

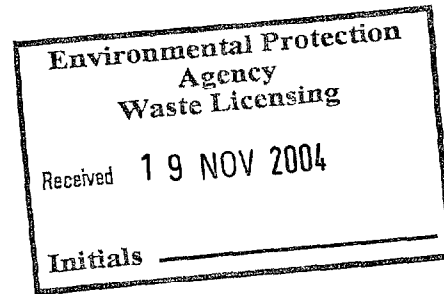
Obj 9 167-1



27 Highfield
Drogheda
Co Louth

17th November 2004

Ms Eve O'Sullivan
Programme Officer
Office of Licensing & Guidance
EPA
PO Box 3000
Johnstown Castle Estate
County Wexford



Dear Ms O'Sullivan

**RE:- PROPOSED WASTE LICENCE – REF 167 – 1 - INDAVER IRELAND - INCINERATOR
– CARRANSTOWN, DULEEK, CO MEATH – 26.10.2004**

I acknowledge, with thanks your letter of 26.10.2004 advising of the EPA's proposed decision to grant a licence to Indaver Ireland, subject to 14 conditions, which were also enclosed.

Please accept this communication, with the enclosed cheque for the sum of €253.95 as payment for a submission of objection to the proposed decision, and also as a request for an oral hearing.

Please accept this submission as being representative of the views of the No Incineration Alliance, a non-profit, non-political community group from the North East who came together to promote sustainable waste management practices, and to spearhead the campaign against the incineration of municipal waste in Ireland. We are not for profit and non political, but enjoy the support of all the major parties locally. We come from all walks of life and all age groups. Eric Martin, is a member of the No Incineration Alliance who is currently involved in a High Court action in relation to Ireland's implementation of the EU EIA Directive, citing the planning grant of the above facility as an example of this non-implementation, and as such, his views are represented in all NIA submissions.

On account of timing issue, outlined below, this submission will be very top-line in relation to our primary assertions as to why this development shouldn't go ahead. As a reference document we'd be most grateful if you could please go back to our original submission of 13.5.2002 and it's related attachments, as we feel that many of the arguments and points raised there weren't fully addressed in the Inspector's report.

We'd fist like to re-highlight the notion of the 'precautionary principle' - "Where there is uncertainty in regard to the definition of carrying capacity and the limits or thresholds which should imply for sustainable human activities, the **precautionary**

principle must be applied; this has influenced global action, for example, in regard to the objective of stabilising CO₂ emissions to abate the threat of global warming." The precautionary principle requires that emphasis should be placed on dealing with the causes, rather than the results, of environmental damage and that, where significant evidence of environmental risk exists, appropriate precautionary action should be taken even in the absence of conclusive scientific proof of causes. This is more than simply giving the environment the benefit of the doubt. It is a spur to responsible action and a stimulus to scientific and technological development. Reasonable action to avoid potentially serious risks to the environment and human health maintains choice, control and quality. We feel strongly that your licencing of the proposed incinerator would be in direct contravention to the precautionary principle.

Principle 1 of the Rio Declaration on the Environment and Development states that "human beings are at the centre of concerns for sustainable development". Integration of environmental considerations into social policy envisages:

- Fair access to a clean, healthy environment;
- Maintenance of public health and elimination, as far as practicable, of environmental risks;
- Equity in the use of environmental resources;
- Full access to education and information concerning the environment; and
- Sustainable planning, development (including urban development), and human settlement policies.

The Strategy states that – "effective environmental policies require the active participation of society, so that lifestyle changes compatible with sustainable living can become established." This is great – but it also suggests we need good environmental policies and strong leadership and legislation. The act of licencing a facility which compromises a clean, healthy environment, and poses environmental risks would, in our view, be in contravention to the Rio Declaration.

It is our assertion that the Kyoto Protocol and the POPs Treaty haven't been dealt with adequately in the Inspector's report – our understanding is that we shouldn't unnecessarily introduce any activities to Ireland which would in any way increase the amount of Greenhouse gases, or Persistent Organic Pollutants (such as Dioxin). Incineration definitely does introduce them – and in our view, unnecessarily.

Stack Height

The Stack Height – we have serious concern about your recommendation to have the stack height increased by 25 metres, from 40 to 65, the difference in height being equivalent to two two-storey houses stacked up on top of each other. Our concerns are manifold:-

- a) it is further acknowledgement of the level of pollution which will emanate from this facility to the surrounding area, and your wish is to heighten the stack to dilute the effect on the immediate area by dispersing the pollutants to a wider population catchment.

- b) We wonder whether this is news to Indaver – i.e. could they have got their original dispersion calculations so horribly wrong, i.e. their original stack height was intended to be 40 metres high. If they have such trouble getting matters as basic as this incorrect, what else may be awry with their plans, capabilities and understanding of the issue as a whole
- c) The more sinister side comes in now when we consider whether Indaver knew full well that they'd be required to heighten the stack for operation, yet decided to omit this during the planning process, when they knew that the functionality of the stack couldn't be assessed, therefore the adequate stack height couldn't be questioned. This means that the UNESCO assessment and the planning process were based on false information with regard to ultimate stack height. In an area with a protected view, on a limestone substrate, in the footprint of the Bru na Boinne site, we find this omission, if true, calculated and deceitful.

Whether the stack height inaccuracy in the initial calculation is due to ignorance based on a mis-calculation (b) or calculated based on a will to ensure knowingly obscure relevant planning information (c) brings the integrity of the company into question. Ireland is awash with rogue waste dealers, as evidenced by the spate of illegal dumps, exportations, etc. in the papers over the past couple of years, the last thing we want to do is to allow our authorities licence operators that may be incapable of running or slightly disingenuous in their dealings with the public and the authorities regarding the proposed incinerator.

Health

We would like to briefly make mention of the meeting coordinated by the No Incineration Alliance with representatives of the EPA and Dr Vyvian Howard, Senior Lecturer at the University of Liverpool, Dept of Toxicology, and the various issues that you discussed and documentation that Dr Howard left for your disposal with regard to the health effects of incineration. We would also like to draw your attention to the various sections in our original submission specific to health, and the submission by the Irish Doctors Environmental Association.

We'd also like to raise concerns with regard to the ability of the EPA and other statutory bodies to assess the health implications of this, and other, waste management facility should it go into operation as highlighted by the EPA's Director General, Dr Mary Kelly, in her letter to the Department of Health.

We became aware of this concern via Fergus O'Dowd (TD) in his investigations through the Freedom of Information Act, he also advises that upon checking with the EPA he was advised that you didn't have an in-house medical expert, nor seek medical advice before the above proposed licence grant. We feel that human and animal health are imperative considerations in respect of the pollutants from incineration, therefore find that the assessment made by the EPA may be lacking in this important capacity.

The North Eastern Health Board also raises many questions for clarification with regard to the proposed facility.

The Irish Health Review Board, at the then Minister for the Environment Noel Dempsey's request, undertook a desk study on the health implications of landfill and incineration concluded that there were more questions than answers with regard to the safety of incineration and human health. This is a statutory body who's findings

should be brought into consideration during the licencing process in order to give a holistic approach to the licencing process - i.e. protection of our environment, which has a direct impact on our health.

We therefore feel that input from Dr Howard, the Irish Doctor's Environmental Association, the NEHB, many health related submissions and reprints from the public should have been given some consideration with regard to the seriousness with which people view the health implications of this proposed facility. We don't feel these issues to be adequately addressed in your proposed licence.

Dr Kelly makes no secret of her pro-incineration bias, as evidenced in some of her comments in the media. This strength of opinion in the EPA Director General sows seeds of doubt regarding objectivity in the treatment of this issue.

Site Selection

It was borne out in the An Bord Pleanala Oral Hearing that no scientific or accepted matrix of site selection was used in choosing this site. The Developers tried to retrofit a pick-and-mix site selection criteria, cobbled together from sections of the WHO criteria and any others that Indaver chose to pick from, eg. haul miles. It is very evident that the arrival at this site was definitely based on convenience, rather than any recourse to due process. We feel strongly that the nomination of the Platin site, with no others adequately checked for suitability, for this facility has a very strong reliance on the existence of the Irish Cement facility. We fear that the cumulative effects of the pollutants emitted by both facilities may be too much for a small community to bear, even if it is within the limits of the licence you grant each facility separately. We also fear that it'll be difficult to ascertain which facility created various pollution incidents, as they may mask each other's emissions, thus making it difficult to police and fine.

Waste Crisis

This alleged crisis with regard to what to do with the waste was addressed in our initial submission, i.e. let's not create as much of it as we currently do, let's push back on industry and ensure that recycling / re-use / composting options have been set up for a high proportion of the waste stream. We fully acknowledge at the moment that this will take some time to set up, and in the interim, we need to do something with our waste. Over the past 12 months, the Knockarlie site has been licenced by the EPA and An Bord Pleanala to go into operation. This site is less than 10 miles away from the Carranstown site, also in a rural area of County Meath. We therefore consider the waste crisis in this area to be averted, and the siting of a second huge facility in such close proximity to Knockarlie would be in contravention of the legal point of 'equity' - i.e. what's fair for one community to bear. This equity issue would also be trans-generational, on account of the licence grant for an incinerator, with an average life span of 25-30 years means that the next generation will not only have to cope with a polluting facility in it's midst, but also the heavy-metal and dioxin laden by-products of this operation.

Conditions

1.6 - we consider it to be impossible to police this condition as we're sure that hazardous liquids will make their way into the facility, be they household bleaches, detergents, battery acid, solvents, medicines or cosmetics.

- 1.7 composting – this condition is inconsistent with Class 2 of the Licences Waste Recovery activities.
- 1.8 This condition is exclusionary as it only involves two parties, i.e. Indaver and the EPA – any changes which either party may wish to make could directly impact the people of the locality, the local authorities, NGO's or other bodies, we therefore feel that the licence should stipulate an avenue for information flow, and, where necessary, these stakeholders should be consulted.
- 1.10 As above
- 2.1.1 We'd be grateful if an indication of how this condition can be policed. We understand that this facility will only give employment to a maximum of 35 people, yet is to be in operation 24 hours a day, 365 days a year, except for during times of maintenance. How can we feel assured that a suitably qualified person or persons would be on site at all times?
- 2.1.2 We'd appreciate if the employees details, education, qualifications, experience and other relevant data would be a matter for the public record. Will there be a form of independent ombudsman to decide what actually qualifies as 'appropriate training and education'?
- 2.2.1 This should also be a matter that's easily accessible to the public.
- 2.3.2.5 Corrective Action – We find this 'catch all' dictate very woolly and open to a broad interpretation – what would be better is not only a list of the 'rules of operation' (limits / tolerances / parameters / time-lines, etc.) but also the degrees of 'danger' should these be breached and a guideline as to what is to be done in each case, i.e. shut down, who to report to, within what time-frame, etc.
- 2.3.2.6 Communication Programme – Timeframes, guidelines and deliverables should be set out from the start, eg. on-line real-time results, e-mail / text alerts / written regular reports for all stakeholders, such as the community, local authorities, local representatives, NGO's and other bodies that express interest. There should be a lay-persons version of some of these communications also so as not to alienate the general public from issues that concern the air they're breathing.
- 3.2.3 'Vibration Isolated' – the requirement for this on account of the regular blasting at the adjacent cement quarry would definitely be necessary. We worry though about the availability of such a feature in **all** monitoring equipment, and also the sensitivity of calibration of same. This condition puts the onus on the manufacturers of the various pieces of equipment, which we feel would be a big get-out clause for the operators should a piece of equipment be found to be operating out of spec.
- 3.5.3 What checks and guards can be put in place to ensure that **all** drainage from the waste inspection and quarantine area goes into the storage tank for use as process water?
- 3.8 What's the m³ : tonne equivalent? Why introduce a new metric?

- 3.10 Could this condition be more specific, i.e. to specify what constitutes 'adequate' for the standby and back-up equipment.
- 3.16.2 We don't consider it appropriate that the EPA and Indaver can decide on changing the hours of operation through correspondence. The people in the locality should be invited for their input on this, and should also be advised in writing when the licenced operating hours are being revised.
- 3.19 We mentioned the stack height already in this document, and also the notion of requiring 'seismic design of the foundation' as we consider that this, as well as the 'vibration isolated' monitoring equipment highlights the fact that this facility may be sited on a very unsuitable substrate, i.e. highly porous limestone, adjacent to a cement quarry with continual blasting and extensive movement below ground level, not to mention the proximity to the gas mainline.
- 3.2.2 The nominal capacity of the plant shall be 20 tonnes per hour – this equates to 480 tonne per day, which is approximately 25-30 full trucks a day coming in, and empty trucks going out, not to mention the trucks which are to be used for ash disposal. Are these, coupled with the numerous trucks which operate in and out of the Cement facility factored into the pollution burden of the people on the Carranstown Road?
- 3.23 We think that the EPA should be advising the operator very strongly in what to do in the case of an 'abnormal operating condition', rather than the 'as soon as practicable' wording, which is open to wide interpretation.
- 8.2.3 We fail to understand how the 'waste profile and characterization' can be undertaken to any degree of accuracy at the point of entry to the facility, especially as there could be 4-6 trucks arriving an hour during the hours of acceptance of waste. There's a huge loophole here for hazardous material finding it's way into the incinerator.
- 9.3 – d) we consider the assertion that the polluting body should 'evaluate the environmental pollution, if any, caused by the incident' to be too heavily reliant on honour. This assessment should be undertaken by an independent body, with the assistance of the operators.

There is too high a reliance of self policing in this document.

There's no mention of advising the public of these events – which we consider a gross mis-use of information.

- 9.4.2 Could 'significant' in 'all significant spillages... ' be defined in a quantifiable measure.

In finishing this document, we'd like to draw your attention to a point that we feel very strongly about, it is 'timing' as outlined below.

Timing

We would like to highlight the 'coincidence' of the timing of the proposed decision by the EPA for both the Duleek & Ringaskiddy facilities with the scheduled dates for both these parties to be in Court regarding the developments. We find this slightly unfair as the time-frame for lodging submissions with yourselves is very tight (28 days from issuance of decision, with a week lost in post in either direction, leaving

maximum 3 weeks to pull together a response). Would it be possible to have some explanation as to how this occurred – i.e. the EPA has had the application for 34.5 months, and chooses now, to give it's proposed decision. The more cynical amongst us might be forgiven to consider that this timing was orchestrated to hit the anti-incineration movement at their most busy time, from both a man power and financial resources point of view – lending further weight to the collusion theory between the EPA and the State in railroading incineration into Ireland.

In the three years since this application was launched, Ireland has come on in leaps and bounds with regard to waste management, from bring banks, to green bins to pay-by weight, to civic amenity centres, and industries such as Shabra in Carrickmacross, all working really well. This recycling and re-use initiatives are still in their infancy, the Zero Waste policy evidenced in Nova Scotia, Canberra, New Zealand and other locations is showing unbelievable results, all of which points to a cleaner greener method of waste management and employment creation. If you force incineration on us, you could not only be exposing the Irish community to detrimental health effects for now and future generations, but also stifling innovation and job creation.

The workplace smoking ban was a huge success and the envy of the world, why not extrapolate this philosophy to waste management and **not** allow this facility to belch cubic tonnes of pollutants into our community, workplace, playing fields, homes and schools.

We look forward to a response from you in due process and hopefully some sort of re-think in your proposed licence grant to this facility which we feel would be detrimental to the health, wealth and heritage of not only people in the North East, but also those from across Ireland as a whole.

Thank you for taking the time to read this submission.

Kind regards

A handwritten signature in black ink, appearing to be 'Aine Walsh', written over a red diagonal watermark that reads 'For inspection purposes only - Consent of copyright owner required for any other use.'

Aine Walsh MSc Env Sci
On behalf of the No Incineration Alliance & the Carranstown Road Residents

Enc:- Cheque 000190

Environmental Protection Agency
Waste Licensing
Received 19 NOV 2004

Condition 3.11.5 Infrastructure and Operation.

I object to the above condition on the basis that it does not stipulate that the foundations of all bunding structures, retention tank walls, or main waste storage bunker should be seismic foundations.

There is a requirement under condition 3.19.1 (ii) that the main stack at emission point No A1 -1 should have an appropriate SEISMIC design of the foundation. Also condition 3.2.3 stipulates that all monitoring equipment shall be vibration isolated.

I request an oral hearing on the above condition as;

Irish Cement Ltd Ref planning file # P01/4136 have applied 25.05.2001 for a westward extension of their existing quarry comprising of 45 hectares and a finished level of 20 metres below Poolbeg Ordnance datum. Ref attached aerial map.

Indaver have not assessed in their EIS or waste license application, how explosions in this new limestone quarry area would impact on monitoring or control equipment and physical structures. These explosions and vibrations could also undermine the integrity of the waste bunker or bunded areas. Electrical interference could also effect calibrated dosing and monitoring equipment. The Indaver site boundary is only 90M from this new quarry development. The site location is inappropriate for such a development and this was reiterated by the Senior Inspector in ABP when he recommended that planning permission should be refused. There are three houses along this road that have already been abandoned due to the development of the quarry.

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**PLATIN
CEMENT
FACTORY**

QUARRY

**NEW
QUARRY**

**110KV
Substation**

**5 Houses
& Garage
& Tyre-centre**

**Proposed
Site**

1 House

3 Houses

1 House

1 House

2 Houses

3 Houses

1 House

1 House

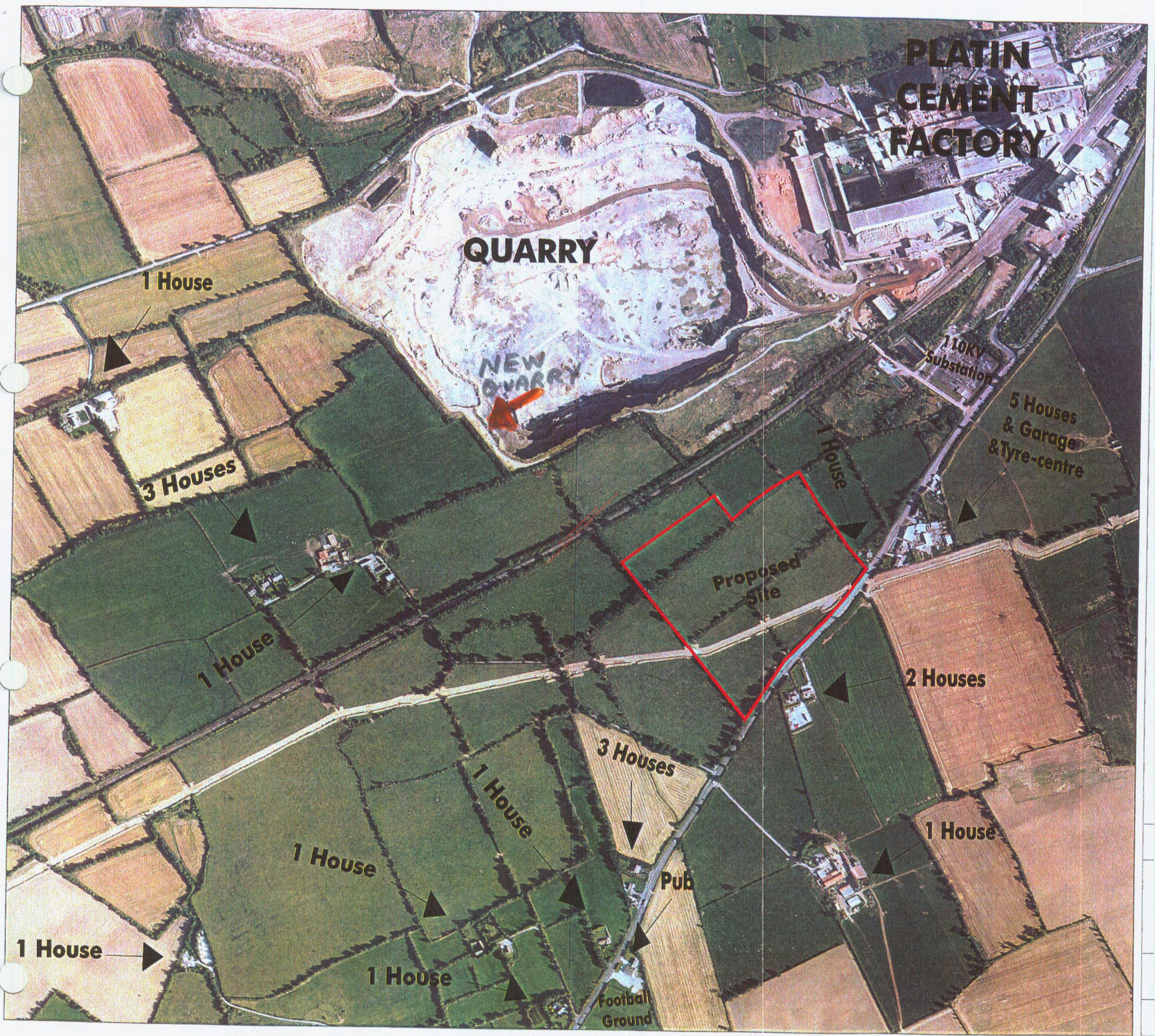
1 House

Pub

1 House

1 House

**Football
Ground**



Condition 3.14.2 Infrastructure and Operation.

The term surface water DISCHARGE (send something out) is ambiguous and open to misinterpretation. Reading this could imply that surface water can be discharged / removed off site, where as this is not permitted by the RPD. I object and request an oral hearing on the above matter. The license does not stipulate how Indaver will deal with surplus of water in their rain water retention tank.

Condition 6.8 Control and Monitoring.

This stipulates that calibration of automated monitoring equipment shall be carried out by means of parallel measurements with reference methods at least every THREE YEARS.

I object and request an oral hearing on this matter as calibration of such critical monitoring equipment should be conducted at a minimum every 6 months.

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Condition 3.12 Infrastructure and Operation.

I object and request an oral hearing on the above condition because as per attached county Meath ground water protection scheme and codes of practice see attached ref maps with groundwater vulnerability ratings. The site is located on an Rf H (highly vulnerable aquafer) adjacent to an Rf E (Extremely vulnerable aquafer).

The site gets an R4 rating which indicates the increased likelihood of water contamination and increased consequence. The rating indicates that the site is not acceptable for any such development. The same rating R4 highly vulnerable applies to septic tank systems.

The site is therefore inappropriate for such a development.

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2.4 Codes of Practice

The Codes of Practice contain a series of **Response Matrices**, each setting out the recommended response to a certain type of development. The level of response depends on the different elements of risk - the vulnerability, the value of the groundwater (with sources being more valuable than resources and regionally important aquifers more valuable than locally important and so on) and the contaminant loading. By consulting a Response Matrix in a Code of Practice, it can be seen (a) whether such a development is likely to be acceptable on that site, (b) what kind of further investigations may be necessary to reach a final decision, and (c) what planning or licensing conditions may be necessary for that development. The codes of practice are not necessarily a restriction on development, but are a means of ensuring that good environmental practices are followed.

Four levels of response (R) to the risk of a potentially polluting activity are recommended for the Irish situation:

- R1** Acceptable subject to normal good practice.
- R2^{a,b,c...}** Acceptable in principle, subject to conditions in note a,b,c, etc. (The number and content of the notes may vary depending on the zone and the activity).
- R3^{m,n,o...}** Not acceptable in principle; some exceptions may be allowed subject to the conditions in note m,n,o, etc.
- R4** Not acceptable

2.5 Integration of Groundwater Protection Zones and Codes of Practice

The integration of the groundwater protection zones and the code of practice is the final stage in the production of the groundwater protection scheme. The approach is illustrated for a hypothetical potentially polluting activity in the matrix in Table 2.4 below:

Table 2.4. Groundwater Protection Scheme Matrix for Activity X

VULNERABILITY RATING	SOURCE PROTECTION			RESOURCE PROTECTION						
	Site	Inner	Outer	Regionally Imp.		Locally Imp.		Poor Aquifers		
				Rk	Rf/Rg	Lm/Lg	Ll	Pl	Pu	
Extreme (E)	R4	R4	R4	R4	R4	R3 ^m	R2 ^d	R2 ^c	R2 ^b	↓
High (H)	R4	R4	R4	R4	R3 ^m	R3 ⁿ	R2 ^c	R2 ^b	R2 ^a	↓
Moderate (M)	R4	R4	R3 ^m	R3 ^m	R2 ^d	R2 ^c	R2 ^b	R2 ^a	R1	↓
Low (L)	R4	R3 ^m	R3 ^o	R2 ^d	R2 ^c	R2 ^b	R2 ^a	R1	R1	↓
	→	→	→	→	→	→	→	→	→	

(Arrows (→ ↓) indicate directions of decreasing risk)

The matrix encompasses both the geological/hydrogeological and the contaminant loading aspects of risk assessment. In general, the arrows (→ ↓) indicate directions of decreasing risk, with the ↓ arrow showing the decreasing likelihood of contamination and the → arrow showing the direction of decreasing consequence. The contaminant loading aspect of risk is indicated by the activity type in the table title.

The response to the risk of groundwater contamination is given by the response category allocated to each zone and by the site investigations and/or controls and/or protective measures described in notes a,b,c,d,m,n and o.

In deciding on the response decision, it is useful to differentiate between potentially polluting developments that already exist prior to implementation of a groundwater protection scheme and proposed new activities. For existing developments, the first step is to carry out a survey of the area and prepare an inventory. This is followed by site inspections in high risk situations, and monitoring and operational modifications, perhaps even closure, as deemed necessary. New potential sources of contamination can be controlled at the planning stage. In all cases the control measures and response category depend on the potential contaminant loading, the groundwater vulnerability and the groundwater value.

Decisions on the response category and the code of practice for potentially polluting developments are the responsibility of the statutory authorities, in particular, the local authorities and the EPA; although it is advisable that the decisions should follow from a multi-disciplinary assessment process involving hydrogeologists.

At present, codes of practice have not been completed for any potentially polluting activity. Draft codes have been produced for landfills, septic tank systems and landspreading of agricultural wastes; only the landfill code of practice is readily available (from the EPA). Preparation of codes of practice requires the involvement and, in most instances, the agreement of the local authority. As a means of illustrating the use of the scheme and the relationship between the groundwater protection zones and the codes of practice, draft codes of practice are given in the following sections

2.6 Draft Code of Practice for Landfills

Table 2.5 gives a Response Matrix for landfills (from EPA, 1996) and this is followed by the specific responses to the proposed location of a landfill in each groundwater protection zone.

Table 2.5. Groundwater Protection Scheme Matrix for Landfills

VULNERABILITY RATING	SOURCE PROTECTION			RESOURCE PROTECTION						
	Site	Inner	Outer	Regionally Imp.		Locally Imp.		Poor Aquifers		
				Rc	Rf/Rg	Lm/L	Ll	Pl	Pu	
<i>Extreme (E)</i>	R4	R4	R4	R4	R4	R4	R2 ⁴	R2 ⁴	R2 ²	↓ ↓ ↓ ↓
<i>High (H)</i>	R4	R4	R4	R4	R4	R3 ²	R2 ⁴	R2 ⁴	R2 ²	
<i>Moderate (M)</i>	R4	R4	R4	R4	R3 ²	R2 ⁵	R2 ³	R2 ³	R2 ¹	
<i>Low (L)</i>	R4	R4	R3 ¹	R3 ¹	R3 ¹	R2 ¹	R2 ¹	R2 ¹	R2 ¹	
	→	→	→	→	→	→	→	→	→	

(Arrows (→ ↓) indicate directions of decreasing risk)

- ◆ From the point of view of reducing the risk to groundwater, it is recommended that landfills taking domestic/municipal waste be located in, or as near as possible, to the zone in the bottom right hand corner of the matrix.
- ◆ The engineering measures used must be consistent with the requirements of the national licensing authority (EPA).
- ◆ Landfills will normally only be permitted as outlined below.

R2¹ Acceptable.
Engineering measures may be necessary to provide adequate containment.
Engineering measures are likely to be necessary in order to protect surface water.

R2² Acceptable.
Engineering measures are likely to be necessary to provide adequate containment.
There may not be a sufficient thickness of subsoil on-site for cover material and bunds.

- R2³ Acceptable.
Engineering measures are likely to be necessary to provide adequate containment.
Special attention should be given to checking for the presence of high permeability zones.
- R2⁴ Acceptable.
Engineering measures are likely to be necessary to provide adequate containment.
Special attention should be given to checking for the presence of high permeability zones. If such zones are present, the landfill should not be allowed unless special precautions are taken to minimise the risk of leachate movement in the zones and unless the risk of contamination of existing sources is low. Also, the location of future wells down-gradient of the site in these zones should be discouraged.
There may not be a sufficient thickness of subsoil on-site for cover material and bunds.
- R2⁵ Acceptable.
Engineering measures are likely to be necessary to provide adequate containment.
Special attention should be given to existing wells down-gradient of the site and of the projected future development of the aquifer.
- R3¹ Not generally acceptable, unless it can be shown that:
 - (i) the groundwater in the aquifer is confined, or
 - (ii) it is not practicable to find a site in a lower risk area.
- R3² Not generally acceptable, unless it is not practicable to find a site in a lower risk area.
- R4 Not acceptable.

With regard to the possible siting of landfills on or near regionally important (major) aquifers and where no reasonable alternative can be found, such siting should only be considered in the following instances:

- ◆ Where the hydraulic gradient (relative to the leachate level at the base of the landfill) is upwards for a substantial proportion of each year (confined aquifer situation).
- ◆ Where a map showing a regionally important (major) aquifer includes low permeability zones or units which cannot be delineated using existing geological and hydrogeological information but which can be found by site investigations. Location of a landfill site on such a unit may be acceptable provided leakage to the permeable zones or units is insignificant.
- ◆ Where the waste is classified as inert and waste acceptance procedures are employed in accordance with the Proposal for an EU Directive on Landfill of Waste.

2.7 Draft Code of Practice for Septic Tank Systems

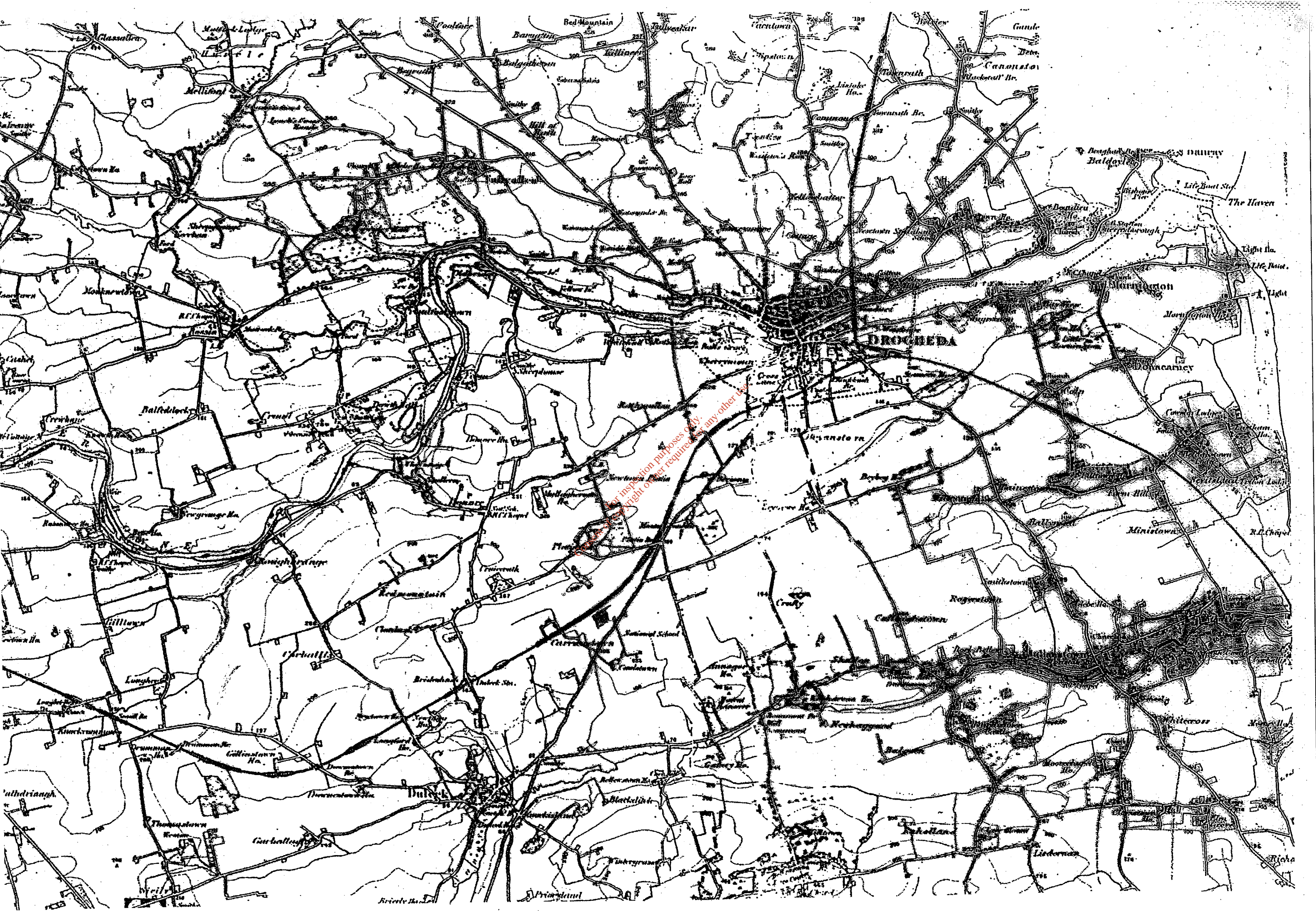
Table 2.6 gives a draft Response Matrix for septic tank systems and Table 2.7 gives the specific responses to the proposed location of a septic tank system in each groundwater protection zone.

Table 2.6. Draft Groundwater Protection Scheme Matrix for Septic Tank Systems

VULNERABILITY RATING	SOURCE PROTECTION			RESOURCE PROTECTION						
	Site	Inner	Outer	Regionally Imp		Locally Imp.		Poor Aquifers		
				Rc	Rf/Rg	Lm/Lg ₁	Ll	Pl	Pu	
Extreme (E)	R4	R3 ¹	R3 ³	R3 ³	R2 ²	R2 ²	R2 ¹	R2 ¹	R2 ¹	↓ ↓ ↓ ↓
High (H)	R4	R3 ²	R2 ⁷	R2 ⁴	R1	R1	R1	R1	R1	
Moderate (M)	R4	R2 ⁹	R2 ⁶	R2 ³	R1	R1	R1	R1	R1	
Low (L)	R4	R2 ⁸	R2 ⁵	R2 ³	R1	R1	R1	R1	R1	
	→	→	→	→	→	→	→	→	→	

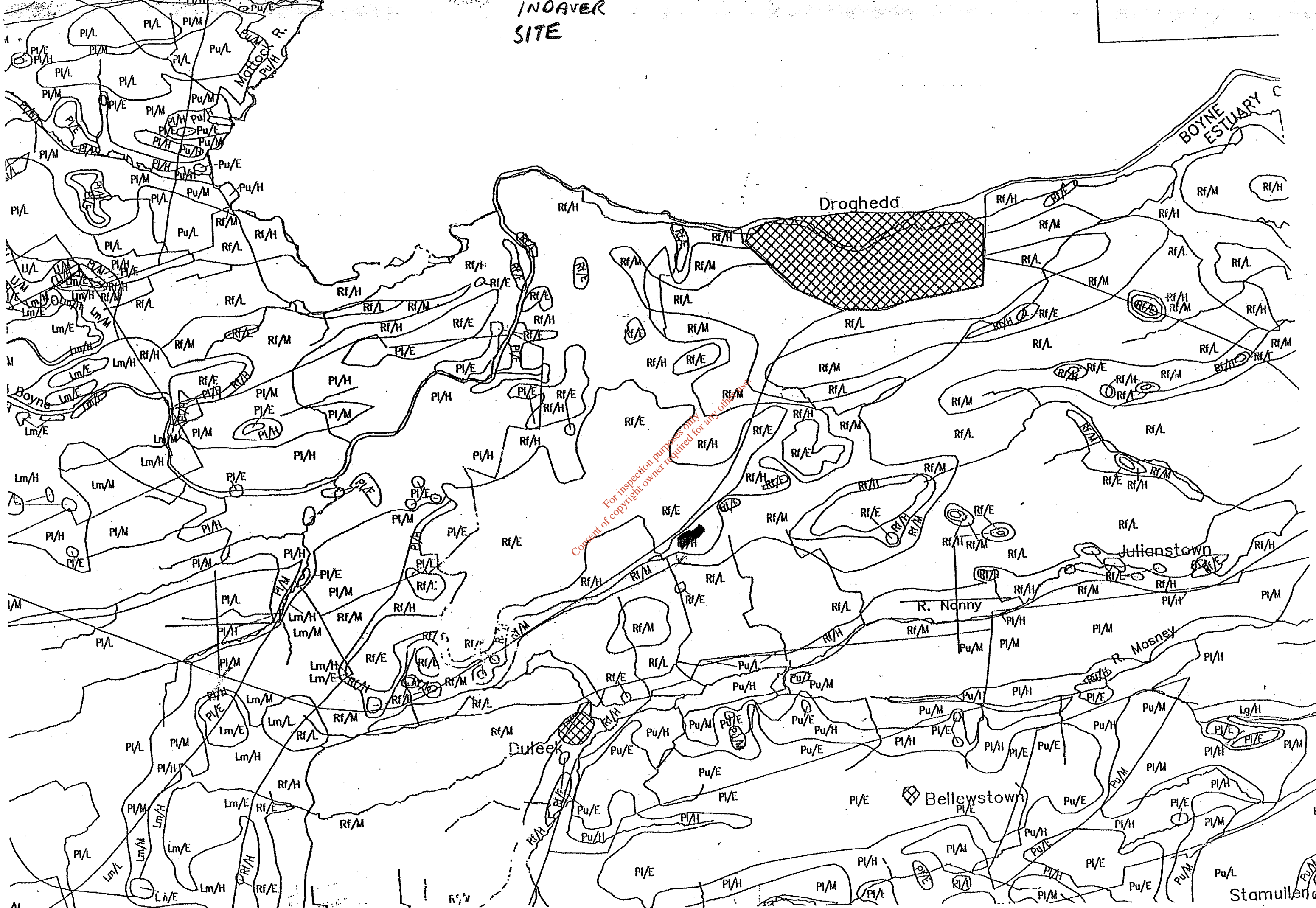
(Arrows (→ ↓) indicate directions of decreasing risk)





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INDOAVER SITE



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ENVIRONMENTAL PROTECTION
AGENCY WASTE LICENSING
RECEIVED

19 NOV 2004

INITIALS.....

Fax



To: Karen Vaughay, Environmental Protection Agency
From: Grainne Russell, No Incineration Alliance

Fax: 053-60699 **Pages:** 12

Phone: 053-60600 **Date:** 19/11/2004

Re: EPA Ref 167-1
 No Incineration Alliance Submission

Karen,

Further to our telephone conversation earlier, please find attached submission omitted from No Incineration Alliance submission.

I have sent original by swiftpost.

Kind Regards,

Grainne Russell

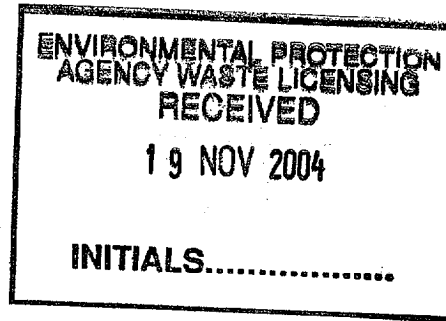
Grainne Russell
(087-9893316)

NO INCINERATION ALLIANCE, P.O.BOX 2001, DROGHEDA.

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mail@noincineration.com

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"Lugano"
Dublin Road
Drogheda
Co. Louth

18 Nov. 2004

Ms Eve O'Sullivan
Programme Officer
Office of Licensing and Guidance
EPA
PO Box 3000
Johnstown Castle Estate
County Wexford

Ref: EPA Ref 167-1

**Other Ref: Louth/ Meath/Cavan/Monaghan Regional Waste Management
Plan review August 2004
Meath County Council Waste Management Review
Meath County Council Planning ref: 01/4014
An Bord Pleanála ref: PL 17/26307**

**Submission for consideration re: planning licence granted to Indaver by the
Environmental Protection Agency for proposed incinerator at Carranstown,
Duleek, Co. Meath. – Scientific and Engineering Concerns**

Dear Ms. O'Sullivan,

With respect to the above, we represent the group of Engineering Professionals based in the Republic of Ireland who are concerned about the proposed building of Waste Management Incinerators as being basically flawed in dealing with waste management.

We believe our concerns are well founded being based on the latest Engineering knowledge. We therefore strongly object to both the concept of building incinerators as proposed by the Governments' Waste Management Plan and specifically with respect to Meath County Council's Plan, The Governments Spatial Strategy, An Bord Pleanála and you, The Environmental Protection Agency, the proposition to licence the proposed incinerator at Carranstown, Duleek, Co. Meath on the following grounds:

**1) The inefficiency of the plant with respect to Electricity Generation
(Thermal treatment energy recovery)**

There are no substantive figures produced by the Indaver Engineering Planners to justify the Input Energy costs relative to the subsequently produced output Energy (electricity). There are simply no grounds to grant the EPA or any other licence on the basis of energy recovery from the proposed Plant's operations, and this can be Scientifically proven as follows:

The total costs of the electricity produced include:

1. The buried costs to the North East Regions waste suppliers (Businesses, Households, Local Authorities etc) within the costs of using the Indaver service. Effectively, Indaver are being supplied with free 'raw material' to incinerate, but at a cost to others.
2. Logistics costs of getting raw material from source to Treatment Plant.
3. Cost of fossil fuel to maintain combustion in firing chambers.
4. The latest purpose built power stations which operate on Natural Gas (preferred under International directives eg Kyoto Protocol) and within strict operational guidelines have an efficiency in excess of 60% (being the ratio of fuel input in Kilojoules to Energy output in Kilojoules). The calorific value of the combustible material feeding the incinerator cannot be scientifically measured in advance due to the variability of the raw material. This variability is due a number of factors including constituent makeup, water retentive characteristics, quantity, etc etc. However, technical knowledge and experience would put this materials efficiency ratio not greater than 20-25% maximum.
5. Transmission Loss Factors TLF - Approximates at 10% eg if the plant outputs 10MegaWatts, it is paid for 9 MegaWatts. The cost of these losses are borne by the users of the facility eg Local Authority etc
6. If the National Grid get overcapacity onto the system, then the plant will be asked to reduce output to the National Grid to a lower level eg 90% of it's Mwatt rating. This means the processor must run at lower temperatures which increases the toxic output from the unit.

In summary, the total costs to a region of producing each KiloWatt of power from the incineration process is vastly higher than from a modern power station. Hence, the economics of this form of power generation are highly questionable, and therefore fully dismissed in the broader sense of the need for the incinerator.

Again, from a pure engineering perspective, Indaver hav not justified such enormous resource losses specifically for the Carranstown operation, and have not and cannot produce sound engineering rationale.

- 2) **That the ESB Dublin / North East regional grid has not the capacity to take the electricity (based on the recent rejection of other "cleaner" ie Gas fired operators proposals).**

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P24. "Adding new generation in Dublin will have the potential for considerable cost increases which must be borne by customers. These costs arise from constraints on generation and increases in average losses. "

Should Indaver now be granted access to the National Grid transmission system in the Greater Dublin Area, this would surely compromise EU directives (specifically the EU Electricity Directive), competition laws, and have implications for the Governments stated directives for power generation in Ireland.

The original planning application has no reference to the required sub-station engineering required for such connection to the national grid, and the incumbent, the Electricity Supply Board has no application for such facilities. The application therefore must be rejected as illegal under both domestic and current European Planning law.

- 3) **There is a lack of clarity in the National Development Strategy Spatial plan regarding where developers may propose sites with respect to where is in the States interest (ref. the recent Forfas report section 1.3.1 page v)**

In addition, the proposed site at Carranstown , Duleek is geographically inefficient in serving the proposed North East region of Louth, Meath, Cavan and Monaghan, it being proposed in the extreme South East corner of the region (refer to Map 1 , page 11 attached). In Scientific terms this means that logistically, if the region was represented on a grid, the input material has to be hauled from less than optimal points (on request , can be proven by simple Linear Programming or basic Management Science techniques).

Add to this the fact that the infrastructure in general is less developed in the North and Western regions , then the calculations deem the most efficient point to site ANY regional centre in respect of any interest to be in the central area of the region.

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- Hospital waste / Radioactive waste - there is no radioactive sensor required at Carranstown, whereas the EPA have stipulated it for the proposed Ringaskiddy Plant
- BSF / bone meal waste
- Asbestos
- Electronics / Batteries (high in heavy metals with greater dioxin/furans)

All (and others) may be inconspicuously inserted with proposeds' non hazardous waste. Subsequent verbal answers to this concern involve the emphasis on the Origin of Lading certificate accompanying the waste. However, as there is no definition of the control process, concerns are summarised as follows:

4.2.1 Undefined validation and assurance processes to ensure non-hazardous waste input

4.2.2 Undefined process to ensure the Certificate of Origin establishes the waste input is actually from the region of the North East ie Cavan, Monaghan, Louth, Meath.

Non assessment of these process implications for the local area leave the plants complete operation open to abuse. Later analysis will lead to possible litigation as the plant CANNOT guarantee to operate within the limitations of any possible non-hazardous licence.

5. That the current Irish National Waste Management infrastructure is immature and too early in development to include incineration.

An Oireachtas Report* in February 2000 established that the OPW found that of 1,800 public buildings (including schools) built about 25 years ago and before, one third have been discovered to contain asbestos.

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Current EU Environment Minister Margot Wahlstrom and new EU Minister for the Environment Savros Dimas are interested to hear that former project manager for Indaver Ireland Laura Burke is a new director of the Environmental Protection Agency (EPA). There is an irresolvable conflict of interest when, as a previous promoter of incineration, Ms. Burke meets to discuss licensing for Indaver plants, whilst also effectively denying a possibly more suitable expert a place on the EPA board.

The next stages in the EPA Licence process are therefore open to question as to the ethics of the planning process.

7. The basis of the original and subsequent planning submissions by various bodies in developing this proposed incinerator is inadmissible under current planning guidelines .

The original and subsequent plans submitted to Meath County Council, An Bord Pleanala and the Environmental Protection Agency is inadmissible and so illegal for the following reasons:

7.1 In France, the whole Loire Valley is a World Heritage Site. UNESCO have designated parts of the Boyne Valley a World Heritage Site and this aspect was not considered in the original planning application.

7.2 The original planned incinerator chimney height is engineered too low for proper dispersion of dioxin output for the surrounding area. It is based on a model adopted for flat landscapes. The original planning application has no study of the effects on the local hinterland considered eg no submission for contour impact when prevailing winds subject the higher contours to emission dispersion. The fact that the chimney height has now been increased during the term of the Planning process is illegal.

7.3 The original planning application does not consider the local site geology (as per the recent North Eastern Health Board geology reports). The local karst geology is pervious to bottom and fly ash seepage through normal seepage, and can lead to poisoning of the main local water basin with incinerator output ash .

7.4 The original planning application does not consider the local site hydrology (as per the recent North Eastern Health Board hydrology reports). The local main water basin is directly under the proposed site, and can lead to poisoning of the main local water basin.

7.5 The original Meath County Council planning application and subsequent An Bord Pleanala decision does not consider the local water reservoir at Kiltrough, being in direct line with the prevailing South West wind in Ireland. This water tower is the second largest in Europe and serves the largest town in Ireland, namely Drogheda, and the local East Meath hinterland, one of the quickest growing demographic areas in Ireland. As the original water tower was not planned with hermetic sealing against incinerator emissions, this can lead to poisoning of the main local water supply.

7.6 The original planning application is illegal as the site was/is at the time of the application zoned as agricultural land.

7.7 The original planning process did not take into account health aspects.

7.8 There has been insubstantial consideration of **Carbon emission costs** in either Meath County Councils directive, An Bord Pleanala's directive and Indaver's submissions. This is contrary to both Irish and European law.

Since all these aspects were not accounted for in the original planning submission, we submit that the basis of this Waste Management Review incorporating incineration is flawed, illegal and inadmissible in the public domain.

EPA Licence 167-1 Scientific and Engineering Concerns Page 7 of 11 18/11/2004

8. The EPA licence is inadmissible under current Water planning guidelines .

8.1 Donal Daly of the Geological Survey of Ireland outlines the risks in his 2004 paper "Groundwater at Risk in Ireland", and this applies to the East Meath / South Louth natural water resource system, the fulcrum of which is the River Boyne adjacent the proposed site. Much of our Irish rainfall flows along the surface of the earth into streams and rivers, ultimately to feed our inland lakes and reservoirs. This is "surface water" and, piped into our homes, it supplies some 70 per cent of our national needs.

Some of the rainfall, however, infiltrates the soil. It percolates downwards into the underlying rocks, and slowly permeates the tiny pores and crevasses, forming in effect a massive, almost countrywide, reservoir of what we call "groundwater".

Looking at groundwater in the context of the environmental challenges facing Ireland at present, Donal Daly will tell of the great progress made in recent years in mapping the "subsurface" of the country – the bedrock, subsoil, soil and groundwater. While all this information is available to decision makers, as are the means of communicating and making effective use of all the data, the previous bodies involved in the decision to grant the planning permission to Indaver for the proposed Carranstown facility ie Meath County Council and An Bord Pleanala, DID NOT refer to this information regarding the hydrology of the area. The North Easter Health Board in its submission this year 2004 did reference the fact that the Boyne Valley area soil, subsoil and bedrock in particular is very porous in its constituent makeup, being limestone karst.

In summary, it is our contention that the area of East Meath / South Louth is particularly unsuited to any proposed incinerator operation due to the openness of the water reserve to contamination through both airborne dioxin particulate matter coming to rest on the area surface waters, and by this dioxin particulate matter also being washed from the ground down through the porous karst matter and into the groundwater. This leaves the local population in the immediate vicinity of the incinerator where the concentrations of particulate matter is greatest open to poisoning through not only the airborne particulate but also from ingestion of the local water and through ingestion of locally produced foods, both vegetable and animal. THIS MEANS THAT AS THE BASIC PLANNING ENTITIES OF MEATH COUNTY COUNCIL AND AN BORD PLEANALA DID NOT TAKE SUCH HYDROGEOLOGICAL INFORMATION INTO ACCOUNT, SO THE EPA LICENCE IS ITSELF BASED ON INVALID PLANNING DIRECTIVES.

8.2 Please refer to the Department of Environment document "Protecting our freshwaters – guidelines for local authorities" ISBN 0-7076-6116-1 Appendix 1 Section 66(3) of the Waste Management Act, 1996 21(A) Indaver Ltd., An Bord Pleanala are in breach of this clause if the operation goes ahead as there has been no "Nutrient Management Plan" submitted.

9. The EPA licence is inadmissible under local ECONOMIC headings.

The original planning process did not take into account future bio-industry economic aspects. The ability of the area to market itself as a candidate for such industry will be negated in the event of the proposed incinerator becoming operational. The economic consequences of such an action have not been accounted for. Thus the EPA licence decision has been based on invalid and non-comprehensive directives.

Should the proposed development go ahead, and should there be, as proven by the past record of Indaver it's Belgian operations, any unlicensed and/or emissions above the levels allowed by law, there is no impact assessment for the local economy if put into shutdown as per the Belgian Government decisions when Indaver breached law in Belgium, and the areas' food processing and farming communities were shut down with massive local economic impacts. In real terms, how can the EPA really allow current local producers such as Glanbia, Boyne Valley Foods, Coca Cola etc as well as the local Dairy and Beef stock farmers be put at economic risk without the slightest impact assessment or back out plans in forming the basis for the EPA licence.

10. CONSTITUTIONAL RIGHTS

10.1 The proposed operation, under Department of Environment, Meath County Council and An Bord Pleanala directives, are in breach of the Directive Principles of Social Policy Article 45 section 4 rights under the Constitution of Ireland (ISBN 0-7557-1485-7) as follows:

“ The State pledges itself to safeguard with especial care the economic interests of the weaker sections of the community.....”

and Article 45 section 4 paragraph 2

“ The State shall endeavour to ensure the strength and health of workers, men and women, and the tender age of children shall not be abused.....”

10.2 The Kilner Glassworks case in English law of 1871 at Thornhill Leeds found that the Kilner Glass factory smoke was unlawful with the presiding Judge finding that “No man has the right to interfere with another mans air”.

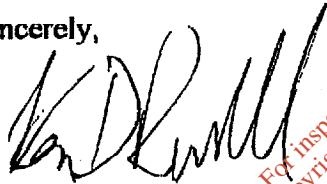
10.3 The whole planning process from Meath County Council, through An Bord Pleanala has been referenced to Irish law and has not fully considered transposition into European law. This basis invalidates the EPA decision to grant licence.

A basic Law of Physics states "matter is not created or destroyed, it changes from one form to another." In our view, this simply means the Indaver proposal will put Irelands waste into the air, and so is a scientifically illogical process.

In a new competitive era within the EU, Ireland and specifically the Drogheda region needs to attract the newest Biotechnology industries to remain economically sustainable. This may not be possible with the proposed plant as World Class Manufacturing facilities like Coca Cola have extremely stringent Quality guidelines and Benchmarks which will be breached with the air quality reduction that follows the proposed plant.

Bord Pleanala Senior Planner, James Carroll, found in favour of the people of Drogheda during the oral hearing in October 2002. The subsequent overruling of this finding by the Board of Bord Pleanala in favour of Indaver Limited, a body voted in by the incumbent Government of the day, the same Government that that is looking to implement the proposed incinerator.

Yours Sincerely,



Ken Russell BSc InfoTech NCFE Dip Electronics MIEI (af) MICS



Derek Russell BScEng; DipEng MIEI C.Dip. A.F

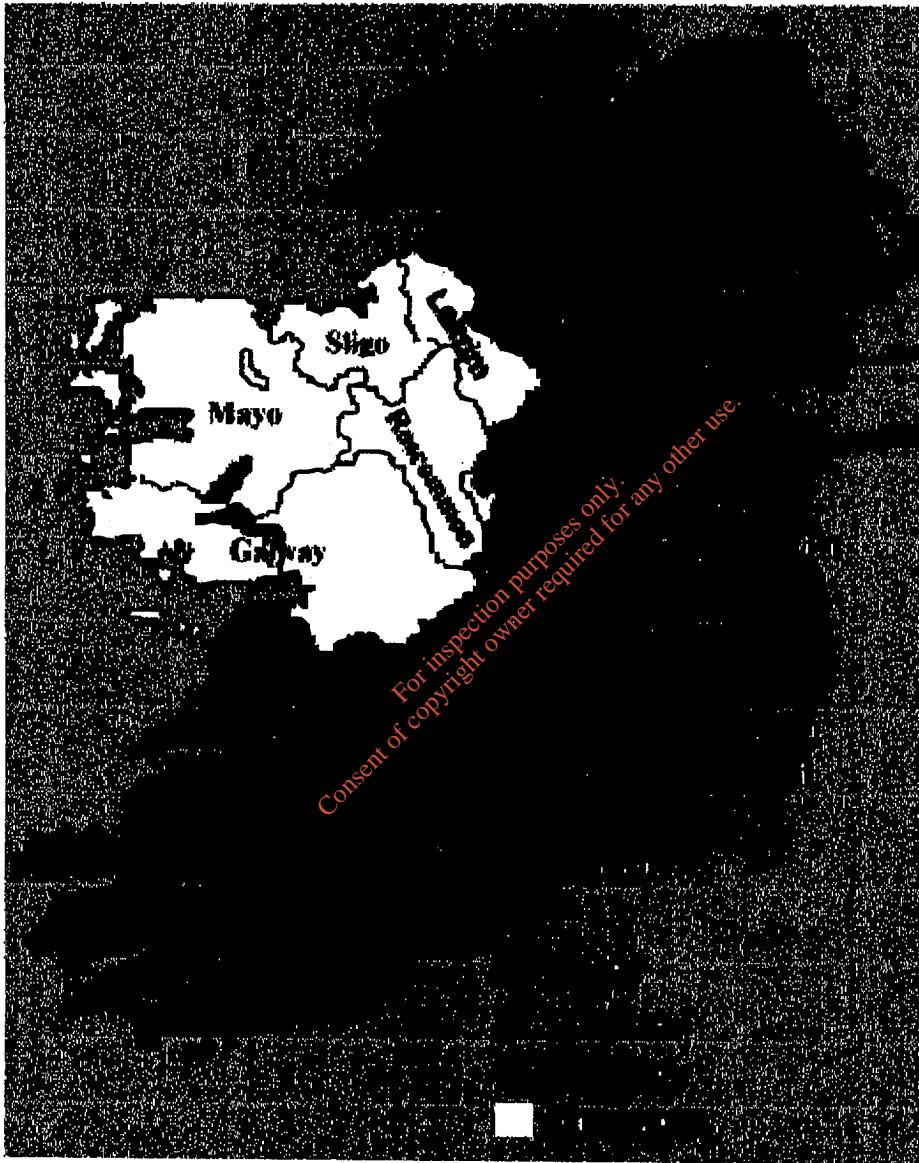


Dr. Conchur O'Bradaigh, ex. Dept. of Mechanical Engineering,

National University of Ireland, Galway

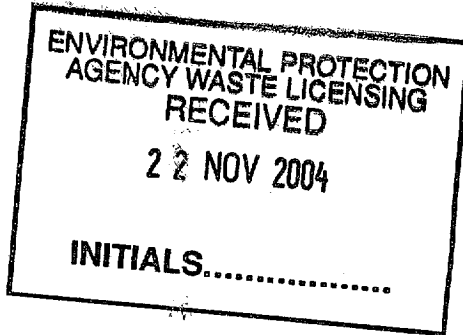
pp Concerned Scientists and Engineers

MAP 1



1. PROPOSED SERVICE REGIONS
2. PROPOSED LOCATION INCINERATOR.

Fax



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Environmental Protection Agency No Incineration Alliance

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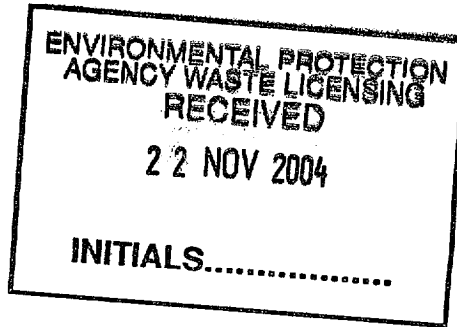
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7.4 The original planning application does not consider the local site hydrology (as per the recent North Eastern Health Board hydrology reports). The local main water basin is directly under the proposed site, and can lead to poisoning of the main local water basin.

7.5 The original Meath County Council planning application and subsequent An Bord Pleanala decision does not consider the local water reservoir at Kiltrough, being in direct line with the prevailing South West wind in Ireland. This water tower is the second largest in Europe and serves the largest town in Ireland, namely Drogheda, and the local East Meath hinterland, one of the quickest growing demographic areas in Ireland. As the original water tower was not planned with hermetic sealing against incinerator emissions, this can lead to poisoning of the main local water supply.

7.6 The original planning application is illegal as the site was/is at the time of the application zoned as agricultural land.

7.7 The original planning process did not take into account health aspects.

7.8 There has been insubstantial consideration of **Carbon emission costs** in either Meath County Councils directive, An Bord Pleanala's directive and Indaver's submissions. This is contrary to both Irish and European law.

Since all these aspects were not accounted for in the original planning submission, we submit that the basis of this Waste Management Review incorporating incineration is flawed, illegal and inadmissible in the public domain.

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8. The EPA licence is inadmissible under current Water planning guidelines .

8.1 Donal Daly of the Geological Survey of Ireland outlines the risks in his 2004 paper "Groundwater at Risk in Ireland", and this applies to the East Meath / South Louth natural water resource system, the fulcrum of which is the River Boyne adjacent the proposed site. Much of our Irish rainfall flows along the surface of the earth into streams and rivers, ultimately to feed our inland lakes and reservoirs. This is "surface water" and, piped into our homes, it supplies some 70 per cent of our national needs.

Some of the rainfall, however, infiltrates the soil. It percolates downwards into the underlying rocks, and slowly permeates the tiny pores and crevasses, forming in effect a massive, almost countrywide, reservoir of what we call "groundwater".

Looking at groundwater in the context of the environmental challenges facing Ireland at present, Donal Daly will tell of the great progress made in recent years in mapping the "subsurface" of the country – the bedrock, subsoil, soil and groundwater. While all this information is available to decision makers, as are the means of communicating and making effective use of all the data, the previous bodies involved in the decision to grant the planning permission to Indaver for the proposed Carranstown facility ie Meath County Council and An Bord Pleanala, DID NOT refer to this information regarding the hydrology of the area. The North Easter Health Board in its submission this year 2004 did reference the fact that the Boyne Valley area soil, subsoil and bedrock in particular is very porous in its constituent makeup, being limestone karst.

In summary, it is our contention that the area of East Meath / South Louth is particularly unsuited to any proposed incinerator operation due to the openness of the water reserve to contamination through both airborne dioxin particulate matter coming to rest on the area surface waters, and by this dioxin particulate matter also being washed from the ground down through the porous karst matter and into the groundwater. This leaves the local population in the immediate vicinity of the incinerator where the concentrations of particulate matter is greatest open to poisoning through not only the airborne particulate but also from ingestion of the local water and through ingestion of locally produced foods, both vegetable and animal. THIS MEANS THAT AS THE BASIC PLANNING ENTITIES OF MEATH COUNTY COUNCIL AND AN BORD PLEANALA DID NOT TAKE SUCH HYDROGEOLOGICAL INFORMATION INTO ACCOUNT, SO THE EPA LICENCE IS ITSELF BASED ON INVALID PLANNING DIRECTIVES.

8.2 Please refer to the Department of Environment document "Protecting our freshwaters – guidelines for local authorities" ISBN 0-7076-6116-1 Appendix 1 Section 66(3) of the Waste Management Act, 1996 21(A) Indaver Ltd., An Bord Pleanala are in breach of this clause if the operation goes ahead as there has been no "Nutrient Management Plan" submitted.

9. The EPA licence is inadmissible under local ECONOMIC headings.

The original planning process did not take into account future bio-industry economic aspects. The ability of the area to market itself as a candidate for such industry will be negated in the event of the proposed incinerator becoming operational. The economic consequences of such an action have not been accounted for. Thus the EPA licence decision has been based on invalid and non-comprehensive directives.

Should the proposed development go ahead, and should there be, as proven by the past record of Indaver it's Belgian operations, any unlicensed and/or emissions above the levels allowed by law, there is no impact assessment for the local economy if put into shutdown as per the Belgian Government decisions when Indaver breached law in Belgian, and the areas' food processing and farming communities were shut down with massive local economic impacts. In real terms, how can the EPA really allow current local producers such as Glanbia, Boyne Valley Foods, Coca Cola etc as well as the local Dairy and Beef stock farmers be put at economic risk without the slightest impact assessment or back out plans in forming the basis for the EPA licence.

10. CONSTITUTIONAL RIGHTS

10.1 The proposed operation, under Department of Environment, Meath County Council and An Bord Pleanala directives, are in breach of the Directive Principles of Social Policy Article 45 section 4 rights under the Constitution of Ireland (ISBN 0-7557-1485-7) as follows:

“ The State pledges itself to safeguard with especial care the economic interests of the weaker sections of the community.....”

and Article 45 section 4 paragraph 2

“ The State shall endeavour to ensure the strength and health of workers, men and women, and the tender age of children shall not be abused.....”

10.2 The Kilner Glassworks case in English law of 1871 at Thornhill Leeds found that the Kilner Glass factory smoke was unlawful with the presiding Judge finding that “No man has the right to interfere with another mans air”.

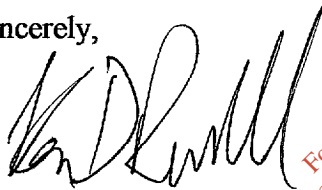
10.3 The whole planning process from Meath County Council, through An Bord Pleanala has been referenced to Irish law and has not fully considered transposition into European law. This basis invalidates the EPA decision to grant licence.

A basic Law of Physics states “ matter is not created or destroyed , it changes from one form to another.” In our view, this simply means the Indaver proposal will put Irelands waste into the air, and so is a scientifically illogical process.

In a new competitive era within the EU, Ireland and specifically the Drogheda region needs to attract the newest Biotechnology industries to remain economically sustainable. This may not be possible with the proposed plant as World Class Manufacturing facilities like Coca Cola have extremely stringent Quality guidelines and Benchmarks which will be breached with the air quality reduction that follows the proposed plant.

Bord Pleanala Senior Planner, James Carroll, found in favour of the people of Drogheda during the oral hearing in October 2002. The subsequent overruling of this finding by the Board of Bord Pleanala in favour of Indaver Limited, a body voted in by the incumbent Government of the day, the same Government that that is looking to implement the proposed incinerator.

Yours Sincerely,



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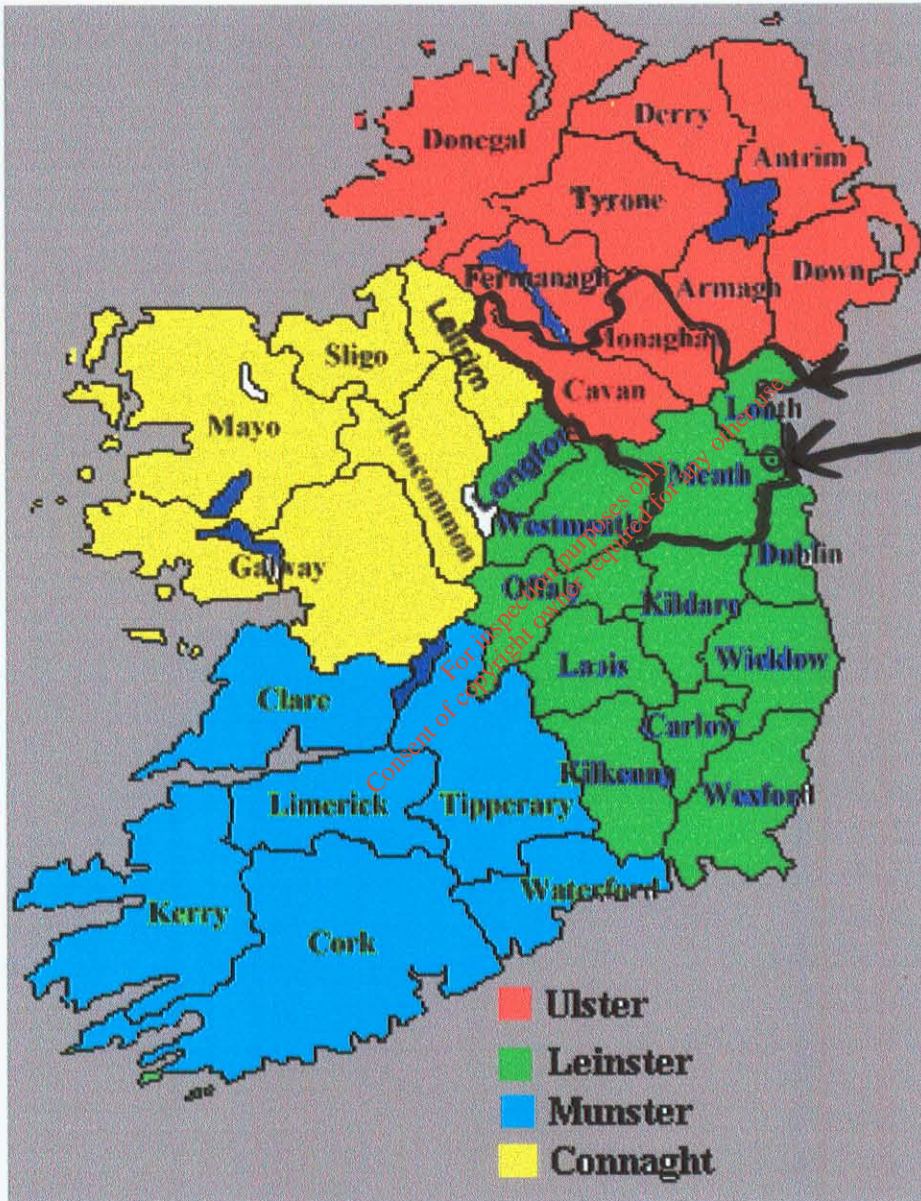


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pp Concerned Scientists and Engineers

MAP 1



1. Proposed Service Region
2. Proposed Location Incinerator.