



**OFFICE OF CLIMATE,  
LICENSING &  
RESOURCE USE**

**Addendum #3 to Inspectors Report on a Licence Application**

<b>To:</b>	Directors	
<b>From:</b>	Dr Jonathan Derham	<b>- LICENSING UNIT</b>
<b>Date:</b>	30 OCTOBER 2007	
<b>RE:</b>	APPLICATION FOR A WASTE LICENCE FROM DUBLIN CITY COUNCIL, CIVIC OFFICES, WOOD QUAY, DUBLIN - LICENCE REGISTER W0232-01	

**Application Details**

Applicant:	Dublin City Council, Civic Offices, Wood Quay, Dublin
Application Register number:	W0232-01
Type of facility:	Non-Hazardous Waste Incinerator/Waste to Energy Facility
Class(es) of Activity applied for ( <b>P</b> = principal activity):	3 <sup>rd</sup> Schedule: 8( <b>P</b> ), 6, 7, 10, 11, 12, 13 4 <sup>th</sup> Schedule: 3, 4, 6, 8, 9, 13
Quantity of waste managed per annum:	600,000 t
Classes of Waste:	Non-hazardous household, commercial & industrial wastes (including sewage sludges and non-hazardous industrial sludges).
Location of facility:	Pigeon House Road, Poolbeg, Dublin 4
Licence application received:	10-7-2006
Third Party submissions:	18
EIS Required:	Yes

Since the Inspectors Report and the two addendum reports for this application were submitted to the Board for consideration on 21<sup>st</sup> July 2007, 24<sup>th</sup> August 2007 & 14<sup>th</sup> September 2007 (respectively), a further three submissions have been received. These related submission were electronically submitted by Mr J McCarthy in three emails sent 15<sup>th</sup> October 2007 (two emails, one formally received on 16<sup>th</sup> due to time sent – 22:40hrs) containing in total three attachments, viz;

- (a) Poolbeg 3 - EIS Climate Models - An Analysis JPMcC-VJ.pdf
- (b) EPA submission - Narrative for Critique of Poolbeg Model 3 JPMcC VJ.pdf
- (c) EPA submission - Narrative for Critique of Poolbeg Model 3 JPMcC VJ.doc

and an email received 26<sup>th</sup> October containing a cover letter and three electronic 'pdf' attachments of workbook spreadsheets.

**Submissions #16, #17 & #18: Joe McCarthy & Valerie Jennings, 52 Claremont Road, Sandymount, Dublin 4. Received 3 September 2007.**

The submissions raise concerns over the release of CO<sub>2</sub> from the incineration process proposed for Poolbeg, and the impact of this in relation to Climate Change matters. The matters under contest in the submission are in many respects similar to those documented in my Inspectors Report Addendum #2 dated 14<sup>th</sup> September 2007, however submissions #16, #17 & #18 provide additional detail and calculation in support of the issues raised. The submissions refer to three iterations of the Poolbeg Climate Model, viz, Poolbeg 1, Poolbeg 2 & Poolbeg 3 prepared by the applicants and submitted to the EPA licence application file as well as to the An Bord Pleanála Oral Hearing for the application. Mr McCarthy's & Ms Jennings' latest submissions deal with the Poolbeg 3 model. The submissions suggest that the CO<sub>2</sub> emissions assessment modelling undertaken by the applicants in their original EIS documentation and in the supplementary information is flawed. Mr McCarthy & Ms Jennings argue with the model input factors adopted by the applicants in the construction of their model (e.g. electrical efficiency, projected electrical export, percentage composition of waste feedstock, CO<sub>2</sub> emission factor, etc.), and they suggest that in-fact their data shows that the waste-to-energy model proposed by the applicants has a CO<sub>2</sub> avoidance of some 100,000t less than that proposed by the applicants. Specifically the submission recommends use of a factor of 61% for dry carbon content of plastics waste, and a factor of 100% for the dry carbon content of material classed as 'other' waste in the feedstock. These factors along with energy output refinements are central to the recalculations presented in the McCarthy & Jennings submissions.

Response: As noted in my Addendum #2 Inspectors Report, the licence applicants (Dublin City Council (DCC)) prepared technical submissions for An Bord Pleanála as part of their rebuttal evidence to the case put by Mr McCarthy & Ms Jennings. These documents were submitted to DCCs waste licence application files in May and July of this year and thus became part of the application and the EIA process. In relation to the modelling, DCC re-ran various emission and climatic scenarios to address third party concerns and critique. In preparing this response I have consulted with and have been advised by Dr Ian Marnane on matters of air emissions and modelling who has expertise in these areas.

The 51% dry carbon content for plastics adopted by the applicants is considered conservative and a value approximating that suggested by Mr McCarthy & Ms Jennings would be more in line with EU and international guidelines/studies<sup>1</sup>. However having regard to the advice of the EPA Resource Use section on the current composition of waste in the 'other' category, it is accepted that the figure used by the applicants (50%) is representative (given that the likes of cooking & mineral oils, tyres, batteries, etc., are now more likely to flow to the recovery stream). In relation to the CO<sub>2</sub> avoided calculation, the EPA accepts the applicants value for a CO<sub>2</sub> emission factor (having regard to UK guidance<sup>2</sup>) and so estimated a CO<sub>2</sub> avoided figure of 177,730t, which is a 6% deviation from the figure presented in the latest model submitted by the applicants to the application documentation.

The new analysis indicates that in terms of CO<sub>2</sub> emissions, landfill with pre-treatment of organics by anaerobic digestion and carbon sequestering (in the landfill) will

---

<sup>1</sup> EU Commission – Waste Management Options for Climate Change; IPCC Guidelines for National Greenhouse Gas Inventories.

<sup>2</sup> UK DEFRA 2007 – Guidelines to DEFRA's GHG Conversion Factors for Company Reporting.

outperform incineration. This view updates the views expressed in my Inspectors report dated 21<sup>st</sup> July 2007.

There are a number of assumptions in this thesis and one of them is that there is 75% recovery of landfill gas for energy recovery. However, in my view the matter is not as simple as that. In relation to the selection of the most appropriate waste infrastructure a broader range of sustainability criteria (including CO<sub>2</sub> emissions) must be taken into account such as land take (footprint of landfill larger than for incinerator), aftercare liabilities/efforts for landfill will span at least three generations, long term leachate and gas management obligations (much greater than the 25 years assessed), operational nuisance risks with landfilling, etc. Moreover it is necessary to have regard to EU principles which rank incineration higher than landfill as a preferred technology.

Another significant factor not considered in the assessments provided by Mr McCarthy & Ms Jennings (and others working in this field of Carbon accounting) is that the fossil fuel saved today as a consequence of using waste to generate energy in a waste-to-energy plant, will consequently be a natural resource preserved for future energy use or perhaps for an alternative use. Again this goes to the sustainability evaluation of both alternatives.

Whilst accepting that the detailed and expert analysis produced by Mr McCarthy & Ms Jennings has added to the evaluation process for the Dublin Coty Council licence application I find that the submission by Mr McCarthy and Ms Jennings has not shown the application to be fatally flawed, nor do I believe, on balance, the arguments raised in their submissions to be substantial enough to warrant rejection of the application.

### **Conclusions & Recommendation**

I remain satisfied with the adequacy of the waste licence application documentation (including EIS, and all other supporting and amending documentation received to date and considered as part of the EIA and Waste Licence Decision processes).

I have considered the matters set out in the submission and I am satisfied that the cited Inspectors Report and Addendums, as well as the RD presented to the Board of the Agency on 21<sup>st</sup> July 2007, address the concerns raised, and recommend that the Agency grant a licence subject to the conditions set out in the said RD and for the reasons as drafted.

Signed

---

Dr Jonathan Derham

Senior Inspector

### **Procedural Note**

In the event that no objections are received to the Proposed Decision on the application, a licence will be granted in accordance with Section 43(1) of the Waste Management Acts 1996-2005.