Gatwick Airport Northern Runway Project

The Applicant's Response to Deadline 4 Submissions submitted at Deadline 6

Book 10

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Appendix A: Air Quality

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1 Introduction

1.1 Overview

1.1.1 This document has been prepared to set out the Applicant's response to submissions received at Deadline 4 and Deadline 5 in respect to Air Quality.

1.1.2 The submissions set out in this document are responses relating to air quality, deferred from The **Applicant's Response to Deadline 4 Submissions** [REP5-072] and to submissions received at Deadline 5.

1.1.3 As per previous deadlines, the Applicant is mindful of the volume of information already submitted into the examination and has sought to limit the duplication of submissions it has already made on certain subjects. As such, the Applicant has not responded to every submission or point made; instead, it has responded by exception where the submission raises a new matter and/or where the Applicant considers such a response may be helpful to the ExA. Silence on an issue, therefore, should not be interpreted as agreement – but instead a recognition of the approach taken by the Applicant in this document.

1.1.4 This document has been structured as follows:

- Responses submitted by Interested Parties to the Applicant's responses to the Examining Authority's first set of Written Questions (ExQ1);
- Responses to other documents submitted at Deadline 4; and
- Responses to other documents submitted at Deadline 5

2 Responses submitted by Interested Parties to the Applicant's responses to ExQ1

2.1.1 The Applicant has received comments on its response to ExQ1 – Air Quality from the Legal Partnership Authorities [REP4-069], Mole Valley District Council [REP4-074] and National Highways [REP4-079].

2.2 National Highways

2.2.1 The Applicant is liaising directly with National Highways on the comments on its response to ExQ1 – Air Quality [REP4-079], which overlap with Air Quality matters not concluded within PADSS submitted at Deadline 5 [REP5-104]. The Applicant anticipates that the outcome of the discussions will resolve any queries National Highways have raised.

2.3 Legal Partnership Authorities and Mole Valley District Council

2.3.1 Table 1 provides sets out the Applicant's response to the substantive points raised by the Legal Partnership Authorities [REP4-069]. It should be noted that the points raised by Mole Valley District Council (MVDC) [REP4-074] are identical, therefore the Applicant's responses in Table 1 are not repeated for MVDC.

2.3.2 The Applicant submitted a response to the review of air quality technical matters as summarised by AECOM behalf of the Joint Local Authorities (JLAs) [REP3-117], at Deadline 5 [REP5-073]. The document responds to each question set out in the AECOM review document. Many of the points responded to in [REP5-073] are relevant to points raised in Table 1, as such cross references are provided where relevant.

Table 1: Responses to ExQ1 – Air Quality from the Legal Partnership Authorities

ExQ1	Legal Partnership Authorities' Response	Applicant's Response
AQ.1.1	It is important to note that air pollution such as nitrogen dioxide is a 'no threshold' pollutant and thus	The thresholds used to assess the Project have followed those set in national legislation and policy. The Applicant

ExQ1	Legal Partnership Authorities' Response	Applicant's Response
	has a health impact on the communities surrounding the airport effectively down to zero exposure. This is reflected in the fact that the WHO guideline value for nitrogen dioxide is considerably below the UK standard that is being used by the airport in its assessment. As such an important part of certified monitoring including diffusion tube monitoring (as opposed to the indicative monitoring the airport is also planning) is to assess the ongoing impact on the local community and ensure that pollution levels are falling and not rising regardless of the standard, as while the applicant makes much of no UK standards being breached it appears to miss the fact that UK policy in relation to air pollution has moved on from a simple pass / fail approach, to ensuring that levels of pollution exposure are reduced over time and that any new developments should help in this process - as outlined at the start of the AQ sections for the Surrey LIR [REP1-097] and West Sussex LIR [REP1-068].	sets out its response on the position on how to deal with any tightening of air quality standards at Section 17 of the **Applicant's Response to Actions ISH7: Other Environmental Matters** [REP4-037]. The Project recognises non-threshold effects in **ES Chapter 13: Air Quality** [REP3-018] and at **Appendix 5 of Draft Section 106 Agreement** [REP2-004]. The Applicant has provided a draft air quality action plan (AQAP) at Appendix 5 of **Draft Section 106 Agreement** (Doc Ref. 10.11) Section 4 of Appendix 5 sets out the proposed air quality monitoring to be undertaken by GAL, including details on indicative monitoring and why this is appropriate for the airport. The indicative monitoring will be clearly labelled and subject to a rigorous Quality Assurance and Quality Control procedure. The Applicant has responded to the AQAP review undertaken by AECOM on behalf of the JLAs [REP4-053] at Section 3.1 of this document. Response to key points:

ExQ1	Legal Partnership Authorities' Response	Applicant's Response
	The certified monitoring (as opposed to the indicative monitor the airport is also planning to use) is also important to check that the results of the modelling work completed as part of the DCO are correct in practice. For obvious reasons the model being used by the applicant (i.e. a two runway set up with the emergency runway further north and in full time use) has not been validated and the monitoring will form an important part of this process going forward. The key points that the inspector may wish to consider here are: i) The applicant's refusal to fund monitoring of nitrogen dioxide / PM / and ozone beyond 2038. This is despite the fact the applicant has not modelled 2047 (full capacity) using dispersion modelling and the emissions inventory shows pollution from the airport increasing between 2038 and 2047. The local authorities have stated that funding should be to 2047 or	i) This point relates to draft s106 Agreement discussions, the draft s106 text has since been updated, the Applicant is submitting a revised **Draft Section 106 Agreement** (Doc Ref. 10.11 v2) at Deadline 6. GAL accepted that monitoring can be indefinite but can stop if there is no breach for 2 continuous years and GAL serves notice (after the Monitoring Period). ii) The Applicant has provided a response on funding of air quality monitoring operated by Crawley Borough Council within reference GEN.1.12 at Deadline 5 [REP5-072]. iii) The indicative monitoring will be clearly labelled and subject to a rigorous Quality Assurance and Quality Control as set out in the draft AQAP at Appendix 5 of **Draft Section 106 Agreement** (Doc Ref. 10.11 v2).

ExQ1	Legal Partnership Authorities' Response	Applicant's Response
	389,000 movements whichever occurs later i.e. the airport at full capacity. ii) The applicant has refused to fund the real time NOx and PM analyser operated by Crawley borough council to the SE of the airport. Given this site will provide important information in the future to validate the computer model used for the DCO outputs this site should be funded. iii) The joint local authorities would ask that the indicative monitoring data - if it is to be placed on a public facing website - is marked as 'indicative only not suitable for compliance monitoring'. To date (25 years) the airport and the local authorities have agreed and operated on the basis that pollution monitoring data collected around the airport will be undertaken using equipment and methods that are suitable for compliance monitoring. This is to ensure that all parties – airport and local communities – can have full confidence in the data	

ExQ1	Legal Partnership Authorities' Response	Applicant's Response
	and that any decisions being made can be done so on the basis of a robust and scientifically sound data set. The applicant's intention to use indicative monitoring equipment (which can significantly overestimate or underestimate compared to certified methods) goes against this long standing convention and has the potential to 'muddy the waters'. Hence the need for such data to be clearly flagged, and for operational monitoring to form part of the examination discussions.	
AQ.1.3	Project Change 3 [AS-139] proposes an alteration to the treatment works for de-icer pollution and surface water runoff from the airport. A constructed wetland (reed bed) solution is now proposed at the site adjacent to Crawley Sewage Treatment Works. Although odour is a known risk for this type of facility, the applicant states there will be no significant odour effects and therefore no further mitigation for odour is proposed.	**Reed beds** The Applicant has included technical detail about the operation of the constructed wetland (reed bed) system within the assessment of Project Change 3 in the **Change Application Report** [AS-139], which has subsequently been accepted by the ExA into the Examination. The Applicant has considered odour in Table 6 and in Paragraph 5.1.11. In summary, following

ExQ1	Legal Partnership Authorities' Response	Applicant's Response
	No evidence is provided to support this conclusion other than the implementation of best practice. The authorities remain concerned about odour impacts from the reedbeds due to the potential for anaerobic decomposition, and the proximity of residential properties (within 55m) to the works boundary. Where controls are imposed via environmental permits, the local planning authority, would want to see a detailed assessment of the odour impacts including the risk under both normal and abnormal operating conditions, and whether the management and control measures proposed are appropriate for mitigating the risks. In addition, the authorities would point out that the applicant has failed to produce a quantified odour impact assessment for aviation fuel as part of the DCO, despite the fact that it managed such an assessment in 2019 (see air quality chapter - Surrey LIR [REP1-097]) and fuel odour is an on going issue for local residents around the airport.	best practice maintenance, there would be no odour emissions. **Permitting** As set out in the **List of Other Consents and Licenses** [REP3-062]**,** an environmental permit is required before works can start on Project Change 3 (as accepted). A suitable assessment will be carried out for the permit. GAL has commenced discussions with the Environment Agency consenting team as set out in the **Statement of Common Ground between Gatwick Airport Limited and Environment Agency** [REP5-058]. **Odour assessment** The assessment follows the recommended approach from the IAQM which identified no significant effects as a result of the project from odour. An odour monitoring plan is not required as set out in AQ16 of Table 2 in this document in response to the AQAP review. The Applicant is drafting a Proposed Odour Reporting Process document to clarify any remaining questions around odour. The Applicant will

ExQ1	Legal Partnership Authorities' Response	Applicant's Response
	Given (in the absence of any other information) any aviation fuel odour impact is likely to be proportional to the change in aircraft movements, it is likely that the odour impact on the local community will increase as a result of the DCO. The local authorities have asked the airport to commit to undertake the measures (listed below) to investigate odour around the airport as part of a s106 agreement in light of both the ongoing issues with odour and the likely increase in the problem, but the applicant has refused to do so. Prior to the construction of the northern runway a commitment to a two stage odour study to: a) determine the ambient concentration of aviation fuel at which odours are perceived on the Horley Gardens Estate, using a tracer for aviation fuel such as 1,3,5 trimethlybenzene. b) subject to the concentrations determined a) being sufficiently high that a field based detection system can be used, to install a	share this document with local authorities for comment with the objective of submitting the document at Deadline 7. **Article 49 of the draft DCO** In relation to the comments regarding article 49 (defence to proceedings in respect of statutory nuisance) of the **draft DCO** [REP5-005], the Applicant refers to its detailed explanation of the effect and context of this provision in its **Response to the ExQ1** [REP3-089], DCO.1.37. For the reasons given in that response, the JLAs' amendments are not appropriate (nor do they accomplish what the JLAs appear to wish to accomplish).

ExQ1	Legal Partnership Authorities' Response	Applicant's Response
	monitor at an appropriate site around the airport for a 1 year period to examine the distribution of odour events to understand the meteorological and operational practices that give rise to the odour issues for local residents. Given: - the lack of a quantified odour assessment, - the risk that odour issues will increase, - and the failure of the applicant to countenance measures to investigate the issue, if the Secretary of State is minded to grant permission for the DCO the joint local authorities would wish to see article 49 (Defence to proceedings in respect of statutory nuisance) of the draft DCO [REP3- 006] amended in accordance with the drafting set out at row 39 of Appendix M to the West Sussex LIR [REP1-069].	
AQ.1.4	The joint authorities note the comment by the applicant that: *Monitoring within these AQMAs*	**AQMAs**

ExQ1	Legal Partnership Authorities' Response	Applicant's Response
	demonstrate that annual mean NO_2 concentrations have consistently been below the air quality standards since 2015 as reported in Section 13.7 of ***ES Chapter 13: Air Quality*** *[APP-038].* The authorities would point out for clarity that within the Horley AQMA monitoring point RB149 breached the standard in 2015, 2016, 2017, 2018, and 2019. Residential premises within the AQMA breached the standard in 2015, 2016, 2017, and were very close to the 40µg m-3 limit value with a concentration of 39 µg m-3 in 2018 and 2019. Similarly, NO2 concentrations at sites CR62, CR69 within Crawley's Hazelwick AQMA have breached the standard from 2015 to 2019. Relevant exposure at CR93 and CR97 within the extended area of Crawley's AQMA also exceeded the NO2 standard during this period, with an annual mean NO2 concentration of 65 µg m-3 measured at CR93 in 2017 and borderline exceedances of 39 µg m-3 during the post Covid years 2021 and 2022.	As set out in AQ.1.4 of the Applicant's response to the ExA's Written Questions [REP3-083] the air quality assessment has demonstrated that the Project will not result in any new exceedances of the national air quality standards. As set out in Paragraph 13.7.4 of **ES Chapter 13: Air Quality** [REP3-018], annual mean concentrations over the five-year period 2015-2019 measured at continuous monitoring sites have consistently been below the air quality standard of 40 µg/m^3. Diffusion tube data present exceedances at one site (RB149) in Horley AQMA and at sites in Hazelwick AQMA from 2015 to 2019. Irrespective of this, the air quality assessment demonstrates that the Project will not result in any new exceedances. The **draft Section 106 Agreement** (Doc Ref. 10.11) includes commitments to monitoring of air quality at current and proposed monitoring sites against relevant air quality standards. **Technical Queries**

ExQ1	Legal Partnership Authorities' Response	Applicant's Response
	It is therefore unclear how the applicant can make a claim that annual mean NO2 concentrations have consistently been below the air quality standards since 2015 within these AQMAs. The authorities have not seen breaches of the standard from 2020 to 2022 reflecting COVID. The 2023 data is yet to be processed but given the airport had not fully recovered to 2019 passenger numbers and aircraft movements in 2023 the monitoring results are still likely to be an underestimate of the 'true' situation. The joint authorities would also point out that the applicants modelled nitrogen dioxide concentration at the RB149 site (GAL ref M_421) for 2018 was 31.8 µg m-3 whereas the actual measured value in 2018 was 43.4 µg m-3. Similarly modelled NO2 at CR97 in Crawley was reported by the applicant as 24.1µg m-3 when the measured concentration in 2018 was 40 µg m-3.	The Applicant has submitted a response to the review of air quality technical matters as summarised by AECOM behalf of the JLAs [REP3-117], at Deadline 5 [REP5-073].

ExQ1	Legal Partnership Authorities' Response	Applicant's Response
	(Note the points referred to here was actually modelled and is not an interpolation from the contour plots). While these large differences don't necessarily represent an error with the road traffic model, they do demonstrate that road traffic modelling can miss localised hot spots and demonstrates the need for ongoing monitoring (to when the airport is at full capacity) allied to local knowledge to ensure that the air quality standards are met in practice. It should also be noted that there are number of technical queries that relate, in part, to air quality modelling undertaken by the applicant that were submitted at Deadline 3 [REP3-117].	
AQ.1.5	The inspector may wish to note the following in relation to the submitted draft air quality action plan (Annex 5 in the draft s106) [REP2-004]. The draft AQAP submitted by GAL only refers to the carbon action plan, surface access commitments and Construction code of Practice. There is no	**Air Quality Action Plan** The Applicant has responded to the review of the Draft AQAP undertaken by AECOM on behalf of the JLAs [REP4-053] at Section 3.1 of this document which includes a response to the key issues listed.

ExQ1	Legal Partnership Authorities' Response	Applicant's Response
	commitment to individual measures, and the CAP, SAC and CoCP have been drafted to be self-regulatory, with no control threshold levels or action levels. The applicant's conclusion that the impact of the Proposed Development would not be significant, is based solely on meeting air quality standards. The applicant uses this as justification for providing no additional mitigation beyond that designed into the scheme or required by regulation. As such it appears to miss the fact that UK policy in relation to air pollution has moved on from a simple pass / fail approach, to ensuring that levels of pollution exposure are reduced over time and that any new developments should help in this process. There is no account taken of the health impacts to the local community as a result of the additional emissions associated with the project (£83m damage cost to health (Table 7.2.1 Needs Case [APP-251]), which the JLAs believe should be addressed by the applicant within its AQAP in line with ANPS 5.23 and the Emissions and Mitigation	Discussions are ongoing between the Applicant and the local authorities on the draft s106 Agreement. **Assessment of Significance** The significance of effects have been calculated as per the EPUK/IAQM guidance, where impact descriptors are based on the magnitude of incremental change in pollutant concentrations as a proportion of the air quality standards. In addition, the Project complies with the principles set out in the ANPS. The Project recognises non-threshold effects in **ES Chapter 13: Air Quality** [REP3-018] and at **Appendix 5 of Draft Section 106 Agreement** (Doc Ref. 10.11 v2). **Health Impacts** Section 18.8 'Health and Wellbeing Effects from Changes to Air Quality' **ES Chapter 18: Health and Wellbeing** [APP-043] considers the population health implication of the changes due to the Project. This population health assessment includes non-threshold air quality effects to local communities, including vulnerable groups, i.e. it

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	Guidance for Sussex (CBC Local Plan Policy ENV12). The JLAs consider that the AQAP would work better as a Requirement in DCO. In part this is because as currently drafted the s106 expires 9 years after opening (2038), yet emissions from the airport are still increasing beyond this point. Other key issues with the current air quality action plan include: i) The document in essence simply provides a long list of measures that the applicant says it may implement, not what it will implement. ii) It fails to set out which of the measures in the plan are the 'embedded mitigation' i.e. measures the airport has already assumed in place in the DCO air quality assessment, so it is possible to assess if these measures are on track given the air quality assessment in the DCO application	takes account of health effects below UK air quality standards.

ExQ1	Legal Partnership Authorities' Response	Applicant's Response
	is dependant on all of these measures being implemented successfully. iii) It fails to identify which additional measures are intended to mitigate the increased airport related pollution, as reflected by the difference in the emissions inventories for the 'with' and 'without' project scenarios. iv) It is unclear why the airport is only going to produce an air quality action plan 5 years after the commencement of the project (para 1.3.1 [REP2-004]) rather than one which applies from the outset (commencement) given by 2029 under the 'with' project scenario the airport will be handling 330,000 movements vs 313,000 without the development, and 61.3 mppa with the development vs 57.3 without the development. v) It fails to present costings, performance indicators, delivery timescales, the level of	

ExQ1	Legal Partnership Authorities' Response	Applicant's Response
	pollution reduction the measure is likely to deliver (either as a concentration reduction on the Horley Gardens Estate or tonnage released to atmosphere) vi) To help the applicant to design their air quality action plan template the joint authorities would suggest the following columns are included in the action plan which are taken from the DEFRA air quality action plan template: Measure No. Measure Estimated Year Measure to be Introduced Estimated / Actual Completion Year Estimated Cost of Measure Measure Status Target Reduction in Pollutant / Emission from Measure Key Performance Indicator Progress to Date Comments / Potential Barriers to Implementation	

ExQ1	Legal Partnership Authorities' Response	Applicant's Response
	vii) The joint authorities would also draw the inspectors' attention to the concern raised in the Surrey LIR at para 11.68 [REP1-097] where the applicant appears to think that burning Hydrogen or SAF will lead to a reduction in NOx emissions, as the current measures proposed in the action plan (annex 5 [REP2-004]) fail to address these concerns with for example para 3.3.2 of the action plan claiming that SAF will lead to a reduction in NOx emissions, but no evidence is supplied to support this despite the JSA making the evidenced point that (in relation to SAF) 'there are no measurable impacts seen to date on NOx emissions '. Equally action plan measure FL13 simply says 'supporting hydrogen fuelled aircraft' with no supporting evidence that this will in fact reduce NOX emissions in practice. A hydrogen powered combustion based jet engine enables the use of	

ExQ1	Legal Partnership Authorities' Response	Applicant's Response
	higher pressure ratios in the engine which, all else being equal, will lead to higher NOx emissions that a kerosine engine. **A review of the Draft AQAP has been undertaken by AECOM on behalf of the Joint Local Authorities and submitted at Deadline 4.**	
AQ.1.6	**Construction Dust Management Plan (CDMP)** A draft Construction Dust Management Plan (CDMP) has been provided by the Applicant to the Joint Local Authorities. This was not provided at the submission of the DCO and so is welcome. The draft construction DMP draws together and builds on the information provided within the CoCP and ES. The drafting suggests there will not be one CDMP but several CDMPs. The draft CDMP importantly confirms the CDMPs will be submitted for approval linked to the Draft DCO through the inclusion of the CDMP within the CoCP.	**Construction Dust Management Strategy (CDMS)** The Applicant has submitted a **Construction Dust Management Strategy (CDMS**) [REP5-022] at Deadline 5, revised following the Construction Dust Management Plan review from the JLAs at Deadline 4 [REP4-053]. The CDMS takes the JLAs comments into account including setting out which Project components are defined as "high risk". **Construction odour** As set out in Paragraph 5.1.14 of the **Written Summary of Oral Submissions ISH7: Other Environmental Matters** [REP4-033], no significant odour effects are expected during construction. However, Paragraphs 5.8.3 to 5.8.5 of the **ES Appendix 5.3.2: Code of**

ExQ1	Legal Partnership Authorities' Response	Applicant's Response
	The draft CDMP sets out in greater detail how the work package DMPs will be prepared and provides one example. This is helpful, but it is unclear why the draft CDMP cannot be developed at this stage for more than just one example and be completed for all work packages identifying where the higher risk locations are, prior to mitigation, and where monitoring is envisaged to be required. It is believed that GAL have sufficient information to do this and it would provide the Councils with confidence that higher risk areas have been identified and suitable monitoring has been identified consistently. At a later stage several contractors may be required by GAL and this could lead to inconsistencies. This could be avoided if future contractors only had to make minor alterations to draft plans that have already been developed. There are a number of other points including: • Dust soiling is only discussed in terms of visual techniques, not dust soiling or	**Construction Practice** [REP4-007] set out management procedures for construction odour, that would be in place should any such issues arise. **Operational odour** The assessment follows the recommended approach from the IAQM which identified no significant effects as a result of the project from odour. An odour monitoring plan is not required as set out in AQ16 of Table 2 of this document in response to the AQAP review. The Applicant is drafting a Proposed Odour Reporting Processdocument to clarify any remaining questions around odour. The Applicant will share this document with local authorities for comment with the objective of submitting the document at Deadline 7.

ExQ1	Legal Partnership Authorities' Response	Applicant's Response
	deposition methods needed to understand dust nuisance risks. • Further specifics on procedures and data sharing are needed within the draft CDMP. • It is not clear that these should be completed by a relevant air quality specialist and this could be included with the CDMP. **A technical note reviewing the Draft CDMP has been prepared by AECOM on behalf of the Joint Local Authorities and submitted at Deadline 4.** **Construction Odour** The Applicant states the construction works have the potential to release unpleasant odours. But, beyond stating that suitable mitigation following best practice will be implemented via the CoCP (para 5.8.3 APP-082) no further details of how mitigation would be secured are provided. The LA would welcome a more proactive approach to odour management in the form of a draft Odour	

ExQ1	Legal Partnership Authorities' Response	Applicant's Response
	Management Plan (OMP) within the CoCP for approval by the LPA, to provide additional confidence in the control measures in place during the construction phase. This is particularly important given the defence of statutory authority against nuisance claims (ANPS 5.231). A draft or outline OMP should be made available for the Examination phase and should outline proposed odour mitigation measures, procedures for monitoring, complaints and resolution process and communications with local authorities.	
AQ.1.9	There are number of technical queries that relate, in part, to the clarity of the study areas (ARN) utilised by the applicant. These queries were submitted at Deadline 3 [REP3-117], Appendix 3 (See Page 27 Affected Road Network.)	The Applicant has submitted a response to the review of air quality technical matters as summarised by AECOM behalf of the JLAs [REP3-117], at Deadline 5 [REP5-073].
AQ.1.10	There are number of technical queries that relate, in part, to cumulative effects. These queries were submitted at Deadline 3 [REP3-117], Appendix 3	The Applicant has submitted a response to the review of air quality technical matters as summarised by AECOM

ExQ1	Legal Partnership Authorities' Response	Applicant's Response
	(See Page 29 Cumulative Effects and Inter-Relationships). Please also see comments under AQ1.14 relating to applicant's assessment and management of the cumulative impacts of construction and operational traffic emissions in Crawley's AQMA.	behalf of the JLAs [REP3-117], at Deadline 5 [REP5-073].
AQ.1.12	There are number of technical queries that relate, in part, to traffic model noise. These queries were submitted at Deadline 3 [REP3-117], Appendix 3 (See Page 29 Model noise).	The Applicant has submitted a response to the review of air quality technical matters as summarised by AECOM behalf of the JLAs [REP3-117], at Deadline 5 [REP5-073].
AQ.1.14	Crawley borough council has specific concerns regarding the impact of construction traffic within its AQMA. Whilst the applicant has modelled the effects on the Hazelwick and extended Hazelwick AQMA, further discussion regarding mitigation is not forthcoming from the applicant because of its firm stance that there are negligible impacts in the AQMA as a result of the Project.	The Applicant has submitted a response to the review of air quality technical matters as summarised by AECOM behalf of the JLAs [REP3-117], at Deadline 5 [REP5-073]. Item A.6 addresses the matter of a combined effect of construction and passenger traffic. Items A.33 to A.37 address matters on construction traffic and the CTMP.

ExQ1	Legal Partnership Authorities' Response	Applicant's Response
	The council believes that the potential for localised AQ impacts within the AQMAs are likely for a number of reasons: • The sequencing of the airfield construction works and surface access improvements will result in highways works coinciding with a fully operational northern runway (2029). The combined effect is likely to result in redistribution or rerouting of traffic across the local road network, leading to the risk of localised hotspots along affected roads, including within areas of already high NO2 concentrations such as AQMAs. • The assessment of AQ impacts from the Project assumes minimum impact on Crawley's AQMA from construction traffic. The CMTP and CWTMP are intended to ensure construction traffic adheres to designated routes. However the draft CMTP identifies the route through Crawley's AQMA as a contingency access for construction traffic to the airport. This is because it is the	

ExQ1	Legal Partnership Authorities' Response	Applicant's Response
	only alternative route to the airport from the M23. • Little information on monitoring or mechanisms for compliance are provided within the CMTP and CWTMP. Without adequate controls and monitoring in place local pollution hot spots may be created within the AQMA. These management plans should therefore be provided for scrutiny during the examination and must be prepared for approval by local and highways authorities. • Other non-construction traffic would also use the contingency re-routed from the motorway through the AQMA, and/or use it as an alternative to avoid disruption from highways works. • Operational monitoring will be important to understand if changes in air quality are occurring or unacceptably worsening. This places additional burdens on the Authorities	

ExQ1	Legal Partnership Authorities' Response	Applicant's Response
	to maintain monitoring networks across their districts which are impacted by the Project. This should be addressed through mitigation by the applicant. • This matter has been discussed in more detail in the West Sussex LIR Air Quality Section (para13.55 - 13.73 [REP1-068].	
AQ.1.15	There are number of technical queries that relate, in part, to changes in emissions presented. These queries were submitted at Deadline 3 [REP3-117], Appendix 3 (See Page 26 Emission Ceiling).	The Applicant has submitted a response to the review of air quality technical matters as summarised by AECOM behalf of the JLAs [REP3-117], at Deadline 5 [REP5-073].
AQ.1.18	Chapter 17 (Needs Case Appendix 1 – National Economic Impact Assessment [APP-251]) provides a TAG assessment identifying the air quality damage costs of the Project (£83m) representing an assessment of the cost of the health impacts of the Project in line with the requirements of the Air Quality and Emissions Mitigation Guidance for Sussex (Crawley Borough Council Local Plan policy ENV 12).	Sussex Guidance has been considered in the **Statements of Common Ground between Gatwick Airport Limited and Local Authorities**, including Crawley Borough Council[REP5-038], Horsham District Council [REP5-042], Mid Sussex District Council [REP5-046], Reigate and Banstead Borough Council [REP5-050] and West Sussex Council REP5-056]. In summary, the approach taken for the ES is considered consistent with the principles and guidance set out in the Sussex

ExQ1	Legal Partnership Authorities' Response	Applicant's Response
	The Applicant states that the assessment of air quality does not rely on information from Chapter 17. However, the JLAs believe that the damage cost approach is consistent, not only with the local Sussex policy, which addresses how emissions from the development can be offset at a local level proportionate to the value of the damage to health, but it is also central to Defra's damage cost guidance and the UK Air Quality Strategy, which encourages authorities to *"robustly assess the monetised benefits of air quality interventions"* And acknowledges that: *"improving air quality has direct, proven economic benefits, even when the up-front cost of intervention is high".* The damage costs also allow the Applicant to determine the appropriate level of mitigation to offset local health impacts from their emissions.	Guidance and it follows the requirements for EIA and NPSs.

ExQ1	Legal Partnership Authorities' Response	Applicant's Response
AQ.1.19	It is unclear from the applicant's response if the need for greater dispersal from increasing the release height of emissions are provided for in the CoCP, or whether the applicant is saying that since their assessment shows no significant impacts predicted, that they have scoped out the need for any such mitigation. The JLAs are concerned that there is a lack of clarity on how and where many of the construction impacts will be mitigated. Despite requests for more specific information, the details of mitigation and how it will be implemented, monitored and complied with is either missing or vague, and often non-committal.	The Applicant's response to AQ.1.19 [REP3-083] sets out that NRMM mitigation is provided within Section 5.8 of the **ES Appendix 5.3.2 Code of Construction Practice** [REP5-020]. The detailed design process (post-DCO) would provide an opportunity to review the need for additional measures and any requirement for environmental Permits for combustion plants if necessary. The Applicant has submitted a **Construction Dust Management Strategy (CDMS)** [REP5-022] at Deadline 5, revised following the Construction Dust Management Plan review from the JLAs at Deadline 4 [REP4-053]. The CDMS takes the JLAs comments into account and includes details of mitigation and how it will be implemented, monitored and complied with.

3 Response to Other Deadline 4 Submissions

3.1 Joint Local Authorities

3.1.1 This section provides a response to the Deadline 4 submissions from the JLAs [REP4-053].

Construction dust management plan review from AECOM

3.1.2 The Applicant has submitted an updated **Construction Dust Management Strategy (CDMS)** [REP5-022] at Deadline 5, which was revised following the comments on the Construction Dust Management Plan review from the JLAs at Deadline 4 [REP4-053]. The CDMS takes the JLAs comments into account.

Air quality action plan review from AECOM

3.1.3 Table 2 provides the Applicant's response to the clarifications and requests for further information as set out on page 5-6 of the AECOM note [REP4-053].

Table 2: Responses to AECOM, AQAP review

Ref	AECOM notes	Applicant's Response
AQ1	Clarification on the proposal of the fifth year after commencement being selected as the first year of the AQAP is needed, to understand what activities will take place before this point and so what the air quality risks may be during this first five years.	This point relates to draft s106 Agreement discussions, the s106 text has since been updated, the Applicant is submitting a revised **Draft Section 106 Agreement** (Doc Ref. 10.11 v2) at Deadline 6. Section 8 of the draft s106 Agreement confirms the plan will be provided *'On or before the first 30 June after the*

Ref	AECOM notes	Applicant's Response
		Commencement Date, and on every fifth anniversary thereafter' This is considered suitable as the plan does not constitute mitigation to effects identified during the ES and as such will present GALs actions taken voluntarily to further reduce emissions to air.
AQ2	Clarification as to why an update cycle of five years is proposed for the AQAP and how the end date for monitoring and AQAPs has been proposed.	This point relates to draft s106 Agreement discussions, the s106 text has since been updated, the Applicant is submitting a revised **Draft Section 106 Agreement** (Doc Ref. 10.11 v2) at Deadline 6. This is considered suitable as the plan does not constitute mitigation to effects identified during the ES. The five year cycle is to allow for sufficient data to be collected to show trends over time and for meaningful progress on the programs of studies to be provided. The end date for the monitoring and AQAPs has been explained in the **Draft s106 Agreement Explanatory Memorandum** (Doc Ref. 10.54).

Ref	AECOM notes	Applicant's Response
AQ3	Detail on the Council's role in reviewing or approving the AQAP and subsequent updates is requested.	This point relates to draft s106 Agreement discussions, the s106 text has since been updated, the Applicant is submitting a revised **Draft Section 106 Agreement** (Doc Ref. 10.11) at Deadline 6. As a reporting document it is not appropriate for the AQAP to be subject to JLA approval.
AQ4	Clarification how GAL will consider if the mitigation measures proposed are resulting in the same air quality outcomes as predicted within the DCO.	The assessment has been based on a number of conservative assumptions, as such the effects reported in the ES represent a reasonable worst-case situation. Using the conservative assumptions applied, no significant effects were identified. GAL have committed to continuation of funding local authority monitoring and adding an improved air quality monitoring network on the airport.
AQ5	Clarification on how the combination of construction and operational activities will be considered in the first AQAP.	The AQAP is a reporting mechanism and will be focused on operational activity. All construction related activities and reporting are managed via the **ES Appendix 5.3.2 Code of Construction Practice** [REP4-007].

Ref	AECOM notes	Applicant's Response
AQ6	Clarification on bullet point 3 of paragraph 2.3.3, which includes 'where applicable' text concerning vehicle emission standards.	The **Outline Construction Traffic Management Plan** [REP5-020] and **Code of Construction Practice** [REP4-007] provide the commitments. The AQAP will be updated to reflect the exact wording and will be provided with the revised **Draft Section 106 Agreement** (Doc Ref. 10.11 v2) at Deadline 6.
AQ7	Amendments required in Paragraph 2.3.7 which contains an error in the cross referencing.	Noted, this will be updated in the **Draft Section 106 Agreement** (Doc Ref. 10.11 v2) to be uploaded at Deadline 6.
AQ8	Clarification if the SAC has taken into consideration that the ASAS will operate until 2030, i.e., are measures in the ASAS covered in the SAC.	Chapter 2 of the **SAC** [REP3-028] sets out the relationship between the SAC and the ASAS. The SAC commits to specific surface access outcomes and interventions identified through the development and assessment work which has informed the Project. The SAC is secured as a legally binding commitment under the DCO. These commitments will then be subject to separate scrutiny, monitoring and reporting obligations which are complementary to the existing ASAS process with the Transport Forum Steering Group (TFSG).

Ref	AECOM notes	Applicant's Response
AQ9	Clearer terminology is suggested to describe commitments 5 to 14 of the SAC measures and further detail on how and when GAL proposes to identify which of these commitments are required and what level of betterment beyond the ES may be expected from the measures. This clarification point also applies to aircraft emissions, airside vehicles, energy and fixed plant and miscellaneous emissions.	The Applicant is committed to the mode shares and interventions identified in the SAC [REP3-028] which are secured by Requirement 20 of the draft DCO. The drafting of Commitment 5 was updated in [REP3-028] to include further clarity including details of the timing of measures in commitment 5. A further revision of the SACs is submitted at Deadline 6 (**Surface Access Commitments** (Doc Ref. 5.3 v3)). As explained in section 3 of the SACs, one of the objectives of the SACs is to ensure that GAL's commitments to sustainable travel, made as part of the Project, and the core surface access outcomes which have been identified in the **Environmental Statement** (ES) (Doc Refs. 5.1-5.4) and **Transport Assessment** (TA) [AS-079] 4 are delivered. This will provide assurance that the surface access related environmental effects forecast through the assessment are not exceeded and includes measures identified to reduce surface access related Greenhouse Gas (GHG) emissions arising from the Project. Arrangements for the use of the Transport Mitigation Fund are contained in the draft Section 106 Agreement (Doc Ref. 10.11). GAL has a track record of delivering

Ref	AECOM notes	Applicant's Response
		growth in the percentage of trips using sustainable modes. This has been achieved working with stakeholders and service providers to deliver successive ASAS objectives and targets. The Applicant will continue to do so to deliver the committed mode shares. Section 6 of the SAC [REP3-028] sets out the proposed Monitoring and Reporting process. Regarding aircraft emissions, airside vehicles, energy and fixed plant and miscellaneous emissions, this is responded to in AQ10 below.
AQ10	Inclusion of an additional column in the following tables to confirm which measures are assumed as embedded mitigation within the ES	**SAC measures** The SAC sets out four primary commitments for mode share targets (commitments 1 to 4) which are embedded in the transport data used for the assessment of air quality. Further commitments, beyond the mode share commitments, are specified in the SACs (commitments 5 to 14), which prescribe specific actions that GAL must implement and which will contribute towards the achievement of the primary mode share targets.

Ref	AECOM notes	Applicant's Response
		CAP measures A list of potential measures to achieve the outcomes in the CAP is included within the CAP itself. These measures are presented to demonstrate how GAL can achieve the committed outcomes, rather than as individual commitments themselves. As such, the individual measures do not represent specific mitigation relied upon for the purposes of the assessment. Instead, the overarching emissions reduction 'outcomes' to which they relate (as described in the CAP) are the mitigation assumed as part of the assessment, for carbon but not for air quality. Therefore, the CAP measures are not embedded within the data used for the air quality assessment.
AQ11	The role of hydrogen should be reviewed to consider how this may affect local air quality.	The role of hydrogen is set out in the CAP [APP-091] action AB2.
AQ12	Clarification on what monitoring will be focused on road traffic to confirm the effectiveness of the SAC.	No significant effects have been identified from the Project or road traffic in particular.

Ref	AECOM notes	Applicant's Response
		The effectiveness of the SAC will be monitored via the process set out in Chapter 6 of the SAC [REP3-028]. In particular, Table 3 of the SAC [REP3-028] sets out the range of data which will be collected, including traffic flows, car park and forecourt usage data, public transport data, and CAA passenger and staff survey data. Air quality monitoring cannot monitor the effectiveness of the SAC due to other variables within the monitored concentrations. Additional monitoring beyond that currently used at the airport is proposed as set out within Appendix 1 of **Draft Section 106 Agreement** (Doc Ref. 10.11 v2).,The monitoring proposed near the airport entrance on airport way will identify the contribution from road traffic effects along with other airport related sources.
AQ13	Clarification on how the 'Monitoring Period' has been determined.	This point relates to draft s106 Agreement discussions, the s106 text has since been updated, the Applicant is submitting a revised **Draft Section 106 Agreement** (Doc Ref. 10.11 v2) at Deadline 6.

Ref	AECOM notes	Applicant's Response
		GAL accepted that monitoring can be indefinite but can stop if there is no breach for 2 continuous years and GAL serves notice (after the Monitoring Period).
AQ14	Further discussions are required on the appropriateness of the frequency with which the emissions inventory will be updated.	No significant impacts have been identified as a result of the Project. The frequency is considered appropriate to review changes in airport operations as the airport and capacity are developed.
AQ15	Suggestion on the inclusion of an UFP monitoring site.	The request is being discussed through the draft s106 Agreement process. The s106 text has since been updated, the Applicant is submitting a revised **Draft Section 106 Agreement** (Doc Ref. 10.11 v2) at Deadline 6. An explanation for GAL's position has been summarised below as provided in detail previously. As noted in **Chapter 13: Air Quality** [REP3-018] GAL are committed to participating in national aviation industry body studies of UFP emissions at airports including those reviewing how monitoring could be undertaken.

Ref	AECOM notes	Applicant's Response
		In any event, GAL has committed to £30,000 toward such project carried out by RBBC. This is a valuable contribution based on the equipment costs expected for 1 year of monitoring. A value is provided, rather than the percentage from the previous s.106 to provide a clearer expectation for future costs. • The Project has not identified any significant health effects from UFPs. • There are no legal standards for UFPs to assess against for the purposes of the project. • The local authorities have no legal requirement to monitor, assess or report on UFP, therefore any contribution from the GAL is purely voluntary. • There are no monitoring standards for UFP set by the government.
AQ16	A full operational odour management and monitoring plan is requested.	The assessment follows the recommended approach from the IAQM which identified no significant effects as a result of the Project from odour. In relation to complaints, GAL confirms, as set out in the **ES Chapter 13: Air Quality** [REP3-018], that it used a

Ref	AECOM notes	Applicant's Response
		multi-tool approach rather than relying on number of complaints to determine the conclusion. The **Draft Section 106 Agreement** (Doc Ref. 10.11 v2) sets out measures and monitoring commitments related to odour management to be undertaken by GAL, including: 1) Apply best practice handling methods for fuels as recommended by CAA, 2) implement best practice waste handing methodologies for CARE (following best practice methodology to contain and reduce odour effects from the facility, no significant impacts would occur); and 3) manage and promote the system to record odour complaints. GAL are already committing to an extended monitoring network onsite which will be highly beneficial for understanding the changes in emissions across the airport and also will be valuable for any analysis of complaints. The data will give the airport additional information on the activities and emissions occurring

Ref	AECOM notes	Applicant's Response
		onsite which can, where necessary, feedback into operational management procedures. The Applicant is drafting a Proposed Odour Reporting Process document to clarify any remaining questions around odour. The Applicant will share this document with local authorities for comment with the objective of submitting the document at Deadline 7.
AQ17	Clarification that the 'twice-yearly' meetings referred to in the External Engagement section are two additional meetings that can be requested by either party during each year. Also a timescale for the AQAP and annual monitoring reports to be submitted ahead of annual meetings to allow the Councils to review the documents ahead of any meetings is requested.	The text on meetings and timescales has since been updated, the Applicant is submitting a revised **Draft Section 106 Agreement** (Doc Ref. 10.11 v2) at Deadline 6.

3.2 Joint Surrey Councils

3.2.1 This section provides a response to the Deadline 4 submissions from the Joint Surrey Councils [REP4-054].

Table 3: Responses to Local Impact Reports - Air Quality from Joint Surrey Councils

Ref	Joint Surrey Councils' Response	Applicant's Response
AQ1: Dust and particulate matter generation (DMP)	A draft dust management plan has now been shared with the local authorities. The plan still needs some work however, and a technical note has been sent to the Applicant on the subject.	The Applicant has submitted a **Construction Dust Management Strategy (CDMS**) [REP5-022] at Deadline 5, revised following the Construction Dust Management Plan review from the JLAs at Deadline 4 [REP4-053]. The CDMS takes the JLAs comments into accounting including setting out which Project components are defined as "high risk".
AQ2: Emissions from road going construction vehicles and non-road mobile machinery (NRMM)	In view of the Applicant's response in ISH 7 Part 3 from 25:40 i.e. Stage V and in view of the fact that the DCO air quality assessment is predicated on as a minimum construction equipment meeting Stage V from 2024 (chapter 13 para 13.6.4) [APP-038], the Applicant's current statement in the Code of Construction Practice (March 2024 – [REP1-021]) p.15 which states: *Ensure all on-road vehicles comply with the requirements of the London Low Emission Zone and the London Non-Road Mobile Machinery standards, where applicable.* Will need to be changed to: *Ensure all on-road vehicles comply with the requirements of the London Low Emission Zone, and the London Non-Road Mobile*	The CoCP [REP4-007] (DCO Requirement 7) NRMM commitment aligns with the Greater London Authority (GLA) NRMM requirements. During the initial construction period (pre 2030), NRMM will be required to meet emission standard Stage IV as a minimum and will be required to meet Stage V from 2030. The planned NRMM fall in the net power range of 56-560kW. A comparison of the Euro Stage IV (Directive 2010/26/EU) and Euro Stage V (Regulation (EU) 2016/1628) show that Nitrogen Oxide (NO_x) emission limits are the same. For Particulate Matter (PM), the rate reduces from 0.025g/kWh to 0.015g/kWh however the contribution to total concentrations is negligible (<0.01%). Considering the emission changes between Stage IV and V and the conservatism built into the ES NRMM assessment,

Ref	Joint Surrey Councils' Response	Applicant's Response
	Machinery standards. NRMM equipment as a minimum must meet stage V of the London Non-Road Mobile Machinery standards. We understand at present that the Applicant will be making such a change.	NRMM emissions associated with construction are implicitly represented and would not change the results of the assessment reported in **ES Chapter 13: Air Quality** [REP3-018]. The commitment aligns with best practice GLA guidance and acknowledges availability and technological requirements of local contractors.
AQ3: Lack of information sharing	This item relates to the Code of Construction Practice. However, the Dust Management Plan also fails to address the issues raised in the LIR for example: Para 11.46 in the LIR states: The Code of construction practice ((APP-082) Paragraph 4.12.7) states a complaints procedure will be established. The text also needs to include the statement that **when complaints are received that the relevant local authority will be notified of the complaint along with the measures being taken by the Applicant (GAL) or their contractors to rectify the problem.** However, the Dust Management Plan (para 4.6.2) simply says: If any exceptional dust and/or air emissions occur, or any complaints are received, they will be investigated by the Site Manager or a delegated representative, who will record the complaint. They will then identify the cause, take appropriate measures to	The Applicant has submitted a **Construction Dust Management Strategy (CDMS**) [REP5-022] at Deadline 5, revised following the Construction Dust Management Plan review from the JLAs at Deadline 4 [REP4-053].The Applicant's Position on this matter is set out within Table 5 of the review of air quality technical matters as summarised by AECOM [REP5-073].

Ref	Joint Surrey Councils' Response	Applicant's Response
	reduce emissions in a timely manner, and record the measures taken. **This information will be made available to the local authority upon request**.	
AQ4: Construction traffic emissions	Subject to further discussions.	The Applicant has submitted a response to the review of air quality technical matters as summarised by AECOM behalf of the JLAs [REP3-117], at Deadline 5 [REP5-073]. The response includes matters related to construction traffic emissions.
AQ5: Traffic emissions and operational impacts from aviation (Air Quality Action Plan)	In terms of an update on progress on the Action Plan the Joint Surrey (and Local) Authorities view is that there is still some way to go on the Action Plan, and the ExA may wish to note the following in relation to the submitted draft Air Quality Action Plan (Annex 5 in the draft s106) [REP2-004]. i) The document in essence simply provides a long list of measures that the Applicant says it may implement, not what it will implement. ii) It fails to set out which of the measures in the plan are the 'embedded mitigation' i.e. measures the airport has already assumed in place in the DCO air quality assessment, so it is possible to assess if these measures	The Applicant has responded to the review of the Draft AQAP undertaken by AECOM on behalf of the JLAs [REP4-053] at Section 3.1 of this document. Discussions are ongoing between the Applicant and the local authorities on the draft s106 Agreement.

Ref	Joint Surrey Councils' Response	Applicant's Response
	are on track given the air quality assessment in the DCO application is dependent on all of these measures being implemented successfully. iii) It fails to set out the additional measures intended to mitigate the increased airport related pollution, as reflected by the difference in the emissions inventories for the 'with' and 'without' project scenarios. iv) It is unclear why the airport is only going to produce an Air Quality Action Plan 5 years after the commencement of the project (para 1.3.1 [REP2-004]) rather than one which applies from the outset (commencement) given by 2029 under the 'with' project scenario the airport will be handling 330,000 movements vs 313,000 without the development, and 61.3 mppa with the development vs 57.3 without the development. v) It fails to present costings, performance indicators, delivery timescales, the level of pollution reduction the measure is likely to	

Ref	Joint Surrey Councils' Response	Applicant's Response
	deliver (either as a concentration reduction on the Horley Gardens Estate or tonnage released to atmosphere) vi) To help the Applicant to design their Air Quality Action Plan template the joint authorities would suggest the following columns are included in the plan which are taken from the DEFRA air quality action plan template: • Measure No. • Measure • Estimated Year Measure to be Introduced • Estimated / Actual Completion Year • Estimated Cost of Measure • Measure Status • Target Reduction in Pollutant / Emission from Measure • Key Performance Indicator • Progress to Date • Comments / Potential Barriers to Implementation vii) The joint authorities would also draw the ExA's attention to the concern raised in the	

Ref	Joint Surrey Councils' Response	Applicant's Response
	Surrey LIR at para 11.68 [REP1- 097] where the Applicant appears to think that burning Hydrogen or SAF will lead to a reduction in NOx emissions. The current measures proposed in the action plan (annex 5 [REP2-004]) fail to address these concerns with for example para 3.3.2 of the action plan claiming that SAF will lead to a reduction in NOx emissions, but no evidence is supplied to support this despite the JSA making the evidenced point that (in relation to SAF) 'there are no measurable impacts seen to date on NOx emissions '. Equally, action plan measure FL13 simply says 'supporting hydrogen fuelled aircraft' with no supporting evidence that this will in fact reduce NOX emissions in practice. A hydrogen powered combustion based jet engine enables the use of higher pressure ratios in the engine which, all else being equal, will lead to higher NOx emissions that a kerosine engine. This last point (vii) demonstrates the importance of the Action Plan specifying the level of pollution reduction the measure is intended to achieve.	

Ref	Joint Surrey Councils' Response	Applicant's Response
AQ6: Need to comply with Air quality and Emissions Mitigation Guidance for Sussex (2021)	We await the Applicant's revised air quality action plan including approximate costings for measures that are not already assumed within the DCO air quality modelling.	The Applicant has responded to the review of the Draft AQAP undertaken by AECOM on behalf of the JLAs [REP4-053] at Section 3.1 of this document. Sussex Guidance has been considered in the **Statements of Common Ground** between Gatwick Airport Limited and Local Authorities, including Crawley Borough Council[REP5-038], Horsham District Council [REP5-042], Mid Sussex District Council [REP5-046], Reigate and Banstead Borough Council [REP5-050] and West Sussex Council REP5-056]. In summary, the approach taken for the ES is considered consistent with the principles and guidance set out in the Sussex Guidance and it follows the requirements for EIA and NPSs.
AQ7: 7 Impact of ultrafines on residents	This will be subject to discussion at the air quality section 106 meeting post deadline 4. However, the request in the LIR for full funding of CEN standard equipment looking at particle size and number from commencement of the project until 2047 (full capacity) remains. This is especially important in view of the Applicant's use of the wrong methodology to assess the aviation ultrafines impact of the development and the consequential failure to analyse the health impact of the change	The request is being discussed through the draft s106 Agreement process. The draft s106 text has since been updated, the Applicant is submitting a revised **Draft Section 106 Agreement** (Doc Ref. 10.11) at Deadline 6. The GAL position has been set out at AQ15 of Table 2 of this document in response to UFPs. **ES Chapter 18: Health and Wellbeing** [APP-043] provides an appropriate assessment of UFP, including as clarified in Action Point 17 of the Deadline 4 Submission - **The Applicant's Response to Actions ISH7: Other**

Ref	Joint Surrey Councils' Response	Applicant's Response
		Environmental Matters [REP4-037]. The UKHSA, who have responsibility for environmental hazards and community safety, have confirmed in their relevant representation [RR-4687] that they are satisfied, and the proposed development should not result in any significant adverse impact on public health.
AQ8: Odour emissions	Table 4.3.1 in the RR report [REP1-048] simply states: 'ES Chapter 13: Air Quality [APP-038] has provided an assessment of odour impacts. The odour assessment concluded that the impact of the Proposed Development on odour is considered to be not significant. Odour risk would be managed following best practice handling procedures.' It also mentions the draft air quality action plan which simply states at 4.4.1: *Apply best practice handling methods for fuels as recommended by the Civil Aviation Authority (Civil Aviation Authority, 2004).* *Implement best practice waste handling methodologies for the Central Area Recycling Enclosure (CARE) facility. Manage and promote the system to record odour complaints and review the record of complaints*	The assessment follows the recommended approach from the IAQM which identified no significant effects as a result of the Project from odour. An odour monitoring plan is not required as set out in AQ16 of Table 2 in this document in response to the AQAP review. The Applicant is drafting a Proposed Odour Reporting Process document to clarify any remaining questions around odour. The Applicant will share this document with local authorities for comment with the objective of submitting the document at Deadline 7. **Article 49 of the draft DCO** In relation to the comments regarding article 49 (defence to proceedings in respect of statutory nuisance) of the **draft DCO** [REP5-005], the Applicant refers to its detailed explanation of the effect and context of this provision in its **Response to the ExQ1** [REP3-089], DCO.1.37.

Ref	Joint Surrey Councils' Response	Applicant's Response
	on a regular basis, respond and identify any actions required. As such the response does nothing to address the concerns raised in the LIR [REP1-097] from para 11.120, while the action plan points are simply a continuation of what the airport has done for the past 20 years which have not fixed an existing problem that they know to exist from their own work. The key points here are: • The Applicant has failed to produce a quantified odour impact assessment for aviation fuel as part of the DCO, despite the fact that it managed such an assessment in 2019 (which suggested an area of the Horley Gardens Estate that warranted further investigation), and fuel odour is an ongoing issue for local residents. • Given (in the absence of any other information) any aviation fuel odour impact is likely to be proportional to the change in aircraft movements (even more so if wait times or taxi time increase), it is likely that the odour impact	As explained in that response, section 158 of the Planning Act 2008 confers statutory authority for (a) carrying out development pursuant to a DCO and (b) doing anything else authorised by a DCO, such as to provide a general defence in civil or criminal proceedings for nuisance. Article 49 then caveats that general defence by reference to its detailed provisions. If Article 49 were struck out, the Applicant would continue to benefit from the general defence in section 158 of the 2008 Act.

Ref	Joint Surrey Councils' Response	Applicant's Response
	on the local community will significantly increase as a result of the DCO. • The local authorities have asked the airport to commit to undertake measures to investigate odour around the airport as part of a s106 agreement in light of both the ongoing issues with odour, the failure to assess the issue despite the 2019 work identifying areas where odour might already be an issue, and the likely increase in the problem, but the applicant has refused to do so. Given the lack of a proper odour assessment the JSCs would wish to see Article 49 (Defence to proceedings in respect of statutory nuisance) of the draft DCO [REP3-006] struck out, so that residents retain the legal right to take action in nuisance if needed	
AQ9: Odour impact	The local authorities are due to meet with the Applicant to discuss S106 air quality matters post deadline 4. See also response to AQ8.	The assessment follows the recommended approach from the IAQM which identified no significant effects as a result of the Project from odour. An odour monitoring plan is not required as set out in AQ16 of Table 2 in this document in response to the AQAP review. The Applicant is drafting a Proposed Odour

Ref	Joint Surrey Councils' Response	Applicant's Response
		Reporting Process document to clarify any remaining questions around odour. The Applicant will share this document with local authorities for comment with the objective of submitting the document at Deadline 7.
AQ10: Potential underestimation of magnitude of impact / Need for Fully Funded monitoring to 2047.	The current draft s106 [REP2-004] (definition of monitoring period on p.5) only funds monitoring until 2038, not 2047 or full capacity whichever occurs later. The current response does not address the issues raised or the solution proposed by the local authorities. It is unclear from the current work why 2038 is deemed appropriate to terminate monitoring given the applicant has not even modelled pollutant concentrations in 2047, despite an emissions inventory showing rising pollutant levels out to 2047 from the airport, and as the airport will be the dominant source of pollution post 2038 across much if not all of the Horley Gardens Estate. In the absence of monitoring post 2038 is unclear how the applicant will demonstrate on going compliance with the relevant air quality standards, given the foreseeable tightening of air quality standards within	This point relates to draft s106 Agreement discussions, the draft s106 text has since been updated, the Applicant is submitting a revised **Draft Section 106 Agreement** (Doc Ref. 10.11 v2) at Deadline 6. GAL accepted that monitoring can be indefinite but can stop if there is no breach for 2 continuous years and GAL serves notice (after the Monitoring Period).

Ref	Joint Surrey Councils' Response	Applicant's Response
	the lifetime of the project, and the rising emissions forecast post 2038	
AQ11: Falling overall pollution levels masking rising Airport Related Pollution / Need for Fully Funded monitoring to 2047.	The text here simply refers back to the SoCG, which in turn simply refers back to ES Chapter 13 on Air Quality. As such the Applicant has done nothing to address the issue raised i.e. the monitoring needs to be funded to 2047 or when the airport reaches full capacity whichever occurs later.	This point relates to draft s106 Agreement discussions, the draft s106 text has since been updated, the Applicant is submitting a revised **Draft Section 106 Agreement** (Doc Ref. 10.11 v2) at Deadline 6. GAL accepted that monitoring can be indefinite but can stop if there is no breach for 2 continuous years and GAL serves notice (after the Monitoring Period).
AQ12: Lack of Air Quality Modelling for 2047.	The Applicant appears to consider that an emissions inventory is a full air quality assessment which is incorrect. As pointed out in the ISH7 submission at deadline 4 not all emissions of NOx are 'equal' in terms of their impact. For example, an increase of 1 tonne of NOx from APU emissions will have a far larger impact on the local community than 1 tonne of NOx from an aircraft in the climb phase. Thus, the emission inventory fails to assess the impact on the local community at full capacity.	The Applicant has submitted its position regarding the 2047 assessment and emissions levels at Section 3 of Appendix D of the **Supporting Air Quality Technical Notes to the SoCGs** [REP1-050]. The Applicant addresses the concern of the contribution of airport sources to local pollution within Horley Gardens at Appendix E of the **Supporting Air Quality Technical Notes to the SoCGs** [REP1-050].

Ref	Joint Surrey Councils' Response	Applicant's Response
	At 2.2.2.5 in the RBBC SoCG the applicant states: *Road traffic is the main source of emissions likely to result in an impact from the project due to the proximity of road sources to sensitive receptors, compared with aircraft emissions. Therefore, despite the uncertainty of predicting emissions for a future year of 2047, it has been concluded that the 2047 future year is not at risk of resulting in a significant impact to air quality.* The JSCs highlight Table 11.5 in the Surrey LIR [REP1-097], where it can be seen that the airport emissions impact (excluding road traffic) is more than 12x higher than the airport related road traffic impact suggesting that the above statement is false for large parts of the Horley Gardens Estate. Given airport emissions increase between 2038 and 2047 this demonstrates the need for the Applicant to undertake a dispersion modelling exercise for 2047 (as it has done for all of the other assessment years).	In addition GAL accepted that monitoring can be indefinite but can stop if there is no breach for 2 continuous years and GAL serves notice (after the Monitoring Period).
AQ13: Lack of confirmed funding for conventional pollutant monitoring to	The Applicant has made no meaningful response here. The reference is made to 2.2.4.1 in the RBBC SoCG, but this then simply refers back to ES Chapter 13 Air Quality.	This point relates to draft s106 Agreement discussions, the draft s106 text has since been updated, the Applicant is submitting a revised **Draft Section 106 Agreement** (Doc Ref. 10.11 v2) at Deadline 6.

Ref	Joint Surrey Councils' Response	Applicant's Response
2047 or 389,000 movements whichever occurs later	As discussed in AQ10 above, the current draft s106 [REP2-004] (definition of monitoring period on p.5) only funds monitoring until 2038, not 2047 or full capacity whichever occurs later. Therefore, the current response does not address the issues raised or the solution proposed by the local authorities. The local authorities are due to meet with the applicant to discuss the air quality section of the s106 post deadline 4.	GAL accepted that monitoring can be indefinite but can stop if there is no breach for 2 continuous years and GAL serves notice (after the Monitoring Period).
AQ14: Odour Impact / Strike out of Article 49 in relation to odour.	Given the Applicant's failure to adequately assess the odour impact on the local community it is unclear how the Applicant can then seek to extinguish actions in nuisance against it during the operational phase given the ExA has no reliable information on which to base a decision.	The assessment follows the recommended approach from the IAQM which identified no significant effects as a result of the project from odour. The Applicant has responded regarding article 49 of the draft DCO above in response to AQ8: Odour emissions.
AQ15: Use of low costs sensors	The draft AQAP (Annex 5 in the draft s106) [REP2-004] makes no mention of 'flagging' the indicative monitoring data as not suitable for compliance monitoring. Therefore, the matter remains unaddressed.	The Applicant has responded to the AQAP review undertaken by AECOM on behalf of the JLAs [REP4-053] at Section 3.1 of this document.
AQ16: Use of an environmentally	Crawley Borough Council (on behalf of the joint authorities) have submitted the introduction to a	The Applicant's response on Environmentally Managed Growth (EMG) is provided in Appendix B of **The**

Ref	Joint Surrey Councils' Response	Applicant's Response
managed growth approach.	proposal for Environmentally Managed Growth into the examination at Deadline 4	**Applicant's Response to Deadline 5 Submissions** (Doc Ref. 10.52.3) at Deadline 6.

3.3 West Sussex Authorities

3.3.1 The West Sussex Authorities' Response [REP4-042] to The Applicant's Response to the Local Impact Reports are set out in a tabular format below.

Table 4: Responses to Local Impact Reports - Air Quality from West Sussex Authorities

Ref	West Sussex Authorities' Response	Applicant's Response
13.1.A Dust and Particulate Matter	In response to concerns that no Dust Management Plan (DMP) had been provided in the Gatwick Airport NRP application, a Draft CDMP was shared by the Applicant with the JLAs for comment on 26 March 2024. Matters still under discussion are set out in the JLAs full review of the draft CDMP which has been provided to the Applicant and submitted as part of a separate D4 submission on behalf of the ten JLAs.	The Applicant has submitted a **Construction Dust Management Strategy (CDMS)** [REP5-022] at Deadline 5, revised following the Construction Dust Management Plan review from the JLAs at Deadline 4 [REP4-053]. The CDMS takes the JLAs comments into account.

Ref	West Sussex Authorities' Response	Applicant's Response
13.1.B Odour from putrescible grounds conditions	The Applicant's response refers back to the ES chapter (Appendix 5.3.2: Code of Construction Practice [REP1-021]) without addressing the concerns raised by the Authorities that the chapter lacks sufficient detail on how disamenity and nuisance odour will be addressed during the construction phase. The draft AQAP referred to in the Applicants response does not consider construction odour. The Authorities would welcome a proactive approach to the management of construction odour in the form of an outline OMP, to be considered as part of the examination. It would also give the Authorities additional reassurance that a consistent approach to best practice would be adopted across the site. Construction odour mitigation is also addressed in the JLAs D4 responses to the ExQ1 air quality questions AQ1.6 and ISH7 post-hearing submissions table item 1.5.	As set out in Paragraph 5.1.14 of the **Written Summary of Oral Submissions ISH7: Other Environmental Matters** [REP4-033], no significant odour effects are expected during construction. However, Paragraphs 5.8.3 to 5.8.5 of the **ES Appendix 5.3.2: Code of Construction Practice** [REP4-007] set out management procedures for construction odour, that would be in place should any such issues arise. The Applicant is drafting a Proposed Odour Reporting Process document to clarify any remaining questions around odour. The Applicant will share this document with local authorities for comment with the objective of submitting the document at Deadline 7.

Ref	West Sussex Authorities' Response	Applicant's Response
13.1.C Construction Traffic Emissions	The Authorities raised concerns that the Outline Construction Traffic Management Plan [APP-085] lacked sufficient detail and commitment to measures for reducing traffic emissions. A specific concern was also highlighted on how contingency routes from J10 M23 through Crawley's AQMA would be activated, monitored, communicated, mitigated and regulated. In addressing how traffic emissions would be mitigated, the Applicant points to measures set out in Section 13.9 of ES Chapter 13 and Section 5.8 of the ES Appendix Construction Period Mitigation. However, there are a number of contradictory or non-committal statements across different documents in the ES which reduce confidence in the effectiveness of the COCP to ensure emissions are reduced. During discussions with the Applicant, the Authorities understand that commitments will be amended to remove ambiguity and ensure all on-road vehicles should comply with the requirements	The Applicant has submitted a response to the review of air quality technical matters as summarised by AECOM behalf of the JLAs [REP3-117], at Deadline 5 [REP5-073]. A.33 to A.37 address matters on construction traffic and the CTMP. The Applicant's position on the NRMM standards is set out in AQ2 of Table 3 in this document in responses to local impact reports.

Ref	West Sussex Authorities' Response	Applicant's Response
	of the London LEZ, and NonRoad Mobile Machinery equipment to meet stage V of the London NRMM standards. Further clarification on construction traffic emissions (and other) outstanding technical issues were submitted by the JLAs in a Technical Note at Deadline 3 [REP3-117] Appendix A. The Authorities are expecting a response from the Applicant to the issues raised in the D3 Technical Note to advance further discussion or agreement.	
Ref 13.1.D Non-Road Mobile Machinery (NRMM) Emissions	The Applicant confirmed during ISH7 (Part 3, from 25:40) that NRMM equipment would meet stage V of the London Non-Road Mobile Machinery standards.	The Applicant's position on the NRMM standards is set out in AQ2 of Table 3 in this document in responses to local impact reports.
Ref 13.1.E Airport Related Emissions	In response to concerns raised by the Authorities that no AQAP had been provided to mitigate the airport related emissions of the Project, a Draft AQAP was shared by the Applicant with the JLAs	The Applicant has responded to the review of the Draft AQAP undertaken by AECOM on behalf of the JLAs [REP4-053] at Section 3.1 of this document.

Ref	West Sussex Authorities' Response	Applicant's Response
(Air Quality Action Plan)	for comment on 26 March 2024. (Annex 5 of draft s106 [REP2-004]). Disappointingly, the draft AQAP simply summarises the measures within the carbon action plan, surface access commitments and construction code of practice, with no commitment to additional targeted measures beyond these. The Applicant states that since no significant impacts are identified as a result of the Project, no Project related mitigation is required. During examination at ISH7 the Applicant reiterated that the AQAP is "effectively, a reporting document" (Part 3 49:15). The Authorities are disappointed that the Applicant hasn't taken the opportunity to include additional measures to improve air quality in line with policy guidance set out below, and no account has been taken of the health impacts (£83.5m damage cost) to the local community as a result of the additional emissions associated with the project (Table 7.2.1 [APP-251]), which the JLAs believe should be addressed within the AQAP in line with the	Monetary valuation should be considered in the context of both the beneficial and adverse effects, see **Need Case Appendix 1: National Economic Impact Assessment** [APP-251] where this is presented. This reflects that the aircraft and traffic movements that give rise to the adverse health effects (e.g. linked to air quality) also given rise to beneficial health effects (e.g. linked to employment). The Applicant sets out how relevant air quality requirements of the ANPS are taken into account in Table 13.2.4 of **ES Chapter 13: Air Quality** [REP3-018].

Ref	West Sussex Authorities' Response	Applicant's Response
	Emissions and Mitigation Guidance for Sussex (CBC Local Plan Policy ENV12). • ANPS para 5.23: recognises that Increased emissions can contribute to adverse impacts on human health. • ANPS para 5.35, 5.36, 5.37: provides guidance on the need for a wide range of effective measures to improve local air quality • NNNPS para 3.3: requires applicants to mitigate environmental impacts in line with the principles of the NPPF and consider reasonable opportunities to deliver environmental and social benefits as part of schemes. • NPPF para 180: states that Development should, wherever possible, help to improve local air quality. • NPPF para 192: states that opportunities to improve air quality or mitigate impacts should be identified.	

Ref	West Sussex Authorities' Response	Applicant's Response
	This matter is also addressed in AQ.1.5 (ANPS mitigation) in the JLAs responses to the ExQ1 air quality questions and a full review of the draft AQAP has been submitted as part of the appendices to the JLAs D4 responses to the ExQ1 air quality questions. Whilst the production of an AQAP is a positive step in acknowledging the need for an operational mitigation plan, further discussion is required to find common ground on the detailed content of the document.	
Ref 13.1.F Air Quality and Emissions Mitigation Guidance for Sussex (Sussex Guidance)	The Applicant states that the Sussex Guidance has been adequately taken into account in their assessment because they have provided a damage cost calculation and produced a draft AQAP. However, they conclude no additional Project related mitigation is necessary within the AQAP since no significant impacts are identified. The purpose of the Sussex Guidance is to assess the health impacts from the additional emissions associated with the development. It is not, as the	Sussex Guidance has been considered in the **Statements of Common Ground between Gatwick Airport Limited and Local Authorities**, including Crawley Borough Council[REP5-038], Horsham District Council [REP5-042], Mid Sussex District Council [REP5-046], Reigate and Banstead Borough Council [REP5-050] and West Sussex Council REP5-056]. In summary, the approach taken for the ES is considered consistent with the principles and guidance set out in

Ref	West Sussex Authorities' Response	Applicant's Response
	Applicant suggests, to address significant effects as measured against achievement of the current air quality standards (which, as discussed elsewhere are likely to change over the course of the Project). This principle of assessing the emissions-based health impacts of a development is also central to Defra's damage cost guidance and the UK Air Quality Strategy. The emissions assessment monetises the health damage associated with the proposed development and provides an evidence-based approach in determining the appropriate level of mitigation to off-set the air quality impacts. As outlined in 13.1.E above, many of the measures in the draft AQAP are either minimum policy requirements (such as dust control and Greenhouse targets) or embedded in the design and therefore already accounted for in the modelling (such as surface access mode share). Consequently, the £83.5m damage costs represent those health impacts that arise after the embedded mitigation has been considered. The	the Sussex Guidance and it follows the requirements for EIA and NPSs. The Applicant has responded to the review of the Draft AQAP undertaken by AECOM on behalf of the JLAs [REP4-053] at Section 3.1 of this document.

Ref	West Sussex Authorities' Response	Applicant's Response
	Authorities would therefore expect to see an indication of which measures in the AQAP are 'embedded mitigation' so that it is possible to identify how much additional mitigation is needed to offset emissions from the Project at a local level proportionate to the value of the damage to health. The approach taken by the Applicant does not currently achieve these aims and therefore is not consistent with the principles of the Sussex Guidance.	
Ref 13.1.G Operational Monitoring and Funding	The applicant expresses a wish to support the understanding of air pollution effects more generally in the local area by continuing its current funding for monitoring for the local authorities (2.2.4.5 of the SoCG with CBC [REP1- 032]). However, no support is currently provided to Crawley Borough Council for air quality monitoring, and a request for funding for its monitoring station on the eastern border of the airport has been turned down by the Applicant.	The Applicant has provided a response on this matter on its response to ExQ1 GEN.1.12 at Deadline 5 [REP5-072]. The Applicant has provided a draft air quality action plan (AQAP) at Appendix 5 of **Draft Section 106 Agreement** (Doc Ref. 10.11 v2). Section 4 of Appendix 5 sets out the proposed air quality monitoring to be undertaken by GAL.

Ref	West Sussex Authorities' Response	Applicant's Response
	The request from the local authority meets the test for S106 to make the development acceptable. The LA has an obligation to ensure that all relevant air quality standards continue to be met, which is an ongoing obligation, and recognises that standards may change over time. In addition to providing independent local data to assess residential exposure in the vicinity of the airport, the data provided at this monitoring site location will provide important information in the future to validate the computer model used for the DCO outputs for predicting improvements in air quality. Further discussion is required to find common ground on this matter.	The Applicant has responded to the review of the Draft AQAP undertaken by AECOM on behalf of the JLAs [REP4-053] at Section 3.1 of this document. Discussions are ongoing between the Applicant and the local authorities on the draft s106 Agreement.
Ref 13.1.H Controlled Growth and Surface Access	In response to the Authorities concerns that the SAC provides no restrictions or penalties if targets are not met, and is effectively self-regulating, the Applicants simply refers back to the SAC document and states that controlled growth is not considered necessary for this application as no	The Applicant's response on Environmentally Managed Growth (EMG) is provided in Appendix B of **The Applicant's Response to Deadline 5 Submissions** (Doc Ref. 10.52) at Deadline 6.

Ref	West Sussex Authorities' Response	Applicant's Response
Commitments (SACs)	significant adverse effects on transport or air quality are expected. This does not address the issues raised, and the Authorities continue to have concerns that, notwithstanding air quality standards may change over time, the impacts of the project have been modelled on assumptions within the SAC and therefore a degree of monitoring and regulation should be expected. To further advance the discussion around these concerns, the JLAs are submitting a separate D4 note on behalf of nine of the JLAs regarding a proposal to 'Environmentally Managed Growth'.	
Ref 13.1.I CARE Facility Emissions	The Applicant has put forward a change to the DCO Application to remove the biomass boilers from the CARE facility [AS-139] making it a waste sorting facility only. This has addressed the Authorities concerns regarding odour from the boilers, however, it has raised other issue regarding sustainability and vehicle movements.	Noted**.**

Ref	West Sussex Authorities' Response	Applicant's Response
Ref 13.1.J Operational Odour Emissions	The Applicant's response refers back to the assessment of odour impacts in ES Chapter 13 Air Quality [APP-038] without addressing the concerns raised by the Authorities about the lack of adequate operational odour management plans in the ES. The Applicant's response also refers to the draft AQAP which provides no other information, detail or commitments than that included in ES Chapter 13. Concerns remain about the impact aviation fuel odour on residential areas close to the airport, as well as odour controls for recent Project Changes 3 and 4 submitted to the examination, which include a reed bed wastewater treatment facility close to residential properties in Crawley [AS-139] and an on-airport Wastewater Treatment Works facility close to residential properties along Charlwood Road[AS-146]. The Authorities would welcome a proactive approach to the management of operational odour	Discussions are ongoing between the Applicant and the local authorities on the draft s106 Agreement. The Applicant has included technical detail about the operation of the construction wetland (reed bed) system within the assessment of Project Change 3 in the **Change Application Report** [AS-139], which has subsequently been accepted by the ExA into the Examination. The Applicant has considered odour in Table 6 and in Paragraph 5.1.11 [AS-139]. The Applicant has included detail on the mitigation for odour that is proposed as part of Project Change 4 at Section 2 of the **Second Notification of a Proposed Project Change** [AS-146]. No significant odour effects are predicted. The Applicant is drafting a Proposed Odour Reporting Process document to clarify any remaining questions around odour. The Applicant will share this document with local authorities for comment with the objective of submitting the document at Deadline 7.

Ref	West Sussex Authorities' Response	Applicant's Response
	in the form of an outline odour management and monitoring plan (OMMP) to ensure that the best practice measures committed to by the Applicant will be delivered. Operational odour management is also addressed in the JLAs D4 responses to the ExQ1 air quality questions AQ1.3 and ISH7 post-hearing submissions table item 1.5.	
Ref 13.1.K Ultrafine particulate Emissions (UFPs)	The Authorities do not accept that the health effects of the development from ultrafine particles have been adequately addressed in the ES for reasons outline in more detail in the D4 ISH7 post-hearing submissions table item 1.5. The Applicants response for further monitoring studies around the airport has been considered in the S106 obligations [REP2-004] but is subject to further discussion with the JLAs.	The Applicant sets out its response on the position on ultrafine particles at Section 17 of the **Applicant's Response to Actions ISH7: Other Environmental Matters** [REP4-037]. The request for monitoring is being discussed through the draft s106 Agreement process. The s106 text has since been updated, the Applicant is submitting a revised **Draft Section 106 Agreement** (Doc Ref. 10.11) at Deadline 6 The GAL position has been set out at AQ15 of Table 2 in response to UFPs

Ref	West Sussex Authorities' Response	Applicant's Response
Ref 13.1.L Defence to Proceedings in respect of Statutory Nuisance	The Authorities have concerns regarding the number of statutory nuisances under section 79 of the EPA included in Article 49 (previously Article 48). In particular subsection (d) given there are outstanding concerns regarding construction and operational odour, but currently no odour management plans are provided in the CoCP or for operational odour. Other matters relating to Article 49 are included in the Authorities response to DCO 1.37 in the document headed Development Consent Order and Control Documents.	The Applicant has responded regarding article 49 of the draft DCO above in response to AQ8: Odour emissions.
Assessment of Operational Traffic Impacts	Concerns were raised in the West Sussex LIR about the assessment of operational traffic impacts [REP1-068 para 13.110-121]. The Applicant has not addressed these issues in its response [REP3-078]. However, queries were submitted by the JLAs in a Technical Note at Deadline 3 [REP3-117] Appendix A to seek further clarification on these (and other) outstanding technical issues.	The Applicant has submitted a response to the review of air quality technical matters as summarised by AECOM behalf of the JLAs [REP3-117], at Deadline 5 [REP5-073].

Ref	West Sussex Authorities' Response	Applicant's Response
	The Authorities are expecting a response from the applicant to the issues raised in the D3 Technical Note to advance further discussion or agreement.	

3.4 CAGNE

Update Note on Air Quality

3.4.1 This section sets out the Applicant's response to the CAGNE commentary on air quality within its Deadline 4 submissions (Summary of Report and Update note on Air Quality) [REP4-098, REP4-095].

3.4.2 The Update note on Air Quality [REP4-098] makes reference to various aspects of the assessment and modelling approach. The Applicant considers best practices and proportionality has been correctly applied and the approach provides a realistic worst-case assessment. Proportionality has been considered in the assessment with respect to using the level of detail applied to the calculation of emission (using an 'advanced approach' rather than 'simple' or 'sophisticated', as defined in the ICAO Airport Air Quality Manual (2020)) and using conservative assumptions in the calculations and to represent future scenarios. Using these conservative assumptions (detailed throughout **ES Appendix 13.4.1: Air Quality Assessment Methodology** [APP-158] and further expanded in **Supporting Air Quality Technical Notes to the SoCGs** [REP1-050]), the approach provides a realistic worst-case, accommodating for any uncertainty in the modelling assessment.

3.4.3 Table 5 provides the Applicants response to the questions in red text for the Applicant, which are set out in the update note on air quality [REP4-095].

Table 5: Responses to CAGNE – Update note on Air Quality

Ref	CAGNE's Response	Applicant's Response
2.16.	To be confident that the approach adopted is based on current knowledge and understanding, it would be useful for the Applicant to confirm with respect to the estimation of aircraft emissions that: • There have been no changes in understanding since 2006 when the PSDH report was published; • Whether more recent approaches (for example, as set out in the ICAO Air Quality Manual) have been adopted in the assessment, and if not, an explanation of why they were not included; and • Whether any more recent approaches would change the modelled emissions.	As stated in Section 3 of **ES Appendix 13.4.1: Air Quality Assessment Methodology** [APP-158], the methodology used builds on the previous assessment for Gatwick Airport in 2002/3, 2005/6, 2010 and 2015, which in turn followed the recommendations of the Department for Transport (DfT) Project for the Sustainable Development of Heathrow (PSDH) (Department for Transport, 2006). These have been referenced to show the evolution of the approach, in relation to the airport modelling, over the years. There have been updates to the methodology from these previous assessments, which are detailed in the Section 3 of **ES Appendix 13.4.1: Air Quality Assessment Methodology** [APP-158]. The methodology in the numerous previous assessments undertaken were consulted with the local authorities to refine the modelling approach resulting in the current assessment approach. The ICAO Airport Air Quality Manual (2020) has been taken into account as reported in Table 13.3.1 of **ES Chapter 13: Air Quality** [REP3-018]. An 'advanced'

Ref	CAGNE's Response	Applicant's Response
		approach, as defined in the ICAO manual, has been used. Although not explicitly stated, this should be apparent from the level of detail of the data used in the assessment, described in Section 3 **ES Appendix 13.4.1: Air Quality Assessment Methodology** [APP-158]. The aircraft emissions approach is considered to go into more detail than any one guidance referenced (considering aspects such as: engine degradation and more representative thrust settings, for example) and provides an assessment methodology tailored to the specific operations at Gatwick, with justification provided for each calculation method taken, provided in Section 3 **ES Appendix 13.4.1: Air Quality Assessment Methodology** [APP-158].
References to verification: 2.27, 2.29, 2.44-2.48, 2.52, 2.59,	Several references have been made with regards to the verification of the modelling and the approach.	The Applicant's response to these points have been provided in **Section 5,** appended to this document to provide more technical detail needed to address the comments.

Ref	CAGNE's Response	Applicant's Response
2.67, 2.69, 2.71-2.73		
4.5.	Can the applicant provide clarification on the modelling for the exposure assessment and confirm that the interpolated values represent exposure near to road sources.	The health impact assessment methodology is detailed in Section 6 of **ES Appendix 13.4.1: Air Quality Assessment Methodology** [APP-158]. A grid resolution of 100m was used and a grid height of 1.5m to be representative of human exposure. This is considered to provide enough detail needed to calculate population exposure for the health impact assessment. As noted in **ES Appendix 18.4.1 Methods Statement for Health and Wellbeing** [APP-205], the quantitative analyses are pragmatic estimates of changes in selected health outcomes to identify the scale of change associated with the Project changes. The health outcomes quantified are only intended to be used to indicate the scale of change due to the Project, not precise predictions of actual health outcome changes.
5.5.	Can the Applicant confirm how the 'different dispersion characteristics' between PM2.5 and UFP have been taken into account.	This information has been provided in the Deadline 4 Submission - The Applicant's Response to Actions ISH7:

Ref	CAGNE's Response	Applicant's Response
		Other Environmental Matters [REP4-037], Action Point 17.
5.14.	Is the Applicant committed to the introduction of sustainable aviation fuel and if so over what timescale?	The role of Sustainable Aviation Fuels is set out in the **CAP** [APP-091] action FL04 and in its **Response to the ExQ1 [REP3-086]**.
5.18, 5.19	Finally, it is worth noting that Schedule 4 of the EIA Regulations sets out the information required for inclusion in Environmental Statements. It includes an estimate, by type and quantity, of air emissions produced during the construction and operation phases. Therefore, an estimate of emissions of UFP should be presented in the Air Quality Chapter. The effects of UFPs have not been considered appropriately in the Air Quality Chapter. A judgement of no significant effects on the air quality (in regards to UFPs) cannot be reached based on the information in the Air Quality Chapter. As such, the ExA are not able to determine the likely	**ES Chapter 18: Health and Wellbeing** [APP-043] provides an appropriate assessment of UFP, including as clarified in Action Point 17 of the Deadline 4 Submission - The Applicant's Response to Actions ISH7: Other Environmental Matters [REP4-037].

Ref	CAGNE's Response	Applicant's Response
	significant effect nor, the appropriate level of mitigation or monitoring where proposed.	

3.5 Gatwick Area Conservation Campaign

3.5.1 This section sets out the Applicant's response to the GACC commentary on air quality within its Deadline 4 submission [REP4-106]. For ease of navigating, the corresponding e-page reference has been included in the subsection title.

Air Quality, Pages 133-135

3.5.2 GAL stands by the responses made to GACC and other stakeholders in **Relevant Representations Report** [REP1-048]. It should be recognised, however, that GAL has set out similar responses to other parties and it is appropriate to avoid repetition. GACC is concerned about the confidence in the modelled air quality levels in future years. The Applicant considers best practices and proportionality has been correctly applied and the approach provides a realistic worst-case assessment.

Comments on ISH7 – Air Quality

3.5.3 The Applicant sets out its response on the position on ultrafine particles and how to deal with any tightening of air quality standards at Section 17 of the Applicant's Response to Actions ISH7: Other Environmental Matters [REP4-037].

3.5.4 The Applicant has provided a draft air quality action plan (AQAP) at Appendix 5 of the **Draft Section 106 Agreement** (Doc Ref. 10.11 v2). The document sets out measures and monitoring commitments related to air quality and odour management to be undertaken by the Applicant which are secured under the DCO and s106 Agreement.

4 Response to Other Deadline 5 Submissions

4.1 Joint Local Authorities

4.1.1 This section provides a response to the Deadline 5 submissions from the JLAs [REP5-094]. A response is provided under each subheading set out in the JLA document.

4.1.2 It should be noted that the Applicant has submitted a response to the review of air quality technical matters at Deadline 5 [REP5-073], as summarised by AECOM on behalf of the JLAs [REP3-117]. The document responds to each topic set out in the AECOM review document and looks to identify where agreement has been reached under each.

Update on Air Quality

4.1.3 The Applicant has submitted a response to the review of air quality technical matters at Deadline 5 [REP5-073]. Item A.6 addresses the matter on the 2029 construction scenario. In summary, the Applicant has considered cumulative effects on the road network from the Project operational and construction activities.

Comments on ISH7 – Air Quality

4.1.4 The Applicant's position on the NRMM standards is set out in AQ2 of Table 3 in this document in responses to local impact reports.

4.1.5 The Applicant has submitted a Construction Dust Management Strategy (CDMS) [REP5-022] at Deadline 5, revised following the Construction Dust Management Plan review from the JLAs at Deadline 4 [REP4-053]. The CDMS takes the JLAs comments into accounting including setting out which Project components are defined as "high risk".

Action point 16 – Air Quality (2047 Assessment)

4.1.6 The Applicant has submitted its position regarding the 2047 assessment and emissions levels at Section 3 of Appendix D of the Supporting Air Quality Technical Notes to the SoCGs [REP1-050].

Action point 17 – Air Quality (Ultrafines)

4.1.7 In response to the discussion of the Deadline 4 Submission - The Applicant's Response to Actions ISH7: Other Environmental Matters [REP4-037], it is agreed that aviation NOx emissions and aviation carbon dioxide emissions also independently correlate with aircraft movements. The $PM_{2.5}$ correlation with aircraft movements is not considered superior to those other emissions as a means of judging relative scale of change. However, when considering UFP it is logically more proximal, as the issue in question is another type of particulate exposure.

4.1.8 A meaningful assessment of UFP has been undertaken in ES Chapter 18: Health and Wellbeing [APP-043] based on triangulating relevant scientific literature and indicators of the likely relative scale of change in exposure. The UKHSA, who have responsibility for environmental hazards and community safety, have confirmed in their relevant representation [RR-4687] that they are satisfied and the proposed development should not result in any significant adverse impact on public health.

4.1.9 The request for UFP monitoring is being discussed through the draft s106 Agreement process. The s106 text has since been updated, the Applicant is submitting a revised **Draft Section 106 Agreement** (Doc Ref. 10.11) at Deadline 6. The GAL position has been set out at AQ15 of Table 2 in this document in response to UFPs.

4.2 West Sussex Authorities

4.2.1 This section provides a response to the Deadline 5 submissions from the West Sussex Authorities [REP5-117].

4.2.2 The Applicant's position on the NRMM standards is set out in AQ2 of Table 3 in this document in responses to local impact reports.

4.2.3 Table 6 provides sets out the Applicant's response to the substantive points raised by the West Sussex Authorities on Project Change 2 for air quality.

Table 6: Responses to Deadline 5 Submission - Air Quality from West Sussex Authorities

Ref	West Sussex Authorities' Response	Applicant's Response
Project Change 3 – Revision to the proposed water treatment works	There remains a lack of technical detail about the operation of the reedbeds and the technology required to maintain and manage these both from a drainage, contamination, noise and air quality perspective. In relation to air quality (odour control and operational management), the Authorities note that the reedbed treatment system would require discharge consents and detailed operating technique approved by the Environment Agency. It is not clear if the Environment Agency was included in the consultation for this Project Change, since no response from the Environment Agency is shown in the Consultation Report [AS-142]. The Authorities would welcome further detail on the operating technique, and how these techniques would manage capacity and odour control at this facility.	The Applicant has included technical detail about the operation of the reed beds within the assessment of Project Change 3 in the **Change Application Report** [AS-139]. The Applicant has considered odour in Table 6 and in Paragraph 5.1.11 [AS-139]. GAL has commenced discussions with the Environment Agency consenting team as set out in the **Statement of Common Ground between Gatwick Airport Limited and Environment Agency** [REP5-058]. As set out in the **Mitigation Route Map** [REP2-012], best practice measures would be followed in the maintenance of the constructed wetland (reed bed) systems to minimise any potential odour effects. The **Outline Construction Traffic Management Plan** that forms Annex 3 of **ES Appendix 5.3.2 Code of Construction Practice** [REP5-020] includes construction vehicle routing in Appendix A, to be confirmed and

Ref	West Sussex Authorities' Response	Applicant's Response
	In relation to air quality during construction traffic, the Authorities have requested clarification of the primary construction route to access the reedbed construction compound, the Applicant does not address the concern but states that the detail will follow in the Construction Traffic Management Plan (CTMP). The Authorities have specific concerns that construction traffic accessing the Radford Road site should not route through Crawley's Air Quality Management Area at Hazelwick Roundabout (AQMA). Construction traffic traveling from the M23 should exit at J9 for Gatwick not via J10 for Crawley which would bring additional HGVs through the AQMA.	approved through the detailed CTMP(s). Junction 9 of the M23 is expected to be the main construction access point to the Radford Road site.

4.3 Joint Surrey Councils

4.3.1 This section provides a response to the Deadline 5 submissions from the Joint Surrey Councils [REP5-095].

4.3.2 The Applicant's position on the NRMM standards is set out in AQ2 of Table 3 in this document in responses to local impact reports.

5 CAGNE Verification Note

5.1 Overview

5.1.1 This Annex has been prepared to set out the Applicant's response to the CAGNE submission received at Deadline 4 in respect to the air quality assessment verification methodology.

5.1.2 The Applicant is mindful of the volume of information already submitted into the examination and has sought to limit the duplication of submissions. As such, the following documents in the examination should be referred to for further details on model verification:

- Full details of the model verification process are included in Section 3 within **Appendix 13.6.1 Air Quality Data and Model Verification** [APP-159].
- An additional figure providing verification zones is given in **Appendix A of Supporting Air Quality Technical Notes to Statements of Common Ground** [REP1-050].
- The Applicant has submitted a response to the review of air quality technical matters as summarised by AECOM behalf of the Joint Local Authorities (JLAs) [REP3-117], at Deadline 5 [REP5-073]. The document includes clarifications on verification within items A.7 and A.18.

5.1.3 This Annex has been structured to provide further technical details on:

- Nitrogen Dioxide (NO_2) Verification; and
- Particulate Matter (PM) Verification.

5.1.4 Ammonia (NH_3) is considered for the protection of ecosystems. Verification of NH_3 was not possible for the assessment considering the lack of available NH_3 monitoring data within the wider study area. The Applicant has agreed matters relating to the assessment of impacts on ecological sites with Natural England.

5.2 NO_2 verification

5.2.1 The model verification of NO_2 is extensive including 247 monitoring locations across the wider study area. The verification follows Defra Local Air Quality Management Technical Guidance (TG22) [1], described and agreed with local councils at the modelling methodology workshop in November 2022. The model performance meets the TG22 requirements and has been considered suitable for use in the assessment.

5.2.2 As described in Section 3.1 of **Appendix 13.6.1 Air Quality Data and Model Verification** [APP-159], there are a number of reasons why concentrations at modelling and monitoring sites differ. At all locations a detailed review was carried out to review model set-up and local factors which could affect concentrations. Model verification involves an iterative process to improve the model set-up, for better agreement between measured and modelled concentrations. The model set up was reviewed before finalising the approach used within the air quality assessment.

5.2.3 The wider study area represents a large network where there are likely to be differences in model agreement due to local effects. Considering the size of the wider study area, a proportionate approach was adopted, whereby a limited number of zonal factors were derived for road transport where the modelling performance was identified to be different in a specific area. The zonal factors were used to best reflect model agreement within specific areas, an approach agreed with the local councils.

5.2.4 Table 3.3.1 in **Appendix 13.6.1 Air Quality Data and Model Verification** [APP-159] provides the zonal adjustment factors and three statistical parameters commonly used to evaluate model verification. A generic verification factor of 1.3 was derived for the study area which represents a non-London area with suburban and rural roads.

5.2.5 The following sections provide two sensitivity tests which are provided to address comments in relation to the verification and any perceived error in the model. The sensitivity tests demonstrate that a different approach to the verification factors would not cause a change in the assessment impact and the approach used in the ES provides a

[1] https://laqm.defra.gov.uk/wp-content/uploads/2022/08/LAQM-TG22-August-22-v1.0.pdf

realistic-worst case assessment. The analysis provided by the sensitivity tests identifies how the assessment outcomes would change if a generic factor was applied to the wider study area or the factors required to for a change in assessment impact.

5.2.6 No adjustment factor was derived for aircraft, this is due to the good model agreement within the vicinity of the airport.

Generic factor sensitivity test

5.2.7 A sensitivity test was undertaken using the generic road adjustment verification factor of 1.3 for the whole study area. A comparison of the model performance before adjustment, after adjustment in accordance with the ES and after adjustment using the Generic adjustment factor across the study area are presented in Table 7. It shows that the use of one factor across the whole study area would reduce the accuracy of the results compared with the approach used in the ES assessment. This is demonstrated by the number of sites that are within ±25% after adjustment, as well as the statistical parameters used to evaluate model performance.

Table 7: Comparison of model performance

Parameter	Before Adjustment	After Adjustment (ES)	After Adjustment (Generic factor sensitivity test)
Within +10%	18	50	41
Within -10%	41	68	41
Within +/- 10%	59	118	82
Within +10% to 25%	16	50	55
Within -10 to -25%	76	53	37
Within +/- 10 to 25%	92	103	92
Over +25%	16	18	60
Under -25%	80	8	13
Greater than +/- 25%	96	26	73
Within +/- 25%	151	221	174
Total	247	247	247

Parameter	Before Adjustment	After Adjustment (ES)	After Adjustment (Generic factor sensitivity test)
Uncertainties Assessment			
Correlation	0.47	0.79	0.47
Root Mean Square Error	9.04	5.04	8.62
Fractional bias	0.18	<0.01	-0.08

5.2.8 Compared to the Generic adjustment factor of 1.3, there are five zones where the modelled road adjustment factor used in the ES is lower. These zones are Gatwick (1.0), Hazelwick Roundabout (1.2), London (1.2), M23 and M25 (1.0), and Merstham (1.0). Using the Generic adjustment factor for these zones would not change the assessment outcomes and would not lead to concentrations predicted at modelled receptors exceeding the NO_2 air quality objective.

Verification factor sensitivity test

5.2.9 A sensitivity test was undertaken to understand for each verification zone, the road adjustment factor which would cause a change in assessment impact. The 2032 results were used in the sensitivity test as it is the assessment year with the greatest change.

5.2.10 Table 8 details the results for the human receptors using the roads adjustment factor which causes a change in impact for each zone. There are some zones where the impact does not change despite using a roads adjustment factor of 10. This demonstrates that even if the model was largely underpredicting concentrations, , the conclusions of the assessment would not change.

5.2.11 The M23 and M25 zone was the most sensitive where using a factor of 1.4 instead of 1.0 used in the ES would have lead to a slight adverse impact at receptor R_411. It should be noted that the factor of 1.0 used in the ES is already considered conservative as the M23 and M25 zone was derived with an adjustment factor of 0.8. The impact using

the 1.4 factor is not considered significant in EIA terms and would not change the assessment outcomes. For all other verification zones, there is a large amount of headroom in relation to the roads adjustment factors applied in the ES. This gives further confidence in the prediction of pollutant concentrations and conclusions presented in **ES Chapter 13: Air Quality** [REP3-018].

Table 8: Verification factor sensitivity test

Verification Zone	Road NOx adjustment factor	
	ES	Sensitivity test
Generic	1.3	3.1
Brighton Road (airport)	1.3	3.3
Cowfold	1.6	5.2
Crawley	1.7	>10
Croydon, Park Lane	1.6	>10
Gatwick	1.0	2.7
Hassocks	2.0	>10
Hazelwick Roundabout	1.2	3.1
London	1.5	4.2
M23 and M25	0.8^	1.4
Mertsham	1.0	>10
Storrington	1.7	8.1
^ A factor of 1 was used to process the results as a conservative assumption.		

Verification statistics

5.2.12 Queries were raised in relation to the statistical parameters presented and negative correlation coefficients and Root Mean Square Error (RMSE) values for some adjustment zones.

5.2.13 Regarding the negative correlation coefficients for the zones of Crawley, Croydon Park Lane and Merstham, each of these zones derived an adjustment factor using three verification sites. In accordance with section 7.587 in TG22[1], "the correlation coefficient could be applied particularly in cases where large datasets…are being compared but this is not recommended for smaller datasets. It is generally less useful for smaller datasets and can be controlled by single points at the upper or lower ranges of datasets". As such, the correlation coefficients should not be considered in the zones where a small number of sites have been used.

5.2.14 The RMSE values are within ±25% of the objective being assessed. The annual mean objective for NO_2 is 40µg/m^3, and the RMSE for all zones are lower than 10µg/m^3, which is in line with the criteria outlined in section 7.585 of Defra's TG22[1].

5.2.15 The Applicant considers best practices and proportionality has been correctly applied and the approach presented in the ES presents a realistic worst-case assessment.

5.3 PM verification

5.3.1 Verification of PM_{10} and $PM_{2.5}$ concentrations is provided in this section following queries raised on model performance for these pollutants. The section demonstrates confidence in the PM_{10} and $PM_{2.5}$ concentrations used for the ES assessment.

PM_{10}

5.3.2 There are nine PM_{10} monitoring sites across the study area within 200m of the Affected Road Network (ARN).

5.3.3 Table 9 presents the comparison between the modelled and monitored PM_{10} concentrations without adjustment at the nine sites.

5.3.4 The results demonstrate good agreement between monitored and modelled PM_{10} concentrations, all model results are within ±25% of the monitored concentrations. The verification provides confidence in the PM_{10} modelling and

demonstrates that the approach in the ES assessment is robust. No adjustment of PM_{10} would be required, in line with Defra's TG22[1].

5.3.5 In addition, maximum PM_{10} concentrations and the maximum change in concentrations presented in the ES are well below the are below the air quality standard and project changes required for a significant effect. A positive adjustment factor to remove the underpredictions would not change the conclusions presented within the ES. It should also be noted that the majority of monitoring sites across the study area are located away from the Project in Greater London, with four sites located in Sutton and one in Croydon.

Table 9: Comparison between modelled and monitored PM_{10} concentrations

Model ID	Site ID	Monitoring authority	2018 monitored PM_{10} ($\mu g/m^3$)	Non-adjusted modelled PM_{10} ($\mu g/m^3$)	Difference (%)
M162	CA2	Crawley	15.7	17.3	-13%
M252	LGW3	Crawley	15.2	16.7	-20%
M42	RG1	Reigate and Banstead	15.3	16.8	-11%
M177	HO2	Horsham	15.7	17.3	-20%
M400	CR9	Croydon	21.9	24.1	6%
M444	ST4	Sutton	17.4	19.2	-24%
M350	ST5	Sutton	17.7	19.5	-19%
M442	ST6	Sutton	18.3	20.1	-9%
M257	ST8	Sutton	17.0	18.7	-23%

$PM_{2.5}$

5.3.6 There are three $PM_{2.5}$ monitoring sites across the study area within 200m of the ARN.

5.3.7 Table 10 shows the comparison between the modelled and monitored $PM_{2.5}$ concentrations without adjustment. It shows two of three modelled concentrations to be within ±25% of the monitored concentrations. The modelled concentration on Gatwick site (LGW3) over-predicted the monitored concentration by 30% which demonstrates a

conservative assessment within the vicinity of the airport. The verification provides confidence in the $PM_{2.5}$ modelling and demonstrates that the approach in the ES assessment is robust and conservative.

Table 10: Comparison between modelled and monitored $PM_{2.5}$ concentrations

Model ID	Site ID	Monitoring authority	2018 monitored $PM_{2.5}$ ($\mu g/m^3$)	Non-adjusted modelled $PM_{2.5}$ ($\mu g/m^3$)	Difference (%)
M252	LGW3	Crawley	8.0	10.4	30%
M177	HO2	Horsham	13.7	10.8	-21%
M350	ST5	Sutton	12.0	12.1	1%

Appendix B: Ecology

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1 Introduction

1.1 Overview

1.1.1 This document has been prepared to set out the Applicant's response to submissions received at Deadline 4 in respect to Ecology.

Table 1: Responses to comments on ES Appendix 8.8.1: Outline Landscape and Ecology Management Plan from West Sussex Joint Local Authorities

Ref	West Sussex Joint Local Authorities' Response	Applicant's Response
2.7	The Authorities welcome the Applicant's response (Item 9.1S in Table 4.3) that the OLEMP secures the on-going management of the NWZ and Land East of the Railway Line LERL Biodiversity Areas. However, confirmation is requested that this encompasses the entirety of these two Biodiversity Areas, managed by the Applicant under their Biodiversity Action Plan, not just the parts within the Order Limits. This is important as these areas are key components of the ecological network and fundamental to delivering the proposed Ecological Strategy. Furthermore, their management must be secured for a minimum period	The revised version of the Outline Landscape and Ecology Management Plan (oLEMP) submitted at Deadline 4 [REP4-012, REP4-014, REP4-016] confirmed that both ecology areas would be incorporated into the relevant detailed LEMPs for those areas (section 6.5.8).

	of 30 years. It is requested that the OLEMP is revised to incorporate and clarify these points	

Table 2: Responses to comments on ES Appendix 9.9.2: Biodiversity Net Gain Statement from West Sussex Joint Local Authorities

Ref	West Sussex Joint Local Authorities' Response	Applicant's Response
7.4.1	Section 4.1.3 is very misleading in stating that all of the Land East of the Railway Line (LERL) and the majority of the North West Zone have been excluded from the Project site. If this relates to the ecology baseline for the purposes of calculating BNG, then this too is incorrect as the proposed de-icer reedbed system lies within the LERL Biodiversity Area.	Section 4.1.3 has been updated in the Deadline 6 version of Appendix 9.9.2 to account for Project Change 3 to change the wording such that the majority of both ecology areas has been excluded. Although the reed beds within the LERL as a result of Project Change 3 mean there is some change to this area, it is still the case that most of this land parcel is not included.
7.4.2	The Authorities are concerned that the BNG calculations and biodiversity value of the constructed reedbeds are greatly exaggerated given that they will be constructed and managed specifically to treat contaminated water. The BNG	Although the reed beds will be constructed, they will be managed to ensure the reeds are dominant with water just below the surface to maintain the viability of the reed bed. Therefore, of the condition criteria for reed bed in the UKHabs Condition Guidance:

	assessment is based on achieving a target condition of 'moderate' with the assumption that the reedbeds will be a good representation of the habitat type, the reedbed has a diverse structure and may include open water, species-rich fen and wet woodland. Since the reedbeds will be of limited biodiversity value it is requested that the BNG calculations are re-assessed	• *The water table is at or near the surface with no artificial drainage except to maintain water levels* – The water level within the reedbeds will be maintained at or near the surface for the purposes of ensuring the reeds survive. Pass Criteria • *The habitat is a good representation of the habitat type* – the UKHabs guidance notes a reedbed (habitat f2e Reedbeds) is a wetland dominated by common reed with the water level at or near the surface for the majority of the year. The reedbeds will be sown with common reed which will be allowed to become dominant. They will be designed to have the water level maintained at or near the surface. Pass Criteria • *The water supply is of good quality with little to no sign of pollution* – much of the water entering the reedbeds will come from rainfall but, during the winter months, there will be de-icer present. Fail Criteria. • *Cover of scrub and trees <10%* - Reedbed will be maintained without scrub and trees. Pass Criteria.

		• *Cover of bare ground is <5%* - Once established, there will be no bare ground. Pass Criteria. • *Absence of invasive species* – Active management of reedbed will be undertaken to remove such species. Pass Criteria. On this basis, therefore, the reed bed should score 5 criteria and would therefore be considered to be of 'good' condition.

Appendix C: Major Accidents and Disasters

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1 Introduction

1.1 Overview

1.1.1 This document has been prepared by Gatwick Airport Limited (the Applicant) to set out the Applicant's response to West Sussex Fire and Rescue's submission received at Deadline 4 [REP4-042] in respect to Major Accidents and Disasters.

1.1.2 The below table sets out the West Sussex Fire and Rescue Deadline 4 submission on the left and the Applicant's response to each relevant element of the submission on the right. The paragraph references are to those of the REP4-042 submission but also include the relevant cross-reference to the Local Impact Report (LIR) reference.

Table 1: Major Accidents and Disasters – West Sussex Fire and Rescue

Paragraph Reference	West Sussex Fire and Rescue Submission	Applicant's Response
2.108 (ref 23.1C in LIR)	Increased likelihood of a terrorist- related incident during the construction phase of the Project, and the impact of an incident of this nature: • Accepted because they have stated the applicant will engage and consult on the Airport's development planning.	As set out in the **Statement of Common Ground between Gatwick Airport Limited and West Sussex County Council** [REP5-055] (SoCG), GAL's engagement with the National Counter Terrorism Security Office (NaCTSO) is an on-going activity, and not one that occurs solely during airport development planning, although they are of course consulted on this issue. The risk of potential terrorist activities is not a function of passenger numbers, forecourt development or additional

	• It is concerning that the Applicant fails to acknowledge the potential for increased uncertainty during the construction phase, which terrorists could exploit.	construction works. The increased capacity and necessary construction works associated with the Project would not therefore be expected to have a direct effect on this aspect. In addition, there are extensive mitigation and contingency measures in place to manage these risks. All security measures are confidential and cannot be detailed in the public domain. This position is agreed in the SoCG. The following mitigation and management measures currently apply: • CAP 1223: Framework for an Aviation Security (Civil Aviation Authority, 2018a). Security Management Systems (SeMS) provide a formalized, risk-driven framework for integrating security into the daily operations and culture of an entity. The SeMS enables an entity to identify and address security risks, threats, gaps and weaknesses in a consistent and proactive way. SeMS is not a mandated process but if an entity has SeMS which contain all the elements which are identified in CAP 1223, it will help the entity to meet the internal quality control provisions of articles 12, 13 and 14 of EC 300/20081.

		• Guidance on policing at airports (National Policing Improvement Agency, 2011). The Project would be designed and operated in line with the Guidance on policing at airports (National Policing Improvement Agency, 2011) as is the case with the existing airport.
2.109 (ref 23.1D in LIR)	Potential impact to how quickly and effectively WSFRS will be able to respond to fire and other emergencies at the Airport: • The Applicant must ensure access and water provisions are included in the planning stage and during construction. The Authorities are looking for an acceptance that they again appreciate the need to engage throughout the construction phase to ensure WSFRS can preplan and inform staff of potential changes to the Airport's layout. They support our statutory duty to attend to fires and road collisions at the Airport and in its vicinity.	As set out in the SoCG [REP5-055], fire prevention and emergency measures currently employed as part of Gatwick Airport operations would be in place and extended to the Project. During construction, specific fire prevention and emergency measures would be developed and set out in the **Code of Construction Practice** (CoCP) [REP4-007]. The precise locations of access and water provision will be determined at the Project's detailed design stage. The locations will be established with due consideration given to emergency response logistics. This position is agreed in the SoCG.

2.110 (ref 23.1E in LIR)	WSFRS are adapting to the emergence of renewable energy systems and electric- powered vehicles and aircraft. The construction and operation phases will need to access the potential impacts and downside risks associated with the direction towards Net Zero and sustainability: • Similar to the 23.1D It would be positively received if there was reference to the understanding and need to collaborate here as there is increasing concern and evidence that fires in emergencies involving renewable/alternative fuelled systems create significant risks to Firefighter and Public safety.	As set out in the SoCG, fire prevention and emergency measures currently employed as part of Gatwick Airport operations would be in place and extended to the Project. During construction, specific fire prevention and emergency measures would be developed and set out in the **CoCP** [REP4-007]. The intent is to give an indication of future Project risk management through a description of present-day (and well-established) practices. GAL will engage with WSFRS at the detailed design stage regarding adapting to the emergence of renewable energy systems and electric-powered vehicles and aircraft. The position is agreed in the SoCG.