Matthew Stoaling

AIR QUALITY

CD6/4/D

Appeal A: APP/EPR/636: Daneshill Soil Treatment Facility

Appeal B: APP/EPR/651: Daneshill Soil Treatment Facility

Appeal C: APP/EPR/652: Maw Green Landfill Site

Rebuttal Proof of Evidence by Mr Matthew Stoaling

BSc (Hons), MSc, FIAQM, MIEnvSci, CEnv

FOR FCC Recycling (UK) Ltd and 3C Waste Ltd

March 2024 (v3)

Isopleth Ltd.
Registered in England and Wales No. 9150373

CONTENTS

1.0 INTRODUCTION

Background and Context

1.1 This rebuttal Proof of Evidence (PoE) has been prepared in response to the Environment Agency (EA) having raised additional issues during the Statement of Common Ground (SOCG) discussions and subsequently confirming via exchange of emails with the Appellant's agent [date] that issues relating to particulate matter are 'in dispute' as part of the EA's case to the appeal. Such issues have not been previously raised by the EA in any of its SOC's or in its evidence.

1.2 The appellant is of the view that the operation of the STFs will not result in dust amenity / nuisance effects at residences. The EA is of the view that the operation of the STFs will result in dust amenity / nuisance effects at residences, although there is an absence of any particularisation of the EA's case on this point. As such this is a matter which is not agreed between the parties.

1.3 This rebuttal should be read in conjunction with my previous submissions which were exchanged in accordance with the timetable required by the Planning Inpactorate:

i. **CD6/4/A**: Summary Proof of Evidence;
ii. **CD6/4/B**: Proof of Evidence (Main Text); and
iii. **CD6/4/C**: Appendices.

1.4 The following have been detailed in **CD6/4/B** (PoE, main text) and I will not repeat these here.

i. Qualifications and Experience;
ii. Setting of Sites and Development Descriptions;
iii. Background to Appeals;
iv. Scope of Evidence

Issue(s) Covered

1.5 BS 6069 *Characterization of air quality* describes 'dust' as particulate matter in the size range 1 – 75 µm (known as PM_1 – PM_{75}).

1.6 In this rebuttal PoE I outline the differences between suspended particulates (including those with the potential to have health impacts) and the larger particles that would settle and potentially accumulate. These larger particles are variously referred to as:

i. 'Dust Deposited from the Air (Dustfall)' in the The EA M17 Guidance (**CD1/N**, Section 5, p19);
ii. Deposited dust;

iii. Nuisance dust; and

iv. Disamenity dust (terminology used by the Institute of Air Quality Management, IAQM).

1.7 For the avoidance of doubt, in this rebuttal PoE I refer to the smallest particles (smaller than PM_{15}) as Total Suspended Particulate (TSP) and the larger particles as 'Disamenity dust'.

1.8 As will be evident in the EA submissions, prior to the SOCG discussions on 29th February 2024, it was clear that the EA's concern in this appeal related to the potential for asbestos release only. Whilst there are other more general references to 'emissions', 'dust' and 'particulate matter' in the EA submissions, these are focussed on the potential for health impacts arising from the alleged release of asbestos fibres which would, on the EA's case, result in 'significant' pollution. The EA has not previously raised specific concerns relating to the potential for (dis)amenity / nuisance impacts from the deposition of particulate on surfaces. I discuss this in more detail in this rebuttal PoE.

2.0 PARTICLE SIZE AND BEHAVIOUR

2.1 Environment Agency M17 Guidance Section 3 *Particulate Matter around Waste Management Facilities* (**CD1/N**) includes a useful general summary in section 3.1 *Dust and its Journey from Source to Receptor*. This section describes the source → pathway → receptor as related to dust.

2.2 Section 3.1 of the M17 Guidance includes the following in relation to the potential for dust release and impact at a receptor, as related to particle size:

'The larger dust particles deposit almost immediately and fairly close to the source (and quite possibly within the site boundary), whereas finer particles fall out of the air only after some considerable time and distance.'

2.3 Furthermore:

For the particles to have an impact, they must reach a receptor…

…Different receptors vary in their sensitivity to dust and a number of classifications of sensitivity to dust are given in other guidance. The impact at any particular receptor will depend on how much dust there is (the dust exposure) and the sensitivity of that receptor to dust. The particle size has a very great effect on the physical behaviour of the dust and its impacts…

2.4 The M17 Guidance describes the importance of particle size as related to the potential distance that a particle may be carried and the resultant effect (health or nuisance). It follows that where a particle is small it may be carried further from the site and where it is larger it will be deposited very close to the site where it may accumulate and soil a surface.

2.5 It should be noted that that, in contrast to suspended particulate matter, there are no UK or European statutory standards that define the point when deposited dust causes annoyance or disamenity.

3.0 POTENTIAL FOR DISAMENITY

3.1 The potential for disamenity at the appeal sites will, as for any site, be dependent on the source → pathway → receptor relationship.

History

3.2 Both the Daneshill STF and Maw Green STF are located on former landfill sites, now closed to new waste but subject to restoration to final pre-settlement profiles.

3.3 The operational Edwin Richards Quarry (ERQ) STF is also located on a closed landfill site. Before landfilling commenced the sites were used for mineral extraction.

3.4 As such, the appeal sites (and the operational ERQ site) have a long history of large scale operation as minerals and waste sites on a far greater scale than the STF operations.

Source(s)

3.5 The application documents and appeal submissions of the appellant describe the development and the measures which will be put in place to prevent - or where not possible, to minimise - emissions of particulate, including dusts and asbestos.

3.6 The most effective of the measures for prevention of disamenity dust release will be the use of moisture, which is (as would be expected) highly effective at preventing the release of all dusts. This is especially relevant for preventing the release of asbestos fibres, when surfactant is included, as discussed in the evidence of Dr Cole. The soils to be treated will be received damp and additional water will be applied as necessary to ensure that this is maintained.

3.7 The dust source is therefore small when compared with the previous activities at each site and effective mitigation will ensure that the potential for the release of disamenity dusts is small. This is also the case for the bioremediation pile which the EA is content to Permit.

3.8 Effective mitigation would be a requirement of the site Dust Management Plan an example of which has been provided for the Maw Green site (**CD2/3/G**). Agreement of operational dust control measures is required before operation of sites in addition to being subject to regular review in accordance with agreed timescales, for example annually.

Pathway

3.9 **CD6/4/C** Is the appendix to my main PoE and this shows the locations of receptors in proximity to the STFs. The distances are also agreed in the SOCG.

3.10 The closest residences to the Daneshill site are at the Travellers Site, approx. 165-170m from the STF behind a stand of trees. The effect of these trees in sheltering the Travellers Site from particulate from the STF is described in my main PoE. All other residential receptors are >380m from the STF. Tudorstone Building Materials will itself be a source of disamenity dust, as will Retford Readymix Concrete & Screed Ltd which is adjacent to the Travellers Site, across the Daneshill Road.

3.11 The closest residences to the Maw Green site are the existing Meadow Croft Cottage and the new housing development to the east of Maw Green Road. The closest of these is located approximately 200m from the boundary of the STF. At well over 100m from each site, the receptors are further from the site than would typically be relevant for the largest particles which are those associated with disamenity.

Receptor

3.12 Residences are typically classed as being in the highest category of sensitivity to disamenity dusts. In the cases of the 2 appeal sites, there is no history of disamenity dust complaints despite the history of the locations, as I have described above, and the existing (non STF) disamenity dust sources.

3.13 Most notably, no disamenity dust complaints were received (or concerns raised) in relation to the previously operational STF at the Maw Green site. This provides empirical evidence that the operation of that STF does not lead to unacceptable impacts from disamenity dust.

Permitted Activities

3.14 As I have described above, the appellant is of the view that the operation of the STFs will not result in dust amenity / nuisance effects at residences. The EA is apparently of the view that the operation of the STFs will result in dust amenity / nuisance effects at residences although it has not particularised its case in any meaningful way. As such this is a matter which is not agreed between the parties.

3.15 However, the EA has not objected to the general principle of a STF at either site. Rather the Permit Variation for the Maw Green STF (see **CD2/4/J** and **CD2/4/M**) and the Permit Variation issued for the Daneshill STF (**CD2/2/G/61**) seek enclosure of activities for soils which contain asbestos. The appellant would be fully entitled to operate STFs treating soils without enclosure despite an identical risk of release of disamenity dusts with the full approval of the EA. This would be subject to the sites being operated in accordance with approved Dust Management Plans.

4.0 TOTAL SUSPENDED PARTICULATE

4.1 In his main PoE (**CD7/3/A**) Mr Chris Lowe makes reference to suspended particulate matter, including PM_{10} and $PM_{2.5}$. Below I discuss points raised by Mr Lowe.

Monitoring Networks

4.2 Mr Lowe notes in his section 3.6 that DEFRA National Air Quality Monitoring Networks monitor levels of PM_{10} and $PM_{2.5}$. Mr Lowe makes no further mention of these networks, the relevance of this section to the Appeals and does not present any PM_{10} or $PM_{2.5}$ concentration data.

4.3 In relation to the Daneshill site:

i. The DEFRA Network includes no monitoring locations relevant to Retford, the closest being Automatic Urban and Rural monitoring at 'Doncaster A630 Cleveland Street' and 'Toft Newton';

ii. Bassetlaw District Council is responsible for Local Air Quality Management in the area. The Council 2022 Air Quality Annual Status Report (ASR) indicates that the Council does not undertake any monitoring for PM_{10} or $PM_{2.5}$;

iii. DEFRA provides Background Mapping data for local authorities. The 2024 concentration values for OS GR 467500, 387000 are 13.3 µg/m^3 for PM_{10} (limit 40 µg/m^3) and 7.9 µg/m^3 for $PM_{2.5}$ (limit 20 µg/m^3).

iv. Based on the limited data available the levels of TSP at Daneshill, including PM_{10} and $PM_{2.5}$, are therefore well below the relevant limits for these pollutants.

4.4 In relation to the Maw Green site:

i. The DEFRA Network includes one monitoring locations relevant to Crewe, the Automatic Urban and Rural monitoring site at 'Crewe Coppenhall'. This is an 'Urban Background' location. The annual average monitored concentrations for 2023 were 10.7 µg/m^3 for PM_{10} (limit 40 µg/m^3) and 6.6 µg/m^3 for $PM_{2.5}$ (limit 20 µg/m^3).

ii. Cheshire East Council is responsible for Local Air Quality Management in the area. The Council 2022 Air Quality Annual Status Report (ASR) indicates that the Council does not undertake any monitoring for PM_{10} or $PM_{2.5}$ in the area, the only site being at Disley (near Stockport).

iii. DEFRA provides Background Mapping data for local authorities. The 2024 concentration values for OS GR 372000,357500 are 10.0 µg/m^3 for PM_{10} (limit 40 µg/m^3) and 6.5 µg/m^3 for $PM_{2.5}$ (limit 20 µg/m^3).

iv. Based on the data available the levels of TSP at Maw Green, including PM_{10} and $PM_{2.5}$, are therefore well below the relevant limits for these pollutants.

4.5 Neither site is located within an Air Quality Management Area.

4.6 Mr Lowe notes in his section 3.15 of his PoE that the EA has available Mobile Monitoring Facilities ('MMFs'). Although Mr Lowe describes these, he then goes on to say that they have not been used at either Daneshill or Maw Green. The relevance of this section is therefore unclear.

Generic Risks from Waste Sites

4.7 Mr Lowe notes in his section 4 of his PoE that 'Waste management sites are known sources of particulate pollution'. This is not in dispute, however according to the EA ('Regulating the waste industry'), the waste industry in England holds over 11,000 Environmental Permitting Regulations (EPR) permits issued by the Environment Agency; 81% of all EPR permits issued[1]. As such, that waste management sites are sources of TSP this is clearly not an issue for the EA.

4.8 In paragraph 4.6 of his PoE Mr Lowe states that:

'The Environment Agency's Air Quality Modelling and Assessment Unit ("AQMAU") has reviewed monitoring data collected over several years from adjacent to waste management sites and concluded that a waste site can generate up to 10 tonnes of PM_{10} a year if these emissions are not controlled effectively.'

4.9 Mr Lowe provides no further detail in relation to this statement:

i. No data has been presented;
ii. No reference has been included;
iii. The 'waste site' is not named or described;
iv. The caveat is given that, whichever site this may be, had ineffective emission control.

4.10 I am unclear therefore whether Mr Lowe considers that either of the STFs will emit 10 tonnes of PM_{10} per year (0.32 g/s) however this appears to be a general statement made without any evidence presented.

4.11 Mr Lowe notes in his paragraph 4.11 and 4.12 that PM_{10} and $PM_{2.5}$ may be harmful. This is not in dispute, indeed it is the reason why there are limits for these pollutants and Councils are required to declare Air Quality Management Areas where these limits are exceeded.

4.12 The EA Permits Waste Management sites with a far higher potential for emissions of PM_{10} and $PM_{2.5}$ to air, including those within Air Quality Management Areas designated on the basis of high PM_{10} levels.

[1] Note that this figure was from September 2016.

4.13 There are many examples, for example the two below which are located in Council areas where Air Quality Management Areas have been declared for particulate matter (24-hour and / or annual limits):

i. Rainham Landfill. Coldharbour Lane, Rainham, RM13 9DA; and

ii. Beddington Farmlands Landfill Site. 105 Beddington Lane, Croydon, CR0 4TD. This site is closed for new Municipal Solid Waste but is receiving inert wastes for site restoration.

4.14 On this basis it is evident that the EA is content to Permit waste sites with a much higher potential for TSP release than the STFs at the appeal sites and which are located in areas which already have very high levels of particulate pollution, including those designated as AQMAs. The relevance of this section in the PoE of Mr Lowe is therefore unclear to me.

5.0 CONCLUSIONS

5.1 The appellant is of the view that the operation of the STFs will not result in dust amenity / nuisance effects at residences. The EA is now of the view that the operation of the STFs will result in dust amenity / nuisance effects at residences. As such this is a matter which is not agreed between the parties.

5.2 The EA did not specifically raise the issue of disamenity dust in its Statement of Case or later submissions, including PoEs. Furthermore, the EA has not presented any evidence to demonstrate that the operation of the appeal would result in disamenity dust issues.

5.3 The fact that the Maw Green site operated without any issues previously (before the EP Variation) is proof that the Maw Green site is able to operate without any disamenity dust issues. It is expected that this would be the same for the Daneshill STF.

5.4 The EA is prepared to let the STFs operate without enclosure, subject to accepted soils not constaining asbestos. It is therefore clear that neither disamenity dust or other non-asbestos particular matter is not a concern at either site and the EA issues relate to asbestos fibres only.

5.5 As related to TSP, the operation of the STFs in accordance with agreed dust management plans will ensure that emissions of particulates are prevented, or where this is not possible, mitigated as far as possible. This is consistent with the situation at the *c*11,000 waste management sites which are Permitted by the EA, including those which have a far greater potential for particulate emission than the STF and in areas designated as Air Quality Management Areas for PM_{10}.

The evidence which I have prepared and provide in this PoE is true and has been prepared and is given in accordance with the guidance of my professional institution and I confirm that the opinions expressed are my true and professional opinions.

Isopleth Ltd
Ulverston,
53 Englishcombe Lane,
Bath
BA2 2EE
www.isopleth.co.uk

Registered in England and Wales No. 9150373