

Your Ref: PP-14918496
Our Ref: 1126 5 LMS

07 July 2026

Head of Planning Services
Lincolnshire County Council
2nd Floor
Lancaster House
36 Orchard Street
Lincoln
LN1 1XX



32 High Street, Helpringham,
Sleaford, Lincolnshire, NG34 0RA

Tel: 01529 421646
Email: admin@rdc-landplan.co.uk
Web: www.rdc-landplan.co.uk

Dear Sir

**DECOY FARM POWER LTD
FULL PLANNING APPLICATION
INSTALLATION OF PLANT AND MACHINERY FOR THE PRODUCTION OF AMMONIUM SULPHATE TO
BE USED AS A LIQUID FERTILISER AS PART OF THE EXISTING ANAEROBIC DIGESTION PROCESS.
DECOY FARM, SPALDING ROAD, CROWLAND.**

Following the grant of planning permission for the Anaerobic Digestion Plant (AD Plant) at Decoy Farm (PL/0145/19) in January 2020, we are now instructed to apply for planning permission to install plant and machinery within the footprint of the existing plant that will utilise the existing production of ammonia to produce liquid ammonium sulphate to be exported off site and used in the agricultural industry as a 'green' fertiliser.

The AD Plant at Decoy Farm has been operating successfully for several years and generates c.22,000 MWh per annum, which is exported into the National Grid through the combustion of biogas produced through the anaerobic digestion of organic feedstocks.

At the end of the anaerobic digestion process, the resultant digestate passes through a separator to form liquid and solid fractions. Traditionally, the liquid fraction is pumped to a covered lagoon and then spread on the land when conditions allow, as an alternative to inorganic fertiliser. The solid fraction is used as a soil improver and has an appearance much the same as peat.

The proposal is to intercept the liquid fraction, once it has been separated from the solid fraction, and then send it to an ammonia scrubber where the first step involves heating the liquid using a heat exchanger and raising its temperature. In this liquid fraction, gaseous ammonia (NH_3) is in equilibrium with ammonium (NH_4^+). The increase in temperature shifts the ammonia-ammonium equilibrium towards gaseous ammonia (NH_3), making it easier to strip out. The heated liquid fraction is introduced at the top of the stripping column, while air is blown in from the bottom (counterflow). Gaseous ammonia transfers from the liquid phase into the air stream. The ammonia-laden air then passes through a scrubber, where it is treated with sulphuric acid to produce ammonium sulphate. This results in a liquid fertiliser solution, usually around 8% nitrogen and ~40% dry matter.

The liquid fraction after the stripping process is recirculated to the digester to dilute nitrogen and ammonia concentrations, which will allow more chicken litter to be fed into the process and in turn this reduces the input of energy crops such as maize or rye.

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The overall quantity of feedstock processed will reduce slightly and the ratio will also change. It is intended to reduce the volume of purpose-grown energy crops (maize and rye) fed into the process and increase the input of chicken litter. Overall, the traffic numbers will be slightly reduced with 2,035 loads used under the current feed stock arrangements falling to 1,986 loads when the ammonia scrubber is implemented. However, the delivery frequency of feedstock will differ with chicken litter supplied regularly throughout the year, with a reduced amount of maize and rye delivered during the concentrated harvest period as the reliance on purpose-grown feedstocks reduces. The table below sets out the types and quantities of feed stocks, together with associated vehicle numbers both before and after the introduction of the ammonia scrubbers.

	Feed recipe				
	Maize (T/year)	Rye (T/year)	CM (T/year)	Total throughput	
Current feed plan	38,471	8,760	3,650	50,881	
Feed plan with ammonia scrubber in place	31,354	0	15,768	47,122	
<i>Traffic movement at Decoy AD - current feed plan</i>					
Material	Quantity (t)	Load size (t)	Vehicle type	Loads/day	Total loads/year
Input material (Feedstock)					
Maize	38,471	25	HGV (bulk)	4.2	1,539
Rye	8,760	25	HGV (bulk)	1.0	350
Chicken manure	3,650	25	HGV (bulk)	0.4	146
Total					2,035
<i>Traffic movement at Decoy AD - with ammonia scrubber plant</i>					
Material	Quantity (t)	Load size (t)	Vehicle type	Loads/day	Total loads/year
Input material (Feedstock)					
Maize	31,354	25	HGV (bulk)	3.4	1,254
Rye	-	25	HGV (bulk)	-	-
Chicken manure	15,768	25	HGV (bulk)	1.7	631
Ammonia scrubber					
Sulphuric Acid in	595	25	HGV (bulk)	0.1	24
Ammonium Sulphate out	1923	25	HGV (bulk)	0.2	77
Total					1,986

The entire process is operated in accordance with the standards set by the Medium Combustion Plant Directive (EU 2015/2193), which regulates emissions and dust from combustion plants that generate between 1 and 50 MWth.

The proposed plant and machinery required for the process is contained inside the footprint of the AD Plant, with the tallest element being 8.6m and the shortest being 3m. When compared to the existing structures on site such as the digestion tanks at over 17m high, the proposed plant and machinery will go largely unnoticed beyond the boundaries of the site.

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The production of the ammonium sulphate is largely silent and odourless, and the proposed plant and equipment will be sited within the wider operation of the existing AD Plant. There will, therefore, be no impact in terms of noise or odour resulting from the operation of the process and the site owner also owns the nearest residential properties ensuring that there is the element of control over the operation of the entire Decoy Farm complex.

Biodiversity Net Gain

Please see supporting Biodiversity Gain Statement and supporting documents.

Flood Risk

The existing AD Plant lies within Flood Zone 3 'High Probability' as detailed on the Environment Agency's Flood Zone Maps without defences, and as defined in Table 1 of the National Planning Policy Framework (NPPF). When applying the Flood Risk Vulnerability Classification in Annex 3 of the NPPF, the proposal is considered to be 'Less Vulnerable'. The risk of flooding from rivers and the sea is low with a chance of flooding between 1 in 1000 (0.1%) and 1 in 100 (1%).

The site is not shown to be affected by tidal flooding on the areas at risk map, from a breach in the tidal defences. The proposal does not comprise the construction of buildings that will be manned and, therefore, there is no impact to life resulting from locating the proposal at the existing AD Plant. Flooding from other sources is unlikely to affect the site. No obvious constraints have been identified that may impact the proposed development and there is no increase in the flood risk to other land uses or users.

It is, therefore, concluded the proposed development can be constructed safely and sustainably to meet the requirements of the NPPF.

Conclusion

The proposal will see the introduction of plant and machinery as an 'extension' of the existing anaerobic digestion process to produce a sustainable fertiliser using readily available feedstocks. The process will also reduce the reliance on the use of purpose-grown feedstocks such as rye grass and maize. The proposed equipment will be located within the existing AD Plant and will, therefore, go largely unnoticed beyond the site boundary. Overall, there will be a reduction in vehicle movements resulting from the proposal and there will be no noise or odour generated that will impact on any sensitive receptors.

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The proposal accords with Policy DM1 of the Lincolnshire Minerals and Waste Plan – Core Strategy and Development Management Policies, policies 2: Development Management, 30: Pollution of the South East Lincolnshire Local Plan and is acceptable in all other respects.

Yours faithfully

Lewis Smith MRTPI