



# The Sizewell C Project

## 6.10 Volume 9 Rail Chapter 5 Air Quality Appendices 5A - 5B

---

Revision: 1.0  
Applicable Regulation: Regulation 5(2)(a)  
PINS Reference Number: EN010012

---

May 2020

Planning Act 2008  
Infrastructure Planning (Applications: Prescribed  
Forms and Procedure) Regulations 2009





VOLUME 9, CHAPTER 5, APPENDIX 5A - DUST RISK  
ASSESSMENT FOR GREEN RAIL ROUTE

## Contents

1.	Dust Risk Assessment for Green Rail Route .....	1
1.1	Initial screening.....	1
1.2	Assessment of risks.....	1
1.3	Sensitivity of area .....	2
1.4	Risk of impacts .....	4
	References .....	5

## Tables

Table 1.1:	Sensitivity of receptors within screening distance of the proposed development..	2
Table 1.2:	Area Sensitivity to dust impacts.....	3
Table 1.3:	Risk of dust impacts from unmitigated activities. ....	4

## Plates

**None provided.**

## Figures

**None provided.**



## 1. Dust Risk Assessment for Green Rail Route

### 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 dust effects on sensitive receptors from the proposed development cannot be screened out due to the presence of receptors within 350 metres (m) of the proposed development 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 rail infrastructure and a level crossing and installation of a contractors compound);
- trackout (heavy duty vehicle (HDV)<sup>1</sup> movements on unpaved surfaces and mud transferred onto the highway, up to 500m from site exit); and
- demolition (during removal of rail infrastructure and reinstatement of land).

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, Chapter 6, Appendix 6H** of the **Environmental Statement**.

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.

1.2.4 Uncontrolled construction activities, including the large building volume and the potentially dusty construction material used to construct the rail

---

<sup>1</sup> 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.

infrastructure would likely result in the construction and demolition processes having a large emission of dust.

1.2.5 HDV movements onto the highway during construction and removal and reinstatement phases is expected to be low (less than 10 movements per day) so the magnitude of dust emission from uncontrolled trackout would be low.

### 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 (PM<sub>10</sub>), including the number of affected receptors and consideration of existing background concentrations; and
- ecological effects of dust deposition.

1.3.2 Most of the sensitive receptors near to the proposed development site are classified as being highly sensitive as they are residential properties or schools. The sensitivity of nearby receptors and their distance from the proposed development are shown in **Table 1.1**.

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

Receptor	Sensitivity	Distance from Site Boundary (m).	Distance from Trackout (m).
LE2c	High	Less than 20.	Less than 20.
LE15	Medium	Less than 350.	Less than 200.
LE16c	High	Less than 350.	Less than 200.
LE18c	High	Less than 20.	Less than 20.
LE19	High	Less than 20.	Less than 20.
LE20c	High	Less than 20.	Less than 20.
LE21	High	Less than 20.	Less than 20.
LE22	High	Less than 20.	Less than 20.
LE23	High	Less than 350.	Less than 350.
LE24	High	Less than 20.	Less than 20.

Receptor	Sensitivity	Distance from Site Boundary (m).	Distance from Trackout (m).
LE53	High	Less than 200.	Less than 200.
LE54	High	Less than 350.	Less than 350.
LE55c	High	Less than 200.	Less than 200.
LE56c	High	Less than 350.	Less than 350.
Buckle's Wood, Ancient and semi-natural woodland, priority habitat inventory (E14).	Low	Less than 20.	Less than 20.
Aldhurst Farm habitat creation scheme (E27).	Low	Less than 20.	Less than 20.

1.3.3 The existing background PM<sub>10</sub> concentration is 13.4 micrograms per cubic meter air (µg/m<sup>3</sup>), less than the lowest screening category within the IAQM methodology 24µg/m<sup>3</sup>, 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 low based on the existing baseline PM<sub>10</sub> 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 sensitivity of the receptors.

**Table 1.2: Area Sensitivity to dust impacts.**

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

1.4.2 The control measures detailed in the **Code of Construction Practice** (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



**VOLUME 9, CHAPTER 5, APPENDIX 5B – DUST RISK  
ASSESSMENT FOR SAXMUNDHAM TO LEISTON BRANCH  
LINE UPGRADES**

## Contents

1.	Dust Risk Assessment for Saxmundham to Leiston Branch Line Improvements .....	1
1.1	Initial screening.....	1
1.2	Assessment of risks.....	1
1.3	Sensitivity of area .....	2
1.4	Risk of impacts .....	4
	References .....	5

## Tables

Table 1.1:	Sensitivity of receptors within screening distance of the track crossover.....	2
Table 1.2:	Area sensitivity to dust impacts.....	3
Table 1.3:	Risk of dust impacts from unmitigated activities. ....	4

## Plates

**None provided.**

## Figures

**None provided.**

## 1. Dust Risk Assessment for Saxmundham to Leiston Branch Line Improvements

### 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 track crossover cannot be screened out due to the presence of human receptors within 350 metres (m) of the proposed development and of trackout up to 500m of the site. Therefore, a dust risk assessment has been undertaken in accordance with the guidance.

### 1.2 Assessment of risks

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

- earthworks (including vegetation and site clearance and stockpiling of soils);
- construction (including construction of new track, signage and landscaping); and
- trackout (heavy duty vehicle (HDV)<sup>1</sup> movements on unpaved surfaces and mud transferred onto the highway, up to 500m from 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 track crossover would likely have a high dust emission magnitude due to size of the proposed development and the number of HDVs transporting spoil and preparing the site.

---

<sup>1</sup> 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 activities associated with constructing 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 movement across unpaved surfaces during construction of the rail extension 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 to the source for:

- dust soiling effects on people and amenity, including the number of affected receptors;
- human health effects of particulate matter (PM<sub>10</sub>), including the number of affected receptors and consideration of existing background concentrations; and
- ecological effects of dust deposition.

1.3.2 All sensitive human receptors near the proposed development are classified as being highly sensitive. The sensitivity of nearby receptors and their distance from the track crossover 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 track crossover.**

Receptor	Sensitivity	Distance From Site Boundary (m).	Distance From Trackout (m).
LE1	High	Less than 200.	Less than 20.
LE8	High	Less than 350.	Less than 20.
LE9	High	Greater than 350.	Less than 20.
LE12	High	Less than 350.	Less than 20.
LE20	High	Less than 50.	Less than 20.
LE21	High	Less than 20.	Less than 20.
LE22	High	Less than 20.	Less than 100.
LE24	High	Less than 50.	Less than 50.

Receptor	Sensitivity	Distance From Site Boundary (m).	Distance From Trackout (m).
LE34	High	Less than 100.	Less than 200.
LE35	High	Less than 100.	Less than 20.
LE36	High	Less than 50.	Less than 20.
LE37	High	Less than 350.	Less than 100.
LE38	High	Less than 200.	Less than 20.
LE40	High	Less than 200.	Less than 200.
LE53	High	Less than 20.	Less than 20.
LE55c	High	Less than 200.	Less than 50.
LE56c	High	Less than 200.	Less than 50.
SX4	High	Greater than 350.	Less than 20.
SX16	High	Greater than 350.	Less than 20.
SX17	High	Less than 200.	Less than 200.
SX19	High	Less than 100.	Less than 350.

1.3.3 The existing background PM<sub>10</sub> concentration is 13.0 micrograms per cubic metre (µg/m<sup>3</sup>) to 14.1µg/m<sup>3</sup>, less than the lowest screening category within the IAQM methodology (24µg/m<sup>3</sup>), 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 PM<sub>10</sub> level, the number of sensitive receptors and their distance from the dust sources.

**Table 1.2: Area sensitivity to dust impacts.**

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



## 1.4 Risk of impacts

1.4.1 Based on the assumed medium dust emission magnitude from activities associated with the track crossover (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 describes the recommended level of risk mitigation.

**Table 1.3: Risk of dust impacts from unmitigated activities.**

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

1.4.2 The control measures detailed in the Code of Construction Practice were determined assuming that the construction, operation and removal and reinstatement associated with 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