



Written Statement

prepared by

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representing

**WORCESTERSHIRE RESIDENTS AGAINST INCINERATION AND
LANDFILL (WAIL)**

**CALL IN INQUIRY WITH RESPECT TO PROPOSALS BY MERCIA
WASTE MANAGEMENT FOR THE ERECTION OF THE MERCIA
ENVIRECOVER PROPOSALS AT HARTLEBURY,
WORCESTERSHIRE
PLANNING APPLICATION Ref 10/000032
APPEAL Ref. APP/E1855/V/11/2153273**

OCTOBER 2011

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(i) QUALIFICATIONS AND EXPERIENCE

My name is Philip Vernon and I am Chairman of the technical committee and a director of WAIL Ltd.

I am registered as a Chartered Chemist and Member of the Royal Society of Chemistry and a professional Member of the Institute of Cast Metals Engineers.

I qualified as a chemist through the Royal Institute of Chemistry examinations as a Licenciate (LRIC) in 1979. Since then through continued professional development, supplementary study and experience, qualified as Chartered Chemist in 1992.

I have worked in the chemical industry for 33 years holding posts of Development Chemist, Chief Chemist, Technical Manager and Managing Director. During this time I gained experience and understanding of thermal engineering and reclamation of materials within the cast metals industry.

I joined Worcestershire Residents Against Incineration and Landfill (referred to here on in as WAIL), to object to the proposals pursued by Mercia Waste Management to create an energy from waste facility on land at Hartlebury, Worcestershire.

1.0 STATEMENT ON CLIMATE CHANGE

- 1.1 On behalf of the Applicant and in support of the application proposals, Fichtner supplied a Green House Gas Assessment in support of the Environmental permit. In that document, they claim that the carbon dioxide emission per kWh is 604g as a result of them selectively considering the power origins within the grid generating fuel mix.
- 1.2 It is not possible or practicable to suggest that when an incinerator EfW plant generates power that it can selectively displace power produced from specific fuel origins from the National grid.
- 1.3 The choice of 604g CO₂ per kWh is not only arbitrary it will give incorrect results and be misleading.
- 1.4 It is suggested that a fair comparison can be made using grid carbon intensity. The DECC publish a figure of 500g CO₂ per kWh. There are also references to the Committee on Climate Change 4th budget 2008 where they use a figure of 540g CO₂ per kWh. The Web site earth.org.uk publishes real time grid intensity and that shows figures from 346g to 495g depending on time and load.
- 1.5 The incinerator would be producing electricity at the emission intensity of 575g CO₂ per kWh 24 hours per day. The Applicant contends that only the most carbon intensive plants (coal) would be displaced. This is not certain or possibly even practical.
- 1.6 The Applicant also claims that there will be significant savings in CO₂ equivalent, by diverting the biodegradable waste from landfill from resultant saving in methane.
- 1.7 This should be excluded from the proposal's evaluation as the assumptions are unreliable. In addition landfill gas capture has a positive effect on GHG evaluations. The uncertainties are too big to be a satisfactory base for decision making.
- 1.8 The Authorities will divert biodegradable waste from landfill, as this is a national requirement. Consequently the effects from land gasses must be omitted from the process of consideration between alternative technologies. It is not simply a case of this proposal or nothing and therefore no diversion from landfill.

- 1.9 This also simplifies the GHG assessment between the proposals and other options.
- 1.10 The incinerator will give rise to 60,460 tonnes of CO₂ from biogenic sources and deliver 105,340,000 kWh of electricity. For the same amount of electricity the national grid generating mix would release 52,670 tonnes CO₂, almost 15% less than the incinerator.
- 1.11 Grid intensity is reducing at a fast rate from 540g in 2008 to 500g in 2011 and will be 300g in 2020. This fact clearly shows the failure in sustainability of the proposed technology and the speed at which it is becoming out-dated.
- 1.12 The application of incorrect values as shown above will undermine the determinations made as a result of the WRATE analysis of the options. This casts further doubt on the reliability of the modelling and conclusions drawn from it.
- 1.13 For clarity WAIL maintain that WRATE should be employed to model this proposal against WAIL's suggested alternatives to arrive at the BPEO.
- 1.14 It remains clear that the proposed incinerator would lead to a climate change burden of some 8,000 tonnes per year of CO₂.

2.0 STATEMENT ON WRATE ASSESSMENT

- 2.1 The applicants through their consultants, Fichtner, compare selected options through WRATE modelling. WRATE is a software tool from the EA designed to assess lifecycle carbon effects on proposed schemes.
- 2.2 The EA and Fichtner offer various cautions on reliability and accuracy of this model in use and when scaling. WRATE was used to compare the seven options for various criteria shown in the Options Appraisal v2
- 2.3 The MSW composition is shown to contain 63% biodegradable fraction. The CO₂ emission from biogenic material is shown to be 63% and agrees with the MSW composition.
- 2.4 WRATE relies on "typical" data assumptions and extrapolations.

- 2.5 Different and arbitrary weightings were applied which may or may not be correct.
- 2.6 Doubt is not being applied to the WRATE model itself, only to its application in this case due to the various cautions and comments shown in the Options report.
- 2.7 The model is useful in giving an indication and a guide between options only when consistent assumptions are in place.
- 2.8 It is suggested that WRATE should not be used to determine between hypothetical options with assumed values and scaling, and real situations with known and factual values.
- 2.9 The model for MBT (page 29 Options report) showing energy and mass balance allows no credit for energy derived from thermal treatment. Likewise on the previous page of that report no credit is allowed for the energy from the refuse derived fuel output from the Autoclave option, this was assumed to be landfilled or recycled but not subject to energy recovery. These are incomplete and misleading, casting doubt on the final conclusions.
- 2.10 Option 2 scores the highest EfW with CHP, where a significant thermal energy is also recovered and used. Option 1 a power only EfW was second. This is the technology on which this application is based.
- 2.11 The biodegradable fraction of MSW is 63%. The government prefers such waste to be segregated and treated by AD. Treating segregated waste by AD allows local treatments of size and proximity appropriate to the arisings. Significantly fewer journeys would be needed in such a case. Transport is a significant criterion in WRATE modelling.
- 2.12 WAIL contend that WRATE modelling should be consistently applied to an option comprising segregated waste collection, AD treatment of the biodegradable fraction of 126,000 tonnes at local digesters, further recycling and then autoclaving of the balance.
- 2.13 Non incineration methods score very highly within the WRATE model in the following four categories: Human toxicity, Freshwater aquatic toxicity, acidification and eutrophication.

- 2.14 It is proposed that the suggested alternatives would out-perform all currently modelled options by a very large margin when appropriately modelled in WRATE. Such an exercise is missing from the options and consequently the best practicable option has not been identified.

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