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25 October 2023

Andy Rutter
Development Manager
Growth, Highways & Infrastructure
Suffolk County Council
Endeavour House
8 Russell Road, Ipswich
Suffolk, IP1 2BX

Dear Andy,

Application: SCC/0045/23SE – Air Quality Response.

Proposal: Construction and operation of an anaerobic digestion facility, associated infrastructure and new access road, connecting pipeline and covered digestate lagoons.

Location: Land to the north of Spring Grove Farm, Withersfield, Suffolk, CB9 7SW

Summary

The findings of the Air Quality Assessments are reasonable, well-founded, and well-evidenced. Sections 7.0 in Appendices 7a and 7b note the mitigation measures to be implemented to limit the impact on the receptors where significant impacts have not been screened out. These measures are reasonable and must be followed.

DEFRA background concentrations should be updated to show 2019 data to make the report consistent throughout. Furthermore, as Sites 1 and 2 are considered large (>10,000m^2), trackout needs to be considered up to 500m from the site entrance(s), in line with the IAQM *Guidance on the assessment of dust from demolition and construction*. I do not expect either of these changes to influence the conclusions of the assessment.

Therefore, once these changes are made, I see no reason for the proposal to be rejected on air quality grounds.

Introduction

The applicant proposes the construction and operations of an anaerobic digestion facility at two sites with a connecting pipeline at the Land to the north of Spring Grove Farm, Withersfield.

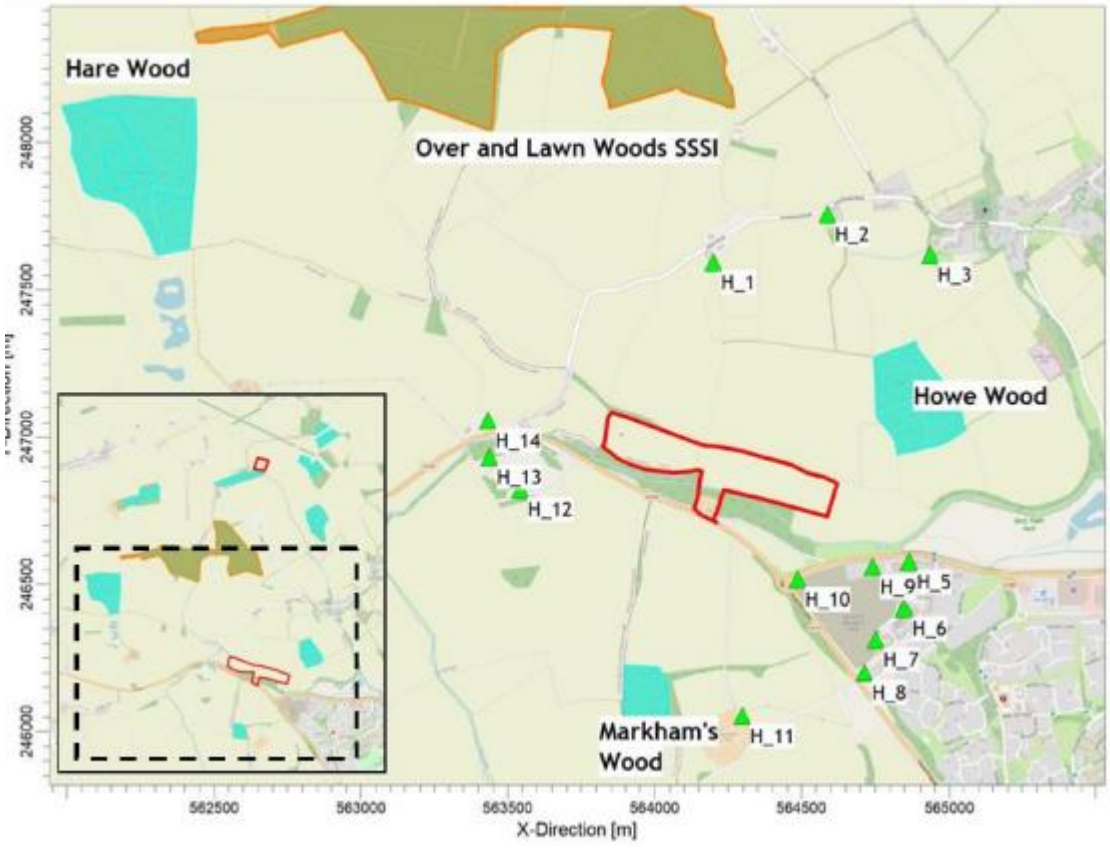
The applicant has submitted an Environmental Statement (ES) which addresses air quality, dust, and odour in Chapter 7, with supporting air quality assessments in Appendices 7a and 7b. I have reviewed these documents and have the below comments.

The site is not within an Air Quality Management Area (AQMA). The nearest AQMA is *Uttlesford District Council AQMA Safron Walden* approximately 13km southwest. Given the distance between the site and this AQMA, it is likely the air quality at the site is currently acceptable.

The ES identifies the closest human receptors as being 'Three Counties Way', 320m southeast, and 'Off A1307', 320m southwest. These receptors have high sensitivity to air quality effects. The closest commercial receptors including 'The Epicentre Haverhill', 210m southeast, have medium sensitivity to air quality effects.

The ES identifies the closest ecological receptors as being the Ancient Woodland of 'Cadge's Wood', 20m southwest, and 'Howe Wood', 240m northeast. The ES identifies 9 ecological receptors including ancient woodland and a site of special scientific interest (SSSI) within 2km of the sites.

Below are the site images labelling both sites and their respective local sensitive receptors.



Review of the Overview in Chapter 7

Scope, Legislation, and Site

In Chapter 7, sections 7.1 - 7.6 introduce the proposed development, summarise the chapter, and provide the scope of the assessment.

Sections 7.7 – 7.18 provide detail on the anaerobic digestion (AD) process, and Section 7.19 sets out an overview of the scope the assessment covers, including air quality, dust, combined heat and power (CHP) emissions, odour, and traffic generation.

Sections 7.20 – 7.42 include relevant policies, legislation, and guidance, all of which have clearly been used throughout the assessment.

Sections 7.43 – 7.69 outline the assessment criteria and provide detailed methodologies. These sections are well evidenced and correctly identify the screening criteria and the requirements for each assessment type, referring to the relevant guidance documents.

Sections 7.70 – 7.104 describe the baseline conditions at the site, including site images, identification of human and ecological receptors, local air quality monitoring, background pollutant concentrations, critical load functions and current loads, as well as meteorological conditions. Figures 7-1 and 7-2 show both site areas with the closest receptors clearly labelled. Tables 7-7 and 7-8 correctly identify the human and ecological receptor sensitivities and provide detail on their locations relative to the site. Sections 7.79 – 7.80 correctly recognise that pre-pandemic monitoring data should be used as, "*data presented for 2020*

were potentially impacted by the COVID-19 pandemic". However, Uttlesford District Council have released their 2023 Annual Status Report containing 2022 air quality data, which should be updated in the air quality assessment. Therefore, the annual mean NO_2 and SO_2 concentrations for 2019 presented in Tables 7-9, 7-10, and 7-11 need to be updated to 2022 data to be more representative of current pollutant levels. Table 7-12 presents DEFRA background pollutant concentrations for 2022. Tables 7-15 and 7-16 clearly identify the critical levels and current loads at the identified sensitive ecological receptors. Section 7.103 correctly evidences why existing sources of odour, dust, and ammonia and have not been considered further within the assessment.

Review of the Detailed Assessments in Appendices 7a & 7b

Construction Dust Assessments

Section 5.0 in Appendices 7a and 7b provide dust risk assessments (DRA) for both sites, and the pipeline installation between the two sites respectively.

Section 5.1.1 correctly identifies at Site 1 that only human receptors need to be assessed as there are human receptors within 350m but no ecological receptors within 50m. However, it is stated that trackout has been screened out "*as there are no human receptors situated within 50m of the route used by construction vehicles on the public highway up to 200 m from the site entrance(s)*". As the site is classed as large (>10,000m^2), trackout needs to be considered up to 500m from the site entrance(s), in line with the IAQM *Guidance on the assessment of dust from demolition and construction*. Therefore, **this needs to be updated** to review whether trackout can be screened out of the assessment.

Table 5-1 in Appendix 7a provides correct and well evidenced reasoning for demolition, earthworks, construction, and trackout dust emission magnitudes.

I agree that demolition, earthworks, and construction can be considered as 'low' sensitivity to dust soiling and human health impacts. However, **this section may need to consider trackout impacts** once the assessment is updated for receptors up to 500m from the site entrance(s).

Table 5-3 in Appendix 7a correctly identifies the risk of dust impact at Site 1, in line with IAQM guidance. However, this may need to be updated with trackout dust impacts.

Section 5.1.2 in Appendix 7a correctly identifies at Site 2, that only ecological receptors need to be assessed as there is an ecological receptor within 50m but no human receptors within 350m.

Table 5-4 in Appendix 7a provides correct and well evidenced reasoning for demolition, earthworks, construction, and trackout dust emission magnitudes, with demolition being screened out. However, similarly to Site 1, Site 2 trackout needs to be considered up to 500m from the site entrance(s), as it is 'large'. It is unlikely the number of receptors impacted will change looking at Figure 5-2.

I agree that earthworks and construction, can be considered as 'low' sensitivity to dust soiling and human health impacts. However, the assessment says that demolition can be considered as 'low', having previously stated that demolition had been screened out. Therefore, this should be updated to consider trackout instead of demolition.

Table 5-5 correctly identifies the risk of dust impact at Site 2, in line with IAQM guidance.

Section 5.1 in Appendix 7b, provides detail on the installation of the pipeline between the two sites. It is correctly stated that "*as a precautionary approach a worst-case assessment has been undertaken, assuming works are carried out adjacent to the closest sensitive receptors.*"

Section 5.1.1 in Appendix 7b correctly evaluates the potential dust emission magnitude for earthworks and trackout as 'small', and demolition and construction as being screened out. I agree that the sensitivity of the area assessed in Appendix 7b, with earthworks and trackout being considered as 'low' sensitivity for dust soiling and human health impacts, in line with IAQM guidance.

Table 5-3 in Appendix 7b correctly summaries the risk of dust impacts for earthworks and trackout as being 'low risk'.

Sections 5.2 in Appendices 7a and 7b consider construction phase traffic generation. Neither site nor the pipeline are expected to exceed IAQM/EPUK thresholds, so a detailed air quality assessment reviewing construction vehicle emission impacts is not required.

Operational Phase Assessment

Appendix 7a provides an operational phase assessment reviewing odour, dust emission, traffic screening, CHP emissions, bioaerosols, ammonia, and critical levels and loads.

Section 6.1 provides a detailed description of the anaerobic digestion process and identifies the potential air quality related impacts that have been assessed. Section 6.2 is an odour assessment, reviewing potential odour sources from the anaerobic digestion facilities, completed in line with IAQM *Guidance on the assessment of odour for planning*.

Table 6-1 reviews potential odour sources at Site 1 and provides well evidenced considerations and reasonable relative odour exposure impact conclusions. The assessment correctly adopted "*a suitably cautious approach*", meaning the source odour potential at Site 1 is classed as 'medium'.

Table 6-2 reviews the pathway effectiveness to the sensitive receptors from Site 1, with all receptors correctly having an ineffective pathway.

Table 6-3 reviews the determination of likely odour effects at the sensitive receptors from Site 1. The table shows that the likely odour effect at all the sensitive receptors is negligible, following IAQM guidance.

Table 6-4 reviews potential odour sources at Site 2 and provides well evidenced considerations and reasonable relative odour exposure impact conclusions. The source odour potential at Site 2 is reasonably classed as 'small'.

Table 6-5 reviews the pathway effectiveness to the sensitive receptors from Site 2, with all receptors correctly having an ineffective pathway.

Table 6-6 reviews the determination of likely odour effects at the sensitive receptors from Site 2. The table shows that the likely odour effect at all the sensitive receptors is negligible, following IAQM guidance, although it appears they have accidentally put "High" in the Odour Potential column where it should probably be "Medium". The likely odour effect at both sites is predicted to be 'negligible' at all the sensitive receptors. Therefore, odour does not need to be assessed further.

Section 6.3 reviews operational dust impact at both sites. Section 6.3.1 correctly identifies that "*further assessment for the potential impact of deposited dust and PM_{10} on human receptors is required*" as there are human receptors within 250m of Site 1.

Table 6-7 provides well-reasoned considerations of potential dust sources, fairly concluding overall residual source emissions to be considered as 'small' at Site 1.

Table 6-8 correctly determines an ineffective pathway effectiveness for the potentially impacted sensitive receptors from Site 1.

Table 6-9 shows the likely dust effect is predicted to be 'negligible' at all the identified receptors.

The existing PM_{10} concentrations from DEFRA background mapping show the site is well below the IAQM threshold of 40µg/m³. However, pre-pandemic 2019 data should be used here to be consistent throughout the report. I do not expect the conclusion that "*the impact and effect of the Proposed Development operations on human health from emissions of PM10 (and PM2.5) would be negligible*" to change once this has been updated.

Section 6.3.2 identifies "*There are no significant sources of dust proposed at Site 2, as Site operations comprise the storage and export of liquid digestate only.*" Therefore, Site 2 dust generation is correctly considered as 'not significant'.

Section 6.4 reviews operational phase traffic generation in line with IAQM/EPUK guidance. The section clearly shows that LDV and HGV trip generation will be well below IAQM/EPUK thresholds outside of an AQMA. Therefore, a detailed air quality assessment reviewing operational phase vehicle emission impacts is not required.

Section 6.5 reviews CHP emissions at Site 1, with two proposed CHP engines.

Table 6-10 presents the modelling parameters. Appendix A contains all the detailed information on the modelling inputs, including meteorological data, buildings, terrain, and receptors. All data, and conversion factors appear reasonable.

Tables 6-11 – 6-15 show predicted NO_2 and SO_2 impacts at the modelled sensitive receptors. The magnitude of change is correctly described as 'negligible' or 'small' at all the receptors. The air quality assessment level (AQAL) is not exceeded either at any of the receptor locations.

Section 6.6 provides well-reasoned evidence for why bioaerosol emissions have been screened out of the assessment.

Section 6.7 reviews the impact of ammonia (NH_3) from the proposed site operations.

Table 6-16 provides the process details of the ammonia emissions assessment. Appendix B contains all the detailed information on the modelling inputs, including topography, building downwash and receptors. All data, and conversion factors appear reasonable.

Tables 6-20 and 6-21 show predicted NH_3 impacts at the modelled sensitive receptors. The magnitude of change is correctly described as 'negligible' (process control (PC) <10% of AQAL) at all the receptors.

Therefore, the AQAL is not exceeded at any of the receptor locations, and NH_3 emissions are correctly considered as 'not significant'.

Section 6.8 reviews the critical levels and loads resulting from NO_x, SO_2, and NH_3. Tables 6-22 and 6-23 present the critical level and load results for all modelled sensitive ecological receptors. The findings show that for both critical levels and loads, the "*Proposed Development is considered to cause 'no likely damage' to the SSSI and 'no significant pollution' at the surrounding Ancient Woodlands"*. Therefore, this does not need to be considered further.

Mitigation

Sections 7.0 in Appendices 7a and 7b provide suitable site-specific mitigation measures for the construction and operational phases of the proposed development.

Sections 7.1 in Appendices 7a and 7b provide construction dust mitigation recommendations for the correctly identified 'low risk' sites. All the relevant mitigation measures in the IAQM *Guidance on the assessment of dust from demolition and construction* have been considered, and clearly organised into highly desirable and desirable subsections.

Section 7.2 in Appendix 7a provides well-reasoned operational phase mitigation measures that should be implemented by the occupier.

Yours sincerely,

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