An Ghníomhaireacht um Chaomhnú Comhshaoil

Integrated Pollution Control Licensing

Batneec Guidance Note For Board Manufacture

This document does not purport to be and should not be considered a legal interpretation of the provisions and requirements of the E.P.A. Act, 1992.

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Environmental Protection Agency

ESTABLISHED
The Environmental Protection Agency Act, 1992, was enacted on 23 April, 1992 and under this legislation the Agency was formally established on 26 July, 1993.

RESPONSIBILITIES
The Agency has a wide range of statutory duties and powers under the Act. The main responsibilities of the Agency include the following:

- the licensing and regulation of large/complex industrial and other processes with significant polluting potential, on the basis of integrated pollution control (IPC) and the application of best available technologies for this purpose;

- the monitoring of environmental quality, including the establishment of databases to which the public will have access, and the publication of periodic reports on the state of the environment;

- advising public authorities in respect of environmental functions and assisting local authorities in the performance of their environmental protection functions;

- the promotion of environmentally sound practices through, for example, the encouragement of the use of environmental audits, the establishment of an eco-labelling scheme, the setting of environmental quality objectives and the issuing of codes of practice on matters affecting the environment;

- the promotion and co-ordination of environmental research; and

- generally overseeing the performance by local authorities of their statutory environmental protection functions.

STATUS
The Agency is an independent public body. Its sponsor in Government is the Department of the Environment. Independence is assured through the selection procedures for the Director General and Directors and the freedom, as provided in the legislation, to act on its own initiative. The assignment, under the legislation, of direct responsibility for a wide range of functions underpins this independence. Under the legislation, it is a specific offence to attempt to influence the Agency, or anyone acting on its behalf, in an improper manner.

ORGANISATION
The Agency's headquarters are located in Wexford and it operates five regional inspectorates, located in Dublin, Cork, Kilkenny, Castlebar and Monaghan.

MANAGEMENT
The Agency is managed by a full-time Executive Board consisting of a Director General and four Directors. The Executive Board is appointed by the Government following detailed procedures laid down in the Act.

ADVISORY COMMITTEE
The Agency is assisted by an Advisory Committee of twelve members. The members are appointed by the Minister for the Environment and are selected mainly from those nominated by organisations with an interest in environmental and developmental matters. The Committee has been given a wide range of advisory functions under the Act, both in relation to the Agency and to the Minister.

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An Taisce
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Central Fisheries Board
Cork Environmental Alliance
County & City Engineers Association
County & City Managers Association
Department of Enterprise and Employment
Department of the Environment
Department of Health
Department of the Marine
Department of Transport Energy & Communications
Earthwatch
Finsa Forest Products
Greenpeace
Her Majesty's Inspectorate of Pollution
H.S.A. (Health and Safety Authority)
Irish Business and Employers Confederation
Industrial Development Authority
Irish Pharmaceutical & Chemical Manufacturers Federation
Irish Pharmaceutical Healthcare Association
Masonite
Medite of Europe Ltd.
National Parks and Wildlife Service.
Shannon Free Airport Development Company

Contents

1. INTRODUCTION

This Guidance Note is one of a series issued by the Environmental Protection Agency and is designed to provide guidance to those applying for integrated pollution control licences under the EPA Act. It should also be read in conjunction with *Application Guidance Notes*, available under separate cover.

It should be noted at the outset, that noise is not included within the scope of this work and guidance on this parameter has been issued separately.

This Guidance Note is comprised of six main sections and appendices. Following this introduction, Section 2 contains a general note on the interpretation of BATNEEC. The industrial activities covered by the terms of this note are given in Section 3. In Section 4, the technologies to control emissions are tabulated and in Section 5 the specific emission limit values (ELVs) are given. The last section contains comments on compliance monitoring requirements.

Appendices include Appendix 1 which gives the main sources of emissions, and the principal releases from such sources; Appendix 2 which contains a measurement method for condensible VOCs; Appendix 3 which details the principal references used in drafting this Guidance Note and Appendix 4 which gives details of other IPC publications.

All applicants for Integrated Pollution Control licences should carefully examine the information laid down in this Guidance Note, and should use this information to assist in the making of a satisfactory application for an Integrated Pollution Control licence to the Agency. It should be clearly understood that achieving the emission limit values does not, by itself, meet the overall requirements in relation to IPC . In addition to meeting such values the applicant will also be required to demonstrate that waste minimisation is a priority objective and to put in place particular abatement measures to reduce overall mass emissions and pollutant load where this is necessary to protect the ambient environment.

The technologies and the associated emission limit values (ELVs) identified in this Guidance Note are, at the time of writing, regarded as representing BATNEEC for new activities. BATNEEC is not a static quality and will change as technologies, environmental factors and costs alter with the passage of time. The Agency may amend or update the guidelines contained in this note should such amendments seem appropriate. The information contained in this Guidance Note is intended to be used only as a tool to assist in

determining the BATNEEC for an operation in this sector and should not be taken to be a definitive authority on the BATNEEC for this sector**.** This Note should not be considered as a legal document**.**

2. INTERPRETATION OF BATNEEC

BATNEEC means *'the best available technology not entailing excessive costs'*. The technology in question should be **Best** at preventing pollution and **Available** in the sense that it is procurable by the industry concerned. **Technology** itself is taken as the techniques and the use of the techniques, including training and maintenance etc.
NEEC addresses the balance between environmental benefit and financial expense.

The objective of the Best Available Technology Not Entailing Excessive Costs (BATNEEC) Guidelines is to provide a list of technologies which will be used by the EPA to determine BATNEEC for a scheduled activity. The BATNEEC identified in this Guidance Note is used as a basis for setting emission limit values. It is intended to update these guidelines as required in order to incorporate technological advances as they occur.

In the identification of BATNEEC, emphasis is placed on pollution prevention techniques, including cleaner technologies and waste minimisation, rather than end-of-pipe treatment.

Technologies identified in the BATNEEC guidelines are considered to be current best practice for the purposes of setting emission limit values. These technologies are representative of a wide range of currently employed technologies appropriate to particular circumstances. However, the guidance issued in this note in respect of the use of any technology, technique or standard does not preclude the use of any other similar technology, technique or standard which may achieve the same emission. The entire range would not necessarily be appropriate in specific cases. The specific choice depends on a wide range of circumstances but the crucial factor is that the selected regime achieves BATNEEC. In applying BATNEEC, Environmental Quality Objectives (EQOs) must be respected where set. Measures such as in-plant changes, raw material substitution, process recycling and improved material handling and storage practices, may also be employed to effect reductions in emissions. As well as providing for the installation of equipment and the operation of procedures for the reduction of possible emissions, BATNEEC will also necessitate the adoption of an on-going programme of environmental management and control, which will focus on continuing improvements aimed at prevention, elimination and/or progressive reduction of emissions.

As described in the EPA Act of 1992, BATNEEC will be used to prevent, eliminate or, where that is not practicable, limit, abate, or reduce an emission from an activity which is listed in the first schedule to the Act. The use of BATNEEC is construed in the Act to mean

the provision and proper maintenance, operation, use and supervision of facilities which are the most suitable for the purposes.

In determining BATNEEC for an activity, regard shall be had to :

- the current state of technical knowledge;
- the requirements of environmental protection;
- the application of measures for these purposes, which do not entail excessive costs, having regard to the risk of significant environmental pollution which, in the opinion of the agency, exists.

For existing facilities, additional regard shall be had to :

- the nature, extent and effect of the emission concerned;
- the nature and age of the existing facilities connected with the activity and the period during which the facilities are likely to be used or to continue in operation, and
- the costs which would be incurred in improving or replacing these existing facilities in relation to the economic situation of activities of the class concerned.

The technologies and the associated emission limit values (ELVs) identified in this Guidance Note are regarded as representing BATNEEC for a *new* activity. However, it is also generally envisaged that *existing* facilities will gradually progress towards attainment of similar emission limit values, but the specific ELV requirements and associated time frames will be identified on a case by case basis when the licence is being processed. Furthermore, for *all* facilities, additional and more stringent requirements may be specified on a site-specific basis whenever environmental protection so requires. Hence the BATNEEC guidelines are not the sole basis on which licence emission limit values are to be set, since information from other sources will also be considered, including site-specific environmental and technical data, plant financial data and other relevant information.

3. SECTOR COVERED BY THIS GUIDANCE NOTE

This Guidance Note covers part of SECTOR 8.1 of the activities specified in the First Schedule to the EPA Act, 1992. These are:

8.1 The manufacture of.....board (including fibre-board, particle board and plywood) in installations with a production capacity equal to or exceeding 25,000 tonnes of product per year.

(The remaining part of 8.1 i.e. ***The manufacture of paper pulp and paper*** will be covered in a separate guidance note along with 8.2 ***The manufacture of bleached pulp***).

4. CONTROL TECHNOLOGIES

4.1 Introduction

As explained in Section 2, this Guidance Note identifies BATNEEC but obviously does so in the absence of site-specific information. Accordingly, it represents the requirements expected of any new activity covered by the Note, but does not exclude additional requirements which may form part of the granting of a licence for a specific site.

The approach to be used in selecting BATNEEC is based on the following hierarchy:

- Process design / redesign changes to **prevent** emissions and **eliminate** wastes that might pose environmental problems.

- **Substitution** of materials / resins etc. by environmentally less harmful ones.

- Demonstration of waste **minimisation** by means of process control, inventory control and end-of-pipe technologies etc.

The existing or possible measures for reducing and controlling emissions are described in this section. These range from relatively simple containment measures to sophisticated recovery and end-of-pipe technologies and include:

(i) Load minimisation
(ii) Containment
(iii) Recovery/Recycle
(iv) Emission reduction
(v) Waste treatment and disposal.

The technical feasibility of the measures listed below has been demonstrated by various sources. Used singly or in combination, the measures listed below represent BATNEEC solutions when implemented in the appropriate circumstances. The circumstances depend on plant scale, chemicals used, nature of the products made, number of different products produced, etc. A summary of the treatments for various emissions is given at the end of the section.

Note that where flammable/explosive vapours or dusts are handled, safety procedures (acceptable to HSA) should be adopted and nothing in this note should be construed as advice to the contrary.

4.2 Technologies for load minimisation

(No priority ranking is intended, and the appropriate selection in a particular case will depend on the specifics of the process concerned and site constraints).

- Inventory control.
- Optimisation of water usage.
- Dry equipment cleaning and dry vacuum systems, where feasible.
- Minimum number of controlled emission points for all large dedicated plants.
- Separation of cooling water, storm water and process effluents of different origin in order to permit appropriate treatment options.
- Use of low NO_x burner technology.
- Maximum use of covered storage for wood chips, sawdust etc.
- Avoidance of excessive drier temperatures.
- Selection of most environmentally favourable resins and adhesives.
- Optimisation of heat recovery (including abatement systems).

4.3 Containment of emissions

(No priority ranking is intended, and the appropriate selection in a particular case will depend on the specifics of the process concerned and on site constraints).

- Enclosure of material storage (other than logs and bulk liquids), handling, processing and transfer within a suitable building.
- Bunding of tanks.
- Overground pipelines and transfer lines.
- Check system to avoid mixing incompatible materials.
- Bunding of all stored materials with separate bunding for incompatibles.
- Prevention of rain ingress, wind entrainment etc. for stored materials.
- Local extraction systems as appropriate e.g. sanders, surface coating, trimming etc.
- Overfilling protection on bulk storage tanks.

4.4 Technologies for recovery and recycle

(No priority ranking is intended, and the appropriate selection in a particular case will depend on the specifics of the process concerned and on site constraints).

- Recycle of waferised/fiberised material.
- Reuse of trimmings, collected dusts, bark and sludges (as appropriate) as fuel.
- Chemically treated wood (e.g. sander dust and off cuts) should only be burned where suitable combustion conditions are assured).
- Ducting of burner exhausts to drier inlets.
- Reuse in another industry (e.g. bark, chippings etc.).

4.5 Technologies for treating air emissions

(No priority ranking is intended, and the appropriate selection in a particular case will depend on the specifics of the process concerned and on site constraints).
(Symbols refer to Table 4.1)

- Cyclones (T1).
- Bag filters (T2).
- Wet electrostatic precipitators (T3).
- Vapour incineration (T4).
- Wet scrubbers (T5).
- Biofilters as final air treatment (T6).

4.6 Technologies for treating water emissions

(No priority ranking is intended, and the appropriate selection in a particular case will depend on the specifics of the process concerned and on site constraints).
(Symbols refer to Table 4.2)

4.6.1 Primary Treatment

- Coagulation/flocculation/precipitation (F1).
- Sedimentation/filtration/floatation (F2).

4.6.2 Secondary Treatment

- Biofilters (F3).
- Activated sludge/aeration lagoons (F4).
- Extended aeration (F5).
- Nitrification/denitrification (F6).

4.6.3 Tertiary Treatment

- Filtration/coagulation/precipitation (F7).

4.7 Specific technologies for the treatment and disposal of wastes

(No priority ranking is intended, and the appropriate selection in a particular case will depend on the specifics of the process concerned and on site constraints).

4.7.1 Sludge Treatment

- Gravity thickening.
- Dissolved air floatation.
- Filtration.
- Centrifugation.
- Sludge digestion.
- Drying.

4.7.2 Disposal

- Engineered landfill of wastes.
- Landspreading of wastes (as fertiliser).
- Recycle of process wastes to other industries.

Table 4.1 - Summary of Technologies for Treating Air Emissions

Emission Type	**Technology** (Symbols refer to section 4.5)
Large Particulates	T1
Small Particulates	T2, T3
Organics (VOCs, adhesives, phenols, aldehydes etc.	T3, T4, T5, T6
Ammonia	T5
Carbon Monoxide	T4
NO_x	-

Table 4.2 - Summary of Technologies for Treating Water Emissions

Emission Type	**Technology** (Symbols refer to section 4.6)
Organics (incl. phenols)	F1, F2, F3, F4, F5
Ammonia/Nitrate	F6
Trace Organics	F7

5. Emission Limit Values

5.1 Reference Conditions

The reference conditions for concentrations of substances in emissions to air from contained sources are:

All sources except Direct Fired Wood Driers :
Temperature 273K; Pressure 101.3 kPa; no correction for water vapour content.

Direct Fired Wood Driers :
Temperature 273K; Pressure 101.3 kPa; no correction for water vapour content, oxygen 17% v/v.

These units and reference conditions may not be suitable for continuous monitoring methods and may, by agreement with the Agency, be converted, for day-to-day control purposes, into values more suitable for the available instrumentation.

5.2 Interpretation of Compliance

Unless otherwise detailed in the licence, the following interpretation of compliance with limit values should apply:

5.2.1 Air emissions

For **continuously monitored** emissions, the following will be required for compliance with measurements based on 30 minute mean values (unless otherwise stated):

(i) 97% of all 30 minute mean measurements shall be below 1.2 times the emission limit.

(ii) No 30 minute mean measurement shall exceed 2.0 times the emission limit.

(iii) All daily mean values shall be less than the emission limit.

Where **periodic monitoring** is used to check compliance, all samples should meet the consent conditions.

5.2.2 Emissions to waters

The limit values for discharges to water are based on 24 hour flow proportional composite samples unless otherwise specified.

5.3 Releases to Air

All emissions to air should be free from persistent mist, fume and droplets and, other than steam or water vapour, should be colourless.

Emission Limit Values representing BATNEEC are given in Table 5.1 below.

Table 5.1 - Emission Limit Values for Emissions to Air

Parameter		Emission Limit
Particulates (wood driers and MDF plants)		20 mg/m^3
Particulates (other than above)		50 mg/m^3
Condensible VOCs (as C) (excluding particulate matter)		130 mg/m^3
CO		*
Formaldehyde (excluding Wood Driers)		5 mg/m^3
Formaldehyde (Wood Driers)		20 mg/m^3
Total Aldehydes (Wood Driers) (as C)		20 mg/m^3
Total Ammonia		70 mg/m^3
MDI (as NCO group)		0.1 mg/m^3 (2 hr. mean)
NO_x	Pulverised Fuel fired plant (>20 MW) or Grate Fired plant (not burning coated residues)	400 mg/m^3
	All other plant	500 mg/m^3
Phenol		20 mg/m^3
Odour		No detectable odour nuisance beyond site boundary

Note 1: Achievement of ELV concentrations by the introduction of dilution air is not permitted

* To be determined at time of licensing

5.4 Releases to Water

Effluent should be minimised by recovery of materials wherever practicable. The use of lower quality water may be possible for some parts of the process rather than fresh water.

All releases to waters are subject to a licence from the Agency. However, for any discharge to a sewer, the Agency are also required to obtain the consent of the sanitary authority. BATNEEC to minimise the release of substances will generally include minimisation at source and either specific treatment of contaminated waste streams to remove particular substances or co-treatment of combined effluent streams or both. The Emission Limit Values for effluent discharges to waters are set out in Table 5.2.

Table 5.2 - Emission Limit Values for Discharge to Water*

Constituent Group or Parameter	Limit Value	Notes
pH	6 - 9	4
BOD	> 90% removal **or** 50 mg/l	1,4
Total Ammonia (mg/l as N)	10	4
Total Nitrogen (as N)**	>80% Removal **or** 15 mg/l	4,5
Total Phosphorus (as P)**	>80% Removal **or** 2 mg/l	4,5
Oils, fats and grease (mg/l)	10	4
Fish Tainting	No Tainting	3,4
Mineral Oil (Interceptor) (mg/l)	20	4
Toxic units	5	2,4
Phenols (mg/l)	1	4

*****All values refer to daily averages, except where otherwise stated to the contrary, and except for pH which refers to continuous values. Limits apply to effluent prior to dilution by any uncontaminated streams, e.g. cooling waters, storm water, etc.

****** Only applicable to waters subject to eutrophication. One or both limits may apply depending on the sensitivity of the receiving water.

Notes for Table 5.2:

1. The daily raw waste load for BOD is defined as the average daily mass arising for treatment over any three month period.

   Calculations of the removal rates for BOD should be based on the differences between the waste loads arising for disposal and those discharges to the receiving waters. The amounts removed by treatment (chemical, physical, biological) may be included in the calculation.

2. Toxicity Unit (TU) = 100/x hour E(L)C 50 in percentage vol/vol, where x is defined by the test procedure. The toxicity of the process effluent to at least two appropriate aquatic species shall be determined. Higher TU values reflect greater levels of toxicity.

3. No substances shall be discharged in a manner which, or at a concentration which, following initial dilution, causes tainting of fish or shellfish, interferes with normal patterns of fish migration or which accumulates in sediments or biological tissues to the detriment of fish, wildlife or their predators.

4. Consent conditions for these parameters for discharge to municipal treatment plants can be established with the Licensing Authority, and different values may apply.

5. Reduction in relation to influent load. Total nitrogen means the sum total of Kjeldahl-Nitrogen plus nitrate-nitrogen plus nitrite-nitrogen.

6. Compliance Monitoring

The methods proposed for monitoring the emissions from these sectors are set out below.

6.1 Air Emissions

1. Where practicable, particulate matter shall be continuously monitored. Where this is not practicable, continuous recording of key process parameters e.g. drier temperature, abatement temperature (incineration), abatement plate voltage and current (Wet ESP) etc., may suffice.

2. Periodic stack sampling as required by licence, taking account of the nature, magnitude and variability of the emission, and the reliability of the control technologies. Condensible VOCs should be measured in accordance with Appendix 2.

6.2 Waste water Discharges

1. Establish existing conditions prior to start-up, of key emission constituents, and salient flora and fauna.

2. Daily monitoring of flow and volume, continuous monitoring of pH. Monitoring of other relevant parameters as deemed by the Agency taking account of the nature, magnitude and variability of the emission, and the reliability of the control technologies.

3. Monitoring of influent and effluent from the waste water treatment plant to establish % BOD reduction and early warning of any difficulties in waste water treatment plant, or unusual loads.

4. The potential for the treated effluent to have tainting and toxic effects should be assessed and if necessary measured by established laboratory techniques.

5. Periodic biodegradability checks where appropriate on effluents to municipal waste treatment plants, both prior to start-up and thereafter.

6.3 Solid Waste Monitoring

1. The recording in a register of the types, quantities, date and manner of disposal of all wastes.

2. Leachate testing of sludges and other material, as appropriate, being sent for landfilling.

3. Annual waste minimisation report showing efforts made to reduce specific consumption together with material balance and fate of all waste materials.

Appendix 1

SOURCES AND EMISSIONS

1. Introduction

In this section, the major sources of emissions to air and water are identified, as are the principal sources of waste from the sector. It should be borne in mind that the identified list of sources is not all encompassing, nor will every plant falling within an individual sector have every one of the emissions which are associated with the sector as a whole.

Emissions are considered under the following headings; fugitive and unscheduled emissions and specific process emissions. Some of the latter are considered to have little potential environmental significance and these are designated as minor (m). (However, obviously there could be specific plants where this designation of minor may not be correct. Such emissions must then be examined on a one-off basis).

2. Sources of Emission to Air

2.1 Fugitive and Unscheduled Emissions

- Vapour losses during storage and filling of bulk storage tanks (including hose decoupling).
- Fugitive emissions of particulate matter from open storage, loading and unloading of solid materials.
- Bursting disks and relief valves discharges.
- Leakages from flanges, pumps, seals, valve glands etc.
- Building losses (through door, window, etc.)
- Emergency overheat dump emissions.

2.2 Process Emissions (Symbols refer to Table A1)

- Resin and wax storage and make-up tanks (S1).
- Building ventilation gases (m).
- Press emissions (S2).
- Drier emissions (S3).
- Trimming and sanding (S4).
- Pneumatic conveying systems (S4).
- Finishing (S5).
- Material handling and storage (S5).
- Boiler/heater emissions (S6).
- Intermediate wafer/fibre storage (S4).

3. Sources of Emissions to Water

3.1 Spills and Diffuse Sources etc. (Symbols refer to Table A2)

- Contaminated stormwaters (E1).
- Chemical tank leaks.
- Pipework leaks.
- Spillages.
- Bund Drains.
- Leakages from flanges, pumps, seals, valve glands etc.

3.2 Processes Emissions (Symbols refer to Table A2)

- Pump seal cooling water (m).
- Log wash waters (E4).
- Laboratory effluent (m).
- Fiberiser (E2).
- Abatement systems (E3).
- Boiler blowdown (m).

4. Sources of Waste (Symbols refer to Table A3)

- Sludges from WWTP's (W1).
- Sludges from abatement systems and settling ponds (W2).
- Reject chemicals (W3).
- Spent adsorbents (W4).
- Shake down dusts from filters (W5).
- Contaminated drums, filters, equipment, packaging and protective clothing (W3).
- Boilers (W6).

The substances most likely to be present in the releases to the environment and of principal concerns in the processes covered by this Note are given below. A licence applicant should identify and quantify all environmentally significant emissions (including heat discharges) from the process.

Table A1 - Summary of Sources and Emissions to Air

(Symbols refer to section 2.2 in Appendix 1)

Source	Emissions
S1	Resins (e.g. melamine urea formaldehyde, urea formaldehyde, phenol formaldehyde, MDI urea). Paraffins Ammonia Formic Acid
S2	VOCs Particulates Formaldehyde MDI
S3	Particulates Carbon Monoxide VOCs NO_x Aldehydes
S4	Particulates
S5	Ammonia Solvents (paints) Adhesives (laminates) Formaldehyde Particulates
S6	Particulates Carbon Monoxide VOC NO_x

Table A2 - Summary of Sources and Emissions to Water

(Symbols refer to section 3 in Appendix 1)

Source	Emissions
E1	Particulates Dissolved organics
E2	Dissolved organics (sap water) Phenols Trace organics
E3	Particulates Trace organics Ammonia
E4	Particulates, grit, stones

Table A3 - Summary of Other Releases

(Symbols refer to section 4 in Appendix 1)

Source	Emission
W1	Organics Inorganics
W2	Solids (wood chips, fibres, mud etc.)
W3	Resins, waxes etc.
W4	Activated carbon etc.
W5	Solids (wood fibre, dust)
W6	Ash

Appendix 2

TEST METHOD FOR CONDENSIBLE VOCs

SAMPLING

The VOC test is normally carried out in conjunction with sampling for particulates. A heated filter assembly should be used to collect particulates (and avoid condensation). This should be followed by an absorption train comprising a condensate trap, two midget impingers (containing deionised water) placed in an ice-bath, an adsorption column of purified silica and finally a fine quartz filter.

ANALYSIS

The contents of the two impingers should be used to rinse the condensate trap, and an aliquot of the combined liquors should be analysed for total organic carbon by oxidation with persulphate and u.v. light and detection of the CO_2 produced. The silica and the quartz filter should also be analysed for total organic carbon (TOC) but this time oxidation with dichromate and back titration of the excess dichromate should be used. The results of the three separate TOC analyses should be combined to give a total condensible VOC value.

Appendix 3

PRINCIPAL REFERENCES

1. U.K. DEPARTMENT OF THE ENVIRONMENT

1.1 Secretary of State's Guidance PG 6/4.
(Processes for the manufacture of particleboard and fibreboard).

2. GERMANY

2.1 T.A. Luft (1986), section 3.3.6.3.1.

Appendix 4

I.P.C. Licensing Information
Published by the Environmental Protection Agency

LC1/94	Integrated Pollution Control Licensing - Guide to Implementation and Enforcement in Ireland	£1.50
LC2/94	Integrated Pollution Control - Summary of Licensing Procedures	No charge
LC3/95	Environmental Protection Agency - Summary of its Structures Powers and Functions	No charge
LC4/94	Integrated Pollution Control(IPC) Licensing Fees	No charge
LC5/94	Environmental Protection Agency Act, 1992 (Noise) Regulations, 1994.	No charge
LC6/95	BATNEEC Guidance Note for the Chemical Sector	£5.00
LC7/95	BATNEEC Guidance Note for the Waste Sector	£5.00
LC8/95	Guidance Note for Noise in Relation to Scheduled Activities	£3.00
LC9/95	Aspects of Licensing Procedures - Objections. Oral Hearing.	£1.50
LC10/95	Fire-Water Retention Facilities (Draft) Guidance Note to Industry on the Requirements for Fire-Water Retention Facilities.	£3.00

These documents are available from EPA Publications, St. Martin's House, Waterloo Road, Dublin 4. Telephone: +353-1-6602511