



**Report on the
Objections and Oral Hearing
on the
Proposed decision of a Waste licence
for
Indaver Ireland (Branch of Indaver NV).**

Register No. 167-1

Main Report

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Summary

Indaver Ireland (Branch of Indaver NV) made an application to the Environmental Protection Agency for a waste licence on 05 December 2001. A proposed decision was issued by the Agency on 26 October 2004. 16 objections including 6 requests for an oral hearing were received and the Agency, on 01 February 2005, appointed Ms Marie O'Connor and Mr Patrick Byrne to conduct an oral hearing.

The oral hearing was held in the Boyne Valley Hotel and Country Club, Drogheda, Co. Louth on 07 to 15th March 2005. There were thirty four presentations made at the oral hearing by representatives of Indaver Ireland, third party objectors and members of the public.

Having assessed the information on file in relation to the waste licence application and the presentations/submissions to the oral hearing it is recommended that a licence is granted subject to the amendments outlined in the recommendations to this report.

General Introduction

1.1 BACKGROUND

On 05 December 2001 Indaver Ireland (Branch of Indaver NV) made an application to the Environmental Protection Agency (the Agency) for a waste licence to operate on a circa 25 acre greenfield site at Carranstown, Duleek, Co. Meath a;

- Community Recycling Park;
- Materials Recycling Facility and;
- Waste to Energy Plant;

The application for Community Recycling Park was subsequently withdrawn in May 2003.

A total of 127 submissions were received. The Agency issued a Proposed Decision (Appendix A) on 26 October 2004 for the carrying out of the following waste activities;

Licensed waste disposal activities in accordance with the Third Schedule of the Waste Management Acts, 1996 to 2003:

Class 7.	Physico-chemical treatment not referred to elsewhere in this Schedule (including evaporation, drying and calcination) which results in final compounds or mixtures which are disposed of by means of any activity referred to in paragraphs 1. to 10. of this Schedule (including evaporation, drying and calcination).
Class 8.	Incineration on land or at sea.
Class 12.	Repackaging prior to submission to any activity referred to in a preceding paragraph of this Schedule.
Class 13.	Storage prior to submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where the waste concerned is produced.

Licensed waste recovery activities in accordance with the Fourth Schedule of the Waste Management Acts, 1996 to 2003:

Class 2.	Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes).
Class 3.	Recycling or reclamation of metals and metal compounds.
Class 4.	Recycling or reclamation of other inorganic materials.
Class 6.	Recovery of components used for pollution abatement.
Class 9.	Use of any waste principally as a fuel or other means to generate energy.
Class 13.	Storage of waste intended for submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where such waste is produced.

16 valid objections were received (including 6 requests to hold an oral hearing into the objections) from the following parties:

Ms Jackie	Keaney	Indaver Irl. (Branch of Indaver NV)
Ms Áine	Walsh	No Incineration Alliance (NIA)
Mr Denis	Lenahan	Newgrange Growers Group
Mr Michael	Lanigan	Carranstown Residents Group
Mr John A	Woods	
Mr James	Rountree	
Dr Elizabeth	Cullen	Irish Doctors Environmental Association (IDEA)
Mr Ollan	Herr	Louth People Against Incineration (LPAI)
Mr Ian	Lumley	An Taisce
Cllr Tommy	Reilly	Navan UDC
Cllr Gerard	Nash	Drogheda Borough Council
Mr Arthur	Morgan, TD	Sinn Fein Party
Mr Thomas	McCall	Newry & Mourne District Council
Mr Kieran	Lawless	Dundalk Town Council
Ms C	Moss	Louth Co.Co.
Cllr Dominic	Hannigan & Others	Councillors for the East Meath Area

The full text of these objections is contained in Appendix B of this report.

At a meeting of the Board of the Agency on 14 December 2004 it was decided to hold an oral hearing of the objections and on 01 February 2005, Ms Marie O'Connor (Chair) and Mr Patrick Byrne (Assistant to the Chair) were appointed to conduct an oral hearing of objections to the proposed decision (Appendix C). All parties were notified of the venue and time.

The site and surrounding area including Brú na Bóinne, Knowth and Dowth were visited by Ms O'Connor and Mr Byrne on 23 February 2005.

The oral hearing was held at the Boyne Valley Hotel and Country Club in Drogheda on 07 -11th and 14th and 15th March 2005.

1.2 SCOPE OF THE REPORT

This report (including appendices) has been prepared in accordance with the requirements of the Waste Management Acts, 1996-2003.

The information contained in the waste licence application (including EIS), submissions, objections (including DVD's) and presentations to the oral hearing were considered.

A paper was submitted by Mr Hanratty on behalf of Mr Ken Russell (NIA). Mr Russell was present at the hearing on Friday 11th March 2005 however due to time constraints on other expert witnesses for NIA and himself he was unable to give his presentation. His paper has been taken into consideration. Mr Duff (NIA) submitted documents from the oral hearing into the proposed decision on the waste licence application from Indaver Ireland (Branch of Indaver NV) Reg. No.186-1 in Cork. It was outlined to the applicant and objectors that issues in these reports could be raised during the Closing Statements.

These documents were read and the information relevant to this proposed facility was considered.

Mr O'Brien (NIA) and others requested that the Inspectors report to the Board of An Bord Pleanála on the oral hearing into the planning application for this site be considered. The report was read and it is considered that the relevant issues were raised in the waste licensing process either in the course of the waste licence application process (submissions and objections) or during the oral hearing and are dealt with in that context.

1.3 ORAL HEARING

The oral hearing commenced at 11am on 07 March 2005. Ms O'Connor and Mr Byrne read their letters of appointment into the record. The Chairperson proceeded to give an opening statement outlining the procedure for the oral hearing, the parties involved and the order of presentations. It was stated also that repetition should be avoided and that issues not relevant to the scope of the oral hearing would not be permitted. Mr Barry Doyle facilitated the order of the presentations.

Appendix D is a list of the individuals who made presentations and includes a reference to the relevant section in the recording by Digitake. Appendix E contains a summary record of the presentations and cross-examination at the oral hearing

including a list of all the documents submitted which are contained in Appendix F of this report.

During the oral hearing there were various requests by Third Parties (NIA, LPAI, Mr O'Sullivan, Deputy O'Dowd, Deputy Morgan and others) for the adjournment of the proceedings and to require the attendance of Mr Paddy Nolan, Programme Manager, EPA, Dr Mary Kelly, Director General, EPA, EPA Board members, representatives of the Department of Agriculture and Department of Health, experts from the World Health Organisation and other medical experts.

The Waste Management (Licensing) Regulations 2004 allows for the person appointed to conduct an oral hearing to require the attendance of a party to an objection, an employee of the Agency or a member of the relevant local authority. This power does not extend to the Director General, the members of the Board of the Agency or other persons.

It was considered by the Chair at various points during the hearing that the attendance of an Agency employee was not necessary as the relevant information was available in the file documentation and particularly the reports of the Inspector (Mr Carey) and Mr Nolan.

There was dissatisfaction expressed by a number of third party objectors, including NIA, LPAI and Mr O'Sullivan, that the scope of the hearing was too narrow and limited by the Chair particularly in relation to the presentations of LPAI. It was outlined that the focus of the oral hearing was the objections to the PD issued by the Agency and extending the scope to a broader discussion on National Waste Management Policy, the Askeaton animal health investigation and other aspects of the operations of the EPA, the OEE and State Departments, such as Agriculture, were not within the remit of the oral hearing.

There was a request that Ms Laura Burke and Dr Mary Kelly would not be part of the Board which would consider the report of the oral hearing. It was explained that this is a matter for the Board of the Agency and outside the remit of the Chair.

Assessment

This section deals with the general issues raised and the specific licence conditions referred to in the written objections and the presentations to the oral hearing. Issues will be dealt with by topic and they have been collated under headings insofar as possible. All objections raised have been considered and incorporated into the assessment even if not specifically mentioned below.

2.1 INCINERATION TECHNOLOGY AND SITE SELECTION

2.1.1 Waste Treatment and Disposal Options

Alternatives to the treatment of municipal waste by incineration were raised by most third party objectors and it was generally queried whether incineration was the Best Available Technique (BAT) for waste disposal. It was contended that the policy of Zero Waste where recycling, repair and re-use processes were maximised should be further explored and financed before incineration was allowed. LPAI (Mr Herr and Dr Connett) in their objection, which included DVD's, and presentations to the hearing outlined the economic and social advantages of the Zero Waste Policy. Indaver (Mr Ahern) stated that Government Policy (Changing our Ways), National Plans and the North Eastern Regional Waste Management Plan (1999 –2004) advocated minimisation of waste followed by re-use and recycling where feasible but that the plans also allowed for the residual fraction to be incinerated with energy recovery. It was also stated that the Regional Plan is under revision and that it may be premature to licence incineration until that process is complete.

Comment

Section 40(4)(d) of the Waste Management Acts, 1996-2003 requires that the proposal is consistent with the relevant waste management plans and implementation by the local authority of these plans. The Meath County Development Plan states that thermal treatment would be considered as a waste treatment process and they granted planning permission to this facility. The NE Regional Waste Management Plan outlines the wastes arising and recommends the door to door collection of dry recyclables, increased number of bring banks, biological treatment of household kitchen waste and thermal treatment of approx. 200,000 tonnes/annum of household, commercial and industrial waste with residues going to landfill. The proposed facility (150,000 tonnes/annum) is appropriately sized to deal with the

estimated quantity of municipal waste arising following the increased recycling initiatives outlined in the plan.

2.1.2 Site selection and suitability

NIA (Mr Duff) stated that 'the site selection process was particularly important for biodiversity conservation' as once a site is chosen it is difficult to reduce significantly the direct effects on biodiversity. Many of the objectors including NIA, Mr O'Sullivan, LPAI and Cllr Hannigan referred to the WHO publication '*Site selection for new hazardous waste management facilities*' (European Series No. 46) stating that the proposed incinerator would have an impact on the ecology, hydrology, rural landscape and cultural heritage and that the publication excludes sites in areas of limestone deposits, important aquifers and historic locations.

Indaver stated that the guidelines were for hazardous waste management facilities (including landfills) and that this facility was for non hazardous municipal waste. The WHO criteria were used by Indaver as a reference to assist the site selection process. The site selection process used by Indaver is outlined in the EIS.

NIA (Mr Behan and Mr McCarthy) raised issues regarding the proximity of the proposed development to the Irish Cement quarry and the resulting impact of blast vibration on the structural integrity of the buildings and functioning of the monitoring and control equipment. NIA (Mr Behan) questioned the assessment of the various wastes produced and stored on-site and the quantity of natural gas in the pipeline under the site in relation to the thresholds in the Seveso Regulations (SI No. 476 of 2000). It was also contended that there had been no new plans submitted on-foot of the refusal by An Bord Pleanála of permission for the development of the Civic Amenity Site.

Indaver (Mr Jones) referred to the Byrne Ó'Cléirigh report of 25th July 2002 which indicated that the quantity of natural gas was below the threshold for consideration of the site under the 'Seveso' regulations and in any event the Health and Safety Authority is the Competent Authority for these regulations. Indaver withdrew the Civic Amenity Site from the application in May 2003.

Comment

The site selection process took into account the environmental sensitivities of the area and further assessments of the selected site were undertaken as part of the EIS and waste licence application. Planning permission has been granted for the site.

The waste licence application contains a report from Eanna O'Kelly and Associates which indicates that the IPC licence for Platin Quarry limits the peak particle velocity to 12mm/sec at the nearest noise sensitive location. The turbine hall and condenser unit would be located 380m from the nearest face of the quarry and they state that the level would be 75% less at that location. A peak particle velocity of 50mm/sec is the upper limit for safe blasting to avoid structural damage to buildings.

The report also states that blasting will not give rise to electrical interference and that protection of vibration sensitive equipment and instrumentation can be achieved by the use of vibration isolation techniques. Manufacturers will specify vibration limits for their process and monitoring equipment thereby setting the specification for the isolation system.

The conditions in the PD are considered sufficient for the protection of the buildings and equipment from the effects of blasting, however it is considered that an infrastructural validation report at the commissioning stage would provide verification of the design and structural integrity of the plant and this is recommended as Condition 3.29 below.

2.1.3 Stack height and visual impact

Mr Cooney, NIA and Mr O'Sullivan raised the issue of the impact of the stack height and emissions on the Brú na Bóinne site and other sites of historical and archaeological significance in the area. The Brú na Bóinne site is a UNESCO World Heritage site. Reference was made to the report of the An Bord Pleanála (ABP) oral hearing. It was stated that ABP should have been consulted about the requirement in the PD to raise the stack height and that this should have been done before the ABP oral hearing on objection to the planning decision made by Meath Co. Co.

Indaver (Ms Keaney) referred to the visit in 2004 by delegates from UNESCO to investigate the likely impacts of the incinerator on the World Heritage site. The proposed site is located 1.5km outside the buffer zone designated by the Brú na Bóinne Management Plan (Department of Environment).

Photomontages showed the visual impact of the proposed stack (65m stacks) from various locations such as Brú na Bóinne and Dowth. The findings of the report of the UNESCO mission were that the stack would have minimal visual impact and there was no evidence of the existence of archaeological material on the site which would impact on the World Heritage site.

However the report did indicate some concern over the potential impact of the emissions from the stack on the Brú na Bóinne site. A letter from Professor Eoghan submitted by Mr Hanratty (NIA) stated that 'it is possible that emissions from the proposed incinerator would have a polluting effect...'. Indaver (AWN Consulting Ltd) modelled the emissions to assess the impact on the Brú na Bóinne site. This showed that the process contribution to the ambient levels was not significant in terms of the relevant EU ambient standards set for the protection of human health and ecosystems (Council Directive 1999/30/EC [S.I. No. 271 of 2002]) and the Gothenburg Protocol to abate acidification, eutrophication and ground level ozone (S.I. No. 10 of 2004).

Comment

The visual impact of the stack would usually be a matter solely for the Planning Authority, however the PD requires the stack to be raised to 65m therefore it should be dealt with in that context. Although the report of the ABP inspector stated that the development (with 40m stack) would have a visual impact on certain views such as from Bellewstown (not on the World Heritage Site), the Board of ABP granted permission on the basis that 'the landscape was capable of absorbing the development.'

The EPA wrote to the Planning Department of Meath Co. Co. in January 2004 regarding the proposed increase in stack height to 65m. In a response in June 2004 the Senior Planner indicated that 'there would not appear to be an overriding argument against such a proposal'. The Irish Aviation Authority (IAA) in a letter to Indaver on 06th April 2004 did not impose any additional lighting requirements on the higher stack.

In consideration of the information available including photomontages, the UNESCO Mission report and the letters from Meath Co. Co. and the IAA and since existing stacks, silos and buildings in the vicinity range from 50m – 110m, it is not considered that raising the stack height would significantly impact on the views.

In relation to emissions from the stack no significant impact is predicted at the Brú na Bóinne site with reference to existing and proposed EU ambient standards for the protection of human health and ecosystems. In the absence of more stringent standards for the protection of stonework or historical monuments or any submission

from relevant experts on an acceptable standard the use of the existing standards is considered satisfactory for the protection of the World Heritage Site.

2.1.4 Design of the Facility

NIA, Mr O'Sullivan and LPAI queried if the technology being proposed for the incinerator, the flue gas treatment and the monitoring equipment constituted Best Available Techniques (BAT). They outlined that it was not possible to determine BAT on the information supplied as the specific design of the plant, equipment specification and process parameters were not available. It was queried how Indaver could claim in the EIS that 75% of the energy produced by the combustion of waste would be recovered when the modern gas fired electricity generating plants can only achieve 55% efficiency. In addition the capacity of the ESB regional grid to take the electricity was raised.

Indaver (Mr Ahern, Mr Jones and Mr Simons) outlined that the process and technology proposed was in accordance with the draft BAT guidance being produced by the EC and also referred to the BAT outlined by the Stockholm Convention. Indaver acknowledged that municipal waste may contain small quantities of hazardous wastes, however the furnaces are designed to cater for this. The building of the plant would be a Turnkey project and put to tender. The design specification would not be finalised until after the required statutory permits and approvals were obtained.

Comment

The waste licence application includes a process description, process control, waste management (inputs and outputs) and abnormal situations for the options proposed. Sections 40(4)(c) of the Waste Management Act, 1996-2003, requires the Agency to ensure that BAT is used.

Guidance on what constitutes BAT is prepared by the European IPPC Bureau (EIPPCB) in the form of a BAT reference document (BREF) and Member States are required to prepare their own BAT Guidance documents. Currently the BREF for the waste incineration sector is at final draft stage and regard was had to its content. The incinerator and flue gas treatment technologies specified by Indaver are contained in the draft BREF. In addition the Waste Incineration Directive (2000/76/EC) requires stringent process control and emission limits to be applied to an incineration facility and the proposed decision applies the requirements of the directive.

It is considered that there is sufficient information in the waste licence application including the EIS and additional information submitted for the purposes of the waste licensing process.

However, to ensure that the design and construction of the facility is carried out in accordance with the requirements of the licence it is recommended that an Infrastructural Validation Report is completed. This will ensure that the infrastructure is built fit-for-purpose. The design and operation of the incineration plant should be modelled using computational fluid dynamics as outlined in the draft BREF document and considered best practice in the UK (Condition 3.29 below).

2.2 POTENTIAL IMPACTS

General concerns were raised over the lack of medical expertise within the Agency and that the applicant had not put forward a medical expert at the oral hearing. Presentations were provided by three medical doctors (Dr Staines, Dr Cullen and Dr Grehan) on behalf of the third party objectors. Dr Staines discussed the issue of health impact assessment and Dr Grehan and Dr Cullen outlined the risks associated with exposure to increased levels of dioxins and related compounds, particulates (PM₁₀ and PM_{2.5}), heavy metals and the stress associated with living close to a facility that caused concern. Dr Connett, Mr O'Sullivan and others also provided evidence of the impact of the pollutants on health, provided references to studies and critiqued the assessment of dioxin intake levels provided by Indaver (Dr Callaghan).

2.2.1 Dioxins and Furans (PCDD's and PCDF's)

General concern was expressed in relation to the proposed and possible accidental emissions of dioxins and furans from the facility and their effect on human and animal health. Dr Connett outlined in his presentation the chemistry and the development of knowledge on dioxins and furans and outlined the effect of dioxins where it can interfere with the levels of enzymes, hormones and hormone receptors and growth and differentiation factors.

Dr Connett, Dr Cullen and Dr Grehan outlined the medical conditions that may be attributed to exposure to and intake of dioxins. Third party objectors including NIA, LPAI, IDEA, Dr Grehan, Mr O'Sullivan and Dr Connett stated that in their opinion there was no safe level of dioxins. Several papers were referenced many of which were reviewed by the authors of the HRB report. Indaver referenced the WHO Tolerable Daily Intake (TDI) of 1-4pg WHO TEQ/kg body weight/day and the EC

objective to reduce the Tolerable Weekly Intake (TWI) to 14pg WHO TEQ/kg body weight/week.

Indaver (Dr Porter and Dr Callaghan) outlined that background levels of dioxins were determined by monitoring of air and soils on the site and by reference to EPA and FSAI milk monitoring reports. The background dioxin levels in air measured at this location are considered relatively high (28 -46fg/m³) when compared with other Irish background studies. The monitoring report by ASEP in the EIS (Attachment 4) outlines that caution must be exercised in comparing results as it may be a function of the procedure for assigning TEQ's for non-detects.

Using stack heights of 40m and 65m an emission of 0.1ng I-TEQ/m³ was modelled to determine the maximum ground level concentration and its location and this data is presented in the licence application. Indaver (Dr Porter) outlined that the annual average process contribution to the ground level concentrations of dioxins would be less than 1fg I-TEQ/m³ (0.001pg). The background level of dioxin in the air was taken as the maximum measured (46fg I-TEQ/m³). In addition further modelling was undertaken using the background and modelled data to determine the maximum dioxin intake levels which could be expected for a person living locally (maximum at risk individual- MARI). The results of the assessments, 0.5777pg WHO TEQ/kg body wt./day for an adult, were determined to be below the WHO and EC guidelines.

Indaver (Dr Callaghan) also calculated that using the average milk and meat consumption figures for Ireland and the dioxin content from the FSAI report that an adult would receive a dioxin dose of 0.337pg TEQ/kg body wt./day.

NIA (Dr Connett) stated that his research had shown that intake levels of dioxins from ingestion of food exceed the dose from inhalation by 1000-3000 times and he referred to the USEPA (May 2001) Information Sheet 2 – Scientific highlights from draft dioxin reassessment- which states that an evaluation of the data on cancer potency has resulted in an estimate of 0.001 per pg TEQ/kg body weight/day. Using the data submitted by Indaver he calculated that the total intake should be in the range 0.825 – 1.325pg/kg b.w/day and that these intake levels would translate to an incremental lifetime cancer risk of 825-1325 in a million using the USEPA reference. He stated that in his experience projects permitted in the US usually fall in the range of 1 to 100 million and as such this project would not be permitted in the US.

IDEA (Dr Cullen) stated that there is a risk of brominated dioxin formation within the process due to the presence of brominated flame retardants. Indaver (Dr Porter)

referred to a report from the Waste Management Policy Group of the OECD and concluded that there was not a significant risk from modern waste to energy facilities such as is proposed for Carranstown.

Comment

Dioxins and furans are a family of chemically related compounds present in the ambient environment due to natural and industrial combustion related activities. There are 75 possible chlorinated dioxins and 135 possible chlorinated furans. The most toxic is 2,3,7,8-TCDD and is classified, since 1997, by the International Agency on Cancer Research (IARC), as a human carcinogen.

Evidence was submitted and referenced that dioxins may cause various adverse health affects depending on the duration and level of exposure, the specific dioxin/furans and the susceptibility of the exposed person. The WHO TDI was derived from NOAEL (no observable effect) and LOAEL (lowest observable effect) values from numerous studies with a safety factor of 10 added. A TDI is defined as 'an estimate of the intake of a substance over a lifetime that is considered to be without appreciable health risk' and is therefore a long term average. The EC have also assumed that there is a 'no effect' threshold and have set weekly tolerable intake levels whilst recognising that in areas of Europe this is being exceeded.

Because the toxicity of dioxins varies, standards are expressed as toxic equivalents (TEQ). The WHO and EC guidelines ($TEQ_{DFPWHO98}$) use different toxic equivalence factors to those contained in the Incineration of Waste Directive (2000/76/EC) (the NATO/CCMS I- TEQ_{DF}) as was outlined by Indaver therefore care must be exercised in making comparison. DEFRA in the UK recommend that monitoring results are expressed in both the WHO (1998) and the NATO/CCMS systems.

The emission limit value of 0.1ng I-TEQ/m^3 in the Incineration of Waste Directive (2000/76/EC) was set by the EC with the Precautionary Principle in mind and in order that reliable measurements could be made. However, the Directive also requires that the exhaust gases are discharged 'by means of a stack the height of which is calculated in such a way as to safeguard human health and the environment'. Therefore this means that licensing to that level does not guarantee a safe level of emissions and the licence must also be based on the results of atmospheric dispersion modelling, deposition and uptake studies and subsequent comparison with the relevant air quality standards and tolerable intake levels.

As outlined above NIA (Dr Connett) and LPAI (Mr Herr) disagreed with the Indaver data regarding the predicted intake levels of dioxins. The LPAI calculations did not take into account the dispersion of the emission and assumed that all the dioxin in the stack would be inhaled. In the calculations put forward by NIA a ratio of inhalation: total intake of 1:1000-3000 was used however there was no discussion on the derivation of this ratio.

It is acknowledged that 90-95% of dioxin intake is through the food chain and that 80% of this is from meat, milk and fish. The dioxin levels in food, soil and air in Ireland are low when compared with average EU levels. It is considered that the difference in levels of dioxin in food as shown by a comparison of the data from the FSAI and the average intake levels in the USA (submitted by Mr Rountree and Dr Connett) may account for and contribute significantly to the difference in the data.

The use of the US EPA methodology and the RISC Human modelling tool as used by Indaver is accepted as a valid method for the estimation of the intake levels and it is accepted that emissions as set in the PD will not result in dioxin intake above the WHO and EC recommended levels.

Reviews of research studies (including the recent papers submitted to the oral hearing) which looked at the possible effects of proximity to incineration plants on public health have not establish a conclusive link. In particular it is noted that the many of the studies (where incineration plant emissions are referenced) related to facilities which operated outside the emission standards required by the Waste Incineration Directive (2000/76/EC).

It is therefore considered that the emission limit values for dioxins in association with the stack height and gas volume flow rate as outlined in the PD are adequate for the protection of the environment and human health.

2.2.2 Particulates

Third party objectors expressed concern in relation to the current ambient levels of particulates as a result of existing facilities and the impact of any further increase in those levels. Dr Cullen and Dr Connett outlined the risks to health associated with PM_{2.5}. Mr O'Sullivan queried the removal of the condition for ambient monitoring as recommended by the Agency Inspector. Indaver (Dr Porter) referred to the EC position paper on particulates of November 2004 which suggested an ambient

annual average limit value in the range 12-20 $\mu\text{g}/\text{m}^3$ and a max 24 hour limit value of 35 $\mu\text{g}/\text{m}^3$ (90%ile). He also provided evidence related to the modelling of the emissions and the cumulative impact from the existing facilities which indicated that at the emission levels allowed in the proposed licence the impact would be insignificant even if all the particulates were PM_{2.5}.

Comment

The current EU guidelines set ambient standards for PM₁₀ and as was outlined by Indaver these levels would not be breached even if the proposed emission limit value of total dust (30mg/m³) was emitted and it consisted solely of PM₁₀. There is no EU or WHO threshold for exposure to PM_{2.5} and the most recent guidelines from the WHO (Fact Sheet) and EC (SCHER opinion) state that although it is acknowledged that there is increasing evidence of impacts to human health from PM_{2.5} that the current state of knowledge is surrounded by uncertainty (particularly in the European context) and does not allow for the setting of a standard. However, in the recent guidelines, monitoring for these fine particulates in ambient air is recommended. If an ambient standard for PM_{2.5} was set in legislation the Waste Management Acts 1996-2003 (Section 46) would require that the emissions are re-assessed. It is therefore considered prudent, given concerns of the objectors, that the Total Dust emissions from the incinerator stack be characterised on a periodic basis to provide data for future assessment (Condition 5.7 below).

2.2.3 Ground and Surface Water Quality

NIA (Mr Burke and Mr Hanratty) and other objectors raised concern in relation to the impact of the proposed facility on the underlying aquifer. Indaver (Ms Hayes) stated that the GSI currently classify the aquifer under the site as a Regionally Important Aquifer Karstified (Diffuse) with good development potential (confirmed on the GSI website www.gsi.ie). Indaver (Ms Hayes and Mr Jones) confirmed that soil would be removed from the site to facilitate construction thereby reducing the soil depth protecting the aquifer.

NIA (Mr Burke) noted that the GSI classified the site as 'high vulnerability' and north of the site as 'extreme vulnerability'. Indaver (Ms Hayes) stated that based on her assessment of the site she classified the vulnerability as moderate due to the soil depths encountered, and she stated that the GSI classification was not site specific and that there is no established GSI response matrix for incineration facilities.

The risk of dioxin deposition on the surrounding lands impacting on the groundwater aquifer was raised by a number of objectors (including Cllr Hannigan) who noted the potential of the aquifer as a water supply. Indaver (Dr Callaghan) referred to a report by the Danish Ministry for Environment which found that dioxins deposited on soil remain in the upper soil due to dioxins being hydrophobic therefore remaining in the soil rather than going into the groundwater. NIA and other objectors highlighted the risk to groundwater from emissions from the site and the risks of run-off and leaks from tanks and pipes on-site. Indaver (Ms Lyden) outlined when surface water emissions would occur and the measures taken to avoid contaminated surface water discharges. NIA (Mr Burke) highlighted inaccuracies in the licensee's classification of soil, particularly their reference to "gravely clay" which he claims cannot exist.

Comment

The DOE/EPA/GSI publication "Groundwater Protection Schemes", 1999 clarifies that groundwater protection zone maps have limitations because they generalise (according to data availability) variable and complex geological and hydrogeological conditions. Groundwater protection zone maps are not prescriptive and decisions may need to be qualified by site-specific considerations. Based on the soil depths identified by Indaver as part of the site investigations the classification at the site could be 'moderate vulnerability'. However, consideration needs to be taken of soil excavation and pile driving which are necessary parts of the construction phase and which may reduce the soil cover depth. It is therefore considered that a 'high vulnerability' rating as proposed by the EPA Inspector is more appropriate.

The GSI have not to date prepared a Matrix of Resource Protection Zones for incineration facilities, however, a Response Matrix is available for on-site treatment systems (Wastewater Treatment Systems). Based on a classification of the site as 'high vulnerability' it is stated in the DOE/EPA/GSI publication that the location is "acceptable subject to normal good practice. Where domestic water supplies are located nearby, particular attention should be given to the depth of subsoil over bedrock such that the minimum depths required (EPA 2000) are met and that the likelihood of microbial pollution is minimised". Indaver proposed to install a septic tank, puraflo liquid effluent treatment system and construct a percolation area with imported suitable clay. In Condition 3.12 of the PD the issue of sanitary waste water treatment is adequately addressed.

Conditions are included in the PD in relation to bunds, piping and underground tanks to minimise the risk of leakage and loss of material to ground and groundwater. The PD requires that the handling of all incoming materials is undertaken indoors and any seepage or spillage is collected for disposal. In addition, process waste is required to be collected and stored indoors or in silos and all transfer of waste materials have measures for the control of emissions.

The applicant proposes to only discharge water to the surface water drainage system during extreme rain event. The PD requires the licensee to put in place measures to ensure that if surface water must be discharged off site it should be the least likely to be contaminated i.e. roof water. Amendments to Conditions 3.13.2, 3.14.2 and 3.14.2 are recommended to clarify the requirements in relation to surface water discharges. While Mr Burke did identify inaccuracies with a number of documents presented by the applicant these have generally been amended as part of the licence application process, including during the oral hearing in response to questions.

2.2.4 Health Impact Assessment (HIA)

There was a general concern amongst the third party objectors regarding a lack of baseline data on health in the locality, the current level of pollutants in the environment in the vicinity of the site and the impact of the emissions on public health. Dr Grehan, a GP in Dundalk, stated that the area has increased levels of cancers and ill health. Dr Grehan and others referred to the current increased levels of pollutants due to existing facilities. Mr O'Dowd TD referred to the concerns of the North Eastern Health Board (NEHB) and the submissions that they had made on the application. He outlined that Indaver had not consulted with the NEHB. NIA (Mr Duff) referred to the WHO Pamphlet No.6 which states "In the process of locating and planning an incineration plant an overall environmental and health impact assessment should be carried out to establish any potential threats to either the local or the global environment."

Indaver (Dr Callaghan) pointed to the baseline monitoring for specific pollutants that was carried out indicating that the levels in soil, air and milk were consistent with a rural background. In addition an assessment of the impact of the emissions of dioxins on a theoretical 'Most At Risk Individual' (MARI) was carried out using risk assessment modelling and this showed that the impact of the facility would be negligible. NIA (Dr Connett) and Mr O'Sullivan disputed the results of the assessment and contended that using the inhalation levels calculated by Indaver, the total intake

levels should be higher than the modelling predicted. This has been discussed above.

There were many references to the recommendations of the Health Research Board (HRB) report on *Health and environmental effects of landfilling and incineration of waste – a literature review*. The objectors felt that it precluded the development of new facilities until further research was available whereas the applicant stated that it did not recommend a moratorium on incineration. Dr Staines a co-author of the report indicated in his evidence that the HRB report was to inform policy makers and the public and in his opinion a Health Impact Assessment should be completed as part of an EIS for such a facility.

It is generally agreed that there is a lack of readily available data on public health statistics however as outlined by Indaver (Mr Ahern) there are authorities and databases being developed to deal with this deficiency. There was general agreement amongst third parties that the Department of Health and Children were the competent authority regarding public health as outlined in the letter from Dr Mary Kelly to that Department (25/03/2003). However it was indicated that the health impacts of the development had not been adequately assessed in the waste licence application or EIS.

Comment

The documents submitted by Indaver during the waste licence application process included assessments of the impact of the emissions from the facility on ambient air quality and the calculation of a theoretical intake of dioxins, based on soil concentrations, food intake and inhalation values for the MARI. The results do not indicate that any ambient standard or intake guideline will be breached as discussed above. The EIS therefore includes an assessment of the impact of the operation of the facility on human health.

In documentation received from Indaver by the Agency on 04 September 2002 it is stated that in October 2000 that they contacted the NEHB by letter in November 2000 setting out the schedule for the launch of the project which included meetings with Meath Councillors and officials. The letter also indicated that they would update the NEHB on further aspects as they develop. This appears to be the extent of the consultation which occurred with the NEHB by Indaver.

The NEHB made a detailed submission to the Agency on the application and did not request that a HIA be prepared. No objection to the proposed decision was received from the NEHB. No submission or objection was received from the Department of Health and Children.

HIA is defined in the Institute of Public Health of Ireland (IPHI) and Dept. Health & Children Guidance (2003) as a combination of procedures, methods and tools by which a policy, programme or project may be judged as to its potential effects on the health of a population, and the distribution of those effects within the population. The document goes on to say that HIA overlaps with EIA but that HIA has a broader outlook on health. In the EU, the Amsterdam Treaty makes provision for HIA in policy making and it is at an early stage of development in Ireland. The HRB report makes no specific recommendation that a HIA for individual incineration or landfill projects should be carried out.

The IPHI Guidance referred to above outlines that a HIA may be done at three stages of a project; Prospective (developmental stage), Concurrent (during implementation) and Retrospective (after implementation). Given that the timeframe for commencement of the incineration plant would be at least two years, there is adequate time for a HIA to be carried out on behalf of the Department of Health and Children, the Health Services Executive or other relevant body.

2.2.5 Impact on agriculture and agricultural produce

There was general concern amongst the third party objectors that there was a lack of baseline data on dioxins in agricultural produce in the locality and that the PD did not require adequate monitoring of local farm produce. It was noted by the objectors that the inspector had proposed a condition requiring the licensee to consult with the Food Safety Authority of Ireland (FSAI) regarding monitoring of the food chain, however this condition was not included.

The third party objectors while accepting that the Agency had a monitoring regime for measuring dioxin levels in cow's milk called for additional baseline dioxin monitoring in milk and beef, random testing in summer and winter, sampling upwind and downwind of the proposed facility, testing outside a 5 km radius of the site and the availability of individual farm tests for concerned farmers.

LPAI (Mrs McNamara) outlined her difficulties in dealing with the EPA and other government departments in relation to animal health problems on farms in Co.

Limerick. She attributed these to a licensed facility (Aughinish Alumina Ltd) and expressed her dissatisfaction at the level of monitoring being carried out in that area.

Mr Rountree, Mr O'Sullivan and others noted that there was a risk of economic impact on the agricultural sector as a result of food contamination and from perceived food quality risks. There was a request that a liaison committee be established between the licensee and farmers representatives. Indaver (Mr Ahern) stated that the planning permission required a Community Liaison Group and that this could be expanded to include other interests.

Indaver (Dr Callaghan) outlined that there were currently no Irish standards for dioxin in food, however, a number of EU countries had established standards. Dioxin levels in Irish food were below any of the standards established in other EU countries. He referred to the EU Scientific Committee on Food Report, [*Dioxin Risk Assessment Study*, November 2000 and revised 2001] to support the EU and WHO guidelines for dioxin intake calculations.

Comment

Dioxin levels in Irish food are below any standards applied in other EU countries and Indaver has relied on the EPA published Dioxins Levels in the Irish Environment (1995 and 2000) to establish baseline data for agricultural produce. The FSAI stated in their report of June 2003 that properly controlled and monitored incineration facilities would not contribute significantly to dioxin levels in the environment and stated that they would be carrying out environmental monitoring to ensure that this was the case.

Cow's milk is considered to be a particularly suitable matrix for assessing the presence of dioxins in the environment since cows tend to graze over relatively large areas and these compounds will, if present, concentrate in the fat content of the milk. Monitoring of dioxin levels in milk in the vicinity of the proposed facility prior to commencement of operation would provide accurate baseline data against which the licensee, Agency and local community could compare milk dioxin levels recorded following commencement of operation at the facility.

The documents provided to the Board of the Agency by the Office of Licensing and Guidance in support of the PD outlined that the Agency have in place a monitoring regime for measuring background levels of dioxins in milk and that the Carranstown

area is included in that programme. As mentioned in Section 2.2.1 above the baseline ambient air monitoring for dioxin indicated levels of 28-46 fg I-TEQ/m³ which appear relatively high by comparison to other Irish data. It is recommended that the Agency should commit to a monitoring programme in the vicinity of and in areas greater than 5km from the proposed facility. The monitoring programme should be undertaken annually following consultation with and in conjunction with the FSAI, Teagasc and The National Food Centre and a report issued to the Community Liaison Committee. The programme should aim to take account of the suggestions raised by the objectors where possible such as winter and summer testing and sampling from bulk tankers collected within the area.

The EPA, Department of Agriculture and Food, Teagasc and the Mid Western Health Board have collaborated to prepare a protocol for dealing with significant concerns over human and animal health problems. A herdowner or private veterinary practitioner can bring a concern in relation to an animal health problem to the attention of the Regional Veterinary laboratory for further investigation where necessary. In addition a protocol for disease cluster investigation was drawn up to deal with human health concerns. These are contained in Appendix B of the main report 'Investigations of animal health problems at Askeaton, Co.Limerick' 2001.

A condition of the planning permission is that a Community Liaison Committee consisting of a minimum of 8 members - two members from each of the following; developer, planning authority, Meath County Councillors and local residents, should be established. It is recommended that this committee or a designated subgroup should also meet with the licensee to deal specifically with environmental issues and concerns. It is recommended that Condition 2.3.2.7 is amended to require the licensee to facilitate such a meeting on a quarterly basis.

2.2.6 Ash and other solid wastes

NIA, Ms Davis and others stated their concern in relation to the classification of the solid wastes and the storage and disposal options outlined by the applicant particularly in relation to the use of the Knockharley Landfill site (Licence Reg. No. 146-1). In addition the contamination of the flue gas residues as a result of dioxin reformation within the filtration and scrubbing processes was raised. LPAI and Mr O'Sullivan also stated that since incineration produced additional wastes such as the ash it was not a final disposal method.

In addition, non-hazardous municipal waste was being converted to a hazardous waste with no disposal outlet in Ireland. NIA (Mr Hanratty) queried the storage facilities for waste on-site. LPAI (Dr Connett) stated that the leachate tests could be distorted by the addition of lime to the ash thereby binding the metals which would enable it to pass the test for non-hazardous landfill. The objection from LPAI contains a recording of a BBC 'Newsnight' documentary called 'Toxic Ash from Incinerators' which investigated the use of mixed fly and bottom ash from Biker and Edmonton incinerators in allotments and the construction and road industries in the 1990's in the UK. The mixed ash was found to have high levels of dioxins and the practice was discontinued.

Indaver (Mr Jones) explained that analysis of the material prior to disposal or recycling would ensure that the material was properly classified as hazardous or non hazardous. The licence application contains details of the classification, storage and disposal options available to the applicant and no lime is proposed to be added to the bottom ash nor is there any proposal to mix the fly and bottom ash wastes.

Comment

The PD specifies the monitoring required for the classification, transport, storage and disposal of the wastes from the facility. No waste may be disposed without the prior agreement of the Agency, wastes may not be mixed and lime grits cannot be added. There is uncertainty as to the final configuration of the flue gas treatment system and there is a possibility of de novo synthesis of dioxins within the abatement system therefore these wastes should be treated as hazardous waste until shown otherwise. Although there is currently no landfill suitable for the disposal of hazardous solid wastes in Ireland such facilities do exist in Europe and would be available to Indaver.

The classification of waste can be assisted by using the 'Hazardous Waste Classification Tool' on the EPA website. This tool is used for the identification and categorisation of the hazardous components of the waste. This should be completed to the satisfaction of the Agency before any waste is disposed off-site.

2.3 MONITORING/ENFORCEMENT

The third party written objections and presentations at the oral hearing expressed distrust and a lack of confidence in the monitoring required to be carried out by the applicant in the PD. In addition there is a significant lack of confidence in the ability of the EPA to monitor the facility and to enforce the licence conditions and reference

was made to problems associated with the existing facilities in the locality, and the Askeaton and Silvermines areas. A lack of confidence in the ability of the Department of Health and the Department of Agriculture to deal with any human or animal health problems was expressed on numerous occasions. It was also highlighted that there is no incentive to comply with licence conditions as the number of companies which are taken to the courts by the EPA and the levels of fines imposed are not sufficient to provide a deterrent to large profitable companies.

2.3.1 Monitoring by the applicant

NIA, LPAI, Mr O'Sullivan, Deputy Morgan and others expressed a distrust of the monitoring proposed by the applicant and specified in the PD. Concerns were outlined regarding the continuous sampling system for dioxins proposed by the applicant and the lack of expertise available at the oral hearing to discuss the specific design parameters, e.g. the number of probes that will be required given the size of the stack. Indaver (Mr Jones) stated that they would comply with the relevant standards, manufacturers recommendations and EPA requirements, however, the detailed design for the site had not been carried out as yet. They propose to carry out continuous sampling of the emission to air using the Ames system and this is described in the waste licence application. The system allows for continuous sampling of emissions and the sampling cartridge is sent for independent analysis for dioxins every two weeks with turn around expected every 10-15 days.

Another concern related to the delay between sampling, analysis and reporting of results and the possibility that there could be significant exceedences of emissions (particularly dioxins) for up to one month before the applicant would be aware and that it could be longer before the Agency and the public were informed as there was no provision for the notification of the affected local residents. There were suggestions by third party objectors that a nominated member of the public would be on-site to watch the monitoring taking place.

Comment

Condition 6 of the PD outlines the monitoring requirements and standards to be used. Indaver outlined that external consultants will be engaged to carry out much of the monitoring and they must adhere to the licence and national and international standards. It is recognised that there will be more frequent start-up and shut down episodes in the first year of operation and this is the time when dioxin formation is

possible. The continuous sampling system required in Schedule C.1.2 of the PD will provide useful information particularly for those periods.

The EIPPCB draft BREF on Waste Incineration and also the UKEA BAT for Waste Incineration state that it is considered BAT, especially for sites of significant public concern, to provide access to certain real time and historic emissions reports on the internet. The PD allows for the electronic transmission of records, reports and notifications to the Agency however it is considered that this should be extended to require Indaver to provide the information on its website (including the results of the analysis from the continuous sampling for dioxins) and also to make available real time data in relation to continuously monitored process parameters such as furnace temperature. It is also considered that Condition 6 could be amended to provide for more clarity in relation to the monitoring requirements of the licensee.

2.3.2 Abnormal Events

Third party objectors felt that abnormal events such as plant failure, monitoring equipment failure, hazardous and explosive material in municipal waste input, accidents etc were not addressed by Indaver. This was refuted by Indaver (Mr Jones) during his presentation and reference was made to the waste licence application where these issues were addressed.

Comment

The waste licence application (Attachment D2.1- Section 4) deals with some of the specific events mentioned by the third party objectors. Responses and mitigation measures are outlined. The PD requires the preparation of an Accident Prevention Policy and an Emergency Response Procedure prior to commencement of waste activities on-site. In addition abnormal operations are defined in the glossary and the PD requires that the incineration plant and process lines are shut down if these conditions occur.

It is considered that this is adequately dealt with in the information submitted to the Agency and conditions of the PD.

2.3.3 Monitoring by the EPA

Witnesses expressed their concern in relation to the capabilities of the EPA to adequately monitor the emissions from the plant particularly during night-time, weekends and public holidays. Mr Cooney and NIA representatives outlined that

existing licensed facilities in the area were, in their opinion, not being adequately monitored and when the EPA were contacted regarding emission episodes the community were unhappy with the level of response received. LPAI (Mrs McNamara) outlined her dissatisfaction at the way the EPA and other State bodies dealt with human and animal health problems in the Askeaton area and there was a general lack of confidence in the ability of State Departments to protect the health of the community.

Comment

The EPA is the statutory body charged with licensing, monitoring and enforcement specified facilities such as that proposed by Indaver. In light of the requirements of the Waste Management Act, 1996 to 2003 and the 'polluter pays principal' the resources to carry out such monitoring is partly funded through the fees payable to the Agency by the industry. The Agency and the Office of Environmental Enforcement carry out an extensive programme of monitoring and auditing and should ensure that adequate resources are made available in relation to the requirements of the PD.

It is proposed that in view of the time which has elapsed since the PD was prepared and additional reporting which may be required that the Agency should revisit the financial charges in Condition 12.1 in the PD.

2.4 DIRECTIVES, TREATIES AND PRINCIPLES

Third party objectors made reference to the obligations of the EPA in relation to Irelands ratification or transposition of various EC Directives and international treaties etc.

2.4.1 EIA Directive and the Convention on Biological Diversity (CBD)

An Taisce in their objection and at the oral hearing (Mr O'Sullivan) referred to their difficulty with Irish transposition of the EIA Directive and court cases which are on-going.

NIA (Mr Duff) stated that the EIS for this site was inadequate and did not contain the information required by the EPA document 'Guidelines on Information to be contained in an EIS' and the Convention on Biological Diversity (CBD). In particular he referred to the flora and fauna survey which he felt was inadequate.

Indaver (Dr Callaghan and Dr Porter) outlined that the impact of emissions on flora and fauna was assessed by the use of air dispersion modelling and the use of EC

ambient air quality standards which are set with a view to the protection of human health and ecosystems.

Comment

The EPA is required to make assessments and decisions using current legislation. The issue of the legality of the transposition of the EIA directives is a matter for the courts.

In the EPA guidelines referred to above, EIA is defined as “a process for anticipating the effects on the environment caused by a development” and an EIS is “the document produced as a result of that process”. An EIS is therefore a living document that can be amended as new information becomes available through the various stages of the assessment process (including planning and licensing).

In relation to the particular issue of the flora and fauna survey, the Biosphere Environmental Services (BES) report (Attachment 10 of the EIS) outlines that the site has been intensively managed for agricultural purposes and all habitats present (pasture, meadow grassland, hedgerows and ditches) are man-modified. The report recommends retention and protection of the hedgerows with suitable landscaping to enhance the area for wildlife particularly in relation to the rooks. In response to a submission regarding the peregrine falcon (possible nesting pair) in the adjacent quarry BES (20/08/2001) reported that the construction activities would not be expected to cause disturbance to the birds as they were nesting in an area of regular human activity (the quarry) and the loss of the small area of agricultural land would not impact on their feeding success. BES (20/10/2001) commented that there would be no significant impact by the air emissions on the habitats and further impact assessments by Indaver support this.

It is considered that the EIS and waste licence application adequately assess the likely significant impacts of the proposed development on flora and fauna and that the information supplied in the EIS and amendments complies with the statutory requirements of the waste licensing process.

2.4.2 Precautionary Principle

The Precautionary Principle was raised by several objectors on the grounds that the health impacts have not been fully addressed, the design features, input characteristics and emissions are unknown and cannot be assessed and as such the EPA should take the precautionary approach and refuse the licence.

Comment

The PD sets out the conditions under which the licensee can operate the facility. In reaching that decision it is considered that the Agency has assessed the information submitted and applied the available standards and guidelines to ensure that the facility will not have a significant impact on the environment or on human health. This is in line with the Communication from the EC Commission on the Precautionary Principle -COM (2000)1.

2.4.3 Convention on Long-Range Transboundary Air Pollution and the Århus Convention

Newry and Mourne District Council, Mr Morgan TD, An Taisce (Mr O'Sullivan) and others outlined their concern that the requirements of the Convention on Long Range Transboundary Air Pollution and the subsequent Protocols had not been adhered to in the assessment of the application and EIS. In addition, the issue of the right to information, access to justice and the unfairness of a system which forces the community to pay its own legal fees with no access to independent reports was raised with reference to the Århus Convention.

Indaver (Dr Porter and Mr Simons) outlined that best available technology (BAT) has been employed in line with the 1979 Convention on Long-Range Transboundary Air Pollution, including follow-on Protocols such as the Stockholm Convention on Persistent Organic Pollutants and Incineration of Waste Directive (2000/76/EC).

Comment

Indaver, in the information submitted in the waste licence application and EIS, outlined that the impact of the emissions would be insignificant at distances greater than 5km from the site. Newry is approximately 40km from the proposed facility. When the Agency became aware of the concerns of Newry and Mourne District Council (letter received 01 December 2003) a copy of the EIS was forwarded and a letter outlined that submissions could be made on the waste licence application and further information obtained if required (dated 16 December 2003).

No further submission was received from the Council until the PD issued and a formal objection was received. Members of the District Council (Mr O'Neill and Cllr

McGinn) participated in the oral hearing. The Agency made the EIS, waste licence application, additional relevant documentation and the PD available to the public and notifications to this effect were published in the national press.

In relation to the issue of access to justice the oral hearing may be considered a preliminary review procedure and it is considered that the costs are not prohibitive in that legal representation or expert witness participation is not mandatory. National legislation provides that an interested party may have further recourse to National and European Courts if they so wish without prejudice to their participation in the licensing process up to that point.

The EU has acceded to the Convention on Long Range Transboundary Air Pollution and European law reflects the intention of the Convention. The draft BREF document on Waste Incineration prepared by the EIPPCB was considered by the Agency in the assessment of the application. Government Policy, National and Regional Waste Management Plans must take into account the requirements of EU law when deciding on processes for the treatment of waste. Incineration/thermal treatment is included as an option in these plans.

2.4.4 Kyoto Protocol

Third party objectors contended that the carbon dioxide (CO₂) emissions from the proposed facility would contribute to Ireland's production of greenhouse gases and result in fines under the Kyoto Protocol for which the taxpayer would be liable. Indaver (Dr Porter) calculated that the quantity of greenhouse gases emitted by the facility would be less than if the waste was sent to an engineered landfill and as such would make a beneficial contribution (0.01%) to Ireland's obligations.

Cllr Deery proposed that either the concept of removing CO₂ by biomass planting or CO₂ capture and storage in geological formations as proposed in Canada be required in the licence as a means of achieving our Kyoto obligations.

Comment

The Member States of the EU and EC are signatories to the Kyoto Protocol. The Emissions Trading Directive (2003/87/EC) and Irish regulations (S.I. No. 437 of 2004) are being implemented to achieve the targets required to be met. Hazardous or municipal waste incineration is not included in the scheduled activities. The Intergovernmental Panel on Climate Change sets out detailed guidelines on compiling national inventories of anthropogenic greenhouse gas emissions and

removals. Indaver used this methodology to calculate the contribution of the incineration facility to the total greenhouse gas emissions in Ireland.

The technology for capture and storage of carbon dioxide is not considered sufficiently advanced to consider at this time.

2.5 SPECIFIC LICENCE CONDITIONS

The written objections submitted by the applicant and some third parties dealt with specific conditions of the PD. For clarity these will be taken in the order in which they appear in the PD.

Glossary

The applicant has requested that the definition of sludge be amended with the addition of the following sentence 'This definition includes both organic and inorganic sludges.'

Comment

It is considered that no change is necessary since the definition does not specify organic or inorganic.

Condition 1

Condition 1.4 – The objectors state that the maximum tonnage 170,000 tonnes/annum is too vague, the catchment area is not specified and query if the facility will treat Dublin waste. In addition the issue of incineration plant shut-down should the maximum tonnage be reached early in the year was raised. The additional truck journeys (7500) will add extra danger, congestion, noise and pollution.

Comment

The capacity of the plant is limited in the PD and the licensee cannot accept greater than that tonnage per annum. Indaver outlined that the plant would be shut down for maintenance periods of 2 weeks and that if the tonnage limits in the PD are reached the plant will be shut. The proposed licence does not specify a catchment area however this was specified in the Planning Permission as being the North East Region. The issue of truck movements was addressed by the Planning Authorities.

Condition 1.5 – The objector states that insufficient monitoring is required by the PD. This was raised extensively during the oral hearing and is dealt with in more detail in Section 2.3 of this report.

Comment

The PD requires the licensee to maintain records of all waste received to the site and input to the incinerator (Condition 11). This will be audited by the Agency.

Condition 1.6 – The objectors stated that it is not possible to have compliance with this condition as household hazardous wastes will get into the facility.

Comment

Municipal waste is a mixture of many wastes and has been classified as non-hazardous. It is accepted that small quantities of hazardous wastes may be present in the waste intake but the incineration plant, as stated by Indaver (Mr Jones), is designed to cater for this (Section 2.1.4 above).

Condition 1.7 – The objectors state that this condition is not compatible with the Waste Recovery activities licensed namely Class 2- Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes).

Comment

This condition ensures that composting and other biological transformation processes are not carried out on-site and the licence is limited to other forms of recycling and reclamation.

Conditions 1.8 and 1.10– The objectors consider that these conditions should allow for consultation with all stakeholders and provide for a flow of information. In addition they feel that there is insufficient monitoring proposed in the proposed licence to meet the requirements of Condition 1.10(a).

Comment

The conditions ensure that the Agency is made aware of any plans to modify the plant or its operation prior to any works being commenced. Should such alteration or modifications be significant the Agency may require a review of the licence or a new application to be made prior to any works being commenced. All documentation to and from the Agency is available to the public at the site and from the Agency. Section 2.3 above deals with the monitoring and enforcement issues raised in the

objections. It is recommended that Condition 2.3.2.7 is modified to ensure the additional availability of information to the public via the internet.

Condition 1.11 –Objection was raised to the condition as it allows operation for a five year period and objections were raised on the basis that this is too long a period and should be subject to annual renewal. Indaver requested an amendment to reflect the prolonged planning and licensing process, possible judicial review and the construction phase.

Comment

The aim of the condition is to allow for a situation where a facility which has been granted a licence is not yet constructed. The condition should be amended to clarify that objective.

Condition 2

Conditions 2.1.1, 2.1.2 and 2.2.1 – The objectors question the ability of Indaver to have a 'suitably qualified person' on site at all times given that its projected employee number is 35. They also wish this information to be on the public record and query if there will be an independent assessment of what is 'appropriate'. In addition, they request that the notification regarding any changes in management personnel should be made at least 28 days prior to the change occurring.

Comment

Indaver must ensure that persons are on-site at all times and they must arrange their staffing levels to cater for this. Condition 2.2 requires the submission of the management structure and details of the individuals to the Agency and any changes to this must be notified under Condition 2.2.1. Documentation submitted to the Agency will be available to the public. It is considered that the Agency should be notified in advance of any change in management personnel and recommend the Condition 2.12.1 is amended to reflect this.

The Agency should consider the preparation of guidance on the competencies necessary for 'suitably qualified person'.

Conditions 2.3.2.1 and 2.3.2.3 - Objector asks for specific auditing at specific time periods of the Environmental Management System.

Comment

The Agency periodically audits licensed facilities. Indaver have attained ISO14001 and ISO 9002 standards on other sites in Ireland and have indicated that they would be striving for this on the proposed site also. Compliance with these standards requires periodic auditing of the Environmental Management System.

Condition 2.3.2.5 – The objectors find this open to broad interpretation and would prefer if a list of the ‘rules of operation’ as well as the ‘degrees of danger’ were listed and defined in procedures. It is requested that an independent body deal with initiating further investigation in the event of nonconformity.

Comment

This condition requires the facility to have procedures in place to ensure corrective actions are undertaken. It forms part of the broader Environmental Management System which is audited by the Agency to ensure that the procedures are adequate and followed through. In addition if Indaver attain accreditation to ISO 14001 or EMAS the procedures will be audited by both internal and external auditors on a periodic basis.

Condition 2.3.2.7 – The objectors call for more detail on the Communications programme and request that it be a ‘lay-persons version’.

Comment

The Agency requires that the communications programme is easily accessible to the public. Section 2.3 above deals with this issue. It is recommended that the condition is amended to allow for more access to information by the public by means of the internet and also through the Community Liaison Group (or designated sub group) which is required under the Planning Permission.

Condition 3

Condition 3.2.1 – The objector asks for regular monitoring of groundwater and the issue was raised at the oral hearing.

Comment

The condition requires the installation and maintenance of two downgradient and one upgradient monitoring points prior to commencement of waste acceptance and Schedule C.6.1 requires biannual monitoring of the three boreholes. Ground and surface water quality was dealt with in Section 2.2.3 above.

Condition 3.2.3 – The objection refers to vibration isolation of monitoring equipment.

Comment

This is dealt with in Section 2.1.2 and it is considered that the conditions in the PD address the issue.

Condition 3.2.4 Data on continuous monitoring and results should be available for public inspection as soon as possible.

Comment

Section 2.3 above deals with this and it is recommended to amend Condition 2.3.2.7 to further facilitate public access to information.

Conditions 3.14.3 and 3.18.1– Objector asks that a record of the disposal of sludges etc. and a record of the waste input to and despatch from the Materials Recycling Facility is maintained.

Comment

Condition 11.3 of the PD requires that a record of all waste disposal and recovery activities is maintained.

Condition 3.5.3 – The objectors query what checks will be undertaken to ensure that all drainage goes for re-use in the process. Concerns were expressed in relation to the size and separation of the waste inspection and waste quarantine areas which are not specified and were not part of the planning application. There is inadequate information available to determine if the specification is adequate to meet the requirements for attenuation of spillages or firewater retention.

Comment

Condition 3.5.3 prohibits drainage from waste inspection and quarantine areas to discharge to the surface water drainage system. Any leachate or spillage will be contained and re-used as process water. Condition 9 addresses the issues of accidental spillages. Condition 3.7 specifies that firewater retention shall be provided on-site in accordance with the application. It is recommended that this condition is amended to require the licensee to reassess the firewater retention requirements prior to commencement of the activity. In consideration of this and other objections it is also recommended to include a condition requiring an Infrastructural Validation Report which will outline the as-built plans of the facility and ensure that pipelines are discharging to the correct locations.

Condition 3.8 – The objectors query the use of m³ rather than tonnes for the storage capacity of the residuals and that the production levels and disposal methods for bottom ash, boiler ash and fly ash are not addressed. The applicant requests that the word ‘minimum’ be added to clarify the storage capacity required.

Comment

Due to the differing density of the residuals it is more practical to specify a storage area in metres cubed. Indaver stated that the specified areas are the minimum which are required and a larger area may be set aside. The production of the residuals is based on the input to the incinerator and the maximum quantities are set out in the application at approximately 40,000 tonnes/annum. The proposed disposal methods were outlined by Indaver in the application and by Mr Jones at the hearing as being landfill (hazardous and non hazardous) but that options for the re-use of the residuals are being explored. There is currently no hazardous waste landfill in Ireland and this waste will have to be exported to a suitable location until such a facility is developed. It is not recommended that the condition be modified to include ‘minimum’ as the licensee should be discouraged from storing additional quantities of wastes (particularly hazardous wastes) on-site. Conditions 8.10 and 8.11 require that storage of bottom ash, gypsum, boiler ash and flue gas cleaning residues are within the building.

Condition 3.10 – The objectors request that this condition is made more specific with ‘adequate’ being defined.

Comment

It is recommended that the Conditions 3.10, 3.18.1 and 3.20 be modified to require that prior to commencement of the waste activities contingency equipment is identified and listed.

Condition 3.11.5 – The objectors requests that the foundations of all bunding structures, retention tank walls and main storage bunker should have seismic foundations as required for the main stack and monitoring equipment.

Comment

The proximity of the main infrastructure to the edge of the quarry where periodic blasting occurs should be taken into account in the structural engineering of the plant. Section 2.1.2 above deals with this issue. It is recommended that a condition is included to provide for the completion of an Infrastructural Validation Plan (Condition 3.29).

Condition 3.12 – The objectors outline that the site is rated as on a highly vulnerable aquifer (RfH) with an R4 rating. They conclude that this makes it unsuitable for the use of a septic tank system for waste water treatment.

Comment

The issue of the GSI classification of the site is dealt with in Section 2.2.3 above.

Condition 3.13.2 – The applicant outlines that in certain instances such as high rainfall events and on plant shut-down that use of the surface water in the process is not feasible. They request that this be allowed discharge to the drainage system. During the oral hearing Ms Lyden outlined that areas such as the service yards and truck parking areas would also be collected in a storage tank but that there would be surfacewater from areas which would not be liable to contamination such as roofs and car parking which could be discharged to water. She outlined that in normal circumstances much of this water would be re-used in the process.

Comment

Condition 3.5.3 requires that drainage from waste inspection and waste quarantine areas are directed to a storage tank for re-use as process water. Condition 3.14.2

requires that all surfacewater discharges shall pass through an oil separator. For clarity it is recommended that Condition 3.13.2 is amended to cater for the storage on-site of surface water which could potentially be contaminated such as the service yard and truck parking areas. This water should be retained on site for use in the process.

Condition 3.14.2 – The objector outlines that while the condition envisages that there will be surface water discharges and containment for spillages it does not address the issue of the capacity of the drainage system to accommodate a spillage during high rainfall conditions. The applicant objects to the requirement that all surface water discharges pass through an oil interceptor and requests that roof water is exempted from this requirement.

Comment

The purpose of the oil interceptor is to remove oils from run-off water from roads and carparking areas. It is agreed that stormwater from roofs does not require to be discharged via an oil interceptor. Indaver stated at the oral hearing that continuous TOC and pH monitoring could be considered for the stormwater discharge and it is recommend that this is included in the licence. In addition it would be considered best practise to have Class 1 oil interceptor as the oils from parking areas could be light oils. Condition 3.14.2 should be amended to reflect this.

Condition 3.14.3 – The applicant states that this condition is ambiguous.

Comment

The wording of this condition could be interpreted in several ways and should be clarified to ensure that only the sludge and drainage from the maintenance operations should be collected for safe disposal.

Condition 3.15.1 – The applicant objects to the requirement for a 40m wayleave along the gas pipeline and pointed out that the pipe was 300mm diameter. Objectors outlined that there was insufficient information on the protection of the gas main as a result of the reconfiguration of the site to cater for the licence conditions such as the provision of waste inspection areas.

Comment

Documentation from Bord Gais Eireann submitted in support of the applicants objection indicated that the pipe was 200mm in diameter and this was clarified during the oral hearing and that a permanent wayleave of 14m and a working strip of 18m along the route of the pipeline is required. The site layout provided in the application allows for this and it is recommended that the condition should be amended.

Condition 3.16.2 – The objectors want to be consulted when a request to amend waste acceptance hours is made so that they can make comments.

Comment

The facility has waste acceptance hours specified this should allow for all waste deliveries so as to provide sufficient waste input to the incinerator. Waste deliveries should be scheduled to avoid the necessity to accept waste on Sundays and Bank Holidays and it is recommended that the condition is amended to reflect this.

Condition 3.16.4 – The applicant objects to the restriction on the operational hours of the Materials Recycling Facility and requests that this condition is deleted.

Comment

Conditions 3.16.1, 3.16.2 and 3.16.3 limit the hours of waste acceptance and removal at the site. The incineration plant will operate on a 24 hour basis and therefore the site will be operational. The operation of the Materials Recycling Facility outside the waste acceptance hours would not have a significant impact on emissions. The condition should be deleted.

Condition 3.18.3 – The applicant objects to the requirement to reuse leachate from the Materials Recycling Facility as process water as it may not always be suitable. They suggest that it be redirected to the bunker or disposed off site.

Comment

It is agreed that the leachate may be unsuitable for use in the flue gas treatment system however it may be treated as waste in the bunker or sent off-site to a municipal waste water treatment plant. The condition should be reworded to reflect this.

Condition 3.19.1 – Objectors outlined a conflict between requirement to increase the stack height and the planning permission.

Comment

Section 2.1.3 above deals with the issues regarding the stack height.

Condition 3.22.2 – In relation to the capacity of the plant the objectors query whether pollution caused by the delivery trucks which they estimate at 25-30 full trucks a day has been factored into the pollution burden on Carranstown Road residents.

Comment

The impact of emissions from traffic sources was assessed in the waste licence application. Other issues related to traffic were addressed during the planning process.

Condition 3.23 – The objection relates to the use of ‘as soon as practicable’ and that this is open to interpretation.

Comment

In certain circumstances it is best to allow operation of certain areas of the plant during abnormal operation, for example, a problem with the grate should not lead to immediate shut down of the abatement system as this would lead to increased emissions. Condition 9 of the PD requires the preparation of an Emergency Response Procedure which should place timeframes on the ‘as soon as practicable’ sections of this condition.

Condition 4

Condition 4.1.1 – The objectors want the monitoring to be continuous with peaks and spikes evident and not disguised by averaging.

Comment

To achieve meaningful results from monitoring of emissions it is necessary to specify the averaging periods. This is particularly the case for parameters such as dioxins and furans which require long sample periods to collect sufficient sample to enable it to be analysed accurately. Although technology for the analysis of samples has improved significantly standard averaging periods must be set to interpret and

compare results. The WID(2000/76/EC) sets these averaging periods and the PD reflects these requirements. Section 2.3 above deals with aspects of this objection and recommends additional communication of information to the public via the internet.

Condition 5

Condition 5.3 –The objectors query what monitoring will be undertaken to ensure compliance with this condition.

Comment

This is discussed above particularly in Sections 2.2.5 and 2.3 above.

Condition 5.6 – The applicant objects to the requirement to ensure that vehicles delivering waste are covered as they feel that it would be better to allow the vehicle enter the site than to leave uncovered thus possibly preventing a further litter nuisance.

Comment

It is desirable that all vehicles carrying waste should be covered. Indaver should endeavour to ensure that all waste carriers are aware of the requirements of the licence.

Condition 6

Condition 6.3 – The objection relates to the condition allowing the Agency to amend the frequency, location, methods and scope of monitoring subject to the Directive 2000/76/EC which they state does not address the provisions of the EIA Directive and the general requirement for public consultation.

Comment

This condition allows the Agency to increase or decrease the parameters concerned. This is a necessary condition particularly where results or on-site investigations indicate alternative arrangements would better protect the environment. It should be noted that any proposed significant changes to the licence by the Agency or licensee may require a review or even a new application to be submitted.

Condition 6.4 – The objectors raised the issue of independent monitoring and a requirement for independent verification.

Comment

This is discussed in Section 2.3 above. It is also recommended that Condition 6.1 is amended to ensure that all analysis is carried out to an acceptable standard whether by on-site or off-site personnel.

Condition 6.6 – The objectors feel that a sample cannot be representative when the waste streams are so variable. They request that each load is examined and inspected.

Comment

There seems to be a misunderstanding as to this condition. It refers to the emissions to air and water and not the waste input. The issue of inspecting each load was raised in previous objections and is dealt with under Condition 1 above.

Conditions 6.8 and 6.9 – The objectors request that calibration of monitoring equipment is carried out at a minimum of every six months and surveillance tests should be unannounced. They feel that continuous monitoring equipment must be maintained in working order and repaired or replaced immediately.

Comment

Indaver (Mr Jones) outlined at the oral hearing that the calibration of monitoring equipment would be carried out as required by the licence and in accordance with the manufacturers specifications. Condition 6.4 requires that the licensee to ensure that the monitors are accurate and therefore must be calibrated as required. Section 2.3 above also deals with this issue. Condition 6.8 reflects the requirements of Directive 2000/76/EC however it is recommended that this is amended to provide for the additional calibrations required for the proper monitoring and control of the facility.

Condition 6.12 – The objector is concerned that groundwater monitoring trigger levels are to be resolved by agreement with the Agency.

Comment

The groundwater monitoring trigger levels will be established with reference to the analysis of the existing groundwater so as to ensure that any contamination is detected and an appropriate response put in place.

Condition 7

Condition 7.1 – The condition requires an energy audit to be carried out within one year of the date of grant of the licence and the applicant objects to this and suggests that the audit be carried out within one year of commencement of the waste activity. The objectors state that it is inappropriate to have the issues of energy efficiency and recovery dealt with by agreement with the Agency.

Comment

Condition 7 requires the licensee to carry out an energy audit and to look at opportunities for energy use and recovery. These opportunities could be addressed as part of the detailed design and commissioning of the plant. It is therefore recommended that the timeframe for the audit is not amended.

Condition 8

Condition 8.2.3 – The objection relates to the lack of accuracy when doing a waste profile and characterisation on 4-6 trucks per hour and that hazardous waste could be coming into the incinerator.

Comment

As outlined by Indaver (Mr Jones) it is accepted that it is not practical to inspect each load and each section of each load but that large items can be detected and removed either at the point of entry to the facility or during the screening and mixing stage within the bunker. As stated earlier Indaver have indicated that the design of the facility can cater for small quantities of hazardous waste which may inadvertently form part of the municipal waste input. Condition 8.2.3 requires detailed written procedures for the acceptance and handling of waste.

Condition 8.2.3(b) – The applicant asks for clarification of the requirement to have regard to EU Decision (2003/33/EC) on the characterisation of waste as the criteria apply to waste for landfill.

Comment

The condition requires the licensee to establish procedures for the characterisation of wastes. The EU Decision relates to the criteria for the acceptance of waste at landfill and is not relevant for waste destined for incineration. However the condition should be applied to wastes to be sent off site which may be destined for landfill such as bottom ash and flue gas residues and the procedures should be established.

Condition 8.3 – The objector states that they do not want waste deemed unsuitable for processing, e.g. hazardous waste, stockpiled and transported in the locality.

Comment

Indaver indicated at the oral hearing that unsuitable waste would be large items such as beds, fridges etc which may get into the waste stream and which would be removed and sent for processing or disposal off site. Condition 3.5 requires the establishment and maintenance of appropriately sized quarantine areas.

Condition 8.6 – The objectors outline that the inclusion of Condition 8.6 implies that the EPA is licensing the facility to take hazardous waste.

Comment

Hazardous waste will be produced on the Indaver Carranstown site (flue gas treatment residues) and may be inadvertently brought to the site and put in the quarantine area. This condition ensures that the licensee shall not mix these hazardous wastes with other wastes for the purposes of disposal or recycling.

Condition 8.11 – The objectors outline that there is no requirement to have signage indicating the hazardous nature of some of the wastes to be stored on-site.

Comment

Section 2.2.6 above discusses issues in relation to ash and flue gas residue handling and disposal. The condition requires that the ash and residues are stored in dedicated areas with contained drainage within the building. Condition 8.4 requires labelling of the wastes prior to being sent off-site.

Condition 8.14 – The objector outlines that there is no specific conditions in the licence to deal with the handling, transport and ultimate disposal of the hazardous

wastes generated by the process and that the transport of waste off-site will generate further traffic and pollution.

Comment

The condition requires that any wastes sent off-site for disposal are dealt with in accordance with the legislation. Condition 8.4, 8.6, 8.8, 8.9, 8.10, 8.11 and 8.12 deal with the handling of the wastes on-site. The impact of emissions from traffic sources was assessed in the waste licence application. Issues related to traffic were addressed during the planning process.

Condition 9

Condition 9.3(d) – The objectors wish that an evaluation of an environmental pollution incident is carried out by an independent body.

Comment

This condition refers to the immediate response to an incident and it is practical that the licensee should carry out the initial evaluation. The licensee is also required to notify the Agency of the details of the incident (Condition 11.1) and an independent investigation may then be required depending on the severity of the incident.

Condition 9.4.2 – The objectors want ‘significant’ to be quantified.

Comment

It is not possible to quantify what would constitute ‘significant spillage’ in all instances. In the preparation of the Accident Prevention Policy and the Emergency Response Procedures the licensee is required to address the hazards and emergency situations that could arise on-site and should do a risk assessment of all its storage facilities and determine what it constitutes as significant spillage outlining the response required. An incident requires to be notified to the Agency (and the Eastern Regional Fisheries Board if discharged to surface water). It is recommended that the definition of incident in the Glossary should be amended to include ‘any indication that environmental pollution has, or may have, taken place’.

Condition 9.4.1 – The objectors query the location of the nearest appropriate facility to which the waste must be transferred in the event of a breakdown at the site.

Comment

There are appropriate licensed waste transfer and waste disposal locations within Co. Meath.

Condition 10

Conditions 10.1 and 11.5.1 – The applicant objects to the requirement to submit the Decommissioning and Aftercare plan and the establishment of a Data Management System within twelve months of date of grant of the licence and requests that this be reworded to within twelve months of commencement of the waste activity due to the prolonged planning and licensing process.

Comment

This is a significant infrastructure project and it will take some time before the waste activity will commence. However once the construction commences the licensee should be in a position to begin submitting documents etc. It is recommended that the Decommissioning and Aftercare plan should be submitted six months after the commencement of the waste activity but the Data Management System should be in place six months prior to the commencement of a waste activity.

Condition 11

Condition 11.1 – The objectors ask if the local residents are to be notified in the event of an incident.

Comment

Section 2.3.1 discusses the issues raised in this objection and at the oral hearing in relation to communication with the local residents. It is recommended that Condition 2.3.2.7 on the Communications programme is amended to allow for easier public access to information.

Condition 12

Condition 12.1 – The applicant objects to paying the financial charges to the Agency until the waste activity has commenced.

Comment

As stated previously this is a significant infrastructure project and it will take some time before the waste activity will commence. It is considered that the licensee

should be required to notify the Agency of the date of commencement of the waste activity and the financial charges should be levied from that date. It is recommended that Condition 11.7 is added and that Condition 12 is amended.

Schedule A

Schedule A.1 – The applicant requests that the schedule is extended to include ‘other wastes to be agreed with the Agency’. This would give them the flexibility to take other suitable waste if it became available.

Comment

The wastes which are stipulated in the schedule allow for a wide range of waste to be accepted by the Materials Recycling Facility however it is possible that other wastes may be suitable for recycling at this facility in the future. The plant is designed for dry recyclables and as such the other wastes should also be of that category. It is considered that there is adequate flexibility within the Schedule in the PD.

Schedule A.2 – Indaver requests that the schedule is extended to include ‘other wastes to be agreed with the Agency’. This would give them the flexibility to take other suitable waste if it became available.

Comment

The schedule includes a wide range of wastes which are suitable for incineration at this facility. The WID(2000/76/EC) requires that an EWC code is stipulated for each waste allowed in the licence therefore ‘other wastes’ cannot be allowed by agreement at a later stage in the process. Should Indaver wish to extend the range of wastes being incinerated they can apply for a review of their licence to accommodate this.

Schedule B

Schedules B.1 and B.2 – Indaver requests that the schedule is amended for parameters to reflect the format in Directive 2000/76/EC and in particular a revised format for carbon monoxide is provided. This does not change the emission limit value but is intended to provide clarity and consistency with the directive.

Comment

Schedule B.1 as outlined in the proposed decision reflect the requirements of the Directive. Schedule B.2 relates to emission limits to water and is not relevant to this objection.

Schedule C

Schedule C.1.1 – Indaver requests that a note is added to column 3 of the schedule to allow for a change in the monitoring techniques and equipment used with the agreement of the Agency. This may be required in light of improvements in technology or methodologies.

Comment

The proposed note relates to the process control monitoring equipment (e.g. thermocouple etc.) As there are likely to be advances in technology over the lifetime of this project it would be sensible to allow for these to be incorporated as long as an assessment of their suitability is required.

Recommendation

The information in the waste licence application, submissions, objections and presented to the oral hearing has been considered and I recommend that a waste licence with the following 25 recommendations to the proposed decision is granted.

1. Reword the definition of 'Incident' in the Glossary to read as follows:

The following shall constitute an incident for the purposes of this licence:

- a) an emergency;
- b) abnormal operation
- c) breakdown
- d) any emission which does not comply with the requirements of this licence;
- e) any trigger level specified in this licence which is attained or exceeded; and,
- f) any indication that environmental pollution has, or may have, taken place.

2. Reword Condition 1.11 to read as follows:

- 1.11 Having regard to the nature of the activity and arrangements necessary to be made in connection with the carrying on of the activity, the specified period for the purposes of Section 49(2) of the Waste Management Acts 1996 – 2003, is 5 years.

3. Reword Condition 2.2.1 to read as follows:

- 2.2.1 Prior to the commencement of waste activities, the licensee shall submit written details of the management structure of the facility to the Agency. Any proposed replacement in the management structure shall be notified in advance in writing to the Agency. Written details of the management structure shall include the following information:
 - a) the names of all persons who are to provide the management and supervision of the waste activities authorised by the licence, in particular the name of the facility manager and any nominated deputies;
 - b) details of the responsibilities for each individual named under a) above; and
 - c) details of the relevant education, training and experience held by each of the persons nominated under a) above.

4. Reword Condition 2.3.2.7 to read as follows:

2.3.2.7 The licensee shall establish and maintain a Communications Programme to ensure that all members of the public can obtain information concerning the environmental performance of the facility. The Communications Programme as a minimum shall include the following:

- a) Maintain information at the facility as required in Condition 11.2 which shall be available for inspection at all reasonable times;
- b) Maintain information via the internet regarding:
 - documents and records as required in Condition 11.2 and a weekly summary of continuous emission monitoring data;
 - real time data from on-line process monitoring of the incinerator (the parameters shall be agreed with the Agency prior to commencement of the waste activity but as a minimum shall include combustion chamber temperature as outlined in Schedule C.1.1);
- c) Facilitate a meeting on a quarterly basis with the Community Liaison Committee or an agreed sub-group of that Committee. The Agenda for the meeting shall be prepared and circulated in advance and shall include an update of the information outlined in a) and b) above.

5. Amend Condition 3.7 to read as follows:

3.7 The licensee shall review the requirement for firewater retention prior to the commencement of the activity and shall as a minimum provide the requirements specified in the waste licence application.

6. Amend Conditions 3.9.1 and 3.9.2 to read as follows:

3.9.1 Dust curtains or equivalent, subject to the agreement of the Agency, on the entry/exit points from the buildings where waste is accepted and stored. All other doors shall be kept closed where possible.

3.9.2 Installation and maintenance of negative pressure at the waste reception area of the incineration plant and waste storage areas (as required in Condition 3.8) to ensure no significant escape of odours or dust.

7. Reword Condition 3.10 as follows:

3.10 Prior to the commencement of a waste activity the licensee shall ensure that adequate standby and back up equipment, as listed in the Test Programme/Commissioning Plan Report, is provided on site to provide for

contingency arrangements in the event of a breakdown of critical waste handling, treatment or abatement equipment.

8. Reword Condition 3.13.2 to read as follows:

3.13.2 All surface water run-off from the Access/Service Turning Yards and Laydown/Parking areas shall be collected in a storage tank for use as process water in the incineration plant.

9. Reword Condition 3.14.2 to read as follows:

3.14.2 The licensee shall install and maintain silt traps and oil separator at the facility to ensure that all storm water discharges (other than roof rain water) from the facility pass through a silt trap and oil separator prior to discharge. The separator shall be a Class I full retention separator and the silt traps and separator shall be in accordance with I.S. EN 585-2:2003 (separator systems for light liquids). The licensee shall install and maintain pH and TOC monitors for the monitoring of storm water discharges.

10. Reword Condition 3.14.3 to read as follows:

3.14.3 The drainage system, bunds, silt traps and oil separators shall be inspected weekly, desludged as necessary and properly maintained at all times. All sludge and drainage from these operations shall be collected for safe disposal.

11. Reword Condition 3.15.1 to read as follows:

3.15.1 The pathway for the existing gas main shall be clearly delineated on site. An on-site permanent wayleave width of 14m and a working strip of 18m shall be provided and maintained by the licensee.

12. Reword Condition 3.16.2 to read as follows:

3.16.2 Waste shall not be accepted at the facility (Materials Recycling Facility and Incineration Plant) on Sundays and Bank Holidays.

13. Delete Condition 3.16.4

14. Reword Condition 3.18.1 to read as follows:

3.18.1 Prior to the commencement of waste recycling activities, the licensee shall put in place procedures for the processing of waste streams at the Materials Recycling Facility. The licensee shall establish a list of the standby and back up equipment required to provide for contingency arrangements in the event of a breakdown of critical waste handling, treatment or abatement equipment.

15. Reword Condition 3.18.3 as follows:

3.18.3 Leachate from the Materials Recycling Facility shall drain to a storage tank for appropriate disposal by incineration on-site or treatment off-site.

16. Add Condition 3.20.2(f)

- (f) Establish a list of the standby and back up equipment required to provide for contingency arrangements in the event of a breakdown of critical waste handling, treatment or abatement equipment.

17. Add Condition 3.29 Engineering Works

3.29.1 All construction work shall be supervised by an appropriately qualified person, and that person, or persons, shall be present at all times during which relevant works are being undertaken.

3.29.2 Following the completion of infrastructural works, the licensee shall complete a construction quality assurance validation. The Infrastructural Validation report shall be made available to the Agency on request. The report shall, as appropriate, include the following information:-

- a) A description of the works;
- b) As-built drawings of the facility;
- c) Records and results of all integrity and validation tests carried out (including failures) including a report on the details of the computational fluid dynamic modelling of the incineration plant;
- d) Drawings and sections showing the location, capacity and discharge points of all pipes, drains, bunds, bunkers and waste storage areas;
- e) Name(s) of contractor(s)/individual(s) responsible for undertaking the work;
- f) Records of any problems and the remedial works carried out to resolve those problems; and
- g) Any other information requested in writing by the Agency.

18. Add Condition 5.7 and amend Schedule D as follows:

5.7 The licensee shall, during the Test Programme/Commissioning Plan and on an annual basis thereafter, determine the PM_{10} and $PM_{2.5}$ fraction of the Total Dust from Emission Point Reference No. A1-1 (Stack). The results of this determination shall be submitted to the Agency annually as per the AER.

Add 'Particulate Monitoring Report' to Schedule D Annual Environmental Report Content

19. Replace Condition 6.1 with the following:

- 6.1 The licensee shall carry out such sampling, analyses, measurements, examinations, maintenance and calibrations as set out below and as in accordance with Schedule C of this licence:
 - 6.1.1 Analysis shall be undertaken by competent staff in accordance with documented operating procedures.
 - 6.1.2 Such procedures shall be assessed for their suitability for the test matrix and performance characteristics determined.
 - 6.1.3 Such procedures shall be subject to a programme of Analytical Quality Control using control standards with evaluation of test responses.
 - 6.1.4 Where analysis is sub-contracted it shall be to a competent laboratory.

20. Reword Condition 6.8 as follows:

- 6.8 All treatment/abatement and emission control equipment shall be calibrated and maintained, in accordance with the instructions issued by the manufacturer/supplier or installer. For Incineration Plant, the appropriate installation and the functioning of the automated monitoring equipment for emissions into air shall be subject to an annual surveillance test. Calibration shall be done by means of parallel measurements with the reference methods at least every three years.

21. Reword Condition 10.1 to read as follows:

- 10.1 The licensee shall, within six months of the commencement of a waste activity, submit to the Agency for its agreement, a Decommissioning and Aftercare plan for the facility. This plan shall be updated when required by the Agency.

22. Reword Condition 11.5.1 to read as follows:

- 11.5.1 The licensee shall, six months prior to the commencement of a waste activity, develop and establish a Data Management System for collation, archiving, assessing and graphically presenting the environmental monitoring data generated as a result of this licence.

23. Add Condition 11.7 as follows:

- 11.7 The licensee shall notify the Agency, in writing, seven months prior to the intended date of commencement of acceptance of waste for Scheduled Disposal/Recovery activities at the facility.

24. Reword Condition 12.1.1 to read as follows:

- 12.1.1 The licensee shall pay to the Agency an annual contribution of €X,XXX, or such sum as the Agency from time to time determines, having regard to variations in the extent of reporting, auditing, inspection, sampling and analysis or other functions carried out by the Agency, towards the cost of monitoring the activity as the Agency

considers necessary for the performance of its functions under the Waste Management Acts 1996 to 2003. The first payment shall be a pro-rata amount for the period from the date of commencement to the 31st day of December, and shall be paid to the Agency within one month from the date of commencement. In subsequent years the licensee shall pay to the Agency such revised annual contribution as the Agency shall from time to time consider necessary to enable performance by the Agency of its relevant functions under the Waste Management Acts 1996 to 2003, and all such payments shall be made within one month of the date upon which demanded by the Agency.

The value of the annual contribution should be recalculated by the Agency taking into account the time since the PD was issued, the additional enforcement required by the recommendations and the projected cost to the Agency of the cow's milk monitoring programme.

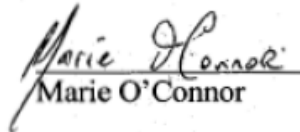
25. Add Note 1 to Schedule C.1.1 as follows and renumber other notes accordingly:

C.1.1 Process Control^{Note 1}

Footnote to Table in Schedule C.1.1 to be amended to read as follows:

- Note 1: Or other monitoring equipment agreed in advance by the Agency.
- Note 2: The licensee shall maintain appropriate access to standby and/or spares to ensure the operation of the system.
- Note 3: Near the inner wall of the combustion chamber (or other representative location agreed by the Agency).
- Note 4: Not necessary if gases are dried prior to analysis.

Signed

 on 27th June 2005
Marie O'Connor

Appendices

- APPENDIX A PROPOSED DECISION**
- APPENDIX B OBJECTIONS TO THE PROPOSED DECISION**
- APPENDIX C LETTERS OF APPOINTMENT**
- APPENDIX D SCHEDULE OF WITNESS/PRESENTATIONS**
- APPENDIX E SUMMARY RECORD OF THE ORAL
HEARING**
- APPENDIX F SUBMISSIONS TO THE ORAL HEARING**