

**Oral Hearing of Objections Against the Proposed Decision by the Environmental Protection Agency to Grant a Waste Licence to Indaver Ireland for a Waste Management Facility, including a Non-Hazardous Waste Incinerator at Carranstown, Duleek, County Meath**

*Waste Licence Application Register Number 167-1*

**Oral Hearing, Drogheda, 07 March 2005**

---

**STATEMENT OF EVIDENCE**

**by Mr. Jack O'Sullivan, B.Sc., M.I.Biol.,**

**on behalf of the Mayor and Elected Members of Drogheda Borough Council and Dundalk Town Council, and on behalf of An Taisce**

**1. Qualifications and Experience**

I graduated in 1964 from University College Cork in Zoology and Biochemistry, and I was initially employed a Sea Fishery Officer, Biologist and Pollution Control Officer in North West England and Wales where I was responsible for coastal pollution control and fisheries management on 720 km of highly varied coastline. I returned to Ireland in 1975 to fulfil a contract as a Science Policy Analyst with the National Science Council where (as an Irish delegate to the EU) I participated in negotiations between Government departments, the European Commission, environmental NGOs and other organisations.

Since 1977 I have operated as an independent environmental consultant specialising in aquatic pollution, fisheries, aquaculture, hazardous and toxic wastes, municipal solid wastes, oil and chemical spillages, natural resources management and planning, and in the environmental impact assessment of industrial, infrastructural and other projects.

In 1981 I established Environmental Management Services (EMS), and have worked on a wide range of assignments in Ireland, Britain, Central and Eastern Europe, Middle East, Far East and Africa, and a significant amount of my work has been connected with waste and natural resources management policy and with issues relating to existing and proposed industrial sites and infrastructural projects. In addition to planning appeals and High Court cases relating to existing and proposed waste disposal operations in Ireland, our assignments

**Oral Hearing of Objections Against the Proposed  
Decision by the Environmental Protection Agency to  
Grant a Waste Licence to Indaver Ireland for a Waste  
Management Facility, including a Non-Hazardous Waste  
Incinerator at Carranstown, Duleek, County Meath**

*Waste Licence Application Register Number 167-1*

**Oral Hearing, Drogheda, 07 March 2005**

---

**STATEMENT OF EVIDENCE**

**by Mr. Jack O'Sullivan, B.Sc., M.I.Biol.,**

**on behalf of the Mayor and Elected Members of Drogheda  
Borough Council and Dundalk Town Council, and on  
behalf of An Taisce**

**1. Qualifications and Experience**

I graduated in 1964 from University College Cork in Zoology and Biochemistry, and I was initially employed a Sea Fishery Officer, Biologist and Pollution Control Officer in North West England and Wales where I was responsible for coastal pollution control and fisheries management on 720 km of highly varied coastline. I returned to Ireland in 1975 to fulfil a contract as a Science Policy Analyst with the National Science Council where (as an Irish delegate to the EU) I participated in negotiations between Government departments, the European Commission, environmental NGOs and other organisations.

Since 1977 I have operated as an independent environmental consultant specialising in aquatic pollution, fisheries, aquaculture, hazardous and toxic wastes, municipal solid wastes, oil and chemical spillages, natural resources management and planning, and in the environmental impact assessment of industrial, infrastructural and other projects.

In 1981 I established Environmental Management Services (EMS), and have worked on a wide range of assignments in Ireland, Britain, Central and Eastern Europe, Middle East, Far East and Africa, and a significant amount of my work has been connected with waste and natural resources management policy and with issues relating to existing and proposed industrial sites and infrastructural projects. In addition to planning appeals and High Court cases relating to existing and proposed waste disposal operations in Ireland, our assignments

I have represented environmental NGOs on the Advisory Committee of the Environmental Protection Agency, and I am a member of the Council of An Taisce (Ireland's longest established environmental NGO), and vice chair of An Taisce's Natural Environment Committee, and Honorary and Secretary and Vice-Chair of the Westmeath Association of An Taisce. I am a founder member of Zero Waste Alliance Ireland (ZWA), a federation of local citizens' groups throughout Ireland, who are campaigning against unsuitable or inappropriately sited landfills and incinerators. Zero Waste Alliance Ireland is also actively promoting the practical concept of "zero waste", a whole-system approach to addressing the problem of society's currently unsustainable generation and disposal of wastes.

## **2. Introduction**

As the Agency will be aware, the proposed decision made on 26 October 2004 to grant a waste licence to Indaver Ireland (a Branch of Indaver NV) for the above waste management facility including the proposed incinerator, was viewed with dismay by many elected representatives, residents and concerned individuals living in Counties Louth and Meath, in the towns of Drogheda and Dundalk, and in other towns and villages. The prospect of living, farming or running a small business anywhere near an incinerator appears to be a prospect which may people find fearful.

Reflecting these concerns, the Mayor and Elected Members of Drogheda Borough Council submitted an objection against the Agency's proposed decision. Their decision to object to the proposed incinerator and to the granting of a waste licence by the Agency was taken at a meeting of the Borough Council held on Monday 01 November in Drogheda, and the objection was submitted on 22 November 2004.

On 19 November 2004, the members of Dundalk Town Council submitted a written objection; and similar objections were also received by the Agency from Newry and Mourne District Council, the elected members of Louth County Council, Councillors for the East Meath Area (based in and around Duleek), Councillor Tommy Reilly (Navan Urban District Council), and a group of five Councillors and a TD (Mr Arthur Morgan) with an address at Magdalene Street, Drogheda. I have listed these objectors specifically to show that many elected representatives, who would usually be in favour of industrial or commercial development, have objected to this proposed facility.

In addition, other groups of environmentally concerned residents, and national organisations such as An Taisce and the Irish Doctors Environmental Association (IDEA) have lodged serious objections. If this proposed development is so necessary, that necessity does not appear to be reflected in any supporting statements or submissions to the Agency, giving reasons why a waste licence should be granted. The developer appears to stand alone in promoting his project.

Turning now to the specific concerns raised by the proposed incineration facility, and to the grounds for objecting to a waste licence which would enable it to become operational, we find that there are four major groups of issues:

1. The necessity for such a facility has not been fully demonstrated;
2. The location selected is not optimal on environmental grounds, and is not a suitable site;
3. The risk of adverse public health impacts is becoming more evident as research into incinerator emissions, based on improved methodology, is uncovering more serious effects than had previously been considered; and,
4. Concern about the licensing and decision-making process itself.

### **3. Need for the Proposed Incineration Facility**

Under this heading we might consider two questions:

1. Why does Indaver need to construct an incinerator; and,
2. Is an incinerator of this type needed in Ireland.

#### **3.1 The Waste Management Experience of Indaver**

The applicant's Environmental Impact Statement lists and briefly describes some 17 types of waste-related activities undertaken by Indaver at their various plants in Flanders, and only two of these involve incineration (section 1.2.1, page 7). The company has wide experience of waste handling, treatment, sorting, recycling and recovery; and some of these processes are needed in Ireland and would be welcome. For example, it is obvious that in this country we require more effort in the areas of sorting packaging waste for recycling, collection and sorting of paper and cardboard for recycling, recovery of wood waste, sorting and recovery of tyres, recycling of tyre components (steel, rubber, synthetic fibres), solvent recycling, sludge treatment, composting, medical waste management, and glass recycling – all of which are carried out by Indaver in Belgium.

The principal activity of the Irish company MinChem, of which Indaver owns 60%, is the export of hazardous waste from the chemical and pharmaceutical industries, mainly for incineration but also for recycling and solvent recovery. MinChem has successfully operated this specialised business since 1977, and there is no reason why they should not continue to do so.

Why these companies (which have now become one company) decided to construct an incinerator (or two incinerators, to be more accurate), and thereby create widespread concern and adverse reaction among members of the public, appears to be unexplained in the EIS or in any of the subsequent information provided.

The second question, of why an incinerator might (or might not) be needed in Ireland, deserves a more detailed answer.

### **3.2 Is an Incinerator needed in County Meath**

In section 2.9 of the EIS, the applicant states that "prevention of waste is the cornerstone of all waste policies" (section 2.9.3, page 51), and we must agree with this fact. The remainder of section 9 merely points out that in a number of countries where recycling is at a comparatively high level, a significant proportion of that country's waste is incinerated.

John Ahern, in his written statement, added that "preventing waste is the most important element", and "if waste cannot be prevented we should try to minimise its production", and "if it is produced we should reuse it, recycle it, recover energy from it and only as a last resort should we dispose of it". He adds that recyclable types of waste "such as paper, glass, wood and metal are easily dealt with"; and organic waste can be composted, recovering some of the contained energy as methane which can be used as a fuel. This approach leaves only residual waste that cannot be recycled.

I would add that if waste prevention, avoidance, minimisation, segregation, sorting, composting, anaerobic digestion and other forms of waste treatment are undertaken effectively, with appropriate financial incentives to make these activities more commercially profitable than landfilling or incineration, the quantity of residual waste would decline sharply, and the proposed incinerator would be unnecessary.

If there is a requirement for incineration facilities (and we believe that there is no such requirement or need), it is an indication of a policy failure to address the problem of waste management in Ireland, and to provide the necessary incentives.

Throughout the 1980s, the Industrial Development Authority consistently argued that an industrial waste incinerator, capable of accepting and burning toxic waste products from the pharmaceutical and fine chemical industries, was a vital necessity if Ireland's industrial growth and development were to continue. Efforts were made to find a company which would finance, design, build and operate such an incinerator. The Department of the Environment and Local Government invited tenders, a number of companies expressed interest and a short-list was drawn up. Efforts were made to find a suitable site. Du Pont, based at Maydown near the City of Derry, considered the possibility of building an incinerator which would burn not only the quantities of acid tar which had accumulated as a waste from the Du Pont plant, but would also provide a service to other industries throughout Ireland as a whole. Following extensive cross-border public opposition, Du Pont abandoned their plans some 20 years ago.

No industrial toxic waste incinerator was ever built, yet Ireland's chemical and pharmaceutical industries did not stagnate, but continued to expand, along with many other new industries, some of which use and produce toxic materials requiring disposal. The "Celtic Tiger" jumped, without the need for an incinerator.



So what happened to those arguments more than 20 years ago ? Are the reasons any more relevant now, or are they less relevant – in a world where we are facing global climate disruption because of the emission of greenhouse gases, where persistent organic compounds are accumulating in remote areas such as the arctic and antarctic. During the 20 years since those failed arguments were promoted, environmental scientists and biologists are observing massive extinctions of other species, and these scientists are becoming more concerned about the increasingly adverse impacts of humankind's activities on the life support systems of the planet. It is against this background that we must consider whether or not the proposal of an incinerator at Carranstown is appropriate.

Let me give a number of reasons why this facility is not required, and would be unsuitable for this country:

- ◇ An incinerator requires a continuing supply of combustible waste (which must have a high energy content) throughout its life cycle, often guaranteed by long-term contractual agreements with local authorities agreeing to provide a certain tonnage of waste per year to the incinerator, thereby locking communities into waste production rather than waste elimination. The proposed incinerator will be no different, as it is hard to imagine that the huge financial burden of planning, constructing and operating the facility would be embarked upon by Indaver without some assurance that their substantial investment would be massively recouped. It would be the legitimate interest of any business, and especially the waste management industry, to seek to undermine any efforts by society which would result in the company's expensive facility failing to pay its way. The Agency requires licence applicants to demonstrate their financial soundness before it makes a decision on a waste licence application – the other side of that coin is that the Agency must take into account the consequential effects, in financial and policy contexts, of permitting this type of facility. If this argument seems remote, we need only remember how transportation policy in Ireland is now influenced by companies which build and operate toll roads, or how influential the motor industry and the road haulage sector have become.
- ◇ Claims by incinerator operators that their facilities are a necessary complement to recycling programmes cannot be logically sustained, as incinerators need a continuous supply of materials with high calorific value, such as paper, cardboard and plastics to maintain combustion levels; and these materials should preferably be recycled, and not burned.
- ◇ The large scale of an incineration facility, and the dispersed pattern of settlements in Ireland, will require transportation by road of large amounts of mixed municipal or other wastes (the "fuel") and solid combustion wastes (incinerator ash) through agricultural areas, towns and villages, thereby adding to the environmental impact of the proposed facility. These wider environmental consequences must be considered by the Agency.
- ◇ Widespread and growing public opposition in Ireland and mainland Europe to proposed thermal treatment plants must be taken into account, as not to do so is anti-democratic and inequitable; while we must also recognise that there is increasing global resistance to incineration;

- ◇ The proposed incinerator is an “end-of-pipe” approach to the waste problem, and its existence will inevitably reduce the incentives for waste elimination and recycling, and will slow down Ireland’s transition to a low-waste or near zero waste sustainable society.
- ◇ Energy produced by thermal plants which recover some of the calorific value of the waste is only a fraction of the energy which has gone into the production of the materials consumed; and far greater energy savings would be achieved by the production of recyclable goods which did not become waste at the end of their useful lives, and by repairing, reusing and recycling these and other products. This reason is very similar to the situation with electric power generation, where it has been shown that a given amount of money spent on energy saving and conservation measures (for example, by insulating buildings) would save more energy than the quantity of energy which would be generated if the same amount of money were to be spent in constructing more generating capacity, i.e., more power stations.
- ◇ Solid fuelled electricity generating plants in Ireland (such as the peat-fired plants in the Midlands or the coal-fired plant at Moneypoint in the Shannon Estuary) can use no more than 35 to 38 per cent of the energy contained in the fuel, because of basic thermodynamic laws. At best, our modern gas-fired plants can utilise just over 40 per cent of the heat energy in the natural gas supplied to them, and one dual cycle gas turbine plant is claiming that 55 per cent of the calorific energy in the gas supplied can be used to generate electricity. How therefore can Indaver claim that 75 per cent of the energy produced by the combustion of waste will be recovered as steam in the boilers, as stated in section 2.4.3 (page 29) of the EIS ? The Agency should ask Indaver what percentage of the calorific value of the waste will actually be available for electricity generation for export to the national grid, i.e., the net energy production. It is only this energy, and no other, which can be considered as replacing the energy from other fuels used elsewhere to generate electricity.
- ◇ Waste cannot be regarded as a source of renewable energy, as Indaver claim; it is the result of exploiting natural resources which may not be sustainable or renewable (e.g., plastics from exhaustible reserves of hydrocarbons, paper and cardboard from diminishing virgin forests, and metals which require very large amounts of energy to extract and process); and wastes should therefore be more appropriately considered as man-made reservoirs of recoverable materials which must be recycled in order to prevent further unsustainable extraction of resources, exploitation of raw materials and intensive use of energy.
- ◇ Disposal of fly ash from incinerators requires special landfills and careful precautions if further problems are to be avoided; and there is no landfill in Ireland licensed or designated for the disposal of the toxic fly ash. The use of bottom ash (clinker) for road-making may be unacceptable, depending on its quality and marketability in competition with construction and demolition waste.
- ◇ The perceived dangers arising from the emission of dioxins and other toxicants to the atmosphere could have a serious negative effect on the

marketability of agricultural produce within a 40 km radius of such plants, and this issue is of special importance in Ireland.

- ◇ Evidence is continuing to grow about the adverse environmental and public health effects of incineration (for example recent medical research has documented the existence of elevated levels of cancers in the vicinity of incineration plants, along with birth and developmental defects, and hormonal disruption, especially in children and teenagers). There is considerable public, scientific and regulatory concern over the adverse health effects of chronic exposure to trace levels of persistent organic pollutants arising from incomplete combustion of organic wastes. These persistent pollutants include polychlorinated dibenzo-p-dioxins (PCDD) and polychlorinated dibenzo-furans (PCDF), collectively known as dioxins, which are among the most toxic and long-lived compounds known, and I will refer to this issue again.
- ◇ Research has shown that thermal waste treatment plants which are effective in destroying dioxins in their flue gases are at the same time significant sources of *de novo* dioxin formation. The design of the proposed Indaver incinerator is intended to reduce dioxins and other persistent organic pollutants by using the best known technology (holding the wastes at an elevated temperature for a sufficient length of time, and quenching the flue gases rapidly to reduce dioxin formation, as described in the EIS, sections 2.4.3 to 2.4.5). The problem for Indaver is that these processes reduce the efficiency of thermal recovery, i.e., less of the energy in the waste is recovered than if the flue gases were passed through heat exchangers which reduced their temperature more slowly.
- ◇ There cannot be an absolute guarantee that any form of thermal treatment plant will operate at full efficiency, and accident free, at all times; and any significant accident resulting in emissions to the atmosphere could cause widespread economic losses, adverse public health impacts, psychological disturbances and loss of confidence in locally produced food products. The situation is comparable to that in the oil industry – no company (refinery or tanker operator) wants to spill oil, but it happens; and statistics are available from oil ports and tanker fleets world-wide to predict the numbers of spills and the approximate quantities of oil which would be lost through accidents and spillages. The number of incinerators operating at present must provide some level of statistics for accidents and malfunctions, and this data should be obtained *independently* by the Agency as a standard procedure, in order to make some attempt at quantifying the risk. If this can be done for a proposed oil terminal, it could be done for a proposed incinerator; and for the Agency to rely on the licence applicant's assumptions would be dereliction of duty by an organisation established to protect the environment.

If this country already had a municipal waste incinerator operating, I believe that we should let it continue in operation, as the consequences of shutting it down would be significant. But, because we do not have such a facility, and the applicant has not proven the necessity for it, we should not (as a society) accept the risk.



At this point I want to make a link between necessity and risk, and show that the two are related. I am not aware that this logical connection has previously been made, so I may need to give some examples of the argument.

Consider the risks taken by the coxwain and crew of a lifeboat which puts to sea in storm conditions to rescue seafarers from a fishing vessel which is sinking. Those risks are taken voluntarily, in the knowledge that they are necessary to save lives.

My second example is the risk taken by a villager in an African country who walks for miles through an area under the control of a rebel army because she must reach a source of clean water for her family or to get medicine. This high-risk activity is not undertaken voluntarily, but out of necessity. Not to obtain the water or the medicine would have worse consequences.

A final example, nearer home. I am late coming to this oral hearing, so I decide to drive faster, and take more risks; or I run across the road instead of waiting for the traffic lights to change. If I was in plenty of time, I would not need to take such risky activity.

If there were no other solutions for dealing with our wastes, then the risk to public health and the environment as a consequence of constructing the proposed incinerator might be acceptable. But there are other solutions and, even if these might not be immediately available, or would require expenditure of public funds (for example, to incentivise waste reduction, repair, reuse, recycling, etc), is the Agency justified in imposing a risk, however small, on the population who would be exposed to that risk? If an incinerator is not needed, and the country can do without this particular facility, why allow it? Independent proof of its necessity should be required before we can evaluate whether or not the risk of constructing it is acceptable. This is a key issue which should be considered by the Agency before a final decision can be made about the waste licence application.

## **4. The Suitability of the Location**

### **4.1 Importance and Vulnerability of the Regionally Important Aquifer**

We have heard some evidence about the geology of the area, and about the importance of the regionally important and vulnerable aquifer, unique in Leinster, which lies underneath the site. While it must be accepted that many hazardous installations, for example filling stations which store motor fuels in underground tanks, are located on sites above vulnerable aquifers, this problem arises because most of these facilities have been in place for a long time, before planning authorities became aware and concerned about aquifer contamination. The fact that some installations which represent a threat to the aquifer beneath them may have been permitted in the past should not be a reason for permitting this proposed facility which will store and handle toxic materials.

Evidence has been given that the limestone bedrock displays both karst and fracture flow features which make it extremely productive. For example, Irish Cement Limited, which operates a quarry adjacent to the proposed site, abstracts between 4,400 and 6,300 m<sup>3</sup>/day of groundwater in order to reduce groundwater levels and inflow to the quarry. This very large quarry extracts rock by blasting, and activity which increases the risk of damage to any underground structures, including pipes and tanks associated with the proposed incinerator. Slight damage to such structures could easily result in small leaks of contaminated water which would remain undetected but which would contaminate the aquifer over a long period of time. We find it extraordinary that no risk assessment of the possibility of damage to the proposed incinerator structure and foundations, or the requirement to make these structures more robust, appears to have been carried out.

The Town of Drogheda currently abstracts water from the River Boyne to provide a mains supply, but plans have been made to abstract water from this regionally important aquifer, because of the high quality of the water contained in it, and because it is relatively close to the town. It is known that this aquifer is vulnerable, as it is replenished by downward percolation of surface water through soil and porous rock. Any significant deposition from the atmosphere of persistent organic pollutants (POPs) from the proposed incinerator would result in a risk of the aquifer becoming contaminated in the long term. The rate of recharge of the aquifer, the principle sources of recharge and the direction of groundwater movement appear not to have been adequately examined and characterised in the course of this waste licence application.

The Agency will be aware that permission was refused for further deposition of waste at a local authority landfill at Mell near Drogheda because of the risk of groundwater contamination. Even though this decision may not be directly comparable, it is an indication that the groundwater in the area must be considered vulnerable.

#### **4.2 Proximity of Populations Exposed to Airborne Contaminants**

As the Agency will be aware, the town of Drogheda is approximately 6.0 km (3.75 miles) north-eastwards of the site of the proposed incinerator, i.e., directly downwind according to the direction of the prevailing winds. The continuing development of the town has resulted in built-up areas and residential suburbs extending south-westwards from the town centre, bringing these residential areas to within approximately 4.0 km (2.5 miles) of the proposed incinerator. We consider that this distance is not sufficient to ensure that a major centre of population would not be affected by emissions, particularly in the event of malfunction or plant upset.

The Cooley Peninsula and the Mourne Mountains (in the District of Newry and Mourne) are also located downwind from the proposed site, and the possibility of particulate deposition on these elevated areas must not be overlooked. It is well known that atmospheric particulates are more likely to be deposited when rising ground causes an air mass to increase its altitude, resulting in precipitation and "wash out" of any particulates in the air mass. No information appears to have been given by the applicant about the form in which dioxins,

furans and other persistent organic pollutants (POPS) will be emitted – as molecular clusters, as aerosols, or adsorbed on to dust particles. Each of these types of contaminants will behave differently in an air mass, and these distinctions do not appear to have been made in the air pollution modelling study.

As the Agency will also be aware from knowledge of incinerator operations in other member states of the EU, there is a statistically significant risk of serious adverse environmental and economic problems being caused by incinerator breakdown, malfunction or failure of emission control. We submit that these risks have not been fully taken into account by the Agency when deciding to grant the waste licence to Indaver Ireland.

## **5. Incineration and Public Health**

### **5.1 Cumulative Impacts of Industrial and Other Emissions, Especially in Relation to Health**

The town of Drogheda is located in an east-west valley (part of the Boyne Valley) prone to atmospheric inversions which result in a risk of elevated levels of atmospheric contaminants during certain weather conditions. In addition to emissions from the proposed incinerator, other significant sources of atmospheric contaminants are the nearby Premier Periclase plant which extracts magnesium from seawater, the cement manufacturing facility at Platin (very close to the proposed incinerator site), the newly-opened motorway between Dublin and Dundalk, and domestic coal and oil burning within the town.

We would submit that the cumulative impact of these emissions has been only partially considered, and not adequately addressed, either in the Environmental Impact Statement or (more particularly) in the proposed waste licence. This is an important issue, as a failure to adequately assess cumulative impacts may be regarded as a significant omission from the EIS. Arising out of a study commissioned by the European Commission's DG XI (Environment, Nuclear Safety and Civil Protection) in 1999, methodologies were devised and recommended to ensure that indirect and cumulative impacts would be integrated into the environmental impact assessment (EIA) process, and these methodologies are well documented. However, they do not appear to have been used by the Applicant or by the Agency.

Members of Drogheda Borough Council and Dundalk Town Council are also concerned that no adequate baseline data or monitoring of the effects of existing emissions has been carried out, and therefore no comparison is available on which to base an assessment of future changes.

There is no doubt that long-term low levels of atmospheric contaminants can have adverse effects on human health, not necessarily resulting in mortality or serious illness in all cases, but creating more elevated and widespread occurrences of upper respiratory tract and gastro-intestinal disorders and reduction in immunity to pathogens which require treatment by local GPs. The

combination of cumulative atmospheric contaminants and stress arising from knowledge that the air being breathed is contaminated is a significant cause of such illnesses.

## **5.2 Adverse Health Impacts of PM<sub>10</sub> and PM<sub>2.5</sub>**

We are further concerned that recent epidemiological studies reported in the medical literature have shown that the presence of atmospheric particulate matter less than 2.5 microns in size is associated with an elevated risk of ill-health, particularly heart disease. It is known that incineration of municipal waste generates large amounts of such particles, and yet there appears to be no reference to this serious problem in the proposed waste licence. Schedules B and C require only monitoring of "total dust", a relatively meaningless parameter for human health, since the effects of inhaled dust depend not only on particle size, but also on particle composition and the presence of any adsorbed substances. However, the draft report of the EPA Inspector (Mr Peter Carey) refers in Appendix 3 to dust measured as PM<sub>10</sub> and PM<sub>2.5</sub>. The fact that these measurements are not required in the proposed licence is a serious omission, even though the Inspector recommended that monitoring of PM<sub>10</sub> and PM<sub>2.5</sub> in ambient air should be carried out (in proposed condition 8.18), and the licensee should be required to determine the particle distribution size of dust which would be emitted from the incineration stack (page 9 of the Inspector's report). It is curious, and a matter of some concern, that the Inspector's recommended condition 8.18 seems to have been removed from the draft decision as issued by the Agency on 26 October 2004.

Because very low levels of these fine particulates are associated with lung damage and morbidity in exposed populations, we are seriously concerned that the proposed flue gas cleaning system including the evaporating spray towers, baghouse filters, injection of activated carbon and lime, and wet flue gas cleaning, will not be adequate to reduce these very small particulates to safe levels.

## **5.3 The Health Research Board's Literature Review on Health and Environmental Effects of Landfilling and Incineration of Waste**

The literature review on health and environmental effects of landfilling and incineration of waste, published by the Health Research Board in 2003, pointed out that "There is some evidence that incinerator emissions may be associated with respiratory morbidity. Acute or chronic respiratory symptoms are associated with incinerator emissions. Reproductive effects, such as an effect on twinning or sex determination, have been described. These findings however are not conclusive. A number of studies have reported associations between developing certain cancers and living close to incinerator sites. Specific cancers identified include primary liver cancer, laryngeal cancer, soft-tissue sarcoma and lung cancer. Although some results are conflicting in this area, other *well-designed studies* [our italics for emphasis] indicate a possible link between cancer risk and residence near incinerator sites. The influence of other sources of pollutants continues to prove difficult to separate and, as a result, evidence cannot be described as conclusive.



Further research, using reliable estimates of exposure, over long periods of time is required to determine whether living near landfill sites or incinerators increases the risk of developing cancer. Studies of specific environmental agents and specific cancers may prove more definitive in the future" (page 186).

It should be further noted that the Health Research Board's literature review stated that this country does not have adequate surveillance methods to detect the adverse health effects of incineration. The Health Research Board's review pointed out that Ireland has insufficient resources to carry out adequate risk assessments for proposed waste management facilities (including incineration), that there are serious data gaps in relation to the environmental effects of these technologies, and that these problems should be rectified urgently. Given these findings, it is iniquitous that people living in the vicinity of the proposed incinerator, and the populations of Drogheda, Dundalk and their surroundings should be exposed to an unquantified risk, in the absence of base-line health data, epidemiological studies, health monitoring or adequate assurance that any adverse health effects will be extremely minimal.

As the Agency will also be aware, and as reported in the Irish Examiner dated 3 November 2004, the Agency's Director General has appropriately written to the Department of Health warning that there is no system in place to routinely monitor the health of people living near contentious sites such as that of the proposed incinerator. On the basis of this warning, which we believe to be true and correct, we submit that it is internally inconsistent that the Agency should decide to grant a waste licence for the proposed incinerator.

#### **5.4 Problems of Health Risk Assessment**

The inconsistency of results obtained from many studies of the health effects of incinerators on human population clearly show the difficulty of carrying out accurate or verifiable risk assessments. Uncertainties in the risk assessment process arise from the following:

- The lack of complete emission data, especially for non-standard operating conditions;
- The problem of dose-response assessment at low doses and particularly of low-dose multiple-route and temporal variations, and the difficulty of extrapolating these;
- The lack of toxicity data on most products of incomplete combustion;
- The lack of physical and chemical information about contaminants and other substances emitted which are of concern from a health perspective;
- Incomplete knowledge of how substances are transported through the various environmental media, and bio-accumulation and bio-concentration factors which will affect the distribution and fate of persistent organic pollutants;
- Variability of all factors in any risk assessment, for example, variations in physical conditions (e.g., topography, temperature, rainfall, meteorological conditions, soil types and land uses), characteristics of people exposed to the risk (e.g., eating habits, residence times, age, and individual

susceptibility), leading to a wide range of exposures and risks for different individuals;

- The possibility of errors and omissions in the risk assessment (e.g., omission of an important pathway of exposure).

In our experience, it is only after adverse health effects are observed that a new, more complex, or previously unrecognised exposure path is discovered. The history of such discoveries is a strong reason for adopting the Precautionary Principle in a situation where long-term adverse health effects on a human populations cannot be predicted. Where people's lives and health are concerned, we cannot rely on hopeful expectations that "*nothing will go wrong*", that "*everything will be monitored*"; and especially we cannot rely on the naïve assumption that because a legal limit is set in a proposed waste licence, this limit will never be exceeded.

## **6. Aspects of the Licensing and Decision-Making Process**

In relation to this particular project proposal, there are some aspects of the licensing and decision-making procedures which need to be addressed in this oral hearing, including matters which were not considered when the proposed waste licence was being prepared by the Agency.

### **6.1 Failure to Comprehensively Assess the Applicant's EIS and to carry out an Environmental Impact Assessment of the Proposed Incinerator as Required by the EU Directive**

These are matters which are of particular concern to An Taisce, the National Trust for Ireland.

An Taisce is particularly concerned about the inadequate procedure by which major EISs (such as the applicant's EIS for a project which requires an EPA licence) are assessed in Ireland, i.e., some of the issues are assessed by planning authorities, and other issues by the EPA, while some important issues are omitted entirely from consideration.

Decisions about proposed projects are independently made by planning authorities and by the EPA, with no combined or comprehensive assessment of the environmental consequences. For example, as the Agency will be aware, planning permission was refused on four separate occasions by Cork County Council and An Bord Pleanála for a large-scale landfill at Ballyguyroe in North Cork; yet, following these decisions, the EPA has made a final decision on 17 November 2004 to grant a waste licence, though the inconsistency of the Agency's proposed decision had previously been pointed out to them.

As the Agency will be further aware, this issue of split jurisdiction is the basis of legal proceedings being taken by the European Commission against the Government of Ireland for breaching EIA Directive 85/337/EEC as amended by Council Directive 97/11/EC. The Commission issued a Reasoned Opinion on 25 July 2001 confirming that Ireland was in breach of the Directive, and giving

examples of failures to comprehensively assess environmental impacts in an integrated manner as required by the Directives. The Opinion stated, *inter alia*, that Ireland is failing to comply with Article 3 of the Environmental Impact Assessment Directive in that there is no provision which ensures that an EIA covers the inter-action between the factors mentioned in the first and second indents of Article 3 of Directive 85/337/EEC before its amendment by Directive 97/11/EC, or the inter-action between the factors mentioned in the first, second and third indents of Article 3 of Directive 85/337/EEC after its amendment by Directive 97/11/EC.

Article 7 of Council Directive 96/61/EC refers to this problem of independent decision making, and states that:

*"Member States shall take the measures necessary to ensure that the conditions of, and procedure for the grant of, the permit are fully coordinated where more than one competent authority is involved, in order to guarantee an effective integrated approach by all authorities competent for this procedure".*

It is evident that there has been no co-ordination between the EPA and An Bord Pleanála, and that the requirement for coordination has not been complied with.

We would submit that subsequent changes in the planning legislation (in particular, Section 256 of the Planning and Development Act, 2000) have not been sufficient to address these failures, and that the environmental impact assessment process for the proposed incinerator at Carranstown has not been carried out in compliance with the requirements of the EIA Directives.

More recently, the decisions of Mr. Justice Peter Kelly in the High Court in May and June of 2004 in the case of *Mary Pat Cosgrave -v- An Bord Pleanála, Wicklow County Council, Ireland and Others*, are very relevant to the issues before this hearing. These proceedings were by way of a Judicial Review of the decision of An Bord Pleanála to grant planning permission for a landfill facility at Ballynagran, County Wicklow, and the judgement of the Court was that the EPA is required to carry out a full Environmental Impact Assessment process in accordance with the EIA Directives of the EU on all of those matters which have not formed part of the remit of the Planning Authority. Having regard to the fact that it appears that the EPA is now considering the granting of a waste license for the Indaver facility, I would submit that thus far, it does not appear that an Environmental Impact Assessment has been performed by the EPA and indeed, it does not appear that the EPA proposes to carry out an Environmental Impact Assessment.

As an example of what happens when the assessment of a project is split between independent authorities, we need only point to the fact that the Agency has requested an additional 25 metres of height to be added to the stack (Condition 3.19.1 of the proposed licence, page 13), and yet the visual impact of this increase in height has not been assessed by either the planning authority or members of the public. In fact, it is our understanding that the required increase in stack height will make the proposed incinerator more visible from some areas of the Boyne Valley. We therefore submit that there has been no assessment of the impact of the increased stack height on the UNESCO World Heritage

Site, and we understand that a consequence of the increased stack height is that the stack will be directly visible from one of the three principal passage graves in the Boyne Valley.

I mentioned above that some important issues are omitted from consideration during the EIA process in Ireland, and the most important issue which we fail to address fully is the direct and indirect effects of a project on human beings, as required by Article 3 of Directive 85/337/EEC as amended. It is not adequate to state merely that emissions from a proposed project must keep below certain emission limit values, while failing to consider other effects on local populations.

## **6.2 Availability of Information and Documentation**

In anticipation of the recent oral hearing in Cork, into objections against the Agency's proposed decision to grant a waste licence to Indaver for an incinerator at Ringaskiddy, An Taisce sought full background documentation and reports from the EPA (this request was made on the day following publication of the draft decision). To date, I am informed that no such documentation has been received.

An Taisce therefore reserves the right to make a similar request for full background documentation and reports in connection with the waste licence application and objections to it being considered at this hearing, and An Taisce may make further submissions based on the information received. In this connection, it may be appropriate to note that the Article 6 (2) of the EIA Directive requires all relevant background information and documentation to be made available to the public.

## **6.3 Failure to Address Transboundary Impacts**

Because the proposed incinerator site is situated approximately 40 km from the nearest point of the boundary between the Republic of Ireland and Northern Ireland, and stack emissions can be carried long distances before deposition, and because the boundary with Northern Ireland is downwind of the proposed incinerator site, we would submit that provision should have been made for the assessment of transboundary impacts, as required under the EIA Directives. As we were informed in evidence given at this hearing by representatives of Newry and Mourne District Council, no consultations have been undertaken with either the competent authorities or members of the public in Northern Ireland.

In contrast, we would point out that when Monaghan County Council received a planning application for a combined heat and power plant to burn chicken litter, spent mushroom compost and other fuels at Killycarron in County Monaghan, the planning authority notified the relevant authorities in Northern Ireland and announced its intention of not making a decision on the application until the comments of the Northern Ireland authorities (which involved public consultation) had been received.



Failure to address Transboundary Impacts is not a minor issue for this oral hearing, as the EIA Directive is very clear about this responsibility, as stated in Article 7 of EIA Directive 85/337/EEC, amended by Council Directive 97/11/EC:

1. *Where a Member State is aware that a project is likely to have significant effects on the environment in another Member State or where a Member State likely to be significantly affected so requests, the Member State in whose territory the project is intended to be carried out shall send to the affected Member State as soon as possible and no later than when informing its own public, inter alia:*
  - (a) *a description of the project, together with any available information on its possible transboundary impact;*
  - (b) *information on the nature of the decision which may be taken, and shall give the other Member State a reasonable time in which to indicate whether it wishes to participate in the Environmental Impact Assessment procedure, and may include the information referred to in paragraph 2.*
2. *If a Member State which receives information pursuant to paragraph 1 indicates that it intends to participate in the Environmental Impact Assessment procedure, the Member State in whose territory the project is intended to be carried out shall, if it has not already done so, send to the affected Member State the information gathered pursuant to Article 5 and relevant information regarding the said procedure, including the request for development consent.*
3. *The Member States concerned, each insofar as it is concerned, shall also:*
  - (a) *arrange for the information referred to in paragraphs 1 and 2 to be made available, within a reasonable time, to the authorities referred to in Article 6 (1) and the public concerned in the territory of the Member State likely to be significantly affected; and*
  - (b) *ensure that those authorities and the public concerned are given an opportunity, before development consent for the project is granted, to forward their opinion within a reasonable time on the information supplied to the competent authority in the Member State in whose territory the project is intended to be carried out.*
4. *The Member States concerned shall enter into consultations regarding, inter alia, the potential transboundary effects of the project and the measures envisaged to reduce or eliminate such effects and shall agree on a reasonable time frame for the duration of the consultation period”.*

I would submit that the failure to address transboundary impacts is sufficiently serious to invalidate the decision-making process. It is not sufficient to state that there will be no such effects, especially when representatives from a local authority in another member state have attended and given evidence at this hearing, expressing concern about the impact of the proposed incinerator in the area under their jurisdiction.

## **7. Statement on Behalf of the European Union**

The literature review on health and environmental effects of landfilling and incineration of waste, published by the Health Research Board in 2003, pointed out that the EU Environment Commissioner stated in writing (page 230) that *"incinerators are not the answer to waste management .... Incinerators only reduce the volume of waste but the environmental impact of incineration is significant."* The Environment Commissioner's letter also pointed out that *"incineration plants which operate in the full respect of air and water emission requirements are extremely expensive"*. The review also quotes the Head of EU Waste Management as saying that incinerators need enormous input in order to be economic and that in many countries they are now considered similar to nuclear power stations and should be avoided:

*"The Commission does not support incineration. We do not consider this technique is favourable to the environment or that it is necessary to ensure a stable supply of waste for promoting combustion over the long term. Such a strategy would only slow innovation. We should be promoting prevention and recycling above all. Those countries who are in the process of drafting their planning should not base it upon incineration."*

While this may not be official policy, we suggest that it should be taken into consideration by the Agency when considering the objections and other matters which are the subject of this hearing.

## **7. Conclusions**

The proposed site is unsuitable, the decision-making process is fundamentally flawed, the proposed incinerator is likely to have adverse impacts on human health and the quality of life in the immediate neighbourhood of the plant, the EIA procedure has not been fully complied with, and there are so many uncertainties about the impacts of the proposed facility that the Precautionary Principle should be invoked, and a waste licence should be refused.

Jack O'Sullivan

**Environmental Management Services**

**On behalf of the Mayor and Elected Members of Drogheda Borough Council and Dundalk Town Council, and An Taisce**

08 March 2005

**Oral Hearing of Objections Against the Proposed Decision by the Environmental Protection Agency to Grant a Waste Licence to Indaver Ireland for a Waste Management Facility, including a Non-Hazardous Waste Incinerator at Carranstown, Duleek, County Meath**

*Waste Licence Application Register Number 167-1*

**Oral Hearing, Drogheda, 07 March 2005**

---

**STATEMENT OF EVIDENCE**

**by Mr. Jack O'Sullivan, B.Sc., M.I.Biol.,**

**on behalf of the Mayor and Elected Members of Drogheda Borough Council and Dundalk Town Council, and on behalf of An Taisce**

**1. Qualifications and Experience**

I graduated in 1964 from University College Cork in Zoology and Biochemistry, and I was initially employed as a Sea Fishery Officer, Biologist and Pollution Control Officer in North West England and Wales where I was responsible for coastal pollution control and fisheries management on 720 km of highly varied coastline. I returned to Ireland in 1975 to fulfil a contract as a Science Policy Analyst with the National Science Council where (as an Irish delegate to the EU) I participated in negotiations between Government departments, the European Commission, environmental NGOs and other organisations.

Since 1977 I have operated as an independent environmental consultant specialising in aquatic pollution, fisheries, aquaculture, hazardous and toxic wastes, municipal solid wastes, oil and chemical spillages, natural resources management and planning, and in the environmental impact assessment of industrial, infrastructural and other projects.

In 1981 I established Environmental Management Services (EMS), and have worked on a wide range of assignments in Ireland, Britain, Central and Eastern Europe, Middle East, Far East and Africa, and a significant amount of my work has been connected with waste and natural resources management policy and with issues relating to existing and proposed industrial sites and infrastructural projects. In addition to planning appeals and High Court cases relating to existing and proposed waste disposal operations in Ireland, our assignments

**Oral Hearing of Objections Against the Proposed  
Decision by the Environmental Protection Agency to  
Grant a Waste Licence to Indaver Ireland for a Waste  
Management Facility, including a Non-Hazardous Waste  
Incinerator at Carranstown, Duleek, County Meath**

***Waste Licence Application Register Number 167-1***

**Oral Hearing, Drogheda, 07 March 2005**

---

**STATEMENT OF EVIDENCE**

**by Mr. Jack O'Sullivan, B.Sc., M.I.Biol.,**

**on behalf of the Mayor and Elected Members of Drogheda  
Borough Council and Dundalk Town Council, and on  
behalf of An Taisce**

**1. Qualifications and Experience**

I graduated in 1964 from University College Cork in Zoology and Biochemistry, and I was initially employed a Sea Fishery Officer, Biologist and Pollution Control Officer in North West England and Wales where I was responsible for coastal pollution control and fisheries management on 720 km of highly varied coastline. I returned to Ireland in 1975 to fulfil a contract as a Science Policy Analyst with the National Science Council where (as an Irish delegate to the EU) I participated in negotiations between Government departments, the European Commission, environmental NGOs and other organisations.

Since 1977 I have operated as an independent environmental consultant specialising in aquatic pollution, fisheries, aquaculture, hazardous and toxic wastes, municipal solid wastes, oil and chemical spillages, natural resources management and planning, and in the environmental impact assessment of industrial, infrastructural and other projects.

In 1981 I established Environmental Management Services (**EMS**), and have worked on a wide range of assignments in Ireland, Britain, Central and Eastern Europe, Middle East, Far East and Africa, and a significant amount of my work has been connected with waste and natural resources management policy and with issues relating to existing and proposed industrial sites and infrastructural projects. In addition to planning appeals and High Court cases relating to existing and proposed waste disposal operations in Ireland, our assignments



I have represented environmental NGOs on the Advisory Committee of the Environmental Protection Agency, and I am a member of the Council of An Taisce (Ireland's longest established environmental NGO), and vice chair of An Taisce's Natural Environment Committee, and Honorary and Secretary and Vice-Chair of the Westmeath Association of An Taisce. I am a founder member of Zero Waste Alliance Ireland (ZWA), a federation of local citizens' groups throughout Ireland, who are campaigning against unsuitable or inappropriately sited landfills and incinerators. Zero Waste Alliance Ireland is also actively promoting the practical concept of "zero waste", a whole-system approach to addressing the problem of society's currently unsustainable generation and disposal of wastes.

## **2. Introduction**

As the Agency will be aware, the proposed decision made on 26 October 2004 to grant a waste licence to Indaver Ireland (a Branch of Indaver NV) for the above waste management facility including the proposed incinerator, was viewed with dismay by many elected representatives, residents and concerned individuals living in Counties Louth and Meath, in the towns of Drogheda and Dundalk, and in other towns and villages. The prospect of living, farming or running a small business anywhere near an incinerator appears to be a prospect which may people find fearful.

Reflecting these concerns, the Mayor and Elected Members of Drogheda Borough Council submitted an objection against the Agency's proposed decision. Their decision to object to the proposed incinerator and to the granting of a waste licence by the Agency was taken at a meeting of the Borough Council held on Monday 01 November in Drogheda, and the objection was submitted on 22 November 2004.

On 19 November 2004, the members of Dundalk Town Council submitted a written objection; and similar objections were also received by the Agency from Newry and Mourne District Council, the elected members of Louth County Council, Councillors for the East Meath Area (based in and around Duleek), Councillor Tommy Reilly (Navan Urban District Council), and a group of five Councillors and a TD (Mr Arthur Morgan) with an address at Magdalene Street, Drogheda. I have listed these objectors specifically to show that many elected representatives, who would usually be in favour of industrial or commercial development, have objected to this proposed facility.

In addition, other groups of environmentally concerned residents, and national organisations such as An Taisce and the Irish Doctors Environmental Association (IDEA) have lodged serious objections. If this proposed development is so necessary, that necessity does not appear to be reflected in any supporting statements or submissions to the Agency, giving reasons why a waste licence should be granted. The developer appears to stand alone in promoting his project.

Turning now to the specific concerns raised by the proposed incineration facility, and to the grounds for objecting to a waste licence which would enable it to become operational, we find that there are four major groups of issues:

1. The necessity for such a facility has not been fully demonstrated;
2. The location selected is not optimal on environmental grounds, and is not a suitable site;
3. The risk of adverse public health impacts is becoming more evident as research into incinerator emissions, based on improved methodology, is uncovering more serious effects than had previously been considered; and,
4. Concern about the licensing and decision-making process itself.

### **3. Need for the Proposed Incineration Facility**

Under this heading we might consider two questions:

1. Why does Indaver need to construct an incinerator; and,
2. Is an incinerator of this type needed in Ireland.

#### **3.1 The Waste Management Experience of Indaver**

The applicant's Environmental Impact Statement lists and briefly describes some 17 types of waste-related activities undertaken by Indaver at their various plants in Flanders, and only two of these involve incineration (section 1.2.1, page 7). The company has wide experience of waste handling, treatment, sorting, recycling and recovery; and some of these processes are needed in Ireland and would be welcome. For example, it is obvious that in this country we require more effort in the areas of sorting packaging waste for recycling, collection and sorting of paper and cardboard for recycling, recovery of wood waste, sorting and recovery of tyres, recycling of tyre components (steel, rubber, synthetic fibres), solvent recycling, sludge treatment, composting, medical waste management, and glass recycling – all of which are carried out by Indaver in Belgium.

The principal activity of the Irish company MinChem, of which Indaver owns 60%, is the export of hazardous waste from the chemical and pharmaceutical industries, mainly for incineration but also for recycling and solvent recovery. MinChem has successfully operated this specialised business since 1977, and there is no reason why they should not continue to do so.

Why these companies (which have now become one company) decided to construct an incinerator (or two incinerators, to be more accurate), and thereby create widespread concern and adverse reaction among members of the public, appears to be unexplained in the EIS or in any of the subsequent information provided.

The second question, of why an incinerator might (or might not) be needed in Ireland, deserves a more detailed answer.

### **3.2 Is an Incinerator needed in County Meath**

In section 2.9 of the EIS, the applicant states that "prevention of waste is the cornerstone of all waste policies" (section 2.9.3, page 51), and we must agree with this fact. The remainder of section 9 merely points out that in a number of countries where recycling is at a comparatively high level, a significant proportion of that country's waste is incinerated.

John Ahern, in his written statement, added that "preventing waste is the most important element", and "if waste cannot be prevented we should try to minimise its production", and "if it is produced we should reuse it, recycle it, recover energy from it and only as a last resort should we dispose of it". He adds that recyclable types of waste "such as paper, glass, wood and metal are easily dealt with"; and organic waste can be composted, recovering some of the contained energy as methane which can be used as a fuel. This approach leaves only residual waste that cannot be recycled.

I would add that if waste prevention, avoidance, minimisation, segregation, sorting, composting, anaerobic digestion and other forms of waste treatment are undertaken effectively, with appropriate financial incentives to make these activities more commercially profitable than landfilling or incineration, the quantity of residual waste would decline sharply, and the proposed incinerator would be unnecessary.

If there is a requirement for incineration facilities (and we believe that there is no such requirement or need), it is an indication of a policy failure to address the problem of waste management in Ireland, and to provide the necessary incentives.

Throughout the 1980s, the Industrial Development Authority consistently argued that an industrial waste incinerator, capable of accepting and burning toxic waste products from the pharmaceutical and fine chemical industries, was a vital necessity if Ireland's industrial growth and development were to continue. Efforts were made to find a company which would finance, design, build and operate such an incinerator. The Department of the Environment and Local Government invited tenders, a number of companies expressed interest and a short-list was drawn up. Efforts were made to find a suitable site. Du Pont, based at Maydown near the City of Derry, considered the possibility of building an incinerator which would burn not only the quantities of acid tar which had accumulated as a waste from the Du Pont plant, but would also provide a service to other industries throughout Ireland as a whole. Following extensive cross-border public opposition, Du Pont abandoned their plans some 20 years ago.

No industrial toxic waste incinerator was ever built, yet Ireland's chemical and pharmaceutical industries did not stagnate, but continued to expand, along with many other new industries, some of which use and produce toxic materials requiring disposal. The "Celtic Tiger" jumped, without the need for an incinerator.

So what happened to those arguments more than 20 years ago ? Are the reasons any more relevant now, or are they less relevant – in a world where we are facing global climate disruption because of the emission of greenhouse gases, where persistent organic compounds are accumulating in remote areas such as the arctic and antarctic. During the 20 years since those failed arguments were promoted, environmental scientists and biologists are observing massive extinctions of other species, and these scientists are becoming more concerned about the increasingly adverse impacts of humankind's activities on the life support systems of the planet. It is against this background that we must consider whether or not the proposal of an incinerator at Carranstown is appropriate.

Let me give a number of reasons why this facility is not required, and would be unsuitable for this country:

- ◇ An incinerator requires a continuing supply of combustible waste (which must have a high energy content) throughout its life cycle, often guaranteed by long-term contractual agreements with local authorities agreeing to provide a certain tonnage of waste per year to the incinerator, thereby locking communities into waste production rather than waste elimination. The proposed incinerator will be no different, as it is hard to imagine that the huge financial burden of planning, constructing and operating the facility would be embarked upon by Indaver without some assurance that their substantial investment would be massively recouped. It would be the legitimate interest of any business, and especially the waste management industry, to seek to undermine any efforts by society which would result in the company's expensive facility failing to pay its way. The Agency requires licence applicants to demonstrate their financial soundness before it makes a decision on a waste licence application – the other side of that coin is that the Agency must take into account the consequential effects, in financial and policy contexts, of permitting this type of facility. If this argument seems remote, we need only remember how transportation policy in Ireland is now influenced by companies which build and operate toll roads, or how influential the motor industry and the road haulage sector have become.
- ◇ Claims by incinerator operators that their facilities are a necessary complement to recycling programmes cannot be logically sustained, as incinerators need a continuous supply of materials with high calorific value, such as paper, cardboard and plastics to maintain combustion levels; and these materials should preferably be recycled, and not burned.
- ◇ The large scale of an incineration facility, and the dispersed pattern of settlements in Ireland, will require transportation by road of large amounts of mixed municipal or other wastes (the "fuel") and solid combustion wastes (incinerator ash) through agricultural areas, towns and villages, thereby adding to the environmental impact of the proposed facility. These wider environmental consequences must be considered by the Agency.
- ◇ Widespread and growing public opposition in Ireland and mainland Europe to proposed thermal treatment plants must be taken into account, as not to do so is anti-democratic and inequitable; while we must also recognise that there is increasing global resistance to incineration;



- ◇ The proposed incinerator is an “end-of-pipe” approach to the waste problem, and its existence will inevitably reduce the incentives for waste elimination and recycling, and will slow down Ireland’s transition to a low-waste or near zero waste sustainable society.
- ◇ Energy produced by thermal plants which recover some of the calorific value of the waste is only a fraction of the energy which has gone into the production of the materials consumed; and far greater energy savings would be achieved by the production of recyclable goods which did not become waste at the end of their useful lives, and by repairing, reusing and recycling these and other products. This reason is very similar to the situation with electric power generation, where it has been shown that a given amount of money spent on energy saving and conservation measures (for example, by insulating buildings) would save more energy than the quantity of energy which would be generated if the same amount of money were to be spent in constructing more generating capacity, i.e., more power stations.
- ◇ Solid fuelled electricity generating plants in Ireland (such as the peat-fired plants in the Midlands or the coal-fired plant at Moneypoint in the Shannon Estuary) can use no more than 35 to 38 per cent of the energy contained in the fuel, because of basic thermodynamic laws. At best, our modern gas-fired plants can utilise just over 40 per cent of the heat energy in the natural gas supplied to them, and one dual cycle gas turbine plant is claiming that 55 per cent of the calorific energy in the gas supplied can be used to generate electricity. How therefore can Indaver claim that 75 per cent of the energy produced by the combustion of waste will be recovered as steam in the boilers, as stated in section 2.4.3 (page 29) of the EIS ? The Agency should ask Indaver what percentage of the calorific value of the waste will actually be available for electricity generation for export to the national grid, i.e., the net energy production. It is only this energy, and no other, which can be considered as replacing the energy from other fuels used elsewhere to generate electricity.
- ◇ Waste cannot be regarded as a source of renewable energy, as Indaver claim; it is the result of exploiting natural resources which may not be sustainable or renewable (e.g., plastics from exhaustible reserves of hydrocarbons, paper and cardboard from diminishing virgin forests, and metals which require very large amounts of energy to extract and process); and wastes should therefore be more appropriately considered as man-made reservoirs of recoverable materials which must be recycled in order to prevent further unsustainable extraction of resources, exploitation of raw materials and intensive use of energy.
- ◇ Disposal of fly ash from incinerators requires special landfills and careful precautions if further problems are to be avoided; and there is no landfill in Ireland licensed or designated for the disposal of the toxic fly ash. The use of bottom ash (clinker) for road-making may be unacceptable, depending on its quality and marketability in competition with construction and demolition waste.
- ◇ The perceived dangers arising from the emission of dioxins and other toxicants to the atmosphere could have a serious negative effect on the

marketability of agricultural produce within a 40 km radius of such plants, and this issue is of special importance in Ireland.

- ◇ Evidence is continuing to grow about the adverse environmental and public health effects of incineration (for example recent medical research has documented the existence of elevated levels of cancers in the vicinity of incineration plants, along with birth and developmental defects, and hormonal disruption, especially in children and teenagers). There is considerable public, scientific and regulatory concern over the adverse health effects of chronic exposure to trace levels of persistent organic pollutants arising from incomplete combustion of organic wastes. These persistent pollutants include polychlorinated dibenzo-p-dioxins (PCDD) and polychlorinated dibenzo-furans (PCDF), collectively known as dioxins, which are among the most toxic and long-lived compounds known, and I will refer to this issue again.
- ◇ Research has shown that thermal waste treatment plants which are effective in destroying dioxins in their flue gases are at the same time significant sources of *de novo* dioxin formation. The design of the proposed Indaver incinerator is intended to reduce dioxins and other persistent organic pollutants by using the best known technology (holding the wastes at an elevated temperature for a sufficient length of time, and quenching the flue gases rapidly to reduce dioxin formation, as described in the EIS, sections 2.4.3 to 2.4.5). The problem for Indaver is that these processes reduce the efficiency of thermal recovery, i.e., less of the energy in the waste is recovered than if the flue gases were passed through heat exchangers which reduced their temperature more slowly.
- ◇ There cannot be an absolute guarantee that any form of thermal treatment plant will operate at full efficiency, and accident free, at all times; and any significant accident resulting in emissions to the atmosphere could cause widespread economic losses, adverse public health impacts, psychological disturbances and loss of confidence in locally produced food products. The situation is comparable to that in the oil industry – no company (refinery or tanker operator) wants to spill oil, but it happens; and statistics are available from oil ports and tanker fleets world-wide to predict the numbers of spills and the approximate quantities of oil which would be lost through accidents and spillages. The number of incinerators operating at present must provide some level of statistics for accidents and malfunctions, and this data should be obtained *independently* by the Agency as a standard procedure, in order to make some attempt at quantifying the risk. If this can be done for a proposed oil terminal, it could be done for a proposed incinerator; and for the Agency to rely on the licence applicant's assumptions would be dereliction of duty by an organisation established to protect the environment.

If this country already had a municipal waste incinerator operating, I believe that we should let it continue in operation, as the consequences of shutting it down would be significant. But, because we do not have such a facility, and the applicant has not proven the necessity for it, we should not (as a society) accept the risk.

At this point I want to make a link between necessity and risk, and show that the two are related. I am not aware that this logical connection has previously been made, so I may need to give some examples of the argument.

Consider the risks taken by the coxwain and crew of a lifeboat which puts to sea in storm conditions to rescue seafarers from a fishing vessel which is sinking. Those risks are taken voluntarily, in the knowledge that they are necessary to save lives.

My second example is the risk taken by a villager in an African country who walks for miles through an area under the control of a rebel army because she must reach a source of clean water for her family or to get medicine. This high-risk activity is not undertaken voluntarily, but out of necessity. Not to obtain the water or the medicine would have worse consequences.

A final example, nearer home. I am late coming to this oral hearing, so I decide to drive faster, and take more risks; or I run across the road instead of waiting for the traffic lights to change. If I was in plenty of time, I would not need to take such risky activity.

If there were no other solutions for dealing with our wastes, then the risk to public health and the environment as a consequence of constructing the proposed incinerator might be acceptable. But there are other solutions and, even if these might not be immediately available, or would require expenditure of public funds (for example, to incentivise waste reduction, repair, reuse, recycling, etc), is the Agency justified in imposing a risk, however small, on the population who would be exposed to that risk? If an incinerator is not needed, and the country can do without this particular facility, why allow it? Independent proof of its necessity should be required before we can evaluate whether or not the risk of constructing it is acceptable. This is a key issue which should be considered by the Agency before a final decision can be made about the waste licence application.

#### **4. The Suitability of the Location**

##### **4.1 Importance and Vulnerability of the Regionally Important Aquifer**

We have heard some evidence about the geology of the area, and about the importance of the regionally important and vulnerable aquifer, unique in Leinster, which lies underneath the site. While it must be accepted that many hazardous installations, for example filling stations which store motor fuels in underground tanks, are located on sites above vulnerable aquifers, this problem arises because most of these facilities have been in place for a long time, before planning authorities became aware and concerned about aquifer contamination. The fact that some installations which represent a threat to the aquifer beneath them may have been permitted in the past should not be a reason for permitting this proposed facility which will store and handle toxic materials.

Evidence has been given that the limestone bedrock displays both karst and fracture flow features which make it extremely productive. For example, Irish Cement Limited, which operates a quarry adjacent to the proposed site, abstracts between 4,400 and 6,300 m<sup>3</sup>/day of groundwater in order to reduce groundwater levels and inflow to the quarry. This very large quarry extracts rock by blasting, and activity which increases the risk of damage to any underground structures, including pipes and tanks associated with the proposed incinerator. Slight damage to such structures could easily result in small leaks of contaminated water which would remain undetected but which would contaminate the aquifer over a long period of time. We find it extraordinary that no risk assessment of the possibility of damage to the proposed incinerator structure and foundations, or the requirement to make these structures more robust, appears to have been carried out.

The Town of Drogheda currently abstracts water from the River Boyne to provide a mains supply, but plans have been made to abstract water from this regionally important aquifer, because of the high quality of the water contained in it, and because it is relatively close to the town. It is known that this aquifer is vulnerable, as it is replenished by downward percolation of surface water through soil and porous rock. Any significant deposition from the atmosphere of persistent organic pollutants (POPs) from the proposed incinerator would result in a risk of the aquifer becoming contaminated in the long term. The rate of recharge of the aquifer, the principle sources of recharge and the direction of groundwater movement appear not to have been adequately examined and characterised in the course of this waste licence application.

The Agency will be aware that permission was refused for further deposition of waste at a local authority landfill at Mell near Drogheda because of the risk of groundwater contamination. Even though this decision may not be directly comparable, it is an indication that the groundwater in the area must be considered vulnerable.

#### **4.2 Proximity of Populations Exposed to Airborne Contaminants**

As the Agency will be aware, the town of Drogheda is approximately 6.0 km (3.75 miles) north-eastwards of the site of the proposed incinerator, i.e., directly downwind according to the direction of the prevailing winds. The continuing development of the town has resulted in built-up areas and residential suburbs extending south-westwards from the town centre, bringing these residential areas to within approximately 4.0 km (2.5 miles) of the proposed incinerator. We consider that this distance is not sufficient to ensure that a major centre of population would not be affected by emissions, particularly in the event of malfunction or plant upset.

The Cooley Peninsula and the Mourne Mountains (in the District of Newry and Mourne) are also located downwind from the proposed site, and the possibility of particulate deposition on these elevated areas must not be overlooked. It is well known that atmospheric particulates are more likely to be deposited when rising ground causes an air mass to increase its altitude, resulting in precipitation and "wash out" of any particulates in the air mass. No information appears to have been given by the applicant about the form in which dioxins,



furans and other persistent organic pollutants (POPS) will be emitted – as molecular clusters, as aerosols, or adsorbed on to dust particles. Each of these types of contaminants will behave differently in an air mass, and these distinctions do not appear to have been made in the air pollution modelling study.

As the Agency will also be aware from knowledge of incinerator operations in other member states of the EU, there is a statistically significant risk of serious adverse environmental and economic problems being caused by incinerator breakdown, malfunction or failure of emission control. We submit that these risks have not been fully taken into account by the Agency when deciding to grant the waste licence to Indaver Ireland.

## **5. Incineration and Public Health**

### **5.1 Cumulative Impacts of Industrial and Other Emissions, Especially in Relation to Health**

The town of Drogheda is located in an east-west valley (part of the Boyne Valley) prone to atmospheric inversions which result in a risk of elevated levels of atmospheric contaminants during certain weather conditions. In addition to emissions from the proposed incinerator, other significant sources of atmospheric contaminants are the nearby Premier Periclase plant which extracts magnesium from seawater, the cement manufacturing facility at Platin (very close to the proposed incinerator site), the newly-opened motorway between Dublin and Dundalk, and domestic coal and oil burning within the town.

We would submit that the cumulative impact of these emissions has been only partially considered, and not adequately addressed, either in the Environmental Impact Statement or (more particularly) in the proposed waste licence. This is an important issue, as a failure to adequately assess cumulative impacts may be regarded as a significant omission from the EIS. Arising out of a study commissioned by the European Commission's DG XI (Environment, Nuclear Safety and Civil Protection) in 1999, methodologies were devised and recommended to ensure that indirect and cumulative impacts would be integrated into the environmental impact assessment (EIA) process, and these methodologies are well documented. However, they do not appear to have been used by the Applicant or by the Agency.

Members of Drogheda Borough Council and Dundalk Town Council are also concerned that no adequate baseline data or monitoring of the effects of existing emissions has been carried out, and therefore no comparison is available on which to base an assessment of future changes.

There is no doubt that long-term low levels of atmospheric contaminants can have adverse effects on human health, not necessarily resulting in mortality or serious illness in all cases, but creating more elevated and widespread occurrences of upper respiratory tract and gastro-intestinal disorders and reduction in immunity to pathogens which require treatment by local GPs. The

combination of cumulative atmospheric contaminants and stress arising from knowledge that the air being breathed is contaminated is a significant cause of such illnesses.

## **5.2 Adverse Health Impacts of PM<sub>10</sub> and PM<sub>2.5</sub>**

We are further concerned that recent epidemiological studies reported in the medical literature have shown that the presence of atmospheric particulate matter less than 2.5 microns in size is associated with an elevated risk of ill-health, particularly heart disease. It is known that incineration of municipal waste generates large amounts of such particles, and yet there appears to be no reference to this serious problem in the proposed waste licence. Schedules B and C require only monitoring of "total dust", a relatively meaningless parameter for human health, since the effects of inhaled dust depend not only on particle size, but also on particle composition and the presence of any adsorbed substances. However, the draft report of the EPA Inspector (Mr Peter Carey) refers in Appendix 3 to dust measured as PM<sub>10</sub> and PM<sub>2.5</sub>. The fact that these measurements are not required in the proposed licence is a serious omission, even though the Inspector recommended that monitoring of PM<sub>10</sub> and PM<sub>2.5</sub> in ambient air should be carried out (in proposed condition 8.18), and the licensee should be required to determine the particle distribution size of dust which would be emitted from the incineration stack (page 9 of the Inspector's report). It is curious, and a matter of some concern, that the Inspector's recommended condition 8.18 seems to have been removed from the draft decision as issued by the Agency on 26 October 2004.

Because very low levels of these fine particulates are associated with lung damage and morbidity in exposed populations, we are seriously concerned that the proposed flue gas cleaning system including the evaporating spray towers, baghouse filters, injection of activated carbon and lime, and wet flue gas cleaning, will not be adequate to reduce these very small particulates to safe levels.

## **5.3 The Health Research Board's Literature Review on Health and Environmental Effects of Landfilling and Incineration of Waste**

The literature review on health and environmental effects of landfilling and incineration of waste, published by the Health Research Board in 2003, pointed out that "There is some evidence that incinerator emissions may be associated with respiratory morbidity. Acute or chronic respiratory symptoms are associated with incinerator emissions. Reproductive effects, such as an effect on twinning or sex determination, have been described. These findings however are not conclusive. A number of studies have reported associations between developing certain cancers and living close to incinerator sites. Specific cancers identified include primary liver cancer, laryngeal cancer, soft-tissue sarcoma and lung cancer. Although some results are conflicting in this area, other *well-designed studies* [our italics for emphasis] indicate a possible link between cancer risk and residence near incinerator sites. The influence of other sources of pollutants continues to prove difficult to separate and, as a result, evidence cannot be described as conclusive.

Further research, using reliable estimates of exposure, over long periods of time is required to determine whether living near landfill sites or incinerators increases the risk of developing cancer. Studies of specific environmental agents and specific cancers may prove more definitive in the future" (page 186).

It should be further noted that the Health Research Board's literature review stated that this country does not have adequate surveillance methods to detect the adverse health effects of incineration. The Health Research Board's review pointed out that Ireland has insufficient resources to carry out adequate risk assessments for proposed waste management facilities (including incineration), that there are serious data gaps in relation to the environmental effects of these technologies, and that these problems should be rectified urgently. Given these findings, it is iniquitous that people living in the vicinity of the proposed incinerator, and the populations of Drogheda, Dundalk and their surroundings should be exposed to an unquantified risk, in the absence of base-line health data, epidemiological studies, health monitoring or adequate assurance that any adverse health effects will be extremely minimal.

As the Agency will also be aware, and as reported in the Irish Examiner dated 3 November 2004, the Agency's Director General has appropriately written to the Department of Health warning that there is no system in place to routinely monitor the health of people living near contentious sites such as that of the proposed incinerator. On the basis of this warning, which we believe to be true and correct, we submit that it is internally inconsistent that the Agency should decide to grant a waste licence for the proposed incinerator.

#### **5.4 Problems of Health Risk Assessment**

The inconsistency of results obtained from many studies of the health effects of incinerators on human population clearly show the difficulty of carrying out accurate or verifiable risk assessments. Uncertainties in the risk assessment process arise from the following:

- The lack of complete emission data, especially for non-standard operating conditions;
- The problem of dose-response assessment at low doses and particularly of low-dose multiple-route and temporal variations, and the difficulty of extrapolating these;
- The lack of toxicity data on most products of incomplete combustion;
- The lack of physical and chemical information about contaminants and other substances emitted which are of concern from a health perspective;
- Incomplete knowledge of how substances are transported through the various environmental media, and bio-accumulation and bio-concentration factors which will affect the distribution and fate of persistent organic pollutants;
- Variability of all factors in any risk assessment, for example, variations in physical conditions (e.g., topography, temperature, rainfall, meteorological conditions, soil types and land uses), characteristics of people exposed to the risk (e.g., eating habits, residence times, age, and individual

- susceptibility), leading to a wide range of exposures and risks for different individuals;
- The possibility of errors and omissions in the risk assessment (e.g., omission of an important pathway of exposure).

In our experience, it is only after adverse health effects are observed that a new, more complex, or previously unrecognised exposure path is discovered. The history of such discoveries is a strong reason for adopting the Precautionary Principle in a situation where long-term adverse health effects on a human populations cannot be predicted. Where people's lives and health are concerned, we cannot rely on hopeful expectations that "*nothing will go wrong*", that "*everything will be monitored*"; and especially we cannot rely on the naïve assumption that because a legal limit is set in a proposed waste licence, this limit will never be exceeded.

## **6. Aspects of the Licensing and Decision-Making Process**

In relation to this particular project proposal, there are some aspects of the licensing and decision-making procedures which need to be addressed in this oral hearing, including matters which were not considered when the proposed waste licence was being prepared by the Agency.

### **6.1 Failure to Comprehensively Assess the Applicant's EIS and to carry out an Environmental Impact Assessment of the Proposed Incinerator as Required by the EU Directive**

These are matters which are of particular concern to An Taisce, the National Trust for Ireland.

An Taisce is particularly concerned about the inadequate procedure by which major EISs (such as the applicant's EIS for a project which requires an EPA licence) are assessed in Ireland, i.e., some of the issues are assessed by planning authorities, and other issues by the EPA, while some important issues are omitted entirely from consideration.

Decisions about proposed projects are independently made by planning authorities and by the EPA, with no combined or comprehensive assessment of the environmental consequences. For example, as the Agency will be aware, planning permission was refused on four separate occasions by Cork County Council and An Bord Pleanála for a large-scale landfill at Ballyguyroe in North Cork; yet, following these decisions, the EPA has made a final decision on 17 November 2004 to grant a waste licence, though the inconsistency of the Agency's proposed decision had previously been pointed out to them.

As the Agency will be further aware, this issue of split jurisdiction is the basis of legal proceedings being taken by the European Commission against the Government of Ireland for breaching EIA Directive 85/337/EEC as amended by Council Directive 97/11/EC. The Commission issued a Reasoned Opinion on 25 July 2001 confirming that Ireland was in breach of the Directive, and giving



examples of failures to comprehensively assess environmental impacts in an integrated manner as required by the Directives. The Opinion stated, *inter alia*, that Ireland is failing to comply with Article 3 of the Environmental Impact Assessment Directive in that there is no provision which ensures that an EIA covers the inter-action between the factors mentioned in the first and second indents of Article 3 of Directive 85/337/EEC before its amendment by Directive 97/11/EC, or the inter-action between the factors mentioned in the first, second and third indents of Article 3 of Directive 85/337/EEC after its amendment by Directive 97/11/EC.

Article 7 of Council Directive 96/61/EC refers to this problem of independent decision making, and states that:

*"Member States shall take the measures necessary to ensure that the conditions of, and procedure for the grant of, the permit are fully coordinated where more than one competent authority is involved, in order to guarantee an effective integrated approach by all authorities competent for this procedure"*.

It is evident that there has been no co-ordination between the EPA and An Bord Pleanála, and that the requirement for coordination has not been complied with.

We would submit that subsequent changes in the planning legislation (in particular, Section 256 of the Planning and Development Act, 2000) have not been sufficient to address these failures, and that the environmental impact assessment process for the proposed incinerator at Carranstown has not been carried out in compliance with the requirements of the EIA Directives.

More recently, the decisions of Mr. Justice Peter Kelly in the High Court in May and June of 2004 in the case of *Mary Pat Cosgrave -v- An Bord Pleanála, Wicklow County Council, Ireland and Others*, are very relevant to the issues before this hearing. These proceedings were by way of a Judicial Review of the decision of An Bord Pleanála to grant planning permission for a landfill facility at Ballynagran, County Wicklow, and the judgement of the Court was that the EPA is required to carry out a full Environmental Impact Assessment process in accordance with the EIA Directives of the EU on all of those matters which have not formed part of the remit of the Planning Authority. Having regard to the fact that it appears that the EPA is now considering the granting of a waste license for the Indaver facility, I would submit that thus far, it does not appear that an Environmental Impact Assessment has been performed by the EPA and indeed, it does not appear that the EPA proposes to carry out an Environmental Impact Assessment.

As an example of what happens when the assessment of a project is split between independent authorities, we need only point to the fact that the Agency has requested an additional 25 metres of height to be added to the stack (Condition 3.19.1 of the proposed licence, page 13), and yet the visual impact of this increase in height has not been assessed by either the planning authority or members of the public. In fact, it is our understanding that the required increase in stack height will make the proposed incinerator more visible from some areas of the Boyne Valley. We therefore submit that there has been no assessment of the impact of the increased stack height on the UNESCO World Heritage

Site, and we understand that a consequence of the increased stack height is that the stack will be directly visible from one of the three principal passage graves in the Boyne Valley.

I mentioned above that some important issues are omitted from consideration during the EIA process in Ireland, and the most important issue which we fail to address fully is the direct and indirect effects of a project on human beings, as required by Article 3 of Directive 85/337/EEC as amended. It is not adequate to state merely that emissions from a proposed project must keep below certain emission limit values, while failing to consider other effects on local populations.

## **6.2 Availability of Information and Documentation**

In anticipation of the recent oral hearing in Cork, into objections against the Agency's proposed decision to grant a waste licence to Indaver for an incinerator at Ringaskiddy, An Taisce sought full background documentation and reports from the EPA (this request was made on the day following publication of the draft decision). To date, I am informed that no such documentation has been received.

An Taisce therefore reserves the right to make a similar request for full background documentation and reports in connection with the waste licence application and objections to it being considered at this hearing, and An Taisce may make further submissions based on the information received. In this connection, it may be appropriate to note that the Article 6 (2) of the EIA Directive requires all relevant background information and documentation to be made available to the public.

## **6.3 Failure to Address Transboundary Impacts**

Because the proposed incinerator site is situated approximately 40 km from the nearest point of the boundary between the Republic of Ireland and Northern Ireland, and stack emissions can be carried long distances before deposition, and because the boundary with Northern Ireland is downwind of the proposed incinerator site, we would submit that provision should have been made for the assessment of transboundary impacts, as required under the EIA Directives. As we were informed in evidence given at this hearing by representatives of Newry and Mourne District Council, no consultations have been undertaken with either the competent authorities or members of the public in Northern Ireland.

In contrast, we would point out that when Monaghan County Council received a planning application for a combined heat and power plant to burn chicken litter, spent mushroom compost and other fuels at Killycarron in County Monaghan, the planning authority notified the relevant authorities in Northern Ireland and announced its intention of not making a decision on the application until the comments of the Northern Ireland authorities (which involved public consultation) had been received.

Failure to address Transboundary Impacts is not a minor issue for this oral hearing, as the EIA Directive is very clear about this responsibility, as stated in Article 7 of EIA Directive 85/337/EEC, amended by Council Directive 97/11/EC:

1. *Where a Member State is aware that a project is likely to have significant effects on the environment in another Member State or where a Member State likely to be significantly affected so requests, the Member State in whose territory the project is intended to be carried out shall send to the affected Member State as soon as possible and no later than when informing its own public, inter alia:*
  - (a) *a description of the project, together with any available information on its possible transboundary impact;*
  - (b) *information on the nature of the decision which may be taken, and shall give the other Member State a reasonable time in which to indicate whether it wishes to participate in the Environmental Impact Assessment procedure, and may include the information referred to in paragraph 2.*
2. *If a Member State which receives information pursuant to paragraph 1 indicates that it intends to participate in the Environmental Impact Assessment procedure, the Member State in whose territory the project is intended to be carried out shall, if it has not already done so, send to the affected Member State the information gathered pursuant to Article 5 and relevant information regarding the said procedure, including the request for development consent.*
3. *The Member States concerned, each insofar as it is concerned, shall also:*
  - (a) *arrange for the information referred to in paragraphs 1 and 2 to be made available, within a reasonable time, to the authorities referred to in Article 6 (1) and the public concerned in the territory of the Member State likely to be significantly affected; and*
  - (b) *ensure that those authorities and the public concerned are given an opportunity, before development consent for the project is granted, to forward their opinion within a reasonable time on the information supplied to the competent authority in the Member State in whose territory the project is intended to be carried out.*
4. *The Member States concerned shall enter into consultations regarding, inter alia, the potential transboundary effects of the project and the measures envisaged to reduce or eliminate such effects and shall agree on a reasonable time frame for the duration of the consultation period”.*

I would submit that the failure to address transboundary impacts is sufficiently serious to invalidate the decision-making process. It is not sufficient to state that there will be no such effects, especially when representatives from a local authority in another member state have attended and given evidence at this hearing, expressing concern about the impact of the proposed incinerator in the area under their jurisdiction.

## **7. Statement on Behalf of the European Union**

The literature review on health and environmental effects of landfilling and incineration of waste, published by the Health Research Board in 2003, pointed out that the EU Environment Commissioner stated in writing (page 230) that *"incinerators are not the answer to waste management .... Incinerators only reduce the volume of waste but the environmental impact of incineration is significant."* The Environment Commissioner's letter also pointed out that *"incineration plants which operate in the full respect of air and water emission requirements are extremely expensive"*. The review also quotes the Head of EU Waste Management as saying that incinerators need enormous input in order to be economic and that in many countries they are now considered similar to nuclear power stations and should be avoided:

*"The Commission does not support incineration. We do not consider this technique is favourable to the environment or that it is necessary to ensure a stable supply of waste for promoting combustion over the long term. Such a strategy would only slow innovation. We should be promoting prevention and recycling above all. Those countries who are in the process of drafting their planning should not base it upon incineration."*

While this may not be official policy, we suggest that it should be taken into consideration by the Agency when considering the objections and other matters which are the subject of this hearing.

## **7. Conclusions**

The proposed site is unsuitable, the decision-making process is fundamentally flawed, the proposed incinerator is likely to have adverse impacts on human health and the quality of life in the immediate neighbourhood of the plant, the EIA procedure has not been fully complied with, and there are so many uncertainties about the impacts of the proposed facility that the Precautionary Principle should be invoked, and a waste licence should be refused.

Jack O'Sullivan

**Environmental Management Services**

**On behalf of the Mayor and Elected Members of Drogheda Borough Council and Dundalk Town Council, and An Taisce**

08 March 2005



**Oral Hearing of Objections Against the Proposed Decision by the Environmental Protection Agency to Grant a Waste Licence to Indaver Ireland for a Waste Management Facility, including a Non-Hazardous Waste Incinerator at Carranstown, Duleek, County Meath**

*Waste Licence Application Register Number 167-1*

**Oral Hearing, Drogheda, 07 March 2005**

---

**STATEMENT OF EVIDENCE**

**by Mr. Jack O'Sullivan, B.Sc., M.I.Biol.,**

**on behalf of the Mayor and Elected Members of Drogheda Borough Council and Dundalk Town Council, and on behalf of An Taisce**

**1. Qualifications and Experience**

I graduated in 1964 from University College Cork in Zoology and Biochemistry, and I was initially employed a Sea Fishery Officer, Biologist and Pollution Control Officer in North West England and Wales where I was responsible for coastal pollution control and fisheries management on 720 km of highly varied coastline. I returned to Ireland in 1975 to fulfil a contract as a Science Policy Analyst with the National Science Council where (as an Irish delegate to the EU) I participated in negotiations between Government departments, the European Commission, environmental NGOs and other organisations.

Since 1977 I have operated as an independent environmental consultant specialising in aquatic pollution, fisheries, aquaculture, hazardous and toxic wastes, municipal solid wastes, oil and chemical spillages, natural resources management and planning, and in the environmental impact assessment of industrial, infrastructural and other projects.

In 1981 I established Environmental Management Services (EMS), and have worked on a wide range of assignments in Ireland, Britain, Central and Eastern Europe, Middle East, Far East and Africa, and a significant amount of my work has been connected with waste and natural resources management policy and with issues relating to existing and proposed industrial sites and infrastructural projects. In addition to planning appeals and High Court cases relating to existing and proposed waste disposal operations in Ireland, our assignments

*For inspection purposes only. No copying or reproduction without the permission of the copyright owner required for any other use.*

***Evidence on behalf of the Mayor and Elected Members of Drogheda Borough Council and Dundalk Town Council, and An Taisce***

have included the preparation, for the European Commission, of the first national environmental strategy for Lithuania, and draft terms of reference for two waste management studies in the Russian Federation.

I have had more than 30 years experience as an environmental professional, including 26 years as an independent consultant. Clients in Ireland and abroad have included:

Advisory Committee on Oil Pollution of the Sea	Eolas -- the Irish Science and Technology Agency
An Taisce -- the National Trust for Ireland	Galmoy Mining Awareness Group
Aran Energy Limited	Grangemockler and Hardbog Environmental Group
Aughinish Alumina Limited	Gweebarra Fishermen's Association
Ballyboden Stone Quarry Limited	Irish Marine Emergency Service
Bantry Mussel Growers	Irish Marine Farmers Association
Bord Fáilte Éireann	Irish National Petroleum Corporation
Bord Iascaigh Mhara	Irish Offshore Technical Services Ltd.
Brady Shipman and Martin	Irish Shell Ltd.
British Gas Corporation	Jacobs International
Burren Action Group	McCarthy and Partners
Cement Roadstone Holdings (CRH)	Ministry of Environmental Protection, Lithuania
Chesterton Industries BV	Moucher McCullough and Partners, Dublin
Clonmel Corporation	Nigerian National Petroleum Corporation
Comhdháil na nOileán	Overseas Technical Services, Lagos
Comhar Caomhan Teoranta, Inis Oirr	Pan Ocean Oil Corporation, Nigeria
Commission of the European Communities: DG XI, DG V, PHARE and TACIS	Project Management Group
Conroy Petroleum and Natural Resources	Radio Telefís Éireann
Cork County Council	Roscommon County Council
Craig Gardner Management Consultants	Shannon Free Airport Development Company (SFADCo)
Cremer and Warner, London	Shannon Foynes Port Authority
Cromarty Petroleum Company Ltd.	Showerings Ireland Ltd
A.T. Cross, Ballinasloe	Silvermines Environmental Action Group
Cross River Ferries, Cork.	Smurfit Paper Mills
Dáil Committee on Public Expenditure	South Tipperary Anti-Incineration Campaign (STAIC)
David Davies Memorial Institute of International Studies	SRS Aviation, Shannon, Co Clare
Department of the Environment / EPA (Ireland)	Tara Mines Limited
Department of the Marine (Ireland)	Technica Ltd., London and Aberdeen.
Digital Equipment Corporation	Údarás na Gaeltachta
Dow Chemical Company	Wicklow County Council
Dublin Institute of Technology	World Wide Fund for Nature
Economic and Social Research Institute, Dublin	World Maritime University
	Xilinx Ireland Ltd.

I have represented environmental NGOs on the Advisory Committee of the Environmental Protection Agency, and I am a member of the Council of An Taisce (Ireland's longest established environmental NGO), and vice chair of An Taisce's Natural Environment Committee, and Honorary and Secretary and Vice-Chair of the Westmeath Association of An Taisce. I am a founder member of Zero Waste Alliance Ireland (ZWA), a federation of local citizens' groups throughout Ireland, who are campaigning against unsuitable or inappropriately sited landfills and incinerators. Zero Waste Alliance Ireland is also actively promoting the practical concept of "zero waste", a whole-system approach to addressing the problem of society's currently unsustainable generation and disposal of wastes.

## 2. Introduction

As the Agency will be aware, the proposed decision made on 26 October 2004 to grant a waste licence to Indaver Ireland (a Branch of Indaver NV) for the above waste management facility including the proposed incinerator, was viewed with dismay by many elected representatives, residents and concerned individuals living in Counties Louth and Meath, in the towns of Drogheda and Dundalk, and in other towns and villages. The prospect of living, farming or running a small business anywhere near an incinerator appears to be a prospect which may people find fearful.

Reflecting these concerns, the Mayor and Elected Members of **Drogheda Borough Council** submitted an objection against the Agency's proposed decision. Their decision to object to the proposed incinerator and to the granting of a waste licence by the Agency was taken at a meeting of the Borough Council held on Monday 01 November in Drogheda, and the objection was submitted on 22 November 2004.

On 19 November 2004, the members of **Dundalk Town Council** submitted a written objection; and similar objections were also received by the Agency from Newry and Mourne District Council, the elected members of Louth County Council, Councillors for the East Meath Area (based in and around Duleek), Councillor Tommy Reilly (Navan Urban District Council), and a group of five Councillors and a TD (Mr Arthur Morgan) with an address at Magdalene Street, Drogheda. I have listed these objectors specifically to show that many elected representatives, who would usually be in favour of industrial or commercial development, have objected to this proposed facility.

**An Taisce**, the National Trust for Ireland, submitted a written objection to the EPA on 16 November 2004, received by the Agency 22 November 2004, in which Ireland's principal conservation organisation objected to the proposed development on 12 grounds. Many of these grounds described failures by the decision-making procedure to take into account relevant and applicable EU Council Directives, together with omissions or inadequacies in the developer's EIS.

As the Agency will be aware, the policies of An Taisce reflect the organisation's core belief that a high quality environment is central to Ireland achieving a successful and sustainable economy, as well as a high quality of life. This belief is based on the principles that prevention is better than cure, partnership and dialogue are better than conflict and monologue, and strategic planning surpasses reactive expediency.

An Taisce is a Prescribed Body under the Planning Acts, and the only one which is independent of the State. Local Authorities are obliged to consult An Taisce on any development proposal which might have a significant impact on the environment, and to deal with the consequences of this obligation, An Taisce has built up a range of expertise extending across Ireland's natural, built and social heritage. An Taisce headquarters is based in Tailors' Hall, Dublin, where a professional staff of 17 people are employed, supplemented by volunteers. An Taisce has a membership of over 5,000 spread among 20 local associations around the country

Other groups of environmentally concerned residents, and national organisations such as the Irish Doctors Environmental Association (IDEA) have also lodged serious objections. If this proposed development is so necessary, that necessity does not appear to be reflected in any supporting statements or submissions to the Agency, giving reasons why a waste licence should be granted. The developer appears to stand alone in promoting his project.

Turning now to the specific concerns raised by the proposed incineration facility, and to the grounds for objecting to a waste licence which would enable it to become operational, we find that there are four major groups of issues:

1. The necessity for such a facility has not been fully demonstrated;
2. The location selected is not optimal on environmental grounds, and is not a suitable site;
3. The risk of adverse public health impacts is becoming more evident as research into incinerator emissions, based on improved methodology, is uncovering more serious effects than had previously been considered; and,
4. Concerns expressed about the licensing and decision-making process itself.

### **3. The Context and Purpose of the Oral Hearing**

Before addressing these issues, there is a question to be considered about this oral hearing. It has always been my understanding that the purpose of an oral hearing is to enable the Agency (or An Bord Pleanála in other situations) to gather information which would enable it to review its proposed decision, as comprehensively as necessary. The recent publication by the EPA, entitled "Aspects of Licensing Procedures: Objections and Oral Hearings" (January 2005, ISBN 1-84095-149-4), states that the Agency's decision to hold an oral hearing is normally influenced by matters such as:



- new issues not previously raised that are specific to the location or the development;
- the sensitivity of the location or local environment;
- whether it is a matter of national or regional importance;
- the scale or complexity of the development; and,
- significant new information (paragraph 4.3, page 7).

These reasons suggest that new information may be considered in an oral hearing, and this new information may be connected with matters of national or regional importance, or sensitive local issues. Furthermore, one of the principal purposes of an oral hearing is to provide an appropriate forum for all parties to an objection to orally express their objections and concerns about the proposed decision (paragraph 4.5, page 8). The EPA publication goes on to say that "the applicant and any other party to the hearing together with any other person allowed to participate at the hearing by the Chairperson will be afforded an opportunity to outline their objections. Once this has been completed, *all matters raised are open for question or discussion among all parties*" [our italics for emphasis] (paragraph 4.8, page 9).

This very reasonable description of the purpose and matters to be raised at a hearing coincides with my own views and experience, in that a wide range of facts and opinions may be raised by objectors, including those public policy matters and issues of local, regional and national concern which provide the wider context in which the Agency's final decision will eventually be made, as long as such matters of policy and concern relate to environmental and other relevant issues raised by the licence applicant or objectors.

Creating boundaries too tightly or narrowly around the subject matter which is permitted to be discussed may give rise to the unfortunate perception among participants that the proposed decision under discussion has already been made in principle, and that the hearing is intended to serve only the much weaker and narrower purpose of examining the proposed licence conditions and assisting the Agency in "fine-tuning" those conditions to suit local concerns, the needs of the applicant and whatever degree of control and monitoring of emissions and discharges is felt to be most appropriate. I am sure that this perception was not meant to be given by the Chairperson during the last couple of days, and that any constraints imposed were purely for the purpose of ensuring that the hearing proceeded without excessive repetition of matters discussed.

It might also be useful to quote the Agency's mission statement, which helps to put these questions in perspective:

**"To protect and improve the natural environment for present and future generations, taking into account the environmental, social and economic principles of sustainable development"**

#### **4. Need for the Proposed Incineration Facility**

Under this heading we might consider two questions:

1. Why does Indaver need to construct an incinerator; and,
2. Is an incinerator of this type needed in Ireland.

##### **4.1 The Waste Management Experience of Indaver**

The applicant's Environmental Impact Statement lists and briefly describes some 17 types of waste-related activities undertaken by Indaver at their various plants in Flanders, and only two of these involve incineration (section 1.2.1, page 7). The company has wide experience of waste handling, treatment, sorting, recycling and recovery; and some of these processes are needed in Ireland and would be welcome. For example, it is obvious that in this country we require more effort in the areas of sorting packaging waste for recycling, collection and sorting of paper and cardboard for recycling, recovery of wood waste, sorting and recovery of tyres, recycling of tyre components (steel, rubber, synthetic fibres), solvent recycling, sludge treatment, composting, medical waste management, and glass recycling – all of which are carried out by Indaver in Belgium.

The principal activity of the Irish company MinChem, of which Indaver owns 60%, is the export of hazardous waste from the chemical and pharmaceutical industries, mainly for incineration but also for recycling and solvent recovery. MinChem has successfully operated this specialised business since 1977, and there is no reason why they should not continue to do so.

Why these companies (which have now become one company) decided to construct an incinerator (or two incinerators, to be more accurate), and thereby create widespread concern and adverse reaction among members of the public, appears to be unexplained in the EIS or in any of the subsequent information provided.

The second question, of why this incinerator might (or might not) be needed in Ireland, deserves a more detailed answer.

##### **4.2 Is an Incinerator needed in County Meath**

In section 2.9 of the EIS, the applicant states that "prevention of waste is the cornerstone of all waste policies" (section 2.9.3, page 51), and we must agree with this fact. The remainder of section 9 merely points out that in a number of countries where recycling is at a comparatively high level, a significant proportion of that country's waste is incinerated.

John Ahern, in his written statement, added that "preventing waste is the most important element", and "if waste cannot be prevented we should try to minimise its production", and "if it is produced we should reuse it, recycle it, recover energy from it and only as a last resort should we dispose of it". He adds that recyclable types of waste "such as paper, glass, wood and metal are

easily dealt with"; and organic waste can be composted, recovering some of the contained energy as methane which can be used as a fuel. This approach leaves only residual waste that cannot be recycled.

I would add that if waste prevention, avoidance, minimisation, segregation, sorting, composting, anaerobic digestion and other forms of waste treatment are undertaken effectively, with appropriate financial incentives to make these activities more commercially profitable than landfilling or incineration, the quantity of residual waste would decline sharply, and the proposed incinerator would be unnecessary.

If there is a requirement for incineration facilities (and we believe that there is no such requirement or need), it is an indication of a policy failure to address the problem of waste management in Ireland, and to provide the necessary incentives.

Throughout the 1980s, the Industrial Development Authority consistently argued that an industrial waste incinerator, capable of accepting and burning toxic waste products from the pharmaceutical and fine chemical industries, was a vital necessity if Ireland's industrial growth and development were to continue. Efforts were made to find a company which would finance, design, build and operate such an incinerator. The Department of the Environment and Local Government invited tenders, a number of companies expressed interest and a short-list was drawn up. Efforts were made to find a suitable site. Du Pont, based at Maydown near the City of Derry, considered the possibility of building an incinerator which would burn not only the quantities of acid tar which had accumulated as a waste from the Du Pont plant, but would also provide a service to other industries throughout Ireland as a whole. Following extensive cross-border public opposition, Du Pont abandoned their plans some 20 years ago.

No industrial toxic waste incinerator was ever built, yet Ireland's chemical and pharmaceutical industries did not stagnate, but continued to expand, along with many other new industries, some of which use and produce toxic materials requiring disposal. The "Celtic Tiger" jumped, without the need for an incinerator.

So what happened to those arguments more than 20 years ago? Are the reasons any more relevant now, or are they less relevant – in a world where we are facing global climate disruption because of the emission of greenhouse gases, where persistent organic compounds are accumulating in remote areas such as the Arctic and Antarctic. During the 20 years since those failed arguments were promoted, environmental scientists and biologists have been observing massive extinctions of other species, and these scientists are becoming more concerned about the increasingly adverse impacts of humankind's activities on the life support systems of the planet. It is against this background that we must consider whether or not the proposal of an incinerator at Carranstown is appropriate.

Let me give a number of reasons why this facility is not required, and would be unsuitable for this country:

1. An incinerator requires a continuing supply of combustible waste (which must have a high energy content) throughout its life cycle, often guaranteed by long-term contractual agreements with local authorities agreeing to provide a certain tonnage of waste per year to the incinerator, thereby locking communities into waste production rather than waste elimination. The proposed incinerator will be no different, as it is hard to imagine that the huge financial burden of planning, constructing and operating the facility would be embarked upon by Indaver without some assurance that their substantial investment would be massively recouped. Investments must be protected, and therefore it would be the legitimate interest of any business, and especially the waste management industry, to seek to undermine any efforts by society which would result in the company's expensive facility failing to pay its way. This issue is expanded in section 5 below.
2. Claims by incinerator operators that their facilities are a necessary complement to recycling programmes cannot be logically sustained, as incinerators need a continuous supply of materials with high calorific value, such as paper, cardboard and plastics to maintain combustion levels; and these materials should preferably be recycled, and not burned.
3. The large scale of an incineration facility, and the dispersed pattern of settlements in Ireland, will require transportation by road of large amounts of mixed municipal or other wastes (the "fuel") and solid combustion wastes (incinerator ash) through agricultural areas, towns and villages, thereby adding to the environmental impact of the proposed facility. These wider environmental consequences must be considered by the Agency.
4. Widespread and growing public opposition in Ireland and mainland Europe to proposed thermal treatment plants must be taken into account, as not to do so is anti-democratic and inequitable; while we must also recognise that there is increasing global resistance to incineration.
5. The proposed incinerator is an "end-of-pipe" approach to the waste problem, and its existence will inevitably reduce the incentives for waste elimination and recycling, and will slow down Ireland's transition to a low-waste or near zero waste sustainable society. Such "end-of-pipe" solutions are rarely complete in themselves, and the proposed incinerator is no exception. The ash produced will have to be landfilled, metals and non-biodegradable organic substances in the ash will appear in leachate from the landfill, the leachate will have to be treated, sludge from the treatment plant will either be incinerated or will be deposited on the landfill, and the treated effluent will be discharged to a nearby river.
6. Evidence is continuing to grow about the adverse environmental and public health effects of incineration (for example recent medical research has documented the existence of elevated levels of cancers in the vicinity of incineration plants, along with birth and developmental defects, and hormonal disruption, especially in children and teenagers). There is considerable public, scientific and regulatory concern over the adverse health effects of chronic exposure to trace levels of persistent organic



pollutants arising from incomplete combustion of organic wastes. These persistent pollutants include polychlorinated dibenzo-p-dioxins (PCDD) and polychlorinated dibenzo-furans (PCDF), collectively known as dioxins, which are among the most toxic and long-lived compounds known, and I will refer to this issue again.

7. Research has shown that thermal waste treatment plants which are effective in destroying dioxins in their flue gases are at the same time significant sources of *de novo* dioxin formation. The design of the proposed Indaver incinerator is intended to reduce dioxins and other persistent organic pollutants by using the best known technology (holding the wastes at an elevated temperature for a sufficient length of time, and quenching the flue gases rapidly to reduce dioxin formation, as described in the EIS, sections 2.4.3 to 2.4.5). The problem for Indaver is that these processes reduce the efficiency of thermal recovery, i.e., less of the energy in the waste is recovered than if the flue gases were passed through heat exchangers which reduced their temperature more slowly.
8. There cannot be an absolute guarantee that any form of thermal treatment plant will operate at full efficiency, and accident free, at all times; and any significant accident resulting in emissions to the atmosphere could cause widespread economic losses, adverse public health impacts, psychological disturbances and loss of confidence in locally produced food products. The situation is comparable to that in the oil industry – no company (refinery or tanker operator) wants to spill oil, but it happens; and statistics are available from oil ports and tanker fleets world-wide to predict the numbers of spills and the approximate quantities of oil which would be lost through accidents and spillages. The number of incinerators operating at present must provide some level of statistics for accidents and malfunctions, and this data should be obtained *independently* by the Agency as a standard procedure, in order to make some attempt at quantifying the risk. If this can be done for a proposed oil terminal, it could be done for a proposed incinerator; and for the Agency to rely on the licence applicant's assumptions would be dereliction of duty by an organisation established to protect the environment.

If this country already had a municipal waste incinerator operating, I believe that we should let it continue in operation, as the consequences of shutting it down would be significant. But, because we do not have such a facility, and the applicant has not proven the necessity for it, we should not (as a society) accept the risk.

At this point I want to make a link between necessity and risk, and show that the two are related. I am not aware that this logical connection has previously been made, so I may need to give some examples of the argument.

Consider the risks taken by the coxwain and crew of a lifeboat which puts to sea in storm conditions to rescue seafarers from a fishing vessel which is sinking. Those risks are taken voluntarily, in the knowledge that they are necessary to save lives.

My second example is the risk taken by a villager in an African country who walks for miles through an area under the control of a rebel army because she must reach a source of clean water for her family or to get medicine. This high-risk activity is not undertaken voluntarily, but out of necessity. Not to obtain the water or the medicine would have worse consequences.

A final example, nearer home. I am late coming to this oral hearing, so I decide to drive faster, and take more risks; or I run across the road instead of waiting for the traffic lights to change. If I was in plenty of time, I would not need to take such risky activity.

If there were no other solutions for dealing with our wastes, then the risk to public health and the environment as a consequence of constructing the proposed incinerator might be acceptable. But there are other solutions and, even if these might not be immediately available, or would require expenditure of public funds (for example, to incentivise waste reduction, repair, reuse, recycling, etc), is the Agency justified in imposing a risk, however small, on the population who would be exposed to that risk? If an incinerator is not needed, and the country can do without this particular facility, why allow it? Independent proof of its necessity should be required before we can evaluate whether or not the risk of constructing it is acceptable. This is a key issue which should be considered by the Agency before a final decision can be made about the waste licence application.

## **5. Economic and Social Consequences, and Economically Sustainable Development**

The Agency requires licence applicants to demonstrate their financial soundness before it makes a decision on a waste licence application – the other side of that coin is that the Agency must take into account the consequential effects, in financial and policy contexts, of permitting this type of facility. If this argument seems remote, we need only remember how transportation policy in Ireland is now heavily influenced by companies which build and operate toll roads, or how influential the motor industry and the road haulage sector have become.

As we have seen, the Agency must have regard to the “economic principles of sustainable development”, and therefore the question of whether or not the proposed incinerator would contribute to sustainable development must be considered.

As mentioned earlier, an incinerator must provide a return on the investment made by its promoters; and the huge financial burden of planning, constructing and operating the facility will fall on householders and businesses which need to dispose of waste which they unwillingly generate.

The perceived dangers arising from the emission of dioxins and other toxicants to the atmosphere could have a serious negative effect on the marketability of

agricultural produce within a 40 km radius of such plants, and this issue is of special importance in Ireland.

## **6. Energy Recovery Efficiency and Climate Change**

Energy produced by thermal plants which recover some of the calorific value of the waste is only a fraction of the energy which has gone into the production of the materials consumed; and far greater energy savings would be achieved by the production of recyclable goods which did not become waste at the end of their useful lives, and by repairing, reusing and recycling these and other products. This reason is very similar to the situation with electric power generation, where it has been shown that a given amount of money spent on energy saving and conservation measures (for example, by insulating buildings) would save more energy than the quantity of energy which would be generated if the same amount of money were to be spent in constructing more generating capacity, i.e., more power stations.

Solid fuelled electricity generating plants in Ireland (such as the peat-fired plants in the Midlands or the coal-fired plant at Moneypoint in the Shannon Estuary) can use no more than 35 to 38 per cent of the energy contained in the fuel, because of basic thermodynamic laws. At best, our modern gas-fired plants can utilise just over 40 per cent of the heat energy in the natural gas supplied to them, and one dual cycle gas turbine plant is claiming that 55 per cent of the calorific energy in the gas supplied can be used to generate electricity. How therefore can Indaver claim that 75 per cent of the energy produced by the combustion of waste will be recovered as steam in the boilers, as stated in section 2.4.3 (page 29) of the EIS ? The Agency should ask Indaver what percentage of the calorific value of the waste will actually be available for electricity generation for export to the national grid, i.e., the net energy production. It is only this energy, and no other, which can be considered as replacing the energy from other fuels used elsewhere to generate electricity.

Waste cannot be regarded as a source of renewable energy, as Indaver claim; it is the result of exploiting natural resources which may not be sustainable or renewable (e.g., plastics from exhaustible reserves of hydrocarbons, paper and cardboard from diminishing virgin forests, and metals which require very large amounts of energy to extract and process); and wastes should therefore be more appropriately considered as man-made reservoirs of recoverable materials which must be recycled in order to prevent further unsustainable extraction of resources, exploitation of raw materials and intensive use of energy.

## **7. Disposal of Ash from the Proposed Incinerator**

Disposal of fly ash from incinerators requires special landfills and careful precautions if further problems are to be avoided; and there is no landfill in Ireland licensed or designated for the disposal of the toxic fly ash. The use of

bottom ash (clinker) for road-making may be unacceptable, depending on its quality and marketability in competition with construction and demolition waste.

## **8. The Suitability of the Location**

### **8.1 Importance and Vulnerability of the Regionally Important Aquifer**

We have heard some evidence about the geology of the area, and about the importance of the regionally important and vulnerable aquifer, unique in Leinster, which lies underneath the site. While it must be accepted that many hazardous installations, for example filling stations which store motor fuels in underground tanks, are located on sites above vulnerable aquifers, this problem arises because most of these facilities have been in place for a long time, before planning authorities became aware and concerned about aquifer contamination. The fact that some installations which represent a threat to the aquifer beneath them may have been permitted in the past should not be a reason for permitting this proposed facility which will store and handle toxic materials.

Evidence has been given that the limestone bedrock displays both karst and fracture flow features which make it extremely productive. For example, Irish Cement Limited, which operates a quarry adjacent to the proposed site, abstracts between 4,400 and 6,300 m<sup>3</sup>/day of groundwater in order to reduce groundwater levels and inflow to the quarry. This very large quarry extracts rock by blasting, and activity which increases the risk of damage to any underground structures, including pipes and tanks associated with the proposed incinerator. Slight damage to such structures could easily result in small leaks of contaminated water which would remain undetected but which would contaminate the aquifer over a long period of time. We find it extraordinary that no risk assessment of the possibility of damage to the proposed incinerator structure and foundations, or the requirement to make these structures more robust, appears to have been carried out.

The Town of Drogheda currently abstracts water from the River Boyne to provide a mains supply, but plans have been made to abstract water from this regionally important aquifer, because of the high quality of the water contained in it, and because it is relatively close to the town. It is known that this aquifer is vulnerable, as it is replenished by downward percolation of surface water through soil and porous rock. Any significant deposition from the atmosphere of persistent organic pollutants (POPs) from the proposed incinerator would result in a risk of the aquifer becoming contaminated in the long term. The rate of recharge of the aquifer, the principle sources of recharge and the direction of groundwater movement appear not to have been adequately examined and characterised in the course of this waste licence application.

The Agency will be aware that permission was refused for further deposition of waste at a local authority landfill at Meil near Drogheda because of the risk of groundwater contamination. Even though this decision may not be directly



comparable, it is an indication that the groundwater in the area must be considered vulnerable.

## **8.2 Proximity of Populations Exposed to Airborne Contaminants**

As the Agency will be aware, the town of Drogheda is approximately 6.0 km (3.75 miles) north-eastwards of the site of the proposed incinerator, i.e., directly downwind according to the direction of the prevailing winds. The continuing development of the town has resulted in built-up areas and residential suburbs extending south-westwards from the town centre, bringing these residential areas to within approximately 4.0 km (2.5 miles) of the proposed incinerator. We consider that this distance is not sufficient to ensure that a major centre of population would not be affected by emissions, particularly in the event of malfunction or plant upset.

The Cooley Peninsula and the Mourne Mountains (in the District of Newry and Mourne) are also located downwind from the proposed site, and the possibility of particulate deposition on these elevated areas must not be overlooked. It is well known that atmospheric particulates are more likely to be deposited when rising ground causes an air mass to increase its altitude, resulting in precipitation and "wash out" of any particulates in the air mass. No information appears to have been given by the applicant about the form in which dioxins, furans and other persistent organic pollutants (POPS) will be emitted – as molecular clusters, as aerosols, or adsorbed on to dust particles. Each of these types of contaminants will behave differently in an air mass, and these distinctions do not appear to have been made in the air pollution modelling study.

As the Agency will also be aware from knowledge of incinerator operations in other member states of the EU, there is a statistically significant risk of serious adverse environmental and economic problems being caused by incinerator breakdown, malfunction or failure of emission control. We submit that these risks have not been fully taken into account by the Agency when deciding to grant the waste licence to Indaver Ireland.

## **9. Incineration and Public Health**

### **9.1 Cumulative Impacts of Industrial and Other Emissions, Especially in Relation to Health**

The town of Drogheda is located in an east-west valley (part of the Boyne Valley) prone to atmospheric inversions which result in a risk of elevated levels of atmospheric contaminants during certain weather conditions. In addition to emissions from the proposed incinerator, other significant sources of atmospheric contaminants are the nearby Premier Periclase plant which extracts magnesium from seawater, the cement manufacturing facility at Platin (very close to the proposed incinerator site), the newly-opened motorway between Dublin and Dundalk, and domestic coal and oil burning within the town.

We would submit that the cumulative impact of these emissions has been only partially considered, and not adequately addressed, either in the Environmental Impact Statement or (more particularly) in the proposed waste licence. This is an important issue, as a failure to adequately assess cumulative impacts may be regarded as a significant omission from the EIS. Arising out of a study commissioned by the European Commission's DG XI (Environment, Nuclear Safety and Civil Protection) in 1999, methodologies were devised and recommended to ensure that indirect and cumulative impacts would be integrated into the environmental impact assessment (EIA) process, and these methodologies are well documented. However, they do not appear to have been used by the Applicant or by the Agency.

Members of Drogheda Borough Council and Dundalk Town Council are also concerned that no adequate baseline data or monitoring of the effects of existing emissions has been carried out, and therefore no comparison is available on which to base an assessment of future changes.

There is no doubt that long-term low levels of atmospheric contaminants can have adverse effects on human health, not necessarily resulting in mortality or serious illness in all cases, but creating more elevated and widespread occurrences of upper respiratory tract and gastro-intestinal disorders and reduction in immunity to pathogens which require treatment by local GPs. The combination of cumulative atmospheric contaminants and stress arising from knowledge that the air being breathed is contaminated is a significant cause of such illnesses.

## **9.2 Adverse Health Impacts of PM<sub>10</sub> and PM<sub>2.5</sub>**

We are further concerned that recent epidemiological studies reported in the medical literature have shown that the presence of atmospheric particulate matter less than 2.5 microns in size is associated with an elevated risk of ill-health, particularly heart disease. It is known that incineration of municipal waste generates large amounts of such particles, and yet there appears to be no reference to this serious problem in the proposed waste licence. Schedules B and C require only monitoring of "total dust", a relatively meaningless parameter for human health, since the effects of inhaled dust depend not only on particle size, but also on particle composition and the presence of any adsorbed substances. However, the draft report of the EPA Inspector (Mr Peter Carey) refers in Appendix 3 to dust measured as PM<sub>10</sub> and PM<sub>2.5</sub>. The fact that these measurements are not required in the proposed licence is a serious omission, even though the Inspector recommended that monitoring of PM<sub>10</sub> and PM<sub>2.5</sub> in ambient air should be carried out (in proposed condition 8.18), and the licensee should be required to determine the particle distribution size of dust which would be emitted from the incineration stack (page 9 of the Inspector's report). It is curious, and a matter of some concern, that the Inspector's recommended condition 8.18 seems to have been removed from the draft decision as issued by the Agency on 26 October 2004.

Because very low levels of these fine particulates are associated with lung damage and morbidity in exposed populations, we are seriously concerned that

the proposed flue gas cleaning system including the evaporating spray towers, baghouse filters, injection of activated carbon and lime, and wet flue gas cleaning, will not be adequate to reduce these very small particulates to safe levels.

### **9.3 The Health Research Board's Literature Review on Health and Environmental Effects of Landfilling and Incineration of Waste**

The literature review on health and environmental effects of landfilling and incineration of waste, published by the Health Research Board in 2003, pointed out that "There is some evidence that incinerator emissions may be associated with respiratory morbidity. Acute or chronic respiratory symptoms are associated with incinerator emissions. Reproductive effects, such as an effect on twinning or sex determination, have been described. These findings however are not conclusive. A number of studies have reported associations between developing certain cancers and living close to incinerator sites. Specific cancers identified include primary liver cancer, laryngeal cancer, soft-tissue sarcoma and lung cancer. Although some results are conflicting in this area, other *well-designed studies* [our italics for emphasis] indicate a possible link between cancer risk and residence near incinerator sites. The influence of other sources of pollutants continues to prove difficult to separate and, as a result, evidence cannot be described as conclusive.

Further research, using reliable estimates of exposure, over long periods of time is required to determine whether living near landfill sites or incinerators increases the risk of developing cancer. Studies of specific environmental agents and specific cancers may prove more definitive in the future" (page 186).

It should be further noted that the Health Research Board's literature review stated that this country does not have adequate surveillance methods to detect the adverse health effects of incineration. The Health Research Board's review pointed out that Ireland has insufficient resources to carry out adequate risk assessments for proposed waste management facilities (including incineration), that there are serious data gaps in relation to the environmental effects of these technologies, and that these problems should be rectified urgently. Given these findings, it is iniquitous that people living in the vicinity of the proposed incinerator, and the populations of Drogheda, Dundalk and their surroundings should be exposed to an unquantified risk, in the absence of base-line health data, epidemiological studies, health monitoring or adequate assurance that any adverse health effects will be extremely minimal.

As the Agency will also be aware, and as reported in the Irish Examiner dated 3 November 2004, the Agency's Director General has appropriately written to the Department of Health warning that there is no system in place to routinely monitor the health of people living near contentious sites such as that of the proposed incinerator. On the basis of this warning, which we believe to be true and correct, we submit that it is internally inconsistent that the Agency should decide to grant a waste licence for the proposed incinerator.

## **9.4 Problems of Health Risk Assessment**

The inconsistency of results obtained from many studies of the health effects of incinerators on human population clearly show the difficulty of carrying out accurate or verifiable risk assessments. Uncertainties in the risk assessment process arise from the following:

- The lack of complete emission data, especially for non-standard operating conditions;
- The problem of dose-response assessment at low doses and particularly of low-dose multiple-route and temporal variations, and the difficulty of extrapolating these;
- The lack of toxicity data on most products of incomplete combustion;
- The lack of physical and chemical information about contaminants and other substances emitted which are of concern from a health perspective;
- Incomplete knowledge of how substances are transported through the various environmental media, and bio-accumulation and bio-concentration factors which will affect the distribution and fate of persistent organic pollutants;
- Variability of all factors in any risk assessment, for example, variations in physical conditions (e.g., topography, temperature, rainfall, meteorological conditions, soil types and land uses) characteristics of people exposed to the risk (e.g., eating habits, residence times, age, and individual susceptibility), leading to a wide range of exposures and risks for different individuals;
- The possibility of errors and omissions in the risk assessment (e.g., omission of an important pathway of exposure).

In our experience, it is only after adverse health effects are observed that a new, more complex, or previously unrecognised exposure path is discovered. The history of such discoveries is a strong reason for adopting the Precautionary Principle in a situation where long-term adverse health effects on a human populations cannot be predicted. Where people's lives and health are concerned, we cannot rely on hopeful expectations that "*nothing will go wrong*", that "*everything will be monitored*"; and especially we cannot rely on the naïve assumption that because a legal limit is set in a proposed waste licence, this limit will never be exceeded.

## **10. Conflict with Ireland's Legal Obligations under the Stockholm Convention**

In making its decision on the proposed incinerator, the EPA is acting an arm of the State, and must therefore pay some attention to the State's international obligations. Ireland ratified the Stockholm Convention, and its principles and objectives apply to all State agencies, and especially to the EPA. It is important



therefore to see what effect these obligations might have in relation to the proposed incinerator.

Mounting evidence of damage to human health and the environment during the past 40 years focused the attention of the international community on a category of substances referred to as Persistent Organic Pollutants (POPs). Some of these substances are pesticides, while others are industrial chemicals or unwanted by-products of industrial processes or combustion. POPs are characterized by *persistence* – the ability to resist degradation in various media (air, water, sediments, and organisms) for months and even decades; *bio-accumulation* – the ability to accumulate in living tissues at levels higher than those in the surrounding environment; and *potential for long range transport* – the potential to travel great distances from the source of release through various media (air, water, and migratory species).

Specific effects of POPs can include cancer, allergies and hypersensitivity, damage to the central and peripheral nervous systems, reproductive disorders, and disruption of the immune system. Some POPs are also considered to be endocrine disrupters, which, by altering the hormonal system, can damage the reproductive and immune systems of exposed individuals as well as their offspring. Though not soluble in water, POPs are readily absorbed in fatty tissue, where concentrations can become magnified by up to 70,000 times the background levels. Fish, predatory birds, mammals, and humans are high up the food chain and absorb the greatest concentrations.

The realization of these threats led a number of countries to introduce policies and legal and regulatory instruments to manage an increasing number of these substances. However, because of POPs persistence and propensity to undergo transboundary movement, countries began to seek bi-lateral and regional multinational cooperative actions.

By the early 1990s, it was noted that reductions in environmental levels of POPs were not being achieved as anticipated, and that further reductions could only be expected following actions undertaken on a much wider geographic scale than had been attempted. The POPs protocol to the UN Economic Commission for Europe – “The Convention on Long-range Transboundary Air Pollution” – adopted in 1998, and the 1995 “Global Programme of Action for the Protection of the Marine Environment from Land-based Activities” were responses to this situation. Recognizing the possible need for global action, the UNEP Governing Council in its Decision 18/32 (May 1995) invited recommendations and information on international action from the Inter-Organizational Program for the Sound Management of Chemicals (IOMC), the International Program on Chemical Safety (IPCS), and the Inter-Governmental Forum on Chemical Safety (IFCS), including any information needed for possible decision on appropriate international legal mechanism on POPs. The IFCS concluded that there was sufficient scientific evidence for immediate action on 12 POPs, including a legally binding global instrument.

The UNEP Governing Council subsequently requested (Decision 19/13) the Executive Director of UNEP, together with relevant international organizations,

to convene an intergovernmental negotiating committee (INC) to prepare an international legally binding instrument for implementing international action on the 12 POPs. The Governing Council also requested UNEP to initiate immediate action on other recommendations of IFCS such as the: (a) development and sharing of information; (b) evaluation and monitoring of the success of implemented strategies; (c) alternatives to POPs; (d) identification and inventories of PCBs; (e) available destruction capacity; and (f) identification of sources of dioxins and furans and aspects of their management.

On 22 May 2001, the world's governments met in Sweden and adopted an international treaty aimed at restricting and ultimately eliminating the production, use, release and storage of POPs. The treaty, called the Stockholm Convention on Persistent Organic Pollutants, is a legally binding agreement that seeks to eliminate eventually all persistent organic pollutants (POPs) on the basis of the precautionary principle. The Convention targets twelve particularly toxic POPs for reduction and eventual elimination, and sets up a system for tackling additional chemicals identified as unacceptably hazardous. It recognizes that a special effort may sometimes be needed to phase out certain chemicals for certain uses and seeks to ensure that this effort is made. Ultimately, the Convention points the way to a future free of dangerous POPs and promises to reshape our global economy's reliance on toxic chemicals.

The Stockholm Convention has been signed by more than 150 governments (Ireland signed on 23 May 2001), and it entered into force on 17 May 2004 in accordance with paragraph 1 of Article 26 of the Convention.

The first meeting of the Conference of the Parties to the Convention (COP 1) will take place in Punta del Este, Uruguay in the first week of May, 2005. One of the principal objectives of the Convention and of COP 1 will be to fast-track efforts to reduce or eliminate the carcinogenic chemicals known as dioxins and furans, which are produced as by-products of combustion.

If the EPA decides to grant a waste licence for the proposed incinerator, and if the Irish Government also decides to send delegates to that Conference, the Irish delegation may have some explaining to do. By then, the news will have reached the UNEP secretariat that instead of making attempts to reduce or eliminate dioxins and furans, the environmental agency of the state has licensed one or possibly two incinerators which will increase the quantity of dioxins produced in the country.

## **11. Aspects of the Licensing and Decision-Making Process**

In relation to this particular project proposal, there are some aspects of the licensing and decision-making procedures which need to be addressed in this oral hearing, including matters which were not considered when the proposed waste licence was being prepared by the Agency.

### **11.1 Failure to Comprehensively Assess the Applicant's EIS and to carry out an Environmental Impact Assessment of the Proposed Incinerator as Required by the EU Directive**

These are matters which are of particular concern to An Taisce, the National Trust for Ireland.

An Taisce is particularly concerned about the inadequate procedure by which major EISs (such as the applicant's EIS for a project which requires an EPA licence) are assessed in Ireland, i.e., some of the issues are assessed by planning authorities, and other issues by the EPA, while some important issues are omitted entirely from consideration.

Decisions about proposed projects are independently made by planning authorities and by the EPA, with no combined or comprehensive assessment of the environmental consequences. For example, as the Agency will be aware, planning permission was refused on four separate occasions by Cork County Council and An Bord Pleanála for a large-scale landfill at Ballyguyroe in North Cork; yet, following these decisions, the EPA has made a final decision on 17 November 2004 to grant a waste licence, though the inconsistency of the Agency's proposed decision had previously been pointed out to them.

As the Agency will be further aware, this issue of split jurisdiction is the basis of legal proceedings being taken by the European Commission against the Government of Ireland for breaching EIA Directive 85/337/EEC as amended by Council Directive 97/11/EC. The Commission issued a Reasoned Opinion on 25 July 2001 confirming that Ireland was in breach of the Directive, and giving examples of failures to comprehensively assess environmental impacts in an integrated manner as required by the Directives. The Opinion stated, *inter alia*, that Ireland is failing to comply with Article 3 of the Environmental Impact Assessment Directive in that there is no provision which ensures that an EIA covers the inter-action between the factors mentioned in the first and second indents of Article 3 of Directive 85/337/EEC before its amendment by Directive 97/11/EC, or the inter-action between the factors mentioned in the first, second and third indents of Article 3 of Directive 85/337/EEC after its amendment by Directive 97/11/EC.

Article 7 of Council Directive 96/61/EC refers to this problem of independent decision making, and states that:

*"Member States shall take the measures necessary to ensure that the conditions of, and procedure for the grant of, the permit are fully coordinated where more than one competent authority is involved, in order to guarantee an effective integrated approach by all authorities competent for this procedure".*

It is evident that there has been no co-ordination between the EPA and An Bord Pleanála, and that the requirement for coordination has not been complied with.

We would submit that subsequent changes in the planning legislation (in particular, Section 256 of the Planning and Development Act, 2000) have not been sufficient to address these failures, and that the environmental impact assessment process for the proposed incinerator at Carranstown has not been carried out in compliance with the requirements of the EIA Directives.

More recently, the decisions of Mr. Justice Peter Kelly in the High Court in May and June of 2004 in the case of *Mary Pat Cosgrave -v- An Bord Pleanála, Wicklow County Council, Ireland and Others*, are very relevant to the issues before this hearing. These proceedings were by way of a Judicial Review of the decision of An Bord Pleanála to grant planning permission for a landfill facility at Ballynagran, County Wicklow, and the judgement of the Court was that the EPA is required to carry out a full Environmental Impact Assessment process in accordance with the EIA Directives of the EU on all of those matters which have not formed part of the remit of the Planning Authority. Having regard to the fact that it appears that the EPA is now considering the granting of a waste license for the Indaver facility, I would submit that thus far, it does not appear that an Environmental Impact Assessment has been performed by the EPA and indeed, it does not appear that the EPA proposes to carry out an Environmental Impact Assessment.

As an example of what happens when the assessment of a project is split between independent authorities, we need only point to the fact that the Agency has requested an additional 25 metres of height to be added to the stack (Condition 3.19.1 of the proposed licence, page 13), and yet the visual impact of this increase in height has not been assessed by either the planning authority or members of the public. In fact, it is our understanding that the required increase in stack height will make the proposed incinerator more visible from some areas of the Boyne Valley. We therefore submit that there has been no assessment of the impact of the increased stack height on the UNESCO World Heritage Site, and we understand that a consequence of the increased stack height is that the stack will be directly visible from one of the three principal passage graves in the Boyne Valley.

I mentioned above that some important issues are omitted from consideration during the EIA process in Ireland, and the most important issue which we fail to address fully is the direct and indirect effects of a project on human beings, as required by Article 3 of Directive 85/337/EEC as amended. It is not adequate to state merely that emissions from a proposed project must keep below certain emission limit values, while failing to consider other effects on local populations.

## **11.2 Availability of Information and Documentation**

Progress towards better public access to environmental information and adequate public participation mechanisms in environmental decision-making began with the EU Directive on Access to Environmental Information of 1990; while in several EU Environmental Directives specific requirements for public participation were introduced (for example Environmental Impact Assessment, Strategic Environmental Assessment, Water Framework Directive, etc.). The preparation and adoption of the UN-ECE (United Nations Economic



Commission for Europe) Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (the **Aarhus Convention**) gave a further boost to this process.

The UNECE Aarhus Convention was adopted in the Danish city of Aarhus in 1998. It came into force on 30 October 2001; there are now 40 Signatories and 35 Parties. Ireland signed on 25 Jun 1998, but has not yet ratified or acceded to the Convention. Despite our abject failure as a state to do this, the Convention has legal force in this country, and our membership of the European Union requires us to transpose it into our national legislation.

Two directives concerning access to environmental information and public participation in environmental decision-making (the first and second "pillars" of the Aarhus Convention) were adopted by the European Parliament and the Council in 2003, and they have to be transposed into national law by all Member States by 2005. On 24 October 2003, the European Commission also adopted three legislative proposals to align Community legislation with the requirements of the Aarhus Convention. The main instrument to align Community legislation with the provisions of the Aarhus Convention on public access to environmental information is Directive 2003/4/EC of the European Parliament and the Council of 28 January 2003 on public access to environmental information (OJ L 41 of 14.02.2003, p. 26).

The Aarhus Convention establishes a number of rights of the public (citizens and their associations) with regard to the environment. Public authorities (at national, regional or local level) are to contribute to allowing these rights to become effective. The Convention provides for:

- the right of everyone to receive environmental information that is held by public authorities ("**access to environmental information**"). This can include information on the state of the environment, but also on policies or measures taken, or on the state of human health and safety where this can be affected by the state of the environment. Citizens are entitled to obtain this information within one month of the request and without having to say why they require it. In addition, public authorities are obliged, under the Convention, to actively disseminate environmental information in their possession;
- the right to participate from an early stage in environmental decision-making. Arrangements are to be made by public authorities to enable citizens and environmental organisations to comment on, for example, proposals for projects affecting the environment, or plans and programmes relating to the environment, these comments to be taken into due account in decision-making, and information to be provided on the final decisions and the reasons for it ("**public participation in environmental decision-making**");
- the right to challenge, in a court of law, public decisions that have been made without respecting the two aforementioned rights or environmental law in general ("**access to justice**").

The importance of this Convention may be judged by the remarks of the UN Secretary-General:

*"Although regional in scope, the significance of the Aarhus Convention is global. It is by far the most impressive elaboration of principle 10 of the Rio Declaration, which stresses the need for citizen's participation in environmental issues and for access to information on the environment held by public authorities. As such it is the most ambitious venture in the area of environmental democracy so far undertaken under the auspices of the United Nations."*

*Kofi A. Annan, Secretary-General of the United Nations*

In anticipation of the recent oral hearing in Cork, into objections against the Agency's proposed decision to grant a waste licence to Indaver for an incinerator at Ringaskiddy, An Taisce sought full background documentation and reports from the EPA (this request was made on the day following publication of the draft decision). To date, I am informed that no such documentation has been received.

An Taisce therefore reserves the right to make a similar request for full background documentation and reports in connection with the waste licence application and objections to it being considered at this hearing, and An Taisce may make further submissions based on the information received. In this connection, it may be appropriate to note that the Article 6 (2) of the EIA Directive also requires all relevant background information and documentation to be made available to the public.

### **11.3 Failure to Address Transboundary Impacts**

Because the proposed incinerator site is situated approximately 40 km from the nearest point of the boundary between the Republic of Ireland and Northern Ireland, and stack emissions can be carried long distances before deposition, and because the boundary with Northern Ireland is downwind of the proposed incinerator site, we would submit that provision should have been made for the assessment of transboundary impacts, as required under the EIA Directives. As we were informed in evidence given at this hearing by representatives of Newry and Mourne District Council, no consultations have been undertaken with either the competent authorities or members of the public in Northern Ireland.

In contrast, we would point out that when Monaghan County Council received a planning application for a combined heat and power plant to burn chicken litter, spent mushroom compost and other fuels at Killycarron in County Monaghan, the planning authority notified the relevant authorities in Northern Ireland and announced its intention of not making a decision on the application until the comments of the Northern Ireland authorities (which involved public consultation) had been received.

Failure to address Transboundary Impacts is not a minor issue for this oral hearing, as the EIA Directive is very clear about this responsibility, as stated in Article 7 of EIA Directive 85/337/EEC, amended by Council Directive 97/11/EC:

1. *Where a Member State is aware that a project is likely to have significant effects on the environment in another Member State or where a Member State likely to be significantly affected so requests, the Member State in whose territory the project is intended to be carried out shall send to the affected Member State as soon as possible and no later than when informing its own public, inter alia:*
  - (a) *a description of the project, together with any available information on its possible transboundary impact;*
  - (b) *information on the nature of the decision which may be taken, and shall give the other Member State a reasonable time in which to indicate whether it wishes to participate in the Environmental Impact Assessment procedure, and may include the information referred to in paragraph 2.*
2. *If a Member State which receives information pursuant to paragraph 1 indicates that it intends to participate in the Environmental Impact Assessment procedure, the Member State in whose territory the project is intended to be carried out shall, if it has not already done so, send to the affected Member State the information gathered pursuant to Article 5 and relevant information regarding the said procedure, including the request for development consent.*
3. *The Member States concerned, each insofar as it is concerned, shall also:*
  - (a) *arrange for the information referred to in paragraphs 1 and 2 to be made available, within a reasonable time, to the authorities referred to in Article 6 (1) and the public concerned in the territory of the Member State likely to be significantly affected; and*
  - (b) *ensure that those authorities and the public concerned are given an opportunity, before development consent for the project is granted, to forward their opinion within a reasonable time on the information supplied to the competent authority in the Member State in whose territory the project is intended to be carried out.*
4. *The Member States concerned shall enter into consultations regarding, inter alia, the potential transboundary effects of the project and the measures envisaged to reduce or eliminate such effects and shall agree on a reasonable time frame for the duration of the consultation period”.*

I would submit that the failure to address transboundary impacts is sufficiently serious to invalidate the decision-making process. It is not sufficient to state that there will be no such effects, especially when representatives from a local authority in another member state have attended and given evidence at this hearing, expressing concern about the impact of the proposed incinerator in the area under their jurisdiction.

## **12. Statement on Incineration by the European Union**

The literature review on health and environmental effects of landfilling and incineration of waste, published by the Health Research Board in 2003, pointed out that the EU Environment Commissioner stated in writing (page 230) that *"incinerators are not the answer to waste management .... Incinerators only reduce the volume of waste but the environmental impact of incineration is significant."* The Environment Commissioner's letter also pointed out that *"incineration plants which operate in the full respect of air and water emission requirements are extremely expensive"*. The review also quotes the Head of EU Waste Management as saying that incinerators need enormous input in order to be economic and that in many countries they are now considered similar to nuclear power stations and should be avoided:

*"The Commission does not support incineration. We do not consider this technique is favourable to the environment or that it is necessary to ensure a stable supply of waste for promoting combustion over the long term. Such a strategy would only slow innovation. We should be promoting prevention and recycling above all. Those countries who are in the process of drafting their planning should not base it upon incineration."*

While this may not be official policy, we suggest that it should be taken into consideration by the Agency when considering the objections and other matters which are the subject of this hearing.

## **13. Conclusions**

The proposed site is unsuitable, the decision-making process is fundamentally flawed, the proposed incinerator is likely to have adverse impacts on human health and the quality of life in the immediate neighbourhood of the plant, the EIA procedure has not been fully complied with, and there are so many uncertainties about the impacts of the proposed facility that the Precautionary Principle should be invoked, and a waste licence should be refused.

Jack O'Sullivan

**Environmental Management Services**

**On behalf of the Mayor and Elected Members of Drogheda Borough  
Council and Dundalk Town Council, and An Taisce**

10 March 2005