



The Sizewell C Project

6.4 Volume 3 Northern Park and Ride Chapter 5 Air Quality Appendix 5A Dust Risk Assessment for Northern Park and Ride

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Plates

None provided.

Figures

None provided.

1. Dust Risk Assessment for Northern Park and Ride

1.1 Initial screening

1.1.1 In accordance with the Institute of Air Quality Management (IAQM) guidance methodology (Ref. 1.1), the assessment of construction dust effects on sensitive receptors from the proposed development cannot be screened out due to the presence of human receptors within 350 metres (m) of the site and of trackout up to 500m of the site. Therefore, a dust risk assessment should be undertaken. Effects on ecological receptors are screened out as there are no sensitive habitats within 500m of the site.

1.2 Assessment of risks

1.2.1 The activities within each phase of construction of the proposed development that could potentially generate dust are:

- earthworks (including vegetation and site clearance and stockpiling of soils Volume 4, Chapter 5, Appendix 5A – Dust Risk Assessment for Southern Park and Ride at Wickham Market during construction and removal and reinstatement);
- construction (including construction of parking area and internal roads, installation of amenity building and barriers, signage, bus shelters etc, final road surfacing and landscaping);
- trackout (heavy duty vehicle (HDV)¹ movements on unpaved surfaces and mud transferred onto the highway, up to 500m from site exit); and
- demolition (during removal and reinstatement).

1.2.2 The potential, uncontrolled, dust generation magnitude is defined based on the likely scale and frequency of activities and has been estimated with reference to the IAQM guidance methodology, as described in **Volume 1, Appendix 6H** of the **Environmental Statement (ES)**.

1.2.3 Uncontrolled earthworks associated with the construction, and removal and reinstatement of the proposed development would likely have a large dust emission magnitude due to size of the proposed development and the number of HDVs transporting earth (less than 10 HDVs).

¹ The term heavy duty vehicles (HDV) is used as an extension of heavy goods vehicles (HGVs) to include consideration of other heavy vehicles, for examples buses and/or coaches

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1.2.4 Uncontrolled construction and demolition activities, as well as the large building volume, would likely result in the construction and demolition processes having a medium emission of dust.

1.2.5 HDV movements onto the highway from the site and their movement across unpaved surfaces during construction, and removal and reinstatement of the proposed development, without mitigation, would likely result in medium dust emission levels from trackout.

1.3 **Sensitivity of area**

1.3.1 The sensitivity of the area is defined by considering the likely highest sensitivity receptors and the distance to the source for:

- dust soiling effects on people and amenity, including the number of affected receptors;
- human health effects of particulates (PM₁₀), including the number of affected receptors and consideration of existing background concentrations; and
- ecological effects of dust deposition.

1.3.2 All sensitive receptors near to the site are classified as being highly sensitive as they are all residential properties. The sensitivity of nearby receptors and their distance from the proposed development are shown in **Table 1.1**. The shortest distance from the source (construction site activities and trackout onto road) for each receptor has been used in the assessment.

Table 1.1: Sensitivity of receptors within screening distance of the proposed development.

Receptor	Sensitivity	Distance from Site Boundary (m).	Distance from Trackout (m).
YX1	High	Less than 100.	(Greater than 500m of exit).
YX10c	High	Less than 20.	(Greater than 500m of exit).
YX11c	High	Less than 20.	Less than 50.
YX12c	High	Less than 20.	Less than 20.
YX13	High	Less than 20.	Less than 20.
YX14	High	Less than 50.	(Greater than 500m of exit).

Receptor	Sensitivity	Distance from Site Boundary (m).	Distance from Trackout (m).
YX15	High	Less than 100.	(Greater than 500m of exit).
YX16	High	Less than 20.	Less than 20.
YX17	High	Less than 350.	(Greater than 500m of exit).

1.3.3 The existing background PM₁₀ concentration within the site is 14.0µg/m³, less than the lowest screening category within the IAQM methodology (24µg/m³), therefore representing the lowest baseline risk.

1.3.4 The sensitivity of the area to dust soiling effects at nearby sensitive receptors is classified as medium based on the number of high sensitivity receptors within 20m of the potential dust sources. The sensitivity of the area to human health impacts is low based on the existing baseline PM₁₀ level, the number of sensitive receptors and their distance from the dust sources.

Table 1.2: Area sensitivity to dust soiling and human health impacts.

Potential Impact.	Risk			
	Earthworks	Construction	Trackout	Demolition
Dust Soiling.	High	High	High	High
Human Health.	Medium	Medium	Medium	Medium
Ecological.	<i>Screened out.</i>			

1.4 Risk of impacts

1.4.1 Based on the assumed large dust emission magnitude from activities associated with the proposed development (before mitigation is applied), and the medium sensitivity of the area to dust soiling, the risk of unmitigated dust impacts would be high, which therefore describes the recommended level of risk mitigation.

Table 1.3: Risk of dust impacts from unmitigated activities.

Potential Impact.	Risk			
	Earthworks: Large Magnitude.	Construction: Medium Magnitude.	Trackout: Medium Magnitude.	Demolition: Medium Magnitude.
Dust Soiling.	High risk.	Medium risk.	Medium risk.	Medium risk.
Human Health.	Medium risk.	Medium risk.	Low risk.	Medium risk.

Potential Impact.	Risk			
	Earthworks: Large Magnitude.	Construction: Medium Magnitude.	Trackout: Medium Magnitude.	Demolition: Medium Magnitude.
Ecological	<i>Screened out.</i>			

1.4.2 The control measures detailed in a **Code of Construction Practice (CoCP)** (Doc Ref. 8.11) were determined assuming that the construction, operation and removal and reinstatement associated with the proposed development would have a high risk of dust impact on sensitive receptors. Therefore, with these embedded mitigation measures in place the resulting dust effects would be **not significant**.

References

- 1.1 Institute of Air Quality Management (2016). Assessment of dust from demolition and construction.