Huntingdonshire
DISTRICT COUNCIL

PERMIT

Pollution Prevention and Control Act 1999

Environmental Permitting (England and Wales) Regulations 2010 as amended

Permit Reference: A17/12

Huntingdonshire District Council (the regulator) hereby permits Enval Ltd 23 Science Park (Innovation Centre) Milton Road Cambridge CB4 0EY to operate a microwave induced pyrolysis process as defined in Part 2 of Schedule 1 to the EP Regulations Section 5.1 Part A2(b), and as described below in accordance with the following conditions which shall apply forthwith.

Address of permitted activity: Enval Plant - Alconbury Installation
Building 110 & 118, Alconbury Airfield
Ermine Street
Little Stukeley
Cambridgeshire
PE28 4WX

Location plan can be seen on A17/12(a) Location plan

Description of Activity

The process involves recycling aluminium/plastic laminates using microwave induced pyrolysis. Plastics, which are known to have a very high transparency to microwaves, are mixed with carbon, a highly microwave-absorbent material. When carbon is exposed to a microwave field, it can reach temperatures up to 1,000°C in a few minutes. The shredded plastics are mixed with the carbon prior or during heating, the energy absorbed from the microwaves is transferred to the plastic by conduction, providing a very efficient energy transfer and a highly reducing chemical environment. The latter avoids formation of undesired oxygenated organic compounds. The resulting outputs are aluminium flakes and hydrocarbons, in the form of an oil and gas with no other waste streams or discharges.

The plant is powered using a generator which can either be run on propane or the gas produced in the process. An emergency flare is also present in the event of an emergency.

Possible emission points relate from spillages from raw materials and products produced as well as emissions to atmosphere from the generator, emergency flare and emergency relief valve, the latter one present for safety purposes in case of overpressure in the kiln.

CONDITIONS:

EMISSIONS LIMITS AND MONITORING REQUIREMENTS:

	Pollutant	Source	Emission limit	Type of monitoring	Frequency of monitoring
1	NOx	Generator when process gas is being used.	500mg/m^3	Manual extractive test (1)	Annual
2	CO	Generator when process gas is being used.	1400mg/m^3	Manual extractive test (1)	Annual
3	Total VOCs	Generator when process gas is being used.	1000mg/m^3	Manual extractive test (1)	Annual
4	Visible emissions	Whole site	No visible emissions crossing the site boundary	Operator observations	Three times a day including start up
(1) Monitoring to determine compliance with emission limit values shall be corrected to the following standard reference conditions: temperature 0°C (273K); pressure: 101.3kPa and oxygen: 5 per cent (dry gas)					

5. Within one month of using process gas as the main fuel the following pollutants shall be tested to determine if present in exhaust stream:
   (a) Dioxins
   (b) Toxins
   (c) Cadmium
   (d) Titanium
   (e) Mercury

6. Investigate the cause and nature of any persistent visible emissions and provide a report to the regulator.

7. There shall be no emissions to either surface water or groundwater from process water.

8. The following audits shall be undertaken with the timescale specified and made available to the regulator.
   (a) Materials usage — Annual
   (b) Energy consumption and efficiency — Annual
   (c) Waste generation/ minimisation — Every four years
   (d) Water efficiency — Every four years

RAW MATERIALS:

9. Only the following waste types shall be accepted on site and processed.

Waste type	Waste code
Residual material derived from paper mills (not including hazardous waste)	03 03 07 mechanically separated rejects from pulping of waste paper and cardboard
Plastic aluminium laminate packaging waste cuttings derived from manufacturing operation or from material recycling facilities/operations (not including hazardous waste)	15 01 02 plastic packaging 15 01 05 composite Packaging 15 01 06 mixed Packaging 15 01 04 metallic packaging 19 12 03 non-ferrous metal 19 12 04 plastic and rubber 19 12 12 other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11 20 01 39 plastics 20 01 40 metals 20 03 01 mixed municipal waste.

10. All loads of material brought onto site shall be checked for suitable content and any unsuitable materials shall be removed off site. A copy of the duty of care note shall be kept and made available to regulator upon request.

11. Upon written agreement with the regulator materials with different waste codes may be brought onto the facility and processed. The operator shall supply the following data:
    (a) A written description of the waste to be processed.
    (b) The waste code of the waste to be processed.
    (c) The source of the waste to be processed.
    (d) The dates that the waste will be brought onto site.
    (e) The dates the waste will be processed.
    (f) The date that the trial will finish.

12. Any wastes agreed with condition 11 that causes breaches of any permit condition shall ceased being used and any other material contaminated with this material stream shall be disposed of to a suitably licensed premise.

REPORTING REQUIREMENTS:

13. In the case of abnormal emissions arising from an accident, such as a spillage, the operator shall:
    (a) Investigate and undertake remedial action immediately.
    (b) Promptly record the events and actions taken.
    (c) Ensure the regulator is made aware without delay.

14. The operator shall keep records of all inspections, audits, monitoring and maintenance. The records shall be:
    (a) Kept on site or at a location agreed with the regulator.
    (b) Kept by the operator for at least two years.
    (c) Made available for the regulator to examine within at least one week of any written request.

15. The operator shall notify the regulator at least 7 days before any periodic monitoring exercise to determine compliance with emission limit values.

16. The results of non-continuous emission testing shall be forwarded to the regulator within 8 weeks of completion of the sampling.

17. In the case of abnormal emissions, malfunction or breakdown leading to abnormal emissions the operator shall:
    (a) Identify the cause and take corrective action.
    (b) Record as much detail as possible regarding the cause and extent of the problem, and the action taken by the operator to rectify the situation.
    (c) Re-test to demonstrate compliance as soon as possible
    (d) Notify the regulator.

18. The regulator shall be informed without delay:
    (a) If there is an emission that is likely to have an effect on the local community.
    (b) In the event of failure of any key plant that results in an unexpected emission.

DELIVERIES, STORAGE AND SPILLAGES:

19. The operator shall ensure that deliveries are carried out in such a way as to minimise noise, spillages, leaks and dusty emissions.

20. All spillages shall be cleared up as soon as possible by appropriate techniques to prevent any spilled material from escaping off site.

21. Operators shall provide safe storage of raw materials, processed materials and waste produced.

22. Storage areas shall be within dedicated bays in the process buildings.

OPERATION AND DESIGN:

23. The microwave pyrolysis plant shall be an enclosed system. The only external emissions to atmosphere shall be from an emergency flare, electricity generator and emergency release valve.

24. All reasonable practicable steps shall be taken during start-up, shut down, loading of material and removal of product in order to minimise emissions.

25. The stack heights shall be sufficient to ensure adequate dispersal under normal conditions.

26. Stacks shall not be fitted with any restriction at the final opening such as a plate, cap or cowl, with the exemption of a cone which may be necessary to increase the exit velocity of the emissions.

27. The operator shall ensure that all operational and storage areas are equipped with an impervious surface and storage areas are either inside a building or equipped with an impervious surface, spill containment kerbs, sealed construction joints and connected to a sealed drainage system or such alternative requirements as approved by the regulator.

MAINTENANCE:

28. Flues and ductwork shall be cleaned to prevent accumulation of materials as part of the routine maintenance programme.

29. Effective operational and maintenance systems shall be employed on all aspects of the installations whose failure could impact on the environment.

MANAGEMENT AND TRAINING:

30. Operators shall use an effective Environmental Management System with policies and procedures for environmental compliance and improvements. Audits shall be carried out against those procedures at regular intervals.

31. The operator shall have a clear diagrammatic record of the routing of all installations drains, subsurface pipework, sumps and storage vessels including the type and broad location of receiving equipment.

32. A competent person shall be appointed to liaise with the regulator and the public with regards to complaints. The regulator shall be informed of the designated individual(s).

33. The operator shall maintain a statement of training for each operational post and keep a record of the training received by each person. The documents shall be made available to the regulator.

34. Training of all staff with responsibility for operating the process shall include:
    (a) Awareness of their responsibilities under the permit; in particular notification to the regulator, spillages and plant failure.
    (b) Minimising emissions on start up and shut down.
    (c) Action to minimise emissions during abnormal conditions.

35. There shall be written procedures for investigating incidents and near misses which may affect the environment, including identifying suitable corrective action and following up.

36. The best available techniques shall be used to prevent or, where that is not practicable, reduce emissions from the installation in relation to any aspect of the operation of the installation which is not regulated by any other condition of this permit.

37. If the operator proposes to make a change in operation of the installation, he must, at least 14 days before making the change, notify the regulator in writing. The notification must contain a description of the proposed change in operation. It is not necessary to make such a notification if an application to vary this permit has been made and the application contains a description of the proposed change. In this condition 'change in operation' means a change in the nature or functioning, or an extension, of the installation, which may have consequences for the environment

Signed: 

Head of Environmental and Community Health Services

Date: 19 November 2012

GENERAL NOTES

1 Enforcement

You will be liable for prosecution if you fail to comply with the conditions of this permit. If found guilty, the maximum penalty for each offence if prosecuted in a Magistrates Court is £50,000 and/or 6 months imprisonment. In a Crown Court it is an unlimited fine and/or 5 years imprisonment.
Our enforcement of your permit will be in accordance with the Regulators' Compliance Code.

2 Variation

The regulator will ensure that the permit remains up to date in line with the requirements set out in Regulation 20(1) This may involve issuing a Variation Notice following amendment to the Secretary of State's Guidance Notes or following receipt of any direction from the Secretary of State.

3 Review of Conditions

The regulator may at any time undertake a review of the conditions in this permit under Regulation 34(1). Where significant pollution is encountered or where there are changes in BAT or where the operational safety of the activity requires other techniques to be used an immediate review shall be undertaken.

4 Appeal

You have the right of appeal against this permit within 6 months of the date of the decision. You will normally be expected to pay your own expenses during an appeal.
Appeals shall be addressed to: The Planning Inspectorate
Environment Team, Major & Specialist Casework
Room 4/04 Kite Wing, Temple Quay House,
2 The Square, Temple Quay, Bristol, BS1 6PN

5 Transfer of Permit

The permitted operator who wishes to transfer the whole or part of the permit to a person who proposes to carry out the activity in the holder's place may do so in accordance with Regulation 21. Both the operator and the proposed transferee shall jointly make an application to the regulator to effect the transfer. An application shall include the permit and any fee prescribed in respect of the transfer under Regulation 19 and shall contain the operator's and the proposed transferee's contact details.

6 Variation of Conditions of Permits

Under Regulation 20, the operator may apply to the regulator to vary the conditions contained within the permit. Such application shall be made in accordance with Part 1 of Schedule 5 and shall be accompanied by any fee prescribed in respect of the application under Regulation 19; and paragraphs 8 of Part 1 of Schedule 5 and paragraphs 5(3) and (4) of schedule 5 shall have effect with respect to such applications.

7 Other Legal Requirements

This permit is issued solely for the purpose of the Pollution Prevention and Control Act and its associated Regulations and the operator must ensure that he complies with all other statutory requirements.

8 Annual Subsistence Charge

The Secretary of State has drawn up a charging scheme under Regulation 19. Under this scheme Local Authorities are required to levy an annual subsistence charge related to the permit. The Local Authority will invoice for the amount due which is subject to annual review by the Department of the Environment Food and Rural Affairs.

A17/12 (a) Location plan