

From: Ian Roberts [REDACTED]
Sent: 10 November 2022 12:57
To: Jenman, Rebecca <Rebecca.Jenman@herefordshire.gov.uk>
Subject: Re: Planning Number: P222728/N

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RE: Planning #222728/N (AD at Whitwick Manor)

Dear Ms Jenman,

I have now had a chance to read through the 'Conceptual Design for Water Treatment System for Proposed AD Facility at Whitwick Manor' prepared by CQA International Ltd for STL Energy Ltd.

This is a paper exercise with no supporting evidence to even suggest it might work. It is difficult to come to any definite conclusions on whether this concept has a chance of succeeding because of the vagueness of the proposal. CQA deems it likely a treatability study will be required to demonstrate that the final design can achieve the required discharge criteria. Natural England is setting the P discharge at zero. I would change that 'likely' need a treatability study to 100% certainly need a study.

- The conceptual design assumes the treatment of 581 cubic metres per day (581,000 litres/day) of 448 mg/L P concentration (448 ppm P)
- Assume 95% extraction efficiency for P (achievable in laboratory studies, probably optimistic for real-life situations) - the 'clean' water will still contain 22.4 ppm P!!
- This means about 250 kg P per day taken out by the clay treatment. Or about 87,500 kg/year if we assume the plant operates 350 days/year
- The conceptual design assumes 4100 tonnes (4,100,000 kg) of clay required per year, indicating an adsorption rate of 87,500/4,100,000 (i.e. 21gP/kg clay or 2.1%)
- Generally, adsorption rates are less than 1% for this type of process so I think they may have underestimated the amount of clay needed and, therefore, the number of truck movements bringing in the fresh clay and removing the spent clay.

At the present time, there is no evidence this proposal can meet the environmental standards for water treatment. On that basis alone it must be rejected.

Yours sincerely,

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[REDACTED]

[REDACTED]

On Wed, Nov 9, 2022 at 9:22 PM Ian Roberts [REDACTED] wrote:

Dear Ms Jenman,

I have some comments and objections to the proposed Anaerobic Digester at Whitwick Manor.

As a general rule, I would support the development and use of non-fossil fuel power generation. Indeed, I have PV and solar thermal installed on my rooftop providing some of the power needed to drive my air source heat pumps. However, as with all such developments, it is important to ensure the benefits are not outweighed by the disadvantages.

Heaven knows we need to address the humungous issue of river pollution, especially that of our precious and irreplaceable River Wye. There is no longer any doubt that intensive poultry farms are the major source of pollution of the River Wye - pushing sewage into a distant second place - as is obvious from the support Avara is giving to this proposal. I am also a fan of Anaerobic Digestion (AD) for turning waste into useful energy and byproducts. And I also do river testing for the Friends of the Upper Wye.

I have read through all the documents, some more thoroughly than others. The results of model studies are presented but I could find no examples of real-life AD installations where the issues (odour, pollution, noise, etc) have been successfully addressed. With so many installed ADs in the UK and all the quantitative data that must be available, why are we still using modelled data?

There is a clear and obvious case for installing an AD on a site where the feedstock is generated and the fertilizer byproduct is used locally. This planning application is the exact opposite. All the feedstock for the AD will be trucked in and the byproduct trucked out. Maybe you could make an argument for the latter if the trucks were fuelled by biogas or electric.

The size of this particular AD makes it an industrial operation and not an agricultural one. It is therefore incongruous to the proposed rural location. Apart from the proximity to the National Gas Pipeline, this location has no advantages going for it. The associated pollution (dust, odours, tailgate emissions, etc) from so many truck movements will be a nightmare for those unfortunate enough to live on one of the many routes leading to and from the AD.

Various mitigation processes are proposed to remove nitrogen and phosphorus from waste streams. I would need to see some real-world data that these methods work; e.g. quantitative data from other AD operations. I may have missed something but it seemed the proposal was to spread the recovered nitrates and phosphates on the land anyway. So where is the benefit in that when the overall objective is to reduce the levels of these chemicals in the soil when there are already in excess?

It hopefully goes without saying that operations such as AD should only be built on poor agricultural land or, preferably, brownfield sites. Permission should only be granted if the applicant has a plan that includes shipping the fertilizer byproduct out of the county should it not be needed in Herefordshire.

And finally, I would like to see some financials to indicate this process is viable. There are plenty of sub-processes in the application (e.g. dry ice production, membrane separation of methane and carbon dioxide, water remediation, N & P extraction, etc), as well as essential and necessary analytical tests/procedures, that all have costs. Is there, for example, a minimum price for the methane produced that still makes the process financially viable?

Yours sincerely,

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