



The Sizewell C Project

6.5 Volume 4 Southern Park and Ride Chapter 5 Air Quality Appendix 5A Dust Risk Assessment for Southern Park and Ride

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Plates

None provided.

Figures

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1. Dust Risk Assessment for Southern 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 metre (m) of the proposed development 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 proposed development 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 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** (Doc Ref. 6.2).

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 good vehicles (HGVs) to include consideration of other heavy vehicles, for examples buses and/or coaches.

1.2.4 Uncontrolled construction and demolition activities, as well as the large building volume, would likely result in the construction 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). |
|----------|-------------|----------------------------------|-----------------------------|
| WM6 | High | Less than 350. | (Greater than 500 of exit). |
| WM11 | High | Less than 350. | Less than 20. |
| WM12 | High | Less than 350. | (Greater than 500 of exit). |
| WM13 | High | Greater than 500. | (Greater than 500 of exit). |
| WM14 | High | Greater than 500. | (Greater than 500 of exit). |

- 1.3.3 The existing background PM₁₀ concentration is 14.7 micrograms per cubic metre (µg/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 high sensitivity receptors close to the highway within the screening distance for trackout. 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 sources.

Table 1.2: Area sensitivity to dust impacts.

| Potential Impact. | Risk | | | |
|-------------------|----------------------|--------------|----------|------------|
| | Earthworks | Construction | Trackout | Demolition |
| Dust Soiling. | Low | Low | Medium | Low |
| Human Health. | Low | Low | Low | Low |
| 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 medium, which therefore described 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. | Low risk. | Low risk. | Low risk. | Low risk. |
| Human Health. | Low risk. | Low risk. | Low risk. | Low risk. |
| 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 likely be **not significant**.

References

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