Luton Rising
Our airport.
Our community.
Our planet.

November 2023

London Luton Airport Expansion

Planning Inspectorate Scheme Ref: TR020001

Volume 8 Additional Submissions (Examination)

8.100 Applicant's Response to Issue Specific Hearing 5 Action 9: Effects in relation to Pollution Climate Mapping Locations

Infrastructure Planning (Examination Procedure) Rules 2010

Application Document Ref: TR020001/APP/8.100

The Planning Act 2008

The Infrastructure Planning (Examination Procedure) Rules 2010

London Luton Airport Expansion Development Consent Order 202x

8.100 APPLICANT'S RESPONSE TO ISSUE SPECIFIC HEARING 5 ACTION 9: EFFECTS IN RELATION TO POLLUTION CLIMATE MAPPING (PCM) LOCATIONS

Deadline:	Deadline 4
Planning Inspectorate Scheme Reference:	TR020001
Document Reference:	TR020001/APP/8.100
Author:	Luton Rising

Version	Date	Status of Version
Issue 1	November 2023	Additional Submission – Deadline 4

Contents

Tables

1 INTRODUCTION

1.1.1 This note has been prepared in response to the Examining Authority's ('ExA's') Action Points 9 and 15 arising from the Issue Specific Hearing 5 (ISH5) on air quality and related effects held Thursday 28 September 2023. The relevant action points are presented in Table 1.1.

Table 1.1: ISH5 actions

Action	Description
9	APP-063 ES Appendix 7.3 Air Quality Results and APP-064 ES Appendix 7.4 Air Quality Sensitivity Tests identify 9 substantial adverse and 34 moderate adverse effects in relation to Pollution Climate Mapping (PCM) locations. Provide an explanation in writing as to why these aren't reported as potential significant effects in the air quality chapter.
15	In light of PCM exceedances identified in ES Appendices 7.3 and 7.4, provide an explanation as to why $PM_{2.5}$ monitoring is not being considered in these locations (e.g. Airport Way, New Airport Way and Vauxhall Way (near roundabout with Eaton Green Road).

2 COMPLIANCE RISK ASSESSMENT

2.1.1 The methodology of the compliance risk assessment is detailed in section 7.5.30 to 7.5.34 of **Chapter 7 Air Quality [AS-076]** of the Environmental Statement (ES). The compliance risk assessment has been undertaken in accordance with DMRB LA 105 (Ref 1), following the compliance risk flow chart in Figure 2.79.

2.1.2 The assessment of the risk of compliance uses a different methodology for determining significance than that of the operational air quality assessment for human receptors. The significance of effects for human receptors has been calculated using the approach described in the Institute of Air Quality Management (IAQM) / Environmental Protection UK (EPUK) guidance (Ref 2) and detailed in section 4.1 of **Appendix 7.1 [AS-028]** of the ES. The impact descriptors used in the operational effects for human receptors do not apply to the compliance risk assessment.

2.1.3 The reporting of impact descriptors for the PCM points using the IAQM/EPUK guidance was an error in the reporting tables and those descriptors should not be used to inform significance.

3 MODELLED PCM LOCATIONS

3.1.1 Following a review of the modelled PCM receptors there were six receptors which required adjustments to their locations to be reflective of the qualifying feature and 4m from the edge of the road following changes in road alignments

for future years. The compliance receptors and their adjusted locations are provided in Table 3.1.

Table 3.1: Compliance receptors with adjusted locations

ID	Description	X	Y
PCM27	Airport Way qualifying feature	511316	220865
PCM28	Airport way 4m	511313	220868
PCM33	Vauxhall Way qualifying feature	510999	220815
PCM34	Vauxhall Way 4m	510995	220815
PCM35	A505 (Vauxhall Way) qualifying feature	510958	222003
PCM36	A505 (Vauxhall Way) 4m	510954	222002

4 COMPLIANCE METHODOLOGY AND RESULTS

4.1 Methodology

4.1.1 This section describes the overall results of the compliance risk assessment following the adjusted PCM receptor locations. The results for the compliance receptors are provided within the Environmental Statement Appendix 7.3 Air Quality Results Rev1 **[APP-063]** and Environmental Statement Appendix 7.4 Air Quality Sensitivity Test Rev1 **[APP-064]**.

4.1.2 It is noted that the method for compliance assessment in DMRB is relevant to NO_2. Recent National Highways projects (Ref 3) have noted that the updated $PM_{2.5}$ targets would only apply at national monitoring sites.

4.1.3 There is as yet no advice from Defra on how compliance with the 2028 interim target and 2040 $PM_{2.5}$ target would be determined or how the targets should be considered in the planning system.

4.1.4 The wording of the 2023 Regulations (Ref 4) is used to determine the implication of the targets for the Project. Under the title "Measurement", Regulation 5 of the 2023 Regulations states:

4.1.5 *'(1) The annual mean concentration target is met by 31st December 2040 if, at every relevant monitoring station, the annual mean level of $PM_{2.5}$ in ambient air, calculated in accordance with regulation 15 and rounded to the nearest whole number of µg/m³, is equal to or less than the target level in the year 2040.*

4.1.6 *(2) In paragraph (1), "relevant monitoring station" means a monitoring station from which fixed measurements of $PM_{2.5}$ are taken—*

4.1.7 *(a) throughout the whole of the year 2040, disregarding any periods during that year in which the monitoring station is temporarily out of operation, for example for repair or maintenance; and*

4.1.8 *(b) which meet the minimum annual data capture requirement in that year.'*

4.1.9 Regulation 5(1) clarifies that the annual mean concentration target applies at specific locations, i.e. at a relevant monitoring station and is not to be applied generally. It is not a target for which legal compliance is required at locations other than at a relevant monitoring station. Regulation 12(2) of the 2023 Regulations states that every Air Quality Standards Regulations 2010 monitoring station (a monitoring station which is used to measure $PM_{2.5}$ levels for the purposes of the 2010 Regulations) which was in operation immediately before the coming into force of the 2023 Regulations is a "relevant monitoring station" for the purposes of those Regulations.

4.1.10 It should also be noted that the air quality assessment has been developed with conservative elements embedded within the assessment in relation to future background concentrations. A conservative approach to future background concentrations has been taken by assuming no improvements in background concentrations beyond 2030. The background emissions modelling for 2019 have been used. However, to predict the likely background concentrations in 2027, 2039 and 2043, the predicted trends from the Defra background maps (Ref 5) have been used. As 2030 is the furthest forecast year, it was used to represent 2039 and 2043. This is considered to be conservative as future background concentrations are anticipated to decrease over time due to national policy aimed at reducing emissions such as the Transport Decarbonisation Plan (Ref 6).

4.1.11 Therefore, a conservative and precautionary approach has been taken for this assessment both in terms of future year predictions and also reviewing changes at all locations where PCM concentrations are predicted, rather than only those locations where reporting at monitoring stations strictly applies.

4.2 Results

4.2.1 There are no exceedances of the annual mean nitrogen dioxide (NO_2) air quality limit value (40µg/m^3) predicted for all assessment scenarios, including the sensitivity tests. Therefore, the Proposed Development is not predicted to impact compliance with NO_2 air quality limit value.

4.2.2 There are no exceedances of the annual mean particulate matter (PM_{10}) air quality limit value (40µg/m^3) predicted for all assessment scenarios, including the sensitivity tests. Therefore, the Proposed Development is not predicted to impact compliance with the PM_{10} air quality limit value.

4.2.3 There are no exceedances of the interim fine particulate matter ($PM_{2.5}$) target (12µg/m^3 to be achieved by the end of January 2028) predicted for Assessment Phase 1 and Phase 2a including sensitivity tests, except the Assessment Phase 2a slower growth scenario (2046).

4.2.4 The $PM_{2.5}$ legal target of 10µg/m^3 to be achieved by 2040 applies to the Assessment Phase 2a slower growth scenario (2046) where there are exceedances of the $PM_{2.5}$ legal target at multiple PCM receptors but the change in concentrations is less than 0.1µg/m^3 and therefore considered to be not significant/ no risk to compliance. There are two receptors (PCM27 and PCM28) which have a change of greater than 0.1µg/m^3 but the DS concentration is

predicted to be less than 10µg/m^3 and therefore considered to be not significant/ no risk to compliance.

4.2.5 In the Assessment Phase 2b scenario including sensitivity tests, there are predicted exceedances of the $PM_{2.5}$ legal target of 10µg/m^3 to be achieved by 2040. However, the change in concentration between the Do Minimum (DM) and Do Something (DS) scenarios are less than 0.1µg/m^3 except at two PCM receptors (PCM30 and PCM35) in WebTAG and LTP traffic data (2043), and three PCM receptors (PCM30, PCM35 and PCM61) in the slower growth scenario (2049).

4.2.6 For PCM30, there are no $PM_{2.5}$ projections for the PCM link (Census ID 802077396) (Ref 7), and therefore can be screened out.

4.2.7 For PCM35 (A505 (Vauxhall Way) qualifying feature) in the Assessment Phase 2b WebTAG and LTP traffic data (2043) and slower growth (2049) scenarios, the DS concentration was predicted to be 10.7µg/m^3 with a change greater than 0.1µg/m^3 (0.11µg/m^3). The corresponding 4m feature is represented by PCM36, which predicted DS concentrations of 10.47µg/m^3 in the Assessment Phase 2b WebTAG and LTP traffic data (2043) scenario and 10.48µg/m^3 in the Assessment Phase 2b slower growth (2049) scenario. In accordance with section 2.73 of DMRB LA 105 (Ref 1), the "*4m point from the running lane in the same location as the qualifying feature [is used] for comparison against the national PCM modelled point*". The predicted DS concentrations at the 4m feature are lower than the projected concentration at the PCM link (Census ID 802077396) (Ref 7) for 2030 of 10.55µg/m^3. With reference to Figure 2.79 Compliance risk assessment flow chart of the DMRB LA 105 (Ref 1), the Proposed Development does not create a new maximum and therefore there is no risk to compliance for $PM_{2.5}$ at this location.

4.2.8 For PCM61 (A505 (Upper Tilehouse St) qualifying feature), the DS concentration was predicted to be 10.5µg/m^3 with a change greater than 0.1µg/m^3 (0.103µg/m^3). The corresponding 4m feature is represented by PCM62, which predicted a DS concentration of 10.0µg/m^3. The predicted DS concentrations at the 4m feature are lower than the projected concentration at the PCM link (Census ID 802037273) **Error! Bookmark not defined.** (Ref 7) for 2030 of 10.2µg/m^3. With reference to Figure 2.79 Compliance risk assessment flow chart of the DMRB LA 105, the Proposed Development does not create a new maximum and therefore there is no risk to compliance for $PM_{2.5}$ at this location.

4.2.9 Therefore, the Proposed Development is not predicted to impact compliance with the $PM_{2.5}$ interim target or legal target.

5 CONSIDERATION OF $PM_{2.5}$ MONITORING

5.1.1 There are no likely significant effects and the Proposed Development is not predicted to impact compliance for any pollutant assessed. As such, $PM_{2.5}$ monitoring (or any other pollutant) has not been proposed explicitly at the PCM locations.

5.1.2 However, there will be monitoring of $PM_{2.5}$ included as part of Green Controlled Growth (GCG) which is detailed in section 4.1 of the **Green Controlled Growth**

Framework [REP3-018]. These monitoring locations selected as part of GCG will capture the largest increases in traffic as a result of the Proposed Development. These monitoring locations are close to the points noted in the ExA's Action Point 15 (e.g. Airport Way, New Airport Way and Vauxhall Way (near roundabout with Eaton Green Road). As detailed in section 2.3 of the **Green Controlled Growth Framework [REP3-018]**, a five-yearly review by the airport operator will be undertaken which could include updates to processes including monitoring, if required.

6 CONCLUSION

6.1.1 This note has provided an explanation for why the compliance receptors have not been reported as potential significant effects in the air quality chapter of the ES. The methodology for the compliance risk assessment is different to that of the operational air quality assessment for human receptors and the impact descriptors do not apply to compliance receptors.

6.1.2 Based on the adjusted locations of the modelled PCM receptors, the overall conclusions of the compliance risk assessment shows that the Proposed Development is not predicted to impact compliance for NO_2, PM_{10} and $PM_{2.5}$.

6.1.3 As there are no likely significant effects and the Proposed Development is not predicted to impact compliance for $PM_{2.5}$, $PM_{2.5}$ monitoring has not been proposed explicitly. However, there will be monitoring of $PM_{2.5}$ included as part of the GCG Framework which will be subject to a review every five years. This will help to identify whether additional monitoring is needed.

GLOSSARY AND ABBREVIATIONS

Term	Definition
DM	Do Minimum
DS	Do Something
EPUK	Environmental Protection UK
ES	Environmental Statement
GCG	Green Controlled Growth
IAQM	Institute of Air Quality Management
ISH 5	Issue Specific Hearing on air quality and related effects
NO_2	Nitrogen dioxide
PCM	Pollution Climate Mapping
PM_{10}	Particulate matter
$PM_{2.5}$	Fine particulate matter

REFERENCES

Ref 1 Highways England (2019). Design Manual for Roads and Bridges Sustainability and Environment Appraisal LA 105 Air Quality (revision 0)
Ref 2 Moorcroft and Barrowcliffe. et al. (2017) Land-use Planning & Development Control: Planning for Air Quality. v1.2, 2017. Institute of Air Quality Management, London.
Ref 3 The Planning Inspectorate (2023) Lower Thames Crossing 9.89 Responses to the Examining Authority's ExQ1 Appendix C-5. Air quality (Q1_Q5.1.6)
Ref 4 The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023 (SI 2023/96)
Ref 5 Defra (2023) Background mapping data for local authorities
Ref 6 Department for Transport (2023) Transport decarbonisation plan
Ref 7 Defra (2023) 2020 NO_2 and PM projections data (2018) reference year