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**8.28 Environmental Improvement Plan Interim Target
for PM_{2.5} Commentary**

Infrastructure Planning (Examination Procedure) Rules 2010

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The Planning Act 2008

The Infrastructure Planning (Examination Procedure) Rules 2010

**London Luton Airport Expansion Development Consent
Order 202x**

**8.28 Environmental Improvement Plan Interim Target for PM_{2.5}
Commentary**

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1 INTRODUCTION

- 1.1.1 The Rule 6 letter issued by the Planning Inspectorate (PINS) noted the following:

Environmental Improvement Plan Interim Target for PM_{2.5}

The Environmental Improvement Plan (EIP) includes interim targets for PM_{2.5} <https://www.gov.uk/government/publications/environmental-improvement-plan>. Provide a commentary on the implications of the EIP interim targets, if any, for the Green Controlled Growth limits and thresholds for air quality and the conclusions of the air quality impact assessment.

- 1.1.2 This note has been prepared to detail the implications of the EIP interim target for PM_{2.5} on the Air Quality Assessment detailed in **Chapter 7 of the Environmental Statement (ES) [AS-076]** and supporting appendices submitted with the Development Consent Order (DCO) application and Green Controlled Growth (GCG) detailed in the **Green Controlled Growth Framework [APP-218]**.

2 ENVIRONMENTAL IMPROVEMENT PLAN INTERIM TARGET FOR PM_{2.5}

- 2.1.1 Following completion of the Environmental Impact Assessment (EIA) and preparation of the Environmental Statement (ES), the EIP was published in January 2023. The EIP sets a legal long-term target of 10µg/m³ as an annual average to be achieved by the end of 2040 and an interim target of 12µg/m³ as an annual average to be achieved by 31 January 2028 for the most recent full calendar year. Whilst interim targets are not legally binding, they set a clear direction of travel and will enable an ongoing assessment of whether the government is on track to meet its longer-term target ambitions. **Figure 2.1** reproduces the targets and commitments set out within the EIP.

Long term targets:

- By the end of 2040, we will achieve a maximum Annual Mean Concentration Target (AMCT) of 10 micrograms of PM_{2.5} or below per cubic metre (µg/m³).
- By the end of 2040, we will reduce population exposure to PM_{2.5} by 35% compared to 2018 levels.

Interim targets:

By the end of January 2028:

- The highest annual mean concentration in the most recent full calendar year must not exceed 12 µg/m³ of PM_{2.5}.
- Compared to 2018, the reduction in population exposure to PM_{2.5} in the most recent full calendar year must be 22% or greater.

Figure 2.1: Air quality targets and commitments set out within the EIP

3 AIR QUALITY ASSESSMENT

- 3.1.1 As part of the ES, the Air Quality Assessment detailed in **Chapter 7 of the ES [AS-076]**, assessed the impact of a range of pollutants, including fine particulate matter, PM_{2.5}. The assessment modelled the impact of emissions at key receptors in and around the airport, in line with national guidance.
- 3.1.2 In relation to the new target for PM_{2.5}, while the Department for Environment, Food & Rural Affairs (Defra) has committed to providing advice on the assessment of local air quality impacts for PM_{2.5}, this is not yet available. Defra has said that it is going to prepare this guidance in consultation with the Air Quality industry.
- 3.1.3 The Chief Planner issued a statement relating to the new PM_{2.5} targets in the March 2023 Chief Planners Newsletter (Ref 1). This outlines the intention to produce guidance on assessing PM_{2.5} in planning which is not yet available. The letter noted:
- 3.1.4 *“The guidance will be forthcoming in due course, until then we expect local authorities to continue to assess local air quality impacts in accordance with existing guidance.”*
- 3.1.5 In order to provide a review of the potential significance of changes, in the absence of updated guidance the approach set out in the Environmental Protection UK (EPUK) and Institute of Air Quality Management (IAQM) guidance (Ref 2), summarised in **Table 3.1**, was used. Prior to the updated targets this approach was commonly applied to Air Quality Assessments.

Table 3.1: EPUK/IAQM impact descriptors assessment matrix for long term concentrations

% Change in concentrations relative to air quality standard		Predicted concentration relative to air quality standard				
		Very High	High	Medium	Low	Very low
		>110%	103-109%	95-102%	76-94%	<75%
High	>10%	Substantial	Substantial	Substantial	Moderate	Moderate
Medium	6-10%	Substantial	Substantial	Moderate	Moderate	Slight
Low	2-5%	Substantial	Moderate	Moderate	Slight	Negligible
Very low	1%	Moderate	Moderate	Slight	Negligible	Negligible

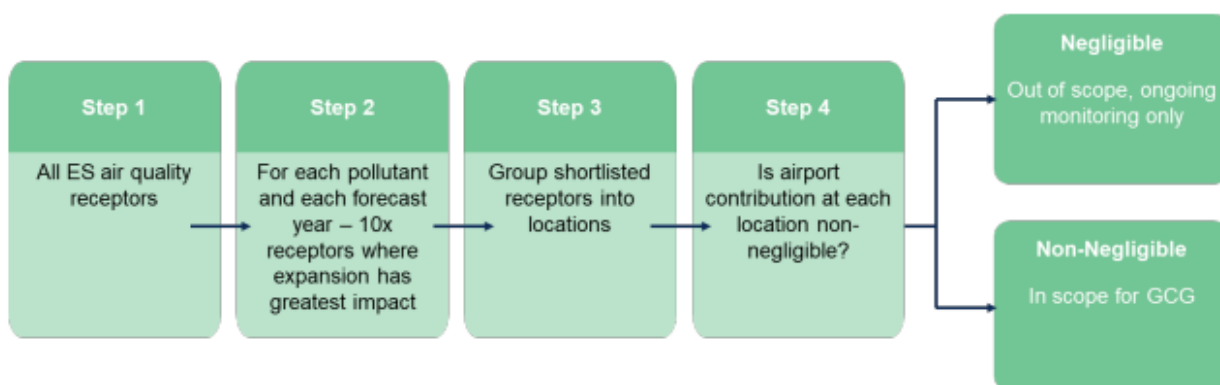
- 3.1.6 The approach considers the existing (or predicted future) concentrations at the site, and the change caused by the Proposed Development.
- 3.1.7 Due to the timing of the ES, the decision was taken to use the new PM_{2.5} target of 10µg/m³ to be achieved by 2040 in the assessment of impacts and significance for all assessment years as a worst case, applying the assessment matrix in Table 3.1. The results using this methodology predicted no significant effects for PM_{2.5} at modelled human receptors, as detailed in section 7.9 of **Chapter 7 of the ES [AS-076]**.

- 3.1.8 The Air Quality Assessment of the ES predicted concentrations of PM_{2.5} less than 12µg/m³ at all modelled human receptors for Phase 1 (2027) and Phase 2a (2039). The maximum predicted PM_{2.5} concentration at all modelled human receptors for Phase 1 and Phase 2a is 11.6µg/m³ at receptor H247. The effects from the Proposed Development are considered to be not significant, following the assessment criteria in the EPUK/IAQM guidance. These results would not exceed the new interim target of 12µg/m³. Therefore, this interim target does not change the overall conclusions in relation to the Air Quality Assessment.

4 GREEN CONTROLLED GROWTH

- 4.1.1 The **Green Controlled Growth Framework [APP-218]** sets out the necessary processes required for the functioning of the GCG approach and the values of the Limits and Thresholds. For Air Quality, the values of the Limits and Thresholds are included in Section 4 of the document.
- 4.1.2 As detailed in Section 3.3 of the **Green Controlled Growth Explanatory Note [APP-217]**, a sifting methodology was applied to reduce the number of modelled locations down to a proportionate shortlist of locations to be considered as part of GCG. For each assessment phase and pollutant, each of the shortlisted locations was then defined as being 'in scope', where the full GCG process will apply, or 'out of scope' where it is proposed that air quality concentrations will be monitored on an ongoing basis, but where the GCG Limits and Thresholds will not apply. For the avoidance of doubt, restrictions on growth at the airport could not be implemented through the GCG Framework based on the monitoring results from out-of-scope locations. This process is shown in Figure 3.7 of the GCG Explanatory Note, reproduced below as **Figure 4.1**.

Figure 4.1: Process for shortlisting GCG Air Quality Locations (Fig 3.7 of the GCG Explanatory Note)



- 4.1.3 This shortlisting process uses outputs from the Air Quality Assessment detailed in **Chapter 7 of the ES [AS-076]**. As set out in Section 3 of this Technical Note, the EIP Interim Target for PM_{2.5} does not change the overall conclusions of this Air Quality Assessment. As such, it in turn does not change the shortlisting

process for GCG Air Quality locations and there are no shortlisted locations that are defined as being 'in scope' for PM_{2.5} in either Phase 1 or Phase 2a. This is because the air quality impact at all shortlisted locations is negligible for PM_{2.5} in assessment Phase 1 and Phase 2a.

- 4.1.4 The GCG Framework includes a commitment to review the GCG Limits and Thresholds should UK legal limits change in future. It is proposed that this review should be carried out by the airport operator within six months of new legal limits coming into force, and the findings of this review should be submitted to the Air Quality Technical Panel and Environmental Scrutiny Group (ESG) for comment. This review will consider the appropriateness and practicality of revising the Air Quality Limits and Thresholds to align with the new UK legal limits. Consistent with these principles, the applicability of the interim target to the GCG PM_{2.5} Limits and Thresholds has been reviewed at this stage, following the submission of the application for development consent which was finalised prior to the EIP and associated interim target being published.
- 4.1.5 The Applicant considers it appropriate to transpose the interim target of 12µg/m³ from the EIP within the GCG Limits. The PM_{2.5} Limit would therefore remain as 20µg/m³ until the end of 2026 (with monitoring results reported in 2027), and from 2027 to 2039 (inclusive) the PM_{2.5} Limit would be reduced to 12µg/m³ in line with the interim target. From 2040 onwards (first reported in 2041), the Limit would reduce to 10µg/m³, as set out previously in the **GCG Framework [APP-218]** and consistent with the long-term EIP target. For the 2027 to 2039 period, revised Level 2 and Level 1 Thresholds would also be required, defined by the same criteria used previously of 95% of the Limit (11.4µg/m³) and 75% of the Limit (9µg/m³) respectively. These changes are summarised in **Table 4.1**, with the corresponding changes proposed to be made as part of an update to the **GCG Framework [APP-218]** to be submitted during the examination.
- 4.1.6 The introduction of the EIP interim target is likely to require an increased level of accuracy in monitoring concentrations of PM_{2.5} prior to 2040. Reflecting the interim target in the GCG Framework may require modifications to the overall monitoring approach, including equipment and any subsequent analysis (as set out in the **GCG Framework Appendix D – Air Quality Monitoring Plan [APP-222]**). Any proposed changes to monitoring will be shared and discussed with relevant stakeholders, including the Air Quality Technical Working Group, prior to the submission of an amended Monitoring Plan (if required).

Table 4.1: Updated GCG Framework Table 4.3 (additions in red)

Limit	Phase 1	Phase 2a	Phase 2b	Full Operating Capacity
	Limit			
	20 µg/m ³	20 µg/m ³	20 µg/m ³	20 µg/m ³

Limit	Phase 1	Phase 2a	Phase 2b	Full Operating Capacity
Annual average PM _{2.5} concentration (up to 2026)	Level 2 Threshold			
	19 µg/m ³	19 µg/m ³	19 µg/m ³	19 µg/m ³
	Level 1 Threshold			
	15 µg/m ³	15 µg/m ³	15 µg/m ³	15 µg/m ³
Annual average PM _{2.5} concentration (from 2027 to 2039)	Limit			
	12 µg/m ³	12 µg/m ³	12 µg/m ³	12 µg/m ³
	Level 2 Threshold			
	11.4 µg/m ³	11.4 µg/m ³	11.4 µg/m ³	11.4 µg/m ³
	Level 1 Threshold			
	9 µg/m ³	9 µg/m ³	9 µg/m ³	9 µg/m ³
Annual average PM _{2.5} concentration (from 2040)	Limit			
	10 µg/m ³	10 µg/m ³	10 µg/m ³	10 µg/m ³
	Level 2 Threshold			
	9.5 µg/m ³	9.5 µg/m ³	9.5 µg/m ³	9.5 µg/m ³
	Level 1 Threshold			
	7.5 µg/m ³	7.5 µg/m ³	7.5 µg/m ³	7.5 µg/m ³

- 4.1.7 In making this change, it must be recognised that both the current impact of the airport on PM_{2.5} concentrations and the increase in total PM_{2.5} concentrations as a result of the Proposed Development are generally negligible (as identified by the air quality assessment). A large proportion of PM_{2.5} concentrations at identified receptors are from regional sources¹ (including secondary particulate pollution) and cannot be controlled by local action or mitigation. For the 15 shortlisted GCG Air Quality locations, the maximum predicted airport contribution (including aircraft, airport activities and airport-related road traffic) is only 1.3% of the total modelled PM_{2.5} concentrations in Phase 1 (2027).
- 4.1.8 Any potential future breach of the reduced PM_{2.5} Limit or Level 2 Threshold (where a monitoring location is 'in-scope' for GCG) is therefore unlikely to be directly attributable to or solely caused by increases arising from the Proposed Development.
- 4.1.9 As set out in the **GCG Framework [APP-218]**, if the annual average concentration of a pollutant exceeds the GCG Limit or Level 2 Threshold, as determined by monitoring, this will first trigger a further assessment. The

¹ Regional particulate matter includes sea salt, calcium and iron rich dusts, as well as secondary particles which are produced in the atmosphere by related chemical reactions.

purpose of this further assessment is to determine the cause of any exceedance of a Level 2 Threshold or breach of a Limit, and the extent to which this is airport-related.

- 4.1.10 Where a breach is not attributable to the airport, no Level 2 Plan or Mitigation Plan would be required. Where a Level 2 Plan or Mitigation Plan has been identified as being necessary, the airport operator would not however be required to directly address the impact or underlying causes of non-airport related emissions.
- 4.1.11 A proportionate approach to mitigating the airport's direct impacts will need to be taken that recognises the agreed contribution that the airport makes to overall PM_{2.5} concentrations, in the context of the much more significant contribution from non-airport related sources.
- 4.1.12 This is likely to be via the airport operator, for example, making a financial contribution to a wider air quality improvement programme being delivered by the relevant local authority, proportionate to the scale of the Proposed Development's contribution to the exceedance. Acting reasonably, the Environmental Scrutiny Group (ESG) should not then unduly withhold approval of this plan, and growth at the airport would be allowed to continue in these circumstances following the exceedance of a Level 2 Threshold or breach of a Limit. This approach is consistent with the principles previously set out in the **GCG Explanatory Note [APP-217]** in paragraphs 3.3.22 – 3.3.23.

5 CONCLUSION

- 5.1.1 This note has detailed the implications of the EIP interim target for PM_{2.5} (12µg/m³ as an annual average) on the Air Quality Assessment and GCG air quality Limits and Thresholds. There is no change to the overall conclusions of the Air Quality Assessment detailed in **Chapter 7 of the Environmental Statement (ES) [AS-076]**. The GCG PM_{2.5} air quality Limit and Thresholds will be modified in a future update to the **GCG Framework [APP-218]** during the examination, to transpose the interim target as a new GCG Limit. The future monitoring will report on progress towards the new Limit, along with updates to the committed measures secured via the DCO which will help to improve air quality.

GLOSSARY AND ABBREVIATIONS

Term	Definition
DCO	Development Consent Order
Defra	Department of Environment, Food and Rural Affairs
EIA	Environmental Impact Assessment
EIP	Environmental Improvement Plan
EPUK	Environmental Protection UK
ES	Environmental Statement
ESG	Environmental Scrutiny Group
GCG	Green Controlled Growth
IAQM	Institute of Air Quality Management
PINS	Planning Inspectorate
PM _{2.5}	Fine particulate matter

REFERENCES

Ref 1 Department for Levelling Up, Housing & Communities, Planning Newsletter, 3rd March 2023
Ref 2 Environmental Protection UK (EPUK) and Institute of Air Quality Management (IAQM), Land-Use Planning & Development Control: Planning for Air Quality, 2017