

HAGATI

Case to reject the Pollution Control Certificate

We oppose the Application on a variety of grounds, each is important in its own right but it is only when the combination of the concerns are considered in total that it is realised that it would be a disastrous combination of the wrong process, in the wrong place, for which the environment and local residents would be expected to continue to pay a heavy price for the next thirty years.

The following statements are therefore not assembled in any order of importance and represent a 'talk through' of the issues. Although each of the issues has relevance to specific sections of the PCC they are still interrelated by the negative impacts that would result if this incinerator were ever given permission to operate in what has been called 'The absolute worst site imaginable' by one of the academics consulted. We can supply written evidence of all the claims that we make but would stress that this is an informal document designed to attempt to give an overview of the issues surrounding the Application for a Pollution Control Certificate.

The Process

It is essential that the Application is considered as it is written. This may seem a basic statement but this is an application for an Energy from Waste power station, not a waste disposal facility. This is vitally important because, by classing it as a power station and by having sufficient generating capacity Ineos Chlor have been able to make the Application directly to the Secretary of State under a different set of regulations than those which would have applied for a waste incinerator.

It also means that their choice of Best Available Technique can be questioned. There are at least three (Fluidised Bed, Gas Plasma and Bioessence) other processes which all offer great environmental advantages over the extremely old technique of Water Cooled Moving Grate with baghouse filters proposed by Ineos. Each of the alternative methods has a 'Best' technique due to either the production of 'Simgas' and only emitting the by-products of its combustion, or massively reduced production of toxic ash and residues. They all offer equal, if not better, efficiency in the production of energy for both electricity and steam and are all techniques which should have been considered because the primary function of the Application is power generation not waste disposal.

A further consequence is that, if this was an application for a coal fired power station, it would, under government regulations, have to incorporate 'Carbon Capture' to prevent the proliferation of carbon gases which are seen as a major contributor to climate change. However, the burning of Refuse Derived Fuel does, due to its lower calorific values and constantly variable content, produce more carbon gases for every Kilowatt of electricity generated than even the lowest grade of coal.

A further drawback to WCMG with baghouse filters is that it is not a process that can be much improved. Whilst it is accepted that the process has been refined somewhat, it is difficult to see how it could achieve the claimed reduction of pollutants emitted down to 10% of the levels emitted twenty years ago. Furthermore, even if this claim were true, if now the size and throughput of the incinerator is increased by a factor of ten the total emitted is exactly the same.

The incineration process itself has the capability, as noted by the local PCT, of turning innocuous substances like paper into the potential health damaging fine and ultrafine particulate matter that the mesh size of the filters would be incapable of arresting. So why is WCMG consider to be BAT?

The Fuel

Refuse Derived Fuel cannot be quantified precisely, the only requirements of Ineos being moisture content and calorific value. The contents of household rubbish bins are a constant variable and in order to preserve the calorific value, plastic materials are not removed. Therefore what is incinerated has, in the combination of carbon based and plastics content, the necessary precursors for the formation of dioxins.

The nature of RDF is also changing by efforts to increase recycling and for instance, the phasing out of filament bulbs and their replacement with high efficiency lamps has an increasing effect. These high efficiency lamps are mercury arc discharge devices and as such, although the mercury content of each individual lamp is very small, when it is considered that Greater Manchester Waste Disposal Authority, which would be supplying a third of the RDF to the incinerator, empties 98,000 household bins every week, it would only require a small fraction of that total to contain high efficiency lamps to mean that substantial amounts of mercury would be being delivered for incineration.

It would be impossible to guarantee that these devices were not put in peoples bins and once there, their fragility means that the mercury they contain is, as they break, being distributed over the rest of the material in the bin. Mercury as an element is unchanged by the incineration process; the high temperatures only mean that it passes into its gaseous phase. As a gas it is not restricted by the filtration system and is then free to be emitted up the stack where depending on atmospheric conditions it condenses back to either its basic elemental form or hydrides of mercury.

As mercury arc discharge lamps also require a firing mechanism each lamp also has, contained in its base, an electronic circuit board. Incineration of these components will again produce pollution in the form of lead from the solder and possibly dioxins and PCBs from the various exotic materials used in the manufacture of electronic components.

The Site

Although we can appreciate that from an Ineos viewpoint the site is a good location we can point out that it is the very the proximity to the chemical process destined to use the steam and electricity generated by the incinerator that are in fact a major contributor to the existing air pollution in the area and the additional environmental load that the incinerator will produce will merely add to this already environmentally stressed area.

Ineos state that the existing railway branch line will be used to bring in the RDF from the Manchester area but in their original Environmental Assessment they claimed that 'There are no residential properties close to the line' When it was pointed out that there are in fact dozens of houses close to the line, some at less than twenty-five metres. Ineos replied that they had all been missed due to 'an oversight'. They then produced a report, using the wrong assessment criteria to 'prove' that trains using the line at night would not cause any nuisance.

The Action Group have produced an alternative report regarding the potential of nuisance of the trains and this is unequivocal that, particularly at night, without restrictions there would be an unacceptable level of disturbance for local residents.

It is however in the topography of the site that most concerns are focussed. Historically the area has been used by the chemical industry and we can provide documentation that shows that a similar sized chimney, in the same area at the base of Runcorn Hill, never worked satisfactorily and its use was stopped despite, at the time, the area being much less developed residentially and there being a much higher tolerance to, and much less regulation of, airborne emissions.

It is the combination of estuarine location at the bottom of a hill with a rising gradient of greater than 10% which would always cast doubt on any computer predicted figures but with the questionable methodology by which Ineos have arrived at a predicted chimney height of 105 metres in combination with their chosen parameters and locations for the 'receptors' also giving serious concerns it is essential that the Application is subject to the closest possible scrutiny and that in common with other locations the Environment Agency insist on the application of the 'Precautionary Principle'.

The Chimney Height Assessment

First inspection of the graphs and figures provided in the Ineos EAI gave immediate cause for concern. It would seem against even the simplest empirical principles that, when figures worked out for the dispersion over 'flat level ground' are calculated, it is unfeasible that an eighty metre hill close by and rising steeply to a summit less than eight hundred metres from the chimney produced only a 2% change in dilution levels when the local terrain is added to the modelling.

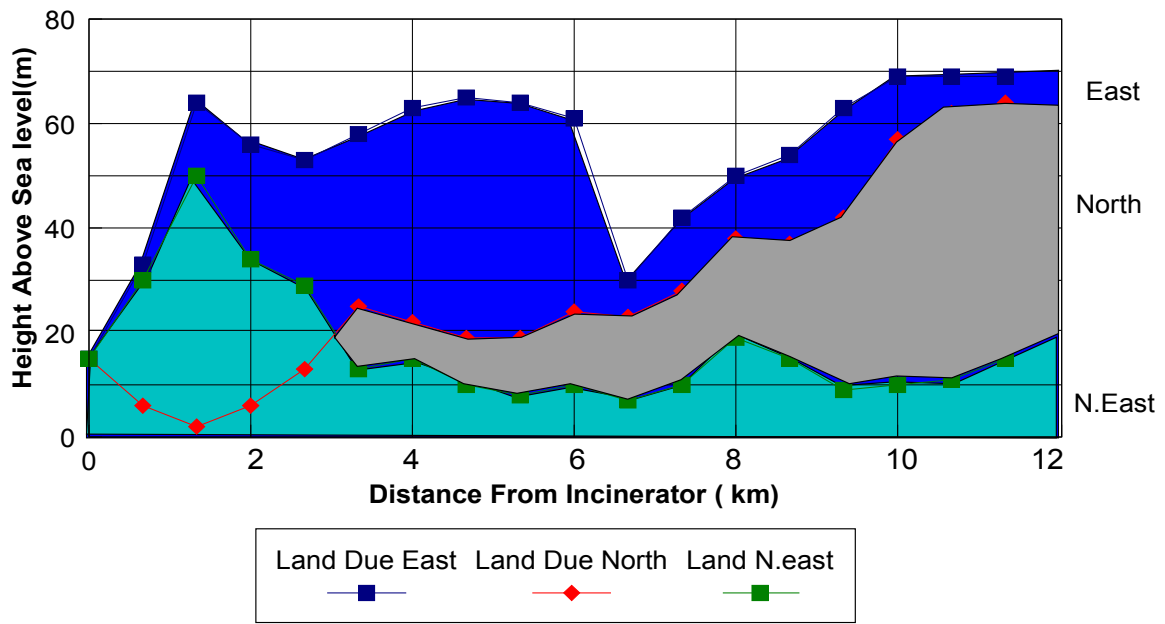
The Action Group queried these results with the actual designers of the software used by Ineos to discover that the methodology used by Ineos to achieve the results was flawed. The massively oversized grid chosen had, in effect, averaged out the effect of Runcorn Hill.

This practice has the generic title of 'Reverse Engineering' where the user first decides the answers they require then the figures in the equations are selected to achieve the desired result.

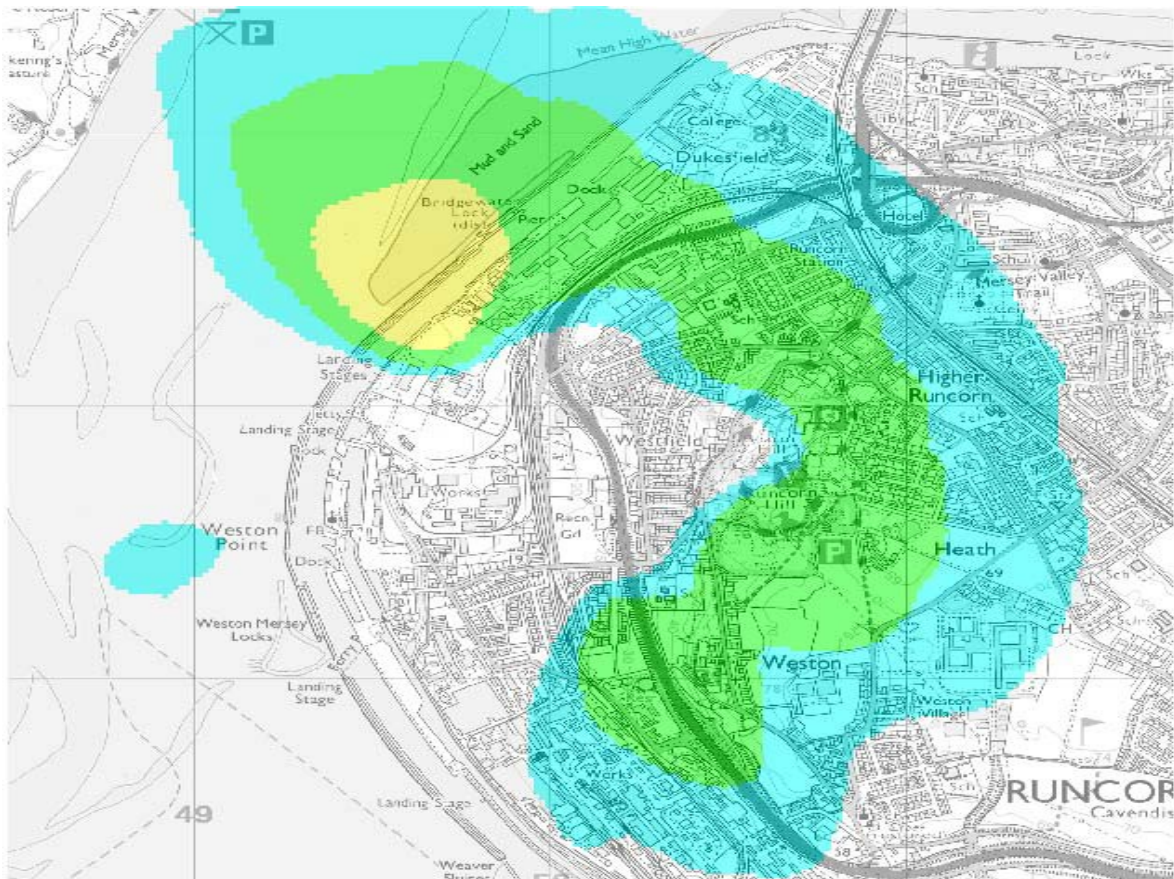
The use of such a large grid was not only highlighted by Entec, the consultants employed by Halton Borough Council to check the validity of the figures, they also went on to describe some of the other effects that it incurred such as 'The possibility of plume grounding in the vicinity of Runcorn Hill' and 'The use of such an oversized grid could result in missing local pollution hot spots'

Because of the large variations in the topography of the land (see graph below) it is essential that the direction used in the Chimney Height Assessment is specified correctly.

Land Height in Various Directions from Incinerator



The question of which direction Ineos used to produce their figures is also highlighted in the Entec report as (see diagram below) where the maximum ground concentrations for NO₂ are shown as due north of the incinerator.



The Environment

The area around Runcorn is, according to several scientific reports, still suffering from a legacy of industrial pollution that has left many sites with land contamination and high incidence of kidney and liver disease that are the worst rates in the whole of the United Kingdom. Although always wary of establishing a direct causal link these reports all point out that the incidence and severity of these diseases are correlated to the industrial complexes with which there is a history of - and continuing - high emissions levels of mercury.

Whilst again no direct link has been established with any specific contamination or pollution Halton Borough has the worst Standardised Mortality Rate and the highest incidence of childhood cancers and birth defects in the country.

Although there has been an attempt to link these high figures to 'socio-economic factors' even those studies point out there is still some underlying and not fully understood mechanism that needs to explain the root cause of these extremely sad statistics.

The common theme suggested by anecdotal and scientific theories is that there is 'cocktail effect' from the combination of airborne pollutants which, individually, can be assessed for toxicity but can not be replicated when they combine in unknown configurations and concentrations.

To add even more to this list of concerns a DEFRA report into deformities in herons caused by dioxins report has stated that;

The control eggs from Cheshire had higher levels of PCBs/dioxins than the eggs from Tring and the highest levels of all sample, suggesting that the Cheshire site is contaminated and therefore these data are excluded from any further comparisons.

The report, written in 2003, took eggs from two heronries in Runcorn and as the statement above confirms, they are proof that the area is already contaminated by dioxins.

We are reliably informed by Liverpool and Salford universities that all major pollution pathways to water have been traced and eliminated by either cessation of specific processes or the alteration of chemical manufacturing methods so that now, to within a few percent, all the dioxin emissions are to air with the consequent deposition on both land and water.

This aspect has raised some concern in both the local PCT and the Food Standards Agency and hopefully both these organisations will be pressing for thorough testing to take place to establish exactly what the present pollution load of these dioxin emissions is with regard to milk and dairy products plus beef cattle so that the effects on the human food chain can be established.

A large part of the problem is that the Environment Agency itself is incapable of being able to confirm the source of these dioxin emissions. Although there are literally dozens of sites in the area that are licenced to emit dioxins to air none have ever been recorded. The testing regime of only analysing the emissions once every six months means that for 99.99% of the time the emissions are unmonitored but as the evidence shows, dioxins are being emitted locally.

It is emission like this which will have to be a consideration in establishing a chimney height which does not contravene the regulations designed to protect the environment. As mere residents we are not entitled to the same level of protection as flora and fauna but if the regulations are adhered to we can at least hope that our environment is protected along with theirs.

UK Biodiversity Action Plan

Biodiversity and Geological Conservation Statutory obligations and their impact within the planning system.

Section 1.4: -the key principles of PPS 9 include:

The aim of the planning decisions should be to prevent harm to biodiversity and geological conservation interests. Where granting planning permission would result in significant harm to those interests, local planning authorities will need to be satisfied that the development cannot reasonably be located on any alternative sites that would result in less or no harm.

In the absence of any such alternatives, local planning authorities should ensure that, before planning permission is granted, adequate mitigation measures are put in place.

Where a planning decision would result in significant harm to biodiversity and geological interests, which cannot be prevented or adequately mitigated against, appropriate compensation measures should be sought. If that significant harm cannot be prevented, adequately mitigated against, or compensated for then planning permission should be refused.'

Source :-UK Planning Policy Statement 9: (2005)

In considering what is 'adequate mitigation' or 'appropriate compensation' the Section 106 agreement signed by Ineos that commits 60p for every ton of waste burnt to an environmental fund is seen as derisory.

What value can be placed on the birth of a healthy baby, its continued safety and surrounding good environmental conditions during their lifetime?

Halton Biodiversity Action Plan

Section 4.2.1 A key action from the first Natural Assets Strategy has been Halton's Biodiversity Action Plan, published in February 2003. This is a detailed contribution to the Cheshire region Biodiversity Action Plan and contains a series of over 50 actions for two habitats and seven species, as well as information on wildlife corridors and action areas for People & Nature.

Section 4.2.4 Urban nature conservation has an important role to play in protecting rare and declining species and in providing conditions that will help maintain their populations.

Runcorn Hill Local Nature Reserve, for example, has regionally important heathland communities, which are being managed to maintain a stable population.

The great crested newt, bats and badgers are protected species under Section 9 of the Wildlife and Countryside Act, and may be found in both rural and urban areas.

Many species have become dependent upon buildings for roosting or nesting, such as swifts, house martins and bats.

Source :- Halton Biodiversity Action Plan

Halton Borough Council Strategic Policy on Protection and Creation of Local Nature Reserves (GE20)

4.1 GE20 Overview :- Development will not be permitted if it is likely to have an unacceptable impact on existing and proposed Local Nature Reserves, as defined on the Proposals Map.

Local Nature Reserves may be designated by a Local Authority under the National Parks and Access to the Countryside Act (1949). The objectives in designating sites as Local Nature Reserves relate to conservation, through better management and the passing of bye-laws, recreation and education. The Council will in consultation with English Nature, declare appropriate sites as local nature reserves.

Sites designated as Local Nature Reserves include;

Pickering's Pasture, Widnes

Runcorn Hill, Runcorn.

Clinton Woods, Widnes

Land off Dorchester Park, Runcorn;

GE21 Species Protection

Development that would cause unacceptable harm to a species of flora or fauna protected under national or international legislation, or its habitat, will not be permitted unless all of the following criteria can be satisfied:

- a) That the development is in the interests of public health and public safety, or for other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment;
 - b) That there is no satisfactory alternative;
 - c) That the derogation is not detrimental to the maintenance of the populations of the species concerned at a favourable conservation status in their natural range.
- 2) On any site that may be supporting a species of flora or fauna protected under national legislation, or its habitat, an expert on the relevant protected species should carry out a site survey. The survey should be a thorough investigation, with recommendations on how to mitigate the effects of development if this can be permitted without serious disruption to the species involved.
 - 3) Where development is permitted, the authority will consider the use of conditions or planning obligations to ensure the protection and enhancement of the site's species or its habitat.

The Local Environment

In all documentation, including the Ineos EIA, the concerns for the environment and residents living on Runcorn Hill are greatly understated although the words that should provide us with the necessary protection are in abundance.

“Runcorn Hill is a unique combination of Formal Park and Local Nature Reserve at the heart of industrial Runcorn. Once extensively used for quarrying, it is today a peaceful escape from its industrial backdrop and its elevation gives spectacular views to the Welsh Mountains, the Mersey Estuary and North Cheshire.

Runcorn Hill Local Nature Reserve includes the largest area of lowland heath in North Cheshire. The woodlands, ponds and scrub along with its geological structure complete a unique mosaic of habitats.

Remains of its quarrying past, together with the variety of habitats, offer an excellent resource for schools and colleges”.

Source :- Green Flag Award Web Site

“Runcorn Hill is a mixture of heathland, woodland scrub and recreational areas. It is owned by Halton Borough Council and managed by the Mersey Valley Partnership and a resident ranger service. It is also designated a local nature reserve.

The sandstone face stretches along the length of one side of Happy Valley, but climbing is restricted to certain parts of the crag. This is to limit the disturbance to important plants and wildlife, namely little owls, roosting bats, heather and the only area of bilberry - a noted heathland plant on Runcorn Hill.

The heathland is particularly important as this is the fastest disappearing habitat in Cheshire. Only 0.5% remains in the County.

Source :- Bluedome Climbing & Walking Web Site

“Over thousands of years, the dry sandstone soil and moist climate produced heathland, a habitat with its own particular plants and animals, only found in this part of the world. Now very little remains. As an example, less than half a percent of Cheshire now survives as heathland, as rare and precious in its way as the rainforests. Heathland is being restored at Daresbury Firs and Runcorn Hill nature Reserve.

Source:- Mersey Valley Partnership Leaflet

“The heathland is home to rare plants and animals, like bilberry, common lizards and many insects, all found nowhere else in Halton”

Source :- Runcorn Hill Park- Halton Borough Council Leaflet

“ Runcorn Hill is also one of the most important heathlands in the north-west and it remains one of the few places locally where it is still possible to find Common Lizards”

Source :- Halton Council Web Site

Potential Damage to Runcorn Hill Local Nature Reserve

Heathland such as that on Runcorn Hill is rapidly disappearing and it is a natural resource that is too important to both local residents and visitors for risks to be taken with operating an incinerator in such close proximity to it.

If this unique area is destroyed by pollution it is gone forever, and future generations will be deprived of a remarkable recreation area that we should now fight to be preserved for posterity.

Statements on emissions contained within the Ineos-Chlor Environmental Assessment show that they cannot guarantee that emissions will not affect this area of Runcorn , viz

Relevant Environmental Assessment data Dispersion Models

Appendix 10.1 Air Quality assessment .Section 6.18

“A number of commercially available dispersion models are available to predict ground level concentrations arising from emissions to atmosphere from elevated point sources such as an EfW facility

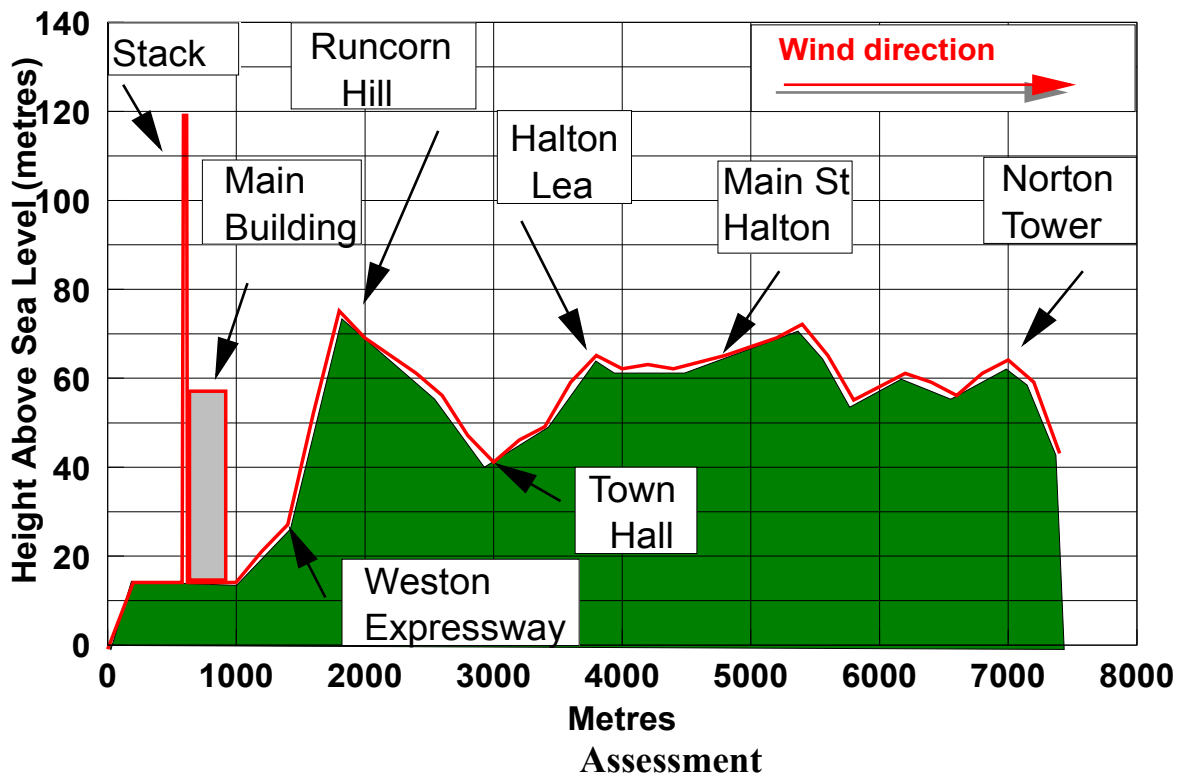
.No dispersion model is wholly accurate and all models will produce variations in results under certain conditions”.

Appendix 10.1 Air Quality assessment .Section 6.78

“A number of approaches can be used to determine whether the potential air quality effects of a development are significant. However, there remains no universally recognised definition of what constitutes ‘significance’.”

(Compressed distance from incinerator to Norton Tower)

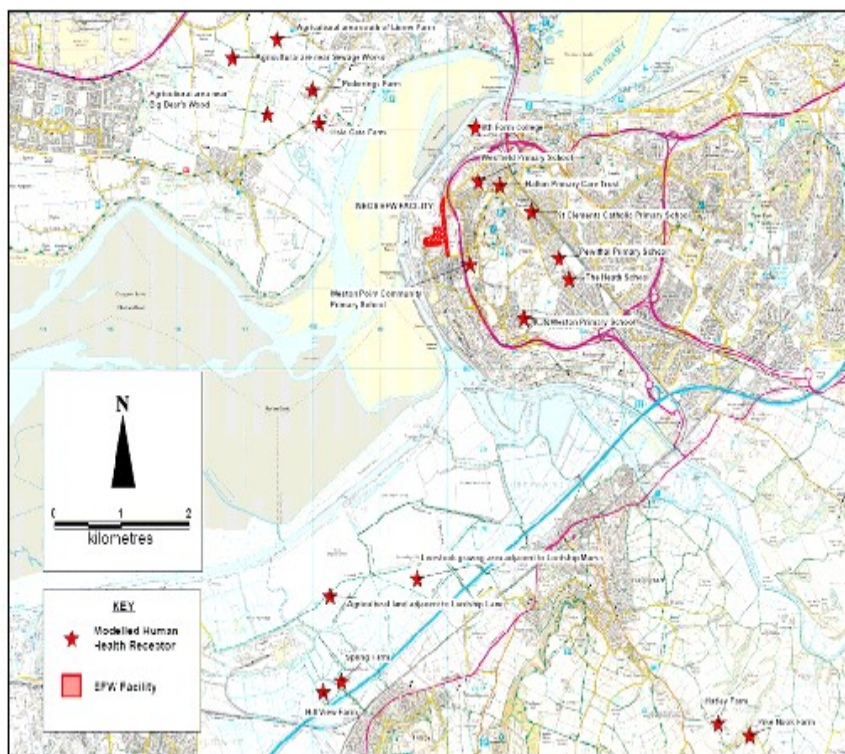
Topographical Profile From Incinerator to Norton



Risk

A major concern is that no receptors were included for Runcorn Hill in the Ineos-Chlor Air Quality Assessment, see diagram below from the EIA.

Figure 2.2: Proposed EFW Facility Location and Sensitive Receptors



There
also

is
great

concern that figures used by Ineos in their assessment are actually in error mathematically and by using the wrong numerical values have created a false and flawed report.

In the calculations used to determine the chimney height the wind roses have no reference at all to the conditions referred to metrologically as 'calm'. This is we feel the main reason for the Halton Borough Unitary Plan restriction which states that 'Incinerators should not be built close to residential areas or sensitive sites'.

The percentage of climatic conditions in the Runcorn area defined as calm is 12%. This equates to over forty days annually in which the emissions from the incinerator will be subject to minimum dispersion and will fall on residents practically undiluted. This is a state that should be considered in the risk assessment and its omission renders the EIA invalid.

A recent paper by Roberts and Chen derived a quantitative measure of risk from a modern incinerator, based on current allowed emission levels. They calculated that the overall risk of dying in any one year from incinerator emissions is 2.49×10^{-7} , or approximately 1 in 4 million.

Hence the lifetime risk of dying from incinerator emissions is $2.49 \times 10^{-7} \times 70 = 1.74 \times 10^{-5}$, or 1 in 57,471.

This is a far greater risk than the USEPA acceptable risk of 1 in a million.

The Action Group position is that. **No risk that is avoidable is acceptable.**

Randle Island

That Randle Island has already been licensed as the site designated to receive the toxic fraction of the ash and the Flue Gas Residues is in part a concern because it would appear that no environmental impact assessment has been carried out beforehand. There also seems to have been no assessment of the height increase necessary to accommodate the millions of tons of ash that the incinerator would generate over the twenty-five year lifetime of the plant.

Although the construction of the facility to contain the ash should be to the highest standards the fact that the ash and FGR are delivered as slurry, and the open nature of the site means that the leachate collection system must be infallible because, as noted by English Nature the extreme proximity to the Mersey Estuary SSSI means that there is only a very short transfer time for any pollution should any problems occur.

The transport via a single track road through the Wigg Island Park Community park is far from ideal and as it is also the only means of access to the site via the Old Quay Swing Bridge any problems on the road would deprive the incinerator of the continuous access that it requires for the dumping of toxic materials.

The Stockholm Convention

If the Environment Agency were to grant the PCC they would do so in contravention of the Stockholm Convention on Persistent Organic Pollutants (POP's) 2001, to which the United Kingdom is a signature nation.

The convention calls for a reduction in the production of POP's particularly by incinerators which are referred to in Annex C as having 'Potential for comparatively high formation and release of such unintentional POP's'.

The Convention reinforces the 'Proximity Principle' making any authority responsible for its own wastes arising. Specifically it bans the practice of exporting waste for treatment elsewhere if this treatment gives rise to the production of POP's.

The incinerator in Runcorn is situated within Halton Borough Council, which is a Unitary Authority, but the wastes arising in Halton only account for 4% of the total capacity of the incinerator. The balance would be brought in from surrounding Authorities such as Greater Manchester Waste Disposal, Merseyside Waste Disposal Authority and Cheshire County. All these Authorities will be in breach of the Stockholm Convention if they export their waste to Runcorn for incineration.

Following are relevant extracts covering aspects of the Stockholm Convention;

Waste Incineration and its Impact on Health,
the Environment, and Sustainability
October 2005
Version 1.3
Author:
Dr Adam Bostock

Persistent Organic Pollutants

Persistent organic pollutants (POPs) include a range of pollutants that persist in the environment for many years. The list of POPs includes toxic dioxins, furans and PCBs. Such is the level of concern over POPs that several countries have signed up to the Stockholm Convention on Persistent Organic Pollutants. The aim of the convention is to *reduce and eliminate* the production of persistent organic pollutants.

The Dioxin, PCBs and Waste Working Group of IPEN (International Persistent Organic Pollutants Elimination Network) Report demonstrates that waste incineration residues represent a serious threat to both [the] local and global environment as they contain high quantities of unintentionally produced persistent organic pollutants listed under Annex C of the Stockholm Convention (dioxins, PCBs and hexachlorobenzene). This study also shows that, especially, waste incineration fly ash and APC residues contain also high levels of other Persistent Organic Pollutants not listed under [the] Stockholm Convention.

The European Community has signed both international instruments on POPs [EU Action on POPs]. The international community has called for actions to reduce and eliminate production, use and releases of these substances. To that end, two international legally binding instruments have been negotiated and concluded: The Protocol to the regional UNECE Convention on Long-Range Transboundary Air Pollution (CLRTAP) on POPs, opened for signatures in June 1998 and entered into force on 23 October 2003; The global Stockholm Convention on POPs, opened for signatures in May 2001 and entered into force on 17 May 2004.

It includes provisions on the environmentally sound disposal of wastes containing POPs, and provisions on the reduction of emissions of unintentionally produced POPs (e.g. dioxins and furans). To a certain extent the Regulation goes further than the international agreements emphasising the aim to eliminate the production and use of the internationally recognised POPs.

Each Party to the Stockholm Convention - individual states as well the European Community as a regional economic integration organisation - has to establish an Implementation Plan to show the concrete action that will be taken against the POPs listed in the Convention. The European Community Implementation Plan, which will complement the national plans of the EU Member States, to be adopted by May 2006.

