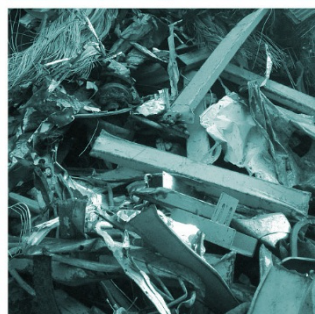
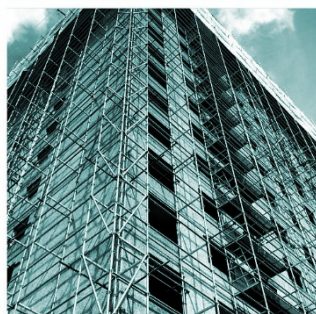
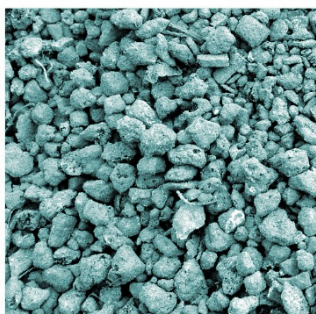
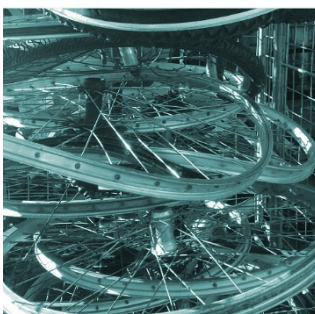
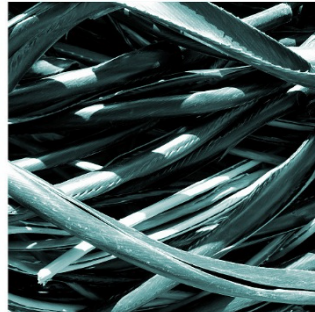


BIO DYNAMIC UK LIMITED

PERMIT VARIATION APPLICATION

Summary of Changes
April 2022



biodynamic

Bio Dynamic UK limited

Client: Bio Dynamic UK Limited
Document Reference: HC1677-02

REPORT SCHEDULE

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Client: Bio Dynamic UK Limited

Project Title: Bio Dynamic UK Limited Permit Variation Application

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1. SUMMARY OF CHANGES

1.1. Summary of Changes

- 1.1.1. The operator is in the process of undertaking significant refurbishment at the site to uplift infrastructure in line with current Best Available Techniques (BAT) and to make changes to overall operations at the site.
- 1.1.2. An assessment of BAT compliance has been submitted with this application (reference HC1677-11) which provides further details of the site changes that have been made to achieve BAT.
- 1.1.3. The operational changes at the site are as follows.
- 1.1.4. There will be a change in use of the former 'Cat 1' digestate storage tank to be used as a secondary digester fitted with a gas storage roof. This will mean that the site will have an increased processing capacity and increased total digestate and gas storage capacity.
- 1.1.5. The operator wishes to include the facility to accept, store and treat incoming waste materials at the site to then be exported from the site for use as a feedstock material at other AD plants. This is to include both liquid and solid feedstock materials. Methods of processing will include current processes of de-packaging/shredding/bulking and screening.
- 1.1.6. The increased AD processing capacity and additional treatment and export activity will result in a proposed increase in total waste processing capacity at the site to c. 150,000tpa.
- 1.1.7. 20,000tpa of wastes will be accepted for the storage, treatment, and transfer activity and the remaining 130,000tpa will be processed for use in the AD facility.
- 1.1.8. There will be a change in the layout or pre-existing tanks and other infrastructure at the site, and addition of new tankage. The site bunding and secondary containment arrangements will be uplifted to accommodate these changes and additions. The internal organisation of the waste reception shed will be re-organised, and refurbishment and replacement of some equipment will take place. There will be general uplift to the infrastructure, surfacing and drainage in the reception shed. The staff office and welfare facilities will be re-located to a different area of the site. Domestic sewage will be collected in a sealed chamber which is integral to the welfare offices facility and removed from site by tanker on a regular basis.
- 1.1.9. The refurbishment of the shed and existing tankage and addition of new tankage at the site will result in an increase in waste storage capacity for wastes prior to treatment in the AD process/export from site.
- 1.1.10. There will be addition of a new digestate dewatering and filtrate treatment system at the site which will take place in new infrastructure additions. The final effluent from this process is to be discharged to surface water (the river Trent).
- 1.1.11. Biogas production at the site will increase as a result of increased onsite processing capacity. There will be two new 1.25Mw output CHP engines installed at the site which will be in addition to the two pre-existing engines. The two new engines will each have thermal inputs of is 2.955kW.

- 1.1.12. A new biogas upgrading facility which is a directly associated activity (DAA) to the main AD activity has been developed within the current footprint of the site. This site has been issued a separate permit reference EPR/KP3707LX and the permit holder for this permit is BD Gas Permits Limited. The site plans have been updated to reflect this change. The AD operation will export biogas to the BD Gas permits upgrading facility and will receive off spec or unburnt gas, and condensate returns from the site for further processing, storage, or burning to flare.
- 1.1.13. There will be addition of a second emergency backup flare to manage the now greater volumes of gas in the event of downtime of gas consumers.
- 1.1.14. There will be addition of a dual fuel boiler which can operate on biogas or diesel as a backup boiler to provide heat for pasteurisation at the site as a contingency measure. The boiler has thermal outputs of 2600kW and thermal inputs of 2731kW.
- 1.1.15. There will be no change to the overall site footprint or permit boundary.
- 1.1.16. There will be no change to the wastes accepted at the site, unless arising from the outcome of the ongoing Digestate QP review.
- 1.1.17. Subject to planning approval/final confirmation, there will be an extension to operational hours at the site to 6am-10pm Mon-Fri and 6-7am - 1pm on Saturday. It is anticipated that waste deliveries will be accepted at the site during the hours of 6am-8pm Mo-Fri and 6-7am to 12noon on a Saturday. Security staff will be present at the site out of operational hours so either operations or security staff will be present on the site 24 hours a day 7 days a week.
- 1.1.18. There will be a change/upgrade of the current odour abatement system that treats extracted air from the reception shed, and addition of further odour abatement measures the site to manage risk arising from emissions from other activities at the site (displaced air from storage tanks and digestate offtake activities).
- 1.1.19. The main site containment bund surrounding the pre-existing digesters and former 'Cat 1' storage tank will be refurbished and uplifted to bring it in line with current BAT.
- 1.1.20. The digester tanks and gas roofs will be refurbished to bring them in line with current BAT.
- 1.1.21. The operator will continue to store raw materials at the site. The inventory of materials, annual quantities used and locations and methods for storage will be reviewed and updated to reflect onsite changes.
- 1.1.22. Rainwater from roofs and from the concrete bunded areas of the site will be collected and used within the process.
- 1.1.23. A borehole will provide additional water for use in the process. This is subject to a separate application for an abstraction licence.
- 1.1.24. The site EMS will be reviewed and updated to accommodate the changes.
- 1.1.25. A number of improvement conditions were listed on the site permit when the permit was varied in 2021 as a result of the national biowaste review, intended to bring all biowaste operations in line with current Best Available Techniques (BAT). The operator intends that this application will satisfy the requirements of IC1 – IC5 and wishes these to be considered/assessed as complete as part of this application. Information to satisfy the requirements is included with the application.



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