BERRYS

PROPERTY | BUSINESS | PLANNING

APPENDIX 10:

BEST AVAILABLE TECHNIQUES

IN RELATION TO

ENVIRONMENTAL PERMIT

VARIATION APPLICATION

ON BEHALF OF

INTERNATIONAL ENERGY CROPS LTD

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The following Best Available Techniques (BAT) under Directive 2010/75/EU of the European Parliament and of the Council for the intensive rearing of poultry, are currently being complied with and will continue to be complied with as part of the Environmental Permit Variation for International Energy Crops Ltd;

BAT 1. Environmental Management Systems (EMS)

There is an EMS in place which incorporates all required features under BAT 1, as shown in Appendix 3 – Environmental Management System.

BAT 2. Good House Keeping

As part of the Environmental Management System in place, techniques under BAT 2, Good House Keeping will be undertaken.

BAT 3. & BAT 4. Nutritional Management

In order to reduce total nitrogen and phosphorus excreted and consequently ammonia emissions while meeting the nutritional needs of the animas the following are undertaken at the Poultry Site;

- Reduce the protein content by using an N-balanced diet, based on the energy needs and digestible amino acids, as detailed in the Odour Management Plan.
- Diet formulation adapted to specific requirements of the production period, as detailed in the Odour Management Plan.
- Feed specifications are prepared by the feed compounder's specialist in nutrition.
- Feed will be supplied from UKASTA accredited feed mills, so that only approved raw materials will be used.

BAT 5. Efficient Use of Water

In order to use water efficiently, water records will be kept as detailed within Appendix 3 – Environmental Management System, in addition the following techniques are used to minimise water usage;

- Detect and repair water leakages immediately.
- Use high-pressure cleaners for cleaning animal housing and equipment.
- Select and use suitable equipment, which includes the use of nipple drinkers to provide water on demand, but to minimise wastage and spillage.

BAT 6. & BAT 7. Emissions from Waste Water

In order to reduce the generation of waste water and to reduce emissions to water from waste water a combination of the following techniques are used;

- The yard areas are kept clean and free from manure, dirty litter or other materials.
- The farm minimises the use of water
- Clean water is kept separate from dirty water. Dirty water will be directed to underground water tanks for storage.
- Land spreading of waste water will take place in the suitable weather conditions, using farming equipment such as a tanker or irrigation system.

BAT 8. Efficient Use of Energy

Energy efficiency techniques in relation to the Poultry Site are as detailed in Appendix 6 – Energy Efficiency.

BAT 9. & BAT 10. Noise Emissions

There are no sensitive receptors within 400m of the site.

In order to prevent or, where that is not practicable, to reduce noise emissions, the site complies with their existing Noise Management Plan.

This document contains methods, techniques and protocol for containing appropriate actions, timelines and noise monitoring along with responding to identified noise events.

BAT 11. Dust Emissions

In order to reduce dust emissions from the poultry houses and site, techniques set out in Appendix 2 – H1 Environmental Risk Assessment will be undertaken.

BAT 12. & BAT 13. Odour Emissions

There are no sensitive receptors within 400m of the site

In order to prevent or, where that is not practicable, to reduce odour emissions, a revised Odour Management Plan has been put in place, as detailed in Appendix 9– OMP.

This document contains methods, techniques and protocol for containing appropriate actions, timelines and odour monitoring along with responding to identified odour events.

BAT 24. Nitrogen and Phosphorus Monitoring in Manure

At the end of the crop cycle, manure is removed from the buildings and taken off site by tractors and trailers to a nearby AD plant for processing, which is located at Caynton, TF10 8NE. The AD plant location is approximately 13km travelled distance from the site and the waste is normally transported in tractor and trailer loads, which are estimated to carry around 11.6 tonnes per load. All manure will be taken from site at the end of each cycle.

The content of nitrogen and phosphorus excreted within the manure can be estimated using manure analysis annually. Additional tests may be undertaken by the AD Plant as part of their processing procedures.

BAT 25. Monitor Ammonia Emissions to Air

The content of ammonia emissions to the air will be estimated annually using emission factors.

BAT 26. Monitor Odour Emissions to Air

Odour emissions to the air will be monitored as detailed in Appendix 9 – Odour Management Plan.

Monitoring takes one of 3 forms:

1. Proactive (operational management);
2. Proactive (impacts); and
3. Reactive (impacts).

The monitoring undertaken at The Poultry Site begins with ensuring the appropriate operation of the farm in relation to the potential sources of odour emissions detailed above. Monitoring in this way is proactive, for example ensuring that the litter remains at optimum moisture content.

If on site operations (for example cycle stage) and ambient conditions (for example warm weather) are suitable for a high potential for emission and impact, a review of process and operational optimisation will be undertaken by the farm manager. This may inform, for example, the precise timing for destocking.

An independent third party will also carry out pro-active monitoring of odours in the area around the site to help detect any off-site odours and identify the cause or causes if present. This monitoring will be based on static “sniffing” at various locations around the site using a standard format. The odour reporting form is included within the OMP.

The site will be monitored routinely (daily initially and then weekly after the first three months operations, if odours are not detected) using sniff testing. Further sniff testing and observations will be conducted around the various operations on site to identify potential odour risks and sources. Odour monitor points are shown as in the below plan.

Results of this assessment will be recorded in the site diary and daily monitoring sheet, which will be available for inspection in the site office. Prevailing weather conditions

and processing conditions being carried out on site at the time of assessment will also be recorded.

Should elevated levels of odour be detected during the sniff testing then a full investigation will be undertaken by the site operator, with assistance from the independent third party, until the odour problem is identified. A review will then take place to eliminate the odour source. Further checks will be undertaken in the future to make sure that odour is not an issue.

The site operator already has a proactive relationship with any neighbours. Neighbours will be warned if any likely short term odour episodes which might arise as a result of exceptional or infrequent maintenance events. A list of contact details for neighbours will be maintained in case there is a need to contact them in the event of an emergency with potential off-site consequences.

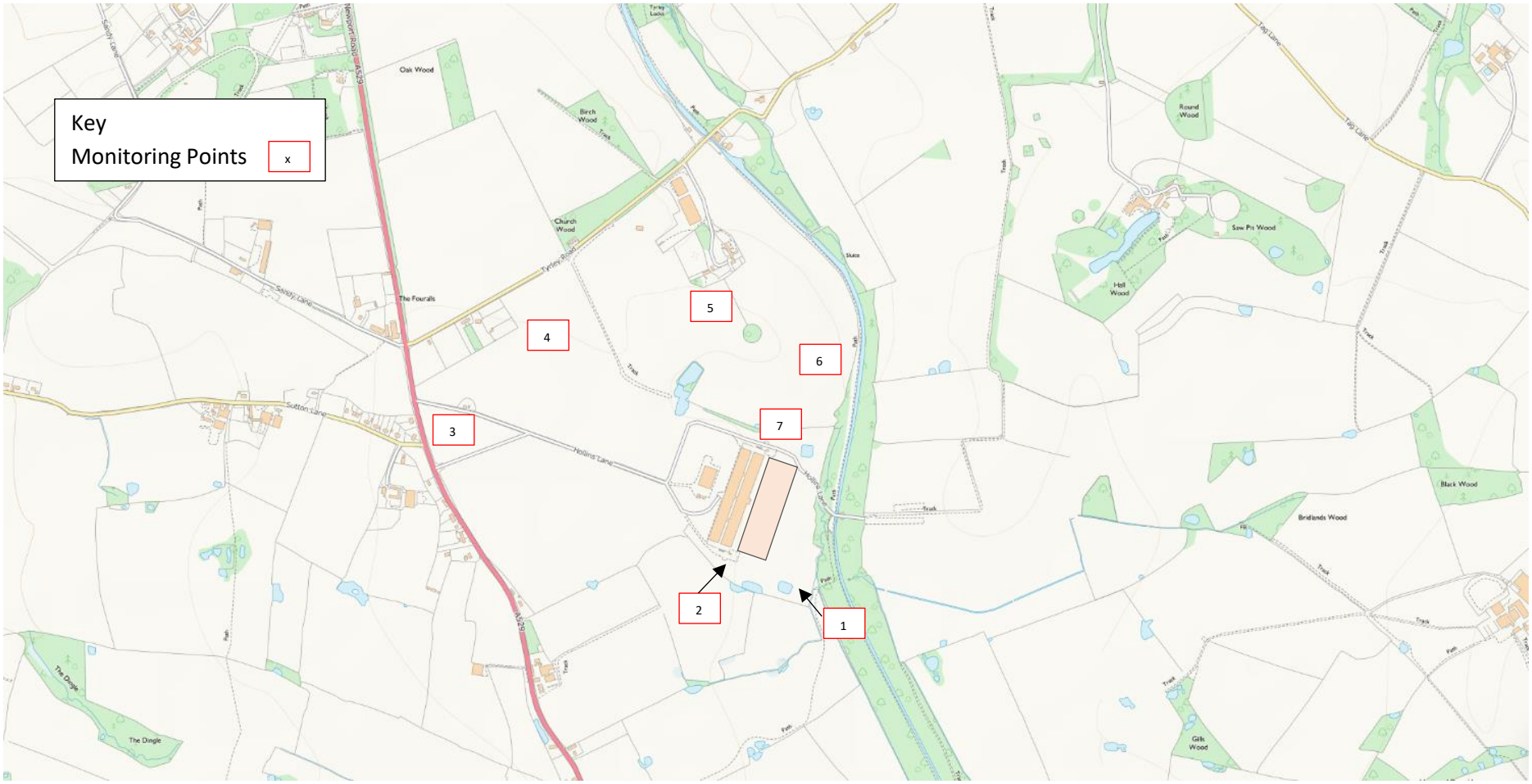
The site operator will use meteorological forecasts to allow conditions to be logged and highlight whether the wind was in the direction of the receptor when and if a complaint was logged. In this way the potential for complaints may be verified and the potential for other sources discounted.

Monitoring of operations at close receptor points will be undertaken routinely to check that odour is not an issue for neighbouring properties.

In the event of a complaint, ambient odour surveys will be undertaken in accordance with IAQM methods.

It is noted that BAT 26. Is only applicable to cases where an odour nuisance at sensitive receptors is expected and / or has been substantiated. The above techniques will be undertaken to eliminate odour nuisance at sensitive receptors.

Odour Monitoring Check Points



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BAT 27. Monitor Dust Emissions to Air

The content of dust emissions to the air will be estimated annually using emission factors.

Dust emissions will be reduced as per the techniques set out in Appendix 2 – H1 Environmental Risk Assessment.

BAT 32. Reducing Ammonia Emissions for broilers

In order to reduce ammonia emissions a combination of the following techniques are to be used;

- ventilation and a non-leaking drinking system
- solid floors with deep litter applied which is kept clean and friable.
- The buildings will be heated using the existing biomass boilers which are situated in the biomass building to the west of the existing building. Back up heating will be provided by LPG heating.
- For two of the existing houses and all four of the new houses, the air will be drawn from the buildings and passed through ammonia scrubbers.