

Sub. 89.

**Catherine O'Keeffe**

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**From:** Ian Marnane  
**Sent:** 18 April 2007 08:50  
**To:** Catherine O'Keeffe  
**Subject:** FW: EPA\_submission.doc

**Attachments:** EPA\_submission.doc



EPA\_submission.doc  
c (36 KB)

-----Original Message-----

**From:** Shortt, John [mailto:JShortt@shire.com]  
**Sent:** 17 April 2007 21:59  
**To:** Ian Marnane  
**Subject:** EPA\_submission.doc

Ian

Please find submission in objection to proposed Landfill in Nevitt Lusk prepared by Dr Anthony Staines on behalf of Nevitt Lusk action Group.

Please acknowledge receipt.

Thanks

John Shortt  
<<EPA\_submission.doc>>

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School of Public Health,  
University College Dublin,  
Woodview House,  
Belfield,  
Dublin 4.  
11/04/07

Dr. Ian Marnane,  
EPA,  
Johnstown Castle,  
Wexford.

**Observations on Waste licence application Reg No. W0231-01, proposed landfill at the Nevitt.**

Dear Dr. Marnane,

This proposal does not significantly address one major public health hazard, that of microbial contamination of groundwater. The proposed site, based on my understanding of the findings of the hydrogeological studies carried out by the applicants, and by the local community, is on top of a major aquifer, with fractured rock, I believe of the Lucan formation. This aquifer has two major uses at present – it provides a water supply which is abstracted by the Council at Bog of the Ring, and it provides the supply to a large number of private wells in the area. The public health relevance of this is that the main agricultural activity in this area is the production of vegetables, including potatoes, cabbages, broccoli, and many different salad vegetables. A crucial part of the production process is, of course, washing the vegetables, and this is done with ground water from wells. Products include peeled and washed potatoes, washed lettuce, and many other prepared vegetables. I understand that local vegetable producers have contracts to supply hospitals, and nursing homes, as well as supermarkets.

The first question then, is whether it is likely that micro-organisms of public health importance will find their way into the landfill. There are three obvious routes by which this is likely to happen. First, it is proposed to use the landfill to handle sewage sludge from existing sewage plants and the proposed new sewage plant at Portrane; second, a significant fraction of household waste is made up of used babies' nappies; third, another significant fraction of the waste stream is household and commercial food waste, which includes abattoir waste.

The second question is whether it is likely that this material will escape the confines of the landfill cell. I understand that the landfill is double lined, but that the ground underneath the liner will have to be dewatered, to prevent irruption of rising groundwater. I respectfully suggest, that even with the best of practice, some leakage either in handling or from one or more of the cells is essentially inevitable.

The third question, then is whether viable micro-organisms will survive groundwater transport. It is commonly assumed that this does not happen, that during the process of transport through groundwater a variety of chemical and biological processes de-activate essentially all pathogenic micro-organisms. This is the basis, for example, of the usual recommendation of a 100-day inner source protection zone in the zone of contribution for water supplies. Unfortunately, the proposed landfill lies on gravel, and on top of a series of fractured limestones. This means that groundwater transport is likely to be very rapid indeed (tens of metres a day rather than tens of metres a year).

Similar geological and hydrogeological patterns underlay the Lough Owel (26 cases) and Walkerton (2,500 ill, 7 dead) outbreaks.

I attach a copy of the GSI Groundwater Newsletter No. 42, and Chapter 4 of the Walkerton report. I am aware that the Walkerton disaster occurred as a result of surface contamination of a shallow ground water supply, combined with quite extra-ordinary carelessness on the part of the municipal water supply operators. This combination is unlikely to arise from the proposed Nevitt landfill, but I believe that there is a real risk of smaller outbreaks spread by contaminated washed vegetables, and particularly of the more resistant pathogen such as *Cryptosporidium* in the Bog-of-the-Ring water supply.

I believe that the real risks to public health arise from this proposal, and I do not feel that these have been adequately addressed in the EIS.

Yours sincerely,

Dr. Anthony Staines,  
Senior Lecturer in Public Health,  
School of Public Health,  
UCD.

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