The Proposed Erection of Poultry Units and an Anaerobic Digestor Facility on Land at Manor Farm, Beeby, Leicestershire - 2020/CM/0042/LCC

An Analysis of the "Environment Statement" (Environmental Impact Assessment) Hungarton Parish Council, July 2020

1. Feedstock consumption and storage

The application lacks information on the volume and Organic Loading Rate (as kg dry matter/cubic metre/day; typically 2.5-5 kg/m^3/d) of the Anaerobic Digestor (AD). We are, therefore, required to rely on the applicant's estimate (Environment Statement, Table 7.1) of 12,000 tonnes (fresh weight per annum - assumed but not stated). However, calculations based on the estimated size of the AD shown in the plans indicate that the consumption of the AD will be considerably in excess of 12,000 tonnes FW per annum**.**
Comprehensive information on the AD should be provided to establish reliable feedstock consumption information.

Reliable feedstock consumption information is essential to determine whether sufficient storage has been included in the proposed design to accommodate all feedstocks. While the AD will operate all day, every day (maintenance time excepted), a very large proportion of the feedstock will be 'energy' (i.e. fodder) crops (e.g. maize) which will be harvested and require storing within a period of a few weeks each year.
Information on the capacity of the silage clamps is required to determine whether the entire annual energy crop harvest can be ensiled on site.

Information on the capacity of the silage clamps is essential to determine whether in-field storage of energy crops will be required. In the last several years, various feedstocks have been stored in very large, polythene-covered clamps in fields adjoining the proposed site (see Plate 1). If in-field clamps will be required should the proposed development become operational, then **an assessment of landscape and ecological impacts of in-field silage clamps is required**.

It is not possible to determine from the application where other feedstocks, notably 2,800 tonnes of farmyard manure and slurries (Environment Statement, Table 7.1) will be stored. No provision seems to have been made for slurries (viscous liquid waste containing faeces and urine from buildings accommodating beef and dairy cattle) nor farmyard manure (FYM, a mixture of faeces, urine and straw from similar sources). A significant proportion of slurries and FYM is generated from clearing out cattle accommodation over a short period at the end of winter, when cattle are turned out to grass. Where no provision is made for its

storage, it must be assumed that FYM will be stored in the open. **Information is required on the storage of FYM to assess the likelihood of odour, landscape and ecological impacts**.

The composition of 3,000 tonnes 'other agricultural or dairy wastes' is not specified. If not FYM, which is listed separately, it can reasonably be inferred that a large proportion of this will be liquid wastes from the production of products such as cheese. No provision for their storage prior to use in the AD is evident in the planning application.
Details of the composition of 'other agricultural or dairy wastes', their storage and management are required.

2. **Low carbon economy**

The potential of the proposed development to utilise and export 'renewable' energy is mentioned in several chapters in the Environment Statement. These claims are unsupported by quantitative evidence of a net reduction in carbon use compared with a conventional poultry production unit, however. A properly-executed carbon balance sheet would take into account incremental energy inputs to the enterprise, including the consumption of fossil fuels by vehicles serving the site, fossil fuel inputs in the sowing, fertilisation, pesticide applications, harvesting and transport of energy crops, the delivery and movement of feedstocks, running the AD and the disposal of large volumes of digestate, as well as any carbon-use reductions. In accordance with local and national policies on developing a low-carbon economy**, a fully-worked carbon budget for the proposed development is required.**

In the context of the low carbon economy, the Assessment of Alternatives in the Environment Statement (Chapter 3) considers only alternative locations for the proposed development. It does not consider alternative, low-carbon technologies for the generation of renewable energy for the poultry enterprise. Because an Environmental Impact Statement (EIA) should be impartial in assessing alternatives to the proposed development, as in all its aspects, this is surprising.

Solar arrays or a wind turbine, for example, lack the hazards associated with generation and storage of large quantities of explosive biogas and remove the risk of accidents associated with the complexities of operating an AD unit safely[1].

[1] According to a leading AD plant insurer, *"Anaerobic digestion plants may experience significant loss events during operation resulting from damage to operational equipment, structural collapse, fire, flood or theft. These events can often result in lengthy periods of process downtime, with a consequential loss of revenue, clean-up costs, risk of local pollution and a resulting drop in local community confidence and support for the project; which can be difficult to rebuild.*
It is essential that all plant operators, and those involved in its maintenance, fully understand the risks that are present on an AD plant, and why these safety and control features are provided. They need to be aware of the consequences of safety feature

These alternative technologies would also require far less land use than would the cultivation of energy crops to feed the AD; growing sufficient maize to supply 4950 tonnes of energy crop feedstock, for example, would require 124 Ha of land that could otherwise be used to grow food.

A fully-worked comparison of the carbon budget for the proposed development, compared with alternative low-carbon technologies, is required.

In considering alternative, green energy technologies, the disposal of chicken manure would not present a problem. This can be composted and spread on the land, in accordance with current practice. The adoption of best practice would address any odour or ecological concerns.

The absence of a rigorous carbon budget for the proposed development has allowed some assertions in the Environmental Statement that are not supported by evidence. For example, it is stated (6.4.2) states that "Any carbon dioxide emitted from the poultry development would also be off-set due to the reduction in emissions from transporting poultry meat from elsewhere." The fact that UK poultry feeds comprise large proportions of imported protein grains, such as maize and soybean from Europe and the Americas, seems to have been overlooked. The UK imports 2.8 million tonnes of maize and 780,000 tonnes of soybean annually for this purpose.

3. Waste disposal

The Environment Assessment states that the AD unit is compliant with the policies of the Leicestershire Minerals and Waste Local Plan up to 2031, formally adopted by Leicestershire County Council 25 September 2019.

Since the proposed AD will generate more waste than it consumes, it seems unlikely that it can be classified as a 'waste facility' in the same way as an AD operated, for example, by a water company and fuelled entirely with waste. Furthermore, the Environment Statement lacks details of how the waste generated by the AD will be disposed of. Section 13.9 (for example) states that liquid waste will be injected into the ground and solid waste spread on arable land.

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failures, incorrect plant operation and not following set procedures. Human error is often the root cause of many major loss or damage events." Anaerobic Digestion: Plant Operation Risk Management. A Guide to Loss Prevention. HSB Engineering Insurance Limited. (Part of Munich Re). HSBEI-1728-0717

However, to protect the natural environment, especially from eutrophication of watercourses[2] (see Ecology, below), the Environment Agency enforces statutory limits on the amounts of nutrient-rich organic wastes that can be spread on or injected into the ground. **Detailed protocols for the disposal of wastes are required.**

4. Landscape and Visual Impact Assessment

As stated in the Environmental Statement (7.1.3) "*Natural England sets out the requirement for an EIA to include assessments of visual effects on the surrounding area and landscape together with any physical effects of the development, such as changes in topography. The EIA should include use of the Landscape Character Assessment (LCA) which provides a sound basis for guiding, informing and understanding the ability of any location to accommodate change and make positive proposals for conserving, enhancing or regenerating character as detailed proposals are developed.*"
The local landscape is classified in the Charnwood Local Plan identifies as an Area of Particularly Attractive Countryside (APAC). Measures given in the Environmental Statement (7.7) for mitigation of impacts on the local landscape comprise the removal of soil to ensure that the buildings are "appropriately set into the landform", and the provision of bunds surrounding the site.

However, there is no escape from the fact that the proposed development will be very large, occupying an area in excess of four hectares and having a highly visible, relentlessly horizontal bund fronting Hungarton Lane, with another facing visual receptors to the southwest, each approaching 200 metres in length. This is clearly incompatible with the aim of 'conserving [or] enhancing' a local landscape described as Undulated Mixed Farmland (Environmental Statement, 2.2.4) with mainly hedgerow field boundaries with hedgerow trees.
An alternative landscape impact mitigation plan is required which conserves or enhances the unique character of the landscape in which the proposed development is to be located.

Also given in the Environmental Statement (7.1.4) is the statement by Natural England that the landscape assessment "*should also include the cumulative effect of the development with other relevant existing or proposed developments in the area.*" The proposed development is not the only agricultural development that has been approved locally in recent years, a large agricultural and farm retail development having been built at Beeby (What3Words location: valve.workforce.manly), a large dairy unit at Sludge Hall Farm (conductor.native.treat), near Cold Newton, and a large beef and arable unit at Quenby Lodge Farm (glorified.partied.swept) between Cold Newton and Hungarton (see plate 2). All three, especially the latter, have already had a significant visual impact on the local landscape. It

[2] pollution by nutrient run-off into watercourses and water bodies causing excessive growth of plant life, resulting in death by asphyxiation of aquatic animal life.

should be noted that the proposed poultry sheds at Manor Farm are ***twice*** the length and width, and taller than the cattle accommodation illustrated in Plate 2.
The cumulative visual impact (as well as other impacts, e.g. on traffic volumes – see below) of the proposed development at Manor Farm and recent, local agricultural developments should be considered in the Environmental Statement.

Clamps of stored feedstocks on land adjacent to the proposed development (**see Feedstock consumption and Storage – above**) would have a detrimental visual impact on the local landscape.

5. Roads and Transport

Manor Farm is located on Hungarton Lane, which forms part of the 7.5 tonne weight limit zone that extends for several kilometres in all directions from Manor Farm. It is an essential access route for residents of the parishes of Hungarton and Cold Newton/Lowesby and is the route that the applicants state will be used by HGVs travelling to and from Manor Farm. The Highways Statement (Baseline traffic assessment, 2.1.2) states that "From site inspection the road is in good condition and has little verge side attrition". This is surprising; extensive repairs to the metalled surface and unsupported edges of roads in the 7.5 tonne weight limit zone have been necessary recently, including on Hungarton Lane, where (for example) temporary traffic diversions have been set up and HGVs introduced to these roads. Hungarton Lane is otherwise used by light and agricultural vehicles, most of the latter being fitted with low ground-pressure tyres to minimise soil compaction in agricultural use.

The introduction of 980 HGV journeys each year (Environment Statement, Table 9.2 – movements/crop x crops/year x 2 (to/from)) along Hungarton Lane, therefore, is likely to result in significant damage to these lanes, as well as traffic conflicts. This likelihood is addressed in the Environment Assessment (Chapter 9) by a proposal to widen the road by one metre at each of five locations along Hungarton Lane. Because the width available after widening will vary from 5.2 to 6.3 metres (see document: S278 – Proposed road improvements plan), depending on location, it may be inferred that this proposal has been formulated without thought to making available a uniform, practical width of road at the passing places. A width of 5.2 metres is insufficient for two HGVs to pass each other, or even for an HGV and a light van, and is in stark contrast to the proposed redesign of the entrance to Manor Farm which will "allow the simultaneous entry and exit of all vehicles to and from the site" (Environmental Statement, p. 82). Furthermore, the length of the proposed passing places, at 25 metres, is too short for an articulated HGV to completely pull in, and then exit.

The additional 980 HGV journeys along Hungarton Lane and the other, additional traffic associated with the proposed development, along with the inadequacy of the road widening scheme, bring into question the conclusion in the Environment Statement (p.81) that "It can

therefore be concluded that the cumulative impact of HGV vehicles or tractor and trailers on the road network is not significant."
A revised road widening scheme is required as a condition of approval and its completion should remain a pre-requisite for development of Manor Farm to start.

The Environment Statement states (p.73) that "the anticipated route [to and from Manor Farm] is along Hungarton Lane and Scraptoft Lane to the A47 and via A roads to the M1." The Highways Statement adds that "Discussions have been held with the Processor – Faccenda and confirmation has been received that they would be happy to follow the suggested access route to the farm and [will]…make sure that no infringements will occur from their vehicles. Currently discussions are ongoing with the feed suppliers to arrange a similar agreement to utilise a proposed routing agreement to gain access to the site from the A47."

This is because the alternative route to the M1, which is via Beeby, Barkby and Syston to the A46 Western Bypass has, among many hazards, very narrow and blind bends at Beeby, an offset crossroads at Beeby, narrow, blind bends at Barkby and multiple, width-restricted junctions in Syston. Yet it is by far the quickest and most direct route to the M1, so drivers reliant on satnav equipment and under time pressure because of statutory limitations to their driving hours are highly likely to take this latter route.
A pre-requisite for approval of the proposed development should a contractual undertaking that all HGV movements will be via Hungarton Lane and Ingarsby Road (not Scraptoft Lane, as stated in the Environmental Statement) to the A47 and via A roads to the M1.

6. Ecology

The Environmental Statement states (e.g. Chapter 13, p.152) that "There are no rivers or watercourses within proximity of the development…There are no natural ponds above or near to the development." Earlier (Chapter 11, p. 104), when addressing the possibility of great crested newts being resent at Manor Farm, it states "There are no historic records of Great Crested Newts within 1km of the proposed development site and there are no ponds within 500m…[therefore] the presence of this species on the site is considered very unlikely. This species will not be affected by the proposals and are therefore not discussed further in this report."

In fact, there is a watercourse – Barkby Brook – in proximity to the Manor Farm (Plate 1) and a pond within 500m – at Lodge Farm to the southwest. Furthermore, great crested newts are endemic to the local area and regularly encountered by residents.
An ecological survey to establish the presence or absence of great crested newts at Manor Farm is be required and, if present, mitigation measures put in place to ensure their survival during the construction phase.

The presence of shallow, impermeable geology at Manor Farm (Environmental Statement, p.155), sloping downwards towards Barkby Brook, and the location of the proposed development in a Nitrate Vulnerable Zone (NVZ, Environmental Statement, p. 18) means that the likelihood of eutrophication[3] of Barkby Brook from runoff from the proposed development and the fields adjacent to Manor Farm requires assessment. This would be a considerable risk if manures or other feedstocks were stored in field clamps, as has been the practice in recent years at Manor Farm (see Plate 1 and Feedstock consumption and storage, above), or if holding tanks and ponds were overtopped by heavy rainfall events or operator error, or if excessive amounts of waste were spread on or injected into local fields (see Waste disposal, above).

A comprehensive assessment of the potential for eutrophication of Barkby Brook by the proposed development is required.

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[3] pollution by nutrient run-off into watercourses and water bodies causing excessive growth of plant life, resulting in death by asphyxiation of aquatic animal life.

Plate 1. Aerial view of Manor Farm showing remains of in-field silage clamps and Barkby Brook. © Google 2020

Plate 2. A view of the cattle accommodation at Quenby Lodge, Cold Newton.