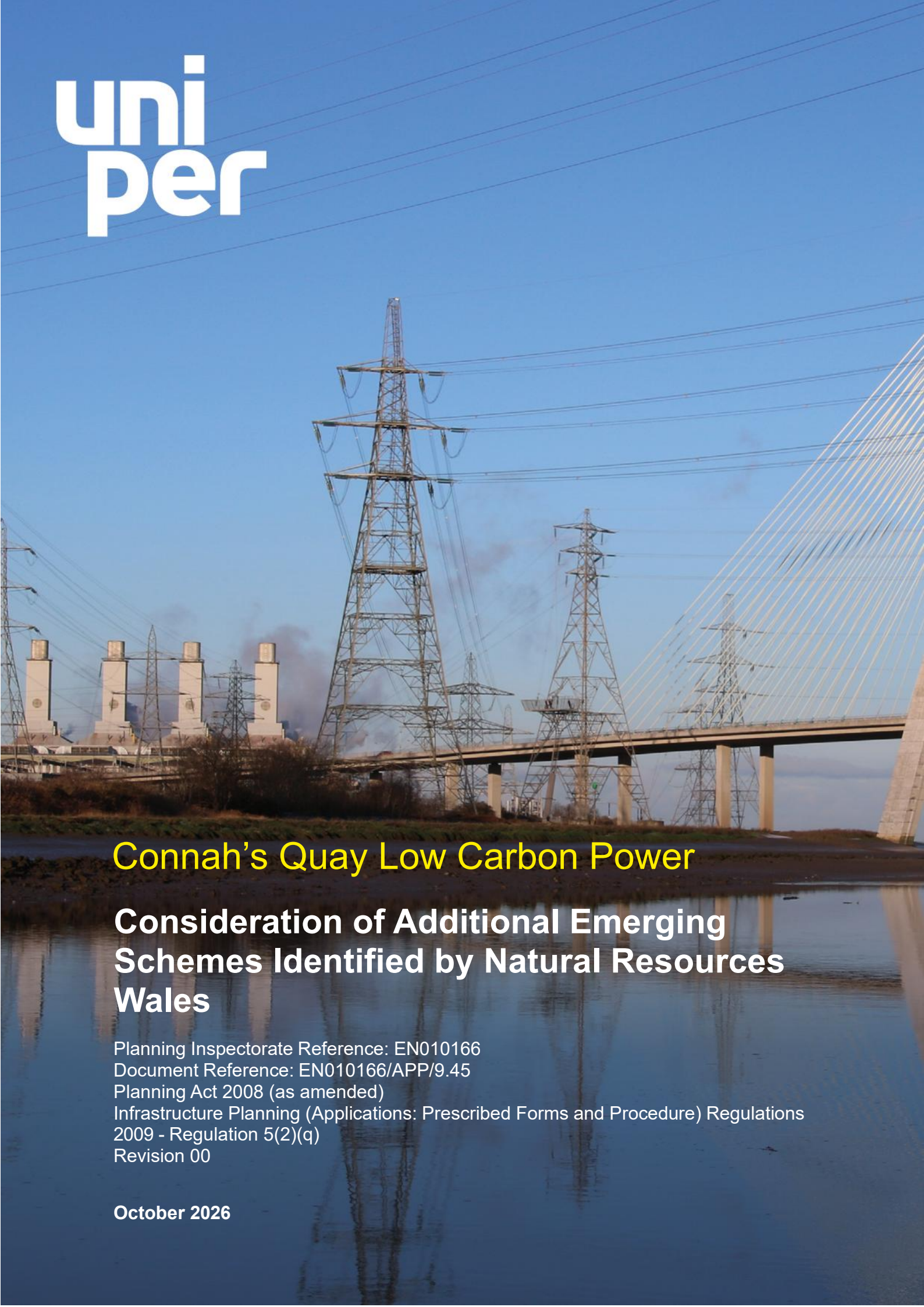


Connah's Quay Low Carbon Power

Consideration of Additional Emerging Schemes Identified by Natural Resources Wales

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Executive Summary

The Connah's Quay Low Carbon Power Development Consent Order (DCO) Application was submitted by the Applicant, Uniper UK Limited, to the Planning Inspectorate (on behalf of the Secretary of State (the SoS)) on 5th August 2025 under Section 37 of the Planning Act 2008 for a DCO from the SoS for the Department for Energy Security and Net Zero (DESNZ). The DCO Application was accepted for examination by the Planning Inspectorate on 28th August 2025 and the examination closed on 9th June 2026.

Further to the **Applicant's Additional Operational Air Quality Considerations [REP6-091]**, this additional submission is made to the SoS for DESNZ to provide further supporting information to justify the Applicant's position in relation to the quantitative results of additional dispersion modelling requested by Natural Resources Wales (NRW).

Without prejudice to the Applicant's position on the adequacy of the information previously provided, this report presents the results of an update to the dispersion modelling and assessment of cumulative and in-combination effects for the Proposed Development with the extended list of emerging schemes requested by NRW in their Deadline 5 submission **[REP5-069]**.

The updated assessment confirms that there is no change to the description of impacts and effects at nationally and internationally designated ecological sites that are presented in the **Applicant's Additional Operational Air Quality Considerations [REP6-091]**. The updated dispersion modelling also confirms that no additional measures are required to address the impacts and effects of the Proposed Development, where the mitigation already proposed and secured through the **Draft Development Consent Order (EN010166/APP/3.1)** goes beyond what is required as a minimum to address the impacts and effects of the Proposed Development.

Following completion of the updated modelling, the Applicant engaged NRW with the findings of this report. Having reviewed the outcomes, NRW confirmed that the report satisfactorily addresses their concerns regarding the inclusion of additional projects in the air quality in-combination effects assessment.

1. Introduction

1.1 Overview

1.1.1 The Applicant is seeking a Development Consent Order (DCO) for the construction, operation (including maintenance) and decommissioning of a proposed low carbon Combined Cycle Gas Turbine (CCGT) Generating Station fitted with Carbon Capture Plant (CCP) (the 'Connah's Quay Low Carbon Power (CQLCP) Abated Generating Station') and supporting infrastructure (collectively the 'Proposed Development') on land at, and in the vicinity of, the existing Connah's Quay Power Station (Kelsterton Road, Connah's Quay, Flintshire, CH6 5SJ), North Wales (the 'Proposed Development Site'). The term 'Order limits' is used to describe the geographical boundaries within which the Proposed Development and associated powers would be exercised.

1.1.2 The Proposed Development would comprise up to two CCGT with CCP units (and supporting infrastructure) achieving a net electrical output capacity of more than 350 megawatts (MW; referred to as MWe for electrical output) and up to a likely maximum of 1,380 MWe (with CCP operational) onto the national electricity transmission network.

1.1.3 Through a carbon dioxide (CO_2) pipeline, comprising existing elements to be repurposed and new elements, the Proposed Development would make use of the CO_2 transport and storage network that will be owned and operated by Liverpool Bay CCS Limited, the onshore pipeline which is currently under construction as part of the HyNet Carbon Dioxide Pipeline project (Ref 1) (referred to as the 'HyNet CO_2 Pipeline Project'). The HyNet CO_2 Pipeline Project will transport CO_2 captured from existing and new industries in North Wales and North West England to be permanently stored in depleted offshore gas reservoirs in Liverpool Bay.

1.1.4 The Connah's Quay Low Carbon Power DCO Application was submitted by the Applicant, Uniper UK Limited, to the Planning Inspectorate (on behalf of the Secretary of State (the SoS)) on 5th August 2025 under Section 37 of the Planning Act 2008 for a DCO from the SoS for the Department for Energy Security and Net Zero (DESNZ). The DCO Application was accepted for examination by the Planning Inspectorate on 28th August 2025 and the examination closed on 9th June 2026.

1.1.5 Further to the **Applicant's Additional Operational Air Quality Considerations [REP6-091]**, this additional submission is made to the SoS for DESNZ to provide further supporting information to justify the Applicant's position in relation to the quantitative results of additional dispersion modelling requested by NRW.

1.2 Purpose of this Report

1.2.1 During the Examination, the Applicant presented the findings of dispersion modelling within **Appendix 8-D: Air Quality Operational Assessment [REP-025]** and considered these in the context of ecological receptors within **Chapter 11: Terrestrial and Aquatic Ecology [REP6-019]** of the **ES** and

the **Report to Inform Habitats Regulations Assessment [REP7-020]**[1]. The modelling demonstrated that for the Dee Estuary Site of Special Scientific Interest (SSSI), Special Area of Conservation (SAC), Special Protection Area (SPA) and Ramsar site and the Deeside and Buckley Newt Sites SAC modelled air quality impacts from the Proposed Development alone were over the screening threshold used to test if no adverse effect can be concluded without further assessment. On this basis it was agreed with Natural Resources Wales (NRW) and Natural England (NE) that there was no requirement to carry out dispersion modelling for in-combination effects for these sites. This position is recorded in the final Statements of Common Ground with NRW (**[REP7-027]** and NE **[REP7-028]**).

1.2.2 Notwithstanding this agreement, in their Deadline 5 submission (**[REP5-069]**), NRW requested additional emissions from emerging cumulative schemes be included in the modelling of cumulative and in-combination scenarios. NRW were aware that the additional dispersion modelling could not be completed prior to the closing of the Examination.

1.2.3 As noted in the **Applicant's Additional Operational Air Quality Considerations [REP6-091]**, NRW advised the Applicant to also consider the following emerging schemes within the assessment of cumulative and in-combination effects:

- ID 38[2]: Enfinium Parc Adfer Energy Recovery Facility (ERF) Carbon Capture (update from submission of a Scoping Report to a submitted planning application);
- Deeside Power Station (located on the Deeside Industrial Park);
- Knauf Mineral Rock Wool Facility (located on the Deeside Industrial Park); and
- Arrow Anaerobic Digestion (AD) Plant (located on the Deeside Industrial Park).

1.2.4 The location of these emerging schemes in the context of the Proposed Development is shown on **Figure 1**.

1.2.5 Without prejudice to the Applicant's position on the adequacy of the information previously provided, this report presents the results of an update to the dispersion modelling and assessment of cumulative and in-combination effects for the Proposed Development with the extended list of emerging schemes requested by NRW.

1.2.6 This report considers the results of the updated dispersion modelling with regard to the likely effects on human health, nationally designated ecological sites and internationally designated ecological sites, as reported within the Environmental Statement. The report also considers the implications of the updated information on the location and magnitude of cumulative and in-combination effects for the conclusions of the test of likely significant effects within the **Report to inform Habitats Regulations Assessment (RIHRA) [REP7-020]** and **Notice of a proposed without prejudice Habitats Regulations Assessment (HRA) derogation in Wales [REP7-032]**.

[1] This position is also reflected in the **Notice of a proposed without prejudice HRA derogation in Wales [REP7-032]**.
[2] ID 38 refers to the identification number assigned to this emerging scheme within **Chapter 24: Cumulative and Combined Effects [REP6-021]** presented within the Environmental Statement.

1.2.7 This report is supported by the following Appendices:

- **Appendix A: Updated Model Inputs**, which details the modelling inputs;
- **Appendix B: Updated Predicted Results**, which details the updated results for human health and ecological receptors as well as the results of the updated in combination assessment; and
- **Appendix C: Updated Saltmarsh Management Contribution**, which considers the updated in-combination assessment and the contribution of the Proposed Development and defines an updated value for the Saltmarsh Management Contribution.

2. Methodology

2.1.1 This update to the air quality assessment uses the same methods and receptors as described in **Appendix 8-D: Air Quality Operational Assessment [REP6-025]**, with updated background pollutant contribution where required. The relevant screening threshold criteria are unchanged from paragraphs 3.42.1 to 3.46.17 of **Chapter 8: Air Quality [REP4-017]**.

2.1.2 This updated assessment only considers the air quality metrics that remain of concern, which are:

- oxides of nitrogen, annual mean values;
- nitrogen dioxide, annual mean and hourly mean values;
- ammonia, annual mean values;
- carbon monoxide, 8 hour rolling mean;
- nitrosamines and nitramines (N-Amines), annual mean values;
- nitrogen deposition, annual deposition rates; and
- acid deposition, annual deposition rates.

2.1.3 The assessment reported in **Appendix 8-D: Air Quality Operational Assessment [REP6-025]** and the 3rd party air quality impact assessments published in support of the emerging schemes to which NRW has made reference (Ref 2, Ref 3, Ref 4 and Ref 5) demonstrate contributions at the most impacted receptor locations that are too small in magnitude, individually or cumulatively, to put the achievement of any other air quality assessment level at risk of not being achieved.

2.1.4 The model input parameters used to represent the additional emissions from emerging schemes requested by NRW are set out in **Appendix A**; **Table 1** and **Table 2**. The model inputs representing the emissions from the Proposed Development and previously identified cumulative developments remain as described in **Appendix 8-D: Air Quality Operational Assessment [REP6-025]**.

2.1.5 The updated results are presented in full in **Appendix B** of this document and are presented for the same receptors as are presented in **Chapter 8: Air Quality [REP4-017]**. The updated results are also shown on **Figure 2**.

3. Results

3.1 Human health

3.1.1 The update of operational source emissions from the Proposed Development at human health receptors has been determined from model outputs at discrete receptor locations, as well as at the maximum impacted location anywhere in the study area.

3.1.2 The maximum hourly, daily and annual mean predicted concentrations at human health receptors have been compared with the relevant Air Quality Assessment Levels (AQALs), as summarised in **Table 4** to **Table 11** in **Appendix B**. Any differences between the Predicted Environmental Concentration (PEC) (i.e. change in the Process Contributions (PC) and existing background concentration) and the predicted changes combined with the background concentrations are due to rounding only.

3.1.3 The impacts have been calculated for all the selected receptors within the study area that were previously reported in **Appendix 8-D: Air Quality Operational Assessment [REP6-025]**. These receptors are shown on **Figure 8-2: Operational Phase Assessment - Air Quality Study Area and Human Health Receptors [CR1-048]**.

3.1.4 The magnitude of impacts at the receptor locations for human health that are most impacted by the Proposed Development, under either the Front-End Engineering Design (FEED) 1 or FEED 2 cumulative scenarios, are:

- At R23, a contribution from the Proposed Development of 0.1 µg/m^3 (0.3 % of the AQAL of 40 µg/m^3) to the maximum cumulative PEC of annual mean nitrogen dioxide (NO_2) concentrations of 10.0 µg/m^3 (25.1 % of the AQAL). This cumulative PEC value includes a background contribution of 9.7 µg/m^3.
- At R10, a contribution from the Proposed Development of 26.5 µg/m^3 (13.3 % of the AQAL of 200 µg/m^3) to the maximum cumulative PEC of 99.79th percentile of hourly mean NO_2 concentrations of 41.4 µg/m^3 (20.7 % of the AQAL). This cumulative PEC value includes a background contribution of 13.0 µg/m^3.
- At R9, a contribution from the Proposed Development of 0.15 mg/m^3 (1.5 % of the AQAL of 10 mg/m^3) to the maximum cumulative PEC of the 8 hour rolling mean carbon monoxide concentrations of 0.66 mg/m^3 (6.6 % of the AQAL). This cumulative PEC values includes a background contribution of 0.51 mg/m^3.

3.1.5 The highest magnitude of cumulative impacts at any receptor location for human health, under either the Abated FEED 1 and Abated FEED 2 cumulative scenarios, are as follows:

- At R23, a contribution from the Proposed Development of 0.1 µg/m^3 (0.3 % of the AQAL of 40 µg/m^3) to the maximum cumulative PEC of annual mean NO_2 concentrations of 10.0 µg/m^3 (25.1 % of the AQAL). This cumulative PEC value includes background contribution of 9.7 µg/m^3.
- At R10, a contribution from the Proposed Development of 26.5 µg/m^3 (13.3 % of the AQAL of 200 µg/m^3) to the maximum cumulative PEC of

99.79th percentile of hourly mean NO_2 concentrations of 41.4 µg/m^3 (20.7 % of the AQAL). This cumulative PEC value includes a background contribution of 13.0 µg/m^3.

- At R29, a contribution from the Proposed Development of 0.08 mg/m^3 (0.8 % of the AQAL of 10 mg/m^3) to the maximum cumulative PEC of 8 hour rolling mean carbon monoxide concentrations of 0.67 mg/m^3 (6.7 % of the AQAL). These cumulative PEC values include a background contribution of 0.59 mg/m^3.

3.1.6 Predicted concentrations of N-Amines at all human health receptors have been updated for both Abated FEED 1 and Abated FEED 2 cumulative scenarios. N-Amines occur at background concentration that are below the current limit of detection for available measurement methods and the magnitude of the AQAL value for N-nitrosodimethylamine (NDMA) is close to the limit of detection which requires a different scale to describe impact magnitude to be applied, compared to nitrogen dioxide or carbon monoxide. The highest magnitude cumulative N-Amines impact at any receptor location for human health, under either the FEED 1 and FEED 2 cumulative scenarios (**Appendix B**), is:

- At R25, a contribution from the Proposed Development of 0.1 ng/m^3 (47.9 % of the AQAL of 0.2 ng/m^3) to the maximum cumulative PEC of annual mean NDMA concentrations of 0.15 ng/m^3 (75.4 % of the AQAL).

3.1.7 Based on this updated assessment, the magnitude of impacts at the locations most impacted by the Proposed Development are imperceptible to low adverse for nitrogen dioxide, carbon monoxide, and NDMA. These impacts represent a cumulative effect on local air quality that is negligible or minor adverse at the location where the contribution from the Proposed Development is greatest.

3.1.8 At the locations where the greatest magnitude cumulative impact occurs, the impacts are imperceptible to low adverse for nitrogen dioxide, carbon monoxide, and NDMA. These impacts represent a cumulative effect on local air quality that is negligible or minor adverse at the most impacted upon locations.

3.1.9 The negligible to minor adverse cumulative effect of emissions from the operation of the Proposed Development and from the emerging schemes on human health do not introduce a risk of the AQAL values not being achieved in the future and the likely cumulative effect is considered to be not significant. This is the same conclusion as reported in the assessment presented in **Chapter 24: Cumulative and Combined Effects [REP6-021]**.

3.2 Nationally Designated Ecology Sites

3.2.1 This section reports updated information on impacts at sensitive receptors that are nationally designated ecology sites, such as SSSI and National Nature Reserves (NNR), that have not also been designated as international sites. Where a nationally designated site is within an internationally designated site, this site is discussed within Section 3.3 of this report. The location of these receptors is shown on **Figure 8-3: Operational Phase Assessment - Air Quality Study Area and Ecological Receptors [CR1-049]**. The critical loads used throughout this note are consistent with those assigned in the **RIHRA [REP7-020]** and **Notice of a proposed without**

prejudice HRA derogation in Wales [REP7-032] which have been agreed with NRW. As this report uses the values from the ecological interpretation they may differ from those included in **Appendix 8-D: Air Quality Operational Assessment [REP6-025]**.

3.2.2 Operational air quality results for all affected ecological receptors are presented in **Table 12** to **Table 19** of **Appendix B**. The tables show the contribution of the Proposed Development to cumulative impacts under the Abated FEED 1 and Abated FEED 2 cumulative scenarios. Any differences between the PEC (i.e. change in the PC and existing background concentration) and the predicted changes combined with the background concentrations are due to rounding only.

3.2.3 As there has been no change to the Proposed Development's representative modelling parameters, the concentration and deposition isopleths that are presented in previously submitted **Figures 8-12** to **8-14** (**[CR1-058]**, **[CR1-059]** and **[CR1-060]**) for the Abated FEED 1 scenario and **Figures 8-21 to 8-23** (**[CR1-067]**, **[CR1-068]** and **[CR1-069]**) for the Abated FEED 2 scenario remain representative of the contributions from the Proposed Development to any cumulative impacts.

Updated assessment of impacts on critical levels of nitrous oxides (NO_x) and ammonia

3.2.4 For all nationally designated receptors, the predicted contribution from the Proposed Development to annual mean NO_x and ammonia concentrations do not exceed 1 % of the AQAL, which is the value used by NRW as a threshold demonstrating insignificance without the need for further assessment for all nationally designated ecological receptors. They therefore are considered insignificant and do not require further assessment by an ecologist. The background NO_x concentration values already include, to some degree, the contribution from the existing Connah's Quay Power Station, and therefore it is considered that the actual PECs would be below these values, in reality.

Updated assessment of impacts on nutrient nitrogen deposition loads

3.2.5 For all nationally designated receptors the predicted annual nutrient nitrogen deposition loads from the Proposed Development do not exceed 1 % of the critical load and therefore the effects are considered insignificant.

Updated assessment of impacts on acid deposition loads

3.2.6 The updated cumulative assessment has demonstrated that the predicted impacts on acid deposition loads from the Abated FEED 1 and Abated FEED 2 cumulative scenarios (**Table 15** and **Table 19**) do not exceed 1 % of the critical load value and therefore the effects are considered insignificant.

3.3 Internationally Designated Ecology Sites

3.3.1 This section reports updated information on impacts at sensitive receptors that are internationally designated ecology sites, such as SAC, SPA and Ramsar. The location of these receptors is shown on **Figure 8-3: Operational Phase Assessment - Air Quality Study Area and Ecological Receptors [CR1-049]**. The critical loads used throughout this note are consistent with those assigned in the **RIHRA [REP7-020]** and **Notice of a**

proposed without prejudice HRA derogation in Wales [REP7-032] and which have been agreed with NRW. For example the ammonia critical level for saltmarsh is used for the affected area of Dee Estuary SAC/SPA/Ramsar, while in paragraph 2.1.24 of their Written Representation **[REP1-073]** NRW agreed that a critical level of 3 $\mu g/m^{-3}$ was appropriate for Deeside & Buckley Newts SAC due to the absence of lichens and bryophytes of high conservation interest.

3.3.2 Operational air quality results for all affected ecological receptors are presented in **Table 12** to **Table 27** of **Appendix B** identifying the contribution to cumulative impacts from the Proposed Development for the Abated FEED 1 cumulative scenario and the Abated FEED 2 cumulative scenario. Any inconsistencies between the PEC (i.e. change in the PC and existing background concentration) and the predicted changes combined with the background concentrations are due to rounding only.

3.3.3 As there has been no change to the Proposed Development's representative modelling parameters, the concentration and deposition isopleths that are presented in previously submitted **Figures 8-12** to **8-14** (**[CR1-058]**, **[CR1-059]** and **[CR1-060]**) for the Abated FEED 1 scenario and **Figures 8-21 to 8-23** (**[CR1-067]**, **[CR1-068]** and **[CR1-069]**) for the Abated FEED 2 scenario remain representative of contributions from the Proposed Development to cumulative impacts.

Updated assessment of impacts on critical levels of NO_x and ammonia

3.3.4 For all internationally designated receptors, the predicted contributions from the Proposed Development to annual mean NO_x concentration do not exceed 1 % of the AQAL. They therefore are considered insignificant and do not require further assessment by an ecologist. The background concentration values already include to some degree the contribution from the existing Connah's Quay Power Station. It is therefore considered that the actual PECs would be below these values.

3.3.5 For all internationally designated receptors the predicted annual average ammonia concentrations from the Proposed Development do not exceed 1 % of the AQAL. They are therefore considered insignificant.

Updated assessment of impacts on nutrient nitrogen deposition loads

3.3.6 For all internationally designated receptors, except the Deeside and Buckley Newt Sites SAC (at the closest point to the Proposed Development (OE11) and at the back of Normanby Drive (TE7c)) and the Dee Estuary SAC, SPA and Ramsar (within the centre of the estuary (OE02), and at the back of Church Street in Connah's Quay (TE8c)), the predicted annual nutrient nitrogen deposition loads from the Proposed Development do not exceed 1 % of the critical loads. Therefore cumulative effects are considered insignificant.

3.3.7 At TE7c, TE8c, OE02 and OE11 the predicted annual nutrient nitrogen deposition loads from either the Abated FEED 1 or Abated FEED 2 cumulative scenarios are as follows:

- At TE7c a contribution from the Proposed Development of 0.12 kgN/ha/yr (1.3 % of the critical load of 10 kgN/ha/yr) to the maximum cumulative PEC of annual nutrient nitrogen deposition load of 26.04

kgN/ha/yr (260.4 % of the critical load). This cumulative PEC value includes background contribution of 25.8 kgN/ha/yr.

- At TE8c, a contribution from the Proposed Development of 0.13 kgN/ha/yr (1.3 % of the critical load of 10 kgN/ha/yr) to the maximum cumulative PEC of annual nutrient nitrogen deposition load of 15.32 kgN/ha/yr (153.2 % of the critical load). This cumulative PEC value includes background contribution of 15.0 kgN/ha/yr.
- At OE02, a contribution from the Proposed Development of 0.13 kgN/ha/yr 1.3 % of the critical load of 10 kgN/ha/yr) to the maximum cumulative PEC of annual nutrient nitrogen deposition load of 12.32 kgN/ha/yr (123.2 % of the critical load). This cumulative PEC value includes background contribution of 12.1 kgN/ha/yr.
- At OE11, a contribution from the Proposed Development of 0.14 kgN/ha/yr (1.4 % of the critical load of 10 kgN/ha/yr) to the maximum cumulative PEC of annual nutrient nitrogen deposition load of 25.46 kgN/ha/yr (254.6 % of the critical load). This cumulative PEC value includes background contribution of 25.2 kgN/ha/yr.

3.3.8 At TE7c, TE8c, OE02 and OE11 the predicted annual average nitrogen deposition rates are marginally more than 1 % of the critical level value. The background value contributions at these receptors are higher than the critical load. The significance of these impacts due to increased nutrient nitrogen loads from cumulative scenarios is discussed in Section 4.

Updated assessment of impacts on acid deposition loads

3.3.9 The updated cumulative assessment has demonstrated that the predicted impacts on acid deposition loads from the Abated FEED 1 and Abated FEED 2 cumulative scenarios (**Table 15** and **Table 19**) do not exceed 1 % of the critical load value. That is the value used by NRW as a threshold to demonstrating insignificance and not requiring further assessment for nationally designated ecological receptors.

Habitats Regulations Assessment (HRA) consideration

3.3.10 The updated modelling demonstrates that when considering the additional emerging schemes identified by NRW no additional nationally or internationally designated sites require further consideration beyond those already considered in the **RIHRA [REP7-019]** and **Notice of a proposed without prejudice HRA derogation in Wales [REP7-032]** (see **Table 20** to **Table 27** of **Appendix B**).

4. Updated In-Combination and Cumulative Effects

4.1.1 With respect to the protection of human health, the inclusion of emissions from the four emerging schemes requested by NRW within the Abated FEED 1 and Abated FEED 2 cumulative scenarios:

- does not materially change the magnitude of impacts on concentrations of NO_2, carbon monoxide, or N-Amines at any sensitive receptor location;
- does not introduce a risk of air quality objectives or environmental assessment levels not continuing to be achieved; and
- does not introduce any new or materially different likely significant effects from those already reported in Environmental Statement **Chapter 8: Air Quality [REP4-017]**.

4.1.2 The mitigation proposed in Environmental Statement **Chapter 8: Air Quality [REP4-017]** remains appropriate.

4.1.3 For designated ecological sites, the magnitude of the process contribution from the Proposed Development (i.e. the added concentration caused directly by the Proposed Development) on nitrogen deposition rates also remains unchanged from the values reported in Environmental Statement **Chapter 8: Air Quality [REP4-017]**, **Chapter 11: Terrestrial and Aquatic Ecology [REP6-019]**, **RIHRA [REP7-019]** and the **Notice of a proposed without prejudice HRA derogation in Wales [REP7-032]**.

4.1.4 The **RIHRA [REP7-019]** had already concluded that an adverse effect on site integrity (AEoI) would result from the Proposed Development alone (if no mitigation were provided). On this basis there was no requirement to carry out an appropriate assessment for in-combination effects.

4.1.5 To avoid an AEoI, appropriate mitigation measures for the predicted impact from the Proposed Development are already proposed in the form of a financial contribution to Flintshire County Council (FCC) for the management of saltmarsh habitats to address the Proposed Development, as detailed in the **Deed of Unilateral Undertaking of Development Consent Obligations [REP7-039]** dated 8 June 2026 (First Unilateral Undertaking)and the **Second Deed of Unilateral Undertaking of Development Consent Obligations (EN010166/APP/9.48)** dated 29 October 2026 (Second Unilateral Undertaking).The Second Unilateral Undertaking and Article 52 of the **Draft Development Consent Order (EN010166/APP/3.1)** provide that if FCC grants the undertaker a suitable lease of the relevant saltmarsh, then the undertaker may deliver the enhanced management directly rather than paying a financial contribution.

4.1.6 Taking the conclusions of this report into account, **Appendix C** has been prepared to review the original contribution. It proposes an increased contribution amount reflecting the impacts of the Proposed Development to the identified in combination effect. The total increased amount is secured through the **Second Unilateral Undertaking (EN010166/APP/9.44)**.

4.1.7 The contribution provides sufficient mitigation required to address the Proposed Development's own effects (as previously identified and which remain the same). Further, it is appropriate to assume that the additional four emerging schemes will mitigate their own impacts as necessary. Therefore, no additional mitigation is required to make the Proposed Development acceptable in light of any of the additional emerging proposals and the additional in-combination effects. This position is also relevant to the **Notice of a proposed without prejudice HRA derogation in Wales [REP7-032]**.

4.1.8 As included in response to RQ.9 within NRW's **Comments on any submissions received by Deadline 5 [REP6-098]**, NRW have confirmed that where an AEoI has been concluded from the project alone, an in-combination assessment is not required for those impacts. This is consistent with the analysis identified above where an AEoI was identified (pre-mitigation).

4.1.9 For completeness, the scenario reported in this document describes the magnitude of the in-combination impact due to the contributions of all schemes included in the scenario. The increase in the number of emission sources associated with the emerging schemes inevitably shows some increased magnitude of in-combination values for nitrogen deposition, but the reported impacts do not alter the position that an in-combination assessment is not required for those impacts in respect of the Proposed Development, nor does it alter the absence of any need for any additional mitigation/compensation. If these or any other additional schemes do in fact emerge, the magnitude of the in-combination impacts may increase, but the position regarding an in-combination assessment not being required for those impacts would remain unchanged at locations where a pre-mitigation AEoI has already been concluded to arise from the Proposed Development alone.

4.1.10 The model output for the updated Abated FEED 1 and Abated FEED 2 cumulative scenarios confirms the description of impacts and effects presented in the **Applicant's Additional Operational Air Quality Considerations [REP6-091]** and confirms that no additional mitigation is required to address the impacts and effects of the Proposed Development, as the mitigation already proposed and secured already goes beyond what is required to address the impacts and effects of the Proposed Development.

4.1.11 The Applicant engaged NRW with the findings of this report. Having reviewed the outcomes, NRW confirmed that the report satisfactorily addresses their request.

References

Ref 1 His Majesty's Stationery Office (HMSO) (2024). The Hynet Carbon Dioxide Pipeline Order 2024 [online]. Available at https://www.legislation.gov.uk/uksi/2024/436/contents (Accessed 11/08/2026).

Ref 2 Enfinium Parc Adfer Operations Ltd (2025). Parc Adfer – Carbon Capture Facility: Dispersion Modelling Assessment.

Ref 3 Arrow Bioenergy Ltd (2026). Air Quality Assessment for the Arrow AD Plant [not publicly available].

Ref 4 Knauf Insulation Ltd (2026). Rock Mineral Wool Facility, Deeside Industrial Park, Shotton: Environmental Statement Volume I – Main Text, Chapter 5: Air Quality.

Ref 5 Natural Resources Wales (2025). Environmental Permit Application and Supporting Documents for the Deeside Power Station Permit Variation, Deeside Industrial Park, Shotton.

Glossary

Term	Definition
Air Quality Assessment Levels (AQALs)	The national air quality objective or environmental assessment level for each pollutant species assessed in the air quality assessment. The results of modelling undertaken to predict concentrations of pollutants are compared against these AQALs.
Carbon Capture Plant (CCP)	Plant used to capture carbon dioxide (CO_2) emissions produced from the use of fossil fuels in electricity generation and industrial processes.
Combined Cycle Gas Turbine (CCGT)	A process which uses both a gas turbine and a steam turbine together to produce electricity.
Connah's Quay Low Carbon Power (CQLCP) Abated Generating Station	The proposed CCGT and CCS (and supporting infrastructure) extent and location within the Main Development Area (i.e. the extent of new permanent development).
Impact	A change relative to the existing or future baseline conditions.
In-combination	Combined effect of the impacts of the Proposed Development and potential other schemes within the study area.
Nitrogen Dioxide	The gas Nitrogen Dioxide (chemical formula NO_2).
Order limits	The boundary that includes all aspects of the Proposed Development including the CCGT and CCS site, the laydown areas, Repurposed CO_2 Connection Corridor, Proposed CO_2 Connection Corridor, Electrical Connection Corridor, Water Connection Corridor, Access to Construction and Indicative Enhancement Area, Alternative Access to Main Development Area, Surface Water Outfall Area, and Construction and Indicative Enhancement Area, as well as the Accommodation Works Areas to facilitate the transport of Abnormal Indivisible Loads during construction.
Significant	Extensive or important enough to merit attention.
Site of Special Scientific Interest (SSSI)	Nationally designated Site of Special Scientific Interest, an area designated for protection under the Wildlife and Countryside Act 1981 (as amended), due to its value as a wildlife and/or geological site.
Special Area of Conservation (SAC)	Protected areas in the UK and Ireland designated under the Conservation of Habitats and Species Regulations 2017. High quality conservation sites that are protected under the Habitats Directive, due to their contribution to conserving those habitat types that are considered to be most in need of conservation.

Term	Definition
Special Protection Area (SPA)	Strictly protected sites classified in accordance with Article 4 of the Wild Birds Directive. Special Protection Areas are Natura sites which are internationally important sites for the protection of threatened habitats and species.
The Applicant	Uniper UK Limited.
The Proposed Development	The works to be undertaken as part of the Connah's Quay Low Carbon Power project.

Abbreviations

Abbreviation	Term
µg	micrograms
°C	degree Celsius
AD	Anaerobic Digestion
AEoI	adverse effect on integrity
AQAL	Air Quality Assessment Levels
CCGT	Combined Cycle Gas Turbine
CCP	Carbon Capture Plant
CO_2	carbon dioxide
CQLCP	Connah's Quay Low Carbon Power
DCO	Development Consent Order
DESNZ	Department for Energy Security and Net Zero
ERF	Energy Recovery Facility
FEED	Front-End Engineering Design
g/s	grams per second
m^3	cubic meter
m/s	meter per second
MW	megawatt
MWe	megawatts for electrical output
N-Amines	nitrosamines and nitramines
NDMA	N-nitrosodimethylamine
NE	Natural England
ng	nanograms
NNR	National Nature Reserves
NO_2	nitrogen dioxide
NO_x	nitrous oxides
NRW	Natural Resources Wales
PC	Process Contributions
PEC	Predicted Environmental Concentration
RIHRA	Report to inform Habitats Regulations Assessment
SAC	Special Area of Conservation
SSSI	Site of Special Scientific Interest
SPA	Special Protection Area

SoS	Secretary of State

Appendix A: Updated Model Inputs

A.1.1.1 All cumulative model schemes have been assumed to run continuously at full output except for the Deeside Power Station (2,000 hours a year)[3], therefore providing a conservative assessment of the potential cumulative impact. The model inputs for the Proposed Development are as described in Table 1 and Table 2 of **Appendix 8-D: Air Quality Operational Assessment [REP6-025]**, those for the cumulative schemes already included in the model were updated at the time of making the Change Application at Deadline 3 are shown in Table D-1 and Table D-2 of **Appendix 8-D: Air Quality Operational Assessment [REP6-025]**, and those newly considered emerging schemes are shown in **Table 1** and **Table 2** below.

[3] Deeside Power Station is anticipated to run for 2000 hours per year, at a maximum.

Table 1: Emission Inventory for the Emerging Schemes

Scheme	Enfinium[a]	Arrow[b]			Knauf[c]	
Source name	Enfinium	Arrow1	Arrow2	Arrow3	KnaufP1	KnaufP2
Stack Location	331021, 371421	331208, 371259	331211, 371249	331217, 371232	331020, 370435	331017, 370362
Temperature (°C)	80	432	422	422	180	35
Velocity (m/s)	15.76	29.69	34.97	34.97	19.20	11.00
Height (m)	85	11	11	11	60	120
Diameter (m)	1.90	0.51	0.41	0.41	0.65	3.80
NO_x (g/s)	9.14	0.79	0.61	0.61	0.879	-
NH3 (g/s)	0.508	-	-	-	0.034	1.067
Amine 3 (g/s)	0.1908	-	-	-	-	-
Amine 4 (g/s)	0.00954	-	-	-	-	0.32
Amine 6 (g/s)	0.00954	-	-	-	-	-
Nitramine 3 (g/s)	0.000003469	-	-	-	-	-
Nitrosamine 4 (g/s)	0.00003816	-	-	-	-	-
Nitramine 4 (g/s)	0.000000173	-	-	-	-	-
Nitrosamine 6 (g/s)	0.00003816	-	-	-	-	-
Nitramine 6 (g/s)	0.000000173	-	-	-	-	-
CO (g/s)	2.54	-	-	-	0.34	-

a. Enfinium Parc Adfer Operations Ltd (2025). Parc Adfer – Carbon Capture Facility: Dispersion Modelling Assessment.
b. Arrow Bioenergy Ltd (2026). Air Quality Assessment for the Arrow AD Plant [not publicly available].

c. Knauf Insulation Ltd (2026). Rock Mineral Wool Facility, Deeside Industrial Park, Shotton: Environmental Statement Volume I – Main Text, Chapter 5: Air Quality.

Table 2: Emission Inventory for the Emerging Schemes (2)

Scheme	Deeside Power[d]										
Source name	Deeside1	Deeside2	Deeside3	Deeside4	Deeside5	Deeside6	Deeside7	Deeside8	Deeside9	Deeside10	Deeside11
Stack Location	329789, 371580	329789, 371574	329789, 371568	329789, 371562	329789, 371556	329789, 371544	329789, 371538	329789, 371532	329789, 371526	329789, 371520	329789, 371514
Temperature (°C)	351	351	351	351	351	351	351	351	351	351	351
Velocity (m/s)	23.79	23.79	23.79	23.79	23.79	23.79	23.79	23.79	23.79	23.79	23.79
Height (m)	15	15	15	15	15	15	15	15	15	15	15
Diameter (m)	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
NO_x (g/s)	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79	0.79
CO (g/s)	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83

d. Natural Resources Wales (2025). Environmental Permit Application and Supporting Documents for the Deeside Power Station Permit Variation, Deeside Industrial Park, Shotton.

A.1.1.2 The buildings for each of the cumulative schemes that may affect the dispersion of the emissions from the stacks have been included in the model run for the assessment of cumulative impacts. The buildings included in the model for cumulative schemes are shown in **Table 3**.

Table 3: Modelled Buildings for Cumulative and Emerging Schemes

Building	Building Centre (X)	Building Centre (Y)	Height (m)	Length (m)	Width (m)	Angle (°)
PackingPlant	327506	371320	50	193	250	35
Quencher	327594	371208	16	106	24	35
Regenerator	327198	371544	25	166	513	35
2	327340	371473	92	26	22	35
3	327923	371100	37	128	34	35
4	327311	371493	65	9	9	0
8	327304	371420	92	26	22	35
11	327274	371440	65	9	9	0
Enfinium1	329064	362063	101	25	20	287
Enfinium2	328890	362094	46	7	7	113
Enfinium3	328912	362097	46	6	6	0
DeesideGen	332086	369942	40	95	176	146
Arrow6	332140	369601	20	102	53	56
Arrow9	332064	369711	20	102	102	56
Knauf1	332353	369897	12	118	12	146
Knauf2	332256	369774	12	213	286	146
Knauf3	331000	371000	42	43	22	161

Appendix B: Updated Predicted Impacts

Human Health Receptor Results

Abated FEED 1 Cumulative Scenario

B.1.1.1 The results at the identified human health receptors for the Abated FEED 1 Cumulative Scenario are shown in **Table 4** to **Table 7**.

Table 4: Predicted Process Contribution Annual Mean NO_2 Concentrations – Abated FEED 1 Cumulative Scenario

Receptor	Proposed development PC (µg/m^3)	Road Traffic Emissions PC (µg/m^3)	PC/AQAL (%)	Background Concentration* (µg/m^3)	PC from Cumulative Sources (µg/m^3)	PEC (µg/m^3)	PEC/AQAL (%)
R1	<0.1	<0.1	<0.1%	7.5	0.1	7.6	19.1%
R2	<0.1	<0.1	<0.1%	8.0	0.1	8.1	20.3%
R3	<0.1	<0.1	<0.1%	6.5	0.1	6.6	16.5%
R4	<0.1	<0.1	<0.1%	7.4	0.1	7.5	18.8%
R5	<0.1	<0.1	0.1%	8.3	0.1	8.5	21.2%
R6	<0.1	<0.1	0.1%	8.3	0.2	8.5	21.3%
R7	0.1	<0.1	0.2%	7.1	0.2	7.3	18.3%
R8	<0.1	<0.1	<0.1%	6.5	0.1	6.6	16.5%
R9	<0.1	<0.1	<0.1%	6.5	0.1	6.6	16.5%
R10	<0.1	<0.1	<0.1%	6.5	0.1	6.6	16.5%
R11	<0.1	<0.1	<0.1%	6.5	0.1	6.6	16.5%
R12	<0.1	<0.1	0.1%	6.5	0.1	6.6	16.6%
R13	<0.1	<0.1	0.1%	7.5	0.1	7.6	19.1%
R14	<0.1	<0.1	0.1%	8.9	0.1	9.0	22.6%
R15	0.1	<0.1	0.2%	9.7	0.2	10.0	25.0%
R16	0.1	<0.1	0.3%	7.0	0.2	7.3	18.3%
R17	0.1	<0.1	0.2%	8.5	0.2	8.8	21.9%

Receptor	Proposed development PC (µg/m^3)	Road Traffic Emissions PC (µg/m^3)	PC/AQAL (%)	Background Concentration* (µg/m^3)	PC from Cumulative Sources (µg/m^3)	PEC (µg/m^3)	PEC/AQAL (%)
R18	0.1	<0.1	0.2%	6.5	0.2	6.7	16.8%
R19	<0.1	<0.1	<0.1%	7.0	0.1	7.1	17.8%
R20	<0.1	<0.1	<0.1%	6.5	0.1	6.6	16.5%
R21	0.1	<0.1	0.3%	6.5	0.2	6.8	17.0%
R22	0.1	<0.1	0.2%	9.1	0.2	9.4	23.5%
R23	0.1	<0.1	0.2%	9.7	0.2	10.0	25.0%
R24	0.1	<0.1	0.2%	7.3	0.2	7.6	19.0%
R25	0.1	<0.1	0.3%	6.5	0.2	6.8	17.0%
R26	0.1	<0.1	0.2%	6.5	0.2	6.8	16.9%
R27	<0.1	<0.1	0.1%	6.5	0.1	6.6	16.6%
R28	<0.1	<0.1	0.1%	6.5	0.1	6.6	16.6%
R29	<0.1	<0.1	0.1%	6.5	0.1	6.6	16.6%
R30	<0.1	<0.1	0.1%	6.5	0.1	6.6	16.5%
R31	<0.1	<0.1	0.1%	6.5	0.1	6.6	16.6%
R32	<0.1	<0.1	0.1%	6.5	0.1	6.6	16.6%
R33	<0.1	<0.1	<0.1%	6.5	0.1	6.6	16.4%
R34	0.1	<0.1	0.2%	8.7	0.2	9.0	22.5%
R35	0.1	<0.1	0.1%	6.8	0.3	7.1	17.8%

Receptor	Proposed development PC (µg/m^3)	Road Traffic Emissions PC (µg/m^3)	PC/AQAL (%)	Background Concentration* (µg/m^3)	PC from Cumulative Sources (µg/m^3)	PEC (µg/m^3)	PEC/AQAL (%)
R36	0.1	<0.1	0.2%	9.6	0.2	9.9	24.7%
R37	0.1	<0.1	0.2%	8.5	0.2	8.8	22.0%
R38	0.1	<0.1	0.2%	7.5	0.2	7.8	19.4%
R39	<0.1	<0.1	0.1%	7.8	0.1	8.0	19.9%
R40	0.1	<0.1	0.2%	6.6	0.2	6.9	17.3%
R41	0.1	<0.1	0.2%	6.5	0.2	6.8	16.9%
R42	<0.1	<0.1	0.1%	6.5	1.9	8.4	21.0%
R43	0.1	<0.1	0.2%	6.5	0.1	6.7	16.8%
R44	<0.1	<0.1	0.1%	6.5	0.6	7.1	17.9%
R3_Cement	<0.1	<0.1	<0.1%	6.5	0.1	6.6	16.4%
R6_Cement	<0.1	<0.1	<0.1%	6.5	0.1	6.6	16.5%
1_ICT	<0.1	<0.1	0.1%	6.5	1.1	7.6	19.1%
9_ICT	<0.1	<0.1	0.1%	6.5	3.2	9.7	24.2%
Max	0.1	<0.1	0.3%	6.5	0.2	6.8	17.0%

AQAL 40 µg/m^3

*For receptors sensitive to emissions from the Proposed Development and road traffic, background concentrations include the predicted road traffic emissions from the do-minimum scenario.

Table 5: Predicted Process Contribution 1-hour Mean 99.79th Percentile NO_2 Concentrations – Abated FEED 1 Cumulative Scenario

Receptor	Proposed development PC (µg/m³)	Road Traffic Emissions PC (µg/m³)	PC/AQAL (%)	Background Concentration (µg/m³) *	PC from Cumulative Sources (µg/m³)	PEC (µg/m³)	PEC/AQAL (%)
R1	0.2	0.1	0.1%	15.0	5.8	21.0	10.5%
R2	0.4	<0.1	0.2%	16.1	5.7	22.2	11.1%
R3	5.0	<0.1	2.5%	13.0	3.6	21.7	10.8%
R4	3.1	<0.1	1.5%	14.8	4.0	21.9	11.0%
R5	7.8	<0.1	3.9%	16.7	1.0	25.6	12.8%
R6	9.8	<0.1	4.9%	16.6	0.6	27.1	13.5%
R7	11.9	<0.1	5.9%	14.2	0.2	26.3	13.2%
R8	10.9	<0.1	5.5%	13.0	3.4	27.3	13.7%
R9	10.3	<0.1	5.2%	13.0	3.1	26.5	13.2%
R10	14.7	<0.1	7.3%	13.0	2.5	30.2	15.1%
R11	11.9	<0.1	6.0%	13.0	2.5	27.4	13.7%
R12	11.6	<0.1	5.8%	13.0	1.7	26.3	13.1%
R13	12.7	<0.1	6.4%	15.0	1.2	28.9	14.5%
R14	12.8	<0.1	6.4%	18.0	1.4	32.2	16.1%
R15	14.5	<0.1	7.2%	19.6	<0.1	34.1	17.0%
R16	14.5	<0.1	7.3%	13.9	<0.1	28.4	14.2%
R17	14.2	<0.1	7.1%	17.1	<0.1	31.3	15.7%

Receptor	Proposed development PC (µg/m^3)	Road Traffic Emissions PC (µg/m^3)	PC/AQAL (%)	Background Concentration (µg/m^3) *	PC from Cumulative Sources (µg/m^3)	PEC (µg/m^3)	PEC/AQAL (%)
R18	13.9	<0.1	7.0%	13.0	<0.1	26.9	13.5%
R19	10.0	<0.1	5.0%	13.9	1.6	25.5	12.7%
R20	9.4	<0.1	4.7%	13.0	2.1	24.5	12.2%
R21	13.7	<0.1	6.9%	13.0	<0.1	26.7	13.4%
R22	13.3	<0.1	6.6%	18.4	<0.1	31.7	15.8%
R23	13.2	<0.1	6.6%	19.6	<0.1	32.8	16.4%
R24	12.2	<0.1	6.1%	14.6	<0.1	26.8	13.4%
R25	12.0	<0.1	6.0%	13.0	<0.1	25.0	12.5%
R26	11.6	<0.1	5.8%	13.0	<0.1	24.6	12.3%
R27	12.4	<0.1	6.2%	13.0	0.7	26.1	13.1%
R28	10.7	<0.1	5.4%	13.0	1.4	25.1	12.6%
R29	10.3	<0.1	5.2%	13.0	0.9	24.2	12.1%
R30	9.2	<0.1	4.6%	13.0	1.3	23.4	11.7%
R31	9.3	<0.1	4.7%	13.0	0.8	23.2	11.6%
R32	9.2	<0.1	4.6%	13.0	0.6	22.8	11.4%
R33	8.1	<0.1	4.1%	13.0	1.6	22.7	11.4%
R34	10.0	<0.1	5.0%	17.5	<0.1	27.5	13.7%
R35	9.4	<0.1	4.7%	13.5	0.1	23.0	11.5%

Receptor	Proposed development PC (µg/m^3)	Road Traffic Emissions PC (µg/m^3)	PC/AQAL (%)	Background Concentration (µg/m^3) *	PC from Cumulative Sources (µg/m^3)	PEC (µg/m^3)	PEC/AQAL (%)
R36	9.4	<0.1	4.7%	19.3	<0.1	28.8	14.4%
R37	10.1	<0.1	5.0%	17.0	<0.1	27.1	13.6%
R38	10.2	<0.1	5.1%	15.0	<0.1	25.2	12.6%
R39	9.9	<0.1	4.9%	15.6	0.1	25.6	12.8%
R40	8.3	<0.1	4.2%	13.2	0.3	21.9	10.9%
R41	10.5	<0.1	5.2%	13.0	0.7	24.1	12.1%
R42	8.1	<0.1	4.0%	13.0	7.9	29.0	14.5%
R43	9.9	<0.1	4.9%	13.0	0.9	23.8	11.9%
R44	7.1	<0.1	3.5%	13.0	0.7	20.8	10.4%
R3_Cement	6.2	<0.1	3.1%	13.0	1.4	20.7	10.3%
R6_Cement	6.4	<0.1	3.2%	13.0	1.1	20.5	10.3%
1_ICT	8.4	<0.1	4.2%	13.0	2.4	23.8	11.9%
9_ICT	7.7	<0.1	3.9%	13.0	17.7	38.4	19.2%
Max	16.5	<0.1	8.2%	13.0	<0.1	29.5	14.7%

AQAL 200 µg/m^3

*For receptors sensitive to emissions from the Proposed Development and road traffic, background concentrations include the predicted road traffic emissions from the do-minimum scenario.

Table 6: Predicted Process Contribution Maximum 8-hour Rolling Mean CO Concentrations – Abated FEED 1 Cumulative Scenario

Receptor	Proposed development PC (mg/m^3)	PC/AQAL (%)	Background Concentration (mg/m^3)	PC from Cumulative Sources (mg/m^3)	PEC (mg/m^3)	PEC/AQAL (%)
R1	<0.01	<0.1%	0.60	<0.01	0.61	6.1%
R2	<0.01	<0.1%	0.60	<0.01	0.61	6.1%
R3	0.03	0.3%	0.51	<0.01	0.54	5.4%
R4	0.03	0.3%	0.51	<0.01	0.54	5.4%
R5	0.03	0.3%	0.50	<0.01	0.53	5.3%
R6	0.04	0.4%	0.50	<0.01	0.54	5.4%
R7	0.06	0.6%	0.50	<0.01	0.56	5.6%
R8	0.05	0.5%	0.50	<0.01	0.55	5.5%
R9	0.05	0.5%	0.51	<0.01	0.56	5.6%
R10	0.07	0.7%	0.52	<0.01	0.59	5.9%
R11	0.05	0.5%	0.51	<0.01	0.56	5.6%
R12	0.05	0.5%	0.51	<0.01	0.56	5.6%
R13	0.06	0.6%	0.51	<0.01	0.57	5.7%
R14	0.06	0.6%	0.52	<0.01	0.58	5.8%
R15	0.07	0.7%	0.52	<0.01	0.59	5.9%
R16	0.07	0.7%	0.53	<0.01	0.60	6.0%
R17	0.07	0.7%	0.50	<0.01	0.57	5.7%
R18	0.07	0.7%	0.50	<0.01	0.57	5.7%

Receptor	Proposed development PC (mg/m^3)	PC/AQAL (%)	Background Concentration (mg/m^3)	PC from Cumulative Sources (mg/m^3)	PEC (mg/m^3)	PEC/AQAL (%)
R19	0.03	0.3%	0.55	<0.01	0.58	5.8%
R20	0.05	0.5%	0.55	<0.01	0.60	6.0%
R21	0.06	0.6%	0.50	<0.01	0.56	5.6%
R22	0.06	0.6%	0.55	<0.01	0.61	6.1%
R23	0.06	0.6%	0.52	<0.01	0.58	5.8%
R24	0.06	0.6%	0.52	<0.01	0.58	5.8%
R25	0.06	0.6%	0.53	<0.01	0.59	5.9%
R26	0.06	0.6%	0.55	<0.01	0.61	6.1%
R27	0.06	0.6%	0.55	<0.01	0.61	6.1%
R28	0.05	0.5%	0.55	<0.01	0.60	6.0%
R29	0.05	0.5%	0.59	<0.01	0.65	6.5%
R30	0.04	0.4%	0.50	<0.01	0.54	5.4%
R31	0.04	0.4%	0.50	<0.01	0.54	5.4%
R32	0.04	0.4%	0.50	<0.01	0.54	5.4%
R33	0.03	0.3%	0.50	<0.01	0.53	5.3%
R34	0.04	0.4%	0.52	<0.01	0.56	5.6%
R35	0.04	0.4%	0.52	<0.01	0.57	5.7%
R36	0.04	0.4%	0.51	<0.01	0.55	5.5%

Receptor	Proposed development PC (mg/m^3)	PC/AQAL (%)	Background Concentration (mg/m^3)	PC from Cumulative Sources (mg/m^3)	PEC (mg/m^3)	PEC/AQAL (%)
R37	0.04	0.4%	0.52	<0.01	0.56	5.6%
R38	0.05	0.5%	0.53	<0.01	0.58	5.8%
R39	0.04	0.4%	0.57	<0.01	0.61	6.1%
R40	0.03	0.3%	0.60	<0.01	0.64	6.4%
R41	0.03	0.3%	0.59	<0.01	0.63	6.3%
R42	0.03	0.3%	0.50	<0.01	0.53	5.3%
R43	0.03	0.3%	0.60	<0.01	0.63	6.3%
R44	0.03	0.3%	0.55	<0.01	0.58	5.8%
R3_Cement	0.03	0.3%	0.52	<0.01	0.55	5.5%
R6_Cement	0.02	0.2%	0.52	<0.01	0.54	5.4%
1_ICT	0.03	0.3%	0.60	<0.01	0.63	6.3%
9_ICT	0.03	0.3%	0.60	<0.01	0.63	6.3%
Max	0.07	0.7%	0.60	<0.01	0.67	6.7%

AQAL 10 mg/m^3

Table 7: Predicted Process Contribution Annual Mean Total N-Amines Concentrations (against NDMA AQAL) – Abated FEED 1 Cumulative Scenario

Receptor	Proposed development PC (ng/m^3)	PC/AQAL (%)	Background Concentration (ng/m^3)	PC from Cumulative Sources (ng/m^3)	PEC (ng/m^3)	PEC/AQAL (%)
R1	<0.01	0.1%	No Data Available – Assumed to be zero.	0.05	0.05	26.6%
R2	<0.01	0.2%		0.05	0.05	26.4%
R3	0.01	2.6%		0.05	0.05	27.1%
R4	<0.01	1.9%		0.05	0.05	26.9%
R5	0.03	12.6%		0.05	0.08	38.1%
R6	0.04	17.8%		0.05	0.09	43.3%
R7	0.05	25.8%		0.05	0.10	51.1%
R8	0.01	6.2%		0.05	0.06	30.9%
R9	0.01	5.6%		0.05	0.06	29.8%
R10	0.02	8.3%		0.05	0.06	32.3%
R11	0.02	8.7%		0.04	0.06	29.9%
R12	0.02	10.0%		0.04	0.06	31.2%
R13	0.03	12.6%		0.05	0.07	35.4%
R14	0.03	12.9%		0.05	0.07	35.5%
R15	0.08	38.7%		0.05	0.13	64.4%
R16	0.09	43.8%		0.05	0.14	69.1%
R17	0.08	37.8%		0.05	0.13	62.8%

Receptor	Proposed development PC (ng/m^3)	PC/AQAL (%)	Background Concentration (ng/m^3)	PC from Cumulative Sources (ng/m^3)	PEC (ng/m^3)	PEC/AQAL (%)
R18	0.06	28.1%		0.05	0.11	52.9%
R19	0.01	6.4%		0.05	0.06	30.3%
R20	0.01	7.5%		0.05	0.06	31.3%
R21	0.10	47.6%		0.05	0.15	73.7%
R22	0.08	39.6%		0.05	0.13	66.2%
R23	0.08	39.2%		0.05	0.13	65.8%
R24	0.08	39.8%		0.05	0.13	67.2%
R25	0.10	47.9%		0.06	0.15	75.4%
R26	0.08	40.5%		0.06	0.14	68.1%
R27	0.03	15.8%		0.04	0.07	35.8%
R28	0.03	15.0%		0.04	0.07	33.3%
R29	0.04	17.8%		0.04	0.08	37.9%
R30	0.03	12.9%		0.03	0.06	29.8%
R31	0.03	15.9%		0.04	0.07	34.7%
R32	0.04	21.1%		0.04	0.09	42.9%
R33	0.02	9.7%		0.03	0.05	24.2%
R34	0.07	33.8%		0.06	0.13	63.7%
R35	0.05	26.7%		0.06	0.11	56.7%

Receptor	Proposed development PC (ng/m^3)	PC/AQAL (%)	Background Concentration (ng/m^3)	PC from Cumulative Sources (ng/m^3)	PEC (ng/m^3)	PEC/AQAL (%)
R36	0.06	32.1%		0.06	0.12	61.9%
R37	0.09	43.0%		0.06	0.15	72.7%
R38	0.09	44.3%		0.06	0.15	73.9%
R39	0.03	16.6%		0.06	0.09	45.7%
R40	0.06	31.9%		0.05	0.12	59.1%
R41	0.08	38.7%		0.07	0.14	72.5%
R42	0.04	17.7%		0.11	0.15	72.7%
R43	0.07	33.6%		0.08	0.15	73.9%
R44	0.04	17.7%		0.05	0.08	40.2%
R3_Cement	0.02	7.8%		0.03	0.05	22.6%
R6_Cement	0.02	9.9%		0.05	0.07	37.0%
1_ICT	0.03	17.4%		0.11	0.15	74.4%
9_ICT	0.04	17.7%		0.09	0.13	63.9%
Max	0.09	47.4%		0.05	0.15	72.9%

AQAL 0.2 ng/m^3

Abated FEED 2 Cumulative Scenario

B.1.1.2 The results at the identified human health receptors for the FEED 2 Cumulative Scenario are shown in **Table 8** to **Table 11**.

Table 8: Predicted Process Contribution Annual Mean NO_2 Concentrations – Abated FEED 2 Cumulative Scenario

Receptor	Proposed development PC (µg/m^3)	Road Emissions PC (µg/m^3)	PC/AQAL (%)	Background Concentration* (µg/m^3)	PC from Cumulative Sources (µg/m^3)	PEC (µg/m^3)	PEC/AQAL (%)
R1	<0.1	<0.1	0.1%	7.5	0.1	7.6	19.1%
R2	<0.1	<0.1	<0.1%	8.0	0.1	8.1	20.3%
R3	<0.1	<0.1	<0.1%	6.5	0.1	6.6	16.5%
R4	<0.1	<0.1	<0.1%	7.4	0.1	7.5	18.8%
R5	<0.1	<0.1	0.1%	8.3	0.1	8.5	21.2%
R6	<0.1	<0.1	0.1%	8.3	0.2	8.5	21.3%
R7	0.1	<0.1	0.2%	7.1	0.2	7.3	18.3%
R8	<0.1	<0.1	0.1%	6.5	0.1	6.6	16.6%
R9	<0.1	<0.1	0.1%	6.5	0.1	6.6	16.6%
R10	<0.1	<0.1	0.1%	6.5	0.1	6.6	16.6%
R11	<0.1	<0.1	0.1%	6.5	0.1	6.6	16.5%
R12	<0.1	<0.1	0.1%	6.5	0.1	6.6	16.6%
R13	<0.1	<0.1	0.1%	7.5	0.1	7.6	19.1%
R14	<0.1	<0.1	0.1%	8.9	0.1	9.0	22.6%
R15	0.1	<0.1	0.3%	9.7	0.2	10.0	25.0%
R16	0.1	<0.1	0.3%	7.0	0.2	7.3	18.3%
R17	0.1	<0.1	0.3%	8.5	0.2	8.8	22.0%

Receptor	Proposed development PC (µg/m^3)	Road Emissions PC (µg/m^3)	PC/AQAL (%)	Background Concentration* (µg/m^3)	PC from Cumulative Sources (µg/m^3)	PEC (µg/m^3)	PEC/AQAL (%)
R18	0.1	<0.1	0.2%	6.5	0.2	6.8	16.9%
R19	<0.1	<0.1	0.1%	7.0	0.1	7.1	17.9%
R20	<0.1	<0.1	<0.1%	6.5	0.1	6.6	16.5%
R21	0.1	<0.1	0.3%	6.5	0.2	6.8	17.1%
R22	0.1	<0.1	0.3%	9.1	0.2	9.4	23.6%
R23	0.1	<0.1	0.3%	9.7	0.2	10.0	25.1%
R24	0.1	<0.1	0.3%	7.3	0.2	7.6	19.1%
R25	0.1	<0.1	0.3%	6.5	0.2	6.8	17.1%
R26	0.1	<0.1	0.3%	6.5	0.2	6.8	17.0%
R27	<0.1	<0.1	0.1%	6.5	0.1	6.7	16.6%
R28	<0.1	<0.1	0.1%	6.5	0.1	6.6	16.6%
R29	<0.1	<0.1	0.1%	6.5	0.1	6.6	16.6%
R30	<0.1	<0.1	0.1%	6.5	0.1	6.6	16.5%
R31	<0.1	<0.1	0.1%	6.5	0.1	6.6	16.6%
R32	<0.1	<0.1	0.1%	6.5	0.1	6.7	16.6%
R33	<0.1	<0.1	0.1%	6.5	0.1	6.6	16.4%
R34	0.1	<0.1	0.2%	8.7	0.2	9.0	22.6%
R35	0.1	<0.1	0.2%	6.8	0.3	7.1	17.9%

Receptor	Proposed development PC (µg/m^3)	Road Emissions PC (µg/m^3)	PC/AQAL (%)	Background Concentration* (µg/m^3)	PC from Cumulative Sources (µg/m^3)	PEC (µg/m^3)	PEC/AQAL (%)
R36	0.1	<0.1	0.2%	9.6	0.2	9.9	24.8%
R37	0.1	<0.1	0.3%	8.5	0.2	8.8	22.0%
R38	0.1	<0.1	0.3%	7.5	0.2	7.8	19.5%
R39	<0.1	<0.1	0.1%	7.8	0.1	8.0	20.0%
R40	0.1	<0.1	0.2%	6.6	0.2	6.9	17.3%
R41	0.1	<0.1	0.2%	6.5	0.2	6.8	16.9%
R42	<0.1	<0.1	0.1%	6.5	1.7	8.3	20.7%
R43	0.1	<0.1	0.2%	6.5	0.1	6.7	16.8%
R44	0.1	<0.1	0.2%	6.5	0.6	7.2	17.9%
R3_Cement	<0.1	<0.1	0.1%	6.5	0.1	6.6	16.5%
R6_Cement	<0.1	<0.1	0.1%	6.5	0.1	6.6	16.5%
1_ICT	<0.1	<0.1	0.1%	6.5	1.1	7.6	19.1%
9_ICT	<0.1	<0.1	0.1%	6.5	2.4	9.0	22.5%
Max	0.2	<0.1	0.4%	6.5	0.2	6.9	17.2%

AQAL 40 µg/m^3

*For receptors sensitive to emissions from the Proposed Development and road traffic, background concentrations include the predicted road traffic emissions from the do-minimum scenario.

Table 9: Predicted Process Contribution 1-hour Mean 99.79th Percentile NO_2 Concentrations – Abated FEED 2 Cumulative Scenario

Receptor	Proposed development PC (µg/m³)	Road Traffic Emissions PC (µg/m³)	PC/AQAL (%)	Background Concentration (µg/m³) *	PC from Cumulative Sources (µg/m³)	PEC (µg/m³)	PEC/AQAL (%)
R1	0.1	0.1	0.1%	15.0	5.6	20.7	10.4%
R2	0.2	<0.1	0.1%	16.1	5.5	21.7	10.9%
R3	5.6	<0.1	2.8%	13.0	3.5	22.1	11.0%
R4	3.1	<0.1	1.5%	14.8	3.7	21.6	10.8%
R5	8.7	<0.1	4.3%	16.7	1.0	26.3	13.2%
R6	10.4	<0.1	5.2%	16.6	0.3	27.3	13.6%
R7	13.8	<0.1	6.9%	14.2	<0.1	28.0	14.0%
R8	17.2	<0.1	8.6%	13.0	2.5	32.7	16.4%
R9	21.8	<0.1	10.9%	13.0	1.9	36.7	18.4%
R10	26.5	<0.1	13.3%	13.0	1.9	41.4	20.7%
R11	21.1	<0.1	10.5%	13.0	2.8	36.9	18.5%
R12	16.9	<0.1	8.5%	13.0	1.9	31.8	15.9%
R13	15.3	<0.1	7.7%	15.0	1.4	31.7	15.9%
R14	15.8	<0.1	7.9%	18.0	1.4	35.2	17.6%
R15	17.3	<0.1	8.7%	19.6	<0.1	36.9	18.5%
R16	18.0	<0.1	9.0%	13.9	<0.1	31.9	15.9%
R17	18.0	<0.1	9.0%	17.1	<0.1	35.1	17.6%

Receptor	Proposed development PC (µg/m^3)	Road Traffic Emissions PC (µg/m^3)	PC/AQAL (%)	Background Concentration (µg/m^3) *	PC from Cumulative Sources (µg/m^3)	PEC (µg/m^3)	PEC/AQAL (%)
R18	21.4	<0.1	10.7%	13.0	<0.1	34.4	17.2%
R19	10.4	<0.1	5.2%	13.9	0.4	24.7	12.4%
R20	12.5	<0.1	6.3%	13.0	1.8	27.3	13.7%
R21	17.6	<0.1	8.8%	13.0	<0.1	30.6	15.3%
R22	16.8	<0.1	8.4%	18.4	<0.1	35.2	17.6%
R23	16.7	<0.1	8.4%	19.6	<0.1	36.3	18.2%
R24	15.7	<0.1	7.9%	14.6	<0.1	30.3	15.2%
R25	15.9	<0.1	7.9%	13.0	<0.1	28.9	14.4%
R26	15.3	<0.1	7.7%	13.0	<0.1	28.3	14.2%
R27	15.8	<0.1	7.9%	13.0	0.8	29.6	14.8%
R28	14.5	<0.1	7.3%	13.0	1.4	28.9	14.4%
R29	13.9	<0.1	7.0%	13.0	0.7	27.7	13.8%
R30	12.3	<0.1	6.1%	13.0	1.6	26.9	13.4%
R31	12.7	<0.1	6.4%	13.0	0.9	26.6	13.3%
R32	11.9	<0.1	5.9%	13.0	0.4	25.3	12.6%
R33	11.5	<0.1	5.8%	13.0	0.9	25.4	12.7%
R34	13.4	<0.1	6.7%	17.5	<0.1	30.9	15.4%
R35	12.4	<0.1	6.2%	13.5	<0.1	26.0	13.0%

Receptor	Proposed development PC (µg/m^3)	Road Traffic Emissions PC (µg/m^3)	PC/AQAL (%)	Background Concentration (µg/m^3) *	PC from Cumulative Sources (µg/m^3)	PEC (µg/m^3)	PEC/AQAL (%)
R36	12.4	<0.1	6.2%	19.3	<0.1	31.7	15.9%
R37	13.2	<0.1	6.6%	17.0	<0.1	30.2	15.1%
R38	13.5	<0.1	6.7%	15.0	<0.1	28.5	14.2%
R39	13.6	<0.1	6.8%	15.6	0.2	29.4	14.7%
R40	11.1	<0.1	5.5%	13.2	<0.1	24.3	12.1%
R41	12.8	<0.1	6.4%	13.0	0.1	25.8	12.9%
R42	10.8	<0.1	5.4%	13.0	6.1	29.9	14.9%
R43	12.9	<0.1	6.5%	13.0	0.7	26.6	13.3%
R44	10.0	<0.1	5.0%	13.0	0.2	23.2	11.6%
R3_Cement	8.8	<0.1	4.4%	13.0	0.6	22.4	11.2%
R6_Cement	9.3	<0.1	4.7%	13.0	0.7	23.0	11.5%
1_ICT	11.4	<0.1	5.7%	13.0	1.4	25.8	12.9%
9_ICT	9.9	<0.1	4.9%	13.0	15.8	38.7	19.4%
Max	39.8	<0.1	19.9%	13.0	29.4	82.3	41.1%

AQAL 200 µg/m^3

Table 10: Predicted Process Contribution Maximum 8-hour Rolling Mean CO Concentrations – Abated FEED 2 Cumulative Scenario

Receptor	Proposed development PC (mg/m^3)	PC/AQAL (%)	Background Concentration (mg/m^3)	PC from Cumulative Sources (mg/m^3)	PEC (mg/m^3)	PEC/AQAL (%)
R1	<0.01	<0.1%	0.60	0.01	0.61	6.1%
R2	<0.01	<0.1%	0.60	0.01	0.61	6.1%
R3	0.08	0.8%	0.51	<0.01	0.59	5.9%
R4	0.03	0.3%	0.51	<0.01	0.54	5.4%
R5	0.05	0.5%	0.50	<0.01	0.55	5.5%
R6	0.04	0.4%	0.50	<0.01	0.54	5.4%
R7	0.06	0.6%	0.50	<0.01	0.56	5.6%
R8	0.10	1.0%	0.50	<0.01	0.60	6.0%
R9	0.15	1.5%	0.51	<0.01	0.66	6.6%
R10	0.13	1.3%	0.52	<0.01	0.66	6.6%
R11	0.08	0.8%	0.51	<0.01	0.60	6.0%
R12	0.08	0.8%	0.51	<0.01	0.59	5.9%
R13	0.08	0.8%	0.51	<0.01	0.59	5.9%
R14	0.08	0.8%	0.52	<0.01	0.60	6.0%
R15	0.08	0.8%	0.52	<0.01	0.60	6.0%
R16	0.08	0.8%	0.53	<0.01	0.61	6.1%
R17	0.09	0.9%	0.50	<0.01	0.59	5.9%

Receptor	Proposed development PC (mg/m^3)	PC/AQAL (%)	Background Concentration (mg/m^3)	PC from Cumulative Sources (mg/m^3)	PEC (mg/m^3)	PEC/AQAL (%)
R18	0.12	1.2%	0.50	<0.01	0.62	6.2%
R19	0.04	0.4%	0.55	<0.01	0.59	5.9%
R20	0.08	0.8%	0.55	<0.01	0.63	6.3%
R21	0.08	0.8%	0.50	<0.01	0.58	5.8%
R22	0.08	0.8%	0.55	<0.01	0.63	6.3%
R23	0.08	0.8%	0.52	<0.01	0.60	6.0%
R24	0.08	0.8%	0.52	<0.01	0.60	6.0%
R25	0.07	0.7%	0.53	<0.01	0.60	6.0%
R26	0.08	0.8%	0.55	<0.01	0.63	6.3%
R27	0.08	0.8%	0.55	<0.01	0.63	6.3%
R28	0.07	0.7%	0.55	<0.01	0.62	6.2%
R29	0.08	0.8%	0.59	<0.01	0.67	6.7%
R30	0.06	0.6%	0.50	<0.01	0.56	5.6%
R31	0.06	0.6%	0.50	<0.01	0.56	5.6%
R32	0.05	0.5%	0.50	<0.01	0.55	5.5%
R33	0.04	0.4%	0.50	<0.01	0.54	5.4%
R34	0.06	0.6%	0.52	<0.01	0.58	5.8%
R35	0.06	0.6%	0.52	<0.01	0.58	5.8%

Receptor	Proposed development PC (mg/m^3)	PC/AQAL (%)	Background Concentration (mg/m^3)	PC from Cumulative Sources (mg/m^3)	PEC (mg/m^3)	PEC/AQAL (%)
R36	0.05	0.5%	0.51	<0.01	0.56	5.6%
R37	0.06	0.6%	0.52	<0.01	0.58	5.8%
R38	0.07	0.7%	0.53	<0.01	0.60	6.0%
R39	0.06	0.6%	0.57	<0.01	0.63	6.3%
R40	0.04	0.4%	0.60	<0.01	0.65	6.5%
R41	0.05	0.5%	0.59	<0.01	0.64	6.4%
R42	0.04	0.4%	0.50	<0.01	0.54	5.4%
R43	0.04	0.4%	0.60	<0.01	0.64	6.4%
R44	0.04	0.4%	0.55	<0.01	0.59	5.9%
R3_Cement	0.04	0.4%	0.52	<0.01	0.56	5.6%
R6_Cement	0.03	0.3%	0.52	<0.01	0.55	5.5%
1_ICT	0.05	0.5%	0.60	<0.01	0.65	6.5%
9_ICT	0.03	0.3%	0.60	<0.01	0.64	6.4%
Max	0.22	2.2%	0.60	0.02	0.84	8.4%

AQAL 10 mg/m^3

Table 11: Predicted Process Contribution Annual Mean N-Amines Concentrations (against NDMA AQAL) – Abated FEED 2 Cumulative Scenario

Receptor	Proposed development PC (ng/m^3)	PC/AQAL (%)	Background Concentration (ng/m^3)	PC from Cumulative Sources (ng/m^3)	PEC (ng/m^3)	PEC/AQAL (%)
R1	<0.01	0.1%	No Data Available – Assumed to be zero.	0.05	0.05	26.6%
R2	<0.01	0.1%		0.05	0.05	26.3%
R3	<0.01	1.9%		0.05	0.05	26.3%
R4	<0.01	1.3%		0.05	0.05	26.2%
R5	0.02	8.7%		0.05	0.07	33.9%
R6	0.02	12.1%		0.05	0.07	37.3%
R7	0.04	18.4%		0.05	0.09	43.4%
R8	0.01	6.1%		0.05	0.06	31.1%
R9	0.01	7.0%		0.05	0.06	31.3%
R10	0.02	9.2%		0.05	0.07	33.3%
R11	0.02	8.4%		0.04	0.06	29.8%
R12	0.02	8.3%		0.04	0.06	29.7%
R13	0.02	9.4%		0.05	0.06	32.0%
R14	0.02	9.6%		0.05	0.06	32.0%
R15	0.06	28.3%		0.05	0.11	53.5%
R16	0.07	32.8%		0.05	0.11	57.4%
R17	0.06	29.5%		0.05	0.11	53.8%

Receptor	Proposed development PC (ng/m^3)	PC/AQAL (%)	Background Concentration (ng/m^3)	PC from Cumulative Sources (ng/m^3)	PEC (ng/m^3)	PEC/AQAL (%)
R18	0.05	22.6%		0.05	0.09	47.0%
R19	0.01	4.3%		0.05	0.06	27.9%
R20	0.01	6.0%		0.05	0.06	29.4%
R21	0.07	36.8%		0.05	0.12	61.6%
R22	0.06	30.2%		0.05	0.11	55.5%
R23	0.06	29.9%		0.05	0.11	55.2%
R24	0.06	31.0%		0.05	0.11	56.6%
R25	0.08	38.2%		0.06	0.13	63.2%
R26	0.07	32.9%		0.06	0.12	58.2%
R27	0.02	12.3%		0.04	0.06	31.8%
R28	0.02	12.0%		0.04	0.06	29.4%
R29	0.03	13.6%		0.04	0.07	32.8%
R30	0.02	10.4%		0.03	0.05	26.1%
R31	0.03	13.0%		0.04	0.06	30.3%
R32	0.03	16.0%		0.04	0.07	36.2%
R33	0.02	7.9%		0.03	0.04	21.3%
R34	0.05	27.0%		0.06	0.11	54.2%
R35	0.04	21.2%		0.06	0.10	48.8%

Receptor	Proposed development PC (ng/m^3)	PC/AQAL (%)	Background Concentration (ng/m^3)	PC from Cumulative Sources (ng/m^3)	PEC (ng/m^3)	PEC/AQAL (%)
R36	0.05	25.7%		0.06	0.11	52.5%
R37	0.07	35.0%		0.06	0.12	60.9%
R38	0.07	36.1%		0.06	0.12	62.1%
R39	0.03	13.6%		0.06	0.08	41.1%
R40	0.05	25.9%		0.05	0.10	49.3%
R41	0.06	32.3%		0.07	0.12	60.6%
R42	0.03	14.9%		0.11	0.14	67.5%
R43	0.06	29.1%		0.08	0.13	63.3%
R44	0.04	17.8%		0.05	0.08	38.4%
R3_Cement	0.01	7.4%		0.03	0.04	19.9%
R6_Cement	0.02	9.4%		0.05	0.07	33.7%
1_ICT	0.03	14.8%		0.11	0.14	69.0%
9_ICT	0.03	14.9%		0.09	0.12	58.9%
Max	0.08	39.9%		0.07	0.15	77.1%

AQAL 0.2 ng/m^3

Ecological Receptor Results

Abated FEED 1 Cumulative Scenario

B.1.1.3 The results at the identified ecological receptors for the FEED 1 Cumulative Scenario are shown in **Table 12** to **Table 15**.

Table 12: Predicted Process Contribution Annual Mean NO_x Concentrations – Abated FEED 1 Cumulative Scenario

Receptor	Proposed Development PC (µg/m^3)	Road Emissions PC (µg/m^3)	PC/AQAL (%)	Background Concentration (µg/m^3)	Cumulative PC (µg/m^3)	PEC (µg/m^3)	PEC/AQAL (%)
OE01	<0.1	<0.1	0.1%	8.4	0.4	8.9	29.5%
OE02	0.1	<0.1	0.4%	6.1	0.3	6.5	21.7%
OE03	Not Sensitive						
OE04	<0.1	<0.1	0.1%	6.6	0.3	7.0	23.4%
OE05	<0.1	<0.1	0.1%	12.2	0.3	12.5	41.7%
OE06	<0.1	<0.1	0.1%	19.7	0.2	19.8	66.2%
OE07	<0.1	<0.1	0.1%	15.3	0.2	15.5	51.6%
OE08	<0.1	<0.1	0.1%	9.6	0.3	9.9	33.2%
OE09	0.1	<0.1	0.2%	11.2	1.6	12.9	42.9%
OE10	0.1	<0.1	0.3%	9.9	0.4	10.3	34.3%
OE11	0.1	<0.1	0.4%	7.5	0.2	7.9	26.3%
OE12	<0.1	<0.1	0.1%	7.1	0.1	7.2	24.2%
OE13	<0.1	<0.1	0.1%	9.4	0.1	9.5	31.7%
OE14	<0.1	<0.1	<0.1%	5.6	0.1	5.7	18.9%
OE15	<0.1	<0.1	<0.1%	4.2	0.1	4.3	14.3%
OE16	<0.1	<0.1	<0.1%	5.2	0.1	5.3	17.5%
OE17	<0.1	<0.1	0.1%	4.4	0.1	4.5	14.9%
OE18	<0.1	<0.1	0.1%	5.3	0.1	5.4	18.1%

Receptor	Proposed Development PC (µg/m^3)	Road Emissions PC (µg/m^3)	PC/AQAL (%)	Background Concentration (µg/m^3)	Cumulative PC (µg/m^3)	PEC (µg/m^3)	PEC/AQAL (%)
OE19	<0.1	<0.1	0.1%	4.3	<0.1	4.4	14.5%
OE20	<0.1	<0.1	0.1%	4.3	0.1	4.4	14.6%
OE21	<0.1	<0.1	<0.1%	4.1	<0.1	4.2	14.0%
OE22	Not Sensitive						
OE23	Not Sensitive						
OE24	<0.1	<0.1	<0.1%	4.7	<0.1	4.8	15.9%
OE25	<0.1	<0.1	<0.1%	4.4	<0.1	4.4	14.8%
OE26	<0.1	<0.1	<0.1%	4.7	<0.1	4.7	15.7%
OE27	<0.1	<0.1	0.1%	7.1	0.1	7.2	24.0%
OE28	<0.1	<0.1	0.1%	7.7	0.2	7.9	26.3%
OE29	0.1	<0.1	0.3%	9.4	0.3	9.8	32.6%
OE30	0.1	<0.1	0.4%	9.2	0.3	9.6	31.9%
TE1	<0.1	<0.1	0.1%	9.3	0.1	9.5	31.5%
TE2	<0.1	<0.1	0.1%	6.7	0.1	6.7	22.3%
TE3	<0.1	<0.1	0.1%	7.2	0.2	7.2	23.9%
TE4	<0.1	<0.1	0.1%	7.2	0.1	7.2	24.0%
TE5	<0.1	<0.1	0.1%	7.8	0.2	7.8	26.0%
TE6	<0.1	<0.1	0.1%	7.8	0.2	7.8	26.0%
TE7a	<0.1	<0.1	0.1%	9.1	0.2	9.1	30.3%

Receptor	Proposed Development PC (µg/m^3)	Road Emissions PC (µg/m^3)	PC/AQAL (%)	Background Concentration (µg/m^3)	Cumulative PC (µg/m^3)	PEC (µg/m^3)	PEC/AQAL (%)
TE7b	0.1	<0.1	0.2%	9.1	0.2	9.1	30.4%
TE7c	0.1	<0.1	0.4%	9.1	0.2	9.2	30.6%
TE8a	<0.1	<0.1	0.1%	9.3	0.2	9.3	31.1%
TE8b	0.1	<0.1	0.3%	9.7	0.2	9.8	32.7%
TE8c	0.1	<0.1	0.4%	11.7	0.3	11.8	39.3%

AQAL 30 µg/m^3

Table 13: Predicted Process Contribution Annual Mean NH_3 Concentrations – Abated FEED 1 Cumulative Scenario

Receptor	AQAL (µg/m^3) (1 used as default)	Proposed Development PC (µg/m^3)	Road Emissions PC (µg/m^3)	PC/AQAL (%)	Background Conc (µg/m^3)	Cumulative PC (µg/m^3)	PEC (µg/m^3)	PEC/AQAL (%)
OE01	1	<0.01	<0.01	0.4%	1.4	0.01	1.4	138.7%
OE02	3	0.01	<0.01	0.3%	1.3	0.01	1.3	44.0%
OE03	Not Sensitive							
OE04	1	<0.01	<0.01	0.4%	1.3	0.01	1.3	131.5%
OE05	1	<0.01	<0.01	0.2%	1.4	<0.01	1.4	144.6%
OE06	1 or 3	<0.01	<0.01	0.2%	2.0	<0.01	2.0	198.7%
OE07	1 or 3	<0.01	<0.01	0.1%	1.5	<0.01	1.5	153.4%
OE08	3	<0.01	<0.01	0.1%	2.0	0.01	2.0	67.7%
OE09	1	0.01	<0.01	0.6%	1.8	0.04	1.8	184.5%
OE10	3	0.01	<0.01	0.3%	2.0	0.01	2.0	67.7%
OE11	3	0.01	<0.01	0.4%	1.7	0.01	1.7	56.0%
OE12	1	<0.01	<0.01	0.2%	1.7	0.01	1.7	170.7%
OE13	3	<0.01	<0.01	0.1%	1.7	<0.01	1.7	58.3%
OE14	1	<0.01	<0.01	0.1%	1.4	<0.01	1.4	142.3%
OE15	1	<0.01	<0.01	0.1%	1.3	<0.01	1.3	125.3%
OE16	Not Sensitive							
OE17	1	<0.01	<0.01	0.1%	1.4	<0.01	1.4	141.4%

Receptor	AQAL (µg/m^3) (1 used as default)	Proposed Development PC (µg/m^3)	Road Emissions PC (µg/m^3)	PC/AQAL (%)	Background Conc (µg/m^3)	Cumulative PC (µg/m^3)	PEC (µg/m^3)	PEC/AQAL (%)
OE18	1	<0.01	<0.01	0.2%	1.4	<0.01	1.4	141.5%
OE19	1	<0.01	<0.01	0.1%	1.4	<0.01	1.4	135.3%
OE20	1	<0.01	<0.01	0.1%	1.4	<0.01	1.4	135.3%
OE21	1	<0.01	<0.01	0.1%	1.4	<0.01	1.4	135.2%
OE22	Not Sensitive							
OE23	Not Sensitive							
OE24	3	<0.01	<0.01	<0.1%	1.4	<0.01	1.4	46.4%
OE25	1	<0.01	<0.01	0.1%	1.3	<0.01	1.3	132.3%
OE26	1	<0.01	<0.01	0.1%	1.3	<0.01	1.3	130.3%
OE27	1	<0.01	<0.01	0.2%	1.6	<0.01	1.6	157.6%
OE28	1	<0.01	<0.01	0.2%	1.4	<0.01	1.4	138.7%
OE29	1	0.01	<0.01	0.7%	1.8	0.01	1.8	179.9%
OE30	1	0.01	<0.01	1.1%	1.9	0.01	1.9	190.1%
TE1	1	<0.01	<0.01	0.2%	1.5	0.01	1.5	153.8%
TE2	1	<0.01	<0.01	0.2%	1.6	<0.01	1.6	156.6%
TE3	1	<0.01	<0.01	0.2%	1.6	0.01	1.6	162.9%
TE4	1	<0.01	0.01	0.2%	1.6	<0.01	1.6	163.2%
TE5	1	<0.01	0.01	0.1%	1.6	0.01	1.6	160.3%

Receptor	AQAL (µg/m^3) (1 used as default)	Proposed Development PC (µg/m^3)	Road Emissions PC (µg/m^3)	PC/AQAL (%)	Background Conc (µg/m^3)	Cumulative PC (µg/m^3)	PEC (µg/m^3)	PEC/AQAL (%)
TE6	1	<0.01	0.01	0.1%	1.6	0.01	1.6	160.3%
TE7a	3	<0.01	<0.01	0.1%	1.8	0.01	1.8	59.4%
TE7b	3	0.01	<0.01	0.2%	1.8	0.01	1.8	59.5%
TE7c	3	0.01	<0.01	0.3%	1.8	0.01	1.8	59.7%
TE8a	3	<0.01	<0.01	0.1%	1.5	0.01	1.5	51.3%
TE8b	3	0.01	<0.01	0.2%	1.7	0.01	1.7	57.6%
TE8c	3	0.01	<0.01	0.3%	1.8	0.01	1.9	61.7%

Table 14: Predicted Process Contribution Nitrogen Deposition – Abated FEED 1 Cumulative Scenario

Receptor	Critical Load (AQAL) (kgN/ha/yr)	Background Concentration (kgN/ha/yr)	Predicted PC (kgN/ha/yr)	Predicted Road Emissions PC (kgN/ha/yr)	PC/ AQAL (%)	Cumulative PC (kgN/ha/yr)	PEC (kgN/ha/yr)	PEC/AQAL (%)
OE01	5	12.6	0.03	<0.01	0.5%	0.13	12.74	254.8%
OE02	10	12.1	0.08	<0.01	0.8%	0.11	12.29	122.9%
OE03	Not sensitive							
OE04	5	12.2	0.03	<0.01	0.5%	0.11	12.30	245.9%
OE05	10	23.4	0.02	<0.01	0.2%	0.08	23.45	234.5%
OE06	20	15.6	0.02	<0.01	0.1%	0.05	15.67	78.3%
OE07	10	13.8	0.01	<0.01	0.1%	0.03	13.85	138.5%
OE08	Not Sensitive							
OE09	10	14.8	0.05	<0.01	0.5%	0.45	15.25	152.5%
OE10	Not Sensitive							
OE11	10	25.2	0.13	<0.01	1.3%	0.15	25.44	254.4%
OE12	6	15.5	0.01	<0.01	0.2%	0.05	15.52	258.7%
OE13	5	15.6	0.02	<0.01	0.5%	0.04	15.62	312.3%
OE14	5	16.0	0.01	<0.01	0.2%	0.01	16.03	320.6%
OE15	5	15.9	0.01	<0.01	0.1%	0.02	15.94	318.9%
OE16	10	24.8	0.01	<0.01	0.1%	0.04	24.82	248.2%
OE17	10	24.8	0.02	<0.01	0.2%	0.03	24.84	248.4%

Receptor	Critical Load (AQAL) (kgN/ha/yr)	Background Concentration (kgN/ha/yr)	Predicted PC (kgN/ha/yr)	Predicted Road Emissions PC (kgN/ha/yr)	PC/ AQAL (%)	Cumulative PC (kgN/ha/yr)	PEC (kgN/ha/yr)	PEC/AQAL (%)
OE18	5	14.8	0.01	<0.01	0.3%	0.03	14.88	297.6%
OE19	10	15.4	0.01	<0.01	0.1%	0.02	15.41	154.1%
OE20	6	15.4	0.01	<0.01	0.2%	0.02	15.41	256.8%
OE21	15	23.0	0.01	<0.01	0.1%	0.02	23.02	153.5%
OE22	Not Sensitive							
OE23	Not Sensitive							
OE24	10	15.0	0.01	<0.01	0.1%	0.02	15.02	150.2%
OE25	5	14.6	0.01	<0.01	0.1%	0.01	14.65	293.0%
OE26	5	14.5	0.01	<0.01	0.2%	0.02	14.50	290.1%
OE27	6	14.2	0.02	<0.01	0.3%	0.04	14.30	238.3%
OE28	6	14.3	0.01	<0.01	0.2%	0.03	14.30	238.3%
OE29	10	14.7	0.06	<0.01	0.6%	0.12	14.86	148.6%
OE30	10	26.4	0.14	<0.01	1.4%	0.15	26.65	266.5%
TE1	10	23.6	0.03	<0.01	0.3%	0.09	23.69	236.9%
TE2	10	23.9	0.03	<0.01	0.3%	0.06	24.03	240.3%
TE3	10	24.6	0.02	<0.01	0.3%	0.11	24.78	247.8%
TE4	10	24.6	0.02	0.05	0.7%	0.08	24.79	247.9%
TE5	10	24.1	0.02	0.05	0.7%	0.09	24.28	242.8%

Receptor	Critical Load (AQAL) (kgN/ha/yr)	Background Concentration (kgN/ha/yr)	Predicted PC (kgN/ha/yr)	Predicted Road Emissions PC (kgN/ha/yr)	PC/ AQAL (%)	Cumulative PC (kgN/ha/yr)	PEC (kgN/ha/yr)	PEC/AQAL (%)
TE6	10	24.1	0.02	0.05	0.7%	0.09	24.28	242.8%
TE7a	10	25.8	0.05	<0.01	0.5%	0.13	25.94	259.4%
TE7b	10	25.8	0.07	<0.01	0.7%	0.14	25.97	259.7%
TE7c	10	25.8	0.12	<0.01	1.2%	0.15	26.03	260.3%
TE8a	10	14.1	0.04	<0.01	0.4%	0.10	14.23	142.3%
TE8b	10	14.7	0.08	0.03	1.1%	0.13	14.93	149.3%
TE8c	10	15.0	0.12	0.01	1.3%	0.19	15.32	153.2%

Table 15: Predicted Process Contribution Acid Deposition– Abated FEED 1 Cumulative Scenario

Receptor	Lower Value of Applicable Critical Load Range (AQAL)	Background Concentration (Keq/ha/yr)	Predicted PC (Keq/ha/yr)	Road Emissions PC (µg/m^3)	PC/ AQAL (%)	Cumulative PC (µg/m^3)	PEC (Keq/ha/yr)	PEC/ AQAL (%)
OE01	Min CL min N 0.499 Min CL Max N 1.332 Min CL Max S 0.44	1.23	<0.01	<0.01	0.14%	0.02	1.23	93.66%
OE02	Not Sensitive							
OE03	Not Sensitive							
OE04	Min CL min N 0.142 Min CL Max N 1.052 Min CL Max S 0.91	1.16	<0.01	<0.01	0.18%	0.01	1.16	111.66%
OE05	Min CL min N 0.357 Min CL Max N 1.721 Min CL Max S 1.364	2.33	<0.01	<0.01	0.08%	0.01	2.33	136.04%
OE06	Not Sensitive							
OE07	Not Sensitive							
OE08	Not Sensitive							
OE09	Not Sensitive							
OE10	Not Sensitive							
OE11	Min CL min N 0.142 Min CL Max N 1.72 Min CL Max S 1.448	1.16	<0.01	<0.01	0.56%	0.02	1.16	69.10%

Receptor	Lower Value of Applicable Critical Load Range (AQAL)	Background Concentration (Keq/ha/yr)	Predicted PC (Keq/ha/yr)	Road Emissions PC (µg/m^3)	PC/ AQAL (%)	Cumulative PC (µg/m^3)	PEC (Keq/ha/yr)	PEC/ AQAL (%)
OE12	Min CL min N 0.357 Min CL Max N 1.834 Min CL Max S 1.477	2.33	<0.01	<0.01	0.05%	0.01	2.33	127.40%
OE13	Min CL min N 0.357 Min CL Max N 1.828 Min CL Max S 1.471	1.08	<0.01	<0.01	0.09%	<0.01	1.08	59.43%
OE14	Min CL min N 0.142 Min CL Max N 0.634 Min CL Max S 0.349	1.16	<0.01	<0.01	0.10%	<0.01	1.16	371.00%
OE15	Min CL min N 0.142 Min CL Max N 6.197 Min CL Max S 6.055	2.33	<0.01	<0.01	0.01%	<0.01	2.33	22.15%
OE16	Min CL min N 0.142 Min CL Max N 1.769 Min CL Max S 1.627	1.08	<0.01	<0.01	0.05%	<0.01	1.08	127.52%
OE17	Min CL min N 0.142 Min CL Max N 1.863 Min CL Max S 1.721	1.16	<0.01	<0.01	0.07%	<0.01	1.16	62.55%
OE18	Min CL min N 0.142 Min CL Max N 1.006 Min CL Max S 0.721	Data not Available	<0.01	<0.01	<0.01%	<0.01	<0.01	0.16%
OE19	Min CL min N 0.856 Min CL Max N 4.856 Min CL Max S 4	1.35	<0.01	<0.01	0.01%	<0.01	1.35	27.85%

Receptor	Lower Value of Applicable Critical Load Range (AQAL)	Background Concentration (Keq/ha/yr)	Predicted PC (Keq/ha/yr)	Road Emissions PC (µg/m^3)	PC/ AQAL (%)	Cumulative PC (µg/m^3)	PEC (Keq/ha/yr)	PEC/ AQAL (%)
OE20	Min CL min N 0.856 Min CL Max N 4.856 Min CL Max S 4	1.35	<0.01	<0.01	0.01%	<0.01	1.35	27.86%
OE21	Min CL min N 0.142 Min CL Max N 5.989 Min CL Max S 5.847	2.23	<0.01	<0.01	0.01%	<0.01	2.23	37.29%
OE22	Not Sensitive							
OE23	Not Sensitive							
OE24	Not Sensitive							
OE25	Min CL min N 0.142 Min CL Max N 6.023 Min CL Max S 5.881	1.34	<0.01	<0.01	0.01%	<0.01	1.34	22.28%
OE26	Min CL min N 0.178 Min CL Max N 4.268 Min CL Max S 4.09	1.34	<0.01	<0.01	0.01%	<0.01	1.34	31.45%
OE27	Min CL min N 0.357 Min CL Max N 1.811 Min CL Max S 1.454	2.29	<0.01	<0.01	0.07%	<0.01	2.29	126.75%
OE28	Min CL min N 1.071 Min CL Max N 5.071 Min CL Max S 4	1.3	<0.01	<0.01	0.02%	<0.01	1.3	25.71%

Receptor	Lower Value of Applicable Critical Load Range (AQAL)	Background Concentration (Keq/ha/yr)	Predicted PC (Keq/ha/yr)	Road Emissions PC (µg/m^3)	PC/ AQAL (%)	Cumulative PC (µg/m^3)	PEC (Keq/ha/yr)	PEC/ AQAL (%)
OE29	Min CL min N 1.071 Min CL Max N 5.071 Min CL Max S 4	1.02	<0.01	<0.01	<0.01%	0.01	1.03	7.14%
OE30	Min CL min N 0.142 Min CL Max N 1.72 Min CL Max S 1.448	Data not Available	0.01	<0.01	<0.01%	0.02	0.01	0.60%
TE1	Min CL min N 0.357 Min CL Max N 1.782 Min CL Max S 1.425	2.37	<0.01	<0.01	0.11%	0.01	2.38	133.69%
TE2	Min CL min N 0.142 Min CL Max N 1.705 Min CL Max S 1.563	2.35	<0.01	<0.01	0.11%	0.01	2.36	138.35%
TE3	Min CL min N 0.357 Min CL Max N 1.811 Min CL Max S 1.454	2.44	<0.01	<0.01	0.11%	0.01	2.45	135.62%
TE4	Min CL min N 0.357 Min CL Max N 1.811 Min CL Max S 1.454	2.44	<0.01	<0.01	0.31%	0.01	2.45	135.58%
TE5	Min CL min N 0.357 Min CL Max N 1.781 Min CL Max S 1.424	2.42	<0.01	<0.01	0.32%	0.01	2.43	136.82%
TE6	Min CL min N 0.357 Min CL Max N 1.781 Min CL Max S 1.424	2.42	<0.01	<0.01	0.32%	0.01	2.43	136.83%

Receptor	Lower Value of Applicable Critical Load Range (AQAL)	Background Concentration (Keq/ha/yr)	Predicted PC (Keq/ha/yr)	Road Emissions PC (µg/m^3)	PC/ AQAL (%)	Cumulative PC (µg/m^3)	PEC (Keq/ha/yr)	PEC/ AQAL (%)
TE7a	Min CL min N 0.142 Min CL Max N 1.72 Min CL Max S 1.72	2.48	<0.01	<0.01	0.13%	0.02	2.49	145.32%
TE7b	Min CL min N 0.142 Min CL Max N 1.72 Min CL Max S 1.578	2.49	0.01	<0.01	0.10%	0.02	2.49	145.38%
TE7c	Min CL min N 0.142 Min CL Max N 1.72 Min CL Max S 1.578	2.49	0.01	<0.01	0.10%	0.02	2.5	145.51%
TE8a	Not Sensitive							
TE8b	Not Sensitive							
TE8c	Not Sensitive							

Abated FEED 2 Cumulative Scenario

B.1.1.4 The results at the identified ecological receptors for the FEED 2 Cumulative Scenario are shown in **Table 16** to **Table 19**.

Table 16: Predicted Process Contribution Annual Mean NO_x Concentrations – Abated FEED 2 Cumulative Scenario

Receptor	Proposed Development PC (µg/m^3)	Road Emissions PC (µg/m^3)	PC/AQAL (%)	Background Concentration (µg/m^3)	Cumulative PC (µg/m^3)	PEC (µg/m^3)	PEC/AQAL (%)
OE01	0.1	<0.1	0.2%	8.4	0.4	8.9	29.6%
OE02	0.2	<0.1	0.8%	6.1	0.3	6.6	21.9%
OE03	Not Sensitive						
OE04	0.1	<0.1	0.2%	6.6	0.3	7.0	23.5%
OE05	<0.1	<0.1	0.1%	12.2	0.3	12.5	41.8%
OE06	<0.1	<0.1	0.1%	19.7	0.2	19.9	66.2%
OE07	<0.1	<0.1	0.1%	15.3	0.2	15.5	51.6%
OE08	0.1	<0.1	0.2%	9.6	0.3	10.0	33.2%
OE09	0.1	<0.1	0.4%	11.2	1.6	12.9	43.0%
OE10	0.1	<0.1	0.4%	9.9	0.4	10.3	34.4%
OE11	0.2	<0.1	0.5%	7.5	0.3	8.0	26.6%
OE12	<0.1	<0.1	0.1%	7.1	0.1	7.3	24.2%
OE13	<0.1	<0.1	0.2%	9.4	0.1	9.5	31.8%
OE14	<0.1	<0.1	0.1%	5.6	0.1	5.7	19.0%
OE15	<0.1	<0.1	<0.1%	4.2	0.1	4.3	14.3%
OE16	<0.1	<0.1	0.1%	5.2	0.1	5.3	17.5%
OE17	<0.1	<0.1	0.1%	4.4	0.1	4.5	14.9%
OE18	<0.1	<0.1	0.1%	5.3	0.1	5.4	18.2%

Receptor	Proposed Development PC (µg/m^3)	Road Emissions PC (µg/m^3)	PC/AQAL (%)	Background Concentration (µg/m^3)	Cumulative PC (µg/m^3)	PEC (µg/m^3)	PEC/AQAL (%)
OE19	<0.1	<0.1	0.1%	4.3	<0.1	4.4	14.6%
OE20	<0.1	<0.1	0.1%	4.3	0.1	4.4	14.6%
OE21	<0.1	<0.1	<0.1%	4.1	<0.1	4.2	14.0%
OE22	Not Sensitive						
OE23	Not Sensitive						
OE24	<0.1	<0.1	0.1%	4.7	<0.1	4.8	15.9%
OE25	<0.1	<0.1	0.1%	4.4	<0.1	4.4	14.8%
OE26	<0.1	<0.1	0.1%	4.7	<0.1	4.7	15.7%
OE27	<0.1	<0.1	0.1%	7.1	0.1	7.2	24.1%
OE28	<0.1	<0.1	0.1%	7.7	0.1	7.8	25.9%
OE29	0.1	<0.1	0.3%	9.4	0.3	9.8	32.7%
OE30	0.2	<0.1	0.5%	9.2	0.3	9.6	32.0%
TE1	<0.1	<0.1	0.1%	9.3	0.1	9.5	31.6%
TE2	<0.1	<0.1	0.1%	6.7	0.1	6.8	22.6%
TE3	<0.1	<0.1	0.1%	7.2	0.2	7.3	24.5%
TE4	<0.1	<0.1	0.1%	7.2	0.1	7.3	24.4%
TE5	<0.1	<0.1	0.1%	7.8	0.2	8.0	26.5%
TE6	<0.1	<0.1	0.1%	7.8	0.2	8.0	26.5%
TE7a	0.1	<0.1	0.2%	9.1	0.2	9.3	31.1%

Receptor	Proposed Development PC (µg/m^3)	Road Emissions PC (µg/m^3)	PC/AQAL (%)	Background Concentration (µg/m^3)	Cumulative PC (µg/m^3)	PEC (µg/m^3)	PEC/AQAL (%)
TE7b	0.1	<0.1	0.3%	9.1	0.2	9.4	31.2%
TE7c	0.1	<0.1	0.5%	9.1	0.2	9.4	31.4%
TE8a	<0.1	<0.1	0.1%	9.3	0.2	9.5	31.6%
TE8b	0.1	<0.1	0.3%	9.7	0.2	10.0	33.5%
TE8c	0.1	<0.1	0.4%	11.7	0.3	12.2	40.5%

AQAL 30 µg/m^3

Table 17: Predicted Process Contribution Annual Mean NH_3 Concentrations – Abated FEED 2 Cumulative Scenario

Receptor	AQAL (µg/m^3) (1 used as default)	Proposed Development PC (µg/m^3)	Road Emissions PC (µg/m^3)	PC/AQAL (%)	Background Conc (µg/m^3)	Cumulative PC (µg/m^3)	PEC (µg/m^3)	PEC/AQAL (%)
OE01	1	<0.01	<0.01	0.4%	1.4	0.01	1.4	138.8%
OE02	3	0.02	<0.01	0.5%	1.3	0.01	1.3	44.2%
OE03	Not Sensitive							
OE04	1	<0.01	<0.01	0.4%	1.3	0.01	1.3	131.5%
OE05	1	<0.01	<0.01	0.2%	1.4	<0.01	1.4	144.6%
OE06	1 or 3	<0.01	<0.01	0.2%	2.0	<0.01	2.0	198.7%
OE07	1 or 3	<0.01	<0.01	0.2%	1.5	<0.01	1.5	153.4%
OE08	3	<0.01	<0.01	0.1%	2.0	0.01	2.0	67.8%
OE09	1	0.01	<0.01	0.7%	1.8	0.04	1.8	184.6%
OE10	3	0.01	<0.01	0.3%	2.0	0.01	2.0	67.7%
OE11	3	0.01	<0.01	0.3%	1.7	0.01	1.7	56.0%
OE12	1	<0.01	<0.01	0.2%	1.7	0.01	1.7	170.7%
OE13	3	<0.01	<0.01	0.1%	1.7	<0.01	1.7	58.3%
OE14	1	<0.01	<0.01	0.1%	1.4	<0.01	1.4	142.3%
OE15	1	<0.01	<0.01	0.1%	1.3	<0.01	1.3	125.3%
OE16	Not Sensitive							
OE17	1	<0.01	<0.01	0.2%	1.4	<0.01	1.4	141.4%

Receptor	AQAL (µg/m^3) (1 used as default)	Proposed Development PC (µg/m^3)	Road Emissions PC (µg/m^3)	PC/AQAL (%)	Background Conc (µg/m^3)	Cumulative PC (µg/m^3)	PEC (µg/m^3)	PEC/AQAL (%)
OE18	1	<0.01	<0.01	0.2%	1.4	<0.01	1.4	141.5%
OE19	1	<0.01	<0.01	0.1%	1.4	<0.01	1.4	135.3%
OE20	1	<0.01	<0.01	0.2%	1.4	<0.01	1.4	135.3%
OE21	1	<0.01	<0.01	0.1%	1.4	<0.01	1.4	135.2%
OE22	Not Sensitive							
OE23	Not Sensitive							
OE24	3	<0.01	<0.01	0.0%	1.4	<0.01	1.4	46.4%
OE25	1	<0.01	<0.01	0.1%	1.3	<0.01	1.3	132.3%
OE26	1	<0.01	<0.01	0.1%	1.3	<0.01	1.3	130.3%
OE27	1	<0.01	<0.01	0.2%	1.6	<0.01	1.6	157.6%
OE28	1	<0.01	<0.01	0.2%	1.4	<0.01	1.4	138.4%
OE29	1	0.01	<0.01	0.6%	1.8	0.01	1.8	179.8%
OE30	1	0.01	<0.01	1.1%	1.9	0.01	1.9	190.0%
TE1	1	<0.01	<0.01	0.2%	1.5	0.01	1.5	153.8%
TE2	1	<0.01	<0.01	0.3%	1.6	<0.01	1.6	156.6%
TE3	1	<0.01	<0.01	0.2%	1.6	0.01	1.6	162.7%
TE4	1	<0.01	0.01	0.2%	1.6	<0.01	1.6	163.2%
TE5	1	<0.01	0.01	0.1%	1.6	0.01	1.6	160.3%

Receptor	AQAL (µg/m^3) (1 used as default)	Proposed Development PC (µg/m^3)	Road Emissions PC (µg/m^3)	PC/AQAL (%)	Background Conc (µg/m^3)	Cumulative PC (µg/m^3)	PEC (µg/m^3)	PEC/AQAL (%)
TE6	1	<0.01	0.01	0.1%	1.6	0.01	1.6	160.3%
TE7a	3	<0.01	<0.01	0.1%	1.8	0.01	1.8	59.4%
TE7b	3	0.01	<0.01	0.2%	1.8	0.01	1.8	59.5%
TE7c	3	0.01	<0.01	0.3%	1.8	0.01	1.8	59.7%
TE8a	3	<0.01	<0.01	0.1%	1.5	0.01	1.5	51.3%
TE8b	3	0.01	<0.01	0.2%	1.7	0.01	1.7	57.6%
TE8c	3	0.01	<0.01	0.3%	1.8	0.01	1.9	61.7%

Table 18: Predicted Process Contribution Nitrogen Deposition – Abated FEED 2 Cumulative Scenario

Receptor	Critical Load (AQAL) (kgN/ha/yr)	Background Concentration (kgN/ha/yr)	Predicted PC (kgN/ha/yr)	Predicted Road Emissions PC (kgN/ha/yr)	PC/ AQAL (%)	Cumulative PC (kgN/ha/yr)	PEC (kgN/ha/yr)	PEC/AQAL (%)
OE01	5	12.6	0.03	<0.01	0.7%	0.13	12.75	254.9%
OE02	10	12.1	0.13	<0.01	1.3%	0.09	12.32	123.2%
OE03	Not Sensitive							
OE04	5	12.2	0.03	<0.01	0.7%	0.11	12.30	246.1%
OE05	10	23.4	0.02	<0.01	0.2%	0.08	23.45	234.5%
OE06	20	15.6	0.02	<0.01	0.1%	0.05	15.67	78.3%
OE07	10	13.8	0.01	<0.01	0.1%	0.03	13.85	138.5%
OE08	Not Sensitive							
OE09	10	14.8	0.06	<0.01	0.6%	0.45	15.26	152.6%
OE10	Not Sensitive							
OE11	10	25.2	0.14	<0.01	1.4%	0.16	25.46	254.6%
OE12	6	15.5	0.01	<0.01	0.2%	0.05	15.52	258.7%
OE13	5	15.6	0.03	<0.01	0.5%	0.04	15.62	312.4%
OE14	5	16.0	0.01	<0.01	0.2%	0.01	16.03	320.7%
OE15	5	15.9	0.01	<0.01	0.1%	0.02	15.95	318.9%
OE16	10	24.8	0.01	<0.01	0.1%	0.04	24.82	248.2%

Receptor	Critical Load (AQAL) (kgN/ha/yr)	Background Concentration (kgN/ha/yr)	Predicted PC (kgN/ha/yr)	Predicted Road Emissions PC (kgN/ha/yr)	PC/ AQAL (%)	Cumulative PC (kgN/ha/yr)	PEC (kgN/ha/yr)	PEC/AQAL (%)
OE17	10	24.8	0.02	<0.01	0.2%	0.03	24.84	248.4%
OE18	5	14.8	0.02	<0.01	0.3%	0.03	14.88	297.7%
OE19	10	15.4	0.01	<0.01	0.1%	0.02	15.41	154.1%
OE20	6	15.4	0.01	<0.01	0.2%	0.02	15.41	256.8%
OE21	15	23.0	0.01	<0.01	0.1%	0.02	23.02	153.5%
OE22	Not Sensitive							
OE23	Not Sensitive							
OE24	10	15.0	0.01	<0.01	0.1%	0.02	15.03	150.3%
OE25	5	14.6	0.01	<0.01	0.2%	0.01	14.65	293.1%
OE26	5	14.5	0.01	<0.01	0.2%	0.02	14.51	290.1%
OE27	6	14.2	0.02	<0.01	0.3%	0.04	14.30	238.3%
OE28	6	14.3	0.01	<0.01	0.2%	0.02	14.30	238.3%
OE29	10	14.7	0.05	<0.01	0.5%	0.12	14.86	148.6%
OE30	10	26.4	0.14	<0.01	1.4%	0.15	26.65	266.5%
TE1	10	23.6	0.03	<0.01	0.3%	0.09	23.70	237.0%
TE2	10	23.9	0.04	<0.01	0.4%	0.06	24.03	240.3%
TE3	10	24.6	0.02	<0.01	0.2%	0.09	24.76	247.6%

Receptor	Critical Load (AQAL) (kgN/ha/yr)	Background Concentration (kgN/ha/yr)	Predicted PC (kgN/ha/yr)	Predicted Road Emissions PC (kgN/ha/yr)	PC/ AQAL (%)	Cumulative PC (kgN/ha/yr)	PEC (kgN/ha/yr)	PEC/AQAL (%)
TE4	10	24.6	0.02	0.05	0.7%	0.08	24.79	247.9%
TE5	10	24.1	0.02	0.05	0.7%	0.09	24.28	242.8%
TE6	10	24.1	0.02	0.05	0.7%	0.09	24.28	242.8%
TE7a	10	25.8	0.05	<0.01	0.5%	0.13	25.94	259.4%
TE7b	10	25.8	0.08	<0.01	0.8%	0.14	25.98	259.8%
TE7c	10	25.8	0.12	<0.01	1.3%	0.15	26.04	260.4%
TE8a	10	14.1	0.03	<0.01	0.4%	0.10	14.22	142.2%
TE8b	10	14.7	0.07	0.03	0.9%	0.13	14.91	149.1%
TE8c	10	15.0	0.12	0.01	1.2%	0.19	15.31	153.1%

Table 19: Predicted Process Contribution Acid Deposition – Abated FEED 2 Cumulative Scenario

Receptor	Lower Value of Applicable Critical Load Range (AQAL)	Background Concentration (Keq/ha/yr)	Predicted PC(Keq/ha/yr)	Road Emissions PC (µg/m^3)	PC/AQAL (%)	Cumulative PC (µg/m^3)	PEC (Keq/ha/yr)	PEC/AQAL (%)
OE01	Min CL min N 0.499 Min CL Max N 1.332 Min CL Max S 0.44	1.23	<0.01	<0.01	0.18%	0.02	1.23	93.69%
OE02	Not Sensitive							
OE03	Not Sensitive							
OE04	Min CL min N 0.142 Min CL Max N 1.052 Min CL Max S 0.91	1.16	<0.01	<0.01	0.23%	0.01	1.16	111.70%
OE05	Min CL min N 0.357 Min CL Max N 1.721 Min CL Max S 1.364	2.33	<0.01	<0.01	0.10%	0.01	2.33	136.06%
OE06	Not Sensitive							
OE07	Not Sensitive							
OE08	Not Sensitive							
OE09	Not Sensitive							
OE10	Not Sensitive							
OE11	Min CL min N 0.142 Min CL Max N 1.72 Min CL Max S 1.448	1.16	<0.01	<0.01	0.58%	0.02	1.16	0.57%

Receptor	Lower Value of Applicable Critical Load Range (AQAL)	Background Concentration (Keq/ha/yr)	Predicted PC(Keq/ha/yr)	Road Emissions PC (µg/m^3)	PC/AQAL (%)	Cumulative PC (µg/m^3)	PEC (Keq/ha/yr)	PEC/AQAL (%)
OE12	Min CL min N 0.357 Min CL Max N 1.834 Min CL Max S 1.477	2.33	<0.01	<0.01	0.05%	0.01	2.33	0.14%
OE13	Min CL min N 0.357 Min CL Max N 1.828 Min CL Max S 1.471	1.08	<0.01	<0.01	0.10%	<0.01	1.08	0.11%
OE14	Min CL min N 0.142 Min CL Max N 0.634 Min CL Max S 0.349	1.16	<0.01	<0.01	0.12%	<0.01	1.16	69.57%
OE15	Min CL min N 0.142 Min CL Max N 6.197 Min CL Max S 6.055	2.33	<0.01	<0.01	0.01%	<0.01	2.33	4.87%
OE16	Min CL min N 0.142 Min CL Max N 1.769 Min CL Max S 1.627	1.08	<0.01	<0.01	0.06%	<0.01	1.08	22.85%
OE17	Min CL min N 0.142 Min CL Max N 1.863 Min CL Max S 1.721	1.16	<0.01	<0.01	0.08%	<0.01	1.16	0.10%
OE18	Min CL min N 0.142 Min CL Max N 1.006 Min CL Max S 0.721	No data available	<0.01	<0.01	<0.01%	<0.01	<0.01	0.16%
OE19	Min CL min N 0.856 Min CL Max N 4.856 Min CL Max S 4	1.35	<0.01	<0.01	0.02%	<0.01	1.35	3.77%

Receptor	Lower Value of Applicable Critical Load Range (AQAL)	Background Concentration (Keq/ha/yr)	Predicted PC(Keq/ha/yr)	Road Emissions PC (µg/m^3)	PC/AQAL (%)	Cumulative PC (µg/m^3)	PEC (Keq/ha/yr)	PEC/AQAL (%)
OE20	Min CL min N 0.856 Min CL Max N 4.856 Min CL Max S 4	1.35	<0.01	<0.01	0.02%	<0.01	1.35	3.77%
OE21	Min CL min N 0.142 Min CL Max N 5.989 Min CL Max S 5.847	2.23	<0.01	<0.01	0.01%	<0.01	2.23	6.38%
OE22	Not Sensitive							
OE23	Not Sensitive							
OE24	Not Sensitive							
OE25	Min CL min N 0.142 Min CL Max N 6.023 Min CL Max S 5.881	1.34	<0.01	<0.01	0.01%	<0.01	1.34	5.00%
OE26	Min CL min N 0.178 Min CL Max N 4.268 Min CL Max S 4.09	1.34	<0.01	<0.01	0.02%	<0.01	1.34	3.68%
OE27	Min CL min N 0.357 Min CL Max N 1.811 Min CL Max S 1.454	2.29	<0.01	<0.01	0.08%	<0.01	2.29	19.36%
OE28	Min CL min N 1.071 Min CL Max N 5.071 Min CL Max S 4	1.3	<0.01	<0.01	0.02%	<0.01	1.3	3.77%

Receptor	Lower Value of Applicable Critical Load Range (AQAL)	Background Concentration (Keq/ha/yr)	Predicted PC(Keq/ha/yr)	Road Emissions PC (µg/m^3)	PC/AQAL (%)	Cumulative PC (µg/m^3)	PEC (Keq/ha/yr)	PEC/AQAL (%)
OE29	Min CL min N 1.071 Min CL Max N 5.071 Min CL Max S 4	1.02	<0.01	<0.01	<0.01%	0.01	1.03	7.14%
OE30	Min CL min N 0.142 Min CL Max N 1.72 Min CL Max S 1.448	No Data Available	0.01	<0.01	<0.01%	0.02	0.01	0.60%
TE1	Min CL min N 0.357 Min CL Max N 1.782 Min CL Max S 1.425	2.37	<0.01	<0.01	0.13%	0.01	2.38	24.88%
TE2	Min CL min N 0.142 Min CL Max N 1.705 Min CL Max S 1.563	2.35	<0.01	<0.01	0.13%	0.01	2.36	35.52%
TE3	Min CL min N 0.357 Min CL Max N 1.811 Min CL Max S 1.454	2.44	<0.01	<0.01	0.12%	0.01	2.45	23.02%
TE4	Min CL min N 0.357 Min CL Max N 1.811 Min CL Max S 1.454	2.44	<0.01	<0.01	0.34%	0.01	2.45	22.98%
TE5	Min CL min N 0.357 Min CL Max N 1.781 Min CL Max S 1.424	2.42	<0.01	<0.01	0.35%	0.01	2.43	40.93%
TE6	Min CL min N 0.357 Min CL Max N 1.781 Min CL Max S 1.424	2.42	<0.01	<0.01	0.35%	0.01	2.43	40.94%

Receptor	Lower Value of Applicable Critical Load Range (AQAL)	Background Concentration (Keq/ha/yr)	Predicted PC(Keq/ha/yr)	Road Emissions PC (µg/m^3)	PC/AQAL (%)	Cumulative PC (µg/m^3)	PEC (Keq/ha/yr)	PEC/AQAL (%)
TE7a	Min CL min N 0.142 Min CL Max N 1.72 Min CL Max S 1.72	2.48	<0.01	<0.01	0.15%	0.02	2.49	34.65%
TE7b	Min CL min N 0.142 Min CL Max N 1.72 Min CL Max S 1.578	2.49	0.01	<0.01	0.10%	0.02	2.49	34.74%
TE7c	Min CL min N 0.142 Min CL Max N 1.72 Min CL Max S 1.578	2.49	0.01	<0.01	0.10%	0.02	2.5	34.89%
TE8a	Not Sensitive							
TE8b	Not Sensitive							
TE8c	Not Sensitive							

In Combination Assessment Results – Ecological Receptors

Abated FEED 1 In Combination Scenario

B.1.1.5 The results at the identified ecological receptors for the Abated FEED 1 In Combination Scenario are shown in **Table 20** to **Table 23**.

B.1.1.6 The "In-combination development PC" column shows the concentrations due to contributions from the various proposed stacks of the Proposed Development (emission points differ between scenarios) and from the cumulative sources as presented above. The "In-combination Road Traffic Emissions PC" column shows the concentrations due to contributions from additional traffic present on local roads because of the operation of the Proposed Development (not relevant for all pollutants) as well as the cumulative developments identified in **Chapter 10: Traffic and Transport [APP-048]** and natural traffic growth. The "PC/AQAL (%)" column shows the total PC (the addition of the previous two columns) divided by the relevant AQAL. The "Background Concentration" column shows the existing background. The "PEC" column shows total concentrations, i.e. Proposed Development PC, plus background, plus cumulative sources. "PEC/AQAL (%)" column shows the PEC divided by the relevant AQAL.

Table 20: Predicted Process Contribution Annual Mean NO_x Concentrations – Abated FEED 1 In Combination Scenario

Receptor	In-combination Development PC (µg/m^3)	In-combination Road Emissions PC (µg/m^3)	PC/AQAL (%)	Background Concentration (µg/m^3)	PEC (µg/m^3)	PEC/AQAL (%)
OE01	0.5	<0.1	1.6%	8.4	8.9	29.6%
OE02	2.0	<0.1	6.5%	6.1	8.0	26.7%
OE03	Not Sensitive					
OE04	0.4	<0.1	1.3%	6.6	7.0	23.4%
OE05	0.3	<0.1	1.2%	12.2	12.5	41.7%
OE06	0.2	<0.1	0.7%	19.7	19.9	66.2%
OE07	0.2	<0.1	0.6%	15.3	15.5	51.6%
OE08	0.4	<0.1	1.2%	9.6	10.0	33.2%
OE09	1.8	<0.1	6.0%	11.2	13.0	43.3%
OE10	0.9	<0.1	3.0%	9.9	10.7	35.8%
OE11	0.4	<0.1	1.2%	7.5	7.9	26.4%
OE12	0.1	<0.1	0.5%	7.1	7.2	24.2%
OE13	0.2	<0.1	0.5%	9.4	9.5	31.7%
OE14	0.1	<0.1	0.4%	5.6	5.7	18.9%
OE15	0.1	<0.1	0.2%	4.2	4.3	14.3%
OE16	0.1	<0.1	0.3%	5.2	5.3	17.5%
OE17	0.1	<0.1	0.3%	4.4	4.5	14.9%
OE18	0.1	<0.1	0.3%	5.3	5.4	18.1%

Receptor	In-combination Development PC (µg/m^3)	In-combination Road Emissions PC (µg/m^3)	PC/AQAL (%)	Background Concentration (µg/m^3)	PEC (µg/m^3)	PEC/AQAL (%)
OE19	0.1	<0.1	0.2%	4.3	4.4	14.5%
OE20	0.1	<0.1	0.2%	4.3	4.4	14.6%
OE21	<0.1	<0.1	0.2%	4.1	4.2	14.0%
OE22	Not Sensitive					
OE23	Not Sensitive					
OE24	0.1	<0.1	0.2%	4.7	4.8	15.9%
OE25	0.1	<0.1	0.2%	4.4	4.4	14.8%
OE26	0.1	<0.1	0.2%	4.7	4.7	15.7%
OE27	0.1	<0.1	0.4%	7.1	7.2	24.0%
OE28	0.2	<0.1	0.6%	7.7	7.9	26.3%
OE29	1.7	<0.1	5.6%	9.4	11.1	36.9%
OE30	0.4	<0.1	1.3%	9.2	9.6	31.9%
TE1	0.2	<0.1	0.7%	9.3	9.5	31.6%
TE2	0.1	<0.1	0.4%	6.7	6.8	22.6%
TE3	0.2	0.2	1.3%	7.2	7.5	25.1%
TE4	0.2	0.1	1.0%	7.2	7.5	24.9%
TE5	0.2	0.1	1.0%	7.8	8.1	26.9%
TE6	0.2	0.1	1.0%	7.8	8.1	26.9%
TE7a	0.2	0.3	1.9%	9.1	9.6	32.1%

Receptor	In-combination Development PC (µg/m^3)	In-combination Road Emissions PC (µg/m^3)	PC/AQAL (%)	Background Concentration (µg/m^3)	PEC (µg/m^3)	PEC/AQAL (%)
TE7b	0.3	<0.1	1.1%	9.1	9.4	31.3%
TE7c	0.3	<0.1	1.3%	9.1	9.4	31.5%
TE8a	0.2	0.1	1.0%	9.3	9.6	32.0%
TE8b	0.4	0.4	2.6%	9.7	10.5	35.0%
TE8c	0.5	0.1	1.8%	11.7	12.2	40.8%

AQAL 30 µg/m^3

Table 21: Predicted In-combination Process Contribution Annual Mean NH_3 Concentrations – Abated FEED 1 In Combination Scenario

Receptor	AQAL (µg/m^3) (1 used as default)	In-combination Development PC (µg/m^3)	In-combination Road Emissions PC (µg/m^3)	PC/AQAL (%)	Background Conc (µg/m^3)	PEC (µg/m^3)	PEC/AQAL (%)
OE01	1	0.02	<0.01	1.7%	1.4	1.4	138.7%
OE02	3	0.05	<0.01	1.6%	1.3	1.3	44.9%
OE03	Not Sensitive						
OE04	1	0.01	<0.01	1.5%	1.3	1.3	131.5%
OE05	1	0.01	<0.01	0.7%	1.4	1.4	144.7%
OE06	1 or 3	0.01	<0.01	0.8%	2.0	2.0	198.8%
OE07	1 or 3	<0.01	<0.01	0.4%	1.5	1.5	153.4%
OE08	3	0.01	<0.01	0.4%	2.0	2.0	67.7%
OE09	1	0.05	<0.01	4.8%	1.8	1.8	184.8%
OE10	3	0.04	<0.01	1.2%	2.0	2.0	68.2%
OE11	3	0.02	<0.01	0.7%	1.7	1.7	56.0%
OE12	1	0.01	<0.01	0.7%	1.7	1.7	170.7%
OE13	3	0.01	<0.01	0.3%	1.7	1.7	58.3%
OE14	1	<0.01	<0.01	0.3%	1.4	1.4	142.3%
OE15	1	<0.01	<0.01	0.3%	1.3	1.3	125.3%
OE16	Not Sensitive						
OE17	1	<0.01	<0.01	0.4%	1.4	1.4	141.4%

Receptor	AQAL (µg/m^3) (1 used as default)	In-combination Development PC (µg/m^3)	In-combination Road Emissions PC (µg/m^3)	PC/AQAL (%)	Background Conc (µg/m^3)	PEC (µg/m^3)	PEC/AQAL (%)
OE18	1	<0.01	<0.01	0.5%	1.4	1.4	141.5%
OE19	1	<0.01	<0.01	0.3%	1.4	1.4	135.3%
OE20	1	<0.01	<0.01	0.3%	1.4	1.4	135.3%
OE21	1	<0.01	<0.01	0.2%	1.4	1.4	135.2%
OE22	Not Sensitive						
OE23	Not Sensitive						
OE24	3	<0.01	<0.01	0.1%	1.4	1.4	46.4%
OE25	1	<0.01	<0.01	0.3%	1.3	1.3	132.3%
OE26	1	<0.01	<0.01	0.3%	1.3	1.3	130.3%
OE27	1	0.01	<0.01	0.7%	1.6	1.6	157.7%
OE28	1	0.01	<0.01	0.7%	1.4	1.4	138.7%
OE29	1	0.04	<0.01	3.9%	1.8	1.8	181.9%
OE30	1	0.02	<0.01	2.1%	1.9	1.9	190.1%
TE1	1	0.01	0.01	0.8%	1.5	1.5	154.8%
TE2	1	0.01	<0.01	0.6%	1.6	1.6	156.7%
TE3	1	0.01	0.05	0.8%	1.6	1.7	168.1%
TE4	1	0.01	0.04	0.7%	1.6	1.7	166.3%
TE5	1	0.01	0.03	0.7%	1.6	1.6	163.1%
TE6	1	0.01	0.03	0.7%	1.6	1.6	163.1%

Receptor	AQAL (µg/m^3) (1 used as default)	In-combination Development PC (µg/m^3)	In-combination Road Emissions PC (µg/m^3)	PC/AQAL (%)	Background Conc (µg/m^3)	PEC (µg/m^3)	PEC/AQAL (%)
TE7a	3	0.01	0.08	0.4%	1.8	1.9	62.1%
TE7b	3	0.02	0.01	0.5%	1.8	1.8	59.9%
TE7c	3	0.02	0.01	0.7%	1.8	1.8	60.0%
TE8a	3	0.01	0.03	0.3%	1.5	1.6	52.4%
TE8b	3	0.02	0.14	0.5%	1.7	1.9	62.2%
TE8c	3	0.02	0.03	0.7%	1.8	1.9	62.7%

Table 22: Predicted Process Contribution Nitrogen Deposition – Abated FEED 1 In Combination Scenario

Receptor	Critical Load (AQAL) (kgN/ha/yr)	Background Concentration (kgN/ha/yr)	All Development PC (kgN/ha/yr)	In-combination Road Emissions PC (kgN/ha/yr)	PC/AQAL (%)	PEC (kgN/ha/yr)	PEC/AQAL (%)
OE01	5	12.6	0.16	<0.01	3.3%	12.74	254.9%
OE02	10	12.1	0.56	<0.01	5.6%	12.66	126.6%
OE03	Not Sensitive						
OE04	5	12.2	0.14	<0.01	2.8%	12.30	246.0%
OE05	10	23.4	0.12	<0.01	1.2%	23.47	234.7%
OE06	20	15.6	0.07	<0.01	0.4%	15.67	78.4%
OE07	10	13.8	0.04	<0.01	0.4%	13.85	138.5%
OE08	Not Sensitive						
OE09	10	14.8	0.53	<0.01	5.3%	15.28	152.8%
OE10	Not Sensitive						
OE11	10	25.2	0.28	<0.01	2.8%	25.44	254.4%
OE12	6	15.5	0.06	<0.01	1.0%	15.52	258.7%
OE13	5	15.6	0.07	<0.01	1.3%	15.62	312.3%
OE14	5	16.0	0.02	<0.01	0.5%	16.03	320.7%
OE15	5	15.9	0.02	<0.01	0.5%	15.94	318.9%
OE16	10	24.8	0.05	<0.01	0.5%	24.82	248.2%
OE17	10	24.8	0.05	<0.01	0.5%	24.84	248.4%
OE18	5	14.8	0.04	<0.01	0.8%	14.88	297.6%

Receptor	Critical Load (AQAL) (kgN/ha/yr)	Background Concentration (kgN/ha/yr)	All Development PC (kgN/ha/yr)	In-combination Road Emissions PC (kgN/ha/yr)	PC/AQAL (%)	PEC (kgN/ha/yr)	PEC/AQAL (%)
OE19	10	15.4	0.03	<0.01	0.3%	15.41	154.1%
OE20	6	15.4	0.03	<0.01	0.5%	15.41	256.8%
OE21	15	23.0	0.03	<0.01	0.2%	23.02	153.5%
OE22	Not Sensitive						
OE23	Not Sensitive						
OE24	10	15.0	0.02	<0.01	0.2%	15.02	150.2%
OE25	5	14.6	0.02	<0.01	0.4%	14.65	293.0%
OE26	5	14.5	0.02	<0.01	0.5%	14.50	290.1%
OE27	6	14.2	0.06	<0.01	1.0%	14.30	238.3%
OE28	6	14.3	0.04	<0.01	0.7%	14.30	238.3%
OE29	10	14.7	0.47	<0.01	4.7%	15.16	151.6%
OE30	10	26.4	0.29	<0.01	2.9%	26.65	266.5%
TE1	10	23.6	0.12	0.09	2.0%	23.8	237.8%
TE2	10	23.9	0.09	0.01	1.0%	24.0	240.4%
TE3	10	24.6	0.13	0.43	5.7%	25.2	252.1%
TE4	10	24.6	0.12	0.30	4.1%	25.1	250.5%
TE5	10	24.1	0.12	0.28	3.9%	24.5	245.1%
TE6	10	24.1	0.12	0.28	4.0%	24.5	245.2%
TE7a	10	25.8	0.18	0.68	8.6%	26.6	266.2%

Receptor	Critical Load (AQAL) (kgN/ha/yr)	Background Concentration (kgN/ha/yr)	All Development PC (kgN/ha/yr)	In-combination Road Emissions PC (kgN/ha/yr)	PC/AQAL (%)	PEC (kgN/ha/yr)	PEC/AQAL (%)
TE7b	10	25.8	0.21	0.09	3.0%	26.1	260.6%
TE7c	10	25.8	0.27	0.09	3.7%	26.1	261.3%
TE8a	10	14.1	0.14	0.17	3.1%	14.4	144.0%
TE8b	10	14.7	0.25	0.75	10.0%	15.7	156.9%
TE8c	10	15.0	0.31	0.17	4.8%	15.5	154.8%

Table 23: Predicted Process Contribution Acid Deposition– Abated FEED 1 In Combination Scenario

Receptor	Lower Value of Applicable Critical Load Range (AQAL)	Background Concentration (Keq/ha/yr)	All Development PC(Keq/ha/yr)	In-combination Road Emissions PC (µg/m^3)	PC/ AQAL (%)	PEC (Keq/ha/yr)	PEC/ AQAL (%)
OE01	Min CL min N 0.499 Min CL Max N 1.332 Min CL Max S 0.44	1.23	0.02	<0.01	1.23%	1.25	93.57%
OE02	Not Sensitive						
OE03	Not Sensitive						
OE04	Min CL min N 0.142 Min CL Max N 1.052 Min CL Max S 0.91	1.16	0.01	<0.01	1.26%	1.17	111.53%
OE05	Min CL min N 0.357 Min CL Max N 1.721 Min CL Max S 1.364	2.33	0.01	<0.01	0.71%	2.34	136.10%
OE06	Not Sensitive						
OE07	Not Sensitive						
OE08	Not Sensitive						
OE09	Not Sensitive						
OE10	Not Sensitive						
OE11	Min CL min N 0.142 Min CL Max N 1.72 Min CL Max S 1.448	1.16	0.02	<0.01	1.06%	1.18	68.50%

Receptor	Lower Value of Applicable Critical Load Range (AQAL)	Background Concentration (Keq/ha/yr)	All Development PC(Keq/ha/yr)	In-combination Road Emissions PC (µg/m^3)	PC/ AQAL (%)	PEC (Keq/ha/yr)	PEC/ AQAL (%)
OE12	Min CL min N 0.357 Min CL Max N 1.834 Min CL Max S 1.477	2.33	0.01	<0.01	0.30%	2.34	127.35%
OE13	Min CL min N 0.357 Min CL Max N 1.828 Min CL Max S 1.471	1.08	<0.01	<0.01	0.26%	1.08	59.34%
OE14	Min CL min N 0.142 Min CL Max N 0.634 Min CL Max S 0.349	1.16	<0.01	<0.01	0.29%	2.35	370.96%
OE15	Min CL min N 0.142 Min CL Max N 6.197 Min CL Max S 6.055	2.33	<0.01	<0.01	0.03%	1.37	22.14%
OE16	Min CL min N 0.142 Min CL Max N 1.769 Min CL Max S 1.627	1.08	<0.01	<0.01	0.28%	2.25	127.47%
OE17	Min CL min N 0.142 Min CL Max N 1.863 Min CL Max S 1.721	1.16	<0.01	<0.01	0.24%	1.16	62.50%
OE18	Min CL min N 0.142 Min CL Max N 1.006 Min CL Max S 0.721	No Data Available	<0.01	<0.01	0.17%	<0.01	0.17%

Receptor	Lower Value of Applicable Critical Load Range (AQAL)	Background Concentration (Keq/ha/yr)	All Development PC(Keq/ha/yr)	In-combination Road Emissions PC (µg/m^3)	PC/ AQAL (%)	PEC (Keq/ha/yr)	PEC/ AQAL (%)
OE19	Min CL min N 0.856 Min CL Max N 4.856 Min CL Max S 4	1.35	<0.01	<0.01	0.04%	1.35	27.84%
OE20	Min CL min N 0.856 Min CL Max N 4.856 Min CL Max S 4	1.35	<0.01	<0.01	0.04%	1.35	27.84%
OE21	Min CL min N 0.142 Min CL Max N 5.989 Min CL Max S 5.847	2.23	<0.01	<0.01	0.04%	2.23	37.28%
OE22	Not Sensitive						
OE23	Not Sensitive						
OE24	Not Sensitive						
OE25	Min CL min N 0.142 Min CL Max N 6.023 Min CL Max S 5.881	1.34	<0.01	<0.01	0.03%	1.34	22.28%
OE26	Min CL min N 0.178 Min CL Max N 4.268 Min CL Max S 4.09	1.34	<0.01	<0.01	0.04%	1.34	31.44%
OE27	Min CL min N 0.357 Min CL Max N 1.811 Min CL Max S 1.454	2.29	<0.01	<0.01	0.25%	2.29	126.69%

Receptor	Lower Value of Applicable Critical Load Range (AQAL)	Background Concentration (Keq/ha/yr)	All Development PC(Keq/ha/yr)	In-combination Road Emissions PC (µg/m^3)	PC/ AQAL (%)	PEC (Keq/ha/yr)	PEC/ AQAL (%)
OE28	Min CL min N 1.071 Min CL Max N 5.071 Min CL Max S 4	1.3	<0.01	<0.01	0.10%	1.30	25.73%
OE29	Min CL min N 1.071 Min CL Max N 5.071 Min CL Max S 4	1.02	0.04	<0.01	0.56%	1.06	7.56%
OE30	Min CL min N 0.142 Min CL Max N 1.72 Min CL Max S 1.448	No Data Available	0.02	<0.01	0.61%	0.02	0.61%
TE1	Min CL min N 0.357 Min CL Max N 1.782 Min CL Max S 1.425	2.37	0.02	0.01	0.98%	2.39	133.97%
TE2	Min CL min N 0.142 Min CL Max N 1.705 Min CL Max S 1.563	2.35	0.01	<0.01	0.68%	2.36	138.51%
TE3	Min CL min N 0.357 Min CL Max N 1.811 Min CL Max S 1.454	2.44	0.04	0.03	2.32%	2.48	137.05%
TE4	Min CL min N 0.357 Min CL Max N 1.811 Min CL Max S 1.454	2.44	0.03	0.02	1.57%	2.47	136.30%

Receptor	Lower Value of Applicable Critical Load Range (AQAL)	Background Concentration (Keq/ha/yr)	All Development PC(Keq/ha/yr)	In-combination Road Emissions PC (µg/m^3)	PC/ AQAL (%)	PEC (Keq/ha/yr)	PEC/ AQAL (%)
TE5	Min CL min N 0.357 Min CL Max N 1.781 Min CL Max S 1.424	2.42	0.03	0.02	1.52%	2.45	137.40%
TE6	Min CL min N 0.357 Min CL Max N 1.781 Min CL Max S 1.424	2.42	0.03	0.02	1.54%	2.45	137.42%
TE7a	Min CL min N 0.142 Min CL Max N 1.72 Min CL Max S 1.72	2.48	0.06	0.05	3.26%	2.54	147.45%
TE7b	Min CL min N 0.142 Min CL Max N 1.72 Min CL Max S 1.578	2.49	0.02	0.01	1.21%	2.50	145.40%
TE7c	Min CL min N 0.142 Min CL Max N 1.72 Min CL Max S 1.578	2.49	0.02	0.01	1.22%	2.50	145.41%
TE8a	Not Sensitive						
TE8b	Not Sensitive						
TE8c	Not Sensitive						

Abated FEED 2 In Combination Scenario

B.1.1.7 The results at the identified ecological receptors for the Abated FEED 2 In Combination Scenario are shown in **Table 24** to **Table 27**.

Table 24: Predicted Process Contribution Annual Mean NO_x Concentrations – Abated FEED 2 In Combination Scenario

Receptor	All Development PC (µg/m^3)	In-combination Road Emissions PC (µg/m^3)	PC/AQAL (%)	Background Concentration (µg/m^3)	PEC (µg/m^3)	PEC/AQAL (%)
OE01	0.5	<0.1	1.6%	8.4	8.9	29.6%
OE02	2.0	<0.1	6.7%	6.1	8.1	26.9%
OE03	Not Sensitive					
OE04	0.4	<0.1	1.4%	6.6	7.0	23.5%
OE05	0.4	<0.1	1.2%	12.2	12.5	41.8%
OE06	0.2	<0.1	0.7%	19.7	19.9	66.3%
OE07	0.2	<0.1	0.6%	15.3	15.5	51.6%
OE08	0.4	<0.1	1.2%	9.6	10.0	33.2%
OE09	1.8	<0.1	6.0%	11.2	13.0	43.4%
OE10	0.9	<0.1	3.0%	9.9	10.7	35.8%
OE11	0.4	<0.1	1.4%	7.5	8.0	26.6%
OE12	0.2	<0.1	0.5%	7.1	7.3	24.2%
OE13	0.2	<0.1	0.6%	9.4	9.5	31.8%
OE14	0.1	<0.1	0.4%	5.6	5.7	19.0%
OE15	0.1	<0.1	0.2%	4.2	4.3	14.3%
OE16	0.1	<0.1	0.3%	5.2	5.3	17.5%
OE17	0.1	<0.1	0.3%	4.4	4.5	14.9%
OE18	0.1	<0.1	0.4%	5.3	5.4	18.2%

Receptor	All Development PC (µg/m^3)	In-combination Road Emissions PC (µg/m^3)	PC/AQAL (%)	Background Concentration (µg/m^3)	PEC (µg/m^3)	PEC/AQAL (%)
OE19	0.1	<0.1	0.2%	4.3	4.4	14.6%
OE20	0.1	<0.1	0.2%	4.3	4.4	14.6%
OE21	0.1	<0.1	0.2%	4.1	4.2	14.0%
OE22	Not Sensitive					
OE23	Not Sensitive					
OE24	0.1	<0.1	0.2%	4.7	4.8	15.9%
OE25	0.1	<0.1	0.2%	4.4	4.4	14.8%
OE26	0.1	<0.1	0.2%	4.7	4.7	15.7%
OE27	0.1	<0.1	0.5%	7.1	7.2	24.1%
OE28	0.1	<0.1	0.3%	7.7	7.8	26.0%
OE29	1.7	<0.1	5.7%	9.4	11.1	36.9%
OE30	0.4	<0.1	1.4%	9.2	9.6	32.0%
TE1	0.2	<0.1	0.7%	9.3	9.5	31.7%
TE2	0.1	<0.1	0.5%	6.7	6.8	22.6%
TE3	0.2	0.2	1.3%	7.2	7.5	25.1%
TE4	0.2	0.1	1.0%	7.2	7.5	24.9%
TE5	0.2	0.1	1.0%	7.8	8.1	26.9%
TE6	0.2	0.1	1.0%	7.8	8.1	26.9%
TE7a	0.3	0.3	2.0%	9.1	9.6	32.2%

Receptor	All Development PC (µg/m^3)	In-combination Road Emissions PC (µg/m^3)	PC/AQAL (%)	Background Concentration (µg/m^3)	PEC (µg/m^3)	PEC/AQAL (%)
TE7b	0.3	<0.1	1.1%	9.1	9.4	31.3%
TE7c	0.4	<0.1	1.4%	9.1	9.5	31.6%
TE8a	0.2	0.1	1.0%	9.3	9.6	32.0%
TE8b	0.4	0.4	2.6%	9.7	10.5	35.0%
TE8c	0.5	0.1	1.9%	11.7	12.3	40.8%

AQAL 30 µg/m^3

Table 25: Predicted In-combination Process Contribution Annual Mean NH_3 Concentrations – Abated FEED 2 In Combination Scenario

Receptor	AQAL (µg/m^3) (1 used as default)	All Development PC (µg/m^3)	In-combination Road Emissions PC (µg/m^3)	PC/AQAL (%)	Background Conc (µg/m^3)	PEC (µg/m^3)	PEC/AQAL (%)
OE01	1	0.02	<0.01	1.8%	1.4	1.4	138.8%
OE02	3	0.05	<0.01	1.7%	1.3	1.4	45.0%
OE03	Not Sensitive						
OE04	1	0.02	<0.01	1.5%	1.3	1.3	131.5%
OE05	1	0.01	<0.01	0.7%	1.4	1.4	144.7%
OE06	1 or 3	0.01	<0.01	0.8%	2.0	2.0	198.8%
OE07	1 or 3	<0.01	<0.01	0.4%	1.5	1.5	153.4%
OE08	3	0.01	<0.01	0.4%	2.0	2.0	67.8%
OE09	1	0.05	<0.01	4.9%	1.8	1.8	184.9%
OE10	3	0.04	<0.01	1.2%	2.0	2.0	68.2%
OE11	3	0.02	<0.01	0.7%	1.7	1.7	56.0%
OE12	1	0.01	<0.01	0.7%	1.7	1.7	170.7%
OE13	3	0.01	<0.01	0.3%	1.7	1.7	58.3%
OE14	1	<0.01	<0.01	0.3%	1.4	1.4	142.3%
OE15	1	<0.01	<0.01	0.3%	1.3	1.3	125.3%
OE16	Not Sensitive						
OE17	1	<0.01	<0.01	0.4%	1.4	1.4	141.4%

Receptor	AQAL (µg/m^3) (1 used as default)	All Development PC (µg/m^3)	In-combination Road Emissions PC (µg/m^3)	PC/AQAL (%)	Background Conc (µg/m^3)	PEC (µg/m^3)	PEC/AQAL (%)
OE18	1	<0.01	<0.01	0.5%	1.4	1.4	141.5%
OE19	1	<0.01	<0.01	0.3%	1.4	1.4	135.3%
OE20	1	<0.01	<0.01	0.3%	1.4	1.4	135.3%
OE21	1	<0.01	<0.01	0.2%	1.4	1.4	135.2%
OE22	Not Sensitive						
OE23	Not Sensitive						
OE24	3	<0.01	<0.01	0.1%	1.4	1.4	46.4%
OE25	1	<0.01	<0.01	0.3%	1.3	1.3	132.3%
OE26	1	<0.01	<0.01	0.3%	1.3	1.3	130.3%
OE27	1	0.01	<0.01	0.7%	1.6	1.6	157.7%
OE28	1	<0.01	<0.01	0.4%	1.4	1.4	138.4%
OE29	1	0.04	<0.01	3.9%	1.8	1.8	181.9%
OE30	1	0.02	<0.01	2.0%	1.9	1.9	190.0%
TE1	1	0.01	0.01	0.8%	1.5	1.5	154.9%
TE2	1	0.01	<0.01	0.6%	1.6	1.6	156.7%
TE3	1	0.01	0.05	0.8%	1.6	1.7	168.1%
TE4	1	0.01	0.04	0.7%	1.6	1.7	166.3%
TE5	1	0.01	0.03	0.7%	1.6	1.6	163.0%
TE6	1	0.01	0.03	0.7%	1.6	1.6	163.1%

Receptor	AQAL (µg/m^3) (1 used as default)	All Development PC (µg/m^3)	In-combination Road Emissions PC (µg/m^3)	PC/AQAL (%)	Background Conc (µg/m^3)	PEC (µg/m^3)	PEC/AQAL (%)
TE7a	3	0.01	0.08	0.4%	1.8	1.9	62.1%
TE7b	3	0.02	0.01	0.5%	1.8	1.8	59.9%
TE7c	3	0.02	0.01	0.7%	1.8	1.8	60.0%
TE8a	3	0.01	0.03	0.3%	1.5	1.6	52.4%
TE8b	3	0.02	0.14	0.5%	1.7	1.9	62.2%
TE8c	3	0.02	0.03	0.7%	1.8	1.9	62.7%

Table 26: Predicted Process Contribution Nitrogen Deposition – Abated FEED 2 In Combination Scenario

Receptor	Critical Load (AQAL) (kgN/ha/yr)	Background Concentration (kgN/ha/yr)	In-combination Development PC (kgN/ha/yr)	Road Emissions PC (kgN/ha/yr)	PC/ AQAL (%)	PEC (kgN/ha/yr)	PEC/AQAL (%)
OE01	5	12.6	0.17	<0.01	3.4%	12.75	255.0%
OE02	10	12.1	0.58	<0.01	5.8%	12.68	126.8%
OE03	Not Sensitive						
OE04	5	12.2	0.14	<0.01	2.9%	12.30	246.1%
OE05	10	23.4	0.12	<0.01	1.2%	23.47	234.7%
OE06	20	15.6	0.07	<0.01	0.4%	15.67	78.4%
OE07	10	13.8	0.04	<0.01	0.4%	13.85	138.5%
OE08	Not Sensitive						
OE09	10	14.8	0.54	<0.01	5.4%	15.29	152.9%
OE10	Not Sensitive						
OE11	10	25.2	0.30	<0.01	3.0%	25.46	254.6%
OE12	6	15.5	0.06	<0.01	1.0%	15.52	258.7%
OE13	5	15.6	0.07	<0.01	1.4%	15.62	312.4%
OE14	5	16.0	0.02	<0.01	0.5%	16.03	320.7%
OE15	5	15.9	0.03	<0.01	0.5%	15.95	318.9%
OE16	10	24.8	0.05	<0.01	0.5%	24.82	248.2%
OE17	10	24.8	0.06	<0.01	0.6%	24.85	248.5%
OE18	5	14.8	0.04	<0.01	0.9%	14.88	297.7%

Receptor	Critical Load (AQAL) (kgN/ha/yr)	Background Concentration (kgN/ha/yr)	In-combination Development PC (kgN/ha/yr)	Road Emissions PC (kgN/ha/yr)	PC/ AQAL (%)	PEC (kgN/ha/yr)	PEC/AQAL (%)
OE19	10	15.4	0.03	<0.01	0.3%	15.41	154.1%
OE20	6	15.4	0.03	<0.01	0.5%	15.41	256.8%
OE21	15	23.0	0.03	<0.01	0.2%	23.02	153.5%
OE22	Not Sensitive						
OE23	Not Sensitive						
OE24	10	15.0	0.03	<0.01	0.3%	15.03	150.3%
OE25	5	14.6	0.02	<0.01	0.5%	14.65	293.1%
OE26	5	14.5	0.03	<0.01	0.5%	14.51	290.1%
OE27	6	14.2	0.06	<0.01	1.0%	14.30	238.3%
OE28	6	14.3	0.04	<0.01	0.7%	14.30	238.3%
OE29	10	14.7	0.47	<0.01	4.7%	15.16	151.6%
OE30	10	26.4	0.30	<0.01	3.0%	26.66	266.6%
TE1	10	23.6	0.12	0.09	2.1%	23.79	237.9%
TE2	10	23.9	0.09	0.01	1.0%	24.04	240.4%
TE3	10	24.6	0.13	0.43	5.7%	25.21	252.1%
TE4	10	24.6	0.12	0.30	4.1%	25.05	250.5%
TE5	10	24.1	0.11	0.28	3.9%	24.51	245.1%
TE6	10	24.1	0.11	0.28	4.0%	24.52	245.2%
TE7a	10	25.8	0.18	0.68	8.6%	26.62	266.2%

Receptor	Critical Load (AQAL) (kgN/ha/yr)	Background Concentration (kgN/ha/yr)	In-combination Development PC (kgN/ha/yr)	Road Emissions PC (kgN/ha/yr)	PC/ AQAL (%)	PEC (kgN/ha/yr)	PEC/AQAL (%)
TE7b	10	25.8	0.22	0.09	3.1%	26.07	260.7%
TE7c	10	25.8	0.28	0.09	3.7%	26.13	261.3%
TE8a	10	14.1	0.13	0.17	3.0%	14.39	143.9%
TE8b	10	14.7	0.24	0.75	9.9%	15.68	156.8%
TE8c	10	15.0	0.30	0.17	4.7%	15.47	154.7%

Table 27: Predicted Process Contribution Acid Deposition – Abated FEED 2 In Combination Scenario

Receptor	Lower Value of Applicable Critical Load Range (AQAL)	Background Concentration (Keq/ha/yr)	In - combination Development PC(Keq/ha/yr)	In-combination Road Emissions PC (µg/m^3)	PC/ AQAL (%)	PEC (Keq/ha/yr)	PEC/ AQAL (%)
OE01	Min CL min N 0.499 Min CL Max N 1.332 Min CL Max S 0.44	1.23	0.02	<0.01	1.23%	1.25	93.57%
OE02	Not Sensitive						
OE03	Not Sensitive						
OE04	Min CL min N 0.142 Min CL Max N 1.052 Min CL Max S 0.91	1.16	0.01	<0.01	1.26%	1.17	111.53%
OE05	Min CL min N 0.357 Min CL Max N 1.721 Min CL Max S 1.364	2.33	0.01	<0.01	0.71%	2.34	136.10%
OE06	Not Sensitive						
OE07	Not Sensitive						
OE08	Not Sensitive						
OE09	Not Sensitive						
OE10	Not Sensitive						
OE11	Min CL min N 0.142 Min CL Max N 1.72 Min CL Max S 1.448	1.16	0.02	<0.01	1.06%	1.18	68.50%

Receptor	Lower Value of Applicable Critical Load Range (AQAL)	Background Concentration (Keq/ha/yr)	In - combination Development PC(Keq/ha/yr)	In-combination Road Emissions PC (µg/m^3)	PC/ AQAL (%)	PEC (Keq/ha/yr)	PEC/ AQAL (%)
OE12	Min CL min N 0.357 Min CL Max N 1.834 Min CL Max S 1.477	2.33	0.01	<0.01	0.30%	2.34	127.35%
OE13	Min CL min N 0.357 Min CL Max N 1.828 Min CL Max S 1.471	1.08	<0.01	<0.01	0.26%	1.08	59.34%
OE14	Min CL min N 0.142 Min CL Max N 0.634 Min CL Max S 0.349	1.16	<0.01	<0.01	0.29%	2.35	370.96%
OE15	Min CL min N 0.142 Min CL Max N 6.197 Min CL Max S 6.055	2.33	<0.01	<0.01	0.03%	1.37	22.14%
OE16	Min CL min N 0.142 Min CL Max N 1.769 Min CL Max S 1.627	1.08	<0.01	<0.01	0.28%	2.25	127.47%
OE17	Min CL min N 0.142 Min CL Max N 1.863 Min CL Max S 1.721	1.16	<0.01	<0.01	0.24%	1.16	62.50%
OE18	Min CL min N 0.142 Min CL Max N 1.006 Min CL Max S 0.721	Data not Available	<0.01	<0.01	0.17%	0.00	0.17%

Receptor	Lower Value of Applicable Critical Load Range (AQAL)	Background Concentration (Keq/ha/yr)	In - combination Development PC(Keq/ha/yr)	In-combination Road Emissions PC (µg/m^3)	PC/ AQAL (%)	PEC (Keq/ha/yr)	PEC/ AQAL (%)
OE19	Min CL min N 0.856 Min CL Max N 4.856 Min CL Max S 4	1.35	<0.01	<0.01	0.04%	1.35	27.84%
OE20	Min CL min N 0.856 Min CL Max N 4.856 Min CL Max S 4	1.35	<0.01	<0.01	0.04%	1.35	27.84%
OE21	Min CL min N 0.142 Min CL Max N 5.989 Min CL Max S 5.847	2.23	<0.01	<0.01	0.04%	2.23	37.28%
OE22	Not Sensitive						
OE23	Not Sensitive						
OE24	Not Sensitive						
OE25	Min CL min N 0.142 Min CL Max N 6.023 Min CL Max S 5.881	1.34	<0.01	<0.01	0.03%	1.34	22.28%
OE26	Min CL min N 0.178 Min CL Max N 4.268 Min CL Max S 4.09	1.34	<0.01	<0.01	0.04%	1.34	31.44%
OE27	Min CL min N 0.357 Min CL Max N 1.811 Min CL Max S 1.454	2.29	<0.01	<0.01	0.25%	2.29	126.69%

Receptor	Lower Value of Applicable Critical Load Range (AQAL)	Background Concentration (Keq/ha/yr)	In - combination Development PC(Keq/ha/yr)	In-combination Road Emissions PC (µg/m^3)	PC/ AQAL (%)	PEC (Keq/ha/yr)	PEC/ AQAL (%)
OE28	Min CL min N 1.071 Min CL Max N 5.071 Min CL Max S 4	1.3	<0.01	<0.01	0.10%	1.30	25.73%
OE29	Min CL min N 1.071 Min CL Max N 5.071 Min CL Max S 4	1.02	0.04	<0.01	0.56%	1.06	7.56%
OE30	Min CL min N 0.142 Min CL Max N 1.72 Min CL Max S 1.448	Data not Available	0.02	<0.01	0.61%	0.02	0.61%
TE1	Min CL min N 0.357 Min CL Max N 1.782 Min CL Max S 1.425	2.37	0.02	0.01	0.98%	2.39	133.97%
TE2	Min CL min N 0.142 Min CL Max N 1.705 Min CL Max S 1.563	2.35	0.01	<0.01	0.68%	2.36	138.51%
TE3	Min CL min N 0.357 Min CL Max N 1.811 Min CL Max S 1.454	2.44	0.04	0.03	2.32%	2.48	137.05%
TE4	Min CL min N 0.357 Min CL Max N 1.811 Min CL Max S 1.454	2.44	0.03	0.02	1.57%	2.47	136.30%

Receptor	Lower Value of Applicable Critical Load Range (AQAL)	Background Concentration (Keq/ha/yr)	In - combination Development PC(Keq/ha/yr)	In-combination Road Emissions PC (µg/m^3)	PC/ AQAL (%)	PEC (Keq/ha/yr)	PEC/ AQAL (%)
TE5	Min CL min N 0.357 Min CL Max N 1.781 Min CL Max S 1.424	2.42	0.03	0.02	1.52%	2.45	137.40%
TE6	Min CL min N 0.357 Min CL Max N 1.781 Min CL Max S 1.424	2.42	0.03	0.02	1.54%	2.45	137.42%
TE7a	Min CL min N 0.142 Min CL Max N 1.72 Min CL Max S 1.72	2.48	0.06	0.05	3.26%	2.54	147.45%
TE7b	Min CL min N 0.142 Min CL Max N 1.72 Min CL Max S 1.578	2.49	0.02	0.01	1.21%	2.50	145.40%
TE7c	Min CL min N 0.142 Min CL Max N 1.72 Min CL Max S 1.578	2.49	0.02	0.01	1.22%	2.50	145.41%
TE8a	Not Sensitive						
TE8b	Not Sensitive						
TE8c	Not Sensitive						

Appendix C: Updated Saltmarsh Management Contribution

C.1. Introduction

C.1.1.1 This Appendix has been prepared to present a review of the Saltmarsh Management Contribution in light of the updated in-combination air quality modelling for the Connah's Quay Low Carbon Power Project (the Proposed Development) assessment undertaken in September 2026.

C.1.1.2 It provides:

- an overview of the previous assumptions in relation to the calculation of the Saltmarsh Management Contribution included in the **Deed of Unilateral Undertaking of Development Consent Obligations [REP7-039]** dated 8 June 2026 (First Unilateral Undertaking) at the close of examination;
- a summary of activities undertaken to review the contribution of the Proposed Development in the context of the updated in-combination modelling;
- an updated approach to the identification of an appropriate calculation of the Saltmarsh Management Contribution; and
- a new value for the Saltmarsh Management Contribution in light of the updated in-combination air quality modelling.

C.1.1.3 This is prepared and presented as an Appendix to the **Consideration of Additional Emerging Schemes Identified by Natural Resources Wales** report which presents the findings of the updated in-combination air quality modelling for the Proposed Development.

C.2. Calculation at the close of Examination

C.2.1 Method

C.2.1.1 To identify the appropriate amount of the Saltmarsh Management Contribution proposed at the close of Examination, the Applicant:

- Calculated an annual contribution for additional management burden associated with increased nitrogen deposition using the:
  - annual management budget per ha of saltmarsh (£724) agreed with NRW;
  - area (445 ha) expected to experience an increase in nitrogen deposition greater than 1% of the critical load (10KgN/Ha/Yr);
  - maximum contribution of the Proposed Development (1.4%) to identify a maximum increase in management burden; and
  - Proposed Development's design life of 30 years.

C.2.1.2 The final calculation was as follows:

- *((Annual management budget per ha x modelled affected area) x maximum contribution) x design life*

C.2.2 Calculation

C.2.2.1 The total area affected by the Proposed Development in combination with other project and plans is modelled to be 445 ha. Therefore, a reasonable annual management budget for this area would be £322,180. The modelled impact of the Proposed Development across this area is equivalent to a maximum 1.4% increase on existing baseline nitrogen deposition rates. The additional burden due to the Proposed Development was therefore calculated to be a total of £4,510.50 per annum. Over the 30-year operation, this equated to £135,315.

C.2.3 Contribution

C.2.3.1 The Saltmarsh Management Contribution included in the **First Unilateral Undertaking [REP7-039]** at the close of Examination was therefore £135,315.

C.3. Review of Updated In-combination modelling

C.3.1 Modelling outputs

C.3.1.1 Full details of the outputs of the updated in-combination modeling are included in the **Consideration of Additional Emerging Schemes Identified by Natural Resources Wales** report. In summary, the addition of the emerging schemes (shown in **Figure 1**) has increased the area of saltmarsh expected to experience an increase in nitrogen deposition greater than 1% of the critical load (10KgN/Ha/Yr) from approximately 445 ha to approximately 2,389 ha. The outputs of the modelling are shown on **Figure 2**.

C.3.2 Identification of the contribution of the Proposed Development

C.3.2.1 Given that the Proposed Development Alone modelling identifies that 53.8 ha of saltmarsh is expected to experience an increase in nitrogen deposition greater than 1% of the critical load (10KgN/Ha/Yr), the following exercises were undertaken:

- A review of the air quality modelling for the identified in-combination schemes without the Proposed Development's contribution.
  - This was undertaken to quantify the extent that the other schemes considered contributed to the substantial increase in the in-combination area.
- A detailed review of the dispersion of nitrogen deposition from the Proposed Development's Alone modelling.
  - This was undertaken to quantify the contribution of the Proposed Development to the in-combination outcome.

In-combination Schemes without the Proposed Development

C.3.2.2 To review the area of saltmarsh expected to experience an increase in nitrogen deposition greater than 1% of the critical load (10KgN/Ha/Yr) in the absence of the Proposed Development, its contribution was removed from the modelling. Rather than running a whole model, this was done through post processing analysis, subtracting the Proposed Development's Alone contribution from the in-combination results.

C.3.2.3 The outputs of the modelling are shown on **Figure 3**. The modelling demonstrates that in this scenario without the Proposed Development, the area expected to experience an increase in nitrogen deposition greater than 1% of the critical load (10KgN/Ha/Yr) is approximately 2,372 ha. Comparing this to the area when the Proposed Development's contribution is added (approximately 2,389 ha) there is only an increase of approximately 17 ha.

Contribution of the Proposed Development

C.3.2.4 To further explore the contribution of the Proposed Development, **Figure 4** was produced. This figure explores the spatial distribution of nitrogen deposition contributions from the Proposed Development down to 0.1% of the critical load (10KgN/Ha/Yr). The areas of saltmarsh within each of these contour ranges is summarised below in **Table 28**.

Table 28: Areas of Saltmarsh within each Contour Range

Contour Range (kgN/ha/yr)	Area
0.01 – ≤ 0.025	195.4
> 0.025 – ≤ 0.05	1439.4
> 0.05 – ≤ 0.075	520.2
> 0.075 – ≤ 0.1	201.7
> 0.1 – ≤ 0.13	53.8
Total Area	**2410.5**

C.4. Updated calculation

C.4.1 Method

C.4.1.1 Applying the same principles for the original calculation it is appropriate to consider the reasonable annual management budget for the affected area. However, to update the calculation for the Saltmarsh Management Contribution to reflect the contribution of the Proposed Development, the areas of each contour range in **Table 28** have been used. The purpose of this is to apply a staged calculation based on actual contribution of the Proposed Development to the in-combination effect, rather than applying a blanket worst-case approach of the Proposed Development maximum contribution, as used in Section C.2.

C.4.1.2 The multiplier per ha for each contour range (**Table 29**) has been calculated by multiplying the mid-point of the contour range, expressed as a fraction of the critical load, by the £724 management budget per hectare of saltmarsh, for all areas where the impact from the Proposed Development alone is above 0.1% of the 10kgN/ha/yr critical load. These multipliers are then used in the calculation presented in Section C.4.2.

Table 29: Multiplier for each contour range

Contour Range (kgN/ha/yr)	Approach	Multiplier per ha (£/ha/Yr)
0.01 – ≤ 0.025	0.00175 x 724	1.267
> 0.025 – ≤ 0.05	0.00375 x 724	2.715
> 0.05 – ≤ 0.075	0.00625 x 724	4.525
> 0.075 – ≤ 0.1	0.00875 x 724	6.335
> 0.1 – ≤ 0.13	0.0115 x 724	8.326

C.4.1.3 Multiplying the relevant areas from **Table 29** with the values provided in **Table 29** provides an estimate of the additional annual management burden resulting from the operation of the Proposed Development. As applied in Section 2.2, following the identification of an annual contribution, consideration was given to the design life of the Proposed Development.

C.4.2 Calculation

C.4.2.1 **Table 30** provides the calculation of the updated Saltmarsh Management Contribution.

Table 30: Contribution Calculations

Contour Range (kgN/ha/yr)	Area	Annual Contribution	30 Year Contribution
0.01 – ≤ 0.025	195.4	£247.57	£7,427.15
> 0.025 – ≤ 0.05	1439.4	£3,907.97	£117,239.13
> 0.05 – ≤ 0.075	520.2	£2,353.91	£70,617.15

Contour Range (kgN/ha/yr)	Area	Annual Contribution	30 Year Contribution
> 0.075 – ≤ 0.1	201.7	£1,277.77	£38,333.09
> 0.1 – ≤ 0.13	53.8	£447.94	£13,438.16
		£8,235.16	**£247,054.68**

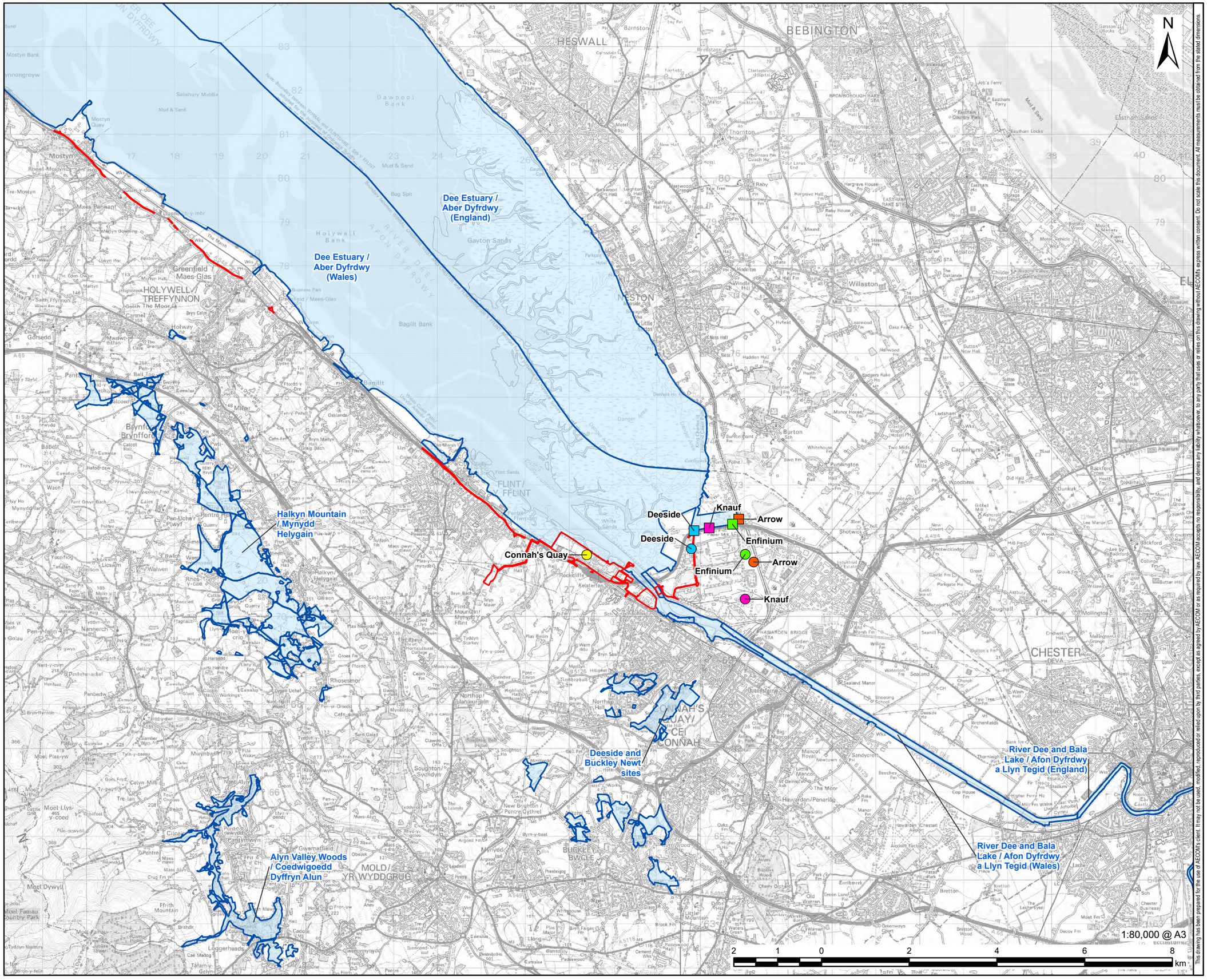
C.4.3 Contribution

C.4.3.1 Based on the updated methodology and the results of the updated in-combination assessment, the updated Saltmarsh Management Contribution is £247,054.68.

Figures

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LEGEND

- Order limits
- Special Area of Conservation (SAC)

Reported Location of Maximum Impact on the Dee Estuary

- Arrow
- Deeside
- Enfinium
- Knauf

Sources

- Arrow
- Connah's Quay
- Deeside
- Enfinium
- Knauf

NOTES

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ISSUE PURPOSE

Consideration of Additional Emerging Schemes Identified by Natural Resources Wales

DATE

September 2026

PROJECT NUMBER

60768754

FIGURE TITLE

Considered Cumulative Developments' Locations

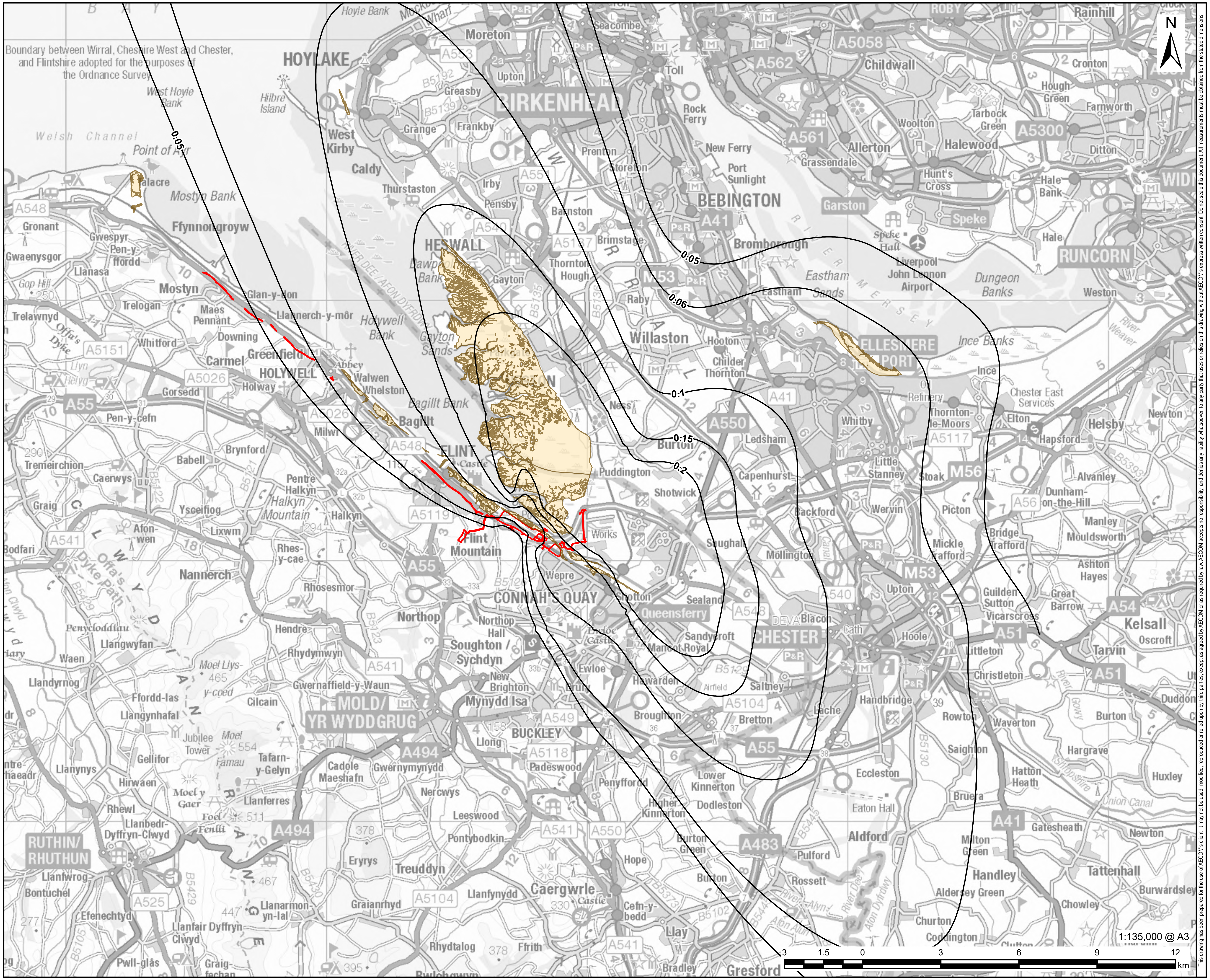
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Figure 1

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LEGEND

- Order limits
- Nitrogen Deposition Process Contribution (Grassland) (kgN/ha/yr)
- Saltmarsh

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ISSUE PURPOSE

Consideration of Additional Emerging Schemes Identified by Natural Resources Wales

DATE

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PROJECT NUMBER

60768754

FIGURE TITLE

FEED 2 Scenario, In-Combination Nitrogen Deposition Process Contribution within Saltmarsh (Grassland), 2019 Meteorological Data

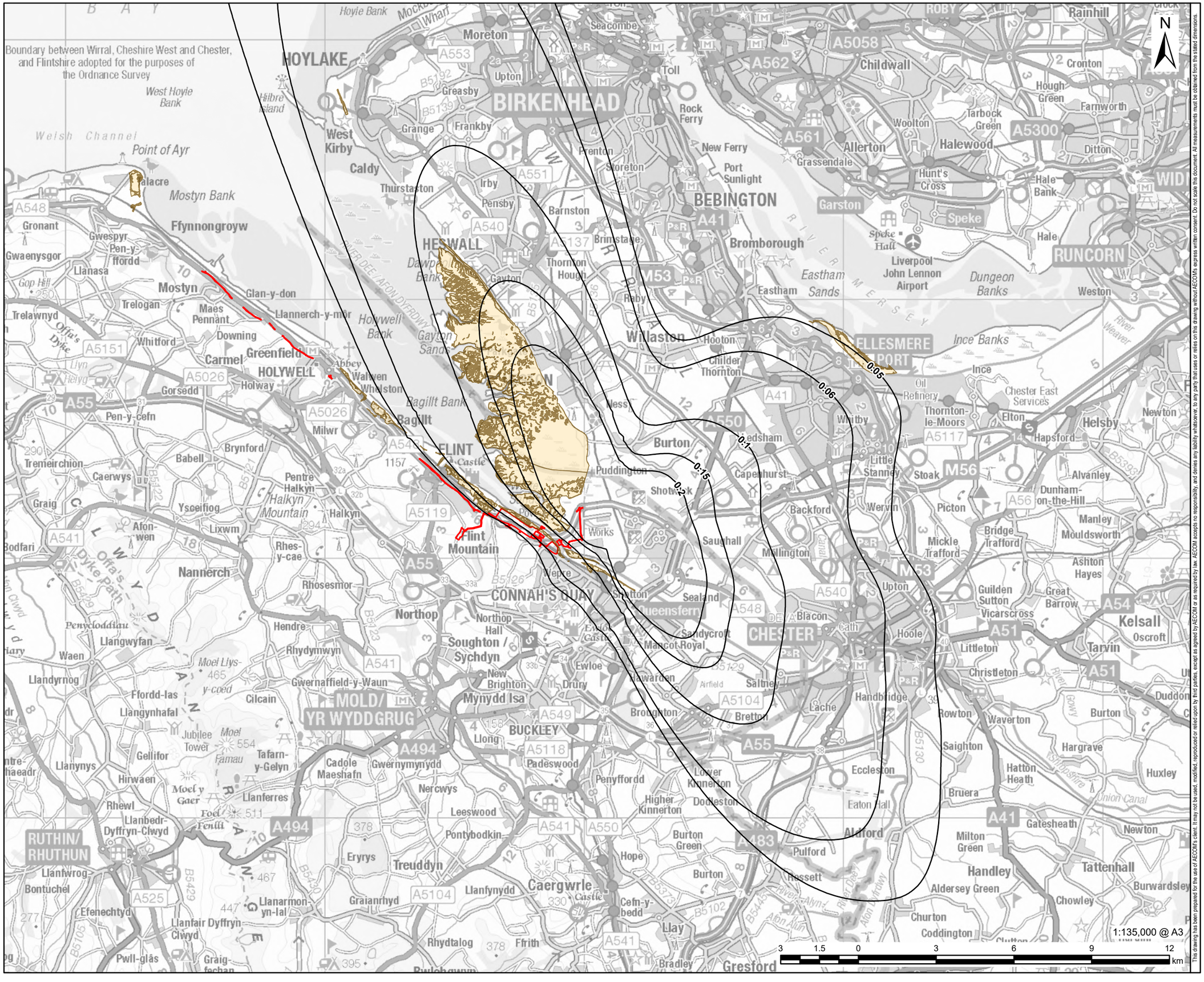
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LEGEND

- Order limits
- Nitrogen Deposition Process Contribution (Grassland) (kgN/ha/yr)
- Saltmarsh

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PROJECT NUMBER

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FIGURE TITLE

FEED 2 Scenario, Cumulative Schemes only Nitrogen Deposition Process Contribution within Saltmarsh (Grassland), 2019 Meteorological Data

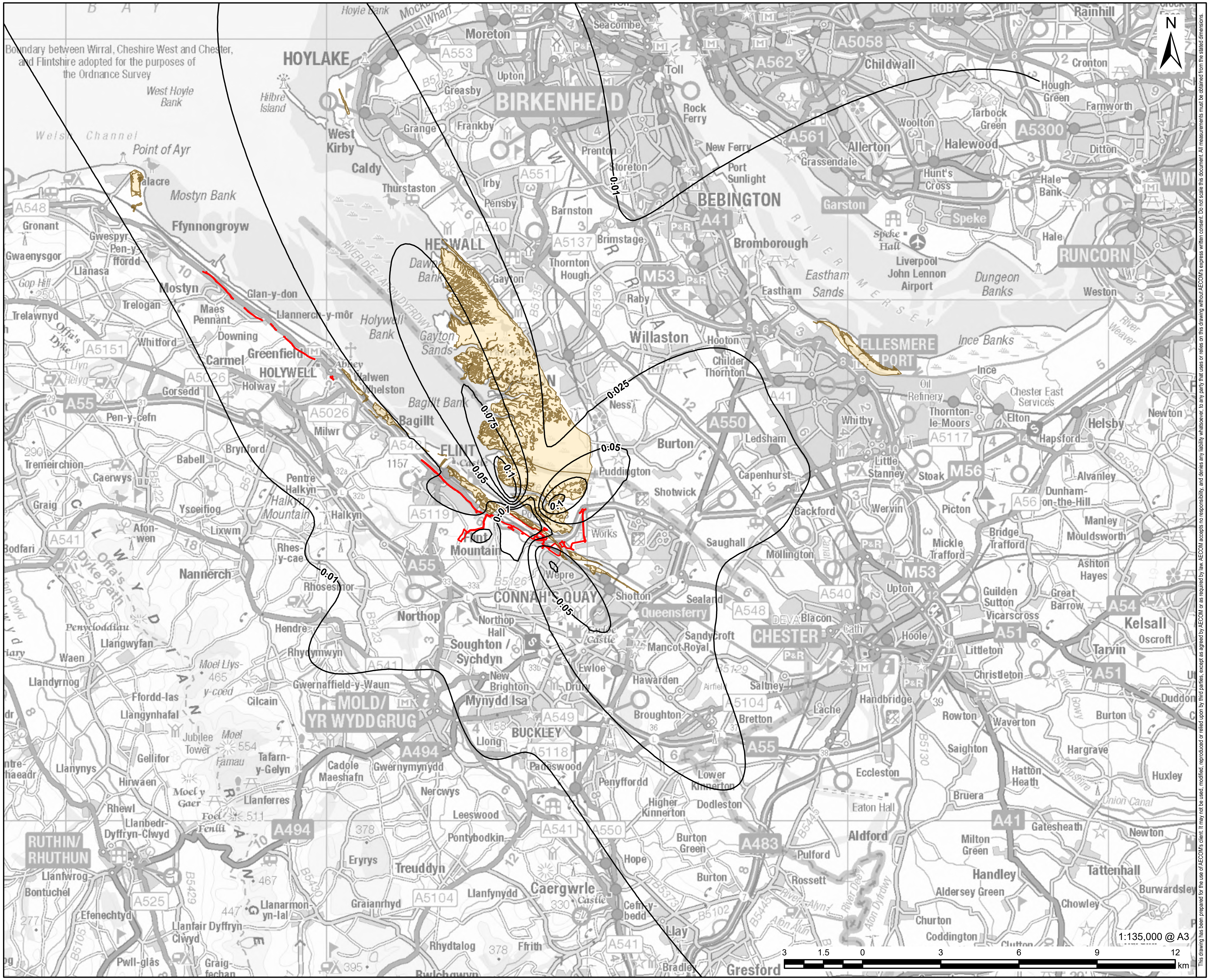
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LEGEND

- Order limits
- Nitrogen Deposition Process Contribution (Grassland) (kgN/ha/yr)
- Saltmarsh

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September 2026

PROJECT NUMBER

60768754

FIGURE TITLE

FEED 2 Scenario, Proposed Development Only Nitrogen Deposition Process Contribution within Saltmarsh (Grassland), Abated

FIGURE NUMBER

Figure 4