



**East Pye Solar
Environmental Statement
Volume 3: Appendix 13.1 – Construction and
Decommissioning Dust Risk Assessment**

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13.1 Dust Risk Assessment

Introduction

- 13.1.1 Dust deposition, increased PM₁₀ and PM_{2.5} concentrations, and impacts on ecological receptors as a result of fugitive dust emissions during the construction, operation and maintenance (i.e. solar PV panel and BESS replacement) and decommissioning phases of the Scheme have been scoped out of the air quality assessment presented in **ES: Chapter 13 Air Quality [EN0110014/APP/6.1.13]**, as agreed by the Planning Inspectorate (PINS) in their **Scoping Opinion** dated 25th February 2025 **[EN0110014/APP/6.3.2.2]**. The air quality effects of construction, operation and maintenance, and decommissioning phase dust emissions will not be significant in EIA terms following the implementation of dust mitigation measures included in the **Outline CEMP [EN0110014/APP/7.1]**, **Outline OEMP [EN0110014/APP/7.2]** and **Outline DEMP [EN0110014/APP/7.3]**.
- 13.1.2 The dust risk assessments presented in this appendix have been undertaken to determine appropriate mitigation measures for inclusion in the **Outline CEMP [EN0110014/APP/7.1]**, **Outline OEMP [EN0110014/APP/7.2]** and **Outline DEMP [EN0110014/APP/7.3]**. Solar PV panel and BESS replacement activities during the operational phase have potential to generate fugitive dust emissions. As a reasonable worst-case assessment, it is assumed that the risk of dust impacts resulting from replacement activities are no worse than those for the construction phase of the Scheme. Therefore, the mitigation measures presented in **Table 13.1.9** for the construction phase have also been applied in the **Outline OEMP [EN0110014/APP/7.2]** to mitigate effects associated with dust emissions resulting from the operational phase replacement activities.
- 13.1.3 The assessment of the risk of potential dust impacts during the construction and decommissioning phases has been undertaken with reference to the Institute of Air Quality Management's (IAQM's) 'Guidance on the assessment of dust from demolition and construction' (v2.2) (Ref 13-1).
- 13.1.4 Dust from on-site activities and off-site trackout by vehicles has the potential to impact on sensitive human and ecological receptors within the study area. The main potential impacts are loss of amenity (as a result of dust soiling), deterioration of human health (as a result of increased concentrations of PM₁₀ and PM_{2.5}), and harm to sensitive ecological receptors.
- 13.1.5 The suspension of particles in the air is dependent on surface characteristics, weather conditions and on-site activities. Impacts have the potential to occur when dust-generating activities coincide with dry, windy conditions, and where sensitive receptors are located downwind of the dust sources.

- 13.1.6 Separation distance is also an important factor. Large dust particles (greater than 30 μm), which can be potentially responsible for most dust annoyance, will largely deposit within 100 m of sources. Intermediate particles (10-30 μm) can travel 200-500 m. Consequently, significant dust annoyance is usually limited to within a few hundred metres of its source. Smaller particles (less than 10 μm), which are the predominant fraction that can be potentially responsible for human health impacts, largely remain airborne. However, the impact on the short-term concentrations of PM_{10} and $\text{PM}_{2.5}$ occur over a shorter distance due to the rapid decrease in concentrations with distance from the source due to dispersion.

Methodology

Screening Assessment

- 13.1.7 The first stage of the assessment involves screening to determine if there are sensitive receptors within threshold distances of the activities associated with the construction and decommissioning phases of the Scheme and which will occur within its study area. No further assessment is required if there are no receptors within the study area.
- 13.1.8 The IAQM guidance outlines that an assessment is only required in cases where:
- A 'human receptor' is located within:
 - 250 m of the boundary the Order Limits; or
 - 50 m of the route(s) used by construction and decommissioning vehicles on the public highway, up to 250 m from site entrances.
 - An 'ecological receptor' is located within:
 - 50 m of the boundary the Order Limits; or
 - 50 m of the route(s) used by construction and decommissioning vehicles on the public highway, up to 250 m from site entrances.

Further Assessment

- 13.1.9 Following IAQM guidance, the risk of impacts associated with dust soiling and PM_{10} (including $\text{PM}_{2.5}$) caused by the Scheme has been determined by the dust emission class (or magnitude) arising from four activities in the absence of mitigation (demolition, earthworks, construction and trackout), the sensitivity of nearby receptors, and the overall sensitivity of the area. The dust emission class, receptor sensitivity and overall sensitivity of the area are determined using the criteria outlined in **Table 13.1 – 13.5** (based on the IAQM guidance), indicative thresholds and professional judgement.

13.1.10 The IAQM guidance assessment methodology assumes PM_{2.5} forms a fraction of the total PM₁₀ emissions from construction sites. The guidance recommends that the average PM_{2.5} content of PM₁₀ should be assumed to be 10% based on research into PM_{2.5} content of suspended construction dust emissions. As the IAQM guidance assessment methodology considers PM_{2.5} to be a fraction of PM₁₀, PM_{2.5} is inherently considered when assessing the area sensitivity to human health impacts in accordance with **Table 13.4**. However, baseline PM_{2.5} concentrations have also been reviewed against the interim annual mean concentration target (AMCT) of 10 µg/m³ by 2030 when assessing the area sensitivity to human health impacts from construction and decommissioning dust emissions.

Table 13.1: Dust Emission Magnitude Classification

Activity	Dust Emission Magnitude		
	Large	Medium	Small
Demolition	Total building volume of >75,000 m ³ , potentially dusty material, on-site crushing and screening, demolition activities >12 m above ground.	Total building volume of 12,000 – 75,000 m ³ , potentially dusty material, demolition activities 6 – 12 m above ground level.	Total building volume of <12,000 m ³ , material with low potential for dust release, demolition activities <6 m above ground, demolition during wetter months.
Earthworks	Total site area of >110,000 m ² , potentially dusty soil type, >10 heavy earth moving vehicles active at any one time, formation of bunds >6 m in height.	Total site area of 18,000 – 110,000 m ² , moderately dusty soil type, 5 - 10 heavy earth moving vehicles active at any one time, formation of bunds 3 – 6 m in height.	Total site area of <18,000 m ² , soil type with large grain size, <5 heavy earth moving vehicles active at any one time, formation of bunds <3 m in height.
Construction	Total building volume >75,000 m ³ , on-site concrete batching, sandblasting.	Total building volume 12,000 – 75,000 m ³ , potentially dusty construction material, on-site concrete batching.	Total building volume <12,000 m ³ , construction material with low potential for dust release.
Trackout	>50 Heavy Duty Vehicles (HDV) outwards movements in any one day, potentially dusty surface material, unpaved road length >100 m	20 – 50 HDV outwards movements in any one day, moderately dusty surface material, unpaved road length 50 – 100 m.	<20 HDV outwards movements in any one day, surface material with low potential for dust release, unpaved road length <50 m.

Table 13.2: Receptor Sensitivity

Receptor Sensitivity	Impact		
	Dust Soiling	Health Impacts of PM ₁₀	Ecological Impacts
High	An area where: <ul style="list-style-type: none"> Users can reasonably expect enjoyment of a high level of amenity; The appearance, aesthetics or value of their property would be diminished by soiling; The people or property would reasonably be expected to be present 	Locations where members of the public are exposed over a time period relevant to the air quality objective for PM ₁₀ (in the case of the 24-hour objective, a relevant location would be one where individuals may be exposed for eight hours or more per day). Examples include residential properties. Hospitals, schools	Locations with an international or national designation and the designated features may be affected by dust soiling; or Locations where there is a community of particularly dust sensitive species such as vascular species included in the Red Data List for Great Britain.

Receptor Sensitivity	Impact		
	Dust Soiling	Health Impacts of PM ₁₀	Ecological Impacts
	<p>continuously, or at least regularly for extended periods, as part of the normal pattern of use of the land.</p> <p>Examples include dwellings, museums and other culturally important collections, medium and long-term car parks and car showrooms.</p>	<p>and residential care homes should also be considered as having equal sensitivity to residential areas for the purposes of this assessment.</p>	<p>Indicative examples include a Special Area of Conservation (SAC) designated for acid heathlands or a local site designated for lichens adjacent to the demolition of a large site containing concrete (alkali) buildings.</p>
Medium	<p>An area where:</p> <ul style="list-style-type: none"> Users would expect to enjoy a reasonable level of amenity, but would not reasonably expect to enjoy the same level of amenity as in their home; The appearance, aesthetics or value of their property could be diminished by soiling; The people or property wouldn't reasonably be expected to be present here continuously or regularly for extended periods, as part of the normal pattern of use of the land. <p>Examples include parks and places of work.</p>	<p>Locations where people exposed are workers, and exposure is over a time period relevant to the air quality objective for PM₁₀ (in the case of the 24-hour objective, a relevant location would be one where individuals may be exposed for eight hours or more per day).</p> <p>Examples include office and shop workers, but generally not including workers occupationally exposed to PM₁₀ as protection is covered by Health and Safety at Work legislation.</p>	<p>Locations where there is a particularly important plant species, where its dust sensitivity is uncertain or unknown;</p> <p>or</p> <p>Locations with a national designation where the features may be affected by dust deposition.</p> <p>An indicative example is a Site of Special Scientific Interest (SSSI) with dust-sensitive features.</p>
Low	<p>An area where:</p> <ul style="list-style-type: none"> The enjoyment of amenity would not reasonably be expected; Property would not reasonably be expected to be diminished in appearance, aesthetics or value by soiling; There is transient exposure, where the people or property would reasonably be expected to be present only for limited periods of time as part of the normal pattern of use of the land. <p>Examples include playing fields, farmland (unless commercially sensitive horticultural), footpaths, short-term car parks and roads.</p>	<p>Locations where human exposure is transient.</p> <p>Examples include public footpaths, playing fields, parks and shopping streets.</p>	<p>Locations with a local designation where the features may be affected by dust deposition.</p> <p>An indicative example is a Local Nature Reserve (LNR) with dust-sensitive features.</p>

Table 13.3: Sensitivity of an Area to Dust Soiling Impacts

Receptor Sensitivity	Number of Receptors	Distance from Source (m)			
		<20	<50	<100	<250
High	>100	High	High	Medium	Low
	10 – 100	High	Medium	Low	Low
	1 – 10	Medium	Low	Low	Low
Medium	>1	Medium	Low	Low	Low
Low	>1	Low	Low	Low	Low

Table 13.4: Sensitivity of an Area to Human Health Impacts

Receptor Sensitivity	Annual Mean PM ₁₀ Concentration	Number of Receptors	Distance from the Source (m)			
			<20	<50	<100	<250
High	>32µg/m ³	>100	High	High	High	Medium
		10 – 100	High	High	Medium	Low
		1 - 10	High	Medium	Low	Low
	28 - 32µg/m ³	>100	High	High	Medium	Low
		10 – 100	High	Medium	Low	Low
		1 - 10	High	Medium	Low	Low
	24 - 28µg/m ³	>100	High	Medium	Low	Low
		10 – 100	High	Medium	Low	Low
		1 - 10	Medium	Low	Low	Low
	<24µg/m ³	>100	Medium	Low	Low	Low
		10 – 100	Low	Low	Low	Low
		1 - 10	Low	Low	Low	Low
Medium	>32µg/m ³	>10	High	Medium	Low	Low
		1 - 10	Medium	Low	Low	Low
	28 - 32µg/m ³	>10	Medium	Low	Low	Low
		1 - 10	Low	Low	Low	Low
	24 - 28µg/m ³	>10	Low	Low	Low	Low
		1 - 10	Low	Low	Low	Low
<24µg/m ³	>10	Low	Low	Low	Low	
	1 - 10	Low	Low	Low	Low	
Low	-	≥1	Low	Low	Low	Low

Table 13.5: Sensitivity of an Area to Ecological Impacts

Receptor Sensitivity	Distance from Source (m)	
	<20	<50
High	High Risk	Medium Risk
Medium	Medium Risk	Low Risk
Low	Low Risk	Low Risk

13.1.11 The risk of dust impacts arising is a product of the relationship between the dust emission magnitude and the area sensitivity and is based on the criteria outlined in **Table 13.6** (based on the IAQM guidance). The risk of impact is then used to determine the mitigation requirements.

Table 13.6: Risk of Dust Impacts Calculation Matrix

Sensitivity of Area		Dust Emission Magnitude		
		Large	Medium	Small
Demolition	High	High Risk	Medium Risk	Medium Risk
	Medium	High Risk	Medium Risk	Low Risk
	Low	Medium Risk	Low Risk	Negligible Risk
Earthworks	High	High Risk	Medium Risk	Low Risk
	Medium	Medium Risk	Medium Risk	Low Risk
	Low	Low Risk	Low Risk	Negligible Risk
Construction	High	High Risk	Medium Risk	Low Risk
	Medium	Medium Risk	Medium Risk	Low Risk
	Low	Low Risk	Low Risk	Negligible Risk
Trackout	High	High Risk	Medium Risk	Low Risk
	Medium	Medium Risk	Medium Risk	Low Risk
	Low	Low Risk	Low Risk	Negligible Risk

Determining Significant Effects

13.1.12 The IAQM guidance recommends that no assessment of the significance of effects is made without mitigation in place, as mitigation is assumed to be secured by planning conditions, legal requirements, or required by regulations.

13.1.13 With appropriate mitigation in place, the IAQM guidance indicates that the residual effect of dust emissions associated with construction can be classified as being **‘not significant’**.

Construction Dust Risk Assessment

Screening Assessment

- 13.1.14 The construction dust assessment study area is shown in **ES: Figure 13.2 Construction and Decommissioning Dust Study Area [EN0110014/APP/6.2.13.2]**.
- 13.1.15 There are a number of existing sensitive human receptors (including residential properties) located within 250 m of the Order Limits and within 50 m of the routes that will be used by construction vehicles (up to 250 m from the Order Limits). As such, further assessment of the risk of dust soiling and PM₁₀ (including PM_{2.5}) emissions is required.
- 13.1.16 There are several sensitive ecological receptors within 50 m of the Order Limits and within 50 m of routes that will be used by construction vehicles (up to 250 m from the Order Limits). These include SSSIs, Ancient Woodland, County Wildlife Sites (CWS) and Roadside Nature Reserves (RNRs). It should be noted that some designations overlap. The nearby designations are as follows:
- Saxlingham Grove CWS and Ancient Woodland - adjacent to Sub-Site 7F and 7G.
 - D'Oyllys Grove Ancient Woodland and CWS – adjacent to Sub-Site 7C.
 - Pope's Wood Ancient Woodland/County Wildlife Site – adjacent to Sub-Site 7C.
 - Little Wood Ancient Woodland – adjacent to Sub-Site 7H.
 - Brooke Wood Ancient Woodland and CWS – adjacent to Honeypot Lane along which construction traffic could route within 250 m of the Order Limits.
 - Shotesham-Woodton Hornbeam Woods SSSI – adjacent to Sub-Site 7F, 7G and 7H.
 - Spring Wood Ancient Woodland / County Wildlife Site – adjacent to Site 3.
 - Ringers Grove Ancient Woodland – adjacent to Sub-Site 8A.
 - Beckett's Wood Ancient Woodland and CWS – within 50 m of CRC 8B.
 - Fritton Grange Meadows Country Wildlife Site – adjacent to CRC 7B and within 50 m of Sub-Site 7B.
 - Lower Spring Wood CWS – adjacent to CRC 9B.

- Woodton Road RNR – adjacent to Sub-Site 7k and 7L.
- Fylands Road RNR – adjacent to Sub-Sites 7L and 7J.
- Market Lane RNR – adjacent to Sub-Site 8A.
- The Krons Meadows County Wildlife Site – adjacent to The Krons along which construction traffic could route.

13.1.17 The potential for ecological impacts as a result of dust soiling on these ecological sites cannot be screened out and further assessment has been undertaken in the following section.

Further Assessment

Dust Emission Magnitude

13.1.18 Dust emissions relating to magnitude of demolition, earthworks and construction activities and as a result of trackout have been determined and are set out in **Table 13.7** below. The results are based the criteria shown in **Table 13.1**.

Table 13.7: Dust Emission Magnitudes

Activity	Magnitude	Justification
Demolition	N/A	There is no demolition proposed to take place as part of the Scheme during the construction phase. As such demolition activities have not been considered further in this assessment.
Earthworks	Large	Proposed earthworks activities comprise extensive landscaping, excavation and earthworks across an area greater than 110,000 m ² . The soil within the Order Limits is largely classified as slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils (Ref 13-2) which are considered to be moderately dusty, particularly during periods of dry weather. Based on this, the dust emission magnitude of earthworks activities is judged to be 'large'.
Construction	Large	The total building volume to be constructed will be larger than 75,000 m ³ . Construction materials will comprise a mixture of material including those with a high potential for dust release, such as concrete for foundations and bases of the PV panels, as well as those with a lower dust potential such as metals and timber. Based on this, the dust emission magnitude of construction activities is judged to be 'large'.
Trackout	Large	The number of HDVs that will exit the Scheme will vary depending upon the processes occurring at any one time. There could potentially be more than 50 outward HDV movements in any one day at the peak of the construction phase across the Scheme. There is expected to be an unpaved road length greater than 100 m in length comprising potentially dusty surface material. Based on this, the dust emission magnitude of trackout is judged to be 'large'.

Area Sensitivity

- 13.1.19 The area sensitivity to dust soiling and human health impacts has been determined using the criteria shown in **Table 13.3** and **Table 13.4**.
- 13.1.20 Residential properties are classed as 'high sensitivity' receptors to dust soiling, based on the IAQM guidance (**Table 13.2**). There are over 100 residential properties located within 50 m of the Order Limits. As such, the sensitivity of the area surrounding the Order Limits to dust soiling is judged to be 'high'.
- 13.1.21 The IAQM guidance indicates that potential impacts of trackout should be considered for sensitive receptors within 50 m of the routes used by construction vehicles and within a distance of up to 250 m from the Order Limits. There are over 100 residential properties located within 50 m of roads extending up to 250 m from the Order Limits. As such, the sensitivity to dust soiling of the area surrounding roads along which material may be tracked is judged to be 'high'.
- 13.1.22 The IAQM also defines residential properties as being 'high sensitivity' receptors to human health impacts (see **Table 13.4**). PM₁₀ concentrations at existing residential properties within the study area is anticipated to be similar to the 2025 DEFRA background concentrations across the Order Limits (i.e. 10.8 – 16.0 µg/m³) - see **ES: Chapter 13 Air Quality, Table 13.8 [EN0110014/APP/6.1.13]**. PM_{2.5} concentrations at existing residential properties within the study area are expected to be similar to the 2025 period mean concentration measured at the SNC Zephyr monitor in Long Stratton (7.6 µg/m³); estimated PM_{2.5} concentrations are therefore below the interim AMCT of 10 µg/m³ and DEFRA 2025 background concentrations presented in **ES Chapter 13: Air Quality, Table 13.8 [EN0110014/APP/6.1.13]** also support this, with a maximum 2025 PM_{2.5} concentration across the Order Limits being 6.1 µg/m³.
- 13.1.23 Based on the predicted existing PM₁₀ and PM_{2.5} concentrations, as well as the number of sensitive receptors within 20 m of the Order Limits and roads along which material may be tracked, the sensitivity to human health impacts of the areas surrounding the Order Limits and the area surrounding roads along which material may be tracked are judged to be 'medium'.
- 13.1.24 SSSIs with dust-sensitive features are classed as being 'medium' sensitivity receptors to dust deposition. Ancient Woodland, CWS and RNRs with features that may be sensitive to dust deposition are classed as being 'low' sensitivity receptors, based on the IAQM guidance (see **Table 13.5**). There are several SSSIs, Ancient Woodlands, CWS and RNRs located within 50 m of the Order Limits, including SSSI parcels within 20 m of the Order Limits. As such, the sensitivity of the area surrounding the Order Limits to ecological impacts is judged to be 'medium'.

Risk of Impacts

13.1.25 The risk of construction dust impacts, without mitigation, have been defined based on the criteria shown in **Table 13.6** and are presented in **Table 13.8**.

Table 13.8 Risk of Construction Dust Impacts Without Mitigation

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

Mitigation

13.1.26 The following standard mitigation measures from the IAQM guidance (Ref 13-1) set out in **Table 13.9** are included in the **Outline CEMP [EN0110014/APP/7.1]**, taking into account the outcomes of the construction dust risk assessment (presented in **Table 13.8**).

Table 13.9: Construction Phase Mitigation Measures

Category	Mitigation Measure
Communications	Develop and implement a stakeholder communications plan that includes community engagement before work commences on-site. This measure is secured in the OCEMP.
	Display the name and contact details of person(s) accountable for air quality and dust issues on the site boundary. This may be the Environment Manager/Engineer or the Site Manager. This measure is secured in the OCEMP.
	Display the head or regional office contact information. This measure is secured in the OCEMP.
Management	Develop and implement a Dust Management Plan (DMP), which may include measures to control other emissions, approved by the Local Authority. The DMP may include monitoring of dust deposition, dust flux, real time PM ₁₀ continuous monitoring and/or visual inspections. This measure is secured in the OCEMP.
	Record all dust and air quality complaints, identify cause(s) and take appropriate measures to reduce emissions in a timely manner, and record the measures taken. This measure is secured in the OCEMP.
	Make the complaints log available to the local authority when asked. This measure is secured in the OCEMP.
	Record any exceptional incidents that cause dust and/or air emissions, either on- or off-site, and the action taken to resolve the situation in the log-book. This measure is secured in the OCEMP.
	Hold regular liaison meetings with other high risk construction sites within 250 m of the site boundary to ensure plans are co-ordinated and dust and particulate matter emissions are minimised. It is important to understand the interactions of the off-site transport/deliveries which might be using the same strategic road network routes. This measure is secured in the OCEMP.
Monitoring	Undertake daily on-site and off-site inspections, where receptors (including roads) are nearby, to monitor dust, record inspection results, and make the log available to the local authority when asked. This should include regular dust soiling checks of surfaces such as street furniture, cars and windowsills within 100 m of the site boundary, with cleaning to be provided if necessary. This measure is secured in the OCEMP.

Category	Mitigation Measure
	Carry out regular site inspections to monitor compliance with the DMP, record inspection results, and make an inspection log available to the Local Authority when asked. This measure is secured in the OCEMP.
	Increase the frequency of Site inspections by the person accountable for air quality and dust issues on Site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions. This measure is secured in the OCEMP.
	Agree real-time PM ₁₀ (including PM _{2.5}) continuous monitoring locations with the Local Authority. Where practicable, commence baseline monitoring at least three months before work on a phase commences. This measure is secured in the OCEMP.
Preparing and maintaining the site	Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is practicable. This measure is secured in the OCEMP.
	Erect solid screens or barriers around dusty activities that are at least as high as any stockpiles on-site. This measure is secured in the OCEMP.
	Fully enclose site or specific operations where there is a high potential for dust productions and the site is active for an extensive period. This measure is secured in the OCEMP.
	Avoid site runoff of water or mud. This measure is secured in the OCEMP.
	Keep site fencing, barriers and scaffolding clean using wet methods. This measure is secured in the OCEMP.
	Remove materials that have a potential to produce dust from site as soon as practicable, unless being re-used on Site. If they are being re-used on-Site, cover as described below. This measure is secured in the OCEMP.
	Cover, seed or fence stockpiles to prevent wind whipping. This measure is secured in the OCEMP.
Operating vehicle/machinery and sustainable travel	Ensure all vehicles switch off engines when stationary – no idling vehicles. This measure is secured in the OCTMP.
	Avoid the use of diesel- or petrol-powered generators and use mains electricity or battery powered equipment where practicable. This measure is secured in the OCTMP.
	Impose and signpost a maximum speed limit of 15 mph on surfaced and 10 mph on unsurfaced haul roads and work areas if long haul routes are required these speeds may be increased with suitable additional control measures provided, subject to the approval of the nominated undertaker and with the agreement of the Local Authority, where appropriate. This measure is secured in the OCTMP.
	Produce a Construction Traffic Management Plan (CTMP), to manage the sustainable delivery of goods and materials including dust control and other measures. An Outline CTMP [EN0110014/APP/7.6] has been prepared.
	Implement a CTMP that supports and encourages sustainable travel (public transport, cycling, walking and car sharing) which will reduce air quality impacts. An Outline CTMP [EN0110014/APP/7.6] has been prepared.
Operations	Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable local exhaust ventilation systems. This measure is secured in the OCEMP.
	Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where practicable and appropriate. This measure is secured in the OCEMP.
	Use enclosed chutes and conveyors and covered skips. This measure is secured in the OCEMP.
	Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate. This measure is secured in the OCEMP.

Category	Mitigation Measure
	Ensure equipment is readily available on-site to clean any dry spillages, and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods. This measure is secured in the OCEMP.
Waste management	Avoid bonfires and burning of waste materials. This measure is secured in the OCEMP.
Earthworks	Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable. This measure is secured in the OCEMP.
	Use Hessian, mulches or tackifiers (products designed to create adhesive surfaces) where it is not practicable to re-vegetate or cover with topsoil, as soon as practicable. This measure is secured in the OCEMP.
	Only remove the cover in small areas during work and not all at once. This measure is secured in the OCEMP.
Construction	Avoid scabbling (roughening of concrete surfaces) if practicable. This measure is secured in the OCEMP.
	Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place. This measure is secured in the OCEMP.
	Ensure bulk cement and other fine powder materials are delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overflowing during delivery. This measure is secured in the OCEMP.
	For smaller supplies of fine powder materials ensure bags are sealed after use and stored appropriately to prevent dust. This measure is secured in the OCEMP.
Trackout	Use water assisted dust sweepers on the site access and local roads, to remove, as necessary, any material trackout out of the Site. This may require the sweeper being continuously in use. This measure is secured in the OCEMP.
	Avoid dry sweeping of large areas. This measure is secured in the OCEMP.
	Ensure that materials in vehicles entering and leaving the Site are covered to prevent escape of materials during transport. This measure is secured in the OCEMP.
	Inspect on-Site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable. This measure is secured in the OCEMP.
	Record all inspections of haul routes and any subsequent action in a site log-book. This measure is secured in the OCEMP.
	Install hard surfaced haul routes, which are regularly damped down with fixed or mobile sprinkler systems, or mobile water bowsers and regularly cleaned. This measure is secured in the OCEMP.
	Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the Site, where reasonably practicable). This measure is secured in the OCEMP.
	Ensure there is an adequate area of hard surfaced road between the wheel wash facility and the site exit, wherever site size and layout permit. This measure is secured in the OCEMP.
Access gates to be located at least 10 m from receptors where practicable. This measure is secured in the OCEMP.	

Decommissioning Dust Risk Assessment

Dust Emission Magnitude

- 13.1.27 Dust emissions relating to magnitude of demolition, earthworks and construction activities and as a result of trackout during the decommissioning phase have been determined and are set out in **Table 13.10** below. The results are based on the criteria shown in **Table 13.1**.
- 13.1.28 The assessment of the dust emission magnitude for activity during the decommissioning phase has been undertaken based on information available at the time of the assessment. Where detailed information is not available, a precautionary assumption has been made.

Table 13.10: Dust Emission Magnitudes

Activity	Magnitude	Justification
Demolition	Medium	Demolition activities are expected to include the demolition of the substations (excluding the National Grid substation), the BESS and their foundations. These activities are not expected to occur more than 6 m above ground and the total building volume to be demolished is expected to be between 12,000 – 75,000m ³ . Based on this, the dust emission magnitude of earthworks activities is judged to be 'medium'.
Earthworks	Large	Proposed earthworks activities comprise excavation and landscaping across an area greater than 110,000 m ² . The soil at across the Order Limits is largely classified as slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils ^{Error! Bookmark not defined.} which are considered to be moderately dusty, particularly during periods of dry weather. Based on this, the dust emission magnitude of earthworks activities is judged to be 'large'.
Construction	N/A	This assessment relates to decommissioning activities. See Table 13.7 for Dust Emission Magnitudes in respect of construction activities.
Trackout	Large	The number of HDVs that will exit the Site will vary depending upon the processes occurring at any one time. There could potentially be more than 50 outward HDV movements in any one day at the peak of the decommissioning phase across the Order Limits. There could be an unpaved road length greater than 100 m in length comprising potentially dusty surface material. Based on this, the dust emission magnitude of trackout is judged to be 'large'.

Area Sensitivity

- 13.1.29 The decommissioning dust assessment study area is shown in **ES Figure 13.2 Local Authority Air Quality Monitoring Locations [EN0110014/APP/6.2.13.1]**.
- 13.1.30 The area sensitivity to dust soiling and human health impacts has been determined using the criteria shown in **Table 13.3** and **Table 13.4**.

13.1.31 The area sensitivities to dust soiling, human health impacts and ecological impacts from decommissioning dust emissions are considered to be the same as during the construction phase. As such, the sensitivity of the area surrounding the Order Limits and road on which material may be tracked to dust soiling is judged to be ‘high’, the sensitivity of the area to human health impacts is considered to be ‘medium’ and the sensitivity of the area to dust soiling is also judged to be ‘medium’.

Risk of Impacts

13.1.32 The risk of decommissioning dust impacts, without mitigation, have been defined based on the criteria shown in **Table 13.6** and are presented in **Table 13.11**.

Table 13.11: Risk of Decommissioning Dust Impacts Without Mitigation

Potential Impact	Risk		
	Demolition	Earthworks	Trackout
Dust Soiling	Medium Risk	High Risk	High Risk
Human Health	Medium Risk	Medium Risk	Medium Risk
Ecological	Medium Risk	Medium Risk	Medium Risk

Mitigation

13.1.33 The following standard mitigation measures from the IAQM guidance set out in **Table 13.12** are included in the **Outline DEMP [EN0110014/APP/7.3]**, taking into account the outcomes of the decommissioning dust risk assessment (presented in **Table 13.11**).

Table 13.12: Decommissioning Phase Mitigation Measures

Category	Mitigation Measure
Communications	Develop and implement a stakeholder communications plan that includes community engagement before work commences on-site.
	Display the name and contact details of person(s) accountable for air quality and dust issues on the site boundary. This may be the Environment Manager/Engineer or the Site Manager. This measure is secured in the ODEMP.
	Display the head or regional office contact information. This measure is secured in the ODEMP.
Management	Develop and implement a Dust Management Plan (DMP), which may include measures to control other emissions, approved by the Local Authority. The DMP may include monitoring of dust deposition, dust flux, real time PM ₁₀ continuous monitoring and/or visual inspections. This measure is secured in the ODEMP.
	Record all dust and air quality complaints, identify cause(s) and take appropriate measures to reduce emissions in a timely manner, and record the measures taken. This measure is secured in the ODEMP.
	Make the complaints log available to the local authority when asked. This measure is secured in the ODEMP.

Category	Mitigation Measure
	<p>Record any exceptional incidents that cause dust and/or air emissions, either on- or off-site, and the action taken to resolve the situation in the log-book. This measure is secured in the ODEMP.</p> <p>Hold regular liaison meetings with other high risk construction sites within 250 m of the site boundary to ensure plans are co-ordinated and dust and particulate matter emissions are minimised. It is important to understand the interactions of the off-Site transport/deliveries which might be using the same strategic road network routes. This measure is secured in the ODEMP.</p>
Monitoring	<p>Undertake daily on-site and off-site inspections, where receptors (including roads) are nearby, to monitor dust, record inspection results, and make the log available to the local authority when asked. This should include regular dust soiling checks of surfaces such as street furniture, cars and windowsills within 100 m of the Site, with cleaning to be provided if necessary. This measure is secured in the ODEMP.</p> <p>Carry out regular site inspections to monitor compliance with the DMP, record inspection results, and make an inspection log available to the Local Authority when asked. This measure is secured in the ODEMP.</p> <p>Increase the frequency of site inspections by the person accountable for air quality and dust issues on-site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions. This measure is secured in the ODEMP.</p> <p>Agree real-time PM₁₀ (including PM_{2.5}) continuous monitoring locations with the Local Authority. Where practicable, commence baseline monitoring at least three months before work on a phase commences. This measure is secured in the ODEMP.</p>
Preparing and maintaining the site	<p>Plan Site layout so that machinery and dust causing activities are located away from receptors, as far as is practicable. This measure is secured in the ODEMP.</p> <p>Erect solid screens or barriers around dusty activities that are at least as high as any stockpiles on-site. This measure is secured in the ODEMP.</p> <p>Fully enclose specific operations where there is a high potential for dust productions and the site is active for an extensive period. This measure is secured in the ODEMP.</p> <p>Avoid Site runoff of water or mud. This measure is secured in the ODEMP.</p> <p>Keep Site fencing, barriers and scaffolding clean using wet methods. This measure is secured in the ODEMP.</p> <p>Remove materials that have a potential to produce dust from site as soon as practicable, unless being re-used on-site. If they are being re-used on-site, cover as described below. This measure is secured in the ODEMP.</p> <p>Cover, seed or fence stockpiles to prevent wind whipping. This measure is secured in the ODEMP.</p>
Operating vehicle/machinery and sustainable travel	<p>Ensure all vehicles switch off engines when stationary – no idling vehicles. This measure is secured in the ODEMP.</p> <p>Avoid the use of diesel- or petrol-powered generators and use mains electricity or battery powered equipment where practicable. This measure is secured in the ODEMP.</p> <p>Impose and signpost a maximum speed limit of 15 mph on surfaced and 10 mph on unsurfaced haul roads and work areas if long haul routes are required these speeds may be increased with suitable additional control measures provided, subject to the approval of the nominated undertaker and with the agreement of the Local Authority, where appropriate. This measure is secured in the ODEMP.</p> <p>Produce a Decommissioning Traffic Management Plan (DTMP), to manage the sustainable delivery of goods and materials including dust control and other measures. This measure forms part of the ODEMP.</p> <p>Implement a DTMP that supports and encourages sustainable travel (public transport, cycling, walking and car sharing) which will reduce air quality impacts. This measure forms part of the ODEMP.</p>

Category	Mitigation Measure
<p>Operations</p>	<p>Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable local exhaust ventilation systems. This measure is secured in the ODEMP.</p>
	<p>Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where practicable and appropriate. This measure is secured in the ODEMP.</p>
	<p>Use enclosed chutes and conveyors and covered skips. This measure is secured in the ODEMP.</p>
	<p>Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate. This measure is secured in the ODEMP.</p>
	<p>Ensure equipment is readily available on Site to clean any dry spillages, and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods. This measure is secured in the ODEMP.</p>
<p>Waste management</p>	<p>Avoid bonfires and burning of waste materials. This measure is secured in the ODEMP.</p>
<p>Demolition</p>	<p>Soft strip inside buildings before demolition (retaining walls and windows in the rest of the building where practicable, to provide a screen against dust). This measure is secured in the ODEMP.</p>
	<p>Ensure effective water suppression is used during demolition operations. Hand-held sprays are more effective than hoses attached to equipment as the water can be directed to where it is needed. In addition, high volume water suppression systems, manually controlled, can produce fine water droplets that effectively bring the dust particles to the ground. This measure is secured in the ODEMP.</p>
	<p>Avoid explosive blasting, using appropriate manual or mechanical alternatives. This measure is secured in the ODEMP.</p>
	<p>Bag and remove any biological debris or damp down such material before demolition. This measure is secured in the ODEMP.</p>
<p>Earthworks</p>	<p>Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable. This measure is secured in the ODEMP.</p>
	<p>Use Hessian, mulches or tackifiers (products designed to create adhesive surfaces) where it is not practicable to re-vegetate or cover with topsoil, as soon as practicable. This measure is secured in the ODEMP.</p>
	<p>Only remove the cover in small areas during work and not all at once. This measure is secured in the ODEMP.</p>
<p>Trackout</p>	<p>Use water assisted dust sweepers on the Site access and local roads, to remove, as necessary, any material trackout out of the Site. This may require the sweeper being continuously in use. This measure is secured in the ODEMP.</p>
	<p>Avoid dry sweeping of large areas. This measure is secured in the ODEMP.</p>
	<p>Ensure that materials in vehicles entering and leaving the Site are covered to prevent escape of materials during transport. This measure is secured in the ODEMP.</p>
	<p>Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable. This measure is secured in the ODEMP.</p>
	<p>Record all inspections of haul routes and any subsequent action in a site log-book. This measure is secured in the ODEMP.</p>
	<p>Install hard surfaced haul routes, which are regularly damped down with fixed or mobile sprinkler systems, or mobile water bowsers and regularly cleaned. This measure is secured in the ODEMP.</p>
	<p>Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the Site, where reasonably practicable). This measure is secured in the ODEMP.</p>

Category	Mitigation Measure
	<p>Ensure there is an adequate area of hard surfaced road between the wheel wash facility and the site exit, wherever site size and layout permit. This measure is secured in the ODEMP.</p>
	<p>Access gates to be located at least 10 m from receptors where practicable. This measure is secured in the ODEMP.</p>

References

- Ref 13-1. IAQM (2024). *Guidance on the Assessment of Dust from Demolition and Construction V2.2*. Available at: <https://iaqm.co.uk/guidance/>.
- Ref 13-2. Cranfield University (2025). *Soilscapes Viewer*. Available at: <https://www.landis.org.uk/soilscapes/>.