

# **From Councillor Clive Billenness**

**26 January 2008**

**Mrs G M Firth  
Clerk to the Parish Council  
Tockwith with Wilstrop Parish Council**

Dear Mrs Firth

## **Planning Application for Change of Use to Energy from Waste Facility**

I regret that owing to prior commitments in London, I am unable to attend the extraordinary meeting of the Parish Council on 29<sup>th</sup> January. I shall be grateful if you would record my apology for absence.

I shall be grateful if the following letter could be considered by the Parish Council as part of its deliberations about this application.

I was very grateful the other week to be able to visit the BCB plant and be given some technical background to this application by the applicants themselves. They explained very clearly the purpose of the application, the technology that would be employed and what steps they intended to put in place to mitigate what they perceived as the key issues to parishioners.

I also noted very carefully one thing which was said by Mr Boardman during the visit – namely that all that this plant would be doing would be taking wagons of refuse which would normally be going to the landfill site at Rufforth and bringing them to Tockwith.

This set me thinking about the appropriate positioning of this plant – why bring them here ? Why not gasify them at Rufforth itself ? You may think that this has no bearing on a planning application for Tockwith, and almost sounds like NIMBY-ism “Not In My Back Yard”, but this is not the case.

The major plank of the BCB planning application rests upon environmental necessity – this will help to clean up the environment and reduce carbon emissions. It will also recover energy used to manufacture or grow products and so overall reduce society’s carbon footprint. All very praiseworthy. But then this argument is harnessed to support construction in Tockwith – as if this is the only place the plant can be built. It may be the only place where BCB can build it, but we, as Parish Councillors, have to take a wider view about what is overall best for the community as a whole.

To start where I intend to finish – I do not think that a convincing case has been made to put this plant in the location proposed. I further believe that the loss of residential amenity and risk of harm to the health of residents and of damage to surrounding agricultural land is so great that had I been able to be at the meeting, I would have opposed this application very strongly.

I will now set out my reasons based on information I have obtained from independent academic and government research, information provided by the company building the twin of this plant in Dumfries, the opinion of an independent company with experience of a similar plant in Iceland and, finally, information given by BCB themselves.

Starting with the independent research, in the first instance this application is for the construction of a waste incinerator, and should be treated as such. Independent research commissioned by the Environment Agency and undertaken by the highly prestigious Atomic Energy Authority states clearly that :

“waste pyrolysis and gasification plants will have similar pollution potential to waste combustion plants.... Claims that pyrolysis and gasification processes are inherently less polluting than conventional waste combustion processes have not yet been substantiated.”

The first question to consider is whether it is appropriate to place a waste incinerator this close to a residential community ? For close it will be. As can be seen from Plan 1, the proposed site is only 675 metres from the nearest major residential area, and this is almost due East of the proposed site. Given the prevalent wind direction is westerly, this will place this area directly in line of any pollution fallout (more about this later). It is also only just over 1200 metres from a large primary school, and also from an area where it is proposed to put another 150 dwellings. A further 200 metres to the South-West are intensively used playing fields which belong to a charitable Trust which provides, amongst other activities, facilities for disabled children. These playing fields regularly win national awards for their quality. The proposed site of the plant is far too close to these facilities.

An independent report posted on the Government’s Improvement and Development Agency website reporting a visit to the Sistema Ecodeco plant in Italy warned that “The biofilter located on the roof may give the biggest concern. It gave off vapour (which didn’t rise very high). The potential odour on a hot day would need to be evaluated.”. We already have many complaints of smells from residents on the Prince Rupert Drive Estate, and having recently visited the BCB plant and suffered from a severe headache for almost 24 hours afterwards which I have no doubt arose from inhalation of the fumes which I inhaled while sitting in their conference room for no more than 90 minutes, I have no doubt of residents’ truthfulness. I do not think it right that they be asked to tolerate any more.

Further health warnings are sounded by the Scottish Environmental Protection Agency, which warns about a gasification plant that “some plant employees have experienced skin and respiratory problems”. This hardly suggests that any new employment provided by this plant would be of true benefit to the community.

I would now like to consider what might be learned from other gasification plants in the UK. This application is modelled very closely on the construction of a similar plant at Dargavel in Dumfries which is currently in progress. BCB have informed us that the technology they propose to use is identical. There are, however, some significant differences between Dargavel and Tockwith. To quote a presentation given by John Birchmore, Managing Director of SHREWS Ltd who are project managing the Dargavel construction, the Dumfries site was a good choice because it met the following criteria (amongst others):

- Access to main road
- Adjacent to landfill site
- No hostile neighbours

As applicants in this case, BCB do not meet any of the criteria specified by the managers of the plant with which they compare themselves. In Tockwith there is no easy access to a main road, there is no adjacent landfill site and the neighbours are extremely hostile to this proposal.

As will be seen from Plan 2, the Dargavel plant stands directly off the A709, with simple access to the A75 and the A701. It is on the site of an old quarry with the nearest residential habitation some 2km away.

I have contacted Dr John Pearson, formerly a senior officer of Dumfries Council (and local resident) who has confirmed that the site is in an uninhabited area surrounded by low quality rural landscape. He also observed that there are no major habitations within the surrounding area. This contrasts strongly with Tockwith, where, apart from residential accommodation, there are also a number of substantial agricultural enterprises as well as stables and a large agricultural showground all within much closer proximity.

If there is one lesson we can learn from Dargavel, it is that Tockwith fails to meet the criteria which led to the selection of the Dargavel site. Rufforth would be far more similar than Tockwith.

I also note the facility approved by North Yorkshire County Council at the Seamer Carr landfill site in April 2007 (Application No.C4/07/00143/CC), again adjacent to a main road and where the nearest substantial residential settlement at Cayton is almost 2 kilometres distant to the North-East, and with only sea to the East and South.

North Yorkshire County Council have also recently rejected an application for nearby land, also accessed via Rudgate – the same route which would be used by vehicles bringing 38,000 tons of waste to the proposed plant every year - to be used for waste management activities, partly on the grounds of an unsuitable road network as well as impact on adjoining residential properties. The same factors surely also apply to this application.

And so I now turn to my primary concern over this application – the risk of toxic pollution of the surrounding area from its flue emissions. I have carefully examined BCB's environmental impact statement, and focussed especially on their Table 10.9 "Source and Emissions Data".

This table details the anticipated emissions from the plant. The figures use measures of milligrams and micrograms and so make the plant look very harmless. It must be remembered however that these figures are based on amounts per cubic metre and emissions per second.

When these figures are calculated up to represent actual emissions over a daily/monthly/annual period, a quite alarming picture begins to emerge. I have developed a full analysis at Table 1 attached to this letter. This takes account of an anticipated two weeks' maintenance shutdown each year and assumes that the plant will achieve its target emissions throughout the year. It should also be noted that scientific literature warns that these plants have historically had difficulty in achieving their performance criteria. To summarise here, the plant will output more than 141 metric tonnes of pollutants into the atmosphere over Tockwith every year. This will include almost 37 tonnes of Ammonia, one hundredweight of Mercury and, most worryingly, 9 tonnes of microparticulate material, referred to as PM10's.

These three are of particular concern because they all have well-documented toxic effects, not all of which may be appreciated by the lay person.

Mercury is a poisonous substance whose toxic effects have been well-known for over a century. This site will emit, 24 hours per day, 7 days per week, mercury at a concentration level which is only considered safe in a workplace for exposure for 40 hours per week. For Tockwith residents, the exposure will be for 168 hours per week, or 4 times as long.

The effects of ammonia are, in my opinion, slightly minimised in the Environmental Impact report, but a peer-reviewed paper published in Environmental Management and Health, Vol. 11 No. 3, 2000, pp. 239-249 written by Kaye H. Kilburn of the University of Southern California warns that:

*"Exposure to ammonia, for a few minutes to several hours, was associated with neurobehavioral impairment measured after 22 months. Thus inhaled ammonia shares the toxicity of endogenous ammonia. Effects were persistent and are probably permanent"*

The risk arising from exposure to more than 37 tonnes per annum is very worrying.

Most worrying of all, however, in a catalogue of concerns is the problem of microparticulate material. These are microscopic particles of material ejected from the incinerator, too small to see with the naked eye, and only 10 microns (10 millionths of a metre) in diameter – this is about 1/7<sup>th</sup> the thickness of a human hair. The site is expected by BCB to emit 9 tonnes of these per annum, and in recent years, research has begun to show the dangers of microparticles to human beings.

In a report published in the academic journal “Environmental Health Perspectives, Vol. 114, No. 6. (Jun., 2006)”, 4 researchers warn about the dangers of microparticle emissions from gasification and pyrolysis plants.

Amongst the adverse effects they note are:

- Pulmonary effects.
- Decreased lung function.
- Inflammatory responses.
- Immune responses.
- Diminished lung function growth in infants and children
- Cardiovascular effects.
- Chronic cardiovascular inflammation and
- Reproductive effects – reducing human fertility

A truly worrying (and peer-reviewed) summary of the body of research evidence about the impacts on the health of people living or working near incineration plants has been published by three researchers from the University of Exeter in the Journal of Environmental Science and Pollution Research [Volume 8, Issue 2 pp141-145 (2001)].

The authors also caution that:

“It is a popular misconception that the weight and volume of the original raw waste are reduced during incineration. It is often quoted that the volume of waste is reduced by about 90% during incineration but the actual figure is closer to 45%. The weight of waste is supposedly reduced to about one-third during incineration. However, this refers only to ashes and negates other incinerator emissions in the form of gases, which result in an increased output in weight. In sum, if the mass of all the outputs from an incinerator, including the gaseous outputs, are added together, then the output will exceed the input.”

I have been most careful in choosing sources of research evidence which are of unquestioned integrity. I have used only evidence from Government agencies, respected academic journals, those involved in the construction of plants such as this one or the applicants themselves.

The impact of some of these figures does not become obvious, however, until they are considered as yearly totals.

I have reached the conclusion that this proposal represents a very serious loss of residential amenity to the people of Tockwith as well as posing very real health concerns for anyone who lives or works in the area or sends their child to Tockwith School.

So concerned am I about the evidence of potential cumulative effects on the health of local residents from the emissions of this plant that I believe that this proposal has the potential to turn Tockwith into a ghost town, as residents may seek to escape from under the pollution plume at any cost.

I also believe there will be employment and economic consequences on the industrial estate if adjoining businesses which are involved in food preparation or medical work decide to relocate away from this facility.

I would personally not be prepared to permit any child with whom I was connected to attend a school which lay beneath the plume of a plant such as this one. If others feel as I do, then within 3-4 years, I fear that the school may be forced to close as parents are likely to have such concerns about the long-term health implications for their children that they will be unwilling to send them there.

My figures thus far have all been based on the normal operation of the plant. It is also important to consider what might happen in the event of **ab**normal operation. Because the syngas production process

cannot be halted instantly in the event of a failure or emergency shutdown of the turbine system, every plant must have a procedure for dealing with the continuing gas output which cannot now be burned to prevent a build-up and explosion. One method used to do this is the provision of a separate flue in which the gas can be vented and burned (like the flare on an oil rig). Because there was no information about this in the planning documents, I contacted Mr Martin Dale at BCB by e-mail (copies lodged with the Clerk) and asked him to provide me with further information.

In his reply, Mr Dale confirmed that excess gas would be disposed of through the normal stack filtration system and that no additional flue would be required. However, he also conceded that in the extreme event of a failure in the automatic systems, exhaust gases would be vented directly through the roof of the building into the air, thereby increasing the level of pollutants to which local residents would be exposed.

Given the proximity of residential accommodation, the potential health impact to local residents in the event of an emergency is a major concern to me.

BCB assert that the technology they are proposing is the best available answer to the problem of minimising landfill. This is NOT a planning issue in relation to locating such a plant outside Tockwith. The issue is whether this is a suitable location for such a plant.

Although the chemical processes of Gasification and Pyrolysis have been known for over a century their application to the disposal of waste is, by common agreement, still in the early stages of development. Some first-generation commercial plants around the world have ceased operation because of technical or economic difficulties. Many of the independent publications warn that performance figures are based not on long-term industrial scale operation but by multiplying up the outcomes of experimental installations or aggregating short periods of measurement to derive annual totals. The experimental plant in Husavik, Iceland on which the design of the proposed plant in Tockwith is based is located in a remote part of that country and has a capacity of only 20% of the capacity proposed by BCB.

It should also be noted that doubts are expressed by Icelandic industrial commentators about the effectiveness of this plant as a means of generating energy. The multinational company Ice Bits Pte Ltd of Iceland and Singapore comment on Husavik when comparing its performance with geothermal plants that:

“The last one—at Husavik—works in 24-hour cycles, similar to the Hoval assemblies, and there the production of energy leaves a lot to be desired.”

There are, in short, many unknowns about this type of technology.

Three things are known, however:

The first of these is that the people who are responsible for the most comparable installation would not select a location like Tockwith.

The second is that North Yorkshire County Council have recently rejected another new proposed site for a waste facility further along Rudgate because of poor location and transport links.

Finally, BCB's own figures show that many tons of highly toxic pollutants will be emitted every year into the air over Tockwith and will be blown by the prevailing wind over nearby residential areas and over a school. These pollutants are all shown by independent research to have potentially devastating consequences for the health and physical development of all those who are impacted by them.

Paragraphs 29/30 of Planning Policy Statement 10/2005 issued by the Department for Communities and Local Government requires that the Planning Authority should consider the likely impact upon the local environment and amenity of a planning application for a waste management facility. They further state that “planning operates in the public interest to ensure that the location of

proposed development is acceptable and health can be material to such decisions”

In my view there is incontrovertible evidence, based on BCB’s own Environmental Impact Statement, when read with various independent sources of research on this subject, that the proximity of this plant to substantial residential development and leisure activities constitutes an unacceptable level of risk to the health of the residents of Tockwith and the children who study at Tockwith school or play on Tockwith’s playing fields.

On this basis, I urge the Parish Council to object in the strongest possible terms to this application.

You may also wish to know that as a Churchwarden for the adjoining parish of Hunsingore, some of whose parishioners live, work and study in Tockwith, I and my fellow Warden, Mrs Jean Whitaker, will also be objecting to this application on behalf of our District Church Council.

For the information of fellow Parish Councillors and for other concerned residents, I am placing copies of the reference material I have used in my consideration of this application, where they are available in electronic versions, on a page on my personal website:

[www.expertpc.org/gasifier](http://www.expertpc.org/gasifier)

I expect this page to be available some time this weekend.

I am copying this letter to all Parish Councillors who have e-mail addresses, County Councillor John Savage and also to members of the Tockwith Residents Association for their information.

Yours sincerely

**Clive Billenness**