OH Sub No. 9A

Recd From: Dublin City Council

DUBLIN WASTE TO ENERGY PROJECT

WINTERING WATERFOWL AND CONSERVATION DESIGNATIONS IN DUBLIN BAY

BRIEF OF EVIDENCE

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ELEANOR MAYES M.Sc.
ECOLOGICAL CONSULTANT

Old Post Office,
Ashford,
Co. Wicklow.

TABLE OF CONTENTS

1. QUALIFICATIONS AND EXPERIENCE

My name is Eleanor Mayes. I graduated in 1978 with a B.A. (Mod.) in Natural Science from Trinity College Dublin, specialising in Zoology. I also hold an M.Sc. in Zoology from Trinity College Dublin.

I have carried out bird surveys and related ecological research for governmental and non-governmental conservation agencies, and have also been involved in policy work on the implementation of conservation legislation and the effectiveness of conservation designations in Ireland.

I have worked as an ecological consultant since 1989. I have carried out flora and fauna studies and Environmental Impact Assessments for a number of power stations, including the Synergen CCGT. I have also scoped and carried out winter waterfowl monitoring at power stations in compliance with IPPC license conditions. I have carried out a number of waterfowl studies in Dublin Bay, for projects including the Dublin Bay Project EIS and subsequent ecological monitoring, Bull Island Causeway studies, and studies of the Liffey Estuary for Dublin Port Co.

2. INVOLVEMENT WITH THE DUBLIN WASTE TO ENERGY PROJECT

With regard to the Dublin Waste to Energy Project, I prepared an assessment of the potential impacts of the project on wintering waterfowl in Dublin Bay, recommended mitigation measures where appropriate, and assessed residual impacts. My assessment was made in the context of the Special Area of

Conservation (SAC) and Special Protection Area (SPA) nature conservation designations in Dublin Bay, and provided a basis for an Article 6 assessment of the Dublin Waste to Energy Project under the Habitats Directive (92/43/EC). I responded to third party submissions made to An Bord Pleanála relating to wintering waterfowl and conservation designations.

2.1. RELEVANT PLANNING CONDITIONS

Condition 13 (b) of An Bord Pleanala's decision for the Dublin Waste to Energy Facility states:

"The temporary construction area proposed at the southern end of the site of the proposed development shall be modified by providing a setback of at least 20 metres wide from the eastern edge of the compound as indicated on drawing number MDR0358 UZO BE001c. Continuous screening shall be provided around the edge of the construction compound during the course of construction works. Monitoring of the use by wild fowl of the grass lands located south of the wastewater treatment plant shall be carried out for a period of at least 1 year prior to the enclosure and use of the temporary construction area, during construction works and for a period of at least three years following the commissioning of the plant. Reports on the monitoring shall be prepared at least twice yearly following the commencement of construction works. Copies of the reports shall be available for inspection by the public at the offices of the local authority and at an office in the Ringsend/Poolbeg area."

I have been retained to carry out the monitoring referred to in condition 13 (b); monitoring work commenced in November 2007.

3. RESPONSE TO THIRD PARTY SUBMISSIONS TO THE EPA

3.1. SUBMISSIONS RELATING TO CONDITIONS 5.5 AND 6.10 OF THE EPA PROPOSED DECISION W0232-01

5.5. :
"The Licensee shall ensure that all or any of the following:

- *Vermin*
- *Birds*
- *Flies*
- *mud*
- *dust*
- *litter*

associated with the activity do not result in an impairment of, or an interference with amenities or the environment at the facility or beyond the facility boundary or any other legitimate uses beyond the facility boundary. Any methods used by the licensee to control or prevent any such impairment/interference shall not cause environmental pollution."

6.10.:
"The licensee shall, at a minimum of one week intervals, inspect the facility and its immediate surrounds for nuisances caused by vermin, birds, flies, mud, dust and odours."

Submissions made to the EPA raise issues relating to the location of the facility, and to a potential for secondary poisoning of birds of prey, in the context of these licence conditions.

Response

I propose to limit my response to the consideration of vermin and bird issues. EPA licence conditions 5.5. and 6.10 are standard conditions for waste handling facilities. I note that all waste handling at the Dublin Waste to Energy facility will take place within the enclosed structure of the facility building, which will limit the potential for *"nuisance"* to arise, in comparison with an unenclosed land-fill site, for example. However, as there will be vehicular access and egress to the waste reception hall, there will be some potential for birds to enter the hall, and rodents potentially arrive with waste material as well as from the immediate area of the facility. There will be a need for a control programme.

The concern expressed in the submissions relates to a potential for secondary poisoning of birds of prey to arise from the use of rodenticides at the facility. The submissions also refer to the proximity of the facility to areas subject to Special Protection Area (SPA) designation in Dublin Bay. I note that secondary poisoning issues could arise at any site, whether urban, industrial or rural. The legal provisions for the protection of birds apply nationally, and are not restricted to areas subject to conservation designations or their immediate environs. I therefore submit that locational considerations for the facility are not relevant in this regard.

The concern expressed in the submissions with regard to secondary poisoning is valid. The remainder of my response to this issue indicates the steps that will be taken to comply with EPA licence condition 5.5 with regard to vermin and birds, in the context of the requirement that *"Any methods used by the licensee to control or prevent any such impairment/interference shall not cause environmental pollution."*

1. Design considerations

Rodent control uses a number of methodologies, including exclusion measures incorporated into the fabric of the facility at design and build stage. Design measures can also reduce the potential for birds to enter and remain in the building. The following measures will be taken during the detailed design stage of the facility:

- The project ecologist will liaise with NPWS field staff who have experience in dealing with vermin control and bird issues at other facilities in the Dublin area.

- An accredited, professional pest control service will be engaged. Contract conditions will include a requirement for liaison with the project ecologist and NPWS staff, in order to provide advice to the design team on exclusion measures (for example, internal cladding of the waste reception hall to eliminate bird perching/nesting opportunities).

2. Rodent control

A control and monitoring programme protocol will be developed by the pest control service, in consultation with the NPWS and the project ecologist. Copies of the protocol will be provided to the EPA, and will be available for inspection by the public at the offices of the local authority and at an office in the Ringsend/Poolbeg area, together with other documentation relating to the facility as set out in An Bord Pleanála conditions that already apply to the Dublin Waste to Energy facility.

With regard to rodent control, the methodologies in general use include the following:

- Use of snap traps and glue boards, which can be non-specific to target animals depending on deployment location and methods;
- Live trapping provides for the safe release of non-target animals, and humane killing of target animals; and
- The use of rodenticides, which has a well documented potential to result in secondary poisoning of non-target birds of prey and other bird species, which is difficult to avoid entirely through deployment methods.

I note that there is a new type of plant-based rodenticide product that appears not to result in secondary poisoning, but I have been unable to find any reference to scientific studies confirming this. The product is currently recommended by the Barn Owl Trust in Leaflet No 21 Rodent Control, latest revision 2006, which is available on the web-site www.barnowltrust.org.uk.

The pest control service will be required to evaluate all methodologies in drawing up the control and monitoring protocol, and will evaluate rodent populations on the site prior to the commencement of construction. As noted above, a wild fowl monitoring programme is already in place under An Bord Pleanála planning condition 13 (b).

3. Birds

Design measures will limit the potential for birds to enter and remain within the facility building, however bird issues may still arise from time to time. A protocol for responding to bird issues arising at the facility will be developed by the project ecologist in consultation with the NPWS. Copies of the protocol will be provided to the EPA, and will be available for inspection by the public at the offices of the local authority and at an office in the Ringsend/Poolbeg area, together with other documentation relating to the facility as set out in An Bord Pleanála conditions that already apply to the Dublin Waste to Energy facility.

Control of birds will only arise in respect of birds entering and remaining within the Dublin Waste to Energy facility building. The project ecologist will liaise with the NPWS, and when relevant the pest control service, in the event of a requirement to handle or remove birds from the facility building.

All bird species are protected under the Wildlife Acts of 1976 and 2000, and regulations made under these Acts. Derogations from these provisions are

published regularly by the Department of the Environment, Heritage and Local Government, and are available on the NPWS website. The provisions relevant to the Waste to Energy facility are made as a Declaration under Regulation 3(1)(A) of the European Communities (Wildlife Act 1976) (Amendment) Regulations 1986 (S.I. No. 254 of 1986). The Schedule to the Declaration specifies the species which can be controlled, the purposes for which control can be permitted, the period within which such control can be carried out, and the types of methods that can be used. Some methods, for some scheduled species, require a permit from NPWS. It is envisaged that any control of scheduled birds at the facility will require a permit from, and/or notification of NPWS.

I note that any trapping or removal of bird species not listed in the Schedule can only be carried out under a permit granted for that purpose by NPWS.

3.2. SUBMISSIONS RELATING TO THE BIRDS DIRECTIVE (79/409/EC) AND HABITATS DIRECTIVE (92/43/EC)

It has been suggested in some submissions that the EPA licence for the Dublin Waste to Energy Project would be in general breach of the terms of the Birds Directive and the Habitats Directive, with more specific reference made with regard to disturbance to birds in the vicinity of the facility site, particularly in the temporary construction compound. Specific reference is also made to the assessment of the impacts of air emissions on invertebrate and bird fauna in SPAs in Dublin Bay, with regard to potential bio-accumulation of pollutants.

Response

With regard to the assessment of the impact of air emissions on invertebrate and bird fauna in Dublin Bay, I refer to Section 8.2.2 of my Brief of Evidence to the An Bord Pleanála Oral Hearing[1]. The baseline survey of dioxin levels in Dublin Bay sediments, and the potential additional loading arising from the Dublin Waste to Energy Project over a projected 30-year operating period, was assessed in relation to the UK Environment Agency proposed guideline limit value for dioxins in freshwater and marine sediments. This limit value is based on the most sensitive species and life-stage of fauna currently known, which is the early life stage of the fish species *Salvelinus naymacush*. The proposed guideline limit value is based on Biota Sediment Accumulation Factors (BSAFs). These take account of all routes of dioxin uptake, including physical contact with the water column and sediment, ingestion of water and sediment, and ingestion of organic material and biota present in the water

[1] The brief is available on the Dublin Waste to Energy Project website

column and sediment which is the main source of uptake by invertebrates, fish and birds.

Table 5 of my Brief of Evidence to the An Bord Pleanála Oral Hearing lists the UK Environment Agency dioxin limit values for the sediment sampling points in Dublin Bay, together with the baseline dioxin concentration expressed in terms of ecological toxicity (ecotox TEF). These take into account toxicity to wildlife including fish and birds. Invertebrate fauna do not have a biochemical mechanism for the expression of dioxin related toxic effects, since they lack the aryl hydrocarbon (Ah) receptor, which does occur in vertebrate animals. All sediment samples taken in Dublin Bay showed dioxin concentrations well below the UK Environment Agency Dioxin limit values.

Section 8.2.2.3. of my Brief of Evidence to the An Bord Pleanála Oral Hearing considered the potential additional dioxin loading arising from the Dublin Waste to Energy Project as follows:

"Sampling site 5, located on the southern side of the Great South Wall, is located in the vicinity of the maximum predicted deposition rate from the proposed Waste to Energy Project, and was therefore chosen as the site for modelling impacts. Modelling was carried out by Dr Callaghan of AWN Consulting, and is reported in detail in his evidence attached as Appendix 2 to my Brief of Evidence to An Bord Pleanála.

The modelled results showed a predicted increase in sediment PCDD/F concentration from 0.0848 ng/kg as a baseline TEQ, to 0.1071 ng/kg, over a 30 year period operating life of the facility. This theoretical increase is likely to be overly conservative as it does not take into account the impact of sediment transport and removal from the area by tides, with associated dioxin removal. When the existing baseline congener profile of site 5 is taken into account, the likely predicted increase is therefore likely to be from a background of 0.0848 ng/kg TEQ to 0.0898 ng/kg TEQ, an insignificant increase. It should also be noted that even the greater increase to 0.1071 is well below the limit value of 2 ng/kg TEQ for this site, and is also well below the natural baseline value of 1 ng/kg as noted by OSPAR.

Conclusion

On the basis of these results, it is concluded that waterfowl populations, and the ecological integrity and conservation status of the areas subject to Natura 2000 SAC and SPA designations in Dublin Bay, will not be adversely affected by air emissions from the Dublin Waste to Energy Project. With regard to the assessment of impacts, it is considered inappropriate to give an assessment of imperceptible impact[2] because both the baseline dioxin levels and the

[2] Imperceptible impact is defined as an impact capable of measurement but without noticeable consequences (EPA Guidelines on the information to be contained in Environmental Impact Statements, 2002).

predicted cumulative concentration after a projected 30 year operating life of the facility are below the accredited limit of detection of the analytical laboratory. The potential impacts are therefore assessed as neutral. Mitigation and compensatory measures are therefore not required, under the terms of Article 6 of the Habitats Directive."

These issues have been considered during the Environmental Impact Assessment process, and I note that the An Bord Pleanála Inspector's Report includes a comprehensive review of all matters discussed in this regard during the Oral Hearing in 2007. The Inspector's Summary of Assessment *"indicates that the proposed development would not adversely affect the integrity of designated ecological sites in the vicinity."*[3] The EPA Inspector's Report on the Waste Licence Application[4] evaluates the Application documentation having regard to the requirements of the relevant EU legislation, including the Habitats and Wild Birds Directives (1992/43/EEC and 1979/409/EEC), and finds that the Application complies with the requirements of the legislation. This means that the Dublin Waste to Energy Project has been assessed by the EPA Inspector as being not in breach of the Birds Directive, and not in breach of the Habitats Directive.

With regard to disturbance to birds in the vicinity of the facility site, Condition 13 (b) of the An Bord Pleanála grant of approval requires mitigating measures to be taken for wildfowl during the construction of the facility, and a monitoring programme before and during construction, and for a period of at least three years following commissioning of the plant, and is detailed in Section 2.2. of my Brief of Evidence.

I note that the temporary construction compound is zoned for industrial type development, and is currently classifiable as spoil and bare ground habitat ED2, using the Heritage Council Guide to Habitats in Ireland[5] definition.

3.3. OTHER ISSUES RAISED

The pitch and putt course adjoining the Synergen site is referred to in a submission. This area is currently unmanaged and is liable to some flooding. Herons may make opportunistic use of this area, but have not been recorded as nesting within it. Management of the former pitch and putt course is not within the remit of the Dublin Waste to Energy Project.

[3] An Bord Pleanála, Inspector's Report PL29S.CH2061/PL29S.EF2022, page 155
[4] Section 11 page 14.
[5] Fossitt, Julie A. (2000). A Guide to Habitats in Ireland. The Heritage Council.