

INSPECTORS REPORT

WASTE LICENCE REGISTER NUMBER 32-1

APPLICANT: Waterford County Council

Facility: Dungarvan landfill, Ballynamuck Middle, Dungarvan Co. Waterford.

Recommendation: That further acceptance of waste for disposal at the facility ceases and that a licence be granted for the restoration and aftercare of the landfill subject to conditions. The operation of a civic waste facility, a construction and demolition waste recovery area and a metal recovery area is proposed to be allowed at the facility subject to conditions.

(1) Introduction

This application is for the continued operation of Dungarvan landfill at Ballinamuck Middle, Dungarvan, Co. Waterford. A landfill has operated within the application boundary, comprising approximately 6.5 hectares, since 1968. The landfill is not an engineered landfill facility. Waste accepted at the landfill for disposal is deposited within unlined areas. There is no leachate collection, storage or treatment or landfill gas management undertaken at the facility at present. The landfill, is located along the southern bank of the Colligan river upstream of Ballyneety Bridge some 2 kilometres to the northwest of Dungarvan. The land in the immediate vicinity of the landfill consists of tillage and grassland with maize grown for silage in the land immediately adjoining the site. There is a piggery to the southeast of the facility. The nearest residential property is approximately 100m to the east of the facility boundary. There are approximately 24 residential properties within 500m of the facility. Waterford Joinery operate a joinery approximately 100m to the west of the facility. Access to the site is off the local road to the south of Ballyneety Bridge. The landfill is visible from the surrounding lowlying land in particular the land to the north from which there are open views of the site.

The site is located in the flood plain of the Colligan river, an important river for a salmonids supporting valuable stocks of brown trout, sea trout and salmon which provides an important resource for anglers upstream of the landfill. While the Colligan river is not designated as a salmonid river, it is considered by the Southern Regional Fisheries Board as one of the most important salmon and trout waters within the Boards region. The Colligan has also an important role in the regeneration of sea trout stocks. The Colligan River is tidal in the vicinity of the landfill and flows into Dungarvan Harbour downstream of the site. The site adjoins the proposed Natural Heritage Area (pNHA) for Dungarvan Harbour and is immediately upstream of the Special Protection Area for Dungarvan Harbour.

The application is for the continued disposal of non-hazardous waste at the facility within unlined cells. The operation of a Civic Waste Facility, A Metal Recovery Area and a Construction and Demolition Waste Recovery Area at the facility is also included in the application. An EIS was requested during the assessment of the licence application as a result of increases in the total waste volumes advised to the Agency in

the application. It is stated in the application (Section 2.4 Volume 2 of the EIS dated April 1999) that the landfill is considered to have an anticipated life expectancy up to the end of 2001. It is, however, also stated in the application that based on the current weighbridge records, the site will be filled to capacity before the end of 2001.

The applicant has applied for Classes 1,2,4,12,13 under waste disposal activities and Classes 2,3,4,8,11 and 13 under waste recovery activities in accordance with the third and Fourth Schedules of the Waste Management Act 1996.

Appendix 1 contains a site location drawing and a drawing showing the proposed site layout.

FACILITY VISITS:

DATE	PURPOSE	PERSONNEL
18/03/98	Site Notice Assessment	Tadhg O'Mahony
06/05/99	EIS Site Notice Assessment	Tadhg O'Mahony
26/08/98	Site visit	Tadhg O'Mahony, Gerry Carty
10/06/99	Site visit	Tadhg O'Mahony
28/03/00	Site Visit	Tadhg O'Mahony, Maeve Mc Hugh
16 /10/00	Site Visit- update on site development works and meet with Bird Control Ireland Ltd. re: bird control programme at the facility	Tadhg O'Mahony.

(2) Facility Development

Historical Development

The landfill has been in operation since 1968 and occupies an area of approximately 6.5 hectares. Waste from Dungarvan and its environs and from the west County Waterford area is accepted for disposal at the facility. The site was owned and operated by Dungarvan UDC until 1985 when the management of the facility was taken over by Waterford County Council.

In 1985 An Foras Forbatha produced a report on the continued operation of the Dungarvan landfill site. The report related to the extension of the landfill into the floodplain to the north of the dismantled railway line which runs through the site. The proposed extension of the landfill at that time was reported to have a life span of 9 to 10 years based on a rate of disposal of between 5,321 and 6,000 tonnes per annum. The report recommended that a minimum of 0.5m of the in situ low permeability silt clay layer be retained in the proposed landfill areas to prevent vertical movement of leachate. The report also included the following recommendations:

- construction of a flood protection bund adjacent to the river bank to preclude the influx tidal waters,

- the development of a surface water drainage system at the site including the provision of a non -return flap valve at the flood protection bund,
- the introduction of nuisance control measures to be introduced at the facility; and,
- landscape planting proposals within and adjacent to the landfill to maximise the screening of the site.

The Recommended PD takes into account these recommendations. Due to the continuation of landfilling at the site and the increase in the height of the landfill the litter control measures became ineffective in recent years. In addition, the landscaping planting proposals have not been introduced and there are long and short distant views of the facility from the roads and land in the immediate vicinity of the facility. The absence of adequate cover at the facility has resulted in odours and nuisance due to birds and flies at the facility. It should be noted that during 2000, the applicant employed a bird control professional to implement a bird control programme at the facility.

Remaining Capacity

The EIS submitted in April 1999 at the request of the Agency the predicted remaining quantity of waste to be deposited at the facility is estimated as 170,000 tonnes with an anticipated lifetime up to the end of 2001. This is based on an annual tonnage of 56,595 tonnes between 1999 and 2001.

Since the time of the application the waste quantities being disposed of at the facility have increased significantly from approximately 45,911 tonnes per annum for 1998 to 80,661 tonnes in 1999. It is considered likely that a similar quantity of waste as accepted in 1999 was also accepted at the facility during 2000. The applicant estimated that the maximum annual quantity of waste to be accepted at the facility during its remaining life would be 98,081 tonnes. Based on this figure it is likely that up to May 2001, a further 41,000 tonnes will have been accepted at the facility. Thus in the order of 248,233 tonnes of waste will have been accepted at the site during the period January 1998 to May 2001. Taking these waste quantities into account and the remaining capacity of the site predicted by the applicant in February 1998, as 170,000 tonnes, the capacity the site has now been exceeded. In addition, the increased waste input has resulted in a significant increase in the height of the landfill.

According to information on waste quantities in the application I estimate that in the order of 173,817 tonnes of construction material (clay) will have been accepted at the facility between January 1998 and May 2001. Some of this may have been used for ongoing restoration of the facility. A total of 200,000 tonnes of inert material (clay) has been predicted in the application to be required for restoration of the facility. Restoration of the facility can be achieved within two years of the date of grant of the licence based on the total quantity of inert waste, 100,000 tonnes allowed to be accepted at the facility by the PD.

Existing Facility

Appendix 1 shows the layout of the landfill site and shows the areas (areas 1 to 5 inclusive) within which waste has been deposited at the facility

A civic waste facility is located inside the entrance to the facility. Receptacles for storage of glass, beverage cans, newspapers and an area for storage of timber pallets are provided within the civic waste facility prior to collection for transport offsite. In addition, an area has been designated to the west of the facility office for the storage of white goods, abandoned vehicles and other metal wastes including batteries. Condition 5.10.2 prohibits the acceptance of abandoned cars at the facility and requires all abandoned cars currently stored at the facility to be removed for recovery at an appropriate facility within six months of the date of grant of the licence. This restriction is recommended due to the existence of rights of way through the facility and the potential for encouragement of unauthorised access to the facility due to the storage of the abandoned vehicles. The continued operation of the civic waste facility and the metal recovery area will be controlled under Condition 5.1, 5.8 and 5.10.

Infrastructure Requirements of the PD

The PD requires that a Construction and Demolition Recovery Area to be constructed at the facility for the recovery of construction and demolition waste and inert waste for use in site development works and in site restoration. Conditions 5.1 and 5.8 control the operation of this element of the facility. All the recovery areas at the facility are required to comprise hardstanding. Condition 3.24 requires a proposal for upgrading the infrastructure associated with the recovery activities at the facility.

A wheelwash, weighbridge, wastewater treatment unit, site office and a waste inspection and quarantine area are required to be maintained at the facility. Security fencing and gates are required to be maintained around the facility entrance. In addition security fencing is required to be installed and maintained around the civic waste facility, the metal recovery area and the leachate storage lagoon, the surface water retention pond and landfill gas flare/combustion plant.

Leachate collected and stored at the facility in accordance with the requirements of the Recommended PD is required to be transported from the leachate storage lagoon for treatment at a wastewater treatment subject to the prior agreement of the Sanitary Authority and the Agency. No direct discharge of leachate or other contaminated water to the River Colligan is permitted.

Condition 3.16 and 3.17 require effective surface water and groundwater management infrastructure to be maintained during construction, operation restoration and aftercare of the facility. These are required for the protection of surface water resources in the vicinity of the facility including the Colligan River, the habitats within the Dungarvan Harbour Special Protection Area and the proposed Natural Heritage Area and groundwater resources from pollution by the waste activities at the facility.

Condition 3.14.1 requires a system for the active abstraction, collection and flaring of landfill gas to be introduced at the facility. Proposals for the utilisation of landfill gas at the facility are required to be submitted (Condition 3.15.1.)

Condition 4.1 of the Recommended PD requires a Restoration Plan (including Aftercare) to be submitted. This plan is also required to address the ongoing protection of the habitats within and immediately adjoining the Colligan River and the Dungarvan Harbour Special Protection Area and proposed Natural Heritage Area.

(3) Waste Types and Quantities

The Recommended PD prohibits the disposal of waste at the facility. The landfill is required to be restored within two years of the date of grant of the licence. The acceptance of suitable inert waste, in accordance with the conditions of the licence is allowed to be accepted for the restoration of the landfill upto a maximum presettlement height (excluding the final capping system) of 15m O.D Malin Head in accordance with the Site Restoration and Aftercare Plan required by Condition 4.1. Suitable inert material for use in site restoration may be temporarily stored within the facility boundary.

The total quantity of inert waste permitted to be accepted for restoration of the facility is 100,000 tonnes per annum as specified in Schedule A: Waste Acceptance.

(4) Emissions to Air

Emissions to air from the facility will include landfill gas, landfill gas combustion products, dust, odours and noise. Emission limit values and environmental monitoring requirements are specified in *Schedule C: Emission Limits* and *Schedule D: Monitoring* respectively.

Landfill gas monitoring within the landfill area showed methane readings ranging from between 0.3% v/v and 83% v/v CH₄ indicating that methane is being generated within the waste mass. Methane was also detected at GW1 and GW2 at the southern edge of the landfill areas within the facility boundary. Perimeter landfill gas monitoring undertaken outside the southern and eastern facility boundary submitted as part of the application did not indicate the detection of landfill gas outside of the facility boundary. Perimeter monitoring of landfill gas is required to be undertaken at the facility as part of the environmental monitoring programme.

There is no landfill gas management programme currently in place at the facility. The introduction of the landfill gas management system as specified will control emissions of landfill gas from the facility.

Dust monitoring results submitted as part of the application indicate elevated dust deposition rates (ranging from 244 mg/m²/day to 769mg/m²/day) at locations adjacent to the southeastern facility boundary. These levels are stated to be attributed to truck movements along the internal unpaved haul roads during dry conditions. The site roads are required to be sprayed with water in dry weather so as to minimise airborne dust nuisance (Condition 7.4.1). The dust deposition limit stipulated in the licence is 350mg/m²/day. Dust monitoring is required to be undertaken at the facility.

A noise survey undertaken as part of the application indicated that the existing noise environment in the vicinity of the facility is primarily influenced by road traffic. The Recommended PD specifies daytime noise limits of 55 dB(A) and night time 45 dB(A) L_{Aeq} (30 minutes).

Potential nuisances associated with the facility will be controlled by Condition 7 – Environmental Nuisance. The control of vermin including birds at the facility is important due to the presence of agricultural land immediately adjacent to the facility and residential property in close proximity to the facility. Damage by birds to arable crops in the fields adjoining the facility has been raised as a concern by local landowners as has the removal by birds of waste, including animal waste, from the landfill onto adjoining farm land. As the facility adjoins the Dungarvan Harbour SPA and proposed Natural Heritage Area it is important that the bird control programme implemented at the facility does not impact on the use of the estuarine habitats by the natural population of estuarine birds.

Odours are a source of nuisance due to the acceptance of animal wastes and inappropriate operational practices in particular the application of inadequate cover. The prohibition of the acceptance of waste for disposal (including animal wastes) at the facility as well as the requirement for placement of cover and final capping will remove the potential for odours to give rise to nuisance. The active landfill areas and the areas/pits used for disposal of animal wastes at the facility are required to be covered with a minimum of 500mm of suitable inert cover material within one month of the date of grant of the licence. In addition, within three months the entire landfill is required to be covered with an intermediate cover to a minimum depth of 500mm. These requirements should significantly reduce the potential for odour due to exposed waste in particular animal waste at the facility. In addition, the attractiveness of the facility to birds and other vermin (insects and rodents) will also be reduced, as all exposed waste/ potential waste food sources will be covered.

(5) Emissions to Groundwater

Site Geology

Geological mapping for the area indicates that the site is underlain by Waulsortian Limestones(WA) which comprise massive unbedded limestones of more than 400m in thickness. To the east and north of the site, the Ballysteen Formation, in the order of 300m in thickness, has been mapped. The typical geological sequence within the site

thus consists of boulder clay underlain by silty clay with sand or gravel followed by sand and gravel over Waulsortian /Ballysteen limestones.

A stiff brown sandy boulder clay was encountered in site investigations over the south western part of the site upto a maximum thickness of 4m in places. Site investigations undertaken as part of the application indicate that the lower southwest corner of the site is underlain by the Ballysteen Formation and the remainder of the site by Waulsortian limestone. The Waulsortian limestone is highly fractured and karsified with the cavities infilled with sand.

Site Hydrogeology

The County Waterford Groundwater Protection Scheme (GSI, 1998) classifies the groundwater resources associated with the Waulsortian Limestone as Regionally Important. It is classed as an Rk aquifer where there is a significant component of groundwater flow in karstic conduits. The Waulsortian Aquifer is the most permeable and important aquifer in Co. Waterford and one of the most productive in the country (GSI, 1998). It supplies Dungarvan town from a groundwater resource which has the highest yielding wells in the country. The Ballysteen Limestones in County Waterford are classified as locally important, moderately productive in local zones.

Groundwater Vulnerability

According to the Groundwater Protection Scheme the groundwater vulnerability rating associated with the landfill and surrounding area is classified as extreme. Site investigations indicate the occurrence of a layer of low to moderate permeability overburden, in excess of 3m over the majority of the site apart from the eastern part of the site, where this layer is less than 3m. Based on this information, the applicant suggests that the majority of the site thus has a high vulnerability rating with an extreme rating associated with the eastern section of the site.

Due to the nature of the overburden the dominant groundwater flow is intergranular flow in the sands and gravels which due to their nature are likely to have a higher permeability. The relatively low permeability associated with the boulder clay found to occur to the south off the site is likely to provide a certain degree of protection to the underlying aquifer.

Due to the karsified nature of the Waulsortian bedrock beneath the site (confirmed to be highly fractured during site investigations) fissure flow is dominant and the rate and throughput of flow is likely to be high. A localised groundwater flow direction occurs from south to north. Recharge occurs to the south of the site where overburden is thin. Groundwater generally discharges in a narrow zone along the Colligan river through sand and gravel which is in continuity with the river.

Dungarvan Water Supply

The main Dungarvan water supply source is situated approximately 600m to the west of the landfill. The landfill is situated approximately 300m to the west of the zone of

contribution as shown in GSI –Dungarvan Public Supply- Groundwater Protection Zones (GSI, 1998). According to GSI 1998, the source of the Dungarvan water supply at Ballinamuck, is an excellent yielding well, which is located in a regionally important karstic limestone aquifer and the area around the supply is stated to be moderately to extremely vulnerable to contamination. In the County Waterford Groundwater Protection Scheme it is estimated that the public water supply at Ballinamuck is capable of producing at least 7,300m³/day, which is reported as being the highest recorded well yield in Ireland. It has been estimated in Dungarvan Public Supply- Groundwater Protection Zones (GSI, 1998) that the Ballinamuck source has a maximum yield of in the order of 9,800 m³/day.

Groundwater Quality

Groundwater monitoring undertaken between 1999 and 2000 at a number of locations along the southern edge of the landfill footprint during the consideration of the application shows elevated levels of ammonia at monitoring locations GW1 (25.1mg/l –58mg/l), GW 2(4.9 -6.6 mg/l), RC4 (1.2mg/l -6.6 mg/l) and RC6 (930 -1191 mg/l). These concentrations of ammonia indicate groundwater pollution. Groundwater monitoring location RC1 situated to the east of the landfilling area had ammonia levels of 0.73 - 2.2 mg/l. List I (cadmium-0.0009mg/l and mercury-0.0002 mg/l) and other List II substances were also detected at the groundwater sampling locations.

Chromium (List II) levels, associated with the disposal of tannery waste at the facility, detected in groundwater ranged from 0.0065 mg/l to 0.0365mg/l. The maximum level recorded 0.0365 was recorded in RC 6, which also gave the highest levels of ammonia recorded.

Groundwater beneath the facility is considered to be currently unsuitable for agricultural, commercial, domestic, fisheries, industrial or recreational uses. This is due mainly to contamination of groundwater by leachate generated at the facility and also tidal intrusion from the estuary. The Dungarvan Landfill is not an engineered landfill facility. Waste is deposited within unlined areas within the facility. There is no leachate collection, storage or treatment undertaken at the facility at present. Due to the proximity of the landfill to the River Colligan and the potential for ongoing discharge of leachate to surface water and groundwater leachate management and surface water management at the facility will be critical to ensure the ongoing protection of surface water and groundwater resources in the vicinity of the facility.

The leachate management system required by Condition 3.13. is required to be installed and commissioned within twelve months of the date of grant of the licence. Once installed and commissioned this will minimise the discharge of leachate from the landfill area to surface water and groundwater during restoration and aftercare. The effectiveness of the proposed leachate collection mechanism will be monitored by the installation of a series of monitoring boreholes parallel to the leachate collection drain.

The requirement for all areas of the landfill to be permanently capped within eighteen months of the date of grant of the licence (Condition 5.2.3), will significantly reduce

the infiltration of rainfall into the landfill areas with a resulting reduction in the quantity of leachate generated within the facility.

Conditions 3.16 and 3.17 of the Recommended PD require the licensee to ensure the protection of surface water and groundwater resources in the vicinity of the facility from contamination due to the waste activities (including the storage of leachate and contaminated surface water at the facility) during construction, operation restoration and aftercare.

The introduction of the leachate management system and surface water management system as specified in the Recommended PD will ensure that the emission of leachate to surface water and groundwater will be minimised during restoration and aftercare.

(6) Emissions to Surface Waters

The Colligan River adjoins the northern boundary of the landfill and is an important river for salmonids. Biological monitoring undertaken as part of the application indicates that the water quality in the Colligan River upstream and downstream of the landfill is good quality. Water quality monitoring of the open drain running along and within the southern facility boundary showed evidence of leachate contamination with ammonia levels of between 1425 – 2050 mg/l ammoniacal nitrogen. Chromium levels recorded in this drain ranged between 0.06 and 0.44 mg/l.

In the summary of the main findings of the EPA Report “Water Quality in Dungarvan Harbour 2000” it is stated that

“ on the negative side, there has been a significant increase in ammonia concentrations in the Colligan river in the vicinity of the landfill site at Ballyneety since 1998 and there are carry over effects to Dungarvan town.”

Surface water quality monitoring results from the Colligan River, dated September 1999 upstream and downstream of the facility submitted in the application showed elevated levels of chromium, zinc and nickel in the vicinity of the facility.

Biological and surface water quality of the River Colligan upstream and downstream of the facility is required to be undertaken annually as part of the environmental monitoring programme for the facility.

The applicant’s consultants undertook an assessment of heavy metal contamination, macroinvertebrates and macro-algae (biota) in March 1999 in the Colligan estuary, upstream, at, and downstream of the landfill. The findings of this assessment have not indicated any significant level of contamination of the biota in the vicinity of the landfill. Chromium contamination in *Nereis* sp.(mud dwelling worm) downstream of the facility was, however, detected and stated to be possibly attributed to historical chromium contamination of Dungarvan Harbour. Reference is also made to possible lead contamination in *Gammarus* sp., upstream of the site though this is stated to be possibly attributed to sample contamination.

The Recommended PD includes a requirement for annual monitoring of the sediments, water quality, and macroinvertebrates and macroalgae in the Colligan River, upstream and downstream of the landfill facility to be undertaken for the first two years following grant of the licence. Following this period and subject to the results of the monitoring programme the frequency of monitoring may be changed to biennial. The monitoring locations used in the monitoring programme required in the Recommended PD are required to reflect those used in the above mentioned March 1999 assessment of the Colligan estuary in the vicinity of the landfill as undertaken by the applicants consultants.

The monitoring programme associated with the Colligan River in the vicinity of the landfill and specified in the Recommended PD has taken into account the recommendations in the Dungarvan Harbour –Water Quality Management Plan 1994.

(7) Other Issues

Rights of way

The applicant has not to date been able to prevent access to the site by members of the public due to the presence of three rights of way through the site AS shown in *Drawing DUN-LF-010 –Public Rights of Way-Dungarvan Landfill* of the application. The applicant has stated in information submitted in September 2000 in relation to the right of way that the issue of public access to the site is of great concern to them, however, they state that “*due to the presence of the rights of way through the site it is not possible to implement measures to prevent access...*” The applicant, does however, state that it is proposed to install a security system at the entrance to the landfill in the form of a lighting system and CCTV Cameras.

The control of unauthorised access is a serious public safety issue at the facility.

Condition 3.4.1 requires security fencing to be maintained around the facility boundary and gates to be maintained at the facility entrance. In addition security fencing is required to be installed and maintained around the civic waste facility, the metal recovery area and the leachate storage lagoon, the surface water retention pond and landfill gas flare/combustion plant. These requirements will ensure that these elements of facility infrastructure will be secured from unauthorised access. Condition 3.4.3 requires the rights of way through the facility to be fenced so as to prevent access to the operational areas of the landfill from users of these rights of way.

(8) Waste Management, Air Quality and Water Quality Plans

Waste Management Plan 1997-2002

It has been recognised by Waterford County Council for some time that the Dungarvan landfill has a finite life. The development of a new landfill facility is the subject of investigations by the County Council and consultants acting on their behalf.

In the Waterford County Council Waste Management Plan (1997-2002) 1998 it is stated that the “ *Dungarvan landfill is practically at the end of it’s useful life*”. This statement is based on annual waste input capacity of 25,039 tonnes.

Section 5.5.1 of this Plan recommends the closure of the existing outdated landfill facility at Dungarvan and the introduction of proper aftercare practices and procedures. The policy outlines the aftercare practices which will be implemented at the facility which include the following:

- proper maintenance of finished ground surfaces;
- monitoring of landfill gas;
- monitoring of surface run off and leachate;
- monitoring of the groundwater regime in the area;

It is also stated that aftercare procedure will be strictly carried out in accordance with mandatory requirements and best practice

South East Regional Waste Management Strategy

The management of waste generated within County Waterford is included in the South East Regional Waste Management Strategy. The objective of this strategy is the production of an overall integrated waste management strategy for the South- East Region.

Water Quality Management Plan for Dungarvan Harbour

In the Dungarvan Harbour Water Quality Management Plan 1994, it is stated that the remaining capacity of the Dungarvan Waste Disposal Site is diminishing rapidly and the remaining life is no more than two to three years at best. In addition, it is stated that while it is evident that the site will close in the next few years, leachate production will continue for many years to come and its effect needs to be assessed. It is stated in the plan that a review of available data for the River Colligan from 1989 to 1993 upstream and downstream of the landfill has indicated that while no significant change in dissolved oxygen is evident, the BOD levels alter from an average of 1.1 mg/l upstream to 1.7mg/l downstream. This increase is stated to be in line with predictions in the 1985 An Foras Forbatha report. Average ammonia levels were also found to increase from 0.05 mg/l to 0.17 mg/l between the upstream and downstream monitoring location. Reference is also made to a high lead content recorded in a stream sediment within the landfill site (Water Quality in Dungarvan Harbour Report, 1990). Water samples from this stream and another *leachate stream* are stated to have shown elevated levels of metals in particular zinc and chromium. Sediment analysis recorded during a 1993 survey are stated to show elevated metal levels in the vicinity of the landfill with lower levels recorded upstream and downstream.

The Plan, however, concludes that in general with the exception of slightly elevated metal levels the landfill site would appear to be having a minimal effect on the quality

of the River Colligan. It is stated however, that future studies would need to be undertaken to verify this. The most recent EPA report on Water Quality in Dungarvan Harbour (based on monitoring undertaken during 2000) reports a significant increase in ammonia concentrations in the Colligan River in the vicinity of the landfill site at Ballyneety Bridge, immediately downstream of the landfill since 1998.

(9) Reasons for the Recommendations

The proposed continued disposal of waste at the facility would not comply with the requirement of Section 40(4) of the Waste management Act, 1996 as this activity would result in environmental pollution.

I recommend that no further waste is accepted at the facility for disposal at the facility and thus recommend refusal of waste disposal activity Class 1 (Deposit on in or under land) of the Third Schedule and Class 2 (Land treatment including biodegradation of liquid and sludge discards in soils) of the Third Schedule of the Waste Management Act, 1996. I recommend the grant of a licence to allow the acceptance of inert waste only for the restoration of the landfill (Condition 1.4) to a maximum final post-settlement height (excluding the final capping system) of 15m O.D Malin Head as specified in Condition 4.3. I recommend that the closure and restoration of the site in accordance with the conditions of the Recommended PD should be commenced immediately and the restoration of the facility is completed within twenty-four months of the date of grant of the licence (Condition 4.7). The Recommended PD restricts the total quantity waste to be accepted at the facility to maximum total quantity of 50,000 tonnes of inert waste only (Condition 1.4).

In reaching my recommendations I have had regard to the following:

1. Surface Water and Groundwater Resources

Groundwater resources

- List I (cadmium and mercury) and List II (Ammonia, and metals including- chromium, zinc, copper, nickel, arsenic) substances have been detected in the groundwater. Ammonia has been detected in significant concentrations. The discharge of List I substances to groundwater as a result of the continued disposal of waste at the facility would constitute a breach of Article 40 of the Local Government (Water Pollution)(Amendment) Regulations, 1999 and the Groundwater Directive.
- The presence of highly fractured and karsified Waulsortian limestone bedrock beneath the site and an associated Regionally important aquifer beneath the facility with high to extreme vulnerability within and in the immediate vicinity of the facility. This aquifer is the source of the Dungarvan water supply located 600m to the west of the facility.

Surface Water Resources

- Groundwater flow from south to north across the site results in discharge of leachate generated within the landfill to the River Colligan. which adjoins the northern boundary of the facility;
- The Colligan River which is an important river for salmonids, supports important stocks of brown trout, sea trout and salmon, and is a valuable amenity for anglers directly adjoins the northern boundary of the facility; and,
- There is evidence of increased ammonia concentrations in the Colligan river in the vicinity of the landfill at Ballyneety Bridge downstream of the landfill facility since 1998, (EPA, 2000).

2. Ecologically Valuable Habitats

The continued acceptance of waste for disposal at the facility has potential *to adversely impact the countryside and places of special interest*. This would cause environmental pollution and would be in breach of Section 40(4) of the Waste Management Act, 1996. The ecologically valuable habitats adjoining the facility include the following:

- The Dungarvan Harbour Special Protection Area (S.I No. 349 of 1994 European Communities (Conservation of Wild Birds (Amendment) (No.2) Regulations, 1994.) designated in accordance with the Birds Directive, is approximately 100m down stream of the facility boundary; and,
- The Colligan River adjoining the facility is a proposed Natural Heritage Area.

3. Remaining capacity of the landfill

- It is stated in the application that the landfill is considered to have an anticipated life expectancy upto the end of 2001. Based on the records of waste input at the site, the applicant anticipates that the site will be filled before this time.
- Taking into account the remaining capacity of the site predicted by the applicant in February 1998 and the increased rate of waste input to the site since the application was made it is my view that the site has now far exceeded its predicted capacity.
- The increased waste input at the facility has resulted in a significant increase in the height of the landfill. The continued acceptance of waste at the facility will result in further increase in the height of the facility with associated visual intrusion.
- The increased height of the landfill could result in potential stability problems with the perimeter landfill embankment.

In addition to the above, it is stated in the current Waste Management Plan for Waterford dated 1998, that the “*Dungarvan landfill is practically at the end of it's useful life*”. This statement is based on annual waste input capacity of 25,039. The closure of the existing outdated landfill facility at Dungarvan is recommended in the Plan and the introduction of proper aftercare practices and procedures.

4. Landfill Design

The landfill is not an engineered landfill and is unlined. There is no leachate or landfill gas management system at the facility. In addition there is no available space within the facility boundary which would facilitate the construction of engineered cells to meet BATNEEC Standards. There is evidence of discharge of leachate to groundwater and surface water and this would increase if the disposal of municipal waste at the facility is allowed. The continued acceptance of waste for disposal at the facility would thus result in a continued risk to surface and groundwater resources in the vicinity of the facility.

The conditions of the Recommended PD including the incorporation of leachate, surface water and groundwater management in the facility will significantly reduce the potential for the facility to impact on the groundwater surface water resources (including the adjoining ecological habitats) in the vicinity of the landfill during restoration and aftercare of the facility.

The inclusion of Class 4 and 13 of the Third Schedule as licensed waste disposal activities allow for the development of a leachate management system at the facility and the storage of rejected waste at the facility prior to removal offsite for disposal. Classes 2,3, 4 and 13 of the Fourth Schedule allow for recycling activities at the civic waste facility and the metal recovery area. In addition classes 4 and 11 allow for the use of inert waste in site development works and for the restoration of the facility. The waste activities allowed in the Recommended PD will comply with the requirements of Section 40(4) of the Waste Management Act, 1996, provided these activities are undertaken in accordance with the conditions of the Recommended PD.

I recommend that Classes 11 and 12 of the Third Schedule and Class 8 of the Fourth Schedule of the Waste Management Act, 1996, also be refused. No relevant proposals were included for these activities in the application.

(10) Submissions/Complaints

78 submissions were received during the consideration of the application. Of these 57 were associated with a single covering letter. An overview of all submissions received in relation to the waste licence application is provided in Appendix 2. The issues raised in the submissions are addressed under the following broad headings:

- Nuisances
- Site location
- Health Impact
- State of roads/traffic/damage to nearby property
- Groundwater
- Leachate Control
- Surface Water
- Landfill Gas Management/Emissions to Atmosphere

- Right of way.
- Waste Types
- Lack of Commitment from Waterford County Council to Protect the Environment
- Life Span of the facility
- Impact on Agriculture
- EIS
- Other Issues.

Opposition to the continued operation of the landfill facility is expressed in the majority of the submissions.

Signed _____

Dated:

Tadhg O'Mahony

APPENDIX 1

LOCATION PLAN & GENERAL SITE LAYOUT PLAN

APPENDIX 2 SUBMISSIONS

An overview of the issues raised in the submissions received in relation to the application is provided below.

1. Nuisances

Nuisances associated with the operation of the facility raised in submissions include odours, litter, and rats, flies and birds and are addressed separately below.

The Recommended PD prohibits any further disposal of any waste within the facility boundary apart from inert waste for use in site development works and restoration of the facility. Condition 4 requires the facility to be restored on a phased basis in accordance with a restoration and Aftercare Plan agreed with the Agency.

The Recommended PD prohibits any further disposal of waste within the facility boundary apart from inert waste for use in site development works and restoration of the facility. The potential for nuisances including, odours, rats, litter, flies and birds associated with the continuation of waste disposal activities authorised at the facility will be significantly reduced during the restoration and aftercare of the facility.

The issues raised under nuisances are addressed below:

(a) Odour

- Concerned was expressed due to odours from the facility including odour from uncovered tannery waste, odour due to inadequate disposal, odour from uncovered pits, odour from the facility on humid nights.

Response:

I note the concerns due to odour emission due to waste activities at the facility. The disposal of animal waste including tannery waste at the facility has potential to result in odours. The non application of daily cover in particular in those areas used for the disposal of animal wastes can result in potential for nuisance due to odours.

Condition 7.1 requires the licensee to ensure that odours do not give rise to nuisance at the facility or in the immediate vicinity of the facility. Condition 8.13.1 requires the facility and its environs to be inspected twice a week for nuisances due to odours. Written records including any actions required are required to be made by the licensee. Condition 5.2.2 requires the placement of cover material over the active landfill areas including areas used for the disposal of animal wastes within one month. Condition 5.2.3 requires an intermediate cover of 500mm to be placed across the whole landfill within three months of the date of grant of the licence. Condition 3.14 specifies the landfill gas management system to be introduced at the facility. The measures outlined above and the prohibition of waste disposal at the facility will significantly reduce the potential for odours arising to result in nuisance at the facility or in the immediate vicinity of the facility.

(b) Litter

- *Lack of litter control – rubbish escaping onto adjacent property, lack of proper litter fencing, lack of commitment from management in relation to litter fencing.*

- *Lost rubbish from trucks blowing onto land.*

Response:

See also response under 1 (a) Odours in relation to the placement of inert cover at the facility. Notwithstanding these requirements litter control measures at the facility are specified in Condition 7.3. These measures would apply in relation to the operation of a Civic Waste Facility. Condition 7.3.2 requires any litter and waste accumulated around the facility and its immediate surrounds to be removed within one month of the date of grant of the licence. The licensee is required to confirm that this has been undertaken. Condition 7.1 requires the licensee to ensure that litter does not give rise to nuisance at the facility or in the immediate vicinity of the facility. Condition 8.13.1 requires the facility and its environs to be inspected twice a week for nuisances due to litter.

(c) Rats

- *Landfill provides a source of food for the rat population.*
- *Rats invading nearby residents causing a nuisance.*

Response:

The placement of cover (See also response under 1 (a) Odours in relation to the placement of inert cover at the facility) on exposed waste at the facility will reduce the potential for rodents to give rise to nuisance. The requirement to remove any litter and waste accumulated around the facility and its immediate surrounds will further reduce the potential for rodents to give rise to nuisance. Condition 7.1 requires the licensee to ensure that vermin do not give rise to nuisance at the facility or in the immediate vicinity of the facility. Condition 8.13.1 requires the facility and its environs to be inspected twice a week for nuisances due to vermin (including rodents). Condition 11.5 requires the licensee to submit a proposal for the control and eradication of vermin and fly infestations at the facility. These control measures will be required to continue at the facility during the restoration and aftercare of the facility.

(d) Flies

- *Flies causing gastro-enteritis and disease to nearby residences.*
- *Fly population is so large it is invading houses in the surrounding area.*

Response:

The placement of cover (See also response under 1 (a) Odours in relation to the placement of inert cover at the facility) on exposed waste at the facility will reduce the potential for flies to give rise to nuisance. The requirement to remove any litter and waste accumulated around the facility and its immediate surrounds will further reduce the potential for flies to give rise to nuisance. Condition 7.1 requires the licensee to ensure flies do not give rise to nuisance at the facility or in the immediate vicinity of the facility. Condition 8.13.1 requires the facility and its environs to be inspected twice a week for nuisances due to flies. Condition 11.5 requires the licensee to submit a proposal for the control and eradication of vermin and fly infestations at the facility. These control measures will be required to continue at the facility during the restoration and aftercare of the facility.

(e) Birds

- *Crow population has grown out of control due to a plentiful supply of food.*
- *Crows have destroyed acres of maize.*

- *Regularly large quantities of fleshings are dumped in open pits for crows and other scavengers to feed on. The crows then proceed to wash in nearby water tanks on farms, causing the farmer concern over the issue of transfer of BSE and other diseases.*
- *Anglers concerned about spread of disease by animals in the air.*
- *It has been stated that in May of 1998 'Rentokil' were hired to kill birds at the landfill and that thousands of birds were killed including songbirds.*

Response

The placement of cover (See also response under 1 (a) Odours in relation to the placement of inert cover at the facility) on exposed waste at the facility will reduce the potential for birds to give rise to nuisance. Condition 7.1 requires the licensee to ensure birds do not give rise to nuisance at the facility or in the immediate vicinity of the facility. Condition 8.13.1 requires the facility and its environs to be inspected twice a week for nuisances due to birds.

Bird control measures, including the use of birds of prey and other bird scaring techniques have been introduced at the facility during the previous twelve months. Condition 7.7.1 requires a site-specific bird control programme to be implemented at the facility. These control measures will be required to continue at the facility during the restoration and aftercare of the facility.

2. Site location

- *Inappropriate site just outside the urban boundary on the bank of the Colligan River, and yards from the estuary a designated SPA.*
- *Site does not lend itself to proper or containment controls*
- *Site is now full and should be in the aftercare stage. People concerned about the effect of the landfill from a tourist point of view – visual impact, pollution, water damage, and danger of falling house prices.*
- *Also referred to is the deterioration in the numbers of fishermen frequenting the 'Poulmore'; deterioration in the numbers of sea trout in the 'Poulmore' during the summer months.*

Response:

I note the issues raised and recognise the presence of the Colligan River and the associated ecologically valuable habitats (Dungarvan Harbour Special Protection Area (SPA) and proposed Natural Heritage Area (pNHA) adjacent to the facility boundary. The Recommended PD prohibits any further disposal of waste including animal wastes within the facility boundary apart from inert waste for use in site development works and restoration of the facility. Condition 4 requires the facility to be restored on a phased basis in accordance with a restoration and Aftercare Plan agreed with the Agency. This plan is required to incorporate details of the ongoing protection of the Colligan River and associated habitats including those within the SPA and the pNHA. Leachate management, surface water management and groundwater management requirements are specified in Conditions 3.13, 3.16 and 3.17 respectively of the Recommended PD. The surface water management at the facility is required to prevent contaminated water and leachate discharges from discharging to the River Colligan and associated habitats including those within the SPA and the pNHA

Surface water quality (including invertebrates and fisheries) and ecological monitoring of the Colligan river and River and associated habitats including those within the SPA and the pNHA are required to be undertaken as part of the environmental monitoring programme for the facility. This monitoring will continue during the restoration and aftercare of the facility.

The restoration of the facility and the associated landscape planting will reduce the visual intrusiveness of the landfill. The operation of the landfill in accordance with the requirements of the Recommended PD will result in a significant improvement of the facility and a resulting reduction in the potential for landfill related environmental nuisances in the vicinity of the facility.

3. Health Impact

- *Residents concerned about children's health. A child admitted to hospital with clinical dehydration due to constant vomiting and diarrhoea. (Doctors report stating that flies maybe to blame for transfer of disease).*
- *Flies acting as carriers of disease causing gastro-enteritis.*
- *Residents concerned about pollution of water supply by toxic substances in the landfill and to the presence of fleshings at the dump and also the spread of BSE from such material.*

Response:

The Recommended PD prohibits any further disposal of waste including animal wastes within the facility boundary apart from inert waste for use in site development works and restoration of the facility. Condition 4 requires the facility to be restored on a phased basis in accordance with a Restoration and Aftercare Plan agreed with the Agency. See response under 1 (a) in relation to odour control in particular the requirements for cover at the facility and 1 (d) in relation to the control and prevention of nuisance due to flies at the facility.

4. State of roads/traffic/damage to nearby property

- *The surface and structure of the roads have been severely damaged by heavy machinery hauling materials to the landfill and the use of two track machines employed by the council.*
- *Roads were not constructed or designed for this purpose.*
- *Roads are constantly dirty and dangerous during wet weather and are in need of reconstruction and resurfacing.*
- *The proposed increase in traffic is also raised as an issue. No mitigation measures for increased traffic.*
- *Damage to trees, bushes and scrub. Vandalism on property due to the use a 'tracked digger'.*

Response:

The maintenance of the local road network and the reference to damage to trees, bushes scrub and property is a matter for the local authority. Condition 3.5.3 requires the licensee to ensure that the approach roads in the immediate vicinity of the facility, the facility entrance is maintained to the appropriate standard to facilitate movement of waste related traffic to and from the facility.

5. Groundwater

- *Residents concerned about pollution of water supply by toxic substances in the landfill and to the presence of fleshings at the dump.*
- *Reference is made to a damaged borehole RC5 – an area where tannery waste is deposited and disputes the claim that monitoring cannot be carried out at this well due to inadequate access.*
- *The effect the landfill has on the Dungarvan drinking water boreholes is raised as an issue and states it would be highly irresponsible of the EPA to allow dumping to continue so near the source of the drinking water.*
- *Risk of groundwater contamination from prion particles (BSE) and from other materials (industrial waste of animal origin) going to landfill.*

Response:

The Recommended PD prohibits any further disposal of waste including animal wastes within the facility boundary apart from inert waste for use in site development works and restoration of the facility. Condition 4 requires the facility to be restored on a phased basis in accordance with a restoration and Aftercare Plan agreed with the Agency.

The environmental monitoring programme required to be implemented at the facility includes monitoring of groundwater at locations within the facility boundary. The parameters and the frequency of groundwater monitoring are specified in Schedule D. Condition 3.22.2 requires the licensee to install one groundwater monitoring borehole upgradient and two downgradient of the facility. In addition, Condition 8.6 requires any private wells within 500m of the facility to be included in the environmental monitoring programme for the facility. Condition 3.23 requires any monitoring infrastructure which is found to be damaged or proves to be unsuitable for its purpose to be replaced. Leachate management, surface water management and groundwater management requirements are specified in Conditions 3.13, 3.16 and 3.17 respectively of the Recommended PD.

The requirement for final capping is specified in Condition 4.4 and this is required to be in place in all areas of the landfill within eighteen months of the date of grant of the licence. The requirements to immediately place cover material on the landfill, the placement of the final engineered cap and leachate management incorporating leachate collection and storage prior to removal offsite for treatment will significantly reduce the quantities of leachate being generated at the facility as well as the potential for leachate to be discharged to surface water and groundwater. Condition 3.17 requires effective groundwater management to be introduced at the facility to protect the groundwater resources from pollution by the waste activities and the storage of leachate and contaminated surface water at the facility.

6. Leachate Control

- *Lack of leachate control is raised– several different streams flowing from the Landfill into the Colligan River and Poulmore.*
- *The inadequate disposal of tannery wastes is referred to; not enough or no cover been used; if enough cover was used this would reduce the amount of leachate generated and prevent rainfall seeping down into the tannery waste.*
- *The potential for leachate contamination of the River Colligan and Poulmore and the potential impact on fish stocks is referred to several times. The presence of a spring in the southwest corner of the landfill is mentioned which combined with wet weather add to a series of streams of effluent flowing to the river.*
- *No leachate infrastructure on-site. There is a need for lined drains and storage area for leachate.*
- *Leachate should be collected and taken away for treatment. Due to the absence of a liner, leachate is seeping directly into the river untreated.*
- *The inadequacy/purposelessness of the leachate lagoon is also referred to. The level remains the same despite the increases in leachate going to the lagoon.*
- *Leachate is escaping out of the lagoon.*
- *It is questioned why the leachate lagoon is now not going to be lined and questions the statement that lining of the lagoon will reduce leachate concentration by 5%. It is a belief that the majority of the leachate is escaping underneath the landfill.*
- *Upgrade of flood barrier to the east of the site has not been undertaken.*

Response:

Condition 3.13 specifies the leachate management infrastructure required to be introduced at the facility. This includes the collection of a leachate collection drain around the perimeter of the landfill, the storage of leachate collected in this drain in a lined leachate storage lagoon prior to transport offsite for treatment. See also response under 5 *Groundwater* in relation to the reduction in the quantity of leachate generated at the facility due to the placement of cover material and an engineered

final cap at the facility. The discharge of leachate to the Colligan River is prohibited by Condition 6.5 of the Recommended PD.

The Recommended PD prohibits any further disposal of waste within the facility boundary apart from inert waste for use in site development works and restoration of the facility. Condition 4 requires the facility to be restored on a phased basis in accordance with a Restoration and Aftercare Plan agreed with the Agency.

The Recommended PD specifies the environmental monitoring to be undertaken at the facility which includes surface water, leachate and groundwater and ecological monitoring. This will enable the effectiveness of the leachate management system at the facility to be determined.

Condition 3.16.4 requires the licensee to maintain an embankment along the boundary of the facility with the River Colligan to preclude tidal waters and flood waters from the facility.

7. Surface Water

- *It has been stated that the site is prone to pollution seepage into the Colligan River due to the fact that site drains have been dug from the site into the river and further development on-site would increase the adverse effects of these drains*
- *The Mill Boreen is used as a drain.*
- *Vulnerability of fish stocks in the Colligan River and Poulmore with regard to contamination from chemicals leaching from Tannery waste.*
- *Deterioration in the number of sea trout in the Poulmore during the summer months.*

Response:

The Recommended PD prohibits any further disposal of waste including animal wastes within the facility boundary apart from inert waste for use in site development works and restoration of the facility. Condition 4 requires the facility to be restored on a phased basis in accordance with a restoration and Aftercare Plan agreed with the Agency. See responses under 2 *Site Location* and 6 *Leachate Control*.

8. Landfill Gas Management/Emissions to Atmosphere

- *There is no gas management system in place.*
- *Air emissions, including methane gas are not controlled and monitored properly.*

Response:

The licensee is required to install and commission a system for the active collection and flaring of landfill gas at the facility. The feasibility of utilisation of landfill gas generated at the facility is required to be assessed by the licensee. The environmental monitoring programme includes requirement for landfill gas monitoring within and around the perimeter of the landfill. In addition landfill gas combustion products from the flare unit and the landfill gas combustion plant, if assessed to be feasible, are also specified in the Recommended PD. Emission limits for landfill gas and the combustion products of landfill gas flare/ combustion plant are specified in Schedule C: Emission Limits.

The Recommended PD also requires monitoring of noise and dust to be undertaken at the facility and emission limits are set for these parameters in Schedule C: Emission Limits.

9. Right of way.

- *The issue of the historical right of way through the southern part of the landfill along the 'Mill Boreen' and the fact that this had been incorporated into the landfill and made impassable is*

raised. It is questioned whether the authorities contacted or consulted with interested parties such as landowners or fishermen before doing this.

- *People are now being threatened by W.C.C with prosecution for using the entrance to the Mill Road.*

Response:

The Inspector is aware of the existence of rights of way through the facility. The Recommended PD requires the facility to be restored within two years of the date of grant of the licence. In addition no waste for disposal at the facility is permitted to be accepted from the date of grant of the licence. This is addressed under *Section 7- Other Issues of the Inspectors Report*. Condition 3.4.1 requires security fencing to be installed and maintained around the facility boundary and gates at the facility entrance. In addition security fencing is required to be installed and maintained around the civic waste facility, the metal recovery area and the leachate storage lagoon, the surface water retention pond and landfill gas flare/combustion plant. These requirements will ensure that these elements of facility infrastructure will be secured from unauthorised access. The rights of way through the facility are required to be fenced so as to preclude access to the operational area(s) of the landfill by users of the rights of way. Condition 5.4.5. prohibits scavenging at the facility.

10. Waste Types

- *The inadequate disposal of tannery wastes (from Dungarvan and Portlaw Tanneries) is referred to and is giving rise to several issues including odour; potential damage to the Rivers Colligan and Poulmore and their fish stocks. The best disposal practice for this waste would be a green field site within one mile of the tannery.*
- *Unsuitability of the site for acceptance of tannery waste in itself as well as the inappropriateness of the transport distance between Portlaw (where tannery waste is produced) and Dungarvan (where it is disposed of).*
- *Slope Instability/Potential for Landslides due to the tannery waste in its foundation.*
- *5 lorry loads of asbestos waste were accepted at the facility between May and August 1998 but that Table E.1.2 of their application does not specify 'bonded asbestos' or 'other asbestos'.*
- *Scores of cattle ears uncovered at the site*
- *Extensive and on-going monitoring required due to the nature and volumes of material deposited.*

Response:

The Recommended PD prohibits any further disposal of waste within the facility boundary apart from inert waste for use in site development works and restoration of the facility. Condition 4 requires the facility to be restored on a phased basis in accordance with a restoration and Aftercare Plan agreed with the Agency. Condition 4 requires the facility to be restored on a phased basis in accordance with a restoration and Aftercare Plan agreed with the Agency. The acceptance of inert waste for use in restoration of the facility will be required to comply with the standards specified in *Schedule F: Criteria for the acceptance of Inert Waste*. Written records of all waste arriving at the facility will be required to be maintained in accordance with Condition 10.2. See response under *1a) Odours* in relation to odour control in particular the requirements for placement of cover material at the facility. The licensee is required to undertake environmental monitoring of the, groundwater, leachate surface water and associated habitats within and in the vicinity of the facility. The environmental monitoring programme is specified in *Schedule D: Monitoring*

11. Lack of Commitment from Waterford County Council to Protect the Environment

- The prosecution by W.C.C. of Dungarvan tannery (and other local residences for littering offences) for pollution breaches while themselves disposing of the waste close to the River Colligan with no disciplinary action having been taken.
- The unsuitability of Waterford County Council to have the responsibility for disposing of tannery waste is raised as an issue.
- Poor Operating practices on-site are alluded to.
- EPA should take criminal action against WCC for their carry on over the last ten years.
- It has been stated that nothing has been done by WCC regarding land, water and air pollution.
- People have been threatened with prosecution by Dungarvan Urban District Council.

Response:

The Recommended PD prohibits any further disposal of waste including tannery waste within the facility boundary apart from inert waste for use in site development works and restoration of the facility. Condition 4 requires the facility to be restored on a phased basis in accordance with a restoration and Aftercare Plan agreed with the Agency. The facility will be required to be operated in accordance with the conditions and operational practices specified in the Recommended PD. The licensee is required to undertake environmental monitoring of the, groundwater, leachate surface water and associated habitats within and in the vicinity of the facility. The environmental monitoring programme is specified in *Schedule D: Monitoring*

12. Life Span of the facility

- Concern expressed at the future filling areas on the Landfill and the filling policy in general.
- It is stated that some future filling areas have been filled in already.

Response:

The Recommended PD prohibits any further disposal of waste within the facility boundary apart from inert waste for use in site development works and restoration of the facility. Condition 4 requires the facility to be restored on a phased basis in accordance with a restoration and Aftercare Plan agreed with the Agency.

13. Impact on Agriculture

- *It has been stated that following a high tide that cattle will not eat the grass covered by the tide.*
- *The crows have destroyed acres of maize.*
- *Regularly large quantities of fleshings are dumped in open pits for crows and other scavengers to feed on. The crows then proceed to wash and drink in nearby water tanks on farms, causing the farmer concern over the issue of transfer of BSE and other diseases to livestock.*
- *Contamination risk to liquid milk producing pedigree herd.*

Response:

The Recommended PD prohibits any further disposal of waste including animal wastes within the facility boundary apart from inert waste for use in site development works and restoration of the facility. See also responses under 1 a) *Odours* in particular the requirement for immediate placement of cover material at the facility 1 e) *Birds* in relation to bird control measures required to be implemented at the facility, 5- *Groundwater*, 6 -*Leachate Control* and 10- *Waste Types* in relation to waste acceptance criteria to be applied at the facility for the acceptance of inert waste. The closure and restoration of the landfill facility in accordance with the Recommended PD will reduce significantly any potential risk of contamination to agricultural produce.

14. EIS

The following are the ‘untruths’ listed by a submitter within the E.I.S:

- That the site is operated according to best international practice, the Waste Management Act, 1996 and the E.U. Directive on the landfilling of waste.
- that the management of activities is directed at limiting nuisances from wind blown litter, odour, flies etc.
- That the landfill is not adversely affecting groundwater, surface water, air, human health or visual amenity.
- That there is little ecological evidence of substances toxic to plant life at the landfill.
- That waste management in County Waterford is consistent with current legislation and policy.
- The wastes, which cannot be prevented or recovered, are disposed of without causing environmental pollution,
- That effect is given to the ‘Polluter Pays Principal’.
- It is also pointed out that the E.I.S. incorrectly states that there are 24 dwellings within a 500m radius of the landfill site boundary
- Table 2.2 of Vol. 2 of the E.I.S. falsely states that no deep burial waste takes place. The submitter refers to asbestos waste been deposited at the landfill between July and August. He questions the accuracy of table 2.2 of Volume 2 regarding waste intake at the facility.
- In addition to the above, it is stated that the following statement in Attachment A.1 is outrageous and misleading

“The impact of the landfill is therefore localised, and reads as a small area of derelict or disturbed landscape in a much larger and visible agricultural landscape. There is also a moderate negative impact on the landscape. There is also a moderate negative impact on the approach roads due to truck traffic accessing the site”.

Response

My assessment of the application the further disposal of waste including tannery waste within the facility boundary, is prohibited apart from inert waste for use in site development works and restoration of the facility. Condition 4 requires the facility to be restored on a phased basis in accordance with a restoration and Aftercare Plan agreed with the Agency. The continued operation of the facility during restoration and aftercare will be subject to the conditions of the Recommended PD.

15. Other Issues

A request for information under the Freedom of Information Act, 1997 from the Colligan District Angling & Conservation Club raised the following queries

- (a) What is the distance from the landfill facility to the sea?
- (b) Has the EPA carried out monitoring in or outside the facility?
- (c) Have any of the results been published?
- (d) What were the results of the monitoring?

- (e) Is the landfill facility local or regional?
- (f) How wide an area does the local landfill facility serve?
- (g) What is the total size of the facility?
- (h) What is the total amount of waste the facility accepts per annum?
- (i) Is the facility currently operating under licence?
- (j) If so, what types of material may it accept and reject?
- (k) If not when was the last time the facility was licensed?

Response:

The Agency responded to this request on 7 July 1999.