

NON-TECHNICAL SUMMARY

1.0 INTRODUCTION

1.1 Environmental Permit Application Process & Installation Proposals

1.1.1 Encia Environmental Limited have been commissioned by Sheepbridge Resource Park Limited to prepare and submit a Environmental Permit Application for the operation of Sheepbridge Resource Park, Dunston Road, Chesterfield. The application is submitted in accordance with the Environmental Permitting (England and Wales) Regulations 2007.

1.1.2 The information contained within this Environmental Permit Application document consists of completed EA application forms, Site Condition Report, Management Plan, Drawings, Appendices that together comprise the Environmental Permit application for the site.

1.1.3 Application Forms Part A (including supplementary guidance for waste incineration and co-incineration plants), Part B and Part F have been completed and are presented at the front this Environmental Permit Application document. The EA forms list information required to be submitted with the Environmental Permit Application. Cross-referencing is used in the forms to direct the reader to the appropriate section of the Environmental Permit Application document.

1.1.4 The Installation comprises two separate elements as follows:

- A Materials Recycling Facility (MRF); and
- An Energy Recovery Building (ERB).

A detailed description of the installation activities are given in Section 2 of the Management Plan (Environmental Permit) Application document.

1.1.6 The Energy Recovery Building will utilise EnerWaste International technology which is a Batch Oxidation System (BOS) gasification process developed in North America. Planet Group own the franchise for the EnerWaste technology in the UK which is the plant to be installed at the Sheepbridge Resource Park Site.

1.1.7 The installation is located at Sheepbridge Resource Park, Dunston Road, Chesterfield as shown on Drawing CY1037/05/01. The Installation boundary is shown on Drawing CY1037/05/02.

1.2 Consultation Process

1.2.1 As part of any major development works, it is essential that effective consultation with various stakeholders takes place at each distinct stage of the process. This includes pre-development, when a developers proposals can be discussed with statutory consultees and disseminated amongst the local populace by way of public exhibitions and meetings. Consultation should then take place during the development process both in terms of statutory and non-statutory public engagement, with both being a pre-requisite of any environmental permit and planning application.

1.2.2 Once a site has the requisite consents for operations, good practice dictates that regular liaison meetings will be held with both statutory and non-statutory parties.

- 1.2.3 As part of the development at Sheeepbridge which is subject to this Environmental Permit Application, the following non-statutory consultation has taken place:

Description of Engagement	Details / Date
1 st Public Exhibition Day	19 th August 2008 Cammac Coal Yard, Dunston Road, Chesterfield
2 nd Public Exhibition Day	18 th September 2008 Cammac Coal Yard, Dunston Road, Chesterfield
Community Forum Meeting	28 th October 2008 Cammac Coal Yard, Dunston Road, Chesterfield
Community Forum Meeting	9 th January 2009 Cammac Coal Yard, Dunston Road, Chesterfield
Public Consultation Day	24 th September 2008 Cammac Coal Yard, Dunston Road, Chesterfield
Press Release	19 th August 2008 www.letsrecycle.co.uk
Press Release	20 th August 2008 Derbyshire Times www.derbyshiretimes.co.uk
News Articles	BBC Radio Sheffield Peak FM ITV local news BBC local news

- 1.2.7 In addition to the project updates and liaison with local interest groups, the developer also maintains a website where updates are given on progress, the website link for the site is; www.sheepbridgeresourcepark.co.uk.

2.0 NON TECHNICAL SUMMARY

- 2.1 This non-technical summary is a summary of the responses provided to the questions in Parts A, B and F of the EA application forms.
- 2.2 The application is for an Environmental Permit to operate a bespoke waste installation comprising of a materials recycling facility (MRF) and energy recovery building (ERB). The installation will be located at Sheepbridge Resource Park, Dunston Road, Chesterfield. The applicant is Sheepbridge Resource Park Limited, a company registered in England and Wales.
- 2.3 The plant will use the EnerWaste International technology, of which, the UK franchise is owned by the Planet Group. This is Batch Oxidation System (BOS) gasification process.
- 2.4 The activities being applied for are classified by legislation as recovery of waste by treatment and the co-incineration of waste, although the technology proposed for the ERB is more accurately described as advanced thermal treatment by waste gasification. Other activities on the site will allow electricity generation and export of heat generated from the process. Sheepbridge Resource Park Limited has considered alternative technologies for use at the site and has concluded that the technology proposed is the most suitable. The appraisal of potential alternatives is included in Appendix 1 to the Management Plan.
- 2.5 A Site Condition Report has been prepared which examined historical land use, and results of soil, water and gas samples taken at the site. The report concludes that evidence exists to show that the site and adjacent land has been subject to contamination resulting from previous historic uses. It is anticipated that the redevelopment of the site to include impermeable surfacing and sealed drainage systems will negate any potential pollution pathway resulting from the proposed site activities.
- 2.6 The Installation will be managed and operated by a manager and staff who are technically competent and are suitably trained. The applicant intends to operate under a formal Environmental Management System that will be developed in the first year of operation. The Environmental Management System will be subject to independent audit.
- 2.7 The Installation will use various common raw materials including gas oil (or biodiesel) (for on site mobile plant and auxillary burners); activated carbon and biocides (for water treatment); urea, sodium bicarbonate and activated carbon (for removal of contaminants from exhaust gases); and water. All raw materials will be stored in containment tanks with integral bunded areas and under conditions which ensure the risk of pollution is low.
- 2.8 A maximum of 75,000 tonnes of waste per annum will be imported to the Installation. 25,000 tonnes of waste will be directed to the MRF with the remaining 50,000 tonnes directed to the ERB. 10,000 tonnes of residual waste from the MRF will be diverted to the ERB for thermal treatment and energy recovery whilst the remainder will be transferred offsite for recycling.
- 2.9 All incoming waste will be stored inside the buildings. Waste will be stored for limited periods and under controlled conditions. Within the ERB air is extracted from the building and used in the combustion process, to minimise emissions of odour. Management controls on storage times, and regular inspections and use of insecticides and rodenticides, will ensure that vermin do not cause a nuisance at the site or in the surrounding area.

- 2.10 Treatment within the MRF will comprise of waste separation using a manual picking station. Waste will be transferred via conveyor to a metal recovery unit to remove any recyclable metal fractions from the waste. Recyclable materials will be baled onsite prior to offsite discharge. Residual waste from the process (approx 10,000 tonnes per annum) will be transferred to the ERB for thermal treatment.
- 2.11 The ERB will use waste as a source of fuel in order to generate electricity, which will be exported to the national grid. In addition, waste heat generated from the steam raising process will be transferred to the adjacent industrial units for space heating, the above combination of uses known as Combined Heat and Power (CHP).
- 2.12 Waste will be placed in sealed gasification chambers and combusted under conditions where the oxygen supply is restricted, resulting in incomplete combustion (gasification). A gas is given off which is called synthesis gas (Syngas). The Syngas is then fully combusted in an oxygen rich environment in a secondary combustion chamber. Heat is generated from the secondary combustion process which is carried by the exhaust gas through a boiler, where steam is generated. The steam is used to drive a turbine, which in turn drives a generator allowing production and export of electricity. The power requirements of the Installation are also provided by the electricity generated on site. The maximum amount of electricity generated per annum will be approximately 48,000 megaWatt hours, which is sufficient for the annual requirements for approximately 14,500 households. It is likely that a significant amount of waste heat will also generated and captured by the process.
- 2.13 An air emission abatement system is installed to remove (so far as possible) contaminants such as nitrogen oxides, acid gases, metals and dioxins and dust from exhaust gases, prior to emission to air via the main stack. The Installation will comply with the Waste Incineration Directive (WID) for the wastes being treated. WID specifies strict limits on operation and management of, and maximum emissions of contaminants from, waste incineration facilities. Emissions to air are monitored continuously by automatic equipment which is designed and calibrated according to strict standards.
- 2.14 Detailed modelling studies have been undertaken for all major emissions from the Installation using pessimistic assumptions. Emissions to air from the Installation are not predicted to compromise relevant air quality standards (designed to protect human health). The impacts of dioxin emissions on human health have also been assessed using techniques endorsed by EA. The impacts are insignificant.
- 2.15 A treated effluent from the Installation will be discharged to foul sewer in accordance with conditions that will be set in the Trade Effluent Discharge Consent. Amenity monitoring will also be undertaken regularly for odour, dust and litter at the boundary of the Installation. Remedial action will be carried out where the impact of odour, dust or litter is likely to cause nuisance or risk to the environment.
- 2.16 Sources of noise and vibration from the Installation, and effects on local noise sensitive properties, have been modelled. It is concluded that the impacts of noise and vibration from the Installation are unlikely to be perceptible at noise sensitive locations.

- 2.17 The main solid waste arising from the process is ash from the gasification chamber. This ash contains contaminants in low amounts and will be collected in skips, and then sent to a specialist facility for reuse or reprocessing. Other solid wastes result from treatment of the exhaust gases to remove contaminants. These wastes are likely to be classed as hazardous and will be stored inside the building in sealed bags before dispatch to a specialist waste management facility for reuse or reprocessing before final disposal. Waste streams will be sampled and analysed to check that disposal routes identified are suitable. Wastes (including waste used as a fuel) are managed such that the relevant objectives of legislation relating to nuisance and risk to the environment are met.
- 2.18 The risks of environmental accidents have been considered in the application. It is concluded that the site design, operational and management procedures will minimise the risk of accidents. Contingency procedures are in place should accidents occur that could have effects on the environment.
- 2.19 The Installation has a design life of 20 years. Upon final closure the site will be cleared of all polluting substances, and the building and infrastructure will be removed for recycling or re-use. A further site report will be prepared at this stage to check that operation of the Installation has not resulted in pollution of the surrounding environment over and above the current condition described in the site report to this application.
- 2.20 There are two sites of European Nature Conservation within 10km of the Installation and there are no Sites of Special Scientific Interest within 2km of the Installation.