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Monday 26th January 2009

Dear Mr Rush

**REMEDIATION OF THE FORMER BAYER CROPSICENCE SITE HAUXTON
PLANNING REFERENCE S/2307/06/F**

Further to our recent telephone conversations and correspondence, I write to make formal comment on the above application on behalf of my client, Mr Peter Elliott, of Church Road, Hauxton.

As you are aware, Mr Elliott has been concerned that the impact of the extensive contamination arising from the site has not been properly taken into consideration. He, and we, were quite sure about this, hence the decision to challenge the Council's conclusions on the matter last year. We were confident the challenge would succeed as so many matters relating to the application were flawed, not just the process, but also the technical matters concerning the investigation, assessment, and later proposed remediation of the site.

No letter explaining the revised procedure and new application has been sent to Mr Elliott, and the consultation period commenced, very inconveniently, just before Christmas. This was not helpful. As I pointed out in my letter to you of the 5th of January, we would make a plea for the full cooperation and assistance of both the Council and the applicants in reaching a satisfactory conclusion. Further drawn out disputes and delays will benefit no-one.

Continued

Mr David Rush

Development Control Manager
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As far as we are concerned, this is an Environmental Protection Act 1990 Part IIA matter, the planning process is merely a means to an end, ie the remediation of the site and surrounding land. The Council declared the site **Contaminated Land**, and a **Special Site**, in 2003. It is one of the most dangerously contaminated sites in the country. Unfortunately, however, the Council's investigation into the impact of the site prior to declaration was incomplete as it did not properly take into consideration its affect on surrounding land. It had sound advice from a firm of specialist consultants that considerable further work was necessary to establish whether *significant pollutant linkages* existed to off site receptors, this was, for all intents and purposes ignored at the time.

The decision to develop the site for housing etc was expected, but inevitably fraught with difficulties considering the complex mix of chemicals involved, and the difficulty and cost to make them safe. Nevertheless, it was the enforcement authority's chosen route to secure remediation, so we had to work with it.

Considerable work was done then in the intervening years, but despite statutory advice to the contrary, for some reason the Council considered this a confidential process and we were prohibited from not only any involvement, but even sight of the formative documents. Again, this was not helpful and raised suspicions that something was untoward in the, 'cloak and dagger', discussions carrying on behind closed doors.

Thanks to my client's challenge, we are now in a position whereby the Council can properly consider an application for the remediation of the site. The applicants have submitted an environmental statement, and the Members can decide, on the information submitted, whether they think the proposals are appropriate in the circumstances. The matters are, however, without exception, very technical and highly complex. They are, therefore, almost entirely dependent on the support of the Council's technical staff to explain the proposals, and whether they are adequate and acceptable. I would like to assist the Council in this respect.

My primary role in this case is as an *Expert Witness*. Part 35 of the Civil Procedure Rules makes it clear that it is the expert's duty is to help the court on matters within his expertise and that this duty overrides any obligation to the person from whom he has received instructions or by whom he is paid.

I have made it absolutely clear to Mr Elliott that I will inform him immediately I have any information that the Council's, and/or the applicants', positions are sound, and his case is weak. It would not be in anyone's interests for me to act in a partisan or prejudiced manner. That being the case I would hope that the Council would take my comments on the environmental statement submitted below, as completely impartial and provided in the interests of your authority and the residents at large.

The Environmental Statement (ES)

This is necessarily a long and complex document and I am not in a position (primarily due to time constraints) to comment in detail on it all. That being the case I would dearly hope the Council are well advised as its conclusions give serious rise for concern.

This statement is considering the highly complex remediation of one of the most contaminated sites in the country which is going to take, potentially, several years to complete. The site is:

* Located in a semi rural / residential area close to housing

- * Adjacent to a major trunk road
- * Adjacent to arable agricultural land
- * Adjacent to an important water course
- * Located over a major aquifer
- * In an ecologically significant location

Yet the ES tells us that the environmental impact of the remediation process will generally be insignificant, or minor, in almost every respect. If that is the case then that is the clearest indication that what is proposed will not be adequate to do the job required.

What is being proposed on this site is, in effect, a **hazardous waste treatment plant**.

Remediation will necessitate chemical treatment in some form and then disposal to an on-site (or off-site) excavation. This, and other disposal operations which would be necessary, will bring the remediation works within Annex I of the EIA directive as a, "Waste disposal [installation] for incineration or chemical treatment as defined in Annex IIA to Directive 75/442/EEC under heading D9, on hazardous waste".

Heading D9 means, "Physico-chemical treatment not specified elsewhere in this Annex which results in final compounds or mixtures which are discarded by means of any of the operations numbered D 1 to D 12 (e.g. evaporation, drying, calcination, etc.)"

D1 means "Deposit into or onto land".

There is no question that these waste disposal operations relate to hazardous wastes. Wastes are defined in Commission Decision of the 3rd of May 2000*. Those asterisked in that list are classified as hazardous wastes. The site here contains a "cocktail" of large numbers of different toxic chemical compounds which are harmful to humans and the aquatic environment and therefore will fall within this definition, ie *containing dangerous substances*.

In the COSHH assessment appended to the EA the applicants consider many of the chemicals involved. Some have occupational exposure limits (OELs) below 1 part per million (ppm). Even as low as 0.0002 ppm in one case. Many are described as follows:

- * Can cause cancer
- * Toxic by inhalation
- * Causes severe burns
- * Very toxic to aquatic organisms, may cause long term adverse effects
- * Emit toxic fumes in a fire (includes most)

* Replaces decision 94/3/EC establishing a list of wastes pursuant to Article 1(a) of Council Directive 75/442/EEC on waste and Council Decision 94/904/EC establishing a list of hazardous waste pursuant to Article 1(4) of Council Directive 91/689/EEC on hazardous waste.

We are told that these will be monitored by checking for VOCs (volatile organic compounds) once a day using a hand held device (PID), and checking dust, "visually by experienced staff".

One highly dangerous group of substances which should be taken into consideration on a site of this type, and has not, falls within the definition of, dioxins.

Dioxins

Dioxins have no use as such and are formed unintentionally by industrial processes via incomplete combustion in the presence of chlorine. They form one of the most dangerous pollutants ever to exist in the modern environment.

The following statements are taken from the Government sponsored research document, *A review of the current source inventories for dioxin and dioxin like PCBs for air, soil and water with a view to updating emission factor estimates and inclusion of new sources*, final report by Netcen/ED48412/R1, published by DEFRA in the UK:

Only reservoir sources associated with some specific anthropogenic activity have been considered here. Table 4 presents the key sources that have been identified as likely to be the main UK reservoir sources of dioxins and dioxin-like PCBs -

1. Landfills
2. Production and formulation sites of chlorinated organics including **pesticide manufacture**.
3. Historic timber treatments sites.
4. Historic coal gasification sites sites.
5. PCB-filled transformers and capacitors.

The Remediation Process

The processes necessary to render these substances harmless to humans, water resources and the wider environment are so numerous, and so difficult, that the applicants are still not in a position to decide they will be.

To put it as simply as possible, they have said they will:

- * Dig up the whole of the site to an average depth of about 4 metres and treat 250,000 cubic metres of soil. If they can treat it effectively they will put it back. If they can't they haven't decided what they will do with it.
- * Treatment will be largely in the open air, in effect, 'hanging the soil out to dry', with the help of bacteria and fungi. To aid the process the soils will be turned and mixed regularly. This will discharge volatile fumes, contaminated dusts and spores into the atmosphere.
- * Pump out the highly contaminated ground waters into a lagoon on site to settle, again in the open air, allowing any volatiles to evaporate into the atmosphere.
- * A new improved waste water treatment plant (WWTP) will be developed over the road.
- * Waste water will be pumped to the WWTP for treatment. Residual contaminated waste will have to be disposed of off site.

The site has still not been properly investigated ('characterised') and remedial targets have not been agreed. Even analytical suites of chemicals have not been agreed between the applicants and the agencies (ie the list of chemicals which will be investigated and tested for throughout the remediation process).

Despite the proposal for the development of a hazardous waste treatment facility in an ecologically sensitive location, treating chemicals which are highly dangerous to the aquatic environment, and give off toxic fumes in the event of a fire, no *Emergency Plan*, has been developed and agreed with the agencies (ie in the case of flood or fire).

In summary:

- a) The applicants are submitting a low cost remediation strategy, seemingly to try to fit within a budget.
- b) The potential impact of airborne pollution as a result of the remediation process has been dismissed as minor. There has already been a significant impact on surrounding land as a result of demolition processes carried out illegally without the benefit of planning permission. Both volatiles and particulates have the capacity to form a serious risk to both human and property receptors. It is not acceptable to merely state they will not form a risk, as long as the job is done properly.
- c) What is being proposed will not work, ie remediation targets cannot be met.
- d) There is no consideration of how metals will be remediated.
- e) There has been no consideration of dioxin contamination. Pesticides manufacture is a known significant source of dioxins.
- f) There seems to be no targets for soil gases.
- g) NAPLs* have not been considered at all. This is key to success of the project, as Atkins have previously suggested.
- h) It needs to be made clear which contaminants will not respond to the treatments proposed and how they will be dealt with, eg, removed from site or other (more expensive) treatments.
- i) There has been no consideration of the volumes of material which may have to be removed from the site. If this were only 1/10th of the 250,000 m³, if we take 1m³ to equal approximately 2 tonnes, that would involve 2,500 twenty tonne lorry movements.

* NAPLs = Non Aqueous Phase Liquids. Some are light and float on water, others are heavier and sink to the bottom potentially affecting important aquifers and potable water.

- j) There is no finalised / confirmed site layout for the final end use to inform the conceptual model. This is essential to identify where the biggest risks lie, eg in private gardens.

k) There is no mention of foundation design. This is similarly essential as piling could create new pathways to deeper bodies of groundwater in the major aquifer below the site.

l) There is no mention of cap design. This could require the importation of potentially thousands of tonnes of material to replace that taken off site, and to raise platform levels. Again involving hundreds, or thousands of additional lorry movements.

m) The Bentonite cut-off wall has failed. Protection of the water courses and the future of the cut-off wall needs to be considered and agreed **before** the commencement of the remediation process.

n) There is no clear hierarchy of responsibility for the safe development, secure occupation of the site, or future liability, should the remediation fail. This needs spelling out as simply as possible so there is absolutely no confusion here.

o) The environmental statement underestimates the potential environmental impact of the development.

p) No formal Emergency Plan has been developed in association with the authorities.

With these comments I am trying to be brief and to the point. I attach a slightly more detailed commentary which may be of value to your technical advisors at the Council.

I also attach a copy of my comments to Committee dated the 3rd of October 2007 which I hope you will find useful. I would particularly draw your attention to the *Addendum* suggesting the possible use of a planning obligation to require the developer to provide sufficient funds to allow an independent observer to be appointed to oversee the remediation. If this were to be imposed it would clearly demonstrate the Council's determination to deal with this high risk development as effectively and openly as possible.

Please do not presume that problems do not arise from sites of this type. In the coming months (February to May) I will be acting as lead Expert Witness in a Group Action against a Local Authority by 18 children who have suffered birth defects, they allege as a result of a flawed contaminated land remediation process. If the claim is successful the Authority will be liable to the tune of around £7 million. It is worth making the effort to get things right at this stage.

I would like to have the opportunity to address the committee again when the application eventually comes before them. I would, however, hope that the present application is considered incomplete.

Yours faithfully

Roger Braithwaite
Director