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Claire Wheeler **Green Party, Dublin South East Constituency Group**

Submission to EPA Oral hearing, against proposed licence for proposed Poolbeg Incinerator

My name is Claire Wheeler and I am representing Dublin South-East Greens. I hold a primary degree in Engineering Science from Trinity College, and have worked in industry for 13 years as an electronics engineer. I am not claiming professional competence in any of the issues raised.

I was elected to Dublin Corporation from 1991 to 1999, and was co-opted back onto Dublin City Council in 2003-2004. I was also a member of the Community Interest Group (CIG).

I will be making a few points about human health to elaborate on the written submission made by Ryan Meade and others on behalf of the Green Party to the EPA. I will also talk about local conditions, reasons why the proposed location is unsuitable for a large mass-burn incinerator, and mention my experiences of the procedure to procure this incinerator.

Health.

I would argue that the most serious environmental impact which an incinerator has is on human health. Ultimately, the reason for having an Environmental Protection Agency to protect the environment is because a good environment is essential to human health and well-being. Dr. Staines, who conducted a brief study on baseline health for the EIS [EIS Ch13 and Appendix 13.4] stated emphatically that a Health Impact Assessment must be carried out on this project before any informed decision can be taken on issuing a licence. His study was alarming, showing that general health in the local area is poor, whether due to socio-economic conditions or whether factors such as local air quality and occupational hazards have taken their toll. He also said that incidences of respiratory diseases were striking. A population whose health is already compromised, is more vulnerable to illness from pollution, and therefore the Ringsend/Irishtown/Pearse St areas are extremely unsuitable to be landed with this proposed incinerator, which can only make matters worse. Anecdotal evidence of poor health locally was given by Mr Hawkins, speaking about his late friends from the rowing club. When I asked in St. Andrew's Community Centre, Pearse St. about health, the supervisor told me that several of her friends had all suffered brain tumors. There is a study entitled 'Senior Citizens-Their Future and Their Past 2003' concerning people in the Pearse St area. Page 4 of the executive summary talks about lower-than-average life expectancies and relatively high levels of cancers, diabetes and Alzheimer's.

The EIS states clearly that ambient levels of PM10s are already over the permitted limit, while levels of NO2 and PM2.5s approach permitted levels. [EIS 8.2.4 and 8.2.5] Clearly, no further emissions of PM10s should be allowed. I also do not think that the assessment of the risk of abnormal operation or of accidents is realistic, I think it is under-stated, and I think Mr. Hawkins witness of docking accidents was very relevant. Statistics of operational irregularities should be provided using data from existing comparable incinerators.

Of enormous concern is the fact that the incinerator would be liable to emit smaller particulate matter, nanoparticles. Mr Bahor of Covanta said, I think, that it should be possible to filter the emissions using bag filters that stop 97% by weight of small particulate emissions, of size greater than 0.03 microns under laboratory conditions. This raises a lot of problems, -

(1) What are the differences between operation in the lab and in the field? Why is this specification not available? How does the performance of the entire bag filter system vary with time?

(2) 3% of larger-than-0.03 micron nanoparticles from such a huge facility, for 600,000 t.p.a. municipal waste, is still a lot. Would we accept 18% of these PMs from a 100,000 t.p.a incinerator?

(3) What about nanoparticles smaller than 0.03 microns?

(4) **There is no safe level of nanoparticles.**

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(5) Covanta is not aware of monitoring equipment for nanoparticles smaller than PM2.5s.
(6) Since laser-based equipment exists that can measure nanoparticle concentrations in the air, (ref. Prof. Montanari's presentation), who would pay for and operate such equipment?

Actually, the problems raised by the emission of large numbers of tiny nanoparticles is endless. According to Prof. Montanari, these particles remain airborn for some time and persist in the environment forever. They can penetrate the alveoli in the lungs and enter human tissue though the blood, or be absorbed into food and penetrate the walls of the intestine. They have been proved to cause cancers, heart attacks, foetal abnormalities, diabetes and a large number of other fatal and crippling diseases. Particularly terrifying is the spectre of cancers like prostrate cancer in children.

Good food is important for good health, and I find it alarming that according to the windroses given for the site itself [EIS Fig 8.4] the incinerator would be significantly upwind of the area where Dublin's fruit and vegetables are grown, namely Rush and Lusk. I believe, with oil currently at about $110 /barrel and rising steadily, we are coming to the end of the unsustainable era of huge food-miles. I don't think it will be long before we return to the principle of local production of food for local consumption. Indeed with the current trends in life-styles and potential problems of food-security, there is a liklihood that people will return to keeping vegetable gardens.

I think it is difficult to study human health in isolation from the health of other fauna. According to the windrose for the proposed site, the locally prevailing wind is predominately Westerly; therefore perhaps the majority of nanoparticle emissions will end up in the sea. Prof. Montanari showed graphically how nanoparticles can deform simple sea organisms and enter the food chain. Nanoparticles are biocumulative and will end up in the fish that we eat as well as those eaten by other animals. The Liffey was always a salmon river, and still is, and it would be a tragedy not only for the ecology of the Liffey, but more so for us humans, who like to eat wild salmon, if the population of Liffey salmon was extinguished either due to Dioxin or nanoparticle pollution, or by a failure to maintain a suitable channel in the river free of cooling water and pollutants. I also feel that local populations of migratory birds, in particular Brent Geese, are under threat from pollution, given that they graze in its immediate vicinity.

Dr. Shrenk's assessment of the health risks from incineration [EIS Appendix 13.3] was extremely limited, and did not take into account the long distances over which nanoparticles can be airbourn. Quite simply, there is not enough research documented in the EIS to show the likely effects of incinerator emissions on flora, and in particular on people, in its environmental footprint.

The professional association of French doctors have called for a moratorium on building incinerators [Le Monde 20 Octobre 2007, Environment and Science Section]. The EU is funding Prof Montanari's organisation to conduct research into the pathology of nanoparticles. I think that a properly-consucted HIA would include investigations into such developments in Europe, and some research into how nanoparticles are entering the food chain from an incinerator in a comparable location.

Other Local Factors

* The site is effectively in the centre of a nature reserve (Dublin Bay North and South) an area given SAC, SPA and NHA designations. It is also where people go for recreation, jogging, walking and taning the sea air
* A lot was made of the advantage of the proposed site's potential for district heating. However, there is already an abundance of waste heat from the 3 existing power stations [see Table 1 of the Combined brief of evidence-Water, Oral Hearing Document 11] for which there has not, to date been a market. The EIS should have examined the feasibility of using existing waste heat for any potential

applications. In any case, the climate is mild, and heating is not required for about half the year. In one of the original reports commissioned by Dublin City Council on site selection, I think it was one on Engineering considerations, it was stated that a situation proximate to the M50 would offer the potential of using the waste heat as process heat in industry, but this was never developed.

* The site is supposed to be at the centre of gravity of the waste. However no quantitative analysis has ever been made to ascertain this, neither distributions of population nor recorded tonnages from the different bin lorry rounds. Considering that good road access is what is relevant rather than distance 'as the crow flies', some estimate of bin lorry miles should have been made. On the other hand, distance 'as the crow flies' **is** pertinent to the effects of pollution from the incinerator on human health. The proposed location is extremely proximate to the largest population centre in Ireland; and it is probably fair to say that the City Centre is home to people of lower socio-economic status whose health renders them more vulnerable.

* It is difficult to see where the proposed 600,000 t.p.a of waste would come from. If much of it is derived in Ireland from outside Dublin or to the West of the County, then the proposed site is not central to waste creation; perhaps a location along the M50 would be. If however any shortfall of waste were made up by importing waste from abroad, it would be a gross injustice to the people of Dublin to have to suffer pollution generated by waste originating from somewhere like Greater Manchester.

My Experience

I was on the Council when the votes on Dublin's Waste Strategy, 1998, and Waste Plan,1999, were taken. Having read the reports I knew that what was proposed was incineration of waste after source-separation by householders. Therefore the four Greens, also Tony Gregory, and Christy Burke of SF, voted against. I believe that other councillors were given verbal assurances by management that what they would be voting for was merely looking into the feasibility of incineration/thermal treatment (actually management played some word games; we were told that various thermal treatment options would be looked at, but the detailed engineering reports stated clearly that the only proven thermal treatment technology suitable was incineration). I don't believe that the Plan would have been agreed if other councillors had realised that it would oblige Management to procure an incinerator [Legal Opinion by Lavelle Colemen to the CIG]. It is an enormous pity that no cost/benefit comparisons have ever been made with various forms of MBT. I believe MBT would be in keeping with the Waste Management Plan, which calls for the maximum practicable levels of recycling. MBT would also provide better screening of waste going to incineration or refuse derived fuel. Mr. Toomey has a particular mastery of English, -when he said that MBT would be less effective when used in conjunction with sourse-segregation, I think what he meant was that it would be less value for money than if the existing financial investment in the 3-bin system had not been made. However I think he is wrong in this. I also believe that if there were some sort of enforcement of source-segregation, (using carrot rather than stick techniques,) it would raise awareness and dramatically improve household recycling rates. I myself put out my black bin about 4 times a year for a household of 3.

I was privileged to go with Dublin City Council and others on a trip to several Waste Management facilities in the Netherlands, including 3 incinerators. What struck me about the incinerators, and what is the polar opposite to the case in Dublin, was the way the incinerators were run. Basically, they were run as private companies, with the culture of efficiency of the private sector but wholly owned by the municipal authorities. This meant that they did not have a profit motive, so that safety standards could be paramount. In contrast, the setup proposed here, in which the operator appears to be responsible for monitoring and has a financial incentive to minimise safety standards, is hardly a

failsafe process. It is also of concern that DCC is effectively licencing itself. I am particularly alarmed by the piecemeal nature of the management of the project. It would appear that there have been several takeovers/buyouts since the project started, and responsibility for various aspects of the design and operation seem to be fragmented. I had never heard of Covanta. It is not a household name like, say, General Electric or Siemens. What will happen to the interests of Dublin householders and ratepayers if one of the parties goes bankrupt and if the contractual arrangements are not watertight? While it may be understandable that the detailed design of the incinerator has not yet been carried out, I cannot understand why minimum specifications for say, the filtering equipment, do not appear to be spelt out. I also think it unfortunate that MCOS, who prepared the original Waste studies, had business interests with incinerator companies.

Other Issues

Inadequate EIS

The EIS does not contain adequate information on cumulative impacts and interactions. Table 20.1 indicates which aspects may interact but does not specify the nature or severity of the impacts. Therefore they cannot be measured, assessed or compared, and therefore they do not provide any basis on which the inspector can assess that the cumulative impacts and interactions have been adequately covered in the EIS.

Sustainability

We are facing an immense challenge in the form of Global Warming and to a lesser extent in shortages of raw materials. Therefore, it is extremely important to adhere to the EU's 6th Environmental Framework's Waste Management hierarchy in which materials recovery has higher priority than energy recovery. It is important to consider the embedded energy content of waste; that the energy used to manufacture that material is of the order of 180 times the useful energy extracted if incinerated. If there is to be any incineration, I believe that this proposal is grossly over-capacity, that it will kill off any potential improvements in source-segregation. The EIS should have compared the energy balance with that of optimal householder source-segregation and also with that of MBT following source-segregation.

Madam, I urge you to refuse this licence, or at least, require a HIA. If you are minded to allow the incinerator to proceed, a maximum capacity of the order of 100,000 should be examined and should beless damaging, although it would still constitute a huge burden on the area and its people.