



The Sizewell C Project

6.6 Volume 5 Two Village Bypass Chapter 5 Air Quality Appendix 5A Dust Risk Assessment for Two Village Bypass

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Plates

None provided.

Figures

None provided.

1. Dust Risk Assessment for Two Village Bypass

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 and ecological 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.

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);
- construction (including construction of new road, signage and landscaping); and
- trackout (heavy duty vehicle (HDV¹) movements on unpaved surfaces and mud transferred onto the highway, up to 500m from the site exit).

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**.

1.2.3 Uncontrolled earthworks associated with the construction of the proposed development would likely have a large dust emission magnitude due to the size of the proposed development and the number of HDVs transporting spoil and preparing the site.

1.2.4 Uncontrolled construction activities associated with construction of the facility would likely result in the construction processes having a medium emission of dust.

1.2.5 Without mitigation, the HDV movements onto the highway from the site and their movements across unpaved surfaces during construction of the

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.

proposed development 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 highest sensitivity receptors identified and their distance from 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).
SX5	High	Less than 20.	Less than 20.
SX6	High	Less than 200.	Less than 20.
SX7	High	Less than 20.	Less than 20.
SX8	High	Less than 20.	Less than 100.
SX9	High	Less than 20.	Less than 200.
SX10	High	Less than 350.	Less than 20.
SX15	High	Greater than 350.	Less than 20.
WM1	High	Less than 20.	Less than 100.
E23	Low	Less than 20.	Less than 50.

1.3.3 The existing background PM₁₀ concentrations within the site is 14.4 micrograms per cubic metre (µg/m³) to 15.7µg/m³, less than the lowest IAQM 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 high 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 medium based on the existing baseline PM₁₀ level, the number of sensitive receptors and their distance from the dust sources. The sensitivity of the area to ecological effects is low based on the distance of ecological receptors from potential dust sources.

Table 1.2: Area sensitivity to dust impacts.

Potential Impact.	Risk		
	Earthworks	Construction	Trackout
Dust Soiling.	High	High	High
Human Health.	Medium	Medium	Medium
Ecological	Low	Low	Low

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 high 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.
Dust Soiling.	High risk.	Medium risk.	Medium risk.
Human Health.	Medium risk.	Medium risk.	Low risk.
Ecological	Low risk.	Low risk.	Low risk.

1.4.2 The control measures detailed in a **Code of Construction Practice** (Doc Ref. 8.11) were determined assuming that the construction and operation 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.