
NON TECHNICAL SUMMARY

In respect of

**TOCKWITH ENERGY FROM
WASTE FACILITY**

On behalf of

**BCB ENVIRONMENTAL
MANAGEMENT LTD**



Date: April 2009

Non Technical Summary

Introduction

BCB Environmental Management Ltd is seeking permission for the redevelopment of Unit 86, Marston Business Park in order to create an Energy from Waste (EfW) facility that would allow for 60,000 tonnes of waste per year to be processed by gasification, and they have prepared an Environmental Statement in support of the planning application.

The Environmental Statement has been produced under the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999. North Yorkshire County Council has confirmed that the proposed new facility is a 'Schedule 1' project in terms of these Regulations and it is therefore subject to Environmental Impact Assessment.

Environmental Impact Assessment is the process whereby environmental impacts are taken into account in reaching a decision on a planning application, and focuses on the likely significant environmental impacts of the proposed development. In order to carry out the impact assessment, the proposed plant has been considered in the context of the existing use of the site, relevant planning policies, the need for the development and its potential significant environmental effects. The findings of the assessment process are documented within the Environmental Statement and are summarised in this Non-Technical Summary.

Stakeholders who may have an interest in the proposed development have been provided with the opportunity to comment on the proposals at various stages during the assessment process. This has included consultations with statutory and non-statutory bodies, as well as wider consultations through public exhibitions, press releases, a leaflet and questionnaire, and phone line and email links. The environmental issues raised as a result of these consultations are incorporated into the impact assessment.

Site Location and Description

The EfW plant is to be located within the Marston Business Park and is approximately 430m west of the edge of the village of Tockwith and approximately 6.76km north east of Wetherby and 14.64km west of York.

The Business Park is a former WWII airfield centred approximately 1.16km west of the centre of the rural village of Tockwith. Recent residential building has filled much of the original agricultural surroundings, and parts of the airfield, close to the boundary of the Business Park. It lies 1.16km south of the River Nidd and 2.94km (by road) north of the B1224 Wetherby–York road. Apart from the Business Park itself, the surrounding land is overwhelmingly agricultural.

Historical mapping indicates that the site and its environs were farm land until the early 1940's, when the airfield was built as a base for heavy bombers. The site itself was then used as part of a Home Office Supply and Transport Store until 1988. Adjacent historical land uses have included a hazardous waste transfer station, municipal waste transfer station and vehicle depot.

The Need for the Proposal

The amount of waste being generated by households, businesses and industry is increasing year by year and the need for the Tockwith Energy from Waste plant stems from a widely accepted need for a move towards more sustainable methods of waste management.

The Tockwith EfW plant will help to meet both electricity generation and local waste management requirements for a considerable period of time. The 'waste hierarchy principle' for waste management planning establishes waste minimisation as the most favoured approach, followed by re-use, recycling, composting, energy recovery and disposal. By enabling energy recovery from residual waste that otherwise would be landfilled, the proposed EfW would allow the County and Region to process more waste further up the waste hierarchy. The EfW plant could also play an important role in managing residual Municipal Solid Waste (i.e. waste that remains after source segregation for recycling and composting), Commercial and Industrial waste and hazardous waste, which would have a beneficial effect in terms of North Yorkshire achieving its targets for diversion from landfill.

In order to ensure that the combination of site location and technology used for the proposed facility has a minimum negative environmental impact, and meets objectives for sustainable waste management, the site has been assessed against Planning

Guidance, and a range of waste treatment technologies capable of treating 60,000 tonnes of waste per year have been assessed against Environment Agency Guidance. The assessment indicates that both the site and the technology selected are the most appropriate for the facility. This, together with a range of other considerations, suggests that the proposed Energy from Waste plant is considered to be the preferred option for meeting future and local waste management and electricity generation demands.

Description of the Proposals

The Energy from Waste plant will process non-hazardous, Municipal Waste, Commercial and Industrial Waste from the local area and businesses together with hazardous waste from the adjacent Waste Transfer Station to generate power to be exported to the National Grid. Heat will also be generated, and will be available as a resource for local businesses or district heating subject to there being sufficient demand for the system and further discussions on distribution.

Value will be obtained from around 97% of the waste going through the plant which will contribute significantly to addressing the waste problems in North Yorkshire. Energy will be recovered in the form of approximately 8MW of electricity, enough to provide power to approximately 10,000 homes. The facility to provide heat to local businesses and residents in the form of district heating will be made available. Steel, aluminium and glass will be recovered from the ash residues for recycling, and the bottom ash itself will be sent for recycling.

The proposed plant will include the following elements:

- 6 gasification chambers arranged in two rows of three
- 2 liquid waste evaporation units
- 1 waste oils distillation unit
- Secondary Thermal Treatment
- 2 Steam Boilers
- A flue gas treatment system to clean the hot gases that are produced from the process
- A 31m chimney-stack

- A turbine hall in which the steam produced by the boilers is used to generate electricity and provide heat for re-use
- Three external air cooled condensers; and
- An electrical connection so that electricity can be exported to the national Grid.

When operational, the plant will comply fully with UK Government and European Union legislation and policy.

Given that the Marston Business park currently exists as a feature close to the village of Tockwith, and will continue to do so for at least the next 30 years, BCB has taken the opportunity to improve the external appearance of their extended site as part of the planning application.

It is proposed to erect a new purpose built structure that follows best practice from Defra to incorporate as much plant as possible within the building. An option is to paint the new chimney stack to minimize its visual impact.

Description of the Proposed Energy from Waste Processes

The proposed Energy from Waste processes are described in detail within the Environmental Statement.

Operating Hours

The Energy from Waste plant will operate on a 24 hours a day, 7 days a week basis. Waste is will brought to the plant between 8am and 5pm Monday to Friday, and between the hours of 8am and 1pm on Saturdays.

Employment

The company currently employs 35 operatives, most of whom are highly-skilled. Once operational, the proposed plant would require a further 18 employees.

Waste Reception and Handling

Incoming vehicles will be inspected and weighed on arrival at the site, and once authorised, they are directed to discharge into one of three bunkers. The tipping operation will be undertaken wholly within the building. The vehicles will enter the building through fast operating doors.

Combustion Process

The new facility will have six gasification chambers sequenced to operate on a programmed cyclic basis and provide a nominally constant flow of synthesis gas to an oxidation chamber. Six gasifiers feeding a common oxidation chamber were found to be the optimum combination to provide the smoothest and most consistent operation in terms of gas flow and hence generated power output.

Energy Recovery

One of the major benefits of the Tockwith EfW plant is its ability to recover energy to generate heat and power. Flue gas from the after-burn chamber will enter two boilers to raise superheated steam at nominally 40 bar and 400°C for use with the common turbine alternator unit. This will supply electricity for both in-house use and for export to the national grid.

Flue Gas Treatment

The gases produced during the combustion process are cleaned prior to being released through the chimney.

A continuous emissions monitoring system will be installed that is interconnected with the dosing system, to apply an effective amount of reagent to ensure operation well within emission limit values set by the Environment Agency. The treated flue gas passes through bag filters which will remove unused or reacted reagents and other particulates.

Chimney Stack

At a proposed height of 31m, residual pollutants are dispersed so that the ground level concentrations are well below the air quality standards limits and there is no significant impact on air quality at ground-level receptors.

Raw Materials Handling and Storage

Various raw materials are used during the operation and maintenance of the plant. To ensure that there are no risks of contamination of surface water, the raw materials are stored in appropriately controlled and bunded areas.

Construction

It is anticipated that the construction of the proposed facility would take place over 15 months. During the initial stages, construction activities would take place Monday to Saturday. Once the main structures are constructed, internal works may continue on a more flexible basis.

The number of staff required for the construction of the proposed facility would vary during the construction phase.

Planning Policy

In order to assess the suitability of the proposed new facility in the context of the relevant European, National, Regional and local policy framework, a review of both current and emerging planning policy documents, relevant legislation and waste management strategies has been undertaken.

There are three overarching principles of waste planning. These are the waste hierarchy, the 'proximity principle' and regional self-sufficiency. The proposed development will make a significant contribution to the Region's recycling and recovery targets and will divert residual waste away from landfill and higher up the waste hierarchy. The facility will take municipal waste and commercial and industrial waste from the locality, and the processing of the hazardous waste at the site will avoid transport of hazardous waste

over long distances for disposal. The facility will therefore accord with the proximity principle and will make a significant contribution to regional self-sufficiency.

The proposed plant also complies with local development plan policies to make provision for additional facilities for the transfer, treatment and disposal of waste to meet predicted shortfalls in non-landfill disposal capacity, and accords with policies regarding economic energy recovery. As a result, the proposed facility is considered to be in accordance with key waste management and development planning policy.

Townscape, Landscape, and Visual Impacts

The areas surrounding the Energy from Waste plant have been subdivided into 4 character areas based on their landscape features and characteristics. The quality of these character areas vary from "Very Attractive" to "Ordinary". Given the nature of the existing buildings within the landscape the proposed plant would have no significant adverse effects on the characteristics of these areas, both during construction and when the facility becomes operational.

The provision of a new purpose-designed building together with new bunding and landscaping would 'soften' it, and the colour chosen would unify the buildings and decrease the contrast between the individual elements that make up the site. The character areas further away from the site would not experience any significant effects, as the Park is already part of the wider views.

The proposed facility would be particularly visible from certain northern and eastern areas and as a result, these areas would benefit most from the improvements in the appearance of the plant. While there are residential properties to the east, the appearance and landscaping of the plant would reduce its apparent scale and mass.

Ecology and Nature Conservation

The immediate area around the site is predominantly industrial with limited natural vegetation and habitats. These habitats are of limited ecological value and are not considered to be of nature conservation interest. None of the trees, or the buildings offer suitable roosting, nesting or breeding habitat for bats, although song thrushes were

noted. Replacement planting of any vegetation removed during construction will provide alternative habitat.

Due to the limited ecological interest within and adjacent to the site, no significant effects on nature conservation are predicted during both the construction and operation of the plant. On the other hand, some areas of the site layout offer opportunity to enhance its biodiversity value by the provision of additional habitats.

Air Quality

The processes involved in the operation of the Energy from Waste plant inevitably give rise to a number of substances that are emitted into the air through the chimney. As a result the plant has been designed to meet all emission standards. The plant would also be strictly regulated, and the emissions from the chimney would be controlled, to prevent any breaches of these standards from occurring.

The modelling and assessment of the predicted effects of the new facility on existing air quality has been considered in terms of both the current and predicted vehicle movements, the likely dispersion of emissions from the chimney and the worst case predicted concentrations of pollutants that would result.

The results of the modelling have indicated that the operation of the plant is not likely to result in any breaches of air quality objectives. As a result, no significant effects on air quality are predicted.

Health Impact Assessment

The potential effects of the proposed development on the health of the local community have been considered in the context of the potential emissions from the plant, the main sources of which are emissions from the chimney and from vehicle movements. The assessment included the consideration of the risks associated with both the inhalation and ingestion of trace amounts of chemicals.

For the purpose of the assessment, the chemicals of interest were considered in terms of those with acute effects (those occurring shortly after exposure - such as acids) and

those with chronic effects (those occurring through prolonged exposure - such as metals).

The modelled emissions have been compared with the relevant standards and objectives and a calculated safety factor and risk to the population has been determined. In each case a substantial margin of safety was evident and the predicted levels of emissions from the EfW plant are much lower than the standards and objectives. No significant effects on the health of the local population are therefore predicted.

Noise

Existing daytime and night-time noise levels within and around the proposed EfW plant have been measured. The results have been compared with the predicted impacts on noise levels during the operation of the new facility. The noise surveys focused on key plant areas and building facades, and off-site sensitive locations.

The calculated noise levels during construction were considered to be acceptable at all locations, although some temporary adverse effects may result if piling is required. Operational noise levels were modelled with regard to the design of the proposed development, the location of noisy operations within it and vehicle movements. The results of the modelling have indicated that mitigation of the noise sources by design and construction will achieve no significant increase in noise levels at sensitive receptors or adjacent commercial premises resulting from the operation of the plant.

Flood Risk

The site is within an area that is unlikely to flood except in extreme conditions (once every 1000 years) and there is no record of the site flooding whilst the Business Park has been in operation. Therefore the likelihood of the site flooding is considered to be low. Works to be carried out during construction would not temporarily increase flood risk. Given that the site is predominantly hardstanding, no significant increases in surface water run-off or loss of floodplain storage are predicted. As a result, the operation of the proposed plant would not increase flood risk.

The existing adjacent facility already has comprehensive emergency procedures, which include actions to be taken to ensure access and/or alternative waste management in the event of shut-down or flooding.

Geology, Soils and Groundwater

Records dating back to 1885 indicate that the site was farm land prior to the construction of the airfield in 1942. Since then the site has been used for various industrial purposes, with the original concrete flooring undisturbed. As a result, it is unlikely that contamination residues exist within the underlying soils, geology and groundwater.

Given that the site is predominantly hardstanding, there is currently a low risk that contamination pathways would be created. Should this hardstanding remain in place during construction, it is considered unlikely that residual pollutants would be remobilised. Excavation will be required during construction, therefore potential adverse effects could occur. Measures to mitigate these effects would be determined through ground investigation, together with good site practice during construction. Potential operational effects are considered unlikely given the extent of hardstanding across the site.

Cultural Heritage

The Energy from Waste plant is situated in proximity to a Conservation Area, listed buildings and a Registered Battlefield. The proposals involve the construction of a new building and chimney stack. The proposals are within the boundary of the existing Business Park therefore no direct impacts on sites of cultural heritage interest have been identified.

Traffic and Access

The impacts of the proposed development on transport and access have been assessed. This assessment has considered the location of the plant within the surrounding transport network, as well as the traffic and transport implications of the construction

and operational phases. Surveys and traffic modelling have been undertaken as part of the assessment, by nationally-recognised consultants.

This proposal would not result in capacity issues at key junctions surrounding the site. It is concluded that the EfW plant would have no adverse effects on the local highway network, and in particular, on the condition of the local Rudgate access road. The assessments have also concluded that the traffic would not result in any significant effect on accident risk.

Cumulative Effects

Sometimes impacts that may be considered relatively insignificant in isolation may result in significant effects over time when combined with other predicted environmental effects of the proposals. These are known as 'Cumulative Effects' and these have been considered with respect to adjacent residential properties and sensitive environmental sites. It has been concluded that none are predicted.

Conclusions

The proposals for the Tockwith Energy from Waste plant stem from the need to help meet the County's local waste management demands over the next 30 years, whilst promoting sustainable methods of waste management.

Overall, beneficial effects are predicted to result from the operation of the plant: By enabling energy recovery from waste that would otherwise be landfilled, the proposed facility will allow the County and Region to process more waste further up the waste hierarchy.

The Energy from Waste plant will play an increasingly important role in managing residual Municipal Solid Waste, Commercial and Industrial waste and hazardous waste. This would have beneficial effects in terms by increasing landfill-diversion capacity in North Yorkshire and the Region and in helping to achieve the Government's objectives for reducing the role of landfill in waste management.

The proposed improvements to the appearance of the plant would reduce the significance of any adverse effects on visual amenity and result in beneficial effects on landscape and townscape character.

The installation of a new 11 kVA cable feeding to and from the National Grid will improve the supply of electricity to the village and the Business Park and will provide for power generation using non-fossil fuels. The installation of this new underground cable will make available the opportunity to improve the electricity supply to the village and the Business Park by the installation of a separate new underground cable at the same time.

Given the strict controls placed on the design and operation of the plant, no significant effects on local air quality, noise and the health of existing and future communities are predicted. Additionally, no significant effects on the condition of local wildlife designations or buildings of cultural heritage importance are predicted.