

**PLANNING APPEAL: APP/E0535/W/19/3225123**  
**Cambridgeshire County Council Planning Application No.: S/3372/17/CW**  
**Waste Recovery Facility Levitt's Field, Waterbeach Waste Management Park. Ely Road,**  
**Waterbeach, Cambridge CB25 9PQ.**

Personal Statement By: Alan James BSc.Tech. PhD. MBCS CIP MIMMM CEnv.

Date: 19th November 2019

**Introduction**

My name is Alan James, I am a resident of Haddenham. I hold a doctorate in Materials Science and am a Management Systems professional. I am a member of the Society for the Environment and a Chartered Environmentalist. For over 30 years one of the businesses I founded has supplied computer-based systems for the management of health, safety and environment to some of the largest companies in the world. The majority of these have been in the energy and chemical sectors although other sectors have also been supplied over the years ranging from local government, to healthcare, to the aviation sector. As a consequence of this activity I remain reasonably familiar with current safety, health and environmental legislation and standards globally, although that is not my area of expertise.

My purpose in making this personal statement is to bring to the Inspector's attention certain matters with which I am familiar but which are outside the remit of the Cambridgeshire & Peterborough branch of CPRE of which I am Chairman and on whose behalf I have already made a statement.

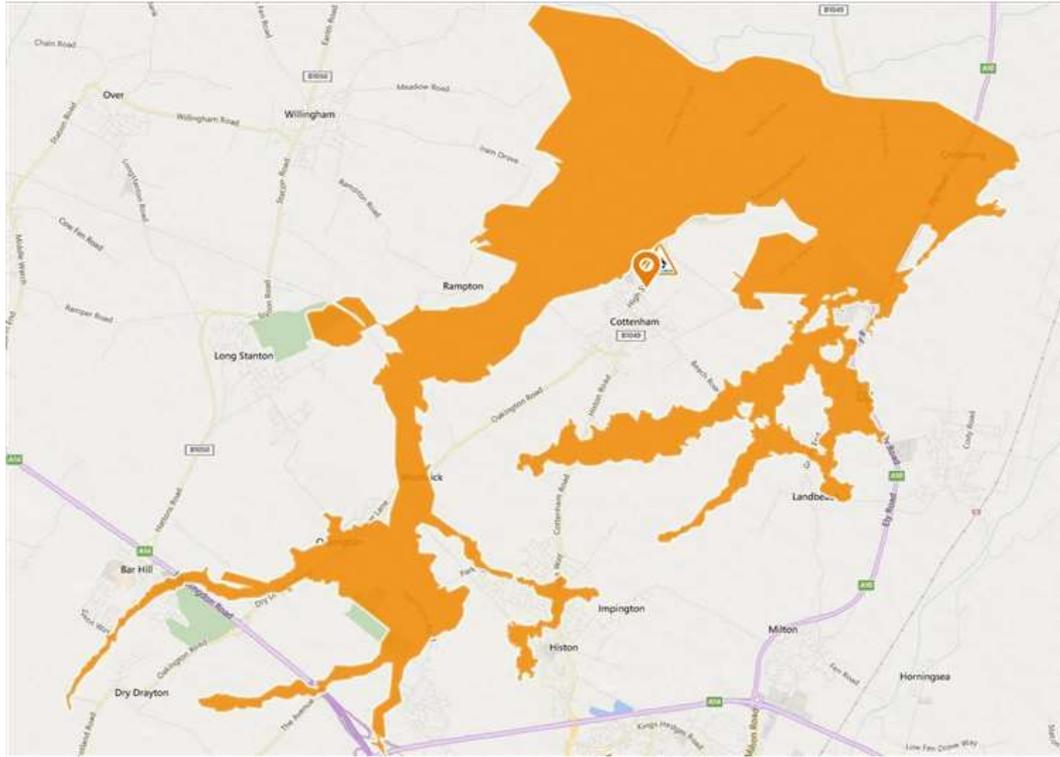
**Climate Change**

The consultant employed by the local CBWIN has shown clearly that the applicant's proposal would give rise to *"between 11,393 and 28,336 tonnes of CO2 equivalent per year more than would arise from sending the same waste to landfill"*. However, neither the applicant's documentation nor the report for CBWIN have considered the additional carbon dioxide emissions that will be caused by Heavy Goods Vehicles (HGV) transporting waste to the site from 11 adjoining local authorities and the 30% of waste that will be transported from further afield including, I understand, the Isle of Wight.

Surface transport is now the largest single source of greenhouse gas emissions in the UK. Climate Change is the single greatest challenge facing humanity. Locally, climate change is likely to lead to the loss of large parts the Fens by the end of this century due to a probable increase in sea level rise of 1 metre by 2080. Many studies indicate this could be higher. Already, these effects are being felt nationally and locally.

Just in the past week, a flood warning was issued for Cottenham Lode which included all of the area around the proposed site. See map below issued on 14<sup>th</sup> November by the Environment Agency.

The issue of climate change, including its effect on flood risk to the site should be a major consideration in determining this application.



**Map of flood warning to Cottenham Lode issued by Environment Agency on 14 Nov 2019.**

### **Health Risks arising from Emissions of Fine Particulates (PM<sub>2.5</sub>)**

It is now well recognised that the health risks arising from the presence of small particulates. PM<sub>2.5</sub> in the atmosphere are considerable. Over recent years many serious publications have addressed this risk and built upon the considerable knowledge base which has developed since the mid-twentieth century. The Chief Medical Officer of Health devoted the whole of her 2017 Annual Report, published in March 2018, to the health risks arising from pollution and three Committees of Parliament came together in the same month to issue a joint report on the subject of improving air quality.

In the last two years many more organisations and research groups, ranging from NICE and UNICEF to research groups at recognised academic institutions, have published reports on the mechanisms and effects of air pollution on health and the need for controls and reductions.

A full list of recent reports relevant to the subject of air pollution in the United Kingdom and wider is given in the full reference list below. These demonstrate the seriousness with which the current situation is being taken.

For example, the Guideline from NICE published in 2017 recommends to:

*“Include air pollution in ‘plan making’ by all tiers of local government, in line with the Department for Communities and Local Government’s National Planning Policy Framework. This includes county, district and unitary authorities, as well as regional bodies and transport authorities.”*

and

*“When ‘plan making’ consider:*

- *minimising the exposure of vulnerable groups to air pollution by not siting buildings (such as schools, nurseries and care homes) in areas where pollution levels will be high”*

However, the overarching document which is relevant to this subject is the European Union (EU) Air Quality Directive 2008/50/EC, implemented in the UK as the Air Quality Standards Regulations 2010.

The EU were late in publishing this document compared to earlier World Health Authority, (WHO), recommendations for air quality limits. This was because it was argued by many consultees that in a situation where it was considered there are no safe limits, the publication of limits would be misused by those seeking to cause pollution within those limits.

Ultimately, the EU did publish limits for PM<sub>2.5</sub>. However, the Directive makes the situation very clear that because there are no safe limits for PM<sub>2.5</sub>, these limits are set on the basis of regular review with targeted reduction rates. The following two paragraphs are taken from the Directive 2008/50/EC:

*“(2) In order to protect human health and the environment as a whole, it is particularly important to combat emissions of pollutants at source and to identify and implement the most effective emission reduction measures at local, national and Community level. Therefore, emissions of harmful air pollutants should be avoided, prevented or reduced and appropriate objectives set for ambient air quality taking into account relevant World Health Organisation standards, guidelines and programmes.*

*(11) Fine particulate matter (PM<sub>2,5</sub>) is responsible for significant negative impacts on human health. Further, there is as yet no identifiable threshold below which PM<sub>2,5</sub> would not pose a risk. As such, this pollutant should not be regulated in the same way as other air pollutants. The approach should aim at a general reduction of concentrations in the urban background to ensure that large sections of the population benefit from improved air quality. However, to ensure a minimum degree of health protection everywhere, that approach should be combined with a limit value, which is to be preceded in a first stage by a target value.”*

Furthermore, Annex XIV of the Directive 2008/50/EC sets out how exposure reduction targets should be applied to PM<sub>2.5</sub> because, as stated in Para 11 above, **there is no safe limit for PM<sub>2.5</sub>**. The reduction process is quite complex to read but simple in principle. Basically, member states were obliged to carry out background measurements and then follow a reduction target regime based on percentage reductions of the measured background levels.

Additionally, with effect from January 2015, an absolute limit value of 25 µg/m<sup>3</sup> was applied. This was to be reviewed in 2013 when it was expected to be reduced to 20 µg/m<sup>3</sup> with effect from January 2020. However, the 2013 review decided upon a different approach as indicated by the EU document “Clean Air Outlook -COM(2018) 446” published in June 2018 which states:

*“The 2013 Clean Air Programme concluded that it was not at that time appropriate to revise the Ambient Air Quality Directives 2008/50/EU and 2004/107/EC, stressing the need to ensure compliance with existing standards, and bring down emissions through the NECD.”*

This decision does not alter the fact that there is no safe limit for small, PM<sub>2.5</sub>, particulates but the EU had decided upon a complementary approach and in 2016 the EU set national emission targets for these and other pollutants in the National Emissions Ceilings Directive 2016/2284/EU, (NECD), referred to in the previous quotation.

There is currently a significant background level of PM<sub>2.5</sub> particulates in the air across the UK, with local variations, and therefore any addition to these emissions should be avoided by all responsible operators because all such emissions are additive to that background.

### **Health Risks arising from Emissions of Heavy Metals and Polycyclic Aromatic Hydrocarbons**

Following the Sveso disaster in July 1976, people were reporting high levels of several diseases and follow-up studies in the 1990s led to the conclusion that exposure to dioxins was a root cause.

In 1996, the EU decided it that it would fix binding concentration levels for thirteen air pollutants. Later, for five other pollutants - cadmium arsenic, nickel, mercury and polycyclic aromatic hydrocarbons, mostly emitted from industrial installations, Directive 2004/107/EC introduced **target** air concentration values. Directive 2004/107/EC is also implemented in the UK by the Air Quality Standards Regulations 2010.

This pragmatic approach should not be taken as allowing complacency because it is clear that it is an EU and national objective to ensure that people are not exposed to these substances at all if possible. The following paragraphs are taken from Directive 2004/107/EC.

*“(3) Scientific evidence shows that arsenic, cadmium, nickel and some polycyclic aromatic hydrocarbons are human genotoxic carcinogens and that there is no identifiable threshold below which these substances do not pose a risk to human health. Impact on human health and the environment occurs via concentrations in ambient air and via deposition. With a view to cost-effectiveness, ambient air concentrations of arsenic, cadmium, nickel and polycyclic aromatic hydrocarbons, which would not pose a significant risk to human health, cannot be achieved in specific areas.*

*(11) The effects of arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons on human health, including via the food chain, and the environment as a whole, occur through concentrations in ambient air and via deposition; the accumulation of these substances in soils and the protection of ground water should be taken into account. In order to facilitate review of this Directive in 2010, the Commission and the Member States should consider promoting research into the effects of arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons on human health and the environment, particularly via deposition.”*

In the case of dioxins and heavy metals such as cadmium and nickel, the appellant has sought to claim the safety of the airborne concentrations of emissions from his proposed installation by treating the published target values as limits. As can be seen from reading the legislation they are not. There is no safe airborne concentration limit for these materials.

Furthermore, Directive 2004/107/EC makes it very clear that these materials exhibit a second major hazard to human health and that is their deposition and build up in soils. Where there are no soils, this build up will be on surfaces and in dusts. The area surrounding the proposed plant is a nationally important growing area for horticultural crops such as potatoes, root vegetables, leeks and onions, brassicas and salad crops.

Deposition and build up in soils of the fall-out from the proposed plant over its working life as well as direct deposition onto the leaves of growing edible crops, especially if there is an accidental high concentration release, does not appear to have been taken as a major consideration by the applicant.

I consider that further serious consideration should be given to the issues of deposition and airborne emission concentrations of Directive 2004/107/EC materials.

### **Control of Major Accident Hazards Regulations 2015 (COMAH)**

Following the Sveso disaster, in order to attempt to avoid similar industrial accidents in the future, the EU passed the Sveso Directive, 82/501/EC in 1982. This has since been updated by Directive 96/82/EC, known as the "Seveso II Directive" and Directive 2012/18/EU, known as the "Seveso III Directive". The Seveso III Directive is currently implemented in the UK as the Control of Major Accident Hazards Regulations 2015 (COMAH).

Because the starting point for the Sveso directives and COMAH was the prevention and minimisation of effect of accidents involving particular hazardous substances, there has always been a concentration of COMAH applicability to the chemical industry and accidents involving locations where large quantities of chemicals are stored and used.

However, COMAH applies to any industrial site which has the potential to cause a major accident, especially one where the result may be the creation and uncontrolled emission of major volumes of airborne hazards. The recent fire at the applicant's existing site is an example of such an accident. It would be interesting to know how much monitoring of the ash fall-out from the fire was carried out in the aftermath.

HSE Guidance Document L111 (Third edition) published 2015, for COMAH, states:

*"43 It is not necessary for the dangerous substance(s) to cause serious danger but it must play a part in the chain of events leading to the danger. The substance that ultimately causes the harm may not be a dangerous substance in COMAH terms, but such substances can still cause serious danger to the environment, for example through releases into water. An example is an explosion or fire involving a dangerous substance that leads to vessel failure and the release of a non-COMAH substance that could then cause harm."*

and

*"50 Presence of dangerous substances can be split into two categories: firstly, substances that are or could be present as part of normal activity; and secondly, substances that could be produced during loss of control of a process. The regulation uses the term 'reasonable to foresee' which refers to being able to predict, within reason, that a scenario is possible. For example, it may not be reasonable to foresee that two incompatible substances stored in separate areas within an establishment could come into contact leading to the generation of an unwanted third substance."*

*51 Where a substance has multiple properties, ie toxic and environmental hazards, the appropriate aggregation calculation should be performed for each group. There is further guidance on applying the aggregation rule in note 4 to Schedule 1.*

*52 The requirement to consider substances that could be produced during loss of control of a process has its origin in the incident at Seveso in 1976, which led to the original Seveso Directive. This incident was caused when a reaction between two substances went wrong and generated a third chemical, a dioxin named TCDD, resulting in a major accident.”*

and

*“73 Only landfill sites are excluded by regulation 3(2)(g). Waste incineration sites will be within scope if they meet the qualifying criteria. If a landfill site also has other activities involving dangerous substances which would bring the establishment under the COMAH Regulations then advice should be sought from the competent authority.*

*74 A waste landfill site will be within the scope if metallic mercury is stored there under the cited regulation.”*

Given the high volumes of waste that the proposed plant will handle and the existing plant already handles, the flammable nature of these wastes and the admission that they can burn to emit materials for which there is no safe limit, such as dioxins, it would appear that the proposed installation and, possibly, the existing installation, should be reviewed and probably registered and managed as COMAH sites.

### **Conclusion**

This proposal will lead to additional and avoidable emissions of greenhouse gases, primarily carbon dioxide.

This proposal will lead to a high hazard site being located close to a significant human population, including several schools and workplaces as well as thousands of homes.

It should therefore be refused permission to proceed.

**Thank you for allowing me to bring this to the attention of the Inquiry.**

### **References:**

#### **Air Quality & Health Publications and Papers**

“Air pollution: outdoor air quality and health”, National Institute for Health and Care Excellence (NICE), Guideline, June 2017

“Improving air quality”, Joint Committees of Parliament, March 2018

“Annual Report of the Chief Medical Officer 2017, Health Impacts of All Pollution - what do we know?”, CMOH, March 2018

“Clean Air Strategy 2018”, DEFRA consultation, May 2018

“A Breath of Toxic Air – UK Children in Danger”, UNICEF, June 2018.

“Clean Air Strategy 2019”, DEFRA, January 2019

“Healthy Air for Every Child – A Call for National Action”, UNICEF, February 2019

“Cardiovascular disease burden from ambient air pollution in Europe reassessed using novel hazard ratio functions”, Lelieveld et al, European Heart Journal, March 2019

“Air Quality: National Air Pollution Control Programme”; DEFRA, March 2019

“Global, national, and urban burdens of paediatric asthma incidence attributable to ambient NO<sub>2</sub> pollution: estimates from global datasets”, Pattanun Achakulwisut, Michael Brauer, Perry Hystad, Susan C Anenberg, Lancet Planet Health; April 2019;3: e166–78

“Ambient black carbon particles reach the fetal side of human placenta”, Hannelore Bové, Eva Bongaerts, Eli Slenders, Esmée M. Bijmens, Nelly D. Saenen, Wilfried Gyselaers, Peter Van Eyken, Michelle Plusquin, Maarten B.J. Roeffaers, Marcel Ameloot & Tim S. Nawrot, Nature Communications (August 2019) 10:3866.

“Our Planet, Our Health”, House of Commons Environmental Audit Committee, September 2019

“Evaluating the Sensitivity of PM<sub>2.5</sub>-Mortality Associations to the Spatial and Temporal Scale of Exposure Assessment”, Dan L Crouse et al, Epidemiology, Post Acceptance: November 04, 2019

“Within-City Spatial Variations in Ambient Ultrafine Particle Concentrations and Incident Brain Tumors in Adults”, Weichenthal, Scott; Olaniyan, Toyib; Christidis, Tanya; More, Epidemiology, Post Acceptance: November 06, 2019

### **Legislation & Guidance**

Air Quality ‘Daughter’ Directive 2008/50/EC

Air Quality Standards Regulations 2010

Clean Air Outlook” EU COM(2018) 446

Air Quality ‘Daughter’ Directive 2004/107/EC

National Emissions Ceilings Directive 2016/2284/EU

Sveso Directive, 82/501/EC

Sveso II Directive 96/82/EC

Seveso III Directive 2012/18/EU

Control of Major Accident Hazards Regulations 2015

HSE Guidance Document L111 (Third edition) 2015