

Development Management
PO Box 606
Municipal Buildings
Earle Street
Crewe
CW1 9HP

Our ref: SO/2013/111915/01-L01

Your ref: 12/0705W

Date: 2nd May 2013

FAO Emma Williams

Dear Madam

FURTHER ODOUR CONTROL MEASURES - PROPOSED ANAEROBIC DIGESTION AND COMBINED HEAT AND POWER PLANT FORMER FUEL STORAGE DEPOT, TWEMLOW LANE, TWEMLOW.

The Environment Agency have received further information relating to the Odour Management Plan direct from Mr Ray Brown on 18th March 2013.

Environment Agency position

We maintain our objection to the application as the applicant has not demonstrated that there are adequate controls in place to prevent significant pollution for nearby residents.

In this case, the immediate proximity of neighbours means that even minor or brief failures will have a disproportionate impact.

We would advise the following:

Routine emissions from planned release points such as the biofilter:

These emissions can potentially be regulated by a standard permit condition which includes an emissions limit value based on performance levels claimed by the operator. The problem with this approach is that there is still the risk that sites will routinely breach the permit condition if limits are not realistic. Operators must not be allowed to claim one emissions value for modelling purposes but insist on a higher value for permit compliance.

CRES: Projected emissions from the biofilter (<2,000 O_Ue/M³) appear to be optimistic, although there is reference to an (unspecified) emissions limit value in the OMP. Details of biofilter management in the OMP suggest a poor understanding of some aspects of biofilter operation. The operator has verbally suggested that the emissions point could be moved to the far end of the site, but this solution does not

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appear to be mentioned in the documentation and would still rely on consistently excellent emissions abatement.

Fugitive emissions:

AD sites routinely specialise in materials which are either very odourous or have the potential to become highly odourous under conditions at the site. Potential uncontrolled release points for odour include delivery vehicles, containment features such as buildings and intermittent activities which temporarily compromise containment, such as opening doors. Because of the nature of odour perception, even short term releases can have a significant adverse impact on local receptors (people). The preferred strategy for the control of fugitive emissions is to reduce the odour potential of materials held on site and air which is being contained. That way when containment is compromised, as it often is, very little odour will be released. This strategy can be difficult to implement at AD sites due to the process and nature of materials handled. The second strategy is to provide excellent containment. It is normally necessary to have containment with active air abstraction and scrubbing. Very simple systems for small sites require only limited engineering and can often be designed by persons using common sense. More complex systems will require expert engineering input. Fugitive emissions are very difficult to measure and are typically excluded from dispersion modelling exercises.

CRES: Plans for air flow management as part of the containment and abatement system contain a number of innovative and potentially helpful features. However, this introduces complexity and there is no evidence of professional engineering input into the designs. Measures are in place to manage the odour potential of materials as received, although some of these are lacking in the necessary level of detail. Emissions from processed digestate are not contained because of a presumption that the odour potential of this material will be low. Experience elsewhere suggests that this assumption may be overly optimistic for hot, wet finished product.

Process control failures:

Containment and abatement features are typically designed to function effectively when the process is under control. Loss of control due to poor inventory management, treatment failures or equipment breakdown can result in odour burdens which quickly overwhelm containment and abatement measures, resulting in odour pollution. The potential for loss of process control is particularly acute in AD facilities because most losses of process control do not 'fail safe'. Even with years of experience, specifically trained and qualified staff, high capital investment and relatively consistent feedstock materials, AD processes at wastewater treatment sites occasionally experience process control failures. Our experience at permitted AD sites receiving a much wider range of difficult feedstock materials indicates that maintaining process controls is particularly difficult.

CRES: The operator is proposing to use existing large flat bottomed tanks as digesters. This raises serious questions about the ability to provide adequate mixing and to prevent settlement. This mixing is essential for maintaining biological control over the process. Poor mixing would also

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lead to short circuiting of the digestion tanks by incoming material and much lower holding times for fast-tracked material. This may result in finished digestate having a much higher odour potential. Poor mixing will also lead to difficulties in obtaining representative samples of tank contents to inform process control decisions. During our site meeting, the operator's consultant indicated that they could provide evidence of similar infrastructure (tanks and other features) being successfully used elsewhere without these sort of process control problems. So far, this supporting information has not been received.

Airlock Specification

The procedures for the airlock entry don't always relate to the function being performed. For example, a lorry enters the outer door and the room is purged before opening the inner door. This will achieve nothing. Purging is only relevant or necessary before the outer door is opened.

As mentioned on the day of the site visit, the air lock needs to be integrated into their air movement strategy for the site. If you are abstracting air from the building it has to come from somewhere. A generally appropriate approach is to draw fresh ambient air into the building through gaps in the airlock doors. This will achieve the purging required. If the doors are of high quality the same thing can be achieved by installing vents or just not closing the doors all the way. If they abstract air from the airlock in the way illustrated there is a risk of drawing odourous air from the reception hall into the airlock. This would then defeat the containment objective when the outer door was opened.

The applicant is advised to contact us for assistance on effective process controls on the site.

Should you wish to discuss the above in further detail please do not hesitate to contact me.

Yours faithfully

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