The human health impact of the proposed joint hazardous waste / municipal waste incinerator at Ringaskiddy: a critique of the health assessment in the EIS submitted with the waste licence application.

Dr. Anthony Staines,

Senior Lecturer in Epidemiology, Dept. of Public Health Medicine, University College Dublin, Earlsfort Terrace, Dublin 2.

E-mail :- Anthony.staines@ucd.ie

Tel :- 086 606 9713.

My Background

I qualified in medicine in 1984, and after working in paediatrics for five years, I moved to train in academic epidemiology. I have a medical degree, a doctorate in epidemiology, and I am a member of the RCPI, and a fellow of the Faculty of Public Health. I am a member of the International Society for Environmental Epidemiology (ISEE), the premier professional organisation in this field.

I have worked on issues in environmental epidemiology since 1990, and particularly since I moved to work in the Small Area Health Statistics Unit at Imperial College. Since returning to work in Ireland in 1997, I have developed the first environmental epidemiology unit in the country.

I have worked on many environmental health projects in Ireland including the health assessment at Askeaton, the HRB funded report on the health and environmental impact of waste disposal, the human health impact of the uranium contamination at Baltinglass, a baseline health assessment of the proposed incinerator at Ringsend, an EPA funded project on the environmental burden of disease in Ireland, a report on the assessment of the human health impact of illegal landfill sites, a report on the EIS for the proposed incinerator at Carranstown, and a report on the human health assessment in the EIS for the second runway at Dublin airport.

Content of the EIS

The EIS submitted for the waste license application contains a brief section entitled 'Impact on human beings'. This covers various social and economic impacts of the development, and also contains a short

discussion of the potential health impacts of dioxins and related substances in the environment. In summary, this section of the EIS indicates the dioxin levels in Ireland are low, by EU standards.

Health Impact Assessment

I believe that it is both appropriate, necessary, and arguably, required by EU legislation, to properly asses the potential health impact of the operation of large industrial facilities. By analogy with 'Environmental Impact Statement' the standard term for the suite of methods used to do this is 'Health Impact Assessment' (HIA).

- What is HIA?

  A combination of methods and tools by which a policy, programme or project may be judged as to its potential effect(s) on the health of a population and the distribution of those effects within the population.

- Why use it?

  To ensure that the health consequences of decisions – positive or negative – are not overlooked

  To identify new opportunities to protect and to improve health across the range of policy areas.

  To understand better the interactions between health and other policy areas.

- When it can be used?

  In advance of a proposal being implemented (prospective assessment).

  After a programme has finished or after an unplanned event has happened (retrospective assessment).

  At the same time as a proposal is being implemented (concurrent assessment).

- What does it comprise?

  1) Screening

     Involves considering the relevance to people’s health of a specific policy, programme or project and how it might affect it.

  2) Scoping

     To determine the focus and extent of the assessment

  3) Assessment

     Rapid appraisal or a more detailed study.

HIA's in practice

What does a 'Health Impact Assessment' or HIA look like? Much depends on the scale of the development, as this largely determines the scale of the HIA required. HIA's for a housing estate, a motorway, and an airport runway, for example, would look very different.

In general terms a HIA will have three main sections. The screening report, which justifies carrying out a HIA, will describe in general terms, the possible impacts of a proposed development on human health, and conclude either that a HIA is warranted, or not. This could take one or two weeks, and is a desk exercise.

The next section, the scoping report, applies the general issues in the screening report to the specific situation, of this specific development in the specific site. This section will develop the scale and scope of the assessment, together with stakeholders, such as planners, developers, and members of the local community. This part of the process can take anything form a few days to a few weeks, and determines the scale of the assessment phase.

The final section, the assessment report, is the most variable element of the HIA. The big division is between projects whose assessment can be done as a desk exercise, usually building on other components of the EIS, and projects which require field work with the affected communities. The former are quick, quite cheap, and suitable for many smaller developments. The latter are more complex, and take longer, typically between a few months and a year. However, for large developments with potentially complex effects, such fieldwork is required.

Critique of the 'Impact on Human Beings'

This section of the EIS seems to me to be deficient. I would not regard this as an adequate or a useful contribution to an assessment of the human health impacts of the development proposed here. There is no description of the process used to produce it, but I do not see any obvious indication that any formal process for human health assessment was used.

Even the brief consideration that I have been able to give to possible health effects, in itself no substitute for a formal scoping exercise, suggests at least the following areas which could be considered :-

Particulate emissions; Noise; Dust; Odour; Vermin; Bottom ash; Fly ash; Waste transfer; Waste spills; Flooding; Ground water contamination;

These are complex exposures, with many routes of exposure, many different possible effects on different segments of the population, and many different sources in plant construction, operation within parameters, and operation outside parameters.

Capacity

In our HRB funded report we noted that Ireland was poorly equipped to assess, monitor, and enforce human health protection :-

> **"(a) Risk assessment**
> Ireland presently has insufficient resources to carry out adequate risk assessments for proposed waste management facilities. Although the necessary skills are available, neither the personnel nor the dedicated resources have been made available. In addition, there are serious data gaps (addressed under point (c) below). These problems should be rectified urgently.
>
> **(b) Detection and monitoring of human health impacts**
> Irish health information systems cannot support routine monitoring of the health of people living near waste sites. There is an urgent need to develop the skills and resources required to undertake health and environmental risk assessments in Ireland. This should be considered as an important development to build capacity in Ireland to protect public health in relation to potential environmental hazards. The recommendations in the Proposal for a National Environmental Health Action Plan (Government of Ireland 1999) could form a basis for this.
>
> **(c) Detection and monitoring of environmental impacts**
> The capacity (in terms of facilities, financial and human resources, data banks, etc.) must be developed for measuring environmental damage, and changes over time in the condition of the environment around proposed waste sites and elsewhere. There is a serious deficiency of baseline environmental information in Ireland, a situation that should be remedied. The lack of baseline data makes it very hard to interpret the results of local studies, for example around a waste management site. Existing research results should be collated and interpreted as a step toward building a baseline data bank. A strategically designed monitoring programme needs to be initiated that

can correct deficiencies in current ambient environmental monitoring. In addition, capacity needs to be built in environmental analysis. In particular, Irish facilities for measuring dioxins are required, and should be developed as a priority. However, the high public profile of dioxins should not distract attention from the need for improved monitoring of other potential pollutants.

(d) Risk communication and perception
Qualitative studies about waste management perceptions revealed a diversity of opinion about waste management issues generally, and about the links between waste management and both human health and environmental quality. To facilitate public debate on the issues of waste management policy and effects, a systematic programme of risk communication will be necessary. This should concentrate on providing unbiased and trusted information to all participants (or stakeholders) in waste management issues. Public trust, whether it is placed in the regulators, in compliance with the regulations or in the information provided, will be fundamental in achieving even a modicum of consensus for any future developments in waste policy in Ireland." (Crowley, Staines et al. 2002).

This remains true, although limited progress has been made, for example dioxin measurement facilities have been established in UCC. The current situation is that neither the EPA, nor the local authorities, have the capacity, to adequately monitor and police human health. Notionally this is the role of the Department of Health, however the very limited resources in the Department, are well indicated by Ireland's continuing failure to produce our (EU mandated) National Environmental Health Action Plan. The curious division between the respective roles of the planning authority and the EPA has not helped the development of such capacity in Ireland.

Conclusions

The proposed development, in my professional opinion, requires a proper HIA to ensure reasonable consideration of human health issues in the planning and licensing processes. The material provided in the EIS falls short of any reasonable estimate of what is required.