

REPORT TO
THE ENVIRONMENTAL PROTECTION AGENCY
ON
THE ORAL HEARING OF THE OBJECTIONS TO THE
PROPOSED DECISION
IN RESPECT OF
THE WASTE LICENCE APPLICATION FOR
A LANDFILL AT KNOCKHARLEY, CO MEATH
REG. NO. 146-1
February 7th, 2003

Mr. Dara Lynott

Dr. Michael Henry

The Oral hearing was held on
September 30th, October 1st, 2nd, 3rd, 17th and 18th, 2002

TABLE OF CONTENTS

ACKNOWLEDGEMENTS.....	
1.0 SUMMARY	1
2.0 ORAL HEARING	5
2.1 OPENING OF ORAL HEARING	5
2.2 PRESENTATIONS OF EVIDENCE	7
2.2.1 Presentation of Dr. Gabriel Dennison, CWL (Applicant).....	7
2.2.2 Presentation of Mr. Martin Curran (objector).....	9
2.2.3 Presentation by Mr. Conor Ffrench Davis (Objector)	10
2.2.4 Presentation by Mr. Vincent Macken (Objector).....	11
2.2.5 Presentation by Mr. Kevin Hannigan on behalf of CWL.	13
2.2.6 Presentation by Mr. Fergus Doonan (Objector).	13
2.2.7 Presentation by Dr. Mary Grehan (Objector).....	15
2.2.8 Presentation by Jack O Sullivan (Representing Fergal O Byrne).	17
2.2.9 Presentation by Fr. David O Hanlon (Representing Kentstown National School),19	
2.2.10 Presentation by Mr. Cathal Gogan, Principle of Kenstown National School.....	20
2.2.11 Presentation by Mr. Pat Finegan (Objector).	20
2.2.12 Presentation by Mr. Patrick Lawlor (Objector).....	21
2.2.13 Response by CWL to issues raised by the Formal Parties et al.....	23
2.3 LEGAL SUBMISSIONS	36
2.3.1 legal submission on behalf of Celtic Waste Ltd.(applicant).....	36
2.3.2 legal submission by Formal Parties to the Objection.....	37
2.4 CLOSE OF ORAL HEARING.....	39
2.4.1 Closing statements	39
2.4.2 Closing comments	42
3.0 RECOMMENDATION.....	43
3.1 PROCEDURE FOLLOWED	43
3.2 RECOMMENDATION AS TO THE GRANTING OF A WASTE LICENCE.....	43
3.3 RECOMMENDATIONS ARISING FROM OBJECTIONS AND ORAL HEARING..45	
3.4 RECOMMENDATIONS IN RELATION TO MATTERS RAISED IN THE WRITTEN OBJECTIONS	61
3.5 OTHER RECOMMENDATIONS (IMPLEMENTATION OF THE LANDFILL DIRECTIVE).....	61
APPENDIX A. PROPOSED DECISION.....	
APPENDIX B. OBJECTIONS TO PROPOSED DECISION.....	
APPENDIX C. SUBMISSION ON OBJECTION.	
APPENDIX D. LETTERS OF APPOINTMENT.....	
APPENDIX E. CORRESPONDENCE	
APPENDIX F. TABLE 1: REGISTER OF PAPERS PRESENTED AT THE ORAL HEARING.	

Acknowledgements

Dr. Michael Henry and I would like to acknowledge and thank Ms Yvonne Clooney, Ms. Ann Bosley, Ms Karen Vaughey and Ms. Ana Bolger for the administrative support services they provided over the duration of the Oral Hearing in the Newgrange Hotel, Navan, and the Wellington Court Hotel Trim, Co. Meath.

I would also like to record my appreciation of the excellent assistance provided to me by Dr. Michael Henry in the preparation and running of the oral hearing.

1.0 SUMMARY

On January 11, 2001, Celtic Waste Ltd. (CWL) made an application to the Environmental Protection Agency, (the Agency), for a waste licence for the following waste activities at Knockharley, Co. Meath

Third Schedule of the Waste Management Act 1996

Class 1: The landfilling of waste in lined cells that are on, in and under land.

- *Class 4:* The use of a leachate lagoon for temporary storage prior to disposal off-site and the use of a surface water pond.
- *Class 5: Principal Activity:* The disposal of waste in lined cells.
- *Class 6:* The possible future pre-treatment of leachate.
- *Class 13:* The provision of a waste quarantine area.

Fourth Schedule of the Waste Management Act 1996

- *Class 4:* The use of recycled construction and demolition waste as cover and/or construction material on-site
- *Class 9:* Utilisation of landfill gas.
- *Class 11:* The use of recycled construction and demolition waste on site.
- *Class 13:* The storage of recycled construction and demolition waste prior to use.

The Principal Activity applied for was Class 5 of the Third Schedule.

This Application was to establish a landfill at Knockharley, Co. Meath for the disposal of residual, non-hazardous household, commercial and industrial waste arising in north-east Leinster. The proposed development is located 7 km south of Slane and 17 km north of Ashbourne in the townlands of Knockharley, Flemingstown and Tuiterrath Co. Meath.

The proposed landfill is designed to receive 180,000 tonnes of waste per annum for disposal over an operating life of approximately 14 years. The development is proposed on a 135 hectare Greenfield site, which would be accessed directly from the N2 National Primary road. The landfill footprint

will be positioned in the centre of the land holding and will cover approximately 25 hectares of the site.

A total of 22 submissions were received during the assessment of the Application by the Agency. A Proposed Decision to grant a waste licence was issued by the Agency on March 28th, 2002. The Proposed Decision is contained in Appendix A of this report.

Ten (10) Objections to the Proposed Decision were received by the Agency from the following parties:

Mr. Fergus Doonan
Mr. Vincent Macken
Mr. Cathal Gogan, Kentstown School, Board of Management
Mr. Pat Finnegan
Mr. Martin Curran
Mr. Fergal O Byrne
Boyne Valley & Newgrange Environmental Protection league
Mr. Conor Ffrench Davis
Mr. Patrick Lawlor
Meath County Council

The full text of these objections is contained in Appendix B of this report. One submission on objections was received on June 25th, 2002 from Meath County Council. The full text of this submission is contained in Appendix C of this report.

Five requests for an oral hearing were received by the Agency (Appendix B). At a meeting of the Agency on June 04th, 2002 it was agreed to hold such a hearing and I was appointed to conduct the Oral Hearing. The Agency also appointed Dr. Michael Henry to assist me. The letters of appointment are contained in Appendix D of this report. Other correspondence is included in Appendix E.

The Oral Hearing was held in Navan, Co. Meath on September 30th, October 1st, 2nd, 3rd and 17th, 2002 and in Trim, Co. Meath on October 18th, 2002.

This is my report on the oral hearing of the objections to the Proposed

Decision. All written material, drawings and videos submitted to the Oral Hearing are contained within Appendix F of this report.

I recommend that a waste licence be granted to Celtic Waste Limited for the following waste activities at Knockharley, Co. Meath:

Third Schedule of the Waste Management Act 1996

Class 1.	<p>Deposit on, in or under land (including landfill): This activity is limited to the deposit of non-hazardous wastes specified in Condition 1.4 in lined cells that are on, in and under land.</p>
Class 4.	<p>Surface impoundment, including placement of liquid or sludge discards into pits, ponds or lagoons: This activity is limited to the storage of leachate in a lagoon prior to disposal off-site at a suitable waste water treatment plant and the use of a surface water pond to control the quality and quantity of the surface water run-off from the site.</p>
Class 5.	<p>Specially engineered landfill, including placement into lined discrete cells which are capped and isolated from one another and the environment. This activity is limited to the deposition of non-hazardous waste into lined cell(s).</p>
Class 6.	<p>Biological treatment not referred to elsewhere in this Schedule which results in final compounds or mixtures which are disposed of by means of any activity referred to in paragraphs 1. to 10. of this Schedule: This activity is limited to possible future biological pre-treatment of leachate subject to the agreement of the Agency.</p>
Class 13.	<p>Storage prior to submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where the waste concerned is produced. This activity is limited to the temporary storage on-site of unacceptable waste (in the waste quarantine area) prior to transport to another site.</p>

Fourth Schedule of the Waste Management Act 1996

Class 4.	Recycling or reclamation of other inorganic materials: This activity is limited to the use of recycled construction and demolition waste as cover and /or construction material at the site.
Class 9.	Use of any waste principally as a fuel or other means to generate energy: This activity is limited to the utilisation of landfill gas.
Class 11.	Use of waste obtained from any activity referred to in a preceding paragraph of this Schedule: This activity is limited to the use of construction and demolition waste on-site.
Class 13.	Storage of waste intended for submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where such waste is produced: This activity is limited to the storage of construction and demolition waste on site prior to reuse.

I recommend that the waste licence for this facility should be subject to the conditions, provided for in the Proposed Decision of March 28th, 2002, as amended and added to by the proposed conditions detailed in Section 3.0, Recommendation, of this report.

2.0 ORAL HEARING

2.1 OPENING OF ORAL HEARING

I opened the Oral Hearing by introducing myself, Dr. Michael Henry and Mr. Barry Doyle and presented our letters of appointment. I stated that Dr. Michael Henry and I carried out a visit to the facility in question on September 24th, 2002 and then gave a short summary of the waste licence application. I listed the objectors to the Proposed Decision, noted the parties present and confirmed their receipt of the objections. At this point I asked all parties whether they intended to call witnesses and requested that a list of witnesses be provided to the chair.

Mr Jarlath Fitzsimons BL represented the applicant, while the other parties to the objection were represented by Mr. Michael O Donnell BL or called experts to speak on their behalf. Representatives of Meath County Council were not present during the Oral Hearing.

The order of presentation was discussed prior to the presentation of evidence, but this was revised with agreement during the hearing. All written material presented at the Oral Hearing are provided in Appendix F (Documents 1 to 37 inclusive) of this report.

Following my opening remarks Mr. Fergal O Byrne (one of the Formal Parties) sought adjournment of the hearing on a number of grounds. These were as follows:

- Significant new information had come to light:
 - A proposed thermal treatment facility had cited the Celtic Waste Ltd. (CWL) Knockharley facility as a potential disposal facility for Bottom Ash (see Appendix F, Document #3).
 - The Environmental Impact Statement (EIS) was flawed as this information was not assessed or addressed in the EIS.
 - Time should be given to review this information.
- New Health studies which had come to light:
 - A report produced by the Small Area Health Research Unit of Trinity College Dublin appeared to suggest health impacts associated

- with Landfills.
- A study commissioned by the Minister of the Environment to investigate health impacts associated with the landfilling of waste.
- The hearing should be postponed until these reports are published.
- An Bord Pleanála Decision:
 - The Bord Pleanála decision on this waste facility significantly alters the proposal before the Agency and the EIS does not take into account the Bord Pleanála decision. The applicant should re-apply to the Agency taking this decision into account.

I refused the request to adjourn as they referred to documents that were yet to be published and not yet in the public domain. I also stated that any objection to how the EIS met or did not meet the requirements of the planning process were not relevant to this Oral Hearing. However I ruled that if the new information/Documents were available I would allow them to be introduced and arguments to be heard.

After Lunch on the first day another request to adjourn was put forward by Mr. O' Byrne on the grounds that there was a significant new development. Following his review of correspondence between CWL and Indaver, Ireland (the proponent of a thermal treatment facility referred to in the first bullet point above) it was his opinion that the nature and tonnage of bottom ash had not been addressed in the Proposed Decision or the EIS. I refused the motion to adjourn as it was not new information and referred Mr. Byrne to the application where both the nature and tonnage of waste was set out, including a reference to waste associated from thermal treatment processes.

On the third day of the oral hearing another request to adjourn was made by Mr. O Byrne on the basis that the report in preparation by the Small Area Health Research Unit of Trinity College Dublin was finalised. This arose after Mr. O Byrne submitted a report purporting to be the final report (Document 14) to the Chair. A subsequent letter from the Author (Document 17) indicated that the report be excluded from consideration. Mr O Byrne argued that it was already in the public domain and that it was unfair to the people of Kentstown that it could not be used. He stated that this was a move to censure documents and went against the image of CWL as a transparent company. Mr. Fergus Doonan, Mr. Patrick Lawlor and Mr.

Gogan supported Mr. O Byrne in this view. I ruled that the hearing would not be adjourned and that I would not accept any evidence on the draft report.

2.2 PRESENTATIONS OF EVIDENCE

2.2.1 Presentation of Dr. Gabriel Dennison, Director, CWL (Applicant)

Dr. Dennison gave a general overview of the application and the proposed activities (see Appendix F, Document #1,2 &8).

Dr. Dennison for CWL, response to issues raised by Mr. Fergal Byrne and Mr. Jack O Sullivan (Representative of Mr. Fergal O Byrne) et al:

Dr. Dennison in his response on how the proposed activities are in line with National and Regional Waste Policy referred to evidence given as part of the planning process. I referred Dr. Dennison to the fact that this was a separate hearing and all evidence should be given directly and not by reference to other hearings. CWL agreed to provide the appropriate people to address the policy issue. However Dr. Dennison did state that CWL never sought to identify the waste needs of Meath Co. Co. but rather to accommodate inter-regional co-operation. He stated that the Local Authority (LA) has a requirement to deal with their own waste, but has no duty to Commerce and Industry in relation to waste capacity provision. Dr. Dennison did not agree that the waste tonnage applied for (180,000tpa) would harm the development of other waste reduction initiatives. He stated that the 88,000 tpa figure referred to by the LA in waste policy documents was an aspirational figure based on the achievement of all their diversion and recycling targets. He noted that quite a number of waste facilities did not accept Commercial and Industrial waste and that this has led to the use of unauthorised activities which in themselves are illegal.

CWL agreed that the proposed activity and the KTK facility were different facilities, but in operation and engineering they were similar and as time progresses the waste streams will become very similar. He indicated that waste to be accepted at the Knockharley facility could not be accepted at the KTK facility due to restrictions imposed by the conditions of the waste licence in force at KTK.

CWL stated that the treatment of waste prior to acceptance at the Knockharley facility will meet the legislative requirements and indicated that further information would be supplied.

On the subject of how the facility would reduce and minimise the effects of greenhouse gases, Dr. Dennison referred to Sections 2.2 and 4.2 of the EIS. The referenced sections were in Mr. Jack O Sullivan's opinion vague and imperfect as they did not describe in any detail the proposed methods of flaring or energy utilisation. Mr. Declan O Sullivan of Fehily, Timoney & Co. (consultants representing CWL) stated that the requirements of the Proposed Decision were such that passive venting of the landfill gas was a requirement followed by energy recovery. In the interim period carbon filters will be installed on the vents to abate odour and these filters will be maintained on a regular basis. The landfill will be engineered to prevent migration of landfill gas. (The Chair asked for information to be provided on any impacts that may occur in the period between passive venting and a switch to active venting).

In relation to health CWL stated that the landfill will only accept Non-Hazardous waste and will be designed and operated in accordance with Best Available Techniques (BAT). In addition, the proceedings of the 1999 Sardinia International Waste Management and Landfill Symposium and the Lancet report were cited and it was noted that these were also cited in the Inspectors Report (The report to the Board of the EPA that accompanied the recommendation for a Proposed Decision). (The Chair asked that discussion on the EUROHAZCON and other studies be deferred until Mr Jack O Sullivan could provide a copy of these).

On the subject of how waste entering the proposed facility will be treated, CWL stated that the definition of treatment is given in the Landfill

Directive and this includes sorting as a method of treatment. There is a wide range of facilities in the Dublin region licensed by the EPA and many facilities were coming on-line. In addition, waste may also be treated at source. However, no further clarification on what constitutes waste treatment has been forthcoming from the Commission.

Mr. Declan O Sullivan representing CWL stated that the Waste Management plan for the North East Region refers to the provision of suitable waste facilities and listed the number and types of facilities required (e.g. management of green waste, material recovery, construction and demolition, thermal treatment and transfer station facilities). In response to the specific question of waste treatment capacity, Dr. Dennison referred to a number of existing facilities acquired by CWL and the potential development of an 11-acre integrated waste facility at Ballycoolin in Fingal.

(The Chair asked Dr. Dennison to confirm that all waste entering the proposed facility will be treated.) In reply Dr. Dennison stated that all waste would be treated to meet the requirements of the Landfill Directive. He stated that the licence includes the requirements of the Directive and CWL will comply with the Licence.

Dr. Dennison outlined the provisions of the Government policy documents on Waste. Mr. Jack O Sullivan stated that the application had a focus towards the Changing Our Ways document rather than the Delivering Change Document (which has minimal references to landfill).

Mr. Declan O Sullivan stated that the period of landfilling would be up to 30 yrs. (At this point the Chair clarified for the hearing that this application referred to 180,000 tpa for disposal and a 14 year life-span; the annual waste tonnage figures referred to by third parties related to the planning process.)

2.2.2 Presentation of Mr. Martin Curran (objector)

Mr. Curran began by asking a series of questions of CWL

- i. Could CWL give a precise distance from his dwelling, as the drawing provided specifies that they are not to be scaled. The distance portrayed appeared to vary from drawing to drawing.
- ii. What interaction had CWL with the property agent Jackson Stops
- iii. What planting arrangements would be in place in the area adjacent to

his property. Mr Curran referred to his submission on landscaping (see Appendix F, Document #5) and stated that the planting should provide shelter and screening, the width of planting should be 85m not 50m, it should be similar to Flemingstown wood and be developed as a heritage area.

Mr. Declan O Sullivan, of the consultants Fehily, Timoney & Co. for CWL, response to the scaled drawings issue raised by Mr. Curran.

Mr. Declan O Sullivan referred to the maps that formed part of the application and EIS and the scale of these maps. He then measured out 250m from Mr. Curran's residence to the footprint of the Landfill. Mr. O Sullivan agreed to provide a scalable map for the hearing. Dr. Dennison stated that the distance between the landfill footprint and the nearest occupied residence was determined with reference to the Draft EPA Guidance Document on Landfill Site Selection.

Dr. Dennison confirmed that he had directed the Property Agent Jackson Stops to investigate the options for purchase of residential properties in the Area. (The Chair directed Mr. Curran to focus his questions to this oral hearing on relevant issues and not on what had taken place during the planning process).

CWL noted that they would be able to provide a representative to speak to the issues raised by Mr. Curran on landscaping.

The Hearing adjourned at 4:25pm and reconvened at 9:45am on Tuesday October 1st, 2002

2.2.3 Presentation by Mr. Conor Ffrench Davis (Objector)

Mr. Ffrench Davis stated that he lived in the townland of Knockharley for 35yrs, practised as a vet and had a farm that was in proximity to the northern boundary of the proposed facility. The boundary of his land is less than 100yds from the landfilled area at the nearest point. (This was clarified later on in the proceedings as a distance of 121m).

As part of the groundwater investigation CWL sampled his well. He stated that to base groundwater quality on a single sample was not satisfactory. Mr. Ffrench Davis had his well sampled privately on two other occasions. The results of analysis on the sample taken by CWL were higher than the results

of analysis on the two subsequent samples taken privately by Mr. Ffrench Davis (The CWL sample indicating a poorer groundwater quality). (*See Appendix F, Document # 6&7*).

Section 5.19 of the draft EPA manual on Site Selection indicates that no dwelling should be constructed within 250m of a landfill. The location of the proposed landfill infringes on his rights to develop his land. He stated that his land is being included in the Buffer Zone. The planning permission for the proposed facility requires a distance of 250m between the landfill footprint and the adjacent properties to the North. He therefore strongly objects to the building of the last two cells to the North of the facility. He indicated his desire to have free use of his land.

Mr. Ffrench Davis response to Mr. Fergal O Byrne Mr. Jack O Sullivan Mr. Patrick Lawlor and Mr. Martin Curran.

This proposal would sterilise his land for future use if the two northern cells were progressed. Stock grazing close to the northern boundary would experience methane drift on a still day and Mr. Ffrench Davis's property would be downwind of the prevailing wind. Any farmer would be restricted if he wished to go for the premium outlets given the customer's right to traceability. Therefore he is going to suffer. This perception would also apply to suppliers growing produce in this area. There would be a danger of an escape of leachate and pollution to water. He does not accept the CWL assertion that private wells are polluted in the first place. He is concerned about the disposal of bottom ash and in particular heavy metal leaching into groundwater. He stated that livestock and particularly dairy cows should also be given some buffer.

Mr. Declan O Sullivan for CWL, further response to the scaled drawings issue raised by Mr. Curran.

The map to use, as a reference, was the map included in the application. The scale of this map was 1:3750. Mr. Currans residence was the control point for determining the location of the landfill footprint at a distance of 250m (A revised map was asked to be submitted to the hearing that indicated the 250m distance from the landfill foot print). Mr. O Sullivan stated that the distance from Mr. Ffrench Davis's land to the landfill footprint was 121m.

2.2.4 Presentation by Mr. Vincent Macken (Objector).

Mr. Macken began by quoting from the Planning Regulations and went on to

state that CWL had no claim or right to use his land as a buffer zone. His land is used for tillage and cattle, he is part of the grain assurance scheme. All cattle are traced to the fields they are raised in. If any pollutant is found in their grain or cattle it would have a large impact. The current buffer zone will allow cattle to graze within 100m of the landfill footprint. Cattle will be more susceptible to pollution. He stated that we are what we eat.

There is a stream running from the Macken land onto the landfill site. Any rise in groundwater levels could flood the ground and have an impact on his ability to grow crops. Were any tests carried out on groundwater levels and when were these done?

Mr. Macken's response to questions from Mr. Martin Curran, Ms. Carol Davis Mr. Conor Ffrench Davis and Mr. Patrick Lawlor.

He was not aware of any undertakings given that insurance would be provided for claims arising from pollution to grain. In his view the location of the landfill site adjacent to his farm will mean that he will be excluded from the premium markets and will in future be restricted to the general markets for his produce.

Mr. Kevin Cullen, of the consultants White Young and Green for CWL, response to groundwater issues raised by Ms. Carol Davis, Mr. Jack O Sullivan, Ms. Carol Davis, Mr. Pat Finnegan and Mr. Patrick Lawlor.

Mr. Cullen stated that a series of shallow and deep boreholes had been installed and that excavation to the landfill foundation level will require lowering of the water table, but this will be limited to the area of excavation with no impact outside the landfill property. He explained the proposed site drainage and the diversion of the Knockharley stream by a weir mechanism to the surface water pond in the event of contamination occurring. He stated that there was a very high water table onsite. With regard to baseline groundwater quality he stated that bedrock water quality was protected by the layer of clay under the site and indicated low concentration of nitrates and elevated metals, which is consistent with no oxygen being present. The shallow groundwater indicates elevated levels of certain parameters consistent with agricultural pollution.

Mr. Cullen stated that there was glacial till on-site made up of a range of

materials. Risk of suspended solids entering the surface waters downstream of the proposed activity would be minimised by diverting to the settling pond. There was adequate storage in the pond and any contaminated surface water could be pumped back into the landfill. Any water in contact with waste will be treated as leachate. Emission limits will be applied to the discharge from the surface water pond and discharges will only take place when it is acceptable to do so. Settleability of suspended solids in the pond would not be a problem at this site given the materials on-site. There was no evidence of pollution due to the exposed clay visible in the deeply incised drainage ditches. Any stagnation would be countered by the planting of suitable plant species. During construction, groundwater levels would be drawn down. After construction and during operations, leachate levels will be controlled at 1 meter above the liner.

2.2.5 Presentation by Mr. Kevin Hannigan on behalf of CWL.

Mr Hannigan gave an overview of his submission (See Appendix F, Document # 4) He stated that since the publication of the *Changing Our Ways* policy document in 1998 the volume of waste has risen. Current waste arisings are at the predicted level for 2006. There will be a shortfall in landfill capacity until 2012. If the facilities for recycling and thermal treatment are not in place this shortfall will be greater.

Mr. Hannigan response to questions from Mr. Fergal O Byrne and Jack O Sullivan.

Mr. Hannigan stated that he did not have reference to the base year of 1995 (Eurostat standardised data) as outlined in the Landfill Directive. (This Directive requires that by 2016, biodegradable municipal waste going to landfills be reduced to 35% of the amount produced in 1995). He could not outline how these requirements were incorporated into his waste volume projections.

2.2.6 Presentation by Mr. Fergus Doonan (Objector).

Mr Doonan stated that he lives to the east of the proposed facility and that his main concern is that he is in the path of the prevailing winds from the facility. In addition to this he has concerns about the following:

- Dust during construction - how will it be monitored and at what frequency? The dust levels from a 15m high facility are of concern to him.

- Landfill gas - what protection is there during natural venting?
- Odour and fumes from the landfill.
- Leachate lagoon and monitoring of leachate particularly if bottom ash is accepted at the landfill. Will the leachate lagoon be able to cope with high rainfall?
- The location of the landfill gas flare in relation to his house.
- His 20 yr. old house has no gas barrier, is there a warning system planned?
- How often and how will they monitor for gas emissions?
- How would noise be controlled and monitored during construction?
- Falcons and the risk to small children near by.
- What system will be in place to stop surface water run-off going to his property?
- What provision is there in the event of a fire, particularly with landfill gas emissions and the Bord Gais gas main traversing the south of the facility.
- Given the restrictions placed on this site by the electricity transmission lines, the gas line and the proximity of the houses what other sites were looked at? There are 350 acres to use, yet all of the infrastructure is located behind his house.

Mr. David Dodd, of the consultants White Young and Green for CWL, response to the dust and noise issues raised:

Mr. Dodd referenced the sections of the EIS where dust monitoring locations were identified. He indicated that the prevailing wind was from the South/SouthWest and that monitoring of dust would be done over a period of a month, 3 times/yr and PM_{10} would be done annually. Monitoring would begin 1 month before construction starts. During construction works, water bowsers will be used and stock piles will be irrigated or covered as described in Section 4.2 of the EIS. He stated that site management is important and there would be a weather station at the site. The baseline monitoring indicated that there is dust associated with farming particularly due to tillage farming. Results of monitoring will be available and mitigation measures will be increased if necessary. He was not aware of any particular problems associated with receiving bottom ash when the landfill reaches the 15m high final profile. Quenched ash is usually received. He could not refer to the section of the EIS where ash was specifically dealt with as a dust issue. He stated that there should not be any major difference between the

receipt of baled and loose waste in terms of dust generation. He did not see the need for monitoring for dioxins or heavy metals as the ash would be deemed non-hazardous. However he agreed that better practice would be to review the frequency and location of dust monitoring.

2.2.7 Presentation by Dr. Mary Grehan (Objector).

Dr Grehan is a GP in Co. Louth and she stated that she is concerned about the health (miscarrages, asthma, stillbirths, cancer) of residents living adjacent to landfills and in particular she made some assertions about the rate of cancer adjacent to the one landfill in Co. Louth. (The Chair asked her to provide references to substantiate these claims. References were not submitted). She was also concerned about the stress associated with living next to a landfill and the resulting associated illness. (See Appendix F, Documents 10 & 11)

Dr. Grehan's response to questions from Mr. Patrick Lawlor, Cathal Gogan, Fergal O Byrne, Mr. Pascal Sheridan. (see Appendix F, Document 12)

Dr. Grehan stated that stress reduces the effectiveness of the immune system, which can lead to other illnesses. Stress could be in the form of dealing with falling property values, trying to borrow against a depreciated property. This could be termed an indirect effect. In relation to the impact on the local Kentstown school Dr. Grehan said that pupil numbers will fall, ovaries can be damaged, the incidence of asthma will increase and in a small gene pool like this locality the effects could be felt on the children's children. Dr. Grehan believed that the distance from the proposed landfill to the residences was too small.

Mr. Jarlath Fitzsimons BL for CWL, stated that the health studies submitted were in relation to Hazardous waste sites. Mr. Jack O Sullivan stated that the direct, indirect and cumulative effect do not appear to be addressed in the EIS and he referred to the EUROHAZCON study where reference is made to the risks between hazardous waste sites and other sites.

The hearing was adjourned at 4:35pm and reconvened at 9:50am on Wednesday October 2nd 2002.

Mr. David Dodd for CWL, response to dust issues raised by Mr. Fergus Doonan and Mr Patrick Lawlor:

Mr. Dodd outlined the proposed six monitoring locations and frequency (3times/yr) of monitoring for Total Dust as outlined in the Proposed Decision and also the monitoring requirements for PM₁₀ (annually), (See Appendix F, Documents 9&13). Mr. Dodd stated that final locations would have to be agreed in accordance with the PD. The location of Dust monitors is restricted on the basis of interference from hedgerows. Mr. Dodd could not comment on the interaction between the landscaping plan and the need to install dust monitors with a suitable clearance. Mr. Dodd concurred that, given the size of the site and the location of residences, increased dust monitoring locations and frequency could be accommodated. A subsequent review of the monitoring programme could be completed if no impacts were determined. He noted that the Proposed Decision allowed for operational measures to be put in place in the event of high wind speeds. Mr Dodd could not comment on what typical wind speeds would require the landfill to cease accepting waste. Mr. Dodd could not comment on the quantity or quality of site inspection that would be provided by the EPA or respond to the comment that the EPA should be there 5 days per week or indeed permanently. Mr. Dodd could not comment on the ability of dust to travel large distances such as "Sahara red dust", but that in his opinion the buffer in addition to the use of landscaping was sufficient to prevent migration of dust off-site. Mr. Lawlor stated that the reliance on CWL to do most of the monitoring is an insult and a qualified person should be on site 5 days/week or on a permanent basis.

Mr. Dodd went on to deal with noise management and abatement raised by Mr. Fergus Doonan, Mr. Fergal O Byrne and Mr. Fiachra O Cinneide (Tara Mines Residents Committee)

Mr. Dodd indicated that the highest emissions of noise would be during the construction period of 10 weeks and during the construction of the underpass. He stated that during construction of cells the emissions will be limited to 45dBA and 55dBA as specified in the PD and in accordance with World Health Standards (WHO). He stated that there would be 3-4 noise assessments at the site boundary during the construction period. The monitoring frequency would reduce during the operational phase. Mr. Dodd could not comment on the need for 24hr/7 days/wk monitoring of noise as is specified in the IPC licence granted to Tara Mines, but he indicated that the size of the activity would be quite different to the proposed activity at Knockharley. Mr. Fergal O Byrne disagreed and stated that the proposed

landfill facility would be similar. Mr. O Cinneide outlined the requirements of the Tara Mines Licence (Bergerhoff gauges, dust directional gauges, 24/7 noise monitoring, free access and availability of records). CWL noted that it was a 24hr operation unlike the proposed facility and that any records will also be made available at the site office.

Mr. Declan O Sullivan for CWL, response to leachate issues raised by Mr. Fergus Doonan, Mr. Bohan, Ms Carol Davis, Mr Fergal O Byrne, Mr Pat Finnegan and Mr Patrick Lawlor: (see Appendix F, Document 15)

Mr. O Sullivan began with a general overview of the proposed leachate management onsite outlining the use of continuous leachate monitoring, a lining system, a pumping mechanism, the capacity of the leachate lagoon and the options available for treatment off-site. Mr. O Sullivan responded to concerns raised about the ability of the leachate system to handle contaminated surface water diverted from the surface water pond during large rain events by stating that the capacity of the stormwater pond was originally designed for a 24hr/20year storm (or a pond capacity of 9,300m³). On advice from the landscape architects it was decided to make a landscape feature and increase the pond capacity to 47,000m³. Thus the need for diverting surface water to the leachate management system is quite remote. The leachate lagoon will be covered with a floating liner and the tankers will draw leachate from pipes located under the cover to minimise odour. In regard to the life of the HDPE liner Mr. O Sullivan indicated that while he did not have an exact figure the liner is subjected to a series of accelerated tests for endurance and this is a technology specified in the Landfill Directive.

Dr Dennison for CWL response to treatment of leachate issues raised by Mr Fergal O Byrne.

Dr Dennison stated that they had letters of commitment from Louth County Council WWTP in Dundalk also from Meath County Council and Dublin City Council (Ringsend WWTP) to accept leachate for treatment. Dr. Dennison responded later that he had not specifically alerted the Local Authorities that they would be accepting bottom ash. In his opinion it would be premature to do so as no contract had been made to accept the ash and in any event all ash will be non-hazardous. (See Appendix F, Documents 16 &19)

2.2.8 Presentation by Mr. Jack O Sullivan (Representing Mr. Fergal

O Byrne).

Mr. J. O Sullivan began by reading into evidence his submission (See Appendix F, Document 18). He submitted that the proposed activity should be refused on the basis of risk to congenital abnormalities in the area. The precautionary principle should be invoked. Mr. O Sullivan argued

- That co-disposal of incinerator ash and municipal solid waste should be prohibited.
- That the Agency take into consideration the direct and indirect health effects of the proposed landfill on residents.
- That the Agency seeks additional information on how the applicant will comply with the restriction placed upon it by An Bord Pleanala and the subsequent effect on management, operation and financing of the proposed landfill.

If in the event that the waste licence goes ahead, the Agency should require the applicant to conduct a detailed epidemiology study in the area 2-3 km around the proposed facility to determine the health of the population. The Agency should set as a condition the requirement to post an insurance/indemnity which would be available to people if they suffered ill health associated with the proposed landfill.

Mr. Jarlath Fitzsimons, for CWL, response.

The conclusions on page 8 of the submission were not relevant, as the Agency's decision is not dependent on other authorities such as An Bord Pleanala.

Mr. J. O Sullivan's response to questions from Mr. Fergal O Byrne, Mr. Patrick Lawlor and Mr. Fergus Doonan.

Mr. J. O Sullivan stated in his review of medical studies on Landfills that health effects were always present if the studies are epidemiologically or statistically sound. There is a commercial need to establish landfill, but we need to invoke the precautionary principle. Once the landfill is established then these effects can occur. Stress is also a contributory factor. He stated that new developments should be held off until the expert group completes its study commissioned by the Government and that in the meantime landfills should be sited at large distances from residences (up to 10km) and emphasis should be placed on waste minimisation/reduction at source. The Case of McGarry and Others Vs Sligo Co Co. 1989 (1991 Irish Law reports) was cited.

Mr J. O Sullivan stated that, in relation to cattle adjacent to the proposed facility, cattle are continuously ingesting material from the grass, if pollutants are fat-soluble they will end up in the milk. The average cow is stressed due to the large quantity of milk that it produces. Any additional stress due to pollution could result in a loss of thrive and a deterioration in milk quality and quantity. The milk quality required is very high and milk producers could be concerned about retaining that quality. Dairy farmers have received letters from dairies in relation to risks. Birds and flies can carry pathogens and drop contaminated materials or defecate into drinking troughs. There is a level of risk associated with this. Old landfills were often the subject of litigation by residents. Newer landfills can be operated well and are limited to residual wastes. Mr. O Sullivan stated that there is a quantifiable elevation in risk associated with residences adjacent to landfill. The depression of house prices adds to the stress associated with living near a landfill. This direct effect on people living near landfills should be compensated as indicated in the ERSI report (See Appendix F, Document 36).

2.2.9 Presentation by Fr. David O Hanlon (representing Kentstown National School).

Fr. O Hanlon is chairman of the Kentstown Board of Management. He stated that the school had been airbrushed out of the picture and even though the facility was 600m from the school it is not referenced in the literature. There are 167 pupils and 7 teachers in addition to a Montessori School bringing the number to approximately 190 pupils. Children are particularly at risk. They will be exposed 9:00am -3:00pm 5 days /wk. (It was clarified that Fr. O Hanlon appeared to working off the Meath Co. Co. EIS associated with WL#103-1). Fr. O Hanlon had specific concerns regarding

- litter, vermin, rat infestation, seagulls interacting with children,
- botulism infected wastes, faeces and excretions of vermin attracted by half eaten food, insects and flies,
- fine clay being carried by wind, inability to hold classes outside, miasmas and nausea, aerosol pollution,
- noise impacts,
- health of the teachers,
- enforceability of the traffic restrictions,
- toxic nature of waste loads,

- will there be compensation to protect the integrity of the school, installation of physical barriers, fly screens, employer liability, will insurance be provided by CWL,
- What specific response will be given by the Agency?

Fr. O Hanlon response to questions from Mr. Patrick Lawlor, Mr Fergus Doonan and Ms. Carol Davis.

Fr. O Hanlon expressed concerns about the future of the school and that a number of parents have withdrawn their children from Kentstown School. He stated that a nearby school has already been abandoned. He believes that parents moving into the new housing development in Kentstown may withdraw their children also. Some of these were unaware of the proposed development. There is also difficulty in recruiting new teachers, this may be more difficult if there are health concerns.

2.2.10 Presentation by Mr. Cathal Gogan, Principle of Kenstown National School

Mr. Gogan stated that:

- A procedure should be put in place to monitor the health of the children on a monthly basis
- Children (3-12 yrs old) are very vulnerable. Nobody has taken the health of the children into account
- Very worried about the effects of transporting 30,000 tonnes of incinerator ash by road
- The minimum checking of dust by CWL is not adequate
- Things will go wrong and the children will pick up the tab for this as being the most vulnerable.
- He noted the failure of Meath Co Co to show up at this hearing.

Mr. Doonan referred to the fact that not only will his children be living close to the proposed facility they will also be going to school near the development. Ms. Davis read out a definition of the precautionary principle (see Appendix F, Documents 20,21 & 22)

2.2.11 Presentation by Mr. Pat Finnegan (Objector).

Mr. Finnegan stated that the Buffer zone is using his land, his land is 600yds from the school, $\frac{3}{4}$ mile from the N2 and 20 miles from Dublin and therefore is prime development land. This proposed landfill should not impinge on his

right to develop this land in the future. He stated that the surface water pond is associated with the landfill and therefore cannot be used as part of the buffer zone. He stated that the Knockharley stream should be diverted and should be monitored at the surface water discharge point. He asked when would the sluice gate be shut? The monitoring of this stream should be on a daily basis. He grows vegetables and is concerned about dust on his vegetables emanating from the landfill. He is concerned that the surface water pond will become stagnant and that birds associated with the landfill activity would attack his crops. He stated that land values would tumble.

Mr Finnegan's response to questions from Mr. Cathal Gogan, Mr. Patrick Lawlor, Mr. Fergus Doonan.

Mr. Finnegan is concerned that there will be flooding on the Barnabean river that feeds the Knockharley stream from the west. He is also concerned that he will be restricted from building on the land within the 250m buffer.

The hearing was adjourned at 5:35pm and reconvened at 9:30am on Thursday, October 3rd, 2002

2.2.12 Presentation by Mr. Patrick Lawlor (Objector).

Mr. Lawlor lives and farms 900m to 1 km to the west of the proposed landfill and also immediately to the North of the landfill site. He wished to reiterate his concern that the oral hearing was not recorded and that the Chairman may be subpoenaed in future to Court. He stated that he is a father with a family of six. He has 160 cows, which produce 4,000 pints of milk for Glanbia. He has responsibility as a farmer to guarantee the safety and quality of his food given the health requirements and litigative nature of the public. He needs a good water supply and he is worried about the risk to water. Samples of the water are sent to the Health Board. A cow needs 6 gallons of water to produce 1 gallon of milk. For this purpose he has an underground well up gradient of the site. His water is exposed to the atmosphere (in water troughs) for long periods of time. He is concerned about the impact of vermin, rats, foxes, crows, seagulls and litter on the quality of his water. He needs to make a profit to educate his family and to pay the bills. He has two sons who by choice are joining him in farming. He has a Holstein genetics business and his cows are a sought after American breed. He has buyers from all over Europe for his cattle. He is concerned about the genetic damage that this proposed landfill could do which is a non-threshold event and will carry through to the next generations. 50 of the

160 cattle are Holsteins of high genetic value.

At this stage Mr. Lawlor introduced Mr. John Harrington an auctioneer for 30 years with Smith Harrington. The firm sells land, houses, commercial properties and also leases land. His family had been in business since 1870 and Mr. Lawlor had purchased the present farm in 1937. He is familiar with Mr. Lawlor's farm and residence.

Mr. Harrington's response to questions from Mr. Lawlor, Mr. Doonan, Mr. Finnegan and Mr. O Byrne.

In Mr Harrington's opinion the proposal will have a substantial impact on Mr. Lawlor's land value. Different people buy land. The number of people interested in buying land will be lessened by this development. He was aware of one sale that had fallen through as a result of this development. With two sons of Mr. Lawlor's entering the business he will need to enlarge and this development will impact on Mr. Lawlor's ability to raise capital.

Mr Harrington referred to Mr. Doonan's house as well built and he believed it to be unsaleable or would require a serious drop in the sale price. He estimated that Mr. Finnegan's ability to develop would be hampered by as much as 50%. He estimated that Mr. O Byrne's property may be deflated by as much as €50,000.

In reference to Section 4.12.2 of the EIS on material assets he stated that the Auctioneer quotes included in the Section could be from auctioneers acting on behalf of building developers and so would minimise the loss. At the sale of a building 2 miles away worth €250,000 the landfill question was raised and a statement from an architect was sought. In terms of new developments the landfill will result in more high density low priced houses as the larger bigger houses will take the biggest impact. He is also aware of a site that was sold, planning permission was sought but the sale fell through.

Mr Jarlaith Fitzsimmons for CWL stated that land values and zoning were not for consideration by the Agency.

Resumption of presentation by Mr. Patrick Lawlor

Mr. Lawlor stated that he is 8 yrs opposing the dump. He has no option but to fight it. He is a hostage to the situation, he cannot get out, he has no other choice but to stay where he is. Mr. Jack O Sullivan presented the evidence on Health. The onus is on the chairman to relay this to the Agency.

Mr. Lawlor went over the definition of the Precautionary principle and referred to Article 174 of the Maastricht Treaty - "The policy of the EU shall contribute to pursuit of the following objectives: - preserving, protecting and improving the quality of the environment - protecting human health". This proposal is against this tenet. You also have to take into account the precautionary principle and that the polluter should pay. This proposal should not go ahead in order to prevent the need for any abatement. (see Appendix F, Documents 23&24)

The EIS is supposed to be a integrated approach (The Chair informed Mr. Lawlor that the hearing could not deal with the way in which any legislation is promulgated). Stress is an indirect effect of this landfill. Dr. Dennison was asked what he proposes to do to compensate for net loss to his business and what does the Agency propose to do about it in the event of granting a licence. Celtic waste had to take a business decision to get into this activity, this is a large risk and it will be open to massive action. These decisions are effecting our lives, what do CWL intend to do about it.

He stated that he was 50 years a practising Catholic and a Christian. The two basic tenets he holds are not to do onto others what he would not have them do onto him and live and let live. He asked Dr. Dennison to think carefully with his friends and family and to ask his staff to think on the effect this proposal would have on his (Dr Dennison's) neighbourhood. To the chairman he stated that a protocol is being followed for this oral hearing but when the Oral Hearing report is written that protocol must not get in the way of this decision. He stated that he is chairman of the Kentstown IFA and many feel as he does. This project should be thrown out and has no place in society. The Chairman has a very important decision to make. He stated that they have not exhausted all their options in regard to fighting this proposal.

**2.2.13 Response by CWL to issues raised by the Formal Parties et al
Mr. Kevin Cullen for CWL, response on buffer zone issues raised by Mr. Fergal Doonan et al.**

Mr. Cullen outlined the process by which the footprint was identified by offsetting 250m to the nearest residence and allowing for 100m surrounding the footprint as a buffer. This agrees with the requirements of Annex 1 of the Landfill Directive. He stated that he had regard to the Draft EPA

Guidance Manual on Site Selection, the Landfill Directive and (Geological Survey of Ireland) GSI Publications. He stated that the Landfill Directive is lacking in numbers in regard to setbacks but the requirements were taken into account, although he had no documents to present on how it was taken into account. The footprint was optimised by considering tonnage, depth, height, buffer zones, gas and electricity way leaves.

At this point video evidence was introduced by **Mr. Olin Herr**. **It referred to the waste recycling and separation in place in Halifax, Nova Scotia** which results in a large proportion of biodegradable and recyclable material being removed from the waste stream prior to disposal in a residual landfill. The landfill has less odour emissions as a result. High standards of liner installation were implemented. Mr. Herr stated that higher levels of recycling were achievable and that a number of initiatives were coming on line associated with the Dundalk Civic Amenity Compound. (See Appendix F, Documents #25,26,27&28)

Mr. Declan O Sullivan for CWL, response on site suitability issues raised Mr. Fergal Doonan et al.

Mr. O Sullivan stated that the wayleave on the gas line to the south of the facility required that all infrastructure be placed away from the line. Bord Gais were consulted on this (see Appendix F, Documents #29&35). The ESB have a minimum set back distance on the basis of the voltage carried. The leachate lagoon had to be located to the east of the facility to allow the leachate to be drawn off by tanker. The gas flare was located to the east for convenience of access but Mr. O Sullivan could think of no particular reason why it could not be located either west or east of the facility.

Ms. Derbhla Ledwidge, of the consultants White, Young and Green for CWL, response on ecology issues raised by Chairman.

Ms. Ledwidge stated that the smooth newt is protected under the Wildlife Act and if found would be transferred to a suitable pond. Still ponds are a suitable habitat. Bats were also identified flying overhead. A common bat species known as pistol bats were identified but no habitats for bats were identified on-site. Some trees were identified as temporary roosts during the summer. If any roosting sites are discovered the tree will be removed under the supervision of a bat specialist and the tree left for 24hrs to allow an alternative roosting site to be sought by the bat. There was no shortage

of potential roosting sites in the area. No Barn owls or roosting sites were identified on-site. Upon identification trees would not be removed between March and August as per the 1996 Wildlife Act as amended by the 2000 Act. Advance works can be scheduled to deal with these requirements.

Section 2.7.3.3 of the EIS was referred to. The hedgerows were examined and given a recognised ecological rating. Hedges of highest ecological rating will be retained to the East of the site, however some will be removed to the North of the site. Only hedgerows within the footprint will be removed. (See Appendix F, Document 30)

No badger sets or hare borrows were identified on-site; however, a set was identified off-site. Concerns were raised that a disturbed badger set would aid the spread of TB in cattle. It was suggested that the Department of Agriculture be consulted on the need for TB testing of the badgers.

In regard to Flemingstown wood which is listed in the Meath County Development Plan as an area of scientific interest and pNHA. Duchas were consulted and had no objections to the development.

Various specialists carried out the ecological survey. The duration of the ecological survey was 2 days with the area split up into sections. Ms. Ledwidge considered this an adequate duration.

Ms. Derbhla Ledwidge for CWL, response on vermin control and bird control issues raised by Mr Fergus Doonan, Kentstown School Board of Management et al.

Baiting will take place such that bait will not be available to larger animals. The vermin control will begin prior to construction and it is hoped that any problems associated with vermin will be avoided rather than prevented. In regard to vermin travelling off-site to die and in particular travelling to water sources such as water troughs and the river. Ms. Ledwidge indicated that off-site patrols will take place and she would consult with the specialist in regard to the best measures to take to prevent impacts on local rivers. Ms. Ledwidge stated that she would have no difficulty in consulting with residential groups regarding control of Vermin or on the type of rodenticides to be used in order to prevent knock-on effects. She was not aware of any insecticides/rodenticides that would prevent knock on effect although they would have no objection to their use. Dr. Dennison stated that

CWL would employ a vermin control specialist and they would be amenable to consultation with local groups.

With regard to concerns for the safety of children when using Falcons for bird control a number of people were consulted including the proposed falconer, an ornithologist and a professor of zoology. None were aware of any instance where a falcon posed a treat to children.

Bird control would be effected by minimising exposed waste and using a system of taut wires at the surface water pond. Concerns were raised about the use of bangers and that any bird control methods to be used, should be in consultation with residents. The success of controlling birds will be measured by completing bird counts and recording the location, time and species of birds observed.

Ms. Derbhla Ledwidge for CWL, response on disease transfer and fly control issues raised by Mr Fergus Doonan, Kentstown School Board of Management et al.

Disease transfer will be mitigated by the other control/mitigation measures on litter, vermin and birds. A fly control specialist will be engaged to design the monitoring programme and advise on the choice of measures and locations to implement control measures. The Agency will be consulted and a commitment to consult with all sensitive receptors was given. Concern was raised regarding the extent to which insecticides would travel off-site and that organo-phosphate chemicals should not be used. Out of hours contact numbers would be available to residents and would be listed on the facility notice Board.

Ms. Derbhla Ledwidge for CWL, response on surface water stagnation issues raised by Mr Martin Curran et al.

Ms. Ledwidge stated that submerged plant species would be used to add oxygen to the water and reduce the risk of de-oxygenation and stagnation. Water will also enter and exit the pond. The landscaping plan around the pond will mimic the natural environment by planting appropriate plant species.

Ms. Ledwidge stated that the phasing plan for the landfill went from South to North in order for the screening at the North to develop. In response to concerns raised that the planted trees would be commercially forested by

CWL after the landfill operation is ceased. CWL indicated that they would have no difficulties with the use of the land for recreational or educational purposes following restoration of the proposed facility. It was estimated that it would take 7-10 years before the proposed planting would provide a fully developed screen. In principle there were no reasons why a berm could not be provided; however this could have a major visual impact. A number of residents stated that consultation was needed before any structure such as a berm was put in place.

No comment was made on the need to review the progress of plants (i.e. die-off), the planting of trees with greater height, the planting trees in clusters and the appointment of a biodiversity officer funded by CWL to oversee the fauna and flora development. No comment was made on the degree of planting that could be provided adjacent to the electricity transmission lines or the gas pipe given the way leave restrictions.

No response was given to concerns raised by residents on the location of Bergerhoff gauges (1.5m high) within the landscape area given that there has to be a clearing around the gauges. Trees 7m in height would require a clearance of 55m as per the formulae; $clearance = 10 \times (ht\ of\ trees - ht\ of\ gauge)$.

Mr. K. Cullen on behalf of CWL stated that the dust monitoring locations would be agreed with the Agency and he referred to Note 1 of Table D.1.1 of the Proposed Decision. Ms. Ledwidge noted that permission could be sought in future in relation to monitoring at sensitive locations. Once again the locals stated that they wished to be consulted and have some input in relation to any movement of dust locations and the position of dust locations was very important.

Mr. Declan O Sullivan for CWL, response on conditioning plan issues raised by Chairman.

Mr. O Sullivan stated that CWL would comply with the requirements of the Directive in this regard.

The hearing was adjourned at 6:30pm and reconvened at 9:45am on Thursday October 17th, 2002.

Mr. Declan O Sullivan for CWL, response on landfill gas issues raised by

Mr. Fergus Doonan et al. (See Appendix F, Documents 33&34)

Mr O Sullivan stated that gas is prevented from migrating by the composite liner and a perimeter embankment 80m wide at the base and 40m wide at the top. Gas will be transmitted by negative pressure therefore gas will be sucked into the pipe. In the event of a pump failure there will be no negative pressure in the pipe; however the pipework is fully welded HDPE and placed in low permeability clay trenches. Passive vents in the waste will be placed in a grid fashion 40m apart. Pipework will be tested every 3 years as per the Proposed Decision. As the landfill is filled wells will be installed, and gas will not be produced until the methanogenesis stage. Each gas vent will be fitted with a carbon filter to abate odour emissions. Regular testing will occur to test for combustible gases. After 6 months the gas flare will be installed. After a number of years when the concentration of combustible gases is sufficient the flare will be established and methane will be destroyed. When questioned about the need for an alternative fuel source to ensure complete gas combustion, Mr. O Sullivan stated that passive gas vents would be sufficient until there is a suitable level of Methane (50%). Temperature and residence times are the two parameters that ensure complete combustion. In an enclosed flare these are easily controlled. Mr. O Sullivan also referred to the DOE Document entitled 'Protection of New Buildings and Occupants from Landfill Gas'. The Building Regulations also refer to the 250m distance and he stated that this figure only refers to landfill sites that are likely to cause contamination (page 3 of the DOE&LG Document entitled 'Protection of New Buildings and Occupants from Landfill Gas'). Gas monitoring will include the use of hand held monitors and monitoring will also take place at 1) the landfill gas flare, 2) the migration boreholes (placed at 50m interval around the landfill footprint), 3) the passive vents in addition to 4) buildings on-site. He considered the frequency of monitoring to be adequate. Carbon Monoxide is the important parameter to test for when determining combustion efficiency. Any exceedance of trigger levels will result in actions. These actions will be included in the emergency control procedure. Calibration will also ensure correct monitoring. A landfill phase will last 2 years, each cell will last between 6-12 months. Daily cover will minimise emissions from the open working face. Mr. O Sullivan stated that they had, at other landfills, modelled emissions (Kinsale Rd, Powerstown and Inagh Landfills) and the parameters for the model were chosen to represent the worst case scenario. The modelled emissions did not exceed the relevant guidelines in these

cases. Mr. O Sullivan stated that there were a number (15-20) of trace elements in landfill gas; however, the gas flare will combust these parameters. It was stated that no modelling study was done for the Knockharley site. Mr. O Sullivan also stated that natural vents/conduits in the buffer zone would be broken during construction of the landfill.

Mr. O Sullivan discussed the profile of the landfill stating that the existing ground level was 55m OD, the top of the perimeter embankment was 62m OD and the final profile was 75m OD (or 20 m above the existing elevations). He stated that the side of the embankment would also be lined to prevent migration of gas. When the barrier layer in the capping system is installed the landfill will be contained from beneath and above.

In response to a call for a medical person to appear for CWL to address the health concerns, CWL responded that they believe the abatement to be adequate and no impacts or significant impact to health will occur. CWL had no comment to make when asked to identify the boundary between non-significant and significant.

Mr Gogan of Kentstown National School stated that the children present at the hearing would be the most affected by this proposal. He stated that CWL has no experience with running a municipal waste landfill and the problems will be multiplied from the other facilities they operate. Ms. Antoinette Moynihan from the Parents Association stated that she was extremely annoyed at the oral hearing and there was a lot of crap talk. She went to Kentstown National School and her children are also going there and she doesn't want to move them from this school. She has to deal with the concerns of the children as to whether their daddy is going to die or if rats will be playing in the school yard. This is a beautiful site being used and abused.

CWL, response on health issues raised by Mr. Michael O Donnell BL

Mr. Declan O Sullivan stated that he was aware of a number of health studies, as referenced earlier in the hearing. He stated that in the design of the facility he had regard to the Landfill Directive. Mr. Fitzsimons commented that there is a number of EPA manuals that relate to the prevention of impacts and that relate to health. Mr. Cullen stated that the Landfill Directive recognises that landfill is an essential part of waste

management. The EPA has a responsibility to licence landfills and the planning authorities have a remit to plan through the EIS. The EIS describes the existing, proposed development, the impacts and the mitigation measures proposed to ensure that the proposed development will operate to recognised standards and that the proposed facility will not pose any threat to the environment or health. It did not appear to Mr. O'Donnell that a medical professional was contracted to look at the proposal or evaluate health effects. Mr. Cullen stated that Landfills are a potential threat but so are petrol stations, farmyards etc; however, it is the management of the facility that minimises these. Mr. Cullen was not aware of a number of health studies referred to by Mr. O'Donnell, but stated that there is no risk relating to water, air, gas and dust (these studies were not subsequently provided by Mr. O'Donnell). Mr. O'Donnell noted that Mr. Cullen had no expertise in public health.

Mr. O'Sullivan for CWL stated that they were frequently asked by the EPA to model emissions but in this case there was no such request by the EPA. In response to how temperature inversion (a particular characteristic of this site) was taken into account, Mr. O'Sullivan stated that the worst case scenario is always modelled. The model takes into account meteorological and topographical conditions and the terrain type, which in this case is classed "simple". In relation to continuous landfill monitoring, Mr. O'Sullivan stated that they rely on the requirements of the EPA landfill manual and that some monitoring is continuous (e.g. in site buildings). Mr. O'Sullivan referred to the landfill gas monitoring proposed and to the installation of the passive gas venting system. Mr. Doonan again stated that he wasn't happy with the level of detail provided and that the agreement of the monitoring locations was between the Agency and CWL. He will have no input into this. Mr. O'Donnell referred to this and he mentioned two court rulings Houlihan v's ABP and Boland V's ABP.

Mr. Declan O'Sullivan for CWL, response on litter issues raised by Mr. Fergus Doonan et al.

Mr. O'Sullivan gave details of the mobile netting system and the stationary netting system, which will be 3m and 6m in height respectively. CWL would review their procedures if there were problems with litter on roads or in the transfer of waste. When queried on their effectiveness in high wind or when the final cells are being worked on 12m above the top of the perimeter

embankment, Mr. O Sullivan referred to the adverse wind Condition 11.4.3 of the Proposed Decision. He stated that it would be possible to ensure that the litter systems would be in place above the working face at all times. Mr. O Sullivan then detailed the distance from the landfill footprint to various properties. Mr. O Sullivan stated that it was not his brief to look at the visual impact associated with the embankment or the location of litter fencing. Mr. O Donnell noted that no drawing was provided showing the location of the litter netting.

Mr. Declan O Sullivan for CWL, response on emergency control issues raised by Mr. Fergus Doonan et al.

Dr. Dennison outlined the sections of the EIS and the PD that dealt with fire control on-site. He stated that similar measures were in place at the KTK Kilcullen site and had proven effective. CWL stated that they had not objected to any of the conditions and if included in the licence they will comply. Mr. O Sullivan stated that there was a 7m wayleave on either side of the gas pipeline. Crossing the pipeline for services was permitted as long as the Bord Gais standards were applied. Any work with the pipeline will be under the control and supervision of Bord Gais. Dr. Dennison outlined the requirements to alert the fire services and the Agency. There was no Licence requirement to inform local residents in the event of an emergency but informally CWL would seek to ensure that matters would be brought to the attention of locals promptly. Concern was raised by the residents on the type of incident they would be alerted to and the fact that the EPA was not available at weekends.

Mr. O Sullivan responded to questions regarding the proximity of the waste inspection/quarantine area to the resident's houses on the eastern side of the site and that waste would not have to be removed from this area for a month. He indicated that the quarantine area was located beside the weighbridge to facilitate waste inspection. Dr. Dennison stated that their experience in other facilities was that problem wastes were turned around in one day. Dr. Dennison described the waste inspection and quarantine areas as being in open bays with two enclosed *chemstore* units located nearby as described in drawing 144-01-02 & 03. Concerns were raised by residents about the lack of detail and in particular that the Agency and CWL were agreeing on issues without consulting with the residents.

Dr. Dennison for CWL, response on site selection issues raised by Mr. Fergus Doonan et al.

Dr. Dennison referred to the relevant section of the EIS saying that they reviewed the Meath County Council Site Selection Process and considered that the Knockharley site was satisfactory, not only for Meath Co. Co.'s tonnage but also for the increased tonnage. Mr. Cullen stated that the site selection process identified a site suitable for landfilling. CWL did its own site investigation and it was consistent with the current landfill proposal by CWL. Mr. O Byrne stated that there was no evidence to show that CWL undertook their own specific site selection process and there have been many changes since the Meath Co. Co. proposal e.g. traffic, population etc. CWL were satisfied that the proposal was consistent with the requirements of the Landfill Directive. Mr Cullen stated that the footprint and profile of the Meath Co. Co. proposal and the CWL Proposal were similar. Mr O Byrne stated that there was no documented comparative analyses of the two proposals and that no alternative sites were identified (i.e the CWL total tonnage was 3 million tonnes over 14 years as opposed to the Meath Co. Co. of 1.4 million tonnes over 20 years).

In response to a query on the available water pressure for fire-fighting, CWL stated that they would not rely entirely on outside water but could pump water from the surface water pond and will formalise arrangements with the fire services.

Mr. Declan O Sullivan for CWL, response on leachate removal issues raised by Ms. Carol Davis et al.

Mr. O Sullivan stated that 3 WWTPs had offered to accept leachate from the facility and that all transport would be direct from the N2 to the site access road (to be constructed). The leachate would be considered hazardous but no more so than tankers carrying petrol. His only experience of such a truck overturning resulted in the escape of only a few litres of leachate. In the event of an accident the local authority may activate the County Emergency Plan. CWL will treat any such event as an emergency and correct it. The emergency procedures will be as agreed with the Agency. Mr Cullen stated that leachate varies in composition and volume depending on the landfill. Its characteristics are identified by a leachability test and CWL will have to satisfy the requirements of the WWTP operator prior to the leachate being accepted for treatment. A discussion followed on the

impact of accepting incinerator ash on the quality of leachate. Dr. Dennison indicated that it would be up to the thermal treatment plant operators to prove the characteristics of the waste. CWL will only accept non-hazardous materials. At this stage they did not want to exclude ash, as a business entity they have to remain open to these possibilities. In the event that the leachate characteristics are not satisfactory, the leachate may be mixed, at a controlled rate, with influent wastewater at the treatment plant to achieve a greater dilution. Leachate treatment on-site was discussed. The Activity identified in the PD as Class 6 of the 3rd schedule of the WMA, 1996 (biological treatment on-site) was intended as a sustainable form of leachate treatment after the operation of the landfill has ceased. Dr. Dennison stated that a licence review would be needed if treatment on-site was to be initiated. Concerns were raised by the residents that again this proposal would be agreed with the Agency without consultation with the residents and that the class of activity should be removed.

The hearing was adjourned at 7:05pm and resumed on October 18th, 2002 in Trim at 10:15am.

Mr. O Donnell began by clarifying the definition Environmental Pollution (Section 5 of the WMA 1996) by stating that it includes the "holding, transport, recovery or disposal of waste" therefore the Agency must have regard to these issues and the Bord Pleanala decision in regard to traffic. In reply Mr Fitzsimons read out Section 5 of the Act in its entirety and stated that the Agency is limited to the assessing only the environmental impacts in regard to traffic. Mr. O Donnell asserted that the definition of pollution was so extensive it was hard to determine what could be left out. Mr. Fitzsimons stated that traffic layout and hazard would be two areas excluded from Agency deliberations. Mr. O Donnell disagreed and stated that human health impacts associated with layout and hazard had to be addressed.

Mr. Declan O Sullivan for CWL, response on odour issues raised by Kentstown Board of Management et al.

Mr. O Sullivan stated that landfill gas management and odour management were linked. The leachate lagoon would be covered and there would be carbon filters placed on the gas vents. The landfill gas flare will also abate odour emissions. In response to questions from the Chair, Mr. O Sullivan stated that there would be a period of time between the installation of the

gas flare and its operation, as there may not be sufficient quantities of combustible gas. He was aware of the use of flexible hosing to pump landfill gas from the waste prior to the closure of a cell and in advance of installing a hardpipe system. In relation to the use of supplemental fuel in the period between gas vent installation and the generation of landfill gas in combustible quantities Mr. O Sullivan questioned the need to burn fossil fuels if the carbon filters work to abate odour.

Mr. O Sullivan stated that as per the Landfill Directive there is a requirement to reduce the volume of organic matter going to landfill and this would also reduce potential odours from the site. In relation to setting trigger levels for odour Mr. O Sullivan stated that it would be difficult, as it was subjective. Mr. O Sullivan agreed that an independent assessment of odour control and abatement on-site would be logical. Sample tubes could be made available to residents for odour monitoring off-site and also stationary sampling pumps for sampling over a 30 day period was also an option.

Mr. O Sullivan stated that odour monitoring was different from dust monitoring and would not be affected by woodland planting. Mr. Doonan was concerned that there would be no treatment of landfill gas for a significant period of time. Mr. O Sullivan stated that soil cover would suppress odours and the position of vents in each cell would be planned as it is being constructed. Mr. O Donnell stated that it is unsatisfactory to design an odour system as they go along and this detail should have been provided in the EIS.

Mr O Sullivan went on to describe the construction sequence by stating that each phase would last 2 years, each phase would consist of 4 cells, each cell would be made up of 4 lifts each 2m high. A cell would typically last 6 months.

Dr. Dennison stated that in his experience there were no odour issues associated with waste receipt on-site. In response to the statement that this had not been addressed in the EIS, Mr. Fitzsimons referred to the use of daily and weekly cover at the working face, as a method of odour abatement. Concern was raised about the area of waste under daily cover at any one time, particularly as each cell was 2-2.5 acres in area. Mr. O Sullivan stated that he had experience with the use of masking systems at other

waste facilities but not at or near the weigh bridge. He went on to state that the open face will be 25m x 25m and cover will be placed over it on a daily basis. Intermediate cover would be placed in areas where there was no landfill activity for greater than a month. Within 3-6 months of waste emplacement landfill gas will begin to be generated. Mr. O Sullivan stated that there should not be any odour problems on-site if it is managed correctly. Odour at the Kill landfill was raised and what the rights of the residents were, if odour became an issue here. Mr. Fitzsimons stated that this was an enforcement issue. Mr. O Donnell stated that none of the residents have the right to take enforcement only the EPA. In response to concerns that adequate details were not provided on waste inspection, design of the quarantine area and transfer of rogue waste from the open face, Dr. Dennison said there was no perceived need to detail it in the EIS and therefore it was not included in the EIS. However he then referred to Section 3.1.1.5 of the EIS. Dr. Dennison stated that lock up containers and an open quarantine area would be provided on site. He did not perceive a need for odour control or monitoring at the quarantine area. In response to a discussion on the relationship between odour and the age of waste, CWL stated that the requirements of the Landfill Directive would be complied with.

CWL response on net loss of property values raised by Mr. Lawlor.

Mr. Fitzsimons stated that property values were not within the jurisdiction of this hearing and that Environmental Pollution cannot include land values.

Mr. O Donnell stated that An Bord Pleanála cannot have regard to environmental issues. But pollution related odour and public health issues, which impact on house prices, are within the Agency's remit. Mr Fitzsimons argued that Bord Pleanála dealt with these issues. Mr. O Donnell referred to Article 3 of the amended EIA Directive, which requires impacts to material assets to be identified. Not to deal with property issues would not give effect to the purpose of the Directive. CWL stated that the Section 4.12.2 of the EIS dealt with this. The EIS prepared was common to both the planning authority and the Agency and hence the issue of property/housing was included in the EIS.

Mr. O Donnell stated that a Quantity (Chartered) Surveyor should have been engaged to do a proper assessment of the impact of the development on

property values. If no evidence to counter these points is being provided by CWL then the evidence of Mr. Harrington given earlier in the hearing must be accepted. What greater impact on house prices but in the case where health impacts are associated with a proposal. Article 3 of the EIA Directive requires direct and indirect effects to be assessed in relation to material assets and this hasn't been done. The EIS is not valid because the necessary documentation has not been provided. It is there to protect the residents and clearly it does not. Mr. O'Donnell referred to the adverse impact on property values from waste disposal operations and the health implications. He also stated that the material assets had been identified and that these were outlined in Section 4.12 of the EIS. He also referred to the fact that CWL were "noticed" Parties to the Objections. Mr. O'Donnell referred to Section 4.12.2 of the EIS and to the information provided (e.g. reference to a couple of auctioneers, relevance of Arthurstown Landfill). He stated that it did not constitute statutory compliance with the Directive.

2.3 LEGAL SUBMISSIONS

2.3.1 legal submission on behalf of Celtic Waste Ltd. (applicant)

Mr. Fitzsimons made the following legal submission, which was set out under a number of headings. The full text of the submission is included as submission #37. A summary of the submission follows:

Application History - Details the history of the application to date

Applicable Law - Details the applicable law governing waste and submits that in deciding on the waste application by CWL the EPA is not fettered by the antecedent decisions made by the Planning Authority and/or An Bord Pleanála.

Definition of Waste - Defines waste and Hazardous waste in accordance with current legislation and submits that bottom ash is not a hazardous waste.

Non-Application of the Building Regulations - Submits that based on their interpretation of the Building Regulations and associated guidance there is no prohibition on siting a landfill within 250 metres of neighbouring properties and that the guidelines have been assessed and the Knockharley site has been assessed separately as required.

Waste Types and Quantities - It is submitted that there will be a deficit of 140,000tpa landfill capacity in the Northeast in 2012. Therefore the

waste volumes allowed for in the PD are prudent and justified.

Regionalisation - It is submitted that the proper application of the proximity principle does not restrict, and indeed facilitates, waste disposal at one of the nearest appropriate installations.

Proximity Principle - Submits that putting a prohibition on CWL from taking waste from outside the Northeast is unreasonable and contrary to competition law.

Buffer Zone - Proposal complies with the 250 m buffer from the landfill footprint and occupied residences and the PD does not impose any restrictions on the use of lands adjoining the proposed activity.

100m - is satisfactory as a distance between the landfill footprint and the site boundary to mitigate nuisance and the PD should not alter any of the proposed operation of the seven phases.

Anomalies on the face of the proposed decision -

Acceptance of sludge be allowed for recovery,

Condition 1.2 and 3.5.2 Rewording to allow practical sequence of construction,

Condition 3.15.3 Revise initiation of flare testing

Condition 3.16 Reword title

Condition 3.21 Revise numbering

Conclusion The PD should be replicated.

2.3.2 legal submission by Formal Parties to the Objection

Mr. O Donnell made a verbal legal submission as follows (paragraph headings have been added for clarity);

Applicable Legislation - He believes that the Chair is wrong to rule out evidence in regard to planning. For installations, the Agency deals with the activity only, An Bord Pleanala deals with everything else. An Bord Pleanala can authorise works for the construction of the facility but the Agency is responsible for the activities (the use) of the installation thereafter. This has serious implications for Condition 3 of the planning - The Proposal... will be revised to provide for 250m between the landfill footprint and the southern most boundary of Mr. Curran's property. Mr. Fitzsimons is asking to authorise a development for which no planning exists.

Section 54(4) of the WMA is clear that if you (The Agency) impose planning type conditions you must impose more stringent conditions than the planning permission and only after consultation with the planning Authority. The Planning Authority has already objected to the Proposed Decision.

The Planning Authority made its decision on the basis of 132,000 tpa, now this PD is on the basis of 205,000 tpa. The Bord Pleanala decision will be undermined if the PD goes ahead. The Agency must determine this PD within the context of the Bord Pleanala decision. There is no discretion.

The Approach of the Agency - The Approach of the Agency is a matter of law. Where there is a PD and objections are received, the Agency is to consider the application "de novo" and decide whether the licence ought to be granted. In this context the PD is only of marginal significance.

Valid Application - The Chair must consider whether the Agency has a valid application or not. For example, there are no plans, particulars on the nature and extent of the flaring mechanism, only a brochure. Also there are no details on the height of the mounding or fencing. These matters should be set out in advance so that 3rd parties can comment. The level of design is absent.

The EIS - To examine the EIS and correlate that to the EU and National Regulations is to see the level of non-compliance.

Public Health - The public health issue is a matter for the Agency and is the most important issue to be addressed. There is evidence that there are serious public health concerns and CWL accept that no medical expertise was sought during the preparation of this application. It is a multidisciplinary exercise and a critical issue which should have been addressed, risks to the population identified and mitigation measures proposed. For example, the school was not addressed, therefore the EIS is invalid

Alternatives - The Agency has to do the assessment and in order to do the assessment it must have alternatives, these were not forthcoming. CWL adopted the Meath Co. Co. selection and used different criteria for the proposed activity. This approach was thrown out by the High Court in relation to a recent Wicklow case. There is an express duty of the Agency to consider if this is a better site to others.

Treatment - No detail given on the waste treatment processes. How and where the waste will be treated prior to acceptance at the Landfill. If it is not a direct effect then it is clearly an indirect effect. These have to be considered. The Agency cannot grant a waste licence because it has to coincide with the planning permission. It is not acceptable to modify conditions to mitigate, e.g. Harbog case, the only reasonable solution is to refuse.

Material assets - No proper analysis completed. The residents are entitled

to have before them an analysis that is complete; otherwise this is a sham and will send a message that carelessness is rewarded. This process will be a sham if all the deficits identified were ignored. This application should be thrown out. The licence should be refused so that a detailed application could deal with the issues fairly and above all comply with the legal requirements.

2.4 CLOSE OF ORAL HEARING

2.4.1 Closing statements

Six closing statements were made as follows:

Mr. Fergal O Byrne and Boyne Valley Environmental Protection league.

The full text of his submission is included as submission #36, a summary of the submission follows:

Health Issues - The EPA have not taken into account the health risks set out in the Eurohazcon study and as reported in the Lancet. The Agency should implement the precautionary principle until such time as the two Irish health reports in preparation are finalised. A 1km buffer should be put in place around this landfill. Any monitoring of this facility should be on a 24hr basis, as the emissions are over 24hrs, as in the case of Tara mines.

Residual Waste landfill Dump - The PD fails to have regard to the requirement for treatment of waste, the proximity principle or Government and regional policy in regard to waste management. The PD should be withdrawn.

Incineration Waste - The PD and the EIS are flawed in that they failed to take account of the possible receipt of incineration waste.

Archaeological Issues - A full study should be done of the farm buildings and the holy well in advance of any activity.

Alternatives - The EIS is flawed in that it did not fully evaluate any alternatives.

Planning Permission - The EPA must have regard to the planning requirements.

EIS/EIA - There is no evidence of an assessment of the EIS by the EPA.

EPA/planning - The interrelationship between the two processes has not been addressed anywhere.

Buffer Zone - No evidence as to how CWL considered the requirements of the Landfill Directive on landfill location or the distance of the boundary

from "Residential and recreational areas.....and other agricultural or urban sites". This proposal is of no benefit for local residents. The ERSI report 1995 stated that the minority who suffer should be compensated.

National Waste Policy - The EPA has failed to have regard for the State's waste policy.

Proximity Principle - The importation of waste from Dublin is counter to the proximity principle.

Celtic/ Bacon Recent Policy Initiatives - This submission failed to take into account the requirements on waste volumes set out in the Landfill Directive and fails to make a reference to baseline 1995 figures.

Mr. Patrick Lawlor

Mr. Lawlor referred to the scale of the development (3 million tonnes of waste), distance from properties and the proximity of the facility to the school. It is lunacy to allow this development. CWL don't give a damn about local people and have only one agenda i.e. to make money. He has no sympathy for the Chair's decision and the proposal has no place in modern Ireland. The facility is being crammed into a site, which was planned for far less waste, and it is a crime against humanity and people. The Agency as an organ of the state has to look after the people's interest. This is the 4th hearing he has attended on this issue. No attempt has been made by CWL to put his mind at ease over the health issues. This application should be thrown out. He stated that he has fought this for 8 1/2 years and will fight it for another 8 1/2 years if necessary. How can anyone trust CWL to comply with regulations when they have no regard for human health.

Mr Fergus Doonan

Mr. Doonan raised a number of issues such as the movement of landfill gas through conduits, the lack of monitoring for airborne gas, the placement of flaring systems, no definite plans for gas venting, dust nuisance monitoring in EIS at ground level v's landfill at 45ft high, inadequacy of dust monitoring locations in planted areas, no definite monitoring done close to his home, lack of detail on sprays for fly control and movement of sprays off-site, no proposals for alerting residents in the event of an incident which endangers the health of families, no guarantee re life expectancy of liner, no design of quarantine area, no investigation into the old drains on site for transmission of gas and leachate, leachate lagoon located close to residences, no proper EIS done to convince locals that it is the right site for this scale of

development, health study disallowed and asks that precautionary principle be taken into account. He stated that he objects to any modification to the PD given the inadequate EIS submitted. Any modifications need a new EIS to allow residents to inspect and review the proposals.

Mr. Patrick Finnegan

Mr. Finnegan stated that residents have been in this location for the last 200 years. This proposal is for a landfill 1 mile long and 300 yards wide to be covered in plastic; we do not know how long the plastic will last. If it becomes brittle, gas will escape and there will be no one to stop it in 50-100yrs time. With fog on the site, gas will be drawn down on top of everybody. The Buffer zone should be 1 mile as there are 200 families within 1 mile of this facility. We hear to-day, from Dr. Clancy's report on the elimination of coal in Irish cities, that there has been a reduction in respiratory disease yet we will have gas emitting from this site.

Mr. Patrick Curran

The site survey is insufficient and it did not detail the existing species field by field, the height, girth or canopy of hedges/trees. CWL have omitted the central hedgerow to the north of the site which has a river running through it and if this is removed the integrity of the flora and fauna will be lost. The tree list is a joke and it only amounts to motorway planting. Bird/animal migration was not dealt with and the survey was done at the wrong time of year. No measures to increase the Birdlife are included. The surface pond will be a stagnant pool. Mr. Curran's rights as a homeowner and family man have been taken away by both the EPA and CWL. He is entitled to a quality of life that stops at the gate of his house. This has been recognised by the planners, what can he do to open the eyes of the EPA? The amenity area includes the cartilage of the house thus making it a dwelling and this was understood by the County Council, the planners and An Bord Plenala. Why can't the EPA also understand this. Mr. Curran moved that this application be dismissed.

Ms. Carol Davis

Ms. Davis is 8 1/2 yrs involved in the process. Her present financial situation didn't allow her to object. Her main concern is that health and the health studies (EUROHAZCON) should be taken into account. She hopes that the EPA protects us as it is charged to do. She referred to the precautionary

principle. The proponents of the activity are obliged to prove it is not dangerous but she doesn't think CWL have done this. This proposal is a rape of the landscape. As a founder member of Zero Waste Ireland, she knows that there are other proposals that will not make millions but will protect the environment.

2.4.2 Closing comments.

I stated to all present that my function as chairman was to report to the Agency on the oral hearing. I thanked all present for their attendance and interest, and the administrative staff for their assistance. I stated that the Agency would act in accordance with its statutory obligations in coming to a decision on the Proposed Decision. I closed the oral hearing at 5:00pm on the 18/10/02.

3.0 RECOMMENDATION

3.1 GENERAL

In Section 3.2 of this report I have included my recommendation as to the granting, or otherwise, of a waste licence.

In Section 3.3 I propose amendments to the conditions contained in the proposed decision, and the addition of new conditions to the waste licence. These Conditions are recommended in light of the presentations and evidence provided at the oral hearing. Any reference to a condition number in this section refers to the condition in the PD except where a new condition is proposed. Where a condition of the PD is not mentioned in this report, the recommendation is that the condition should be included, unchanged, in the waste licence. Where a new condition is to be included in the waste licence, it may be necessary to renumber subsequent conditions.

In Section 3.4 I discuss aspects of the written objections that were not raised or discussed at the oral hearing.

In Section 3.5 I recommend the Agency's requirement to give effect to the Landfill Directive.

3.2 RECOMMENDATION AS TO THE GRANTING OF A WASTE LICENCE

I have considered all the information presented and provided at the Oral Hearing of the objections to the Proposed Decision in respect of the Waste licence application for a landfill at Knockharley Co. Meath. I am satisfied that, subject to compliance with the conditions of the Proposed Decision of March 28th, 2002, as amended by the recommendations in this report, any emissions from this activity will not contravene any of the requirements of Section 40(4) of the Waste Management Act 1996. Therefore, I recommend that a waste licence, subject to the conditions mentioned above, be granted to Celtic Waste Limited, Burton Court, Burton Hall Road, Sandyford, Dublin 18 to carry on the following waste activities listed below at the proposed Knockharley Landfill, Knockharley, Navan, Co. Meath (includes townlands of Tuiterrath and Flemingstown).

Third Schedule of the Waste Management Act 1996

Class 1.	<p>Deposit on, in or under land (including landfill): This activity is limited to the deposit of non-hazardous wastes specified in Condition 1.4 in lined cells that are on, in and under land.</p>
Class 4.	<p>Surface impoundment, including placement of liquid or sludge discards into pits, ponds or lagoons: This activity is limited to the storage of leachate in a lagoon prior to disposal off-site at a suitable waste water treatment plant and the use of a surface water pond to control the quality and quantity of the surface water run-off from the site.</p>
Class 5.	<p>Specially engineered landfill, including placement into lined discrete cells which are capped and isolated from one another and the environment. This activity is limited to the deposition of non-hazardous waste into lined cell(s).</p>
Class 6.	<p>Biological treatment not referred to elsewhere in this Schedule which results in final compounds or mixtures which are disposed of by means of any activity referred to in paragraphs 1. to 10. of this Schedule: This activity is limited to possible future biological pre-treatment of leachate subject to the agreement of the Agency.</p>
Class 13.	<p>Storage prior to submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where the waste concerned is produced. This activity is limited to the temporary storage on-site of unacceptable waste (In the waste quarantine area) prior to transport to another site.</p>

Fourth Schedule of the Waste Management Act 1996

Class 4.	<p>Recycling or reclamation of other inorganic materials: This activity is limited to the use of recycled construction and</p>
-----------------	--

	demolition waste as cover and /or construction material at the site.
Class 9.	Use of any waste principally as a fuel or other means to generate energy: This activity is limited to the utilisation of landfill gas.
Class 11.	Use of waste obtained from any activity referred to in a preceding paragraph of this Schedule: This activity is limited to the use of construction and demolition waste on-site.
Class 13.	Storage of waste intended for submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where such waste is produced: This activity is limited to the storage of construction and demolition waste on site prior to reuse.

3.3 RECOMMENDATIONS ARISING FROM OBJECTIONS AND ORAL HEARING

Compliance with National and Regional waste policy

I agree that the Knockharley residual landfill is consistent with the type and scale of landfill envisaged in "Changing our Ways" and is not in conflict with the objectives of the "Delivering Change" policy statement on preventing and recycling waste.

The Waste Management Plan for the North East Region was adopted on August 3rd, 2001. This Plan identified a landfill at Knockharley as a key element in the future management of waste in the region. The plan estimated that 18% of waste from the region would be landfilled in 2014; however, this figure is based on the assumption that the regional recycling target of 43% would be met and that a thermal waste treatment facility would be in place. I agree that interim solutions are required to meet the shortfall created by the lack of other options. The life of the Knockharley facility extends over the period to which the recycling targets relate.

EIS

I note the concerns over the lack of detail in some areas of the EIS; however, I am satisfied that the environmental impact assessment carried

out was adequate for an assessment of any likely significant effects on the environment. I consider that sufficient information was provided in the statement and subsequent responses to allow an assessment of impacts on the environment. Indeed, I am of the opinion that the statutory requests issued by the Agency assisted in this regard. I also note that the Agency has the discretion to review any licence granted where there has been, *Inter Alia*, a material change in the nature or extent of an emission arising from an activity as per Article 46 of the WMA, 1996.

Compliance with the waste treatment requirements of the Landfill Directive

I note Dr. Dennison's confirmation that all waste will be treated to meet the requirements of the Landfill Directive. However, I believe that Condition 11.3 of the PD, which requires a report on the methods proposed to contribute to the achievement of recovery targets, should be amended to include proposals on how waste accepted at the facility will be treated to meet the requirements of the Landfill Directive. In addition, I consider it necessary to include a new Condition 1.6 in relation to the treatment of waste.

Recommendation 1

Add new Condition 1.6

The licensee shall ensure that all waste accepted at the facility is subject to treatment. This provision may not apply to inert wastes for which treatment is not technically feasible nor to any other waste for which such treatment does not contribute to the objectives of the Landfill Directive as set out in Article 1 of the Directive by reducing the quantity of the waste or the hazards to human health or the environment.

Add new Condition 11.3.1(f)

Report on how the requirements of Condition 1.6 regarding treatment of Waste will be met.

Add new Definition

Residual Waste-Residual waste means the fraction of waste remaining after the treatment of waste.

Acceptance of bottom ash at the landfill

I consider it necessary to replace the existing Condition 5.3 with a new Condition. I am satisfied that the new Condition will adequately control the acceptance of waste at the facility. The Condition requires the submission of waste acceptance procedures. Waste Acceptance will be based on a three level hierarchy of characterisation, compliance testing and on-site verification.

Recommendation 2

Delete the existing Condition 5.3 and replace with the following:

5.3.1. *Prior to commencement of waste acceptance at the facility, the licensee shall submit to the Agency for its agreement written procedures for the acceptance and handling of all wastes. These procedures shall detail the treatment of waste required prior to acceptance at the facility and shall also include methods for the characterisation of waste in order to distinguish between inert, non-hazardous and hazardous wastes. The procedures shall take into account the Council decision of 19 December 2002 establishing the criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 and Annex II of Directive 1999/31/EC on the landfill of waste.*

Add to Schedule F: Content of Annual Environmental Report

Treatment of waste received

Impacts on human and animal health associated with the landfill

A number of papers were submitted in relation to health impacts from landfills. However, I agree with the presentation made by Mr. Fitzsimons, on behalf of the applicant, that these papers do not provide any evidence of health impacts from non-hazardous waste landfills. I would also agree with Mr. Jack O Sullivan when he states that "On the whole epidemiological studies have not shown a direct or easily proven cause and effect relationship". In particular, in relation to the paper published in the Lancet, *Dolk et al, 1998*, which relates to a study of hazardous-waste landfill sites. It is noted that the paper did not study emissions, potential pathways, or other potential causes and does not demonstrate any causal links between the landfill sites and the recorded effects. The inclusion of municipal landfill sites in the conclusions of the paper is achieved by one sentence in

the discussion which refers to the fact that municipal landfill sites which take domestic wastes can be as environmentally hazardous as those categorised as hazardous-waste sites. No such sites were included in the study, which the paper reports on.

I also note that the proposal for the lining system for the facility is a composite liner, incorporating both 1m of clay with a permeability of less than 10^{-9} m/s and a leachate collection system, in addition to a flexible membrane liner. Such a liner complies with the requirements of the Council Directive 1999/31/EC on the landfill of waste, (the Landfill Directive), and is considered to be the best available technology for such landfills. I also note Dr. Dennison's citation of the paper "The Health Effects of Controlled Landfill Sites - An Overview" L. Heasman (Proceedings Sardinia 1999, Seventh International Waste Management and Landfill Symposium). This report concluded that the extensive evidence available does not support any casual link between health effects studied and residences near landfill sites.

However the dominant issue at this Oral Hearing were the concerns of residents about their future health and that of their families and the pupils of the Kentstown National School. In reaching my recommendation in respect of these concerns, I have taken into account the following:

- the objective of the Directive on the Landfill of Waste 1999/31/EC which states that "the aim of this Directive is, by way of stringent operational and technical requirements on the waste and landfills, to provide for measures.....to prevent, or reduce as far as possible negative effects on the environment,.....as well as any resulting risk to human health..... ;
- the requirement of the Agency in Section 40 (2)(b)(iii) of the WMA 1996 to have regard to matters related to the prevention, limitation , elimination, abatement or reduction of environmental pollution;
- the definition for environmental pollution in section 5 of the WMA 1996 which includes that which endangers human health or adversely affects the countryside;
- the lack of available information on the health status of residents residing near to non-hazardous controlled landfills in Ireland;
- the opportunity that a new landfill presents for collection of such data including baseline data;
- that ambient monitoring off-site is done routinely at licensed facilities

for water, air and soil media and fish populations;

- the commissions communication on the precautionary principle (02/02/2000) allowing for the assigning of "responsibility for producing the scientific evidence necessary for a comprehensive risk evaluation";
- the recommendations outlined in the "*Protocol For The Investigative Approach To Serious Animal/Human Health Problems*". This protocol recommended that:
 - Arrangements be put in place to ensure that the relevant State agencies, e.g. the Regional Veterinary Laboratories or Teagasc, are made aware of the problem at an early date,
 - Agreement of a procedure between the relevant agencies and other parties for their involvement in any investigation deemed necessary,
 - Establishment and regular updating of national data bases on the incidence and nature of animal and human health problems and related information,
 - Monitoring programmes to be in operation to assess the environmental impact of large industrial plants and other waste emitting operations,
- that as part of the Protocol, the Health Boards developed a Disease Cluster Investigation Protocol;
- that Step 8 of the Health Board Protocol suggests that "Following the collection of this basic data, some simple statistics about mortality and disease incidence should be calculated and compared to baseline data. From this assessment there would be a decision to do further study;
- that the protocol stated that where the prime concern is human health, the responsibility for an initial enquiry and any follow-up study deemed necessary will be a matter for the public health agencies, e.g. the appropriate Regional Health Board';

I recommend that the following Condition be inserted. By collecting this data and forwarding it on a three-year basis to the regional Veterinary Office and the Regional Health Board the appropriate level of assessment can be completed by the expert bodies responsible for these areas. This assessment will, in my opinion, alleviate the concerns of local residents and fill in current gaps in data regarding waste facilities.

I am aware that some work was completed on soils as part of the EIA; however, I think some additional baseline data is required. I have recommended a Condition that requires the licensee (in consultation with

Teagasc) to submit a proposal on the monitoring of vegetation, soils and herbage on farms in the vicinity of the facility. Such monitoring should be carried out prior to the commencement of waste activities and at intervals thereafter agreed with Teagasc and the Agency.

Recommendation 3

Insert new Conditions 11.8 and 11.9

11.8 Prior to the acceptance of waste, the licensee shall, in consultation with the Director of Health, Eastern Regional Health Authority and the Regional Veterinary Laboratory, Department of Agriculture submit to the Agency for its agreement a proposal to complete a health status survey of the residents and animals located in the vicinity of the landfill. Such a survey should be based on the SF-36 TM Health Survey as developed by the Medical Outcomes Trust and shall include a section on animal health. The scope of the survey shall as a minimum include the residents and farms immediately adjacent to the landfill and shall be completed prior to the acceptance of waste at the facility and at intervals agreed with the various bodies. Upon completion, these reports shall be forwarded to the bodies referred to above.

11.9 Prior to the acceptance of waste, the licensee shall, in consultation with Teagasc, submit a proposal for vegetation/soil sampling and analysis in order to assess the impact of the facility on vegetation, herbage and soils. The scope of the survey shall as a minimum include those farms immediately adjacent to the landfill and shall be completed prior to the acceptance of waste at the facility. Further vegetation sampling shall be repeated at intervals agreed with the Agency and Teagasc. Upon completion, these reports shall be forwarded to the bodies referred to above.

Buffer distance from the landfill imprint

I agree with Mr. Fitzsimons that the Building Regulations (S.I. No. 497 of 1997) do not contain any requirements in regard to construction near landfills. In subpart C3 of those Regulations it states "Reasonable precautions shall be taken to avoid danger to health and safety caused by substances (including contaminants) found on or in the ground to be covered

by a building." In the Technical Guidance to these Regulations "Protection of new buildings and occupants from Landfill gas" (Submission #34) published by the DOELG, a set back distance of 250m is specified for new buildings. However, this appears to me to be a guideline for existing landfills where there is concern about existing landfill gas pathways. I agree with Mr. D. O Sullivan that when the site assessment procedure outlined in Figure 3 of the Technical Guidance is completed for a controlled landfill site it would appear that 50m is the recommended set back for housing and 10m for gardens. The 100 m buffer allowed for in Condition 3.13.2 of the PD is in excess of this requirement.

The applicant has also positioned the landfill footprint so as to provide a 250m distance between occupied residences and the footprint. This 250m set back is in accordance with the requirements set out in Section 5.6 of the Draft EPA manual on site selection. I believe that Section 5.19 of this manual is incorrect in its interpretation of the Building regulation when it says "As under the Building Control Act 1990 and associated Regulations no dwelling can be constructed closer than 250m from a landfilled area," . This may have given rise to fears by the residents of land being "sterilised" from any development. However I believe this not to be the case and I am satisfied that no revision to Condition 3.13.2 of the PD is necessary.

Landscaping requirements

I noted Mr. Curran's concerns regarding the landscaping programme particularly the need for community input, a regular report on the success of the landscaping programme on achieving its objectives as outlined in Section 4.10.3, and the potential for use of the land by the community for educational or recreational use. I also noted that Dr. Dennison had no objection in principle to the use of the landscaped areas as a resource for the community. I recommend that a new Condition 5.8.3 be added.

Recommendation 4

Add new Condition 5.8.3 as follows:

The success or otherwise of the landscaping programme in meeting the objectives outlined in Section 4.10.3. of the EIS shall be reported on annually as part of the AER in particular progress in planting, die back rate, enhancement of natural biodiversity, and proposed works to meet the objectives set.

Amend Condition 4.1 to add

In particular the plan shall include

- a) Potential restoration options and*
- b) The proposed consultation process in relation to the restoration options for the facility.*
- c) Proposals for nature conservation, woodland restoration and aftercare in accordance with the referenced EPA manual.*

Add to Condition 4.6 the following:

in accordance with the EPA Manual on Landfill Restoration And Aftercare.

Ground water characterisation and risk of flooding

A number of concerns were raised by Mr. Macken and others about potential flooding due to the construction works at the proposed facility. I am satisfied with Mr. Cullen's evidence that the risk of flooding is minimal at this site and that the characterisation of groundwater is adequate.

Dust Control and monitoring

Mr. Doonan voiced his concern regarding dust control at this facility, particularly in relation to the extent of the ongoing construction works and the proximity of the nearby residents. Having considered this issue I consider that there is the possibility of additional dust nuisance at the facility.

I recommend that the number of monitoring locations for Dust be increased from six to ten and the frequency of dust monitoring to monthly. I recommend that the number of sampling locations for PM₁₀ be increased from three to six and the frequency of PM₁₀ monitoring to be increased from 1 sample to four samples per annum. I also recommend that sensitive receptors in the area be identified for some of the additional monitoring locations. I note that Condition 8.2 allows for the amendment of this monitoring upon agreement with the Agency, should the results of dust monitoring indicate that no nuisance is caused.

Recommendation 5

Amend Table D.3

Replace Three times a year with Monthly

*Delete Note 2 and renumber accordingly
Replace Annually with Quarterly*

Amend Table D.1

*Under the Dust Column add additional rows for D7, D8, D9, D10
Under the PM10 Column add additional rows for P4, P5, P6
Add to Note 5 Additional locations to be agreed with the Agency*

Landfill gas control and monitoring and location

I am satisfied that the enclosed flaring of landfill gas is effective in controlling migration and preventing odours and air pollution. This system will be available as soon as sufficient landfill gas is produced. In addition the fitting of activated carbon filters to passive vents should help control odour and air emissions during the period when sufficient gas for flaring is not being produced. Mr. Doonan raised concern over the location of this infrastructure beside his residence, given the size of the site, and the emissions arising from the landfill gas infrastructure. . Having considered this issue, I believe that the location of the flare should be re-examined and the level of monitoring amended. I recommend that Condition 3.15.2 and tables C5, D2 and D7 be amended.

Recommendation 6

Add new Condition 3.15.2 ii)

The relocation of the gas flaring system to the west of the facility shall be investigated prior to the final location being agreed with the Agency. The report of the investigation will accompany the proposal for installation of landfill gas management infrastructure required under Condition 3.2.1 and shall include the results of modelling carried out on the expected level of emissions.

Amend Tables C5, D2 and D7 as follows:

C.5 Emission Limits Values for Landfill Gas Plant & Gas Flares

Emission Point reference nos: (to be agreed with the Agency)

Location: Landfill Gas combustion plant and flarestacks

Maximum volume to be emitted:**3000m³/hr**

Minimum discharge **height:5m**

Parameter	Emission Limit Value (Notes 3 &4)
Nitrogen oxides as (NO ₂)	500 mg/m ³ (150mg/m ³) ^{Note 1}
CO	650 mg/m ³ (50mg/m ³) ^{Note 1}
Particulates	130 mg/m ³
TA Luft Organics Class I ^(Note 2)	20 mg/m ³ - at mass flows > 0.1 kg/hr (Not applicable) ^{Note 1}
TA Luft Organics Class II ^(Note 2)	100 mg/m ³ -at mass flows > 2 kg/hr (Not applicable) ^{Note 1}
TA Luft Organics Class III ^(Note 2)	150 mg/m ³ at mass flows > 3kg/hr (Not applicable) ^{Note 1}
Total Organic Carbon	10mg/m ³
Hydrogen Chloride	50 mg/m ³ - at mass flows > 0.3 kg/h)
Hydrogen Fluoride	5 mg/m ³ -at mass flows > 0.05 kg/h

Note 1: Emission limit values in brackets represent limit values for flare units

Note 2: In addition to the above individual limits, the sum of the concentrations of Class I, II and III shall not exceed the Class III limits.

Note 3: These emission limit values may be revised with the agreement of the Agency on the basis of the technology employed.

Note 4: Dry gas referenced to 5% oxygen by volume for utilisation plants and 3% oxygen by volume for flares.

D.2 Landfill Gas

Table D.2.1 Landfill Gas Monitoring Parameters, Frequency and Technique

Parameter	Monitoring Frequency		Analysis Method ^{Note1} /Technique ^{Note2}
	Gas Boreholes/ Vents/Wells	Site Office	
Methane (CH₄) % v/v	Monthly	Continuous	Infrared analyser/flame ionisation detector
Carbon dioxide (CO₂)%v/v	Monthly	Continuous	Infrared analyser/ flame ionisation detector
Oxygen(O₂) %v/v	Monthly	Continuous	Electrochemical cell
Atmospheric Pressure	Monthly	-	Standard
Temperature	Monthly	-	Standard

Note1: All monitoring equipment used should be intrinsically safe.

Note 2: Or other methods agreed in advance with the Agency.

D.7 Landfill Gas Combustion Plant/Enclosed Flare

Location: Utilisation plant and enclosed flare (exact location of flare to be agreed with the Agency in advance).

Table D.7.1 Landfill Gas Utilisation Plant/Enclosed Flare Parameters and Monitoring Frequency

Parameter	Flare (enclosed)	Utilisation Plant	Analysis Method ^{Note1} /Technique ^{Note2}
	Monitoring Frequency	Monitoring Frequency	
Inlet			
Methane (CH ₄) % v/v	Continuous	Weekly	Infrared analyser/flame ionisation detector/thermal conductivity
Carbon dioxide (CO ₂)% v/v	Continuous	Weekly	Infrared analyser/ thermal conductivity
Oxygen (O ₂) % v/v	Continuous	Weekly	Electrochemical/thermal conductivity
Total Sulphur	Annually	Annually	Ion chromatography
Total Chlorine	Annually	Annually	Ion chromatography
Total Fluorine	Annually	Annually	Ion Selective Electrode
Process Parameters			
Combustion Temperature	Continuous	Quarterly	Temperature Probe/datalogger
Outlet			
CO	Continuous	Continuous	Flue gas analyser/datalogger
NO _x	Annually	Annually	Flue gas analyser
SO ₂	Annually	Annually	Flue gas analyser
Particulates	Not applicable	Annually	Isokinetic/Gravimetric
TA Luft Class I, II, III organics	Not applicable	Annually	Adsorption/Desorption /GC/GCMS ^{Note 3}
TOC	Annually	Not applicable	Flame ionisation
Hydrochloric acid	Annually	Annually	Impinger / Ion Chromatography
Hydrogen fluoride	Annually	Annually	Impinger / Ion Chromatography

Note 1: All monitoring equipment used should be intrinsically safe.

Note 2: Or other methods agreed in advance with the Agency.

Note 3: Test methods should be capable of detecting acetonitrile, dichloromethane, tetrachlorethylene and vinyl chloride as a minimum

Odour control and monitoring

I am satisfied that any odours arising from the treatment of leachate will be abated satisfactorily by covering of the leachate lagoon and I agree with Mr. D. O Sullivan's statement that the control of odour and the management of landfill gas are closely linked. Given the number of concerns raised by Mr. Doonan and others regarding potential odour from the activity, I believe that the commissioning of an independent odour assessment is necessary for a facility such as this. I recommend that the following condition be

inserted

Recommendation 7

Add a new Condition 6.10

The licensee shall, not later than three months after the initial receipt of waste at this facility, submit proposals to the Agency for agreement to undertake an independent odour assessment. The odour assessment shall include but is not limited to the identification and quantification of any significant odour sources, an assessment of the suitability and adequacy of the control system(s) for odour sources and timescale for the assessment.

Add new Condition 6.11

The licensee shall, not later than two months from the date of undertaking the odour assessment submit to the Agency an odour assessment report that shall make recommendations as appropriate. Any such recommendations arising out of the report shall be implemented within a timescale to be approved by the Agency.

Leachate control, monitoring and treatment

Mr. O Byrne raised a number of issue in regard to the treatment of leachate. However, following consideration of this issue I am satisfied that that CWL have secured a number of options for the treatment of the leachate arising from this facility. I also note the requirement of Condition 6.7.1 that the details of the treatment must be agreed with the Agency prior to the acceptance of waste.

Lining System

I note the concerns expressed by Mr Finnegan, and others, as to the durability of flexible membrane liners and agree that such liners, of themselves, are not sufficient for the containment of municipal and industrial non-hazardous wastes. However the proposed lining system for the facility is a composite liner, incorporating both 1m of clay with a permeability of less than 10^{-9} m/s and a leachate collection system, in addition to a flexible membrane liner. Such a liner complies with the requirements of the Council Directive 1999/31/EC on the landfill of waste, (the Landfill Directive), and is considered to be the best available technology for such landfills. I am satisfied that this design is adequate for the containment of waste to prevent pollution.

Noise Control and Monitoring

Concerns were also expressed relating to the noise impact of the proposed facility. However, I am satisfied that compliance with Condition 5.13 will ensure that noise from the facility will not adversely affect the local community. However due to the level of construction activity envisaged for this site I recommend that the frequency of noise monitoring be increased to quarterly.

Recommendation 8

Amend Table D4.1 as follows;

Delete the words Bi-annually and replace with Quarterly

Vermin and Fly control, Bird Control and Monitoring

Mr Lawlor stated that the presence of a landfill would lead to problems with the high quality of water required for a modern dairy farm. I note his concerns that landfill sites can result in significant increases in fly and bird populations. I note also the evidence given by Ms. Derbhla Ledwidge on behalf of the applicant and I agree that, if properly managed, increases in fly and bird populations can be prevented. It is obvious that minimising exposed waste is critical in the control of flies and I believe that this is adequately controlled by Conditions 5.6 and 5.7, 7.6, 7.7 and 11.5 of the Proposed Decision with the recommended amendments.

Recommendation 9

Add the following to Condition 7.8.1

- (d) details on the precautions (including supporting documentation) to be taken to minimise the secondary poisoning of birds and other species from the use of the insecticides and rodenticides proposed*
- (e) copies of any comments received from Dúchas on the vermin control proposed*
- (f) response proposed to complaints received about any vermin adjacent to the facility.*

Amend the 1st sentence of Condition 7.8.1 as follows:

Add the words and its surrounds after the word facility

A number of submission were made on the need for on-going consultation to

evaluate the success or otherwise of the nuisance control measures. I have made recommendations in regard to public consultation later on in this report as part of Recommendation 13.

Compensation of residents

Mr. Fergal O Byrne and others raised the issue of financial compensation. I note that in regard to a number of similar waste facilities, arrangements have been made to compensate local residents for the operation of a facility in their area. These arrangements have taken the form of a contribution towards local community projects financed by a percentage of the income per tonne of waste received. Following consideration of this issue I determined that the issue of financial compensation could not be adequately conditioned as part of a waste licence but rather was something that all parties have to reach agreement on. I believe such an agreement would be of benefit to all parties concerned.

Emergency Control

A number of concerns were raised by Mr. Doonan and others regarding the arrangements in the event of an emergency. I am satisfied that Conditions 9.1, 9.2,9.3,9.4,9.5 in conjunction with Recommendation 13 are sufficient to control and communicate emergencies on-site.

Surface water monitoring

The PD allows for the re-direction of sections of the Knockharley Stream around the footprint of the waste disposal area and diversion of the stream through the surface water lagoon. The PD requires the applicant to submit a pre-agreed proposal with the Eastern Regional Fisheries Board, to the Agency for agreement, on the diversion of the stream in these areas. Having considered the large capacity of the surface water pond and the potential concern that the stream could be polluted by the contents of the surface water pond. I recommend that the stream not be diverted through the surface water pond. The following amendment to the PD provides clarification as to the diversion of the Knockharley stream.

Recommendation 10

Delete Conditions 3.17.5 and 9.4.6

Amend Condition 3.17.3 to

Following consultation with the Eastern Regional Fisheries Board and within three months of the date of grant of licence the licensee shall submit to the Agency for agreement a proposal for the surface water arrangements on-site. The Proposal shall include drawings for the diversion of the on-site stream around the landfill and the diversion of the stream to the surface water pond as per Condition 9.4.5.

Ecology

I note the concerns raised regarding the disturbance of Badgers and the spread of TB in Cattle therefore I recommend that Condition 3.23 be amended as follows:

Recommendation 11

Amend Condition 3.23 as follows:

*Add the words **and the Department of Agriculture and Food** after the word **Duchas**.*

Add the Following sentence to Condition 3.23

Timetables for removal of trees and preliminary development work shall be in accordance with the requirements of the Wildlife Act 1996.

Litter

The representatives of the Kentstown National School raised concerns about litter reaching the school property. I am satisfied that the Condition 7.3 with the following amendment in addition to Recommendation 13 adequately controls litter arising from the site.

Recommendation 12

Add the following sentence to Condition 7.3.1:

Portable litter nets/screens shall also be present at the active tipping face.

Site Selection

Mr O Byrne, and others, expressed concern as to the methodology used for the selection of the Knockharley site. I am satisfied, having heard the presentation of Mr Cullen on behalf of the applicant, that an adequate site selection process was used.

Archaeological investigations

I note the concern raised by Mr. O Byrne that a full archaeological study should be completed particularly in relation to the farm building and Holy Well on-site. I am satisfied that Condition 8.12 will adequately protect any archaeological features identified; however I note that a full examination of the Holy well on-site was not completed due to flooding.

Recommendation 13

Amend condition 8.12 to insert the words *the Holy Well or farm building* after *undisturbed area*

Communications Programme

I consider that the spirit underpinning *condition 2.4* of the PD will in general provide for adequate communication with members of the public. However, I consider that the Applicant requires a structured approach to dealing with neighbours and should thus engage the services of an independent professional to prepare the communications programme. Hence, I propose an amendment to condition 2.4.

Recommendation 14

Delete Condition 2.4 and replace with the following:

2.4. Communications Programme.

Within three months of the date of grant of this licence, the licensee shall submit for agreement to the Agency, a Communications Programme prepared by an independent third party to achieve inter alia the following:

- To inform and involve the local community
- To identify and address concerns
- To set up a community liaison group
- To identify a Communications Co-ordinator to meet with the public individually or in groups to provide any information needed
- To provide information concerning the environmental performance of the facility at all reasonable times
- To alert the liaison group to proposals submitted to the Agency for agreement, provide copies of the proposal (as required) and provide an opportunity for comment
- To alert the liaison group to any incidents arising at the facility

- To consider the provision of experts to assist the local community in their understanding of the project
- To develop a system of information exchange for residents to include for example the completion of periodic newsletters, brochures, a web-site, media advertisements, educational materials, open-days and information sources.

Correction of Anomalies in the PD

The PD makes no provision for the acceptance of Non-hazardous waste sludge's. I propose no change to the PD in this regard.

Recommendation 15

- Amend Condition 3.5.2 to read
The proposed access road from the N2 shall be constructed prior to the commencement of construction of the remainder of the facility.
- Amend Condition 3.15.3 to read:
Flare unit efficiency shall be tested upon installation, upon commencement of landfill gas combustion and once every three years thereafter.
- Renumber condition 3.16.1 as 3.15.8, delete subtitle *landfill combustion plant.*
- Renumber Condition 3.21 *Meteorological monitoring* as 3.22 and continue through to the end of Condition 3
- Delete Condition 5.14.2 as it is repeated in Condition 3.14.5

3.4 RECOMMENDATIONS IN RELATION TO MATTERS RAISED IN THE WRITTEN OBJECTIONS

All participants to the Oral Hearing based their oral presentations on the written material previously submitted during the objection period. I am satisfied that these written objections have been addressed above.

3.5 OTHER RECOMMENDATIONS (IMPLEMENTATION OF THE LANDFILL DIRECTIVE)

I believe that the conditions of the PD as amended by these recommendations meet the requirements in relation to Conditioning plans as required by Council Directive 1999/31/EC.

Appendix A. Proposed Decision.

Appendix B. Objections to Proposed Decision.

Appendix C. Submission on Objection.

Appendix D. Letters of Appointment.

Appendix E. Correspondence

Appendix F. Table 1: Register of Papers Presented at the Oral Hearing.