



**ROLTON KILBRIDE**  
POWERING THE FUTURE™

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Our Ref-

RKL005/ARN/PK

Dear Mrs Sharon Hodgson MP

Thank you for your letter of 27 July 2018. As before, we have endeavoured to address each of your points in turn.

### **Technology**

With regard to the decision on the gasification technology supplier that will be used, the situation remains the same as on the meeting of 28 June 2018 and discussed at previous briefings. A decision on the precise technology supplier is not required for planning purposes and therefore will not be finalised unless planning permission is granted and after a comprehensive and detailed tender process. The type of technology remains the same in any event: gasification. The term 'gasification' can include several variants within the overall principle of treating waste by the application of heat but with insufficient oxygen to allow direct combustion to occur (this would be incineration).

There are numerous suppliers around the world who deal in such systems. It is the decision of the project sponsors to limit their consideration of suppliers to Japanese systems, which have the best track record in the world, a fact established as part of the extensive technical due diligence process undertaken by Rolton Kilbride. This information has been provided during the planning consultation process in order to provide as much information to the public as possible, and to be transparent. It should be noted that in fact it is not obligatory to name the actual supplier (or even a shortlist of suppliers) as part of a planning application, as it is not a material issue for the determination of the consent.

In Japan, gasification is a well-established method of managing residual waste; they use a type of process which is generically known as 'high-temperature' because the intense heat is used to melt the ash into an inert material with a sand-like texture. This type of gasification process is employed in over 75 plants in Japan, with some plants having an operational track record of excess of 20 years. There is a considerable body of information on the internet about this technology, and we have made available (and will continue to make available) technical experts in this field to answer direct questions from your constituents.

Japanese environmental regulations are similar to those employed in Europe and just as strict in almost all categories (and even more so in others). However, they are not absolutely identical. As in Europe, Japan's regulation of plants is closely observed and monitored, given similar environmental and health agendas. The high-temperature systems used (for the most part in big cities and close to housing) have an excellent track record in this respect.

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Compliance with European and UK regulations will therefore be achieved with a wide margin of safety; the abatement and monitoring systems (suitable for the UK) have been explained on many occasions during the consultation process. As you are aware, the Environment Agency is responsible for the regulation of the plant whilst in operation; should you be aware of further specific questions from any of your constituents, then we would be pleased to have our technical experts respond.

Whilst this high-temperature variant of gasification is not yet employed in Europe, it is likely that the situation will change as the market in the UK and Europe looks for ever higher efficiency processes to manage waste and create power, gaining vital energy security. However, as explained above, this is far from being a 'new' technology; it is a mature and proven system, which will work just as well in Europe as in Japan. In addition, the flue gas treatment system that will be part of the plant, (used to clean emissions and ensure it complies with the industrial emissions regulations) is from Europe. It is already used extensively on a number of plants throughout the UK.

The same rationale applies to ash collection and disposal arrangements; further commercial dialogue will not take place unless planning permission is granted. Should planning permission be secured, the decision on the technology supply chain will be made once further due diligence processes have been completed and subsequent commercial negotiations are finalised. At present, we do not have a confirmed planning decision date from Sunderland City Council, so this work is in abeyance for the time being.

## **Waste**

As we have repeatedly stated in our correspondence and briefings, the waste will not be incinerated. The facility will deploy gasification technology, not conventional incineration technology.

Both technologies are regulated by the Industrial Emissions Directive (IED), which also applies to many other types of industrial process as well. The focus therefore is one of environmental compliance.

Again, as we have previously set out in our letter dated 22 March 2018, it is too early to determine the precise origin of the waste; suppliers will understandably hold back from finalising contracts until such point as the planning consent is granted. This is normal commercial behaviour. Feasibility studies do however show ample waste in the area and Sunderland City Council has been satisfied that there is sufficient feedstock for the facility.

Waste for this plant will come from commercial and industrial sources and will not include clinical or hazardous waste. This composition of waste to be processed will form part of, and be governed by, the Environment Permit; it will, however, be entirely non-hazardous in nature.

Modern energy from waste facilities are capable of processing a very wide range of materials because they must be capable of accepting untreated municipal waste. The waste composition data provided in our earlier response (December 2017) illustrates the variation in composition. A typical waste composition may have around 15 different components including paper, card, plastics, textiles, 'fines', inert material and so on.

The input waste specification for the plant will not define the specific component parts or exact proportions but will define a range of characteristics of the RDF feedstock such as moisture content, average particle size, calorific value (CV) and so on. This allows for some tolerance within defined limits, so that if the feedstock varies in proportion, the plant is easily capable of treating it successfully. This is one of the principle design 'terms of reference' for such a plant.

The environmental permit will specify waste types that can (and by implication, cannot), be accepted and the waste will be tested for on a regular basis through random spot checks. Compliance issues will be managed through waste acceptance procedures and emissions monitoring undertaken on site, set out according to the provisions contained in the Environmental Permit. This is procedure is common to waste plants throughout the industry and the UK.

### **Health Implications**

As we have previously stated, the UK Government and Public Health England are clear that these facilities do not pose a threat to human health and this position has remained unchanged since 2009. All Energy from Waste technology and indeed any industrial emissions are bound by the same legislation, the Industrial Emissions Directive (IED). The emission limit values contained in this legislation have been independently set at a point where it has been deemed and proven that they do not constitute a threat to human health or the environment. Despite extensive and diligent research by a variety of bodies, there is no peer-reviewed evidence that modern energy from waste facilities pose a risk of harm to human health or the environment, neither has any causal link been established through a court of law.

As we have set out before, the Health Protection Agency's report on "The Impact on Health of Emissions to Air from Municipal Waste Incinerators" references ten specific studies into health effects near incinerators, which incorporate both long and short-term studies. This report drew extensively upon Defra's 2004 report "Review of Environmental and Health Effects of Waste Management: Municipal Solid Waste and Similar Wastes", which reviewed over 600 separate papers on the health effects of waste management. Mattiello et al reviewed 31 papers published between 1996 and 2010 covering incinerator emissions. This study concluded that modern facilities operating to the much stricter emissions standards in the IED, which was adopted in November 2010, showed no association with cancer. As before, although these studies examine incinerators, regardless of the technology, in terms of public safety gasification and incineration and other thermal technologies are governed by the same regulation, namely the IED, which sets safe limits for emissions from **all** industrial processes.

A further assessment of the quality of studies undertaken into the health effects of emissions from incinerators provides valuable insight into the relative robustness of studies undertaken, highlighting that some may draw conclusions based on insufficient evidence. This is why reports such as the three highlighted in the paragraph above, which have considered the results of several studies drawn together, should be given the most credibility.

The Health Protection Agency's report on "The Impact on Health of Emissions to Air from Municipal Waste Incinerators" is not time-specific, thus its conclusions relate to both current and future generations.

In addition the following studies are also relevant,

- 1 Health Protection Agency (2009) *The Impact on Health of Emissions to Air from Municipal Waste Incinerators*
- 2 Defra (2004) Review of Environmental and Health Effects of Waste Management: Municipal Solid Waste and Similar Wastes
- 3 Mattiello et al (2013) Health effects associated with the disposal of solid waste in landfills and incinerators in populations living in surrounding areas: a systematic review
- 4 Ashworth et al (2014) Waste incineration and adverse birth and neonatal outcomes: a systematic review

- The Impact on Health of Emission to Air from Municipal Waste Incinerators Advice from the Health Protection Agency (2013), Health Protection Agency
- Public inquiry into the non-determination by Nottingham City Council of the planning applications for Eastcroft Energy from Waste plant: Third line development (resubmission) (2008), Professor James Bridges
- Health Effects of Municipal Waste Incinerators – A Literature Survey (2006), Dieter Schrenk, MD PhD
- Waste Incineration and human health effect – literature review and environmental medical risk assessment (2011), MVV

The Environmental Permit for the facility will only be granted should the Environment Agency deem that the facility will not impact on human health and the environment. If granted, it will be the operator's responsibility to ensure compliance with the terms of the Environment permit.

### **Air Quality**

As we have stated previously in our letter of December 2017, air quality is expected to improve between now and the opening of any gasification plant, due to progressive reductions in emissions from a variety of sources, including road vehicles as set out by the Government.

We are not aware of any air quality monitoring currently undertaken in the immediate vicinity of the proposed facility. We understand that Sunderland City Council carries out air quality monitoring as part of its obligations under the Local Air Quality management regime. Councils typically focus their monitoring on locations of greatest concern in terms of air quality, i.e. those where air quality might be poor. Baseline air quality at sensitive locations in the vicinity of the proposed facility is anticipated to be good, and this has been demonstrated through the road traffic emissions dispersion modelling carried out as part of the air quality assessment work detailed in the air quality chapter of the submitted Environmental Impact Assessment. Sunderland City Council has presumably determined that there is no need for monitoring in this area, as the air quality objectives will be achieved. If residents wish to see monitoring carried out in the local area we would encourage them to liaise with the City Council, who might be able to expand their monitoring network to include sites in this area of Washington.

In terms of filtering particles, the proposed facility will use highly effective filters to remove particulates from the exhaust gas. These filtration systems will be required to ensure that the facility meets the very low emission limit for dust and particulates prescribed in the IED. The air quality assessment has demonstrated that, even if the plant were to emit at this absolute maximum limit for every hour of the year, the contribution to particulate concentrations at ground level would be extremely small, less than 0.4% of the national annual mean objective for PM<sub>10</sub> throughout the local area, for example.

The objectives are set at levels below which there is considered to be no real risk of adverse health effects, even to the most vulnerable. Background PM<sub>10</sub> concentrations in the area are around 30-45% of this objective level, and roadside concentrations as measured by Sunderland City Council are up to 55% of the objective level; clearly the contribution of the proposed facility at 0.4% of the objective is insignificant when compared to the existing baseline concentrations, which arise as a result of existing sources of particulates.

The IED requires the facility to have a Continuous Emissions Monitoring Systems (CEMS) fitted, which continuously measures pollutant concentrations in the exhaust gases, to ensure that the emissions limits prescribed in the Environmental Permit are not exceeded. The Flue Gas Treatment system will automatically adjust to changes in the composition of the flue gas in order to maintain compliance with the emissions limits. The measured concentrations will be logged and the Environment Agency will have unrestricted access to this data, which will also be reported to the Agency at regular intervals. The monitoring system itself will be independently accredited and calibrated, complying with the MCERTS Monitoring Certification Scheme.

Rolton Kilbride has responded to the report: "Sunderland City Council, Air Quality and Greenhouse Gas Assessment Peer Review, Proposed Renewable Energy Centre, Land at Hiltorn Farm, Washington." The response is available on the Sunderland City Council application webpage, together with confirmation from the certification agency, Bureau Veritas that it is satisfied with our air quality and greenhouse gas work.

### **Wetland Park**

Following the meeting on 28 June 2018, we made contact with Gill Pipes and have been in dialogue with her since then.

### **Application**

As we have previously stated, the Environment Permit is not required as part of the planning process. The permit will be applied for at a later stage should planning permission be granted. At present, we do not have a confirmed planning decision date from Sunderland City Council.

### **Responsibility**

The operator, who will be selected based on track record and experience amongst other criteria, will have overall responsibility of the running of the plant. The operator will have a Plant Manager in place with specific responsibility for the day-to-day management of the facility. The monitoring systems that will be in place have been described earlier in this letter. All aspects of plant safety, including fire prevention will be the responsibility of the operator; however, the fire prevention systems must meet or exceed industry standards in order to be acceptable to the facility's insurers. In addition, fire prevention facilities and equipment will be included as part of the detailed design to meet Best Available Technique, and will be covered as part of the granting of the Environment Permit, without which the plant will not be allowed to operate.

### **Role of Rolton Kilbride**

As we have previously stated, we are a responsible developer with significant experience in this area, although we do not operate facilities. Rolton Kilbride is undertaking a rigorous selection process for operators, informed by industry best practice and sector specialists.

This is designed to ensure that technical and commercial standards are maintained throughout the lifetime of the facility by an experienced company, with a strong track record. The Environment Agency will only grant a permit to operate a plant to an operator who can demonstrate the necessary proficiency for this role.

Yours sincerely  
for and on behalf of Rolton Kilbride Limited



Andrew Needham  
Managing Director