Inner Thames Marshes/Rainham Marshes LNR and Ingrebourne Marshes SSSI respectively. Baseline NO_x levels at these two sites currently exceed annual targets, although the PC from REP is not the causal factor of this exceedance, and only forms a small component of the total concentrations. Whilst the PC is above the threshold for potential significance, the annual mean NO_x critical load is primarily related to the potential for impacts of nutrient nitrogen deposition (apis.ac.uk, 2018).

*In the case of the Inner Thames Marshes/Rainham Marshes, whilst the nutrient nitrogen deposition PC of 2.2% is over the 1% threshold, the PEC does not exceed the critical load, therefore effects on the conservation objectives of this area of **National** importance will be **Not Significant**.*

The updated predicted PC for nitrogen deposition at Ingrebourne Marshes SSSI is 2.3% of the critical load. Ingrebourne Marshes SSSI currently exceeds annual targets for both NOx (114%) and nitrogen (115%) deposition, although

the predicted PCs from REP would not provide the causal factor for this exceedance and would only form a small component of the total baseline concentrations (PECs). Whilst the NOx PC is above the threshold for potential significance, this reflects the annual mean NOx concentrations (i.e. in the air) whereas the determining factor which could potentially affect habitats is the nutrient nitrogen deposition which is considered in subsequent paragraphs.

The 1% threshold for identification of potentially significant impacts to SSSIs has been used in the REP ES Chapter 11 for consistency with the Air Quality chapter which also uses this threshold, in line with Environment Agency (EA) Guidance (EA guidance AQTAG06). The EA guidance AQTAG06 uses the 1% level as a low threshold that can be applied generically to all SSSIs to identify potential significant impacts, irrespective of the sensitivity of the habitats or species for which they are designated. This is supported by the Institute of Air Quality Management's Position Statement, as follows:

"The use of the 1% threshold in the context of habitats should be used only to screen out impacts that will have an insignificant effect, and it should not be used as a threshold above which damage is implied and is therefore used to conclude that a significant effect is likely. It is instead an indication that there may be potential for a significant effect, but this requires evaluation by a qualified ecologist and with full consideration of the habitat's circumstances."

During consultation prior to the submission of the REP Development Consent Order application, Natural England indicated that it considers a 10% threshold as appropriate for identifying potentially significant impacts to SSSI (email from Natural England Advisor, 1 October 2018). This is over 4 times the predicted PC of NOx and nitrogen deposition from REP to Ingrebourne Marshes SSSI. Therefore, whilst the EA's 1% threshold is a useful guide for screening out potentially significant impacts, a PC above this does not necessarily equate to a significant impact on an ecological habitat.

One of the strongest effects of NOx emissions across the UK is through their contribution to total nitrogen deposition (apis.ac.uk, 2018) and therefore measures of NOx emissions and nitrogen deposition are intrinsically linked. Nitrogen is a nutrient required by all plants to grow, however excessive nitrogen can have negative impacts to plants and habitats by altering the biochemistry of the plants, or through stimulating the growth of competitive plant species which can reduce species diversity within an ecological habitat (apis.ac.uk, 2018).

Ingrebourne Marshes SSSI is principally a wetland site, supporting one of the most diverse and coherent areas of freshwater marshland in London. The condition assessment for the SSSI (Condition of SSSI Units for Site Ingrebourne Marshes SSSI) concludes that the majority of the SSSI is in 'favourable condition'. However, some areas of the SSSI or 'units' are in 'unfavourable condition', largely due to the presence of invasive species and inappropriate management. The condition assessment does not state that SSSI units in unfavourable condition are adversely affected by eutrophication, or the prevalence of nutrient loving plants (such as some graminaceous

species). This suggests that the conservation status of the habitats for which the SSSI is designated is not being adversely affected by the elevated levels of nitrogen which it receives at present.

Freshwater systems are typically 'phosphorus limited' meaning that phosphorus is generally scarce and will inhibit the growth of plants even in the presence of abundant nitrogen. Therefore, provided phosphorus concentrations remain low, the predicted minor increase in nitrogen deposition at Ingrebourne Marshes SSSI as a result of the operation of REP is unlikely to give rise to effects. This is supported by APIS which suggests that 'grazing marshes may be less sensitive to atmospheric deposition [of nitrogen]' than other wetland systems.

3.1.3 In light of the air quality clarifications and corrections reported in **Section 2**, the following text is inserted before **Paragraph 11.10.14** of **Chapter 11 Terrestrial Biodiversity** of the **ES (6.1, APP-048).**

The air quality modelling includes baseline emissions such as those from the existing Riverside Resource Recovery Facility, and the cumulative assessment does not identify significant point source emissions.

For these reasons, adverse effects to the conservation objectives of Ingrebourne Marshes SSSI from levels of nutrient deposition are Not Significant.

3.2 Habitats Regulations Assessment (HRA)

3.2.1 In light of the air quality clarifications and corrections reported in **Section 2**, the following text replaces **Paragraph 3.1.7** in the **Habitats Regulations Assessment No Significant Effects Report (6.5, APP-101) (HRA)**:

Table 3.2 below shows results of air quality modelling for the maximum annual mean process contributions for nitrogen deposition ~~(taken from the REP ES Appendix C.2)~~. Although the PEC is over the critical load of 10 kgN/ha/yr, this is principally due to existing background rates of nitrogen deposition, and the PC is ***Negligible*** *at 0.~~05~~2% indicating* ***no likely significant effects from REP****.*

3.2.2 Additionally, the following text replaces **Paragraph 3.1.12** in the **Habitats Regulations Assessment No Significant Effects Report (6.5, APP-101) (HRA)**:

For those operational pollutants from REP which have been modelled, Epping Forest SAC currently exceeds the critical level for NO_x and the critical load for Nitrogen deposition. Therefore, these are the only pollutants with potential for in-combination effects. The modelled PCs for NO_x and Nitrogen Deposition from REP are 0.08% and 0.~~05~~2% of the relevant critical level and load respectively. These contributions are considered nugatory and indistinguishable from background variations meaning there would be no appreciable effects to the SAC from REP. Therefore, there is no mechanism

for in-combination effects with other plans or projects in proximity to Epping Forest SAC which may also emit NO_x and contribute to Nitrogen Deposition.

3.2.3 The table in this section replaces the corresponding table in the HRA:

Table 3.1: Table 3.2a Predicted nitrogen deposition

Site Name	Lower Critical Load (kgN/ha/yr)	Background (kgN/ha/yr)	PC (kgN/ha/yr)	PC %	PEC (kgN/ha/yr)	PEC %
Epping Forest (SAC)	10	19.7	~~4.78 X 10^{-3}~~0.02	0.~~05~~2%	19.~~7~~8	19~~7~~8%

3.2.4 The clarifications and corrections set out in this section do not alter the effects reported in the HRA submitted with the DCO application. This minor revision to the HRA has been agreed with Natural England in its SoCG submitted at Deadline 2.

4 Revised DCO Application Tables

4.1.1 The tables in this section replace the corresponding tables in the ES. For example, **Table 7.18** Air Quality in the ES (**6.1; APP-044**) is replaced by **Table 4.1** (**Table 7.18a**) as set out in this report.

4.1.2 Where appropriate, corrected or clarified text is shown in blue with the original text to be deleted shown struck through in red.

4.1.3 The revisions set out in this section do not alter the significance of the likely significant environmental effects as reported in the submitted ES. Furthermore, in respect of deposition rates set out in **Table 7.31a**, the Applicant has prepared a Technical Note included as Annex A to the SoCG with Natural England submitted at Deadline 2. The SoCG confirms that the effects are agreed between both parties.

Table 4.1: Table 7.18a: Deposition Velocities Used in Calculations

Substance	Habitat	Dry Deposition Velocity (mm/s)	Conversion µg/m^2/s to kgN/ha/yr	Conversion µg/m^2/s to keq/ha/yr
Nitrogen dioxide (NO_2)	Grassland	1.5	96.0	6.84
	Woodland	3.0		
Sulphur dioxide (SO_2)	Grassland	12.0	-	9.84
	Woodland	24.0		
Ammonia (NH_3)	Grassland	20.0	259.7	18.5
	Woodland	30.0		
Hydrochloric acid (HCl)	Grassland	~~0.025~~25.0	-	8.63
	Woodland	~~0.06~~60.0		

Table 4.2: Table 7.23a: Local Authority Automatic Monitoring Stations Close to the Proposed REP

Monitoring Site	Local Authority	Site Reference Grid	Data Capture 2017~~6~~	Site Type	Pollutants Measured
Slade Green (BX1)	LBB	551864, 176379	~~89~~95%	Automatic Suburban background	NO_2, O_3, PM_{10}, $PM_{2.5}$ and SO_2
Belvedere Primary School (BX2)	LBB	549980, 179064	~~95~~98%	Automatic Urban background	NO_2, PM_{10}, $PM_{2.5}$
Bexley Business (BQ7)	LBB	548465, 179469	~~95~~98%	Automatic Urban background	NO_2, O_3, PM_{10}, $PM_{2.5}$
Scrattons Farm (BG2)	LBBD	548043, 183320	~~95~~93%	Automatic Suburban	NO_2, PM_{10}
Rainham (HV1)	LBH	553110, 182517	~~96~~100%	Automatic Roadside	NO_2, PM_{10}, $PM_{2.5}$

Table 4.3: Table 7.24a: Local Authority Monitoring NO_2 Concentrations (2014 – ~~2016~~2017)

Monitoring Site	Annual Mean µg/m³				Number of hours hourly mean > 200 µg/m³			
	2014	2015	2016	2017	2014	2015	2016	2017
Slade Green (BX1)	27	26	25	25	0	0	0	0
Belvedere Primary School (BX2)	27	24	29	28	0	0	0	0
Bexley Business (BQ7)	23	22	24	21	0	0	0	0
Scrattons Farm (BG2)	31	29	32	29	0	0	0	0
Rainham (HV1)	35	32	34	34	0	0	0	0

Monitoring Site	Annual Mean µg/m³				Number of hours hourly mean > 200 µg/m³			
	2014	2015	2016	2017	2014	2015	2016	2017
Objective	**40**				**18**			

Table 4.4 - Table 7.25a: Local Authority Monitoring PM_{10} concentrations (2014 – ~~2016~~2017)

Monitoring Site	Annual Mean µg/m³				Number of Daily Mean Concentrations > 50 µg/m³			
	2014	2015	2016	2017	2014	2015	2016	2017
Slade Green (BX1)	15	14	18	17	0	1	3	3
Belvedere Primary School (BX2)	17	14	14	14	6	1	3	0
Bexley Business (BQ7)	19	18	15	17	6	2	5	2
Scrattons Farm (BG2)	20	21	20	19	6	4	4	4
Rainham (HV1)	19	18	19	18	3	3	6	4
Objective	**40**				**35**			

Table 4.5: Table 7.26a: Local Authority Monitoring $PM_{2.5}$ concentrations (2014 – ~~2016~~2017)

Monitoring Site	$PM_{2.5}$ Annual Mean µg/m³			
	2014	2015	2016	2017
Slade Green (BX1)	16	15	11	8
Rainham (HV1)	12	11	12	12
Objective	**25 (20 in 2020)**			

Table 4.6: Table 7.27a: DEFRA Background Map Estimates for Concentrations at the REP site (grid square 549000, and 180000)

Pollutant	~~2016~~2017	Adjusted ~~2016~~2017	2024[a]	Adjusted 2024
NO_x	~~23.4~~22.4	~~31.5~~29.5	~~16.1~~17.5	~~21.7~~23.0
NO_2	~~16.6~~16.0	~~22.3~~21.1	~~11.9~~12.8	~~16.0~~16.9
PM_{10}	~~14.5~~14.4	~~14.5~~14.8	~~13.8~~13.9	~~13.8~~14.4
$PM_{2.5}$	~~9.7~~9.6	~~9.7~~8.7	~~9.0~~9.1	~~9.0~~8.3

Table 4.7: Table 7.29a: Human Receptors within the vicinity of the Proposed REP

ID	Easting	Northing	Height (m)	Description
R1	548447	179561	1.5	The Business Academy
R2	549598	179653	1.5	Belvedere Park housing development
R3	547979	179883	1.5	St. Katherine's Road
R4	553700	180981	1.5	Wennington Road, Rainham
R5	548054	181106	1.5	Cherbury Close, Thamesmead
R6	553036	181752	1.5	Brady Primary School, Rainham
R7	552255	182069	1.5	Wennington Road/Anglesey Drive
R8	550720	182179	1.5	CEME Innovation Centre, Marsh Way
R8B	550841	182170	1.5	
R9	546451	182314	1.5	George Carey CofE Primary School
R10	547209	182983	1.5	Sovereign Road, Barking
R11	550873	182892	1.5	Spencer Road, South Hornchurch
R12	548137	183305	1.5	Shaw Gardens, near Scrattons Farm
R13	549389	183528	1.5	Marsh Green Primary School, Dagenham
R14	548856	183584	1.5	St. Peter's Primary School, Dagenham

ID	Easting	Northing	Height (m)	Description
R15	550577	182914	1.5	Beam Park Residential Development
R16	548203	179699	1.5	Education Facility
R16B	548177	179598	~~4.5~~1.5	
R17	548067	181170	1.5	Lytham Close
R18A 1st	552137	182050	~~1.5~~4.5	Celtic Farm Road
R18B 4th	552137	182050	~~18~~13.5	
R19A 1st	549736	179858	~~13.5~~4.5	Clydesdale Way
R19B 6th	549736	179858	~~4.5~~18	Clydesdale Way
R20A GF	552160	182011	1.5	Capstan Drive
R20B 5th	552160	182011	16.5	
R21	547743	183541	~~1.5~~0	Scrattons Terrace
R22	552403	182326	1.5	Rainham Village Children's Centre
R23	550740	178649	1.5	5 Corinthian Road
R24	551583	177400	1.5	24 South Road
R25	551621	177360	1.5	41 Guild Road
R26	547291	151297	1.5	Voyagers Close
R27	555056	175662	1.5	Cornwall Road

Table 4.8: Table 7.31a: Current Deposition Rates at the Specific Terrestrial Biodiversity Receptors

Site Name	NO_x ($\mu g/m^3$)	SO_2 ($\mu g/m^3$)	NH_3 ($\mu g/m^3$)	Nitrogen deposition (kgN/ha/yr)	Acid Deposition (keq/ha/yr)	
					Nitrogen	Sulphur
International and Nationally Designated Sites						
Inner Thames Marshes/ Rainham Marshes (SSSI/LNR)	40.9	2.3	2.4	16.94	1.21	0.19
Oxleas Woodlands (SSSI)	33.8	1.5	2.1	28.28	2.02	0.2
Epping Forest (SSSI)	39.2	0.4	1.6	~~17.92~~18.3	1.28	0.17
Epping Forest (SSSI/SAC)	45.4	1.7	2.8	~~34.44~~19.7	2.46	0.21
Ingrebourne Marshes (all units) (SSSI/LNR)	33.6	2.3	2.4	16.94	Not sensitive	
Thorndon Park (all units) (SSSI)	21.2	1.5	1.7	27.58	1.97	0.19
Hainault Forest (SSSI)	22.9	2.8	1.8	26.46	1.89	0.18
Curtismill Green (unit 4) (SSSI)	29.4	0.3	1.8	16.4	1.17	0.15
Grays Thurrock Chalk Pit (SSSI)	36.9	3.5	1.5	~~20.00~~24.2	1.73	0.25
Hangman's Wood & Deneholes (SSSI)	28.9	3.5	1.5	24.22	1.73	0.25
Darenth Wood (SSSI)	33.4	2.0	1.6	26.32	1.88	0.22
Farningham Wood	33.6	2.0	1.7	28.70	2.05	0.23

Site Name	NO_x ($\mu g/m^3$)	SO_2 ($\mu g/m^3$)	NH_3 ($\mu g/m^3$)	Nitrogen deposition (kgN/ha/yr)	Acid Deposition (keq/ha/yr)	
					Nitrogen	Sulphur
(SSSI/LNR)						
Locally Designated Sites						
Crossness (LNR)	37.5	1.6	2.0	16.38	1.17	0.18
BxB103	31.7	1.6	2.03	28.4	2.03	0.21
M039	40.9	2.3	2.37	16.9	1.21	0.19
M031	na	Na	na	na	na	na
B&DB103	na	Na	na	na	na	na
HvBI18	na	Na	na	na	na	na
B&DBI07	na	Na	na	na	na	na
Thamesmead East (Bexley)	na	Na	na	na	na	na
BxL07	31.8	1.9	3.13	34.4	2.46	0.24
BxBII02	na	Na	na	na	na	na
BxL16	35.4	1.9	3.13	34.4	2.46	0.24
Lesnes Abbey Wood (LNR)	31.4	1.6	2.03	28.4	2.03	0.21
M041	28.8	1.9	3.13	19.3	1.38	0.2
M041	28.8	1.9	3.13	19.3	1.38	0.2
BxBI14	33.3	1.9	3.13	19.3	1.38	0.2
BxBI02	na	Na	na	na	na	na
BxBII26	na	Na	na	na	na	na
BxBII25	na	Na	na	na	na	na
BxB103	31.7	1.6	2.03	28.4	2.03	0.21
M039	40.9	2.3	2.37	16.9	1.21	0.19
M031	na	Na	na	na	na	na
B&DB103	na	Na	na	na	na	na

Table 4.9: Table 7.32a: Baseline concentrations of NO_2, PM_{10} and $PM_{2.5}$ in ~~2016~~2017 and 2024

Receptor	NO_2		PM_{10}		$PM_{2.5}$	
	~~2016~~2017	2024	~~2016~~2017	2024	~~2016~~2017	2024
R1	~~25.3~~24.6	19.8	~~15.5~~15.9	~~14.9~~15.4	~~10.2~~9.3	~~9.6~~8.9
R2	~~30.3~~31.3	~~23.2~~24.4	~~16.7~~17.2	~~16.0~~16.6	~~11.0~~10.7	~~10.3~~10.1
R3	~~27.4~~25.9	~~21.1~~20.7	~~16.3~~16.7	~~15.7~~16.2	~~10.6~~9.6	~~10.0~~9.1
R4	~~27.9~~26.4	~~21.2~~20.8	~~17.1~~17.3	~~16.4~~16.7	~~11.2~~10.2	~~10.5~~9.7
R5	~~27.7~~26.3	~~22.1~~21.6	~~15.3~~15.7	~~14.7~~15.2	~~10.1~~9.1	~~9.5~~8.7
R6	~~23.6~~22.5	~~18.5~~18.2	~~15.9~~16.2	~~15.3~~15.7	~~10.5~~9.6	~~9.9~~9.1
R7	~~39.8~~36.5	~~29.6~~28.0	~~20.2~~18.3	~~19.2~~17.6	~~13.0~~12.2	~~12.0~~11.4
R8	~~37.9~~34.6	~~27.8~~26.6	~~18.5~~18.1	~~17.6~~17.4	~~12.0~~10.8	~~11.2~~10.2
R8B	**~~41.6~~**37.5	~~30.3~~28.6	~~20.2~~18.8	~~19.1~~18.1	~~13.0~~11.7	~~12.0~~10.9
R9	~~27.8~~26.1	~~21.1~~20.6	~~16.2~~16.6	~~15.5~~16.0	~~10.6~~9.5	~~9.9~~9.1
R10	~~25.3~~23.7	~~19.3~~18.9	~~16.0~~16.3	~~15.4~~15.8	~~10.4~~9.4	~~9.8~~9.0
R11	**~~43.2~~42.3**	~~31.2~~31.7	~~20.6~~20.0	~~19.6~~19.2	~~13.3~~13.1	~~12.2~~12.2
R12	~~35.9~~33.3	~~25.7~~25.1	~~18.3~~18.5	~~17.5~~17.8	~~11.7~~10.6	~~11.0~~10.1
R13	~~39.3~~37.3	~~29.3~~29.0	~~18.5~~18.7	~~17.6~~18.0	~~12.0~~11.1	~~11.1~~10.4
R14	**~~45.1~~43.3**	~~31.6~~31.7	~~21.0~~20.2	~~19.9~~19.5	~~13.4~~12.9	~~12.3~~12.0
R15	**~~41.8~~**37.8	~~30.2~~28.7	~~19.4~~18.6	~~18.5~~17.9	~~12.6~~11.4	~~11.6~~10.8
R16	~~25.3~~24.3	~~19.8~~19.7	~~15.4~~15.8	~~14.8~~15.4	~~10.2~~9.3	~~9.6~~8.9
R16B	~~26.7~~27.5	~~20.7~~21.7	~~16.0~~16.5	~~15.3~~16.0	~~10.5~~10.0	~~9.8~~9.6
R17	~~27.7~~26.3	~~22.1~~21.6	~~15.3~~15.7	~~14.7~~15.2	~~10.1~~9.1	~~9.5~~8.7
R18A 1st	~~32.0~~29.0	~~24.4~~23.1	~~17.4~~16.7	~~16.6~~16.1	~~11.4~~10.2	~~10.6~~9.6
R18B 4th	~~28.0~~26.3	~~22.1~~21.4	~~16.1~~16.2	~~15.4~~15.6	~~10.6~~9.6	~~9.9~~9.1
R19A 1st	~~31.6~~32.6	~~24.0~~25.4	~~17.4~~17.6	~~16.6~~17.1	~~11.4~~11.2	~~10.6~~10.7
R19B 6th	~~28.4~~27.9	~~22.0~~22.2	~~16.0~~16.4	~~15.3~~15.9	~~10.6~~9.8	~~9.9~~9.3
R20A GF	~~31.0~~28.8	~~23.7~~22.9	~~17.0~~16.7	~~16.2~~16.1	~~11.1~~10.2	~~10.4~~9.6
R20B 5th	~~27.5~~25.9	~~21.8~~21.2	~~15.9~~16.1	~~15.3~~15.6	~~10.5~~9.5	~~9.8~~9.0
R21	**~~49.9~~45.2**	~~34.7~~32.9	~~25.7~~22.3	~~24.5~~21.5	~~16.0~~15.1	~~14.7~~14.1
R22	~~30.9~~29.3	~~23.5~~23.1	~~16.9~~16.7	16.1	~~11.1~~10.2	~~10.3~~12.2
R23	~~33.8~~33.0	~~25.4~~25.3	~~19.9~~18.7	~~19.2~~18.4	~~12.8~~12.5	~~12.0~~13.4

Receptor	NO_2		PM_{10}		$PM_{2.5}$	
	~~2016~~2017	2024	~~2016~~2017	2024	~~2016~~2017	2024
R24	~~**40.2**~~39.5	~~29.5~~29.7	~~22.2~~20.0	~~21.5~~19.8	~~14.1~~13.6	~~13.2~~13.7
R25	~~36.8~~**40.6**	~~27.1~~30.7	~~20.5~~20.2	~~19.9~~20.1	~~13.1~~13.9	~~12.3~~8.9
R26	~~27.1~~25.6	~~20.9~~20.4	~~15.7~~16.1	~~15.1~~15.6	~~10.3~~9.3	~~9.7~~11.2
R27	~~37.3~~33.1	~~26.9~~25.6	~~26.0~~18.9	~~25.0~~18.5	~~16.9~~11.6	~~15.8~~9.6

Appendix A Revised Figure 7.5 Rev 1

A.1.1 **Figure 7.5 (Rev 1)**, replaces **Figure 7.5** submitted as part of the ES Figures **(6.2, APP–056)**. Figure 7.5 submitted as part of the ES displayed the result for Annual Mean Arsenic Concentration rather than Annual Mean Nickel Concentration.

A.1.2 The revised ES **Figure 7.5 (Rev 1)** does not alter the significance of effects reported in the ES submitted with the DCO application.

Appendix B Revised Chapter 7 Appendices

B.1.1 The following appendices, **Appendix C.1 Traffic Modelling (6.3; Rev 1)**, **Appendix C.2 Stack Modelling (6.3; Rev 1)** and **Appendix C.3 Human Health Risk Assessment (6.3; Rev 1)** replace the submitted appendices; **Appendix C.1 Traffic Modelling (6.3, APP-068), Appendix C.2 Stack Modelling (6.3; APP-069), and Appendix C.3 Human Health Risk Assessment (6.3; APP-070)** in relation to air quality. **Appendix C.1** has been amended to provide the 2017 monitoring data for model verification. **Appendix C.2** has been updated to correct errors, principally in the predicted nitrogen deposition rates and **Appendix C.3** to correct typographical errors. For clarity, the revised reports appended here are tracked changed versions of those submitted to accompany the DCO.

B.1.2 The revisions set out in this section do not alter the significance of effects reported in the ES submitted with the DCO application.