



# Integrated Pollution Control Licensing

Environmental Protection Agency
Received 30 JUN 1997
Initials _____

## Application Form

EPA Reg. No: <i>(Office use only)</i>	287
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*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.*

**Environmental Protection Agency**  
Ardcavan, Wexford  
Telephone : 053-47120 Fax : 053-47119

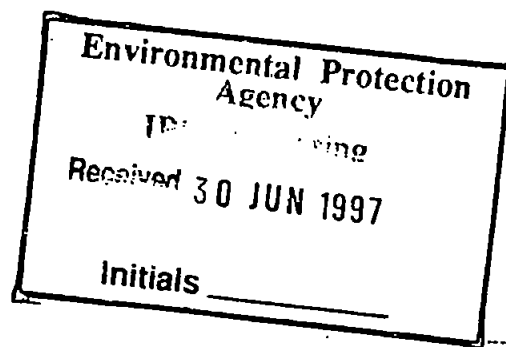
# Environmental Protection Agency

Application for an Integrated Pollution Control Licence

Environmental Protection Agency Act, 1992.

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**INTRODUCTION**

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A valid application must contain the information prescribed in the Environmental Protection Agency (Licensing) Regulations, 1994 (S.I. No. 85 of 1994). **The applicant is strongly advised to read the *Application Guidance Notes for Integrated Pollution Control Licencing*, available from the EPA.**

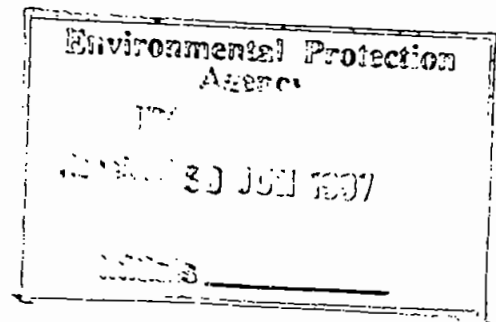
The applicant must conform to the format set out in the guidance notes for applications (available from the EPA). Each page of the completed application form must be numbered, e.g. *page 5 of 45*, etc. Also duplicated pages from the application form should be uniquely numbered, e.g. *page 5(i) of 45*, etc. **The basic information should for the most part be supplied in the spaces given in application form and any supporting documentation should be supplied as attachments, as specified. Consistent measurement units must be used throughout.**

The applicant should note that the application form has been structured so that it requires information to be presented in an order of progressive detail.

When it is found necessary, additional information may be provided on supplementary attachments which should be clearly cross referenced with the relevant sections in the main document.

While all sections in the application form may not be relevant to the activity concerned, the applicant should look carefully through all aspects of the form and provide the required information, in the greatest possible detail.

Information supplied in this application, including supporting documentation will be put on public display and open to inspection by any person. Should the applicant consider information to be confidential, this information should be submitted in a separate enclosure bearing the legend "In the event that this information is deemed not to be held as confidential, it must be returned to .....". In the event that information is considered to be of a confidential nature, then the nature of this information, and the reasons why it is considered confidential (with reference to the "Access to Information on the Environment" Regulations of 1993) should be stated in the Application Form, where relevant.



**CHECK LIST FOR ARTICLE 10 COMPLIANCE**

Article 10 of the Environmental Protection Agency (Licensing) Regulations, 1994, (SI 85 of 1994) sets out the statutory requirements for information to accompany a licence application. The application form is designed in such a way as to set out these questions in a structured manner and not necessarily in the order presented in Article 10. In order to ensure a legally valid application in respect of Article 10 requirements please complete the following check-list.

**Article 10(2)(a)** give the name, address and telephone number of the applicant and, if different any address to which correspondence relating to the application should be sent and, if the applicant is a body corporate, the address of its registered or principal office,

LOCATION:	Question 1	CHECK: APPLICANT-	<input type="checkbox"/>
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(b) give -  
 (i) in the case of an established activity the numbers of employees and other persons working or engaged in connection with the activity on the date after which a licence is required and during normal levels of operation, or  
 (ii) in any other case, the gross capital cost of the activity to which the application relates,

LOCATION:	Question 4	CHECK: APPLICANT-	<input type="checkbox"/>
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(c) give the name of the planning authority in whose functional area the activity is or will be carried out,

LOCATION:	Question 6	CHECK: APPLICANT-	<input type="checkbox"/>
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(d) in the case of a discharge of any trade effluent or other matter (other than domestic sewage or storm water) to a sewer of a sanitary authority, give the name of the sanitary authority in which the sewer is vested or by which it is controlled,

LOCATION:	Question 7	CHECK: APPLICANT-	<input type="checkbox"/>
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(e) give the location or postal address (including where appropriate, the name of the townland or townlands) and the National Grid reference of the premises to which the activity relates,

LOCATION:	Question 2	CHECK: APPLICANT-	<input type="checkbox"/>
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(f) identify the relevant class or classes in the First Schedule to the Act to which the activity relates,

LOCATION: Question 3 CHECK: APPLICANT-

- (g) give a list of the raw and ancillary materials, substances, preparations, fuels and energy which will be produced by or utilised in the activity,

LOCATION: Question 10 CHECK: APPLICANT-

- (h) describe the plant, methods, processes and operating procedures for the activity,

LOCATION: Question 9 & 23 CHECK: APPLICANT-

- (i) indicate how the requirements of section 83(3)(a) to (e) of the Act shall be met, having regard, where appropriate, to any relevant specification issued by the Agency under section 5(3) of the Act and the reasons for the selection of the arrangements proposed,

LOCATION: Question 15C, 19, 21 & 23 CHECK: APPLICANT-

- (j) give particulars of the source, location, nature, composition, temperature, volume, level and rate of emissions, and the period or periods during which the emissions are made or are to be made,

LOCATION: Questions 12A, 12B, 13A, 14A, 15A, 16A, 16B, 17A, 23 CHECK: APPLICANT-

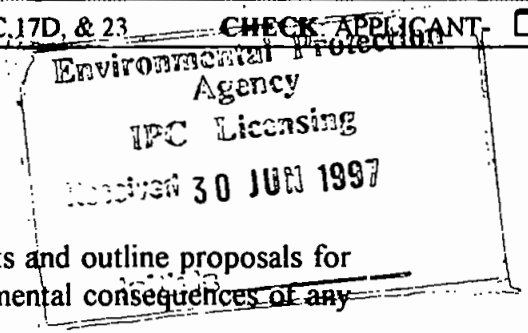
- (k) describe the on and off site arrangements for the disposal of solid and liquid wastes,

LOCATION: Questions 17B, 17C & 23 CHECK: APPLICANT-

- (l) give details and an assessment of the impacts of any existing or proposed emissions on the environment, including environmental media other than those into which the emissions are to be made,

LOCATION: Questions 12C, 13B, 14B, 15B, 16C, 17D, & 23 CHECK: APPLICANT-

- (m) identify monitoring and sampling points and outline proposals for monitoring emissions and the environmental consequences of any such emissions,



LOCATION: Question 18 & 23	CHECK:
APPLICANT- <input type="checkbox"/>	

- (n) describe the existing or proposed measures, including emergency procedures, to minimise the impact on the environment of an accidental emission,

LOCATION: Question 20 & 23	CHECK:
APPLICANT- <input type="checkbox"/>	

- (o) describe the existing or proposed measures to minimise the impact on the environment after the activity or part of the activity ceases operation, and

LOCATION: Question 22 & 23	CHECK:
APPLICANT- <input type="checkbox"/>	

- (p) state whether the activity consists of, comprises, or is for the purposes of, an industrial activity or isolated storage to which Regulations 12 to 18 of the European Communities (Major Accident Hazards of Certain Industrial Activities) Regulations, 1986 (S.I. No. 292 of 1986), as amended by the European Communities (Major Accident Hazards of Certain Industrial Activities)(Amendment) Regulations, 1989 (S.I. No. 194 of 1989) and the European Communities (Major Accident Hazards of Certain Industrial Activities)(Amendment) Regulations, 1992 (S.I. No. 21 of 1992), apply.

LOCATION: Question 11	CHECK: APPLICANT- <input type="checkbox"/>
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**Article 10(3)** Without prejudice to Article 12(1), an application for a licence shall be accompanied by -

- (a) a copy of the relevant page of the newspaper in which the notice in accordance with article 6 has been published,

LOCATION: Question 8	CHECK: APPLICANT- <input type="checkbox"/>
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- (b) a copy of the text of the site notice erected or fixed on the land or structure in accordance with article 7,

LOCATION: Question 8	CHECK: APPLICANT- <input type="checkbox"/>
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- (c) a copy of the notice given to the planning authority under section 85(1)(a) of the Act,

LOCATION: Question 8 CHECK: APPLICANT-

- (d) a copy of such plans, including a site plan and location map, and such other particulars, reports and supporting documentation as are necessary to identify and describe -

- (i) the activity

LOCATION: Question 5 CHECK: APPLICANT-

- (ii) the position of the site notice in accordance with article 7,

LOCATION: Question 8 CHECK: APPLICANT-

- (iii) the point or points from which emissions are made or are to be made, and

LOCATION: Questions 12A, 13A, 14A, 15A, 16A, 16B, 17A CHECK: APPLICANT-

- (iv) monitoring and sampling points, and

LOCATION: Question 18 CHECK: APPLICANT-

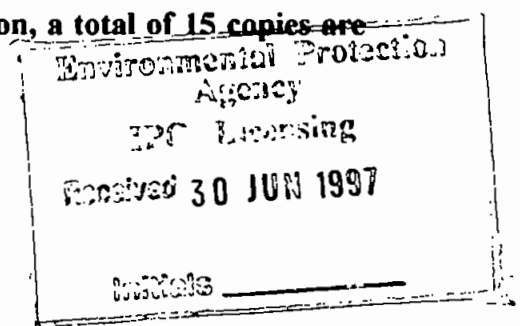
- (e) a fee specified in accordance with section 94 of the Act.

LOCATION: With Application CHECK: APPLICANT-

**Article 10(4)(a)** A signed original and 5 copies of the application and the accompanying documents and particulars as required under sub-articles (1) and (2)(a) to (d) shall be submitted to the headquarters of the Agency.

LOCATION: With Application CHECK: APPLICANT-

**[In cases where an E.I.S. is required to be submitted to the Agency, in support of the application, a total of 15 copies are to accompany the application.]**



SECTION A - GENERAL

1. Owner/Operator

\* *Applicants Name:* Braun Ireland Ltd.

*Address:* Dublin Road

Carlow

Co. Carlow

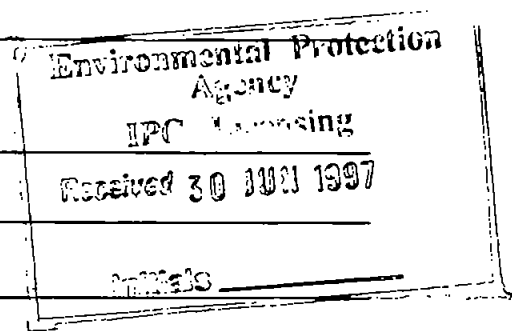
*Telephone N<sup>o</sup>:* 0503-42301

*Fax N<sup>o</sup>:* 0503-42531/42717

\* This should be the name of the applicant on the date the I.P.C. Application is lodged with the Agency.

*Address for correspondence :* \_\_\_\_\_  
(if different from above)

*Address of Body Corporate :* \_\_\_\_\_  
(if applicable)



The applicant must also supply the following:

- (a) Certified Copy of Certificate of Incorporation
- (b) Company's Number in Company's Registration Office and
- (c) Particulars of Registered Office of the Company

*IPC Application Form*

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Name and address of the proprietor(s) of the Land on which the Activity is situated ( if different from applicant named above).

*Proprietor's Name:* \_\_\_\_\_

*Address:* \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Name and address of the owner(s) of the building and ancillary plant in which the activity is situated ( if different from applicant named above).

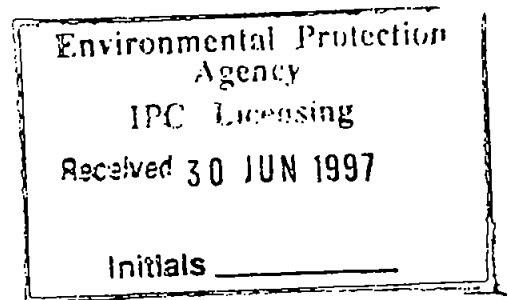
*Name:* \_\_\_\_\_

*Address:* \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



**2. Location of Activity**

Name: Braun Ireland Limited

Full Address: Dublin Road

Carlow

Co. Carlow

Telephone N<sup>o</sup>: 0503-42301 Fax N<sup>o</sup>: 0503-42531/42717

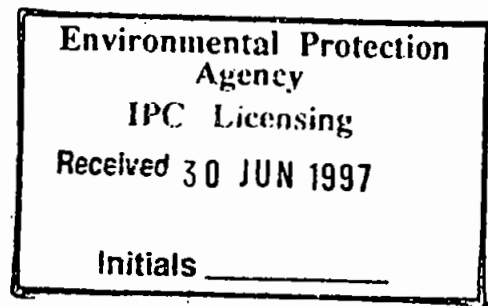
Contact Name : P. J. Henry

Position: Environment, Security and Safety Officer

National Grid Reference (8 digit 4E,4N) E 2733 N 1775

Location maps, with grid references should be enclosed in Attachment N<sup>o</sup> 2.

Location map with grid references as well as ordnance survey map are enclosed in Attachment No. 2.



**3. Class of Activity**

Identify the relevant class or classes (e.g. 6.1) in the First Schedule to the Act to which the activity relates (as per First Schedule EPA Act):

Class: 12.3

Class Description of Activity (see Note below): \_\_\_\_\_

Electroplating Operations

**Note:** In order to give a precise identification select only those words from the description of the class or classes, as per the First Schedule of the EPA Act, 1992, that best describes the nature of the activity for which the I.P.C. licence is being applied for.

**4. Employees/ Capital Cost**

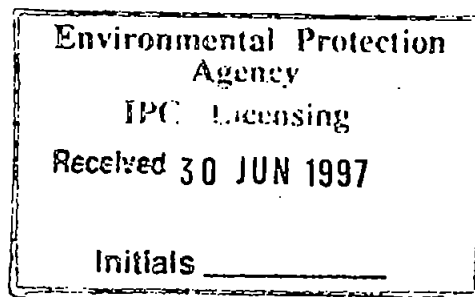
Give-

(i) In the case of an established activity the number of employees and other persons working or engaged in connection with the activity on the date after which a licence is required and during normal levels of operation, or

(ii) In any other case, the gross capital cost of the activity to which the application relates.

Number of Employees(existing facilities) : 750

Gross Capital Cost (new proposals) £ \_\_\_\_\_



**5. Description of the Activity.**

Briefly describe the activity and include a copy of such plans, site plans and location maps, and such other particulars, reports and supporting documentation as are necessary to identify and describe the activity. This description should also indicate the normal operating hours and days per week of the activity.

Supporting information should form Attachment N<sup>o</sup> 5.

**The Braun factory in Carlow is one of seven manufacturing plants world-wide; the others are in Germany, Spain, Mexico and France.**

**Braun commenced operations in Ireland in 1974 and from small beginnings has grown to a sophisticated manufacturing environment using the very latest technology in its production and related processes.**

**The 22,000sq metre manufacturing facility is located in Carlow which is within 50 miles of Dublin. This strikes the ideal balance in blending a modern factory with an environmentally friendly rural but progressive town.**

**750 people are directly employed with substantial knock on benefits to the local community and to the country in general. The plant is operational 24 hours per day, 364 days per year.**

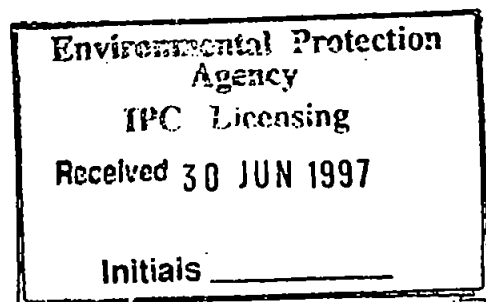
**All production processes are designed to produce world-class quality products, for both the home and export market.**

**Because of the sheer variety of items produced more than 75 types of resin are required. Almost all moulding is done in-house using the techniques developed over the years by Braun.**

**To further ensure competitiveness and quality the expansive assembly area includes in-house production of heating elements and various sub-assembly processes. The role played by Quality Assurance in the manufacturing process is important in this regard.**

**The high volume assembly lines are managed and operated by skilful staff who ensure that the quality of products exceed the highest consumer expectations.**

**Total Quality Management (TQM) allows management, staff and vendors work in partnership in order to achieve the ongoing aim for excellence and competitiveness.**



**6. Relevant Planning Authority**

Give the name of the planning authority in whose functional area the activity is or will be carried out.

Name: Carlow Urban District Council

Address: Town Hall

Carlow

Telephone N<sup>o</sup>: 0503-31759

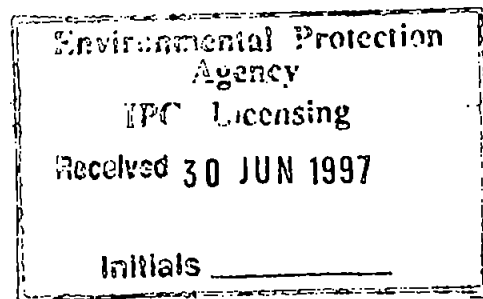
Planning Permission for this project :-

Obtained  Is being processed  Not applied for

Local Authority Planning File Reference N<sup>o</sup>: \_\_\_\_\_

**Attachment N<sup>o</sup> 6.** should contain all planning permissions including a copy of all conditions and a copy of the application (in full) for the most recent permission granted (including E.I.S. where appropriate ). For existing activities, **Attachment N<sup>o</sup> 6** should also contain all licences and permits past and present (including all application documentation) in force at the time of submission.

**See Attachment No. 6 for a summary list and a copy of all planning permissions.**



**7. Relevant Sanitary Authority.**

In the case of a discharge of any trade effluent or other matter to a sewer of a sanitary authority, give the name of the sanitary authority in which the sewer is vested or by which it is controlled.

Name: Carlow Urban District Council

Address: Town Hall

Carlow

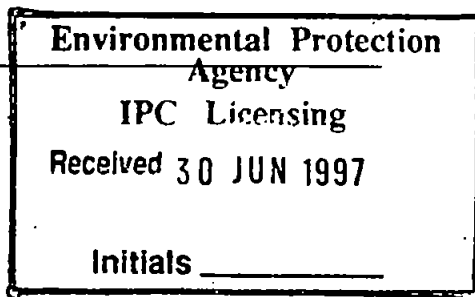
Telephone N<sup>o</sup>: 0503-31759

In the case of a discharge of any trade effluent or other matter to a sewer not vested by a sanitary authority, the applicant must supply as Attachment N<sup>o</sup> 7; (a) the name and address of the owner(s) of the sewer and the waste water treatment plant to which the sewer discharges and who are responsible for the quality of the treated effluent discharging to waters and (b) a copy of the effluent regulations and the agreement between the applicant and the aforementioned.

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone N<sup>o</sup>: \_\_\_\_\_



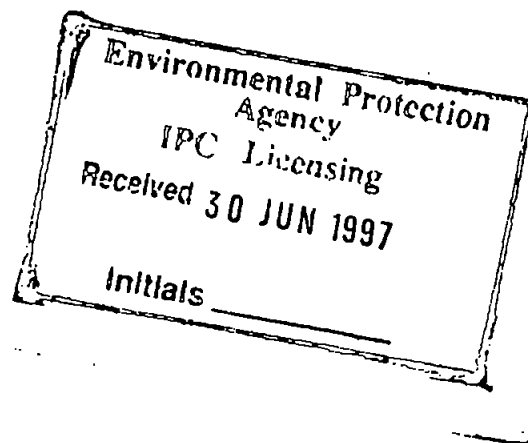
**8. Site Notice, Newspaper Advertisement and Planning Authority Notice.**

Give the position of the site notice in accordance with article 7 of the Regulations.

**Attachment N° 8** should contain a copy of the text of the site notice, a map showing its location on site and a copy of the newspaper advertisement . A copy of the notice given to the Planning Authority should also be included.

**See Attachment No. 8 for a copy of:**

- **site notice text**
- **a map showing its location on site**
- **a copy of the notice given to the Planning Authority and**
- **a copy of the newspaper advertisement.**



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**SECTION B - PLANT, PROCESSES & PROCEDURES**

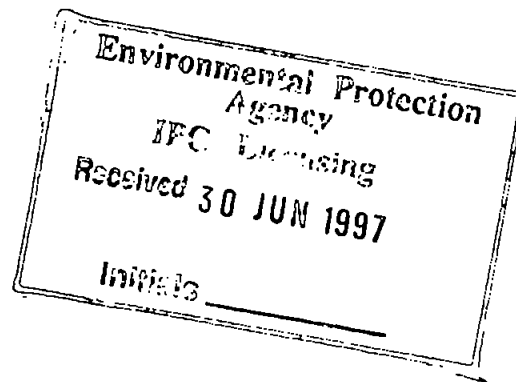
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**9. Operational Information Requirements**

Describe the plant, methods, processes and operating procedures for the activity. A development and operational history of the site should be included here.

**Attachment N<sup>o</sup> 9** should contain a list of all unit operations (process) to be carried out, including a flow diagrams of each with any relevant additional information.

**Detailed process descriptions as well as Process Flow charts indicating the unit operations, waste emission points and air emission points are included in Attachment No. 9.**



**10. Raw Materials and Product**

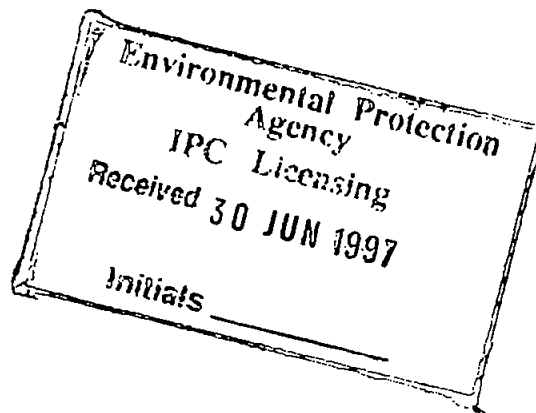
Give a list (see Table 10, over) of the raw and ancillary materials, substances, preparations, fuels and energy which will be produced by (as a product) or utilised in the activity.

The list(s) given should be very comprehensive, all materials used, fuels, intermediaries, laboratory chemicals and product should be included. Manufacturer's safety data, toxicity data, odour threshold information, as well as all other relevant data must be submitted.

Particular attention should be paid to materials and product consisting of, or containing, dangerous substances as described in the EU (Classification, Packaging, Labelling and Notification of Dangerous Substances) Regulations 1994 [SI 77/94]. The list must classify these materials in accordance with Article 2 of these Regulations, and must specify the designated Risk Phrases (R-Phrases) of each substance in accordance with Schedule 2 of the Regulations

Table 10 (comprising three sheets) must be completed. Copy as required.

Supporting information should be given in **Attachment N<sup>o</sup> 10**



**Table 10 (Sheet 1 of 3): Details of Process related Raw Materials, Intermediates, Products, etc., used or generated on the site**

Ref. N <sup>o</sup> or Code	Material/ Substance <sup>(1)</sup>	CAS Number	Danger <sup>(2)</sup> Category	Amount Stored (tonnes)	Annual Usage (tonnes)	Nature of Use	Organic/ Inorganic	R <sup>(3)</sup> - Phrase	S <sup>(3)</sup> - Phrase	Seveso Yes/No
	<b>Packaging</b>									
	Corrugated Cardboard	N/A	None	26	260	Display boxes	Organic			No
	Solid Cardboard		None	45	450	Display boxes	Organic			No
	Corrugates (cardboard)		None	185	1850	Shipping cartons and inserts	Organic			No
	Polystyrene	9003-53-6	None	8.8	88	Vacuum drawn inserts	Organic			No

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- Notes: 1. In cases where a material comprises a number of distinct and available dangerous substances, please give details for each component substance.
2. c.f. Article 2(2) of SI N<sup>o</sup> 77/94
3. c.f. Schedules 2 and 3 of SI N<sup>o</sup> 77/94

**Table 10 (Sheet 2 of 3): Details of Process related Raw Materials, Intermediates, Products, etc., used or generated on the site**

Ref. N° or Code	Material/ Substance <sup>(2)</sup>	Ecological Aquatic				Toxicological				Radioactive Yes/No
		LC <sub>50</sub> mg/l	Species	EC <sub>50</sub> <sup>(4)</sup> mg/l	Species	Oral LD <sub>50</sub> mg/kg	Species	IV LD <sub>50</sub> mg/kg	Species	
	<b>Packaging</b>									
	Corrugated Cardboard		N/A							No
	Solid Cardboard		N/A							No
	Corrugates (cardboard)		N/A							No
	Polystyrene		No data available				No data available			No

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Notes (cont.): 4. Where available !

**Table 10 (Sheet 3 of 3): Details of Process related Raw Materials, Intermediates, Products, etc., used or generated on the site**

Ref. N° or Code	Material/ Substance <sup>(2)</sup>	TA Luft Class 1, 2 or 3	Odour			EU Lists I and II (Tick and specify Group/Family Number)			
			Odourous Yes/No	Description	Threshold µg/m <sup>3</sup>	Dangerous Substances Directive 76/464/EEC		Groundwater Directive 80/68/EEC	
						List I	List II +129 <sup>(3)</sup>	List I	List II
	<b>Packaging</b>								
	Corrugated Cardboard	N/A	No						
	Solid Cardboard	N/A	No						
	Corrugates (cardboard)	N/A	No						
	Polystyrene	N/A	No						

Notes (cont.): 5. The European Commission priority candidate list

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**Table 10 (Sheet 1 of 3): Details of Process related Raw Materials, Intermediates, Products, etc., used or generated on the site**

Ref. N° or Code	Material/ Substance <sup>(1)</sup>	CAS Number	Danger <sup>(2)</sup> Category	Amount Stored (tonnes)	Annual Usage (tonnes)	Nature of Use	Organic/ Inorganic	R <sup>(3)</sup> - Phrase	S <sup>(3)</sup> - Phrase	Seveso Yes/No
	Electricity (ESB)		None	N/A	11.24	Energy (million kW hrs)				No
	Water		None	N/A	52.998	m <sup>3</sup>				No
	Gas Oil (complex mixture of hydrocarbons C10 to C22)	Various	Harmful and highly flammable	220m <sup>3</sup>	222,981	(Litres) Fuel	Organic	R40	S43,S24, S2,S46	No
	Natural Gas		Flammable	N/A	99,562m <sup>3</sup>	Heating	Organic			No
	Iso Butane	75-28-5	Extremely flammable	100m <sup>3</sup>	270	Hair curler fuel	Organic	R12	S16-33-38-36	No

- Notes: 1. In cases where a material comprises a number of distinct and available dangerous substances, please give details for each component substance.
2. c.f. Article 2(2) of SI N° 77/94
3. c.f. Schedules 2 and 3 of SI N° 77/94

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**Table 10 (Sheet 2 of 3): Details of Process related Raw Materials, Intermediates, Products, etc., used or generated on the site**

Ref. N° or Code	Material/ Substance <sup>(2)</sup>	Ecological Aquatic				Toxicological				Radioactive Yes/No
		LC <sub>50</sub> mg/l	Species	EC <sub>50</sub> <sup>(4)</sup> mg/l	Species	Oral LD <sub>50</sub> mg/kg	Species	IV LD <sub>50</sub> mg/kg	Species	
	Electricity (ESB)		N/A		N/A		N/A		N/A	No
	Water		N/A		N/A		N/A		N/A	No
	Gas Oil (complex mixture of hydrocarbons C10 to C22)	10-100	Aquatic organisms	10-100	Aquatic organisms	>5,000	RAT			No
	Natural Gas		No data		No data		No data		No data	No
	Iso Butane		No data		No data		No data		No data	No

Notes (cont.): 4. Where available !

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**Table 10 (Sheet 3 of 3): Details of Process related Raw Materials, Intermediates, Products, etc., used or generated on the site**

Ref. N° or Code	Material/ Substance <sup>(2)</sup>	TA Luft Class 1, 2 or 3	Odour			EU Lists I and II (Tick and specify Group/Family Number)			
			Odourous Yes/No	Description	Threshold µg/m <sup>3</sup>	Dangerous Substances Directive 76/464/EEC		Groundwater Directive 80/68/EEC	
						List I	List II + I29 <sup>(3)</sup>	List I	List II
	Electricity (ESB)	N/A		N/A					
	Water	N/A	No						
	Gas Oil		Yes	Characteristic					
	Natural Gas		Yes	Pungent					
	Iso Butane		Yes	Pungent					

Notes (cont.): 5. The European Commission priority candidate list

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**Table 10 (Sheet 1 of 3): Details of Process related Raw Materials, Intermediates, Products, etc., used or generated on the site**

Ref. N° or Code	Material/ Substance <sup>(1)</sup>	CAS Number	Danger <sup>(2)</sup> Category	Amount Stored (tonnes)	Annual Usage (tonnes)	Nature of Use	Organic/ Inorganic	R <sup>(3)</sup> - Phrase	S <sup>(3)</sup> - Phrase	Seveso Yes/No
	<b>PLASTICS</b>									
	Polycarbonates	103598-72-2	Non-hazardous	60	602	Plastic Components Assembly	Organic			No
	(ABS) Acrylonitrile/Butadiene/Styrene Co Polymer	9003-56-9	Non-hazardous	7.2	72		Organic			No
	Polypropylene	9003-07-0	Non-hazardous	0.2	2		Organic			No
	Polyamide		Non-hazardous	61	611		Organic			No
	Styrene Acrylonitrile Copolymer (SAN)		Non-hazardous	5.0	50		Organic			No
	POM (Acetyl) (Polyoxymethylene)	25214-85-1	Non-hazardous	1.6	16		Organic			No
	Polybutyl T (i.e. Polybutylene terephthalate)	30965-26-5	Non-hazardous	5	50		Organic			No
	APEC Polycarbonate with elevated thermal resistance based on bisphenol A/bisphenol TMC		Non-hazardous	13.3	133		Organic			No
	Poly Vinyl / Chloride (PVC)		Non-hazardous	3.5	35					
	Other Plastics			0.4	4		Organic			No

- Notes: 1. In cases where a material comprises a number of distinct and available dangerous substances, please give details for each component substance.  
 2. c.f. Article 2(2) of SI N° 77/94  
 3. c.f. Schedules 2 and 3 of SI N° 77/94

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**Table 10 (Sheet 2 of 3): Details of Process related Raw Materials, Intermediates, Products, etc., used or generated on the site**

Ref. N° or Code	Material/ Substance <sup>(2)</sup>	Ecological Aquatic				Toxicological				Radioactive Yes/No
		LC <sub>50</sub> mg/l	Species	EC <sub>50</sub> <sup>(4)</sup> mg/l	Species	Oral LD <sub>50</sub> mg/kg	Species	IV LD <sub>50</sub> mg/kg	Species	
	<b>PLASTICS</b>									
	Polycarbonates		No data		No data					No
	(ABS)		No data		No data					No
	Acrylonitrile/Butadiene/Styrene Co Polymer									
	Polypropylene		No data		No data					No
	Polyamide		No data		No data					No
	Styrene Acrylonitrile Copolymer (SAN)		No data		No data					No
	POM (Acetyl) (Polyoxymethylene)		No data		No data					No
	Polybutyl T (i.e. Polybutylene terephthalate)		No data		No data					No
	APEC Polycarbonate with elevated thermal resistance based on bisphenol A/bisphenol TMC		No data		No data					No
	Poly Vinyl / Chloride (PVC)		No data		No data					No
	Other Plastics		No data		No data					No

Notes (cont.): 4. Where available !

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**Table 10 (Sheet 3 of 3): Details of Process related Raw Materials, Intermediates, Products, etc., used or generated on the site**

Ref. N° or Code	Material/ Substance <sup>(2)</sup>	TA Luft Class 1, 2 or 3	Odour			EU Lists I and II (Tick and specify Group/Family Number)			
			Odourous Yes/No	Description	Threshold µg/m <sup>3</sup>	Dangerous Substances: Directive 76/464/EEC		Groundwater Directive 80/68/EEC	
						List I	List II + I29 <sup>(3)</sup>	List I	List II
	<b><u>PLASTICS</u></b>								
	Polycarbonates (ABS)	N/A	No						
	Acrylonitrile/Butadiene/Styrene Co Polymer	N/A	Faint	Characteristic					
	Polypropylenc	N/A	No						
	Polyamide	N/A	No						
	Styrene Acrylonitrile Copolymer (SAN)	N/A	No						
	POM (Acetyl) (Polyoxymethylene)	N/A	No						
	Polybutyl T (i.c. Polybutylene terephthalate)	N/A	No						
	APEC	N/A	No						
	Poly Vinyl / Chloride (PVC)	N/A	No						
	Other Plastics	N/A							

Notes (cont.): 5. The European Commission priority candidate list

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**Table 10 (Sheet 1 of 3): Details of Process related Raw Materials, Intermediates, Products, etc., used or generated on the site**

Ref. N° or Code	Material/ Substance <sup>(1)</sup>	CAS Number	Danger <sup>(2)</sup> Category	Amount Stored (tonnes)	Annual Usage (tonnes)	Nature of Use	Organic/ Inorganic	R <sup>(3)</sup> - Phrase	S <sup>(3)</sup> - Phrase	Seveso Yes/No
	Rocket WD 40 Spray contains: (1) Stoddard Solvent (aliphatic Petroleum Distillates) (40-70% by wt.) (2) A70 Hydrocarbon	8052-41-3 68476-85-7	Flammable	0.075	0.148	Lubricant/Penetrans	Organic	10.20		No
	Unisolve Spray (CFC Free)		Flammable / Irritant	0.012	0.035	Spray Cleaner	Organic	R36/38	S41/23	No
	Haku' cleaning fluid 1025/700 Mixture of organic solvents (aliphatic and aromatic) - free of halogenated hydrocarbons		Flammable	0.04	0.4	Cleaning & degreasing	Organic	RID	S13-16-29 S20/21 S36/37	No
	MET FIN AK16 Aluminium Cleaner - Inorganic Phosphate Salts 0.8%		Instant		0.05	Cleaning agent	Inorganic	10-36		No
	FEP Cleaner				0.115					
	Supa Clean • Sodium Hydroxide • Glycol ether • Sequestering agents		Irritant	250	275	Cleaning/degreasing		10-36		No

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- Notes:
1. In cases where a material comprises a number of distinct and available dangerous substances, please give details for each component substance.
  2. c.f. Article 2(2) of SI N° 77/94
  3. c.f. Schedules 2 and 3 of SI N° 77/94

**Table 10 (Sheet 2 of 3): Details of Process related Raw Materials, Intermediates, Products, etc., used or generated on the site**

Ref. N <sup>o</sup> or Code	Material/ Substance <sup>(2)</sup>	Ecological Aquatic				Toxicological				Radioactive Yes/No
		LC <sub>50</sub> mg/l	Species	EC <sub>50</sub> <sup>(4)</sup> mg/l	Species	Oral LD <sub>50</sub> mg/kg	Species	IV LD <sub>50</sub> mg/kg	Species	
	Rocket WD40 Spray Contains: (1) Stoddard Solvent (Aliphatic Petroleum Distillates) (2) A70 Hydrocarbon	-	No data available	-	No data available	6,400	RAT		No data available	No
	Unisolve Spray		No data available		No data available		No data available		No data available	No
	Haku Cleaning fluid 1025/700		No data available on this product		No data available		No data available		No data available	No
	Metfin		No data available		No data available		No data available		No data available	No
	Supa Clean • Sodium Hydroxide • Glycol ether • Sequestering agents	50	Fish		No data	50,000	RAT		No data	No

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Notes (cont.): 4. Where available !

**Table 10 (Sheet 3 of 3): Details of Process related Raw Materials, Intermediates, Products, etc., used or generated on the site**

Ref. N° or Code	Material/ Substance <sup>(2)</sup>	TA Luft Class 1, 2 or 3	Odour			EU Lists I and II (Tick and specify Group/Family Number)			
			Odourous Yes/No	Description	Threshold µg/m <sup>3</sup>	Dangerous Substances Directive 76/464/EEC		Groundwater Directive 80/68/EEC	
						List I	List II +129 <sup>(3)</sup>	List I	List II
	Rocket WD40 Spray Contains: (1) Stoddard Solvent (Aliplastic Petroleum Distillates) (2) A70 Hydrocarbon	N/A	Yes	Characteristic Odour	100ppm				
	Unisolve Spray	N/A	Yes	Slightly sweet					
	Haku Cleaning fluid 1025/700	N/A	Yes	Pleasant, milk odour					
	Metfin	N/A	Yes	Sweet					
	Supa Clean • Sodium Hydroxide • Glycol ether • Sequestering agents	N/A 3 N/A	Yes						

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**Table 10 (Sheet 1 of 3): Details of Process related Raw Materials, Intermediates, Products, etc., used or generated on the site**

Ref. N <sup>o</sup> or Code	Material/ Substance <sup>(1)</sup>	CAS Number	Danger <sup>(2)</sup> Category	Amount Stored (tonnes)	Annual Usage (tonnes)	Nature of Use	Organic/ Inorganic	R <sup>(3)</sup> - Phrase	S <sup>(3)</sup> - Phrase	Seveso Yes/No
	Methylated spirits		Highly flammable	0.012	0.115	Solvent	Organic	R11	S7, 16	No
	Eskanol No. 208 Mixture of aromatic substances and ketone		Flammable	1.0	0.3	Cleaning Solvent	Organic	R10	S16, S24 S29	No
	Methanol	67-56-1	Highly flammable and toxic	0.01	0.075	Solvent	Organic	R11 R23/25	S2, S7 S16, S24	No
	Ballistol Lubricant Mixture of: (1) White oil i.e. pigment width (2) Additives: Olcic acid (3) Alcohols: Iso butanol 2-Methyl-1-1Butanol Benzyl Alcohol (4) Perfumes	8042-47-5 112-80-1 78-83-1 137-32-6 100-51-6	Flammable  Flammable	0.01	0.010	Lubricating	Organic			No

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- Notes: 1. In cases where a material comprises a number of distinct and available dangerous substances, please give details for each component substance.  
 2. c.f. Article 2(2) of SI N<sup>o</sup> 77/94  
 3. c.f. Schedules 2 and 3 of SI N<sup>o</sup> 77/94

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**Table 10 (Sheet 2 of 3): Details of Process related Raw Materials, Intermediates, Products, etc., used or generated on the site**

Ref. N° or Code	Material/ Substance <sup>(2)</sup>	Ecological Aquatic				Toxicological				Radioactive Yes/No
		LC <sub>50</sub> mg/l	Species	EC <sub>50</sub> <sup>(1)</sup> mg/l	Species	Oral LD <sub>50</sub> mg/kg	Species	IV LD <sub>50</sub> mg/kg	Species	
	Methylated spirits		No data				No data			No
	Eskanol No. 208		No data available for this product				No data available for this product			No
	Methanol	64,000 ppm	Inhalation RAT			5,628	RAT			No
	Ballistol Lubricant Mixture of: (1) White oil i.e. pigment width (2) Additives: Oleic acid (3) Alcohols: Iso butanol	>500	Leuciscus idus (48 hrs)			5,000	RAT			No
	2-Methyl-1-1Butanol Benzyl Alcohol (4) Perfumes	N/A	No data			2,500	RAT			No
						1,230	RAT			No

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Ref. N <sup>o</sup> or Code	Material/ Substance <sup>(2)</sup>	TA Luft Class 1, 2 or 3	Odour			EU Lists I and II (Tick and specify Group/Family Number)			
			Odourous Yes/No	Description	Threshold $\mu\text{g}/\text{m}^3$	Dangerous Substances Directive 76/464/EEC		Groundwater Directive 80/68/EEC	
						List I	List II +129 <sup>(3)</sup>	List I	List II
	Methylated spirits	N/A	Yes	Characteristic					
	Eskanol No. 208	N/A	Yes	Aromatic					
	Methanol	3	Yes	Characteristic Odour					
	Ballistol Lubricant Mixture of: (1) White oil i.e. pigment width (2) Additives: Oleic acid (3) Alcohols: Iso butanol 2-Methyl-1-1Butanol Benzyl Alcohol (4) Perfumes	N/A - 3 3 N/A	Yes	Slight Odour					

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**Table 10 (Sheet 1 of 3): Details of Process related Raw Materials, Intermediates, Products, etc., used or generated on the site**

Ref. N° or Code	Material/ Substance <sup>(1)</sup>	CAS Number	Danger <sup>(2)</sup> Category	Amount Stored (tonnes)	Annual Usage (tonnes)	Nature of Use	Organic/ Inorganic	R <sup>(3)</sup> - Phrase	S <sup>(3)</sup> - Phrase	Seveso Yes/No
	Purgex 2000 Purging Material contains Acrylic resin based on Methylmethacrylate	N/A	Non hazardous	0.05	0.075	Purging material	Organic			No
	HMP Solder Bar 1Kg Tin/Lead Alloy Tin Lead	7440-31-5 7438-92-1	Non hazardous		2.525	Soldering	Inorganic			No
	Hydrochloric Acid (>25%)	7647-01-0	Corrosive	0.19	1.89	Plating and Effluent Treatment	Inorganic	R34,37	S2,S26	No

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- Notes: 1. In cases where a material comprises a number of distinct and available dangerous substances, please give details for each component substance.  
 2. c.f. Article 2(2) of SI N° 77/94  
 3. c.f. Schedules 2 and 3 of SI N° 77/94

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**Table 10 (Sheet 2 of 3): Details of Process related Raw Materials, Intermediates, Products, etc., used or generated on the site**

Ref. N° or Code	Material/ Substance <sup>(2)</sup>	Ecological Aquatic				Toxicological				Radioactive Yes/No
		LC <sub>50</sub> mg/l	Species	EC <sub>50</sub> <sup>(4)</sup> mg/l	Species	Oral LD <sub>50</sub> mg/kg	Species	IV LD <sub>50</sub> mg/kg	Species	
	Purgex 2000		No data available (non toxic)				No data available (non toxic)			No
	HMP Solder Bar 1Kg Tin Lead									No
	Hydrochloric Acid	3,124 (1 hr)	RAT-IHL			900	RAT			No

Notes (cont.): 4. Where available !

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**Table 10 (Sheet 3 of 3): Details of Process related Raw Materials, Intermediates, Products, etc., used or generated on the site**

Ref. N° or Code	Material/ Substance <sup>(2)</sup>	TA Luft Class 1, 2 or 3	Odour			EU Lists I and II (Tick and specify Group/Family Number)			
			Odourous Yes/No	Description	Threshold µg/m <sup>3</sup>	Dangerous Substances Directive 76/464/EEC		Groundwater Directive 80/68/EEC	
						List I	List II +129 <sup>(3)</sup>	List I	List II
	Purgex 2000	N/A	No						
	HMP Solder Bar 1Kg	N/A	No						
	Hydrochloric Acid (>25%)	N/A	Yes	Pungent					

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Notes (cont.): 5. The European Commission priority candidate list

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**Table 10 (Sheet 1 of 3): Details of Process related Raw Materials, Intermediates, Products, etc., used or generated on the site**

Ref. N° or Code	Material/ Substance <sup>(1)</sup>	CAS Number	Danger <sup>(2)</sup> Category	Amount Stored (tonnes)	Annual Usage (tonnes)	Nature of Use	Organic/ Inorganic	R <sup>(3)</sup> - Phrase	S <sup>(3)</sup> - Phrase	Seveso Yes/No
	P.V.A. Lacquer - Polyvinyl Alcohol	9002-89-5	None	1.0	0.3	Moulding	Organic	N/A	N/A	Yes
	INCO Nickel Pellets Metallic Element (50kg boxes)	7440-02-0	None	2.5	0.8	Shaver Assembly	Inorganic	N/A	N/A	No
	Sodium Chloride	7647-14-5	Irritant	10.000	0.050	Kitchen	Inorganic	N/A	N/A	No
	Surgical Spirit		Highly flammable	0.300	0.180	Cleaning parts	Organic	11	7, 16	No
	Solopol hand cleaner		-		0.036	Rest room	Inorganic	-	-	No
	995 Release Agent (aerosol)	64742-48-9	Highly flammable	0.096	0.073	Mould release	Organic	11	7, 16	No
	Caustic Soda Liquid 30%	1310-73-2	Corrosive	3.500	1.875	Effluent treatment	Inorganic	35	2,26,27,37/39	No
	Soldex 185-5 flux		Flammable	0.500	0.080	Soldering	Organic	11,18	7,9,15,16	No

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- Notes: 1. In cases where a material comprises a number of distinct and available dangerous substances, please give details for each component substance.  
 2. c.f. Article 2(2) of SI N° 77/94  
 3. c.f. Schedules 2 and 3 of SI N° 77/94

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**Table 10 (Sheet 2 of 3): Details of Process related Raw Materials, Intermediates, Products, etc., used or generated on the site**

Ref. N <sup>o</sup> or Code	Material/ Substance <sup>(2)</sup>	Ecological Aquatic				Toxicological				Radioactive Yes/No
		LC <sub>50</sub> mg/l	Species	EC <sub>50</sub> <sup>(4)</sup> mg/l	Species	Oral LD <sub>50</sub> mg/kg	Species	IV LD <sub>50</sub> mg/kg	Species	
	P.V.A. Lacquer		No data		No data	14700	Mouse		No data	No
	INCO Nickel Pellets		No data available		No data		No data available		No data	No
	Sodium Chloride					3000	RAT			No
	Surgical Spirit		No data available				No data		No data	No
	Solopol hand cleaner		No data available				No data		No data	No
	995 Release Agent		No data available				No data		No data	No
	Caustic Soda Liquid 30%		Fish		No data		No data		No data	No
	Soldex 185-5 flux		No data available							No

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Notes (cont.): 4. Where available !

**Table 10 (Sheet 3 of 3): Details of Process related Raw Materials, Intermediates, Products, etc., used or generated on the site**

Ref. N <sup>o</sup> or Code	Material/ Substance <sup>(2)</sup>	TA Luft Class 1, 2 or 3	Odour			EU Lists I and II (Tick and specify Group/Family Number)			
			Odourous Yes/No	Description	Threshold $\mu\text{g}/\text{m}^3$	Dangerous Substances Directive 76/464/EEC		Groundwater Directive 80/68/EEC	
						List I	List II +129 <sup>(3)</sup>	List I	List II
	P.V.A. Lacquer	N/A	No	-					
	INCO Nickel Pellets	N/A	No	-					
	Sodium Chloride	N/A	No	-					
	Surgical Spirit		No	-					
	Solopol hand cleaner		Yes	Fragrant					
	995 Release Agent		No	-					
	Caustic Soda Liquid 30%	N/A	No	-					
	Soldex 185-5 flux		No	-					

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Notes (cont.): 5. The European Commission priority candidate list

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**Table 10 (Sheet 1 of 3): Details of Process related Raw Materials, Intermediates, Products, etc., used or generated on the site**

Ref. N° or Code	Material/ Substance <sup>(1)</sup>	CAS Number	Danger <sup>(2)</sup> Category	Amount Stored (tonnes)	Annual Usage (tonnes)	Nature of Use	Organic/ Inorganic	R <sup>(3)</sup> - Phrase	S <sup>(3)</sup> - Phrase	Seveso Yes/No
	Tampo Print Ink	N/A	Harmful for aquatic environment	0.666	0.141	Printing	Organic	10,21/21,36	24,25/26,51	No
	Tampo Print Thinner	54839-24-6	Harmful, flammable	0.470	0.173	Printing	Organic	10,20,21	24,25	No
	Tampo Print Hardener		Harmful for aquatic environmental flammable	0.240	0.037	Printing	Organic	10	51,91	No
	ISO Propanol	67-63-0	Highly flammable	0.250	0.190	Cleaning	Organic	7	2,7,16	No
	Loctite Cyanoacrylate Adhesive	7085-85-0	Irritant	0.220	0.072	Joining	Organic			No
	Lifeguard Disinfectant		Unclassified	0.800	0.200	First Aid	Organic			No
	Platinum K 50g/l	7664-93-6	Harmful for aquatic environment	0.040	0.015	Shaver Foil	Inorganic	36,38	26,45	No
	Vonex Polishing Wax			0.200	0.018	Bar Polishing				
	Vibatan GP Black (i.e PolyethyleneP)	N/A	Non hazardous	0.575	0.175	Plastic Parts	Organic	N/A	N/A	No

- Notes: 1. In cases where a material comprises a number of distinct and available dangerous substances, please give details for each component substance.  
 2. c.f. Article 2(2) of SI N° 77/94  
 3. c.f. Schedules 2 and 3 of SI N° 77/94

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**Table 10 (Sheet 2 of 3): Details of Process related Raw Materials, Intermediates, Products, etc., used or generated on the site**

Ref. N° or Code	Material/ Substance <sup>(2)</sup>	Ecological Aquatic				Toxicological				Radioactive Yes/No
		LC <sub>50</sub> mg/l	Species	EC <sub>50</sub> <sup>(1)</sup> mg/l	Species	Oral LD <sub>50</sub> mg/kg	Species	IV LD <sub>50</sub> mg/kg	Species	
	Tampo Print Ink		No data				No data			No
	Tampo Print Thinner		No data				No data			No
	Tampo Print Hardener		No data				No data			No
	ISO Propanol	46.5	INH.RAT			47,000	RAT			No
	Loctite Cyanoacrylate Adhesive		No data							No
	Lifeguard Disinfectant					>2000	RAT			No
	Platinum		No available data				No data			No
	Voncx Polishing Wax									
	Vibatan GP Black		No data available				No data			No

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Notes (cont.): 4. Where available !

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**Table 10 (Sheet 3 of 3): Details of Process related Raw Materials, Intermediates, Products, etc., used or generated on the site**

Ref. N° or Code	Material/ Substance <sup>(2)</sup>	TA Luft Class 1, 2 or 3	Odour			EU Lists I and II (Tick and specify Group/Family Number)			
			Odourous Yes/No	Description	Threshold µg/m <sup>3</sup>	Dangerous Substances Directive 76/464/EEC		Groundwater Directive 80/68/EEC	
						List I	List II +129 <sup>(3)</sup>	List I	List II
	Tampo Print Ink	N/A	Yes	Characteristic					
	Tampo Print Thinner		Yes	Characteristic					
	Tampo Print Hardener		Yes	Characteristic					
	ISO Propanol	3	Yes	Alcohol					
	Loctite Cyanoacrylate Adhesive	N/A	Yes	Characteristic, sharp & irritating					
	Lifeguard Disinfectant	N/A	Yes	Pine					
	Platinum K	N/A	No	-					
	Vonex Polishing Wax	N/A	Yes	Fatty					
	Vibatan GP Black (i.e PolychylenP)	N/A	No	-					

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**Table 10 (Sheet 1 of 3): Details of Process related Raw Materials, Intermediates, Products, etc., used or generated on the site**

Ref. N° or Code	Material/ Substance <sup>(1)</sup>	CAS Number	Danger <sup>(2)</sup> Category	Amount Stored (tonnes)	Annual Usage (tonnes)	Nature of Use	Organic/ Inorganic	R <sup>(3)</sup> - Phrase	S <sup>(3)</sup> - Phrase	Seveso Yes/No
	Ammonia Solution 31%	1336-21-6	Corrosive	0.040	0.005	Shaver Foil	Inorganic	R34-37	S7-26	No
	Ammonia Chromate	7788-98-9	Toxic	0.005	0.001	Shaver Foil	Inorganic	R8/22/36/37/38-43	S22-28	No
	Ammonium Nitrate	6484-52-2	Oxidising	0.120	0.010	Shaver Foil	Inorganic	R8-9	S15/16/41	No
	Chromium trioxide	1333-82-0	Oxidising / corrosive	2.500	1.000	Shaver Foil	Inorganic	R8/35/43	S28	No
	Nickel Sulphanate Soln 10%	13770-89-3	Harmful			Shaver Foil	Inorganic	R22	S24/25	No
	Nitric Acid 50-70%	7697-37-2	Corrosive	0.180	0.090	Shaver Foil	Inorganic	R35	S24-26-27	No
	Sodium hydroxide	N/A	Corrosive			Shaver Foil	Inorganic	R35	S2126/37/39	No
	Sodium nitrate	7631-99-4	Oxidising	0	0.125	Shaver Foil	Inorganic	R8-22	-	No
	Sodium sulphite anhyd	7757-83-7	Irritant	0.050	0.400	Shaver Foil	Inorganic	R36-38	S50	No
	Sulphamic acid	5329-14-6	Irritant			Shaver Foil	Inorganic	R36/38	S2-26-28	No
	Sulphuric acid	7664-93-9	Corrosive	0	0.160	Shaver Foil	Inorganic	R35	S2-26-30	No

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- Notes:
1. In cases where a material comprises a number of distinct and available dangerous substances, please give details for each component substance.
  2. c.f. Article 2(2) of SI N° 77/94
  3. c.f. Schedules 2 and 3 of SI N° 77/94

**Table 10 (Sheet 2 of 3): Details of Process related Raw Materials, Intermediates, Products, etc., used or generated on the site**

Ref. N <sup>o</sup> or Code	Material/ Substance <sup>(2)</sup>	Ecological Aquatic				Toxicological				Radioactive Yes/No
		LC <sub>50</sub> mg/l	Species	EC <sub>50</sub> <sup>(4)</sup> mg/l	Species	Oral LD <sub>50</sub> mg/kg	Species	IV LD <sub>50</sub> mg/kg	Species	
	Ammonia Solution	1.4	inl.RAT			350	RAT			No
	Ammonia Chromate		-				-			No
	Ammonium Nitrate		--			4820	RAT			No
	Chromium trioxide					80	RAT			No
	Nickel Sulphanate Soln									No
	Nitric Acid		No data							No
	Sodium hydroxide		No data							No
	Sodium nitrate					3236	RAT			No
	Sodium sulphite anhydrous					820	RAT			No
	Sulphamic acid					3160	RAT			No
	Sulphuric acid	0.51	inl.RAT			2140	RAT			No

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Notes (cont.): 4. Where available !

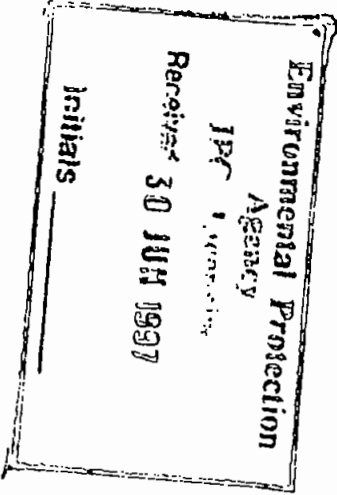
**Table 10 (Sheet 3 of 3): Details of Process related Raw Materials, Intermediates, Products, etc., used or generated on the site**

Ref. N° or Code	Material/ Substance <sup>(2)</sup>	TA Luft Class 1, 2 or 3	Odour			EU Lists I and II (Tick and specify Group/Family Number)			
			Odourous Yes/No	Description	Threshold µg/m <sup>3</sup>	Dangerous Substances Directive 76/464/EEC		Groundwater Directive 80/68/EEC	
						List I	List II +129 <sup>(3)</sup>	List I	List II
	Ammonia Solution	N/A	Yes	Pungent					
	Ammonia Chromate	N/A	No	-					
	Ammonium Nitrate	N/A	No	-					
	Chromium trioxide	N/A	No	-					
	Nickel Sulphanate Soln	N/A	No	-					
	Nitric Acid	N/A	Yes	Pungent					
	Sodium hydroxide	N/A	No	-					
	Sodium nitrate	N/A	No	-					
	Sodium sulphite antiydrum	N/A	No	-					
	Sulphamic acid	N/A	No	-					
	Sulphuric acid	N/A	Yes	Pungent					

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Notes (cont.): 5. The European Commission priority candidate list

**Table 10 (Sheet 1 of 3): Details of Process related Raw Materials, Intermediates, Products, etc., used or generated on the site**

Ref. N° or Code	Material/ Substance <sup>(1)</sup>	CAS Number	Danger <sup>(2)</sup> Category	Amount Stored (tonnes)	Annual Usage (tonnes)	Nature of Use	Organic/ Inorganic	R <sup>(3)</sup> - Phrase	S <sup>(3)</sup> - Phrase	Seveso Yes/No
	68 Oil	8042-47-5	Flammable, irritant	30.000	1.025	Lubricant	Organic	45	45-53	No
	Tellus T46 Oil	64742-55-8	Flammable, irritant	.627	.025	Lubricant	Organic	45	45-53	No
	Somentor Dcalektric 31 Oil	64742-65-0	Flammable, irritant	.410	.205	Lubricant	Organic	37-38	2-24,46	No
										

1 of 3

- Notes: 1. In cases where a material comprises a number of distinct and available dangerous substances, please give details for each component substance.
2. c.f. Article 2(2) of SI N° 77/94
3. c.f. Schedules 2 and 3 of SI N° 77/94

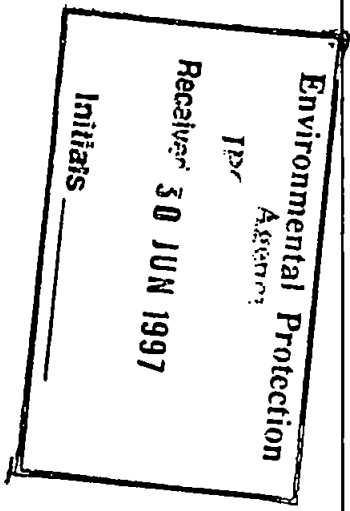
**Table 10 (Sheet 2 of 3): Details of Process related Raw Materials, Intermediates, Products, etc., used or generated on the site**

Ref. N <sup>o</sup> or Code	Material/ Substance <sup>(2)</sup>	Ecological Aquatic				Toxicological				Radioactive Yes/No
		LC <sub>50</sub> mg/l	Species	EC <sub>50</sub> <sup>(4)</sup> mg/l	Species	Oral LD <sub>50</sub> mg/kg	Species	IV LD <sub>50</sub> mg/kg	Species	
	68 Oil		No data available			No data available				No
	Tellus T46 Oil		No data available			>5,000	RAT			No
	Sommentor Dealctric 31 Oil		No data available			>5,000	RAT			No

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Notes (cont.): 4. Where available !

**Table 10 (Sheet 3 of 3): Details of Process related Raw Materials, Intermediates, Products, etc., used or generated on the site**

Ref. N <sup>o</sup> or Code	Material/ Substance <sup>(2)</sup>	TA Luft Class 1, 2 or 3	Odour			EU Lists I and II (Tick and specify Group/Family Number)			
			Odourous Yes/No	Description	Threshold $\mu\text{g}/\text{m}^3$	Dangerous Substances Directive 76/464/EEC		Groundwater Directive 80/68/EEC	
						List I	List II +129 <sup>(3)</sup>	List I	List II
	68 Oil		Yes	Petroleum					
	Tellus T46 Oil		Yes	Petroleum					
	Somentor Dealektric 31 Oil		Yes	Petroleum					
									

3 of 3

Notes (cont.): 5. The European Commission priority candidate list

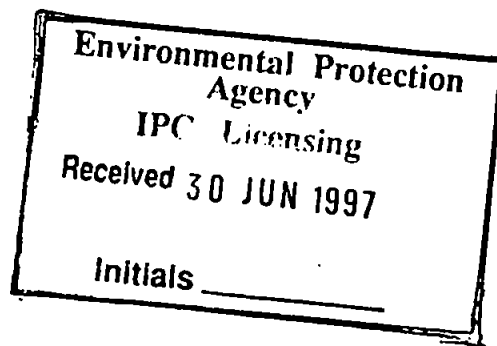
**11. Seveso Regulations**

State whether the activity consists of, comprises, or is for the purposes of, an industrial activity or isolated storage to which Regulations 12 to 18 of the European Communities (Major Accident Hazards of Certain Industrial Activities) Regulations, 1986 (S.I. No. 292 of 1986), as amended by the European Communities (Major Accident Hazards of Certain Industrial Activities) (Amendment) Regulations, 1989 (S.I. No. 194 of 1989) and the European Communities (Major Accident Hazards of Certain Industrial Activities) (Amendment) Regulations, 1992 (S.I. No. 21 of 1992,) apply.

If yes, outline how the process comes under these regulations.

Supporting information as well as copies of any Hazardous Operation Studies (HAZOP) carried out for the site, and any other supporting information should be included in Attachment N<sup>o</sup> 11.

**This question is not applicable.**



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**SECTION C - EMISSIONS**

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**12. Emissions to Atmosphere**

**12A. Details of all point emissions to atmosphere**

Details of all point emissions to atmosphere should be supplied. Tables 12A(i) (for Boiler emissions), 12A(ii), 12A(iii), 12A(iv), 12A(v) and 12A(vi) must be completed.

A summary list of the emission points, together with maps, drawings, and supporting documentation should be included as **Attachment N<sup>o</sup> 12A**. Plans of emission elevations, relevant roof heights, etc., should also be included, as should detailed descriptions and schematics of all abatement systems.

For emissions outside the BATNEEC guidance limit, a full evaluation of the existing abatement/treatment system must be provided. A planned programme of improvement towards meeting upgraded standards is required. This should highlight specific goals and a time scale, together with options for modification, upgrading or replacement as required to bring the emissions within the limits as set out in the BATNEEC guidance note(s).

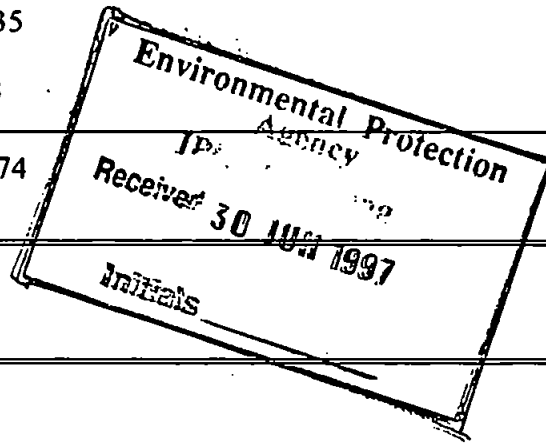
**A summary list of emission points, with map and supporting information is contained in Attachment 12A.**



**TABLE 12A(i) BOILER EMISSIONS TO ATMOSPHERE** (1 Page for each emission point)

**Emission Point:**

Emission Point Ref. N <sup>o</sup> :	A1-1
Location :	Main Oil Boiler House
Grid Ref. (12 digit, 6E,6N):	E273282 N177518
<b>Vent Details</b>	
Diameter(m):	0.35
Height above Ground(m):	9.3
Date of commencement of emission:	1974



**Characteristics of Emission :**

<b>Boiler rating</b> Steam Output:	
	- kg/hr
<b>Boiler fuel</b> Type:	Light Fuel Oil (50 sec)
% sulphur content:	<0.5
NO <sub>x</sub>	117 mg/m <sup>3</sup> 0°C. 3% O <sub>2</sub> (Liquid or Gas), 6% O <sub>2</sub> (Solid Fuel)
Maximum rate at which fuel is burned	193 kg/hr

- (i) Period or periods during which emissions are made, or are to be made, including daily or seasonal variations (*start-up/shutdown to be included*):

Periods of Emission (avg)	_ 60 _ min/hr    _ 16 _ hr/day    _ 120 _ day/yr
---------------------------	--

- (ii) Tables 12(iv) should be completed as appropriate for each boiler emission.

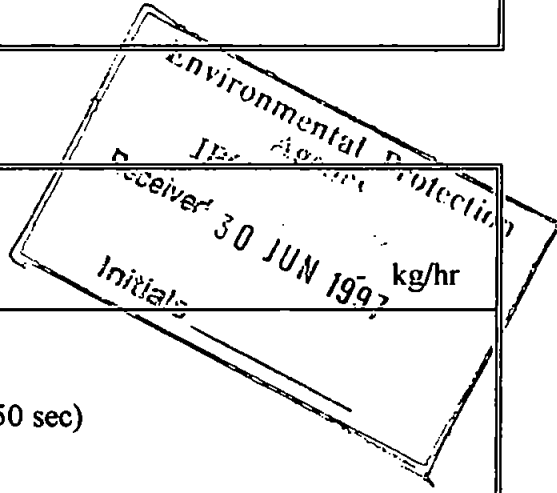
**TABLE 12A(i) BOILER EMISSIONS TO ATMOSPHERE** (1 Page for each emission point)

**Emission Point:**

Emission Point Ref. N <sup>o</sup> :	A1-2
Location :	Main Oil Boiler House
Grid Ref. (12 digit, 6E,6N):	E273289 N177520
<b>Vent Details</b>	
Diameter(m):	0.35
Height above Ground(m):	9.3
Date of commencement of emission:	1974

**Characteristics of Emission :**

<b>Boiler rating</b> Steam Output:	
<b>Boiler fuel</b> Type:	Light Fuel Oil (50 sec)
% sulphur content:	<0.5
NO <sub>x</sub>	162 mg/m <sup>3</sup> 0°C. 3% O <sub>2</sub> (Liquid or Gas), 6% O <sub>2</sub> (Solid Fuel)
Maximum rate at which fuel is burned	193 kg/hr



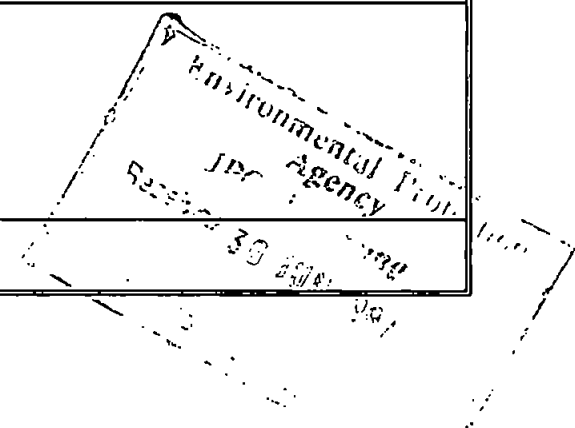
(i) Period or periods during which emissions are made, or are to be made, including daily or seasonal variations (*start-up/shutdown to be included*):

Periods of Emission (avg)	Back up Boiler ___ min/hr ___ hr/day day/yr
---------------------------	---

(ii) Tables 12(iv) should be completed as appropriate for each boiler emission.

**TABLE 12A(ii) MAIN EMISSIONS TO ATMOSPHERE** (1 Page for each emission point)

Emission Point Ref. N <sup>o</sup> :	A2-1		
Source of Emission:	Ink Mixing Machine		
Location :	Ink Mixing Room		
Grid Ref. (12 digit, 6E,6N):	E 273323	N 177524	
Vent Details			
Diameter: (m)	0.14		
Height above Ground(m):	7.67		
Date of commencement:			



**Characteristics of Emission :**

<b>(i) Volume to be emitted:</b>			
Average/day	104m <sup>3</sup> /d	Maximum/day	104m <sup>3</sup> /d
Maximum rate/hour	52m <sup>3</sup> /h	Min efflux velocity	0.8m.sec <sup>-1</sup>
<b>(ii) Other factors</b>			
Temperature	18.4°C(max)	°C(min)	18.4°C(avg)
For Combustion Sources:			
Volume terms expressed as :	<input type="checkbox"/> wet.	<input type="checkbox"/> dry.	_____ %O <sub>2</sub>

(iii) Briefly describe the treatment/abatement and give a reference for details elsewhere in this application. A clearly labelled process flow diagram for each abatement system should be included in Attachment N<sup>o</sup> 12A.

(iv) Period or periods during which emissions are made, or are to be made, including daily or seasonal variations (*start-up /shutdown to be included*):

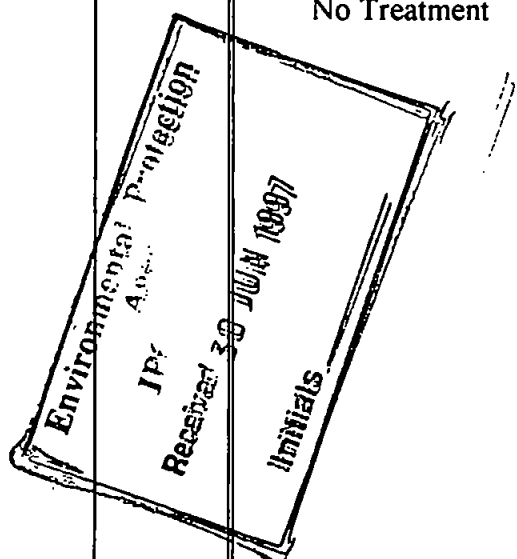
Periods of Emission (avg).	<u>60</u> min/hr <u>2</u> hr/day <u>250</u> day/yr
----------------------------	--

(v) Tables 12(iii) and 12(iv) should be completed as appropriate for each emission point

**TABLE 12A(iii): MAIN EMISSIONS TO ATMOSPHERE - Chemical characteristics of the emission** (1 table per emission point)

Emission Point Reference Number: A2-1

Parameter	Prior to treatment <sup>(1)</sup>				Brief description of treatment	As discharged <sup>(1)</sup>					
	mg/Nm <sup>3</sup>		kg/h			mg/Nm <sup>3</sup>		kg/h.		kg/year	
	Avg	Max	Avg	Max		Avg	Max	Avg	Max	Avg	Max
VOC					No Treatment	9996		0.519		269.8	
n Butyl Acetate						42.3		0.002		1.04	
Ethyl Benzene						0.305		<0.001		<0.52	
m,p Xylene						1.017		<0.001		<0.52	
2-methoxy-1-methyl ethyl - Acetate						2202.5		0.1144		57.2	
Cyclohexanone						0.34		<0.001		<0.52	
Isopropyl benzene						30.5		0.002		1.04	
O-Xylene						32.19		0.002		1.04	
Trimethyl benzene						999.59		0.052			



1. Concentrations should be based on Normal conditions of temperature and pressure, (i.e. 0°C/101.3kPa). Wet/dry should be the same as given in Table 12A(ii) unless clearly stated otherwise.

**TABLE 12A(iv): EMISSIONS TO ATMOSPHERE**

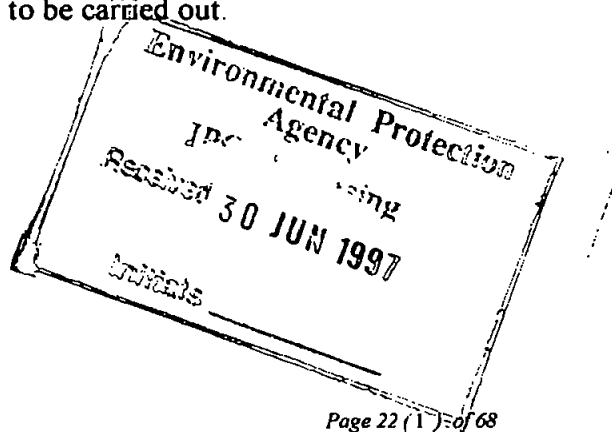
**Atmospheric emissions abatement / treatment control**

*Emission point reference number :*           AI-1          

Control <sup>1</sup> parameter	Equipment <sup>2</sup>	Equipment maintenance	Equipment calibration	Equipment back-up
Exhaust flow of gas	Boiler Stack (9.3m)	In-house visual inspection	None	

Control <sup>1</sup> parameter	Monitoring to be carried out <sup>3</sup>	Monitoring equipment	Monitoring equipment calibration
Exhaust Gas	NO <sub>x</sub>	Combustion gas analysis using electrochemical detection	Annually by approved contractor

- <sup>1</sup> List the operating parameters of the treatment / abatement system which control its function.
- <sup>2</sup> List the equipment necessary for the proper function of the abatement / treatment system.
- <sup>3</sup> List the monitoring of the control parameter to be carried out.



**TABLE 12A(iv): EMISSIONS TO ATMOSPHERE**

**Atmospheric emissions abatement / treatment control**

Emission point reference number :           A1-2          

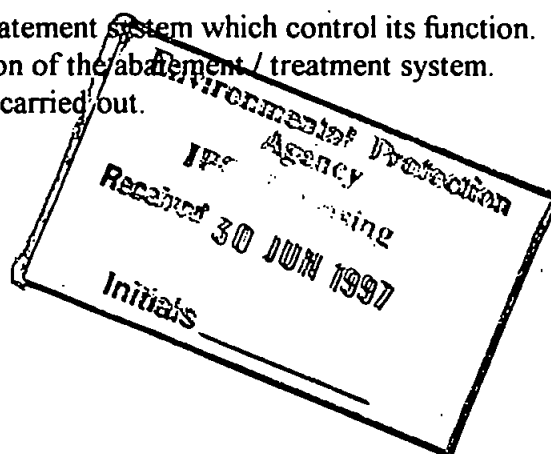
Control <sup>1</sup> parameter	Equipment <sup>2</sup>	Equipment maintenance	Equipment calibration	Equipment back-up
Exhaust flow of gas	Boiler Stack (9.3m)	In-house visual inspection	None	

Control <sup>1</sup> parameter	Monitoring to be carried out <sup>3</sup>	Monitoring equipment	Monitoring equipment calibration
Exhaust Gas	NO <sub>x</sub>	Combustion gas analysis using electrochemical detection	Annually by approved contractor

<sup>1</sup> List the operating parameters of the treatment / abatement system which control its function.

<sup>2</sup> List the equipment necessary for the proper function of the abatement / treatment system.

<sup>3</sup> List the monitoring of the control parameter to be carried out.



**TABLE 12A(iv): EMISSIONS TO ATMOSPHERE**

**Atmospheric emissions abatement / treatment control**

**Emission point reference number :**           A2-1          

Control <sup>1</sup> parameter	Equipment <sup>2</sup>	Equipment maintenance	Equipment calibration	Equipment back-up
Exhaust flow of gas	Stack	In-house plant maintenance	None	

Control <sup>1</sup> parameter	Monitoring to be carried out <sup>3</sup>	Monitoring equipment	Monitoring equipment calibration
Exhaust Gas	VOC	Adsorption Tubes (charcoal) GC/FID	Annually by approved contractor

- <sup>1</sup> List the operating parameters of the treatment / abatement system which control its function.
- <sup>2</sup> List the equipment necessary for the proper function of the abatement / treatment system.
- <sup>3</sup> List the monitoring of the control parameter to be carried out.

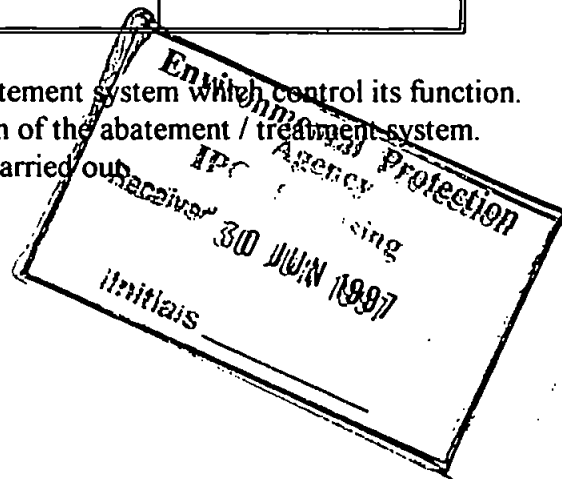
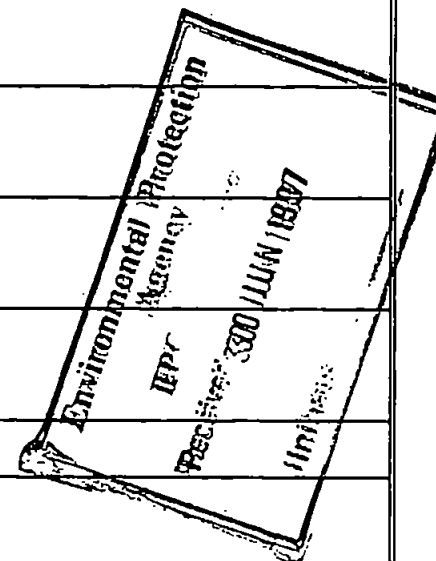


TABLE 12A(v): EMISSIONS TO ATMOSPHERE - Minor atmospheric emissions

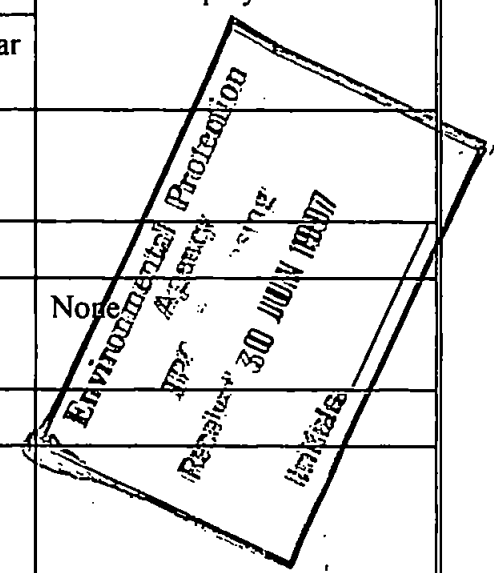
Emission point Reference Numbers	Description	Emission details <sup>1</sup>				Abatement system employed
		material	mg/Nm <sup>3</sup> ( <sup>2</sup> )	kg/h.	kg/year	
A3-1	Natural Gas Boiler 220Kw Restaurant	NO <sub>x</sub>	213	0.1	217.2	None
A3-2	Natural Gas Boiler 220Kw Front Office	NO <sub>x</sub>	173	0.08	173.8	None
A3-3	Natural Gas Boiler 35Kw Hot Water (domestic use)	NO <sub>x</sub>	285	0.02	172.8	None
A3-4	Sand Blast Room Extract	Particulates	0.5	0.002	0.3	None
A3-5	Plating Plant Extract	Sulphur Dioxide	<2.0	<0.02	<175	
		Ammonia	0.016	<0.001	<8.76	
A3-6	Oven Extract: Tool Room not determined - Abnormal conditions only	VOC	-	-	-	-



- 1 The maximum emission should be stated for each material emitted, the concentration should be based on the maximum 30 minute mean.  
 2 Concentrations should be based on Normal conditions of temperature and pressure, (i.e. 0°C/101.3kPa). Wet/dry should be clearly stated. Include reference oxygen conditions for combustion sources.

**TABLE 12A(v): EMISSIONS TO ATMOSPHERE - Minor atmospheric emissions**

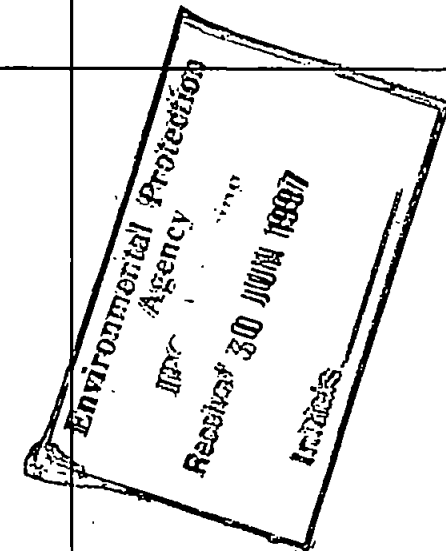
Emission point Reference Numbers	Description	Emission details <sup>1</sup>				Abatement system employed
		material	mg/Nm <sub>3(2)</sub>	kg/h.	kg/year	
A3-7	Effluent Plant Extract	Sulphur Dioxide	<2.0	<0.01	<20.8	
		HCl	<0.7	<0.0001	<0.2	
A3-8	Moulding Central Extract	Particulates	2.0	0.0053	3.85	
A3-9	Natural Gas Boiler 220Kw Gas Fill Room	NO <sub>x</sub>	77	0.01	58.08	Note
A3-10	As Cut-Off Test Extract	VOC	0.098	0.108	51.84	
A3-11	Metefor Extract	VOC	0.009	<0.0001	<0.58	
		Lead	<0.33	<0.001	<5.76	
		Tin	<0.13	<0.001	<5.76	
A3-12	Shaver Foil Oven not determined					



1 The maximum emission should be stated for each material emitted, the concentration should be based on the maximum 30 minute mean.  
 2. Concentrations should be based on Normal conditions of temperature and pressure, (i.e. 0°C/101.3kPa). Wet/dry should be clearly stated. Include reference oxygen conditions for combustion sources.

**TABLE 12A(v): EMISSIONS TO ATMOSPHERE - Minor atmospheric emissions**

Emission point  Reference Numbers	Description	Emission details <sup>1</sup>				Abatement system employed
		material	mg/Nm <sub>3(2)</sub>	kg/h.	kg/year	
A3-13	Gas Fill Room Extract	VOC	0.009	<0.0001	<0.576	
A3-14	Swarf Extract Not determined					



1 The maximum emission should be stated for each material emitted, the concentration should be based on the maximum 30 minute mean.  
 2 Concentrations should be based on Normal conditions of temperature and pressure, (i.e. 0°C/101.3kPa). Wet/dry should be clearly stated. Include reference oxygen conditions for combustion sources.

**TABLE 12A(vi): EMISSIONS TO ATMOSPHERE - Potential atmospheric emissions**

Emission point ref. no. (as per flow diagram)	Description	Malfunction which could cause an emission	Emission details (Potential max. emissions) <sup>1</sup>		
			material	mg/Nm <sup>3</sup>	kg/hour
	Filling of Iso butane Tanks	Accident during delivery	Isobutane		

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<sup>1</sup> Estimate the potential maximum emission for each malfunction identified.

12B. Fugitive emissions.

Give summary details of fugitive emissions, control measures and information on the impact of any such emission on the receiving environment.

Full details and any supporting information should form Attachment N<sup>o</sup> 12B

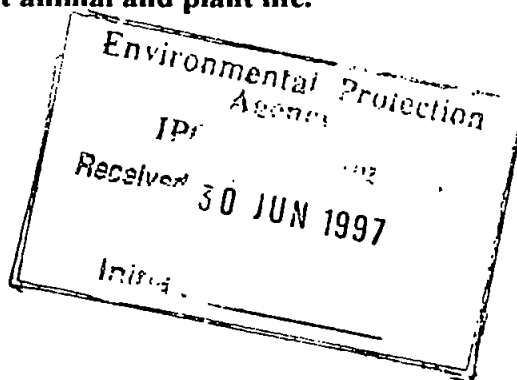
**A fugitive emission results from the burning of isobutane from reject cartridges. Reject cartridges result from under filling the hair curler cartridges with isobutane. Reject cartridges are burst and the isobutane is burned off. The spent cartridges are then landfilled. Combustion of isobutane results in the formation of CO<sub>2</sub> (carbon dioxide) and H<sub>2</sub>O vapour (water). This operation is not vented outside but is allowed to escape within the cartridge crushing room. It is estimated that 5.58 tonnes of CO<sub>2</sub> are produced annually as a result. CO<sub>2</sub> is a greenhouse gas and so contributes to global warming.**

**Fugitive emissions from the shaver foil area were examined as part of an occupational exposure survey. Nickel and chromium levels were ascertained in the course of the survey and both were found not to exceed current exposure limits. Fugitive emissions of inorganic acids were not quantified in this survey (ref. TMS Report No. 97043 in Attachment 12B).**

**The ink mixing operation in the ink mixing room, was identified as an area of possible fugitive organic vapours. This area was monitored as part of the occupational exposure survey. All organic species identified were found not to exceed current Health and Safety Exposure Limits (ref. 97043). Organic vapours and VOCs in particular have an adverse effect on the environment.**

**VOCs consist of a wide range of reactive hydrocarbons and similar compounds. The action of ultra violet light on VOCs cause the formation of ozone at groundlevel which has adverse implications for human health and for crops and other vegetation.**

**The presence of VOCs in the Stratosphere causes the formation of free radical halogen atoms which destroy ozone molecules. Ozone depletion in the stratosphere allows the penetration of harmful ultraviolet-B radiation which can adversely affect animal and plant life.**

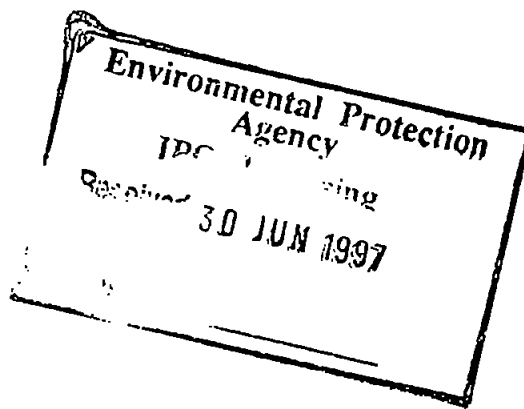


12C. Assessment of atmospheric emissions

Give summary details and an assessment of the impacts of any existing or proposed emissions on the environment, including environmental media other than those into which the emissions are to be made.

**Attachment N<sup>o</sup> 12C** should also contain full details of any dispersion modelling of atmospheric emissions from the activity, where required.

**This information is contained in Attachment No. 12C**



**13. Emissions to Surface Waters**

**13A. Details of all emissions to surface waters.**

Tables 13A(i), 13A(ii) and 13A(iii) must be completed.

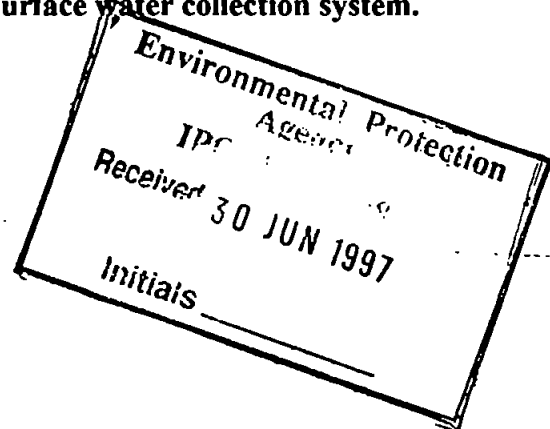
A summary list of the emission points, together with maps, drawings and supporting documentation should be included as **Attachment N<sup>o</sup> 13A**. Details of effluent treatment/abatement systems should also be included, together with schematics as appropriate. Water flow data and typical analysis of water quality in the receiving water body should also form part of **Attachment N<sup>o</sup> 13A**.

Details of all List I and List II substances listed in the Annex to EU Directive 76/464/EEC<sup>1</sup> (as amended), contained in any emission must be presented. All surface water runoff and storm water drains discharging to surface water bodies must be included. A National Grid References (10 digit, 5E, 5N) must be given for all discharge points. The identity and type of receiving water (river, ditch, estuary, lake, etc.) must be stated.

For emissions outside the BATNEEC guidance limit, a full evaluation of the existing abatement/treatment system must be provided. A planned programme of improvement towards meeting upgraded standards is required. This should highlight specific goals and a time scale, together with options for modification, upgrading or replacement as required to bring the emissions within the limits as set out in the BATNEEC guidance note(s).

**Braun Ireland Limited does not discharge any effluent to surface waters. Surface water run-off from roof and hard stand areas is piped to the stormwater drains and discharged to the Carlow Urban District Council drainage system. It subsequently flows to the Aska sump before being discharged to the River Burren.**

**See Attachment No. 13A for areas of the roof and hardstand areas drained by the collection system, drawings with invert levels, pipe sizes and emission points SW1 and SW2 for the surface water collection system.**



1. Implemented in National Legislation by Act 1 of 1977 and related legislation.

**TABLE 13A(i): EMISSIONS TO SURFACE WATERS**  
(One page for each emission)

**Emission Point:**

Emission Point Ref. N <sup>o</sup> :	SW1
Source of Emission:	Stormwater run-off from hardstand areas
Location :	Green Road
Grid Ref. (10 digit, 5E,5N):	E 27318 N 17755
Name of receiving waters:	River Burren via Carlow UDC surface water collection system
Flow rate in receiving waters:	_____ 0.6 _____ m <sup>3</sup> .sec <sup>-1</sup> Dry Weather Flow _____ 0.15 _____ m <sup>3</sup> .sec <sup>-1</sup> 95%ile flow
Available waste assimilative capacity:	1:18 kg/day

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**Emission Details:**

(i) Volume to be emitted			
Normal/day	20 m <sup>3</sup>	Maximum/day	816 m <sup>3</sup>
Maximum rate/hour	326.4 m <sup>3</sup>		

- (ii) Briefly describe the treatment/abatement and give a reference for details elsewhere in this application. A **clearly labelled** process flow diagram for each abatement system should be included in Attachment N<sup>o</sup> 13A.
- (iii) Period or periods during which emissions are made, or are to be made, including daily or seasonal variations (*start-up /shutdown to be included*):

Periods of Emission (avg)	Weather dependent ___ min/hr ___ hr/day ___ day/yr
---------------------------	--

- (iv) Tables 13A(ii) and 13A(iii) should be completed for each emission as relevant.

**TABLE 13A(i): EMISSIONS TO SURFACE WATERS**  
(One page for each emission)

**Emission Point:**

Emission Point Ref. N <sup>o</sup> :	SW2	
Source of Emission:	Stormwater run-off from roof areas	
Location :	Link Road	
Grid Ref. (10 digit, 5E,5N):	E 27336 N 17769	
Name of receiving waters:	River Burren via Carlow UDC surface water collection system	
Flow rate in receiving waters:	0.6 m <sup>3</sup> .sec <sup>-1</sup> Dry Weather Flow 0.15 m <sup>3</sup> .sec <sup>-1</sup> 95%ile flow	
Available waste assimilative capacity:	Environmental Protection Agency IPC Received 30 JUN 1997 Initials _____	1:18 kg/day

**Emission Details:**

(i) Volume to be emitted			
Normal/day	43.9 m <sup>3</sup>	Maximum/day	1734 m <sup>3</sup>
Maximum rate/hour	693.8 m <sup>3</sup>		

- (ii) Briefly describe the treatment/abatement and give a reference for details elsewhere in this application. A **clearly labelled** process flow diagram for each abatement system should be included in Attachment N<sup>o</sup> 13A.
- (iii) Period or periods during which emissions are made, or are to be made, including daily or seasonal variations (*start-up /shutdown to be included*):

Periods of Emission (avg)	Weather dependent ___ min/hr ___ hr/day ___ day/yr
---------------------------	--

- (iv) Tables 13A(ii) and 13A(iii) should be completed for each emission as relevant.

**TABLE 13A(ii): EMISSIONS TO SURFACE WATERS - Characteristics of the emission (1 table per emission point)**

**Emission point reference number :** SW1

Parameter	Prior to treatment				As discharged				% Efficiency
	Max. hourly average (mg/l)	Max. daily average (mg/l)	kg/day	kg/year	Max. hourly average (mg/l)	Max. daily average (mg/l)	kg/day	kg/year	
BOD					7	7	0.14	51.1	
COD					28	28	0.56	204.4	
Suspended Solids					8	8	0.16	58.4	
Detergents					0.08	0.08	0.002	0.73	
pH					7.7	7.7	-	-	
Chlorides					18.5	18.5	0.37	135	
Sulphate					51	51	1.02	372.3	
Chromium					<0.02	<0.02	<0.001	<0.365	
Nickel					0.04	0.04	<0.001	<0.365	
Cyanide					<0.01	<0.01	<0.001	<0.365	
Silver					<0.02	<0.02	<0.001	<0.365	
Barium					<0.02	<0.02	<0.001	<0.365	
Copper					<0.02	<0.02	<0.001	<0.365	
Platinum					<0.02	<0.02	<0.001	<0.365	
Oils, Fats & Greases					2.7	2.7	0.05	19.7	
Sulphide					0.03	<0.03	<0.001	<0.365	

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**TABLE 13A(ii): EMISSIONS TO SURFACE WATERS - Characteristics of the emission (1 table per emission point)**

**Emission point reference number :** SW2

Parameter	Prior to treatment				As discharged				% Efficiency
	Max. hourly average (mg/l)	Max. daily average (mg/l)	kg/day	kg/year	Max. hourly average (mg/l)	Max. daily average (mg/l)	kg/day	kg/year	
Not determined									

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**TABLE 13A(iii): EMISSIONS TO SURFACE WATERS**  
**Treatment, abatement and control**

Emission point reference number : SW1

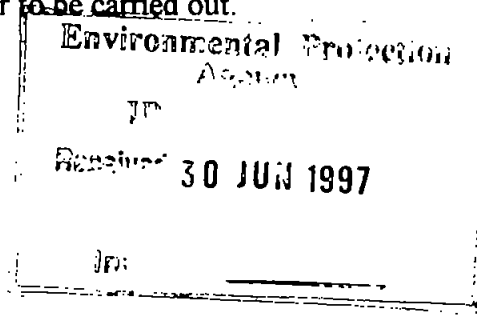
Control <sup>1</sup> parameter	Equipment <sup>2</sup>	Equipment maintenance	Equipment calibration	Equipment back-up
N/A	N/A	N/A	N/A	N/A

Control <sup>1</sup> parameter	Monitoring to be carried out <sup>3</sup>	Monitoring equipment	Monitoring equipment calibration
N/A	N/A	N/A	N/A

<sup>1</sup> List the operating parameters of the treatment / abatement system which control its function.

<sup>2</sup> List the equipment necessary for the proper function of the abatement / treatment system.

<sup>3</sup> List the monitoring of the control parameter to be carried out.



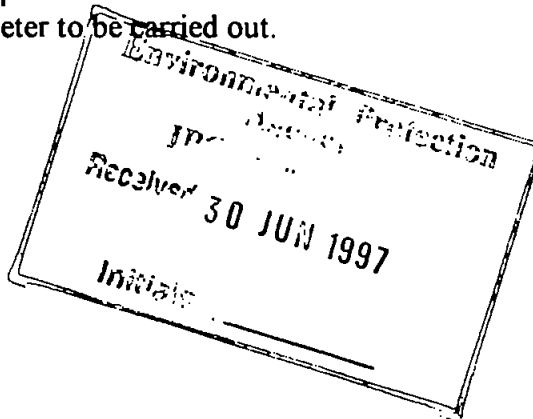
**TABLE 13A(iii): EMISSIONS TO SURFACE WATERS**  
**Treatment, abatement and control**

Emission point reference number : SW2

Control <sup>1</sup> parameter	Equipment <sup>2</sup>	Equipment maintenance	Equipment calibration	Equipment back-up
N/A	N/A	N/A	N/A	N/A

Control <sup>1</sup> parameter	Monitoring to be carried out <sup>3</sup>	Monitoring equipment	Monitoring equipment calibration
N/A	N/A	N/A	N/A

- <sup>1</sup> List the operating parameters of the treatment / abatement system which control its function.
- <sup>2</sup> List the equipment necessary for the proper function of the abatement / treatment system.
- <sup>3</sup> List the monitoring of the control parameter to be carried out.



**13B. Assessment of Impact on Receiving Surface Water**

Give summary details and an assessment of the impacts of any existing or proposed emissions on the environment, including environmental media other than those into which the emissions are to be made.

Full details of the assessment and any other relevant information on the receiving environment should be submitted as Attachment N<sup>o</sup> 13B.

**Braun Ireland Limited does not discharge effluent into surface waters. Surface water run-off from roof and hard stand areas is piped to the stormwater drains and discharged to the Carlow Urban District Council drainage system. It subsequently flows to the Aska sump before being discharged to the River Burren.**

**Sampling of stormwater at SW1 has shown concentrations of all parameters to be at very low or indeterminable levels. Typical levels are included in Table 13A(ii).**

**Comparison with BATNEEC Guidance levels has shown emissions are well within specified limits.**

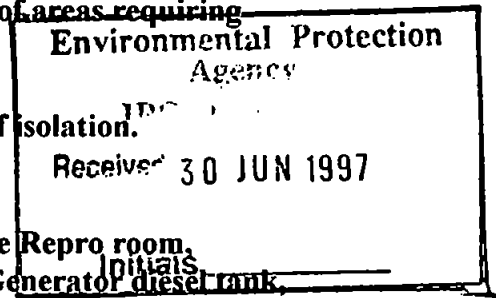
**However, there are some areas of the stormwater drainage system vulnerable to contamination.**

**A chemical spill audit of the Braun site was recently carried out by an outside consultant. The subsequent report identified a number of areas requiring attention. These were the following:**

- **Inadequate spillage control training.**
- **Drains vulnerable to spillage need adequate means of isolation.**
- **A plan to contain firewater is required.**
- **Biocides are stored in areas with no spill prevention.**
- **Insufficient/inadequate spillage kits were noted in the Repro room, Electrical substations, Moulding area, Laboratory, Generator diesel tank, Gas filling operation, and Boiler house.**
- **Generator diesel tank needs bunding and a spill kit.**
- **The filler points in the Bulk oil and diesel tanks are not to guidelines.**
- **Pump House # 2 floor needs repairing.**
- **Spill pallet required for Nitrite in Boiler house.**
- **Inadvisable mixing of hazardous waste and process chemicals in the storage area.**
- **Overflow from the oil water separator enters the local stormwater drain.**

**The procedures on chemical spillages and chemical storage which are part of the company's implementation of ISO 14001, the Environmental Management System, ensure management of this impact.**

**Taking the above factors into account, it is not likely that the storm water discharged from the Braun plant would have a detrimental effect on the receiving waters, namely the Burren River except in the case of emergency conditions, such as a spillage.**



**14. Emissions to Sewer**

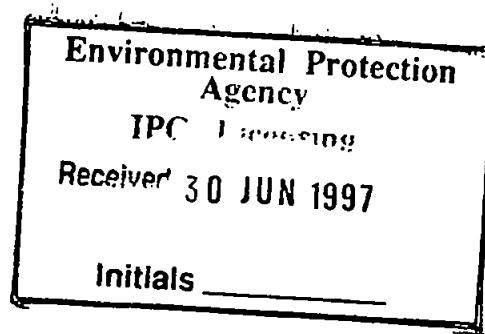
**14A. Details of all emissions to sewer.**

Tables 14A(i), 14A(ii) and 14A(iii) should be completed.

A summary list of the emission points, together with maps, drawings and supporting documentation should be included as **Attachment N<sup>o</sup> 14A**. Details of all List I and List II substances listed in the Annex to EU Directive 76/464/EEC<sup>1</sup> (as amended), contained in any emission must be presented. All relevant information on the receiving sewer, including any effluent treatment/abatement systems, not already described, with schematics as appropriate should also be included in **Attachment N<sup>o</sup> 14A**.

For emissions outside BATNEEC guidance limit (where given), a full evaluation of the existing abatement/treatment system must be provided. A planned programme of improvement towards meeting upgraded standards is required. This should highlight specific goals and a time scale, together with options for modification, upgrading or replacement as required to bring the emissions within any limits set out in the BATNEEC guidance note(s).

**Attachment Number 14A contains drawings with invert levels, pipe sizes and emission point for the Foul Sewerage System, and Effluent Treatment Plant Flowchart.**



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1. Implemented in National Legislation by Acts N<sup>o</sup> 1 of 1977 & 21 of 1990

**TABLE 14A(i): EMISSIONS TO SEWER**

(One page for each emission)

**Emission Point:**

Emission Point Ref. N <sup>o</sup> :	MF1
Location of connection to sewer :	Link Road
Grid Ref. (10 digit, 5E,5N):	E273535 N177319
Name of sewage undertaker:	Carlow Urban District Council

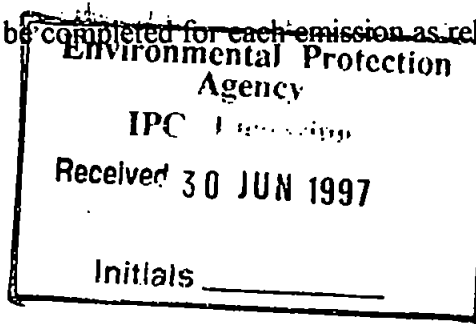
**Emission Details:**

(i) Volume to be emitted			
Normal/day	30m <sup>3</sup>	Maximum/day	30m <sup>3</sup>
Maximum rate/hour	3.75m <sup>3</sup>		

- (ii) Briefly describe the treatment/abatement and give a reference for details elsewhere in this application. A **clearly labelled** process flow diagram for each abatement system should form **Attachment N<sup>o</sup> 14A**.
- (iii) Period or periods during which emissions are made, or are to be made, including daily or seasonal variations (*start-up /shutdown to be included*):

Periods of Emission (avg)	60 min/hr	8 hr/day	260 day/yr
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- (iv) Tables 14(ii) and 14(iii) should be completed for each emission as relevant.



**TABLE 14A(ii): EMISSIONS TO SEWER - Characteristics of the emission (1 table per emission point)**

**Emission point reference number :** MF1

Parameter	Prior to treatment				As discharged				% Efficiency
	Max. hourly average (mg/l)	Max. daily average (mg/l)	kg/day	kg/year	Max. hourly average (mg/l)	Max. daily average (mg/l)	kg/day	kg/year	
BOD	1	1	0.03	7.8	135	135	4.05	1053	
COD	2	2	0.06	15.6	331	331	9.93	2581.8	
Suspended Solids	1	1	0.03	7.8	138	138	4.14	1076.4	
Detergents	0.01	0.01	<0.001	0.078	1.3	1.3	0.039	10.14	
pH	7.7	7.7	-	-	7.9 pH units	7.9	-		
Chlorides	12.5	12.5	0.375	97.5	170	170	5.1	1326	
Sulphate	39	39	1.17	304.2	91	91	2.73	709.8	

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**TABLE 14A(ii): EMISSIONS TO SEWER - Characteristics of the emission (1 table per emission point)**

**Emission point reference number :** MF1

Parameter	Prior to treatment				As discharged				% Efficiency
	Max. hourly average (mg/l)	Max. daily average (mg/l)	kg/day	kg/year	Max. hourly average (mg/l)	Max. daily average (mg/l)	kg/day	kg/year	
Chromium	0.06	0.06	0.0018	0.468	0.04	0.04	0.0012	0.312	33.3
Nickel	26	26	0.78	202.8	0.06	0.06	0.0018	0.468	99.77
Silver	<0.02	<0.02	<0.0001	<0.026	<0.02	<0.02	<0.001	<0.26	
Barium	0.05	0.05	0.0015	0.39	0.09	0.09	0.0027	0.702	
Copper	0.04	0.04	0.0012	0.312	0.07	0.07	0.0021	0.546	
Platinum	<0.02	<0.02	<0.0001	0.026	0.04	0.04	0.0012	0.312	
Cyanide	-	-	-	-	0.01	0.01	<0.001	0.26	

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**TABLE 14A(ii): EMISSIONS TO SEWER - Characteristics of the emission (1 table per emission point)**

Emission point reference number : MF1

Parameter	Prior to treatment				As discharged				% Efficiency
	Max. hourly average (mg/l)	Max. daily average (mg/l)	kg/day	kg/year	Max. hourly average (mg/l)	Max. daily average (mg/l)	kg/day	kg/year	
Oils/Fats & Greases	-	-	-	-	14.2	14.2	0.426	110.7	
Sulphide	<0.01	<0.01	<0.0001	<0.026	0.28	0.28	0.008	2.18	
Tarry Matter	-	-	-	-	Absent	Absent	-	-	

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**TABLE 14A(iii): EMISSIONS TO SEWER**  
**Treatment, abatement and control**

*Emission point reference number :*           MFI          

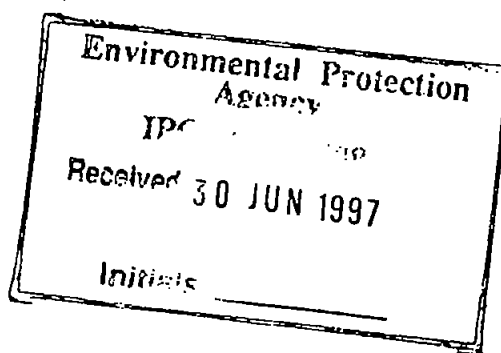
Control <sup>1</sup> parameter	Equipment <sup>2</sup>	Equipment maintenance	Equipment calibration	Equipment back-up
pH	pH meter	Cleaned in dilute acid every month	Annual	-
Cr removal	settlement	Sludge removal	N/A	-
Ni removal	settlement	Sludge removal	N/A	-

Control <sup>1</sup> parameter	Monitoring to be carried out <sup>3</sup>	Monitoring equipment	Monitoring equipment calibration
pH	On-line	pH meter	Annual
Cr removal	Colorimetry	Colorimeter	Internal per use
Ni removal	Colorimetry	Colorimeter	Internal per use

<sup>1</sup> List the operating parameters of the treatment / abatement system which control its function.

<sup>2</sup> List the equipment necessary for the proper function of the abatement / treatment system.

<sup>3</sup> List the monitoring of the control parameter to be carried out.

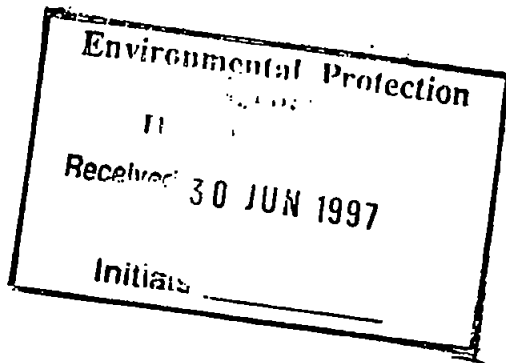


14B. Assessment of Impact of Sewage Discharge.

Give summary details and an assessment of the impacts of any existing or proposed emissions on the environment, including environmental media other than those into which the emissions are to be made.

Full details of the assessment and any other supporting information should form **Attachment N<sup>o</sup> 14B.**

**This information is included in Attachment 14B.**



**15. Emissions to Ground**

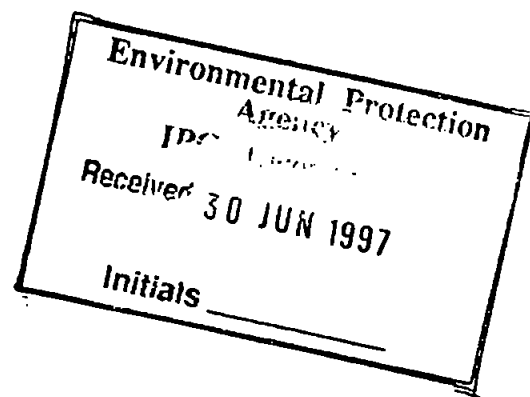
**15A. Details of emissions to the ground**

Summary details of all direct emissions onto or into the ground must be presented. Tables 15A(i), 15A(ii) and 15A(iii) must be completed. (Landfilling is dealt with separately in Question 17.)

Full details as well as a summary list of the emission points or areas (in the case of landspreading activities), together with maps, drawings and supporting documentation should be included as **Attachment N<sup>o</sup> 15A**. Details of all List I and List II substances as listed in the Annex to EU Directive 80/68/EEC<sup>1</sup> contained in any emission must be given in **Attachment N<sup>o</sup> 15A**. Details of effluent treatment/abatement systems should also be included, together with schematics as appropriate.

For emissions outside the BATNEEC guidance limit, a full evaluation of the existing abatement/treatment system must be provided. A planned programme of improvement towards meeting upgraded standards is required. This should highlight specific goals and a time scale, together with options for modification, upgrading or replacement as required to bring the emissions within the limits as set out in the BATNEEC guidance note(s).

**This question is not applicable as there are no direct emissions to ground at the Braun plant.**



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1. Implemented in National Legislation by SI 271 of 1992

**TABLE 15A(i): EMISSIONS TO GROUND** (1 Page for each emission point)

**Emission Point or Area:**

Emission Point/Area Ref. N <sup>o</sup> :	
Emission Pathway: (borehole, well, percolation area, soakaway, landspreading, etc.)	
Location :	
Grid Ref. (10 digit, 5E,5N):	
Elevation of discharge: (relative to Ordnance Datum)	
Aquifer classification for receiving groundwater body:	
Groundwater vulnerability assessment (including vulnerability rating):	
Identity and proximity of groundwater sources at risk (wells, springs, etc):	
Identity and proximity of surface water bodies at risk:	

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**Emission Details:**

<b>(i) Volume to be emitted</b>			
Normal/day	m <sup>3</sup>	Maximum/day	m <sup>3</sup>
Maximum rate/hour	m <sup>3</sup>		

- (ii) Briefly describe the treatment/abatement and give a reference for details elsewhere in this application. A clearly labelled process flow diagram for each abatement system should form Attachment N<sup>o</sup> 15A.
- (iii) Period or periods during which emissions are made, or are to be made, including daily or seasonal variations (*start-up /shutdown to be included*):

Periods of Emission (avg)	_____ min/hr _____ hr/day day/yr
---------------------------	-------------------------------------

- (iv) Tables 15(ii) and 15(iii) should be completed for each emission as relevant.

**TABLE 15A(ii): EMISSIONS TO GROUND - Characteristics of the emission (1 table per emission point)**

**Emission point/area reference number :** \_\_\_\_\_

Parameter	Prior to treatment				As discharged				% Efficiency
	Max. hourly average (mg/l)	Max. daily average (mg/l)	kg/day	kg/year	Max. hourly average (mg/l)	Max. daily average (mg/l)	kg/day	kg/year	

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**TABLE 15A(iii): EMISSIONS TO GROUND**  
**Treatment, abatement and control**

*Emission point/area reference number :* \_\_\_\_\_

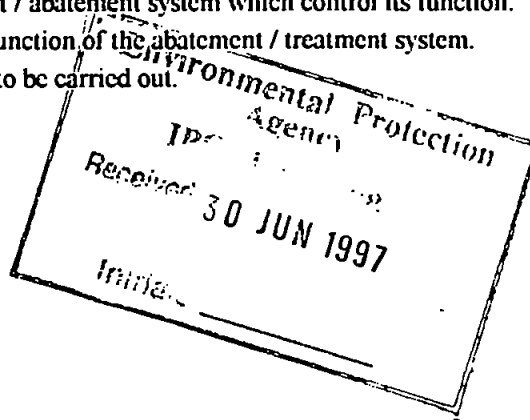
Control <sup>1</sup> parameter	Equipment <sup>2</sup>	Equipment maintenance	Equipment calibration	Equipment back-up

Control <sup>1</sup> parameter	Monitoring to be carried out <sup>3</sup>	Monitoring equipment	Monitoring equipment calibration

<sup>1</sup> List the operating parameters of the treatment / abatement system which control its function.

<sup>2</sup> List the equipment necessary for the proper function of the abatement / treatment system.

<sup>3</sup> List the monitoring of the control parameter to be carried out.

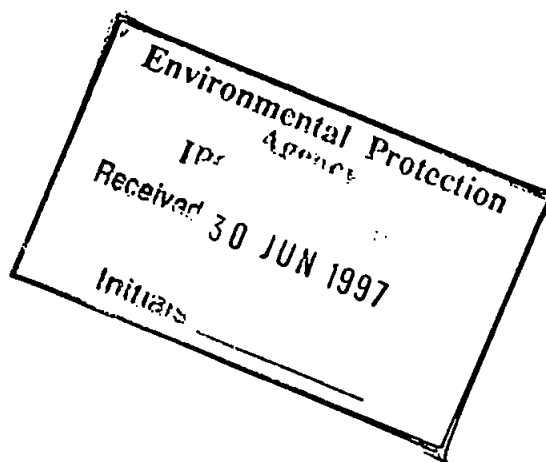


15B. Assessment of impact of ground emissions

Give summary details and an assessment of the impacts of any existing or proposed emissions on the ground (soils, sub-soils and rock environment), including any impact on environmental media other than those into which the emissions are to be made.

Full details of the assessment as well as a hydrogeological report (to include meteorological data and water quality, and aquifer classification, vulnerability, source and resource identification and zonation should be included in **Attachment N° 15B**: A soils survey must also be included where emissions are directly onto or into soils. All vulnerable (as a result of ground emissions) surface water bodies must be identified.

**This question is not applicable as there are no existing or proposed emissions on the ground.**

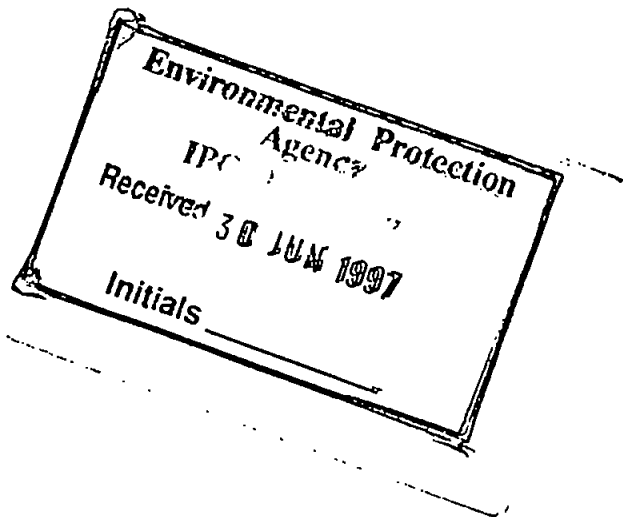


15C Ground and/or groundwater contamination

Summary details of known ground and/or groundwater contamination, historical or current, on or under the site must be given.

Full details including all relevant investigative studies, assessments, or reports, monitoring results, location and design of monitoring installations, plans, drawings, documentation, including containment engineering, remedial works, and any other supporting information should be included in Attachment N<sup>o</sup> 15C.

**Analysis of the ground water from the on- site well (ref . CAL Report W4252 in Attachment No. 15B) showed no significant organic contamination. The water was screened for a spectrum of organic contaminants and was found to be in compliance with the legislative framework for groundwater quality. Due to fears of potential leaks of oil from underground storage tanks, a Site Assessment was undertaken (ref. TMS Report 96029 in Attachment No. 15C). This report revealed the presence of Hydrocarbons in one of the Trial pits, indicative of leakage in the past.**



**16. Noise Emissions**

16A. Noise sources

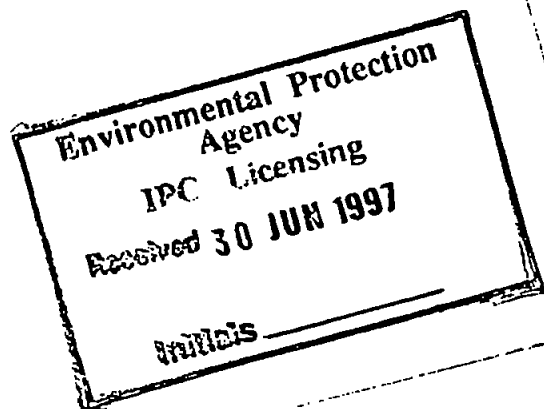
Give particulars of the source, location, nature, level, and the period or periods during which the noise emissions are made or are to be made.

Table 16A should be completed, as relevant, for each source.

Supporting information should form **Attachment N<sup>o</sup> 16A**

For emissions outside the EPA Noise Guidance Note limit, a full evaluation of the existing abatement/treatment system must be provided. A planned programme of improvement towards meeting upgraded standards is required. This should highlight specific goals and a time scale, together with options for modification, upgrading or replacement as required to bring the emissions within the limits as set out in the guidance note.

**There are no external major noise sources on the site.**



**Table16A: NOISE EMISSIONS - Noise sources summary sheet**

Source	Emission point reference No	Equipment reference No	Sound Pressure <sup>1</sup> dBA at reference distance	Octave bands (Hz) Sound Pressure <sup>1</sup> Levels dB(unweighted) per band								Impulsive or tonal qualities	Periods of Emission	Other Comments
				31.5	63	125	250	500	1K	2K	4K			

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1. For items of plant Sound Power levels may be used.

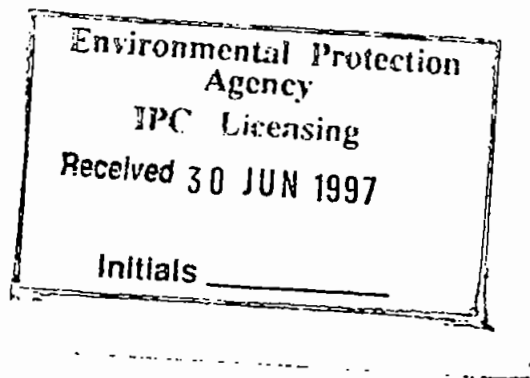
16B. Ambient noise measurements

(i) State the maximum Sound Pressure Levels which will be experienced at typical points on the boundary of the operation. (State sampling interval and duration)

Location	: <u>AN1</u>	SPL <u>63.6</u> $L_{eq}$ dBA
Location	: <u>AN2</u>	SPL <u>55.7</u> $L_{eq}$ dBA
Location	: <u>AN3</u>	SPL <u>64.4</u> $L_{eq}$ dBA
Location	: <u>AN4</u>	SPL <u>65.9</u> $L_{eq}$ dBA
Location	: <u>AN5</u>	SPL <u>64.1</u> $L_{eq}$ dBA
Location	: <u>AN6</u>	SPL <u>56.9</u> $L_{eq}$ dBA
Location	: _____	SPL _____ $L_{eq}$ dBA
Location	: _____	SPL _____ $L_{eq}$ dBA

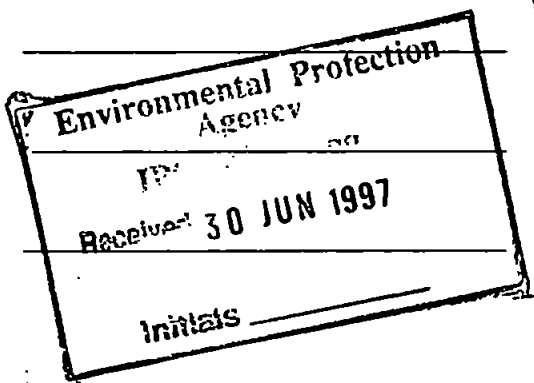
Supporting information should form Attachment N<sup>o</sup> 16B.

See Attachment No. 16B for location details including a map indicating the locations of ambient noise measurement points.



(ii) State the maximum Sound Pressure Levels which will be experienced at typical noise sensitive locations, outside the boundary of the operation.

Location 1	: <u>AN7</u>	SPL <u>64.7</u> <u>L<sub>eq</sub>dB</u> 90 minute (Daytime)
	_____	SPL <u>48.1</u> <u>L<sub>eq</sub>dB</u> 90 minute (Night-time)
Location 2	: _____	SPL _____ <u>L<sub>eq</sub>dB</u> 30 minute (Daytime)
	_____	SPL _____ <u>L<sub>eq</sub>dB</u> 15 minute (Night-time)
Location 3	_____	SPL _____ <u>L<sub>eq</sub>dB</u> 30 minute (Daytime)
	_____	SPL _____ <u>L<sub>eq</sub>dB</u> 15 minute (Night-time)
Location 4	: _____	SPL _____ <u>L<sub>eq</sub>dB</u> 30 minute (Daytime)
	_____	SPL _____ <u>L<sub>eq</sub>dB</u> 15 minute (Night-time)



*(include details of day-time and night-time noise levels and state units).*

Supporting information should form **Attachment N<sup>o</sup> 16B**.

**See Attachment No. 16B for details of overnight survey and a map showing the location of the nearest noise sensitive location AN7.**

(iii) Give details of the background noise levels experienced at the site in the absence of noise from this operation.

Prediction models, maps, diagrams and supporting documents, including details of noise attenuation and noise proposed control measures to be employed, should form **Attachment N<sup>o</sup> 16B**.

16C. Noise Impact.

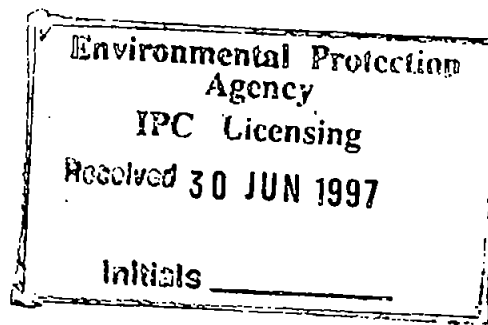
Give details and an assessment of the impacts of any existing or proposed emissions on the environment, including environmental media other than those into which the emissions are to be made.

Supporting information should form **Attachment N<sup>o</sup> 16C.**

**Assessment of Noise Impact**

No significant impacts on the environment are expected as a result of noise from the plant due to the following:

- (1) Braun Ireland Limited is situated in a predominantly industrial area and therefore there are few noise sensitive locations in the vicinity of the plant.
- (2) The closest noise sensitive location is present at the western side of the plant and is close to Green Lane and the main Dublin Road.
- (3) All production equipment is completely enclosed within buildings on the site.
- (4) The main contribution to boundary noise levels is due to the heavy traffic passing on the busy link road and Green Lane.  
Therefore boundary noise levels are high due to the high volume of traffic passing including heavy goods vehicles. This is supported by the fact that overnight noise levels measured at AN7 are within BATNEEC Guidance levels even though the plant operates 24 hours per day. Refer to Attachment 16B for results and location of AN7.
- (5) No complaints regarding nuisance noise from the plant have been received to-date.



**17. Wastes Management**

**17A. Waste arisings**

For each waste material, give full particulars of ;

- (a) Name
- (b) Description & nature of waste
- (c) Source
- (d) Where stored
- (e) Amount (m<sup>3</sup>) and tonnage
- (f) Period or Periods of generation
- (g) Analysis ( include test methods and Q.C. )
- (h) European Waste Catalogue Code (94/3/EC, see also Agency Guidance Note on EWC)

Where any waste arising would be classified as Hazardous Waste as set out in EU Council Directive 91/689/EEC (see also Council Decision establishing a list of Hazardous Waste 94/904/EC), this should be made clear in the information provided.

Summary Tables 17A(i) and 17A(ii) should also be completed, as appropriate, for each waste.

Supporting information should form Attachment N<sup>o</sup> 17A.

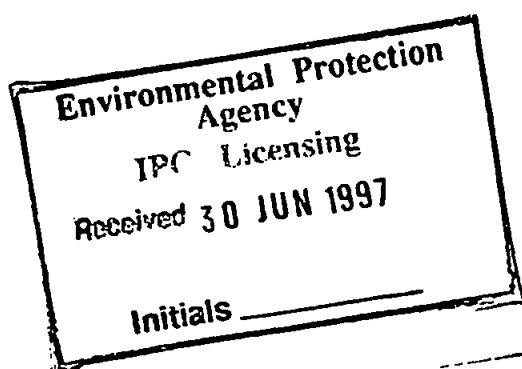


TABLE 17A(i): WASTE EMISSIONS - Hazardous Waste Disposal

Waste name	EWC Code	Main source <sup>1</sup>	Quantity		Further treatment (Method, Location & Undertaker)	Recovery, reuse or recycling (Method, Location & Undertaker)	Final disposal (Method, Location & Undertaker)
			Tonnes / month	m <sup>3</sup> / month			
Solder Dross	120113	Meterfer Assembly	0.24			Metal Recovery KMK Recycling Ltd	
Nickel Sludge	110204	Shaver Foil				Fully recovered KMK Recycling Ltd	
Methylated Spirits							Incineration via Shannon Environmental Services
De ionising Resin		Tool Room	0.044				
Solder Flux		Meterfer Assembly	0.054	0.054			Incineration via Shannon Environmental Services
Solvent		Assembly	0.044	0.044			Incineration via Shannon Environmental Services
Waste Oil	130202	Tool Room	1.0	1.0		Recycled Atlas Oil	
Batteries	200120	Plantwide	0.001 (600units/ year)				Shipped to UK for destruction via Shannon Environmental Services
Ink Wipes	150201	Assembly					Incineration via Shannon Environmental Services

<sup>1</sup> A reference should be made to the main activity / process for each waste.

**TABLE 17A(i): WASTE EMISSIONS - Hazardous Waste Disposal**

Waste material	EWC Code	Main source <sup>1</sup>	Quantity		Further treatment (Method, Location & Undertaker)	Recovery, reuse or recycling (Method, Location & Undertaker)	Final disposal (Method, Location & Undertaker)
			Tonnes / month	m <sup>3</sup> / month			
Fluorescent Tubes	200121	Plantwide	0.003 (1000 tubes/year)			Mercury Distilled & recycled. Independent Services Waste Management Manchester UK vis Irish Lamp Disposal	Glass landfilled via Irish Lamp Disposal
Solder Extract filters pre main	150200	Soldering Process	0.002 (pre) 0.013(main)				Incineration via Shannon Environmental Services
Filters (Oil mist) pre main		Production	0.002				Landfill via Whelan Waste Disposal Ltd.
Platinum Dust	120104		1.0 g/month			Recovery KMK Recycling Ltd.	

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<sup>1</sup> A reference should be made to the main activity / process for each waste.

TABLE 17A(ii) WASTE EMISSIONS - Other Waste Disposal

Waste material	EWC Code	Main source <sup>1</sup>	Quantity		Further treatment (Method, Location & Undertaker)	Recovery, reuse or recycling (Method, Location & Undertaker)	Final disposal (Method, Location & Undertaker)
			Tonnes / month	m <sup>3</sup> / month Tonnes / year			
Cardboard	150101	Receiving	40.0	480	<div style="border: 1px dashed black; padding: 5px; display: inline-block;">                     Environmental Protection Agency                      IPC Licensing                      Received 30 JUN 1997                      Initials                 </div>		Landfill Powerstown Co. Carlow Whelan Waste Ltd.
Plastic Parts	120000	Moulding	15.8	190			Landfill Powerstown Co. Carlow Whelan Waste Ltd.
Office Waste	20010104	Offices	2.0	24			Landfill Powerstown Co. Carlow Whelan Waste Ltd.
Timber Pallets	150103	Receiving	2.2	26.4			Landfill Powerstown Co. Carlow Whelan Waste Ltd.
Food Waste	20010801	Restaurant	3.75	45			Landfill Powerstown Co. Carlow Whelan Waste Ltd.
General Waste, litter etc.	200301	Plantwide	3.3	40			Landfill Powerstown Co. Carlow Whelan Waste Ltd.

<sup>1</sup> A reference should be made to the main activity/ process for each waste.

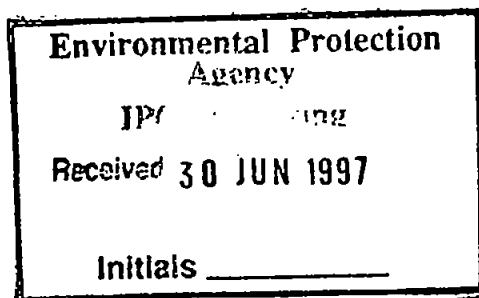
17B. Waste disposal arrangements.

For waste being disposed of off-site, details of transport off-site, name of undertaker, treatment used, location of ultimate disposal and final method of disposal should be furnished. Consignment arrangements, relevant permits, licences and written agreements of acceptance of wastes should also be provided, include location maps where relevant.

Summary information on these matters should be presented in Tables 17A(i) and 17A(ii) where requested.

Supporting information should form **Attachment N<sup>o</sup> 17B**.

**See Attachment No. 17B for copies of Waste Disposal Contractors licenses and permits.**

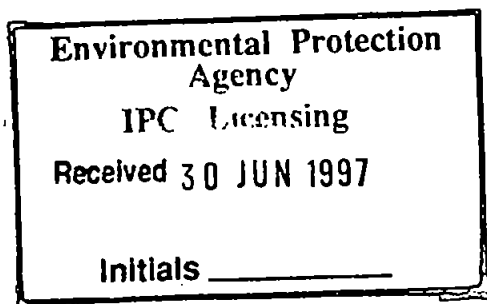


17C. Waste disposal by on-site landfilling.

For wastes to be disposed of by landfilling on-site, full details of the disposal site should be submitted (to include *inter alia*, site selection procedures, location maps, geology, hydrogeology, operational plan, containment, gas and leachate management, post-closure care).

Supporting information should form Attachment N<sup>o</sup> 17C.

**This question is not applicable as Braun Ireland Ltd. does not landfill waste on-site.**

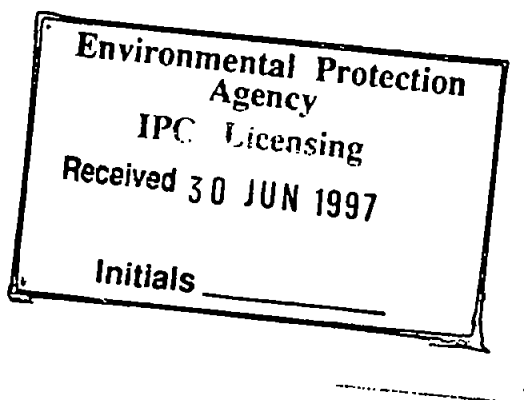


**17D. Assessment of the environmental impact of on-site waste disposal.**

Give details, and an assessment of the impact of any existing or proposed on-site waste disposal by landfill on the environment, including environmental media other than those into which the emissions are to be made.

This information should form **Attachment N<sup>o</sup> 17D.**

**This question is not applicable as Braun Ireland Ltd. does not landfill waste on-site.**



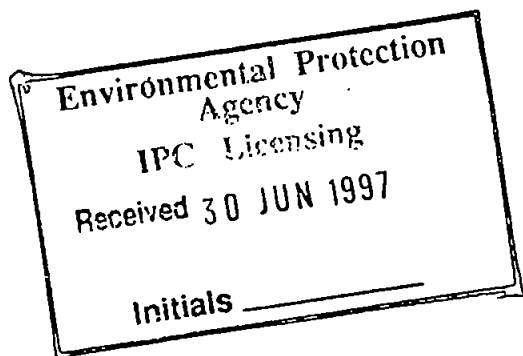
**18. Monitoring and Sampling points.**

Identify monitoring and sampling points and outline proposals for monitoring **emissions**. Tables 18(i) for air emissions, 18(ii) for emissions to surface waters, 18(iii) for emissions to sewers, 18(iv) for emissions to ground, and 18(v) for waste emissions, should be completed as relevant. Where **ambient** environment monitoring is carried out or proposed, Tables 18(vi) for air, 18(vii) for surface waters, and 18(viii) for groundwater should be completed as relevant.

Include details of monitoring/sampling locations and methods.

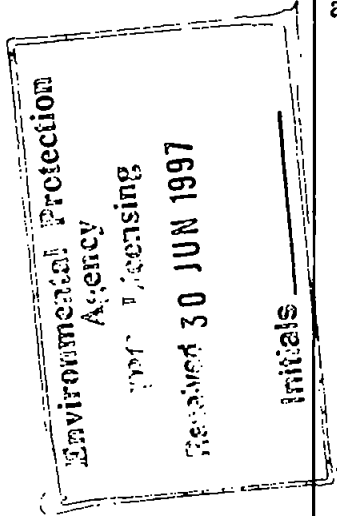
**Attachment N<sup>o</sup> 18** should contain any supporting information.

**Attachment No 18** includes a map of waste monitoring points and a map of the location of the groundwater monitoring point.



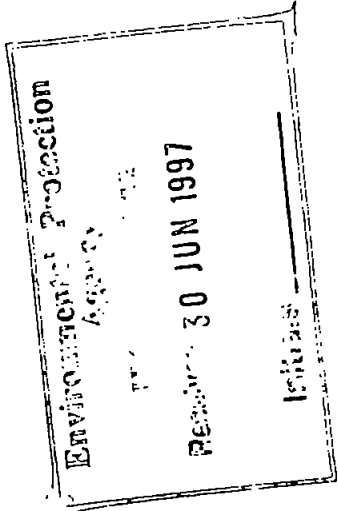
**TABLE 18(i): EMISSIONS MONITORING AND SAMPLING POINTS - Air Emissions ( 1 table per monitoring point)**

*Emission Point Reference No. :*           A1-1          

Parameter	Monitoring frequency	Accessibility of Sampling Points	Sampling method	Analysis method/ technique	Quality control used
NO <sub>x</sub>	Annual	Ladder  	Combustion Gas analysis	Electrochemical	Calibration of Instrument

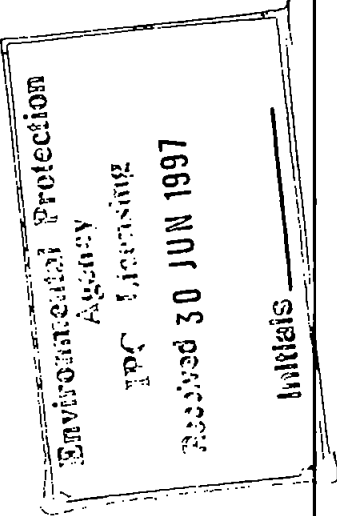
**TABLE 18(i): EMISSIONS MONITORING AND SAMPLING POINTS - Air Emissions ( 1 table per monitoring point)**

**Emission Point Reference No. :**           A1-2          

Parameter	Monitoring frequency	Accessibility of Sampling Points	Sampling method	Analysis method/ technique	Quality control used
NO <sub>x</sub>	6 monthly	Ladder 	Combustion Gas analysis	Electrochemical	Calibration of Instrument

**TABLE 18(i): EMISSIONS MONITORING AND SAMPLING POINTS - Air Emissions ( 1 table per monitoring point)**

*Emission Point Reference No. :*           A2.1          

Parameter	Monitoring frequency	Accessibility of Sampling Points	Sampling method	Analysis method/ technique	Quality control used
VOC	Bi-annual	Access to flat roof by ladder  	Filtration and absorption on to charcoal tubes	GC FID	Use of certified standards & Q.C. check samples as per standard methods (AWWA, APHA)

**TABLE 18(i): EMISSIONS MONITORING AND SAMPLING POINTS - Air Emissions ( 1 table per monitoring point)**

*Emission Point Reference No. :*           A3-1          

Parameter	Monitoring frequency	Accessibility of Sampling Points	Sampling method	Analysis method/ technique	Quality control used
NO <sub>x</sub>	Annual	Sample port-hole approximately 1.5m from ground-level  2681 NOV 02 1997	Combustion Gas analysis	Electrochemical	Calibration of Instrument

**TABLE 18(i): EMISSIONS MONITORING AND SAMPLING POINTS - Air Emissions ( 1 table per monitoring point)**

*Emission Point Reference No. :*           A3-2          

Parameter	Monitoring frequency	Accessibility of Sampling Points	Sampling method	Analysis method/ technique	Quality control used
NO <sub>x</sub>	Annual	Sample port-hole approximately 1.5m from ground level <div style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;">                         Environmental Protection                          Agency                          Licencing                          Received 30 JUN 1997                          Initials _____                     </div>	Combustion Gas analysis	Electrochemical	Calibration of Instrument

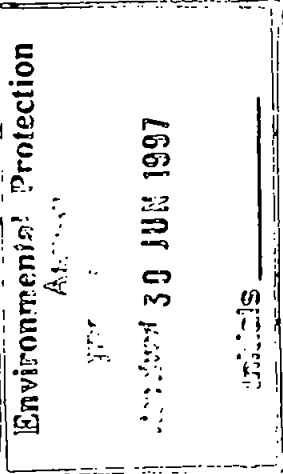
**TABLE 18(i): EMISSIONS MONITORING AND SAMPLING POINTS - Air Emissions ( 1 table per monitoring point)**

*Emission Point Reference No. :*           A3-3          

Parameter	Monitoring frequency	Accessibility of Sampling Points	Sampling method	Analysis method/ technique	Quality control used
NO <sub>x</sub>	Annual	Sample port-hole approximately 1.5m from ground level	Combustion Gas analysis	Electrochemical	Calibration of Instrument

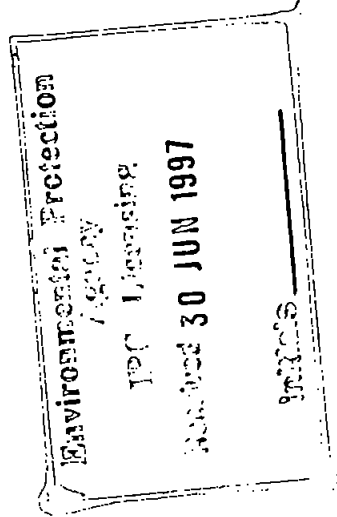
**TABLE 18(i): EMISSIONS MONITORING AND SAMPLING POINTS - Air Emissions ( 1 table per monitoring point)**

**Emission Point Reference No. :**           A3-4          

Parameter	Monitoring frequency	Accessibility of Sampling Points	Sampling method	Analysis method/ technique	Quality control used
Particulates	Annual	Ladder / Mechanical Hoist 	Filtration (iso kinetic)	Gravimetry	Use of calibrated equipment, e.g. calibrated analytical balance


**TABLE 18(i): EMISSIONS MONITORING AND SAMPLING POINTS - Air Emissions ( 1 table per monitoring point)**

**Emission Point Reference No. :**                     A3-5                    

Parameter	Monitoring frequency	Accessibility of Sampling Points	Sampling method	Analysis method/ technique	Quality control used
Sulphur Dioxide	Annual	Access to roof by ladder	Filtration and absorption into solution (H <sub>2</sub> O <sub>2</sub> )	Ion Chromotography	Use of certified standards & Q.C. check samples As per Standard Methods Examination of Water and Wastewater AWWA APHA
Ammonia	Annual		Filtration and absorption into solution (H <sub>2</sub> O)	Ion Selective Electrode	Use of certified standards & Q.C. check samples As per Standard Methods Examination of Water and Wastewater AWWA APHA

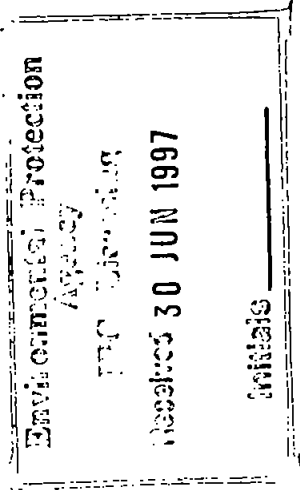
**TABLE 18(i): EMISSIONS MONITORING AND SAMPLING POINTS - Air Emissions ( 1 table per monitoring point)**

**Emission Point Reference No. :**           A3-6          

Parameter	Monitoring frequency	Accessibility of Sampling Points	Sampling method	Analysis method/ technique	Quality control used
VOC	Annual	Ladder 	Filtration and absorption on to charcoal tubes	GC FID	Use of certified standards & Q.C. check samples As per Standard Methods Examination of Water and Wastewater AWWA APHA

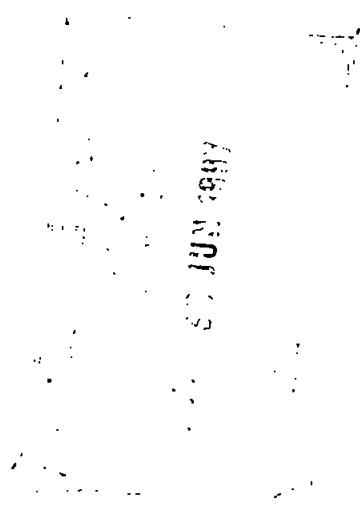
**TABLE 18(i): EMISSIONS MONITORING AND SAMPLING POINTS - Air Emissions ( 1 table per monitoring point)**

**Emission Point Reference No. :**                     A3-7                    

Parameter	Monitoring frequency	Accessibility of Sampling Points	Sampling method	Analysis method/ technique	Quality control used
Sulphur Dioxide	Annual	Access to roof by ladder	Filtration and absorption into solution (H <sub>2</sub> O <sub>2</sub> )	Ion Chromotography	Use of certified standards & Q.C. check samples As per Standard Methods Examination of Water and Wastewater AWWA APHA
HCl	Annual		Filtration and absorption into solution (H <sub>2</sub> O)	Titration	Use of certified standards & Q.C. check samples As per Standard Methods Examination of Water and Wastewater AWWA APHA

**TABLE 18(i): EMISSIONS MONITORING AND SAMPLING POINTS - Air Emissions ( 1 table per monitoring point)**

**Emission Point Reference No. :**                     A3-8                    

Parameter	Monitoring frequency	Accessibility of Sampling Points	Sampling method	Analysis method/ technique	Quality control used
Particulates	Annual	Accessible from ground  	Filtration (iso kinetic)	Gravimetry	Use of calibrated equipment, e.g. calibrated analytical balance

**TABLE 18(i): EMISSIONS MONITORING AND SAMPLING POINTS - Air Emissions ( 1 table per monitoring point)**

**Emission Point Reference No. :**           A3-9          

Parameter	Monitoring frequency	Accessibility of Sampling Points	Sampling method	Analysis method/ technique	Quality control used
NO <sub>x</sub>	Annual	Sample port-hole approximately 1.5m from ground level	Combustion Gas analysis	Electrochemical	Calibration of Instrument

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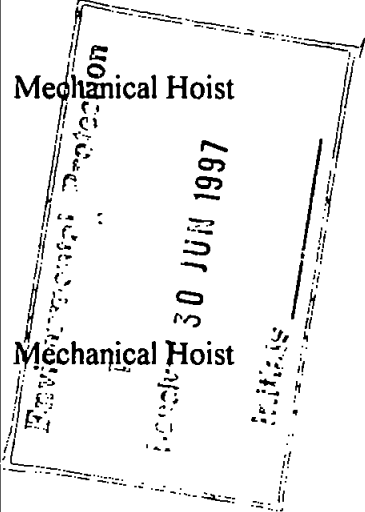
**TABLE 18(i): EMISSIONS MONITORING AND SAMPLING POINTS - Air Emissions ( 1 table per monitoring point)**

**Emission Point Reference No. :**           A3-10          

Parameter	Monitoring frequency	Accessibility of Sampling Points	Sampling method	Analysis method/ technique	Quality control used
VOC	Annual	Ladder ,	Filtration and absorption on to charcoal tubes	GC FID	Use of certified standards & Q.C. check samples As per Standard Methods Examination of Water and Wastewater AWWA APHA

**TABLE 18(i): EMISSIONS MONITORING AND SAMPLING POINTS - Air Emissions ( 1 table per monitoring point)**

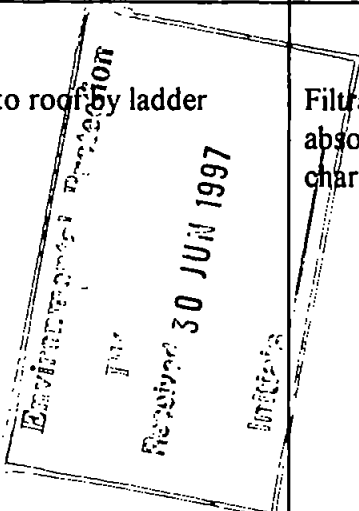
**Emission Point Reference No. :**                     A3-11                    

Parameter	Monitoring frequency	Accessibility of Sampling Points	Sampling method	Analysis method/ technique	Quality control used
VOC	Annual	Mechanical Hoist 	Filtration and absorption on to charcoal tubes	GC FID	Use of certified standards & Q.C. check samples As per Standard Methods Examination of Water and Wastewater AWWA APHA
Lead	Annual	Mechanical Hoist	Filtration, using impingers of 5% HNO <sub>3</sub>	Atomic absorption spectroscopy	Standard Methods Examination of Water and Wastewater AWWA APHA
Tin	Annual	Mechanical Hoist	Filtration, using impingers of 5% HNO <sub>3</sub>	Atomic absorption spectroscopy	Standard Methods Examination of Water and Wastewater AWWA APHA



**TABLE 18(i): EMISSIONS MONITORING AND SAMPLING POINTS - Air Emissions ( 1 table per monitoring point)**

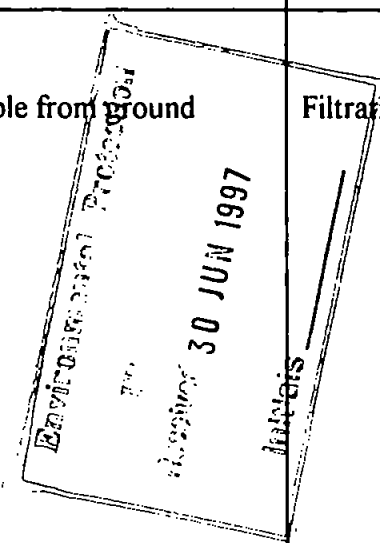
*Emission Point Reference No. :*                   A3-13                  

Parameter	Monitoring frequency	Accessibility of Sampling Points	Sampling method	Analysis method/ technique	Quality control used
VOC	Annual	Access to roof by ladder 	Filtration and absorption on to charcoal tubes	GC FID	Use of certified standards & Q.C. check samples As per Standard Methods Examination of Water and Wastewater AWWA APHA

**TABLE 18(i): EMISSIONS MONITORING AND SAMPLING POINTS - Air Emissions ( 1 table per monitoring point)**

*Emission Point Reference No. :*           A3-14          

Parameter	Monitoring frequency	Accessibility of Sampling Points	Sampling method	Analysis method/ technique	Quality control used
Particulates	Annual	Accessible from ground	Filtration (iso kinetic)	Gravimetry	Use of calibrated equipment, e.g. calibrated analytical balance



**TABLE 18(ii): EMISSIONS MONITORING AND SAMPLING POINTS - Emissions to Surface Waters (1 table per monitoring point)**

Emissions reference point No : \_\_\_\_\_ SW1 \_\_\_\_\_

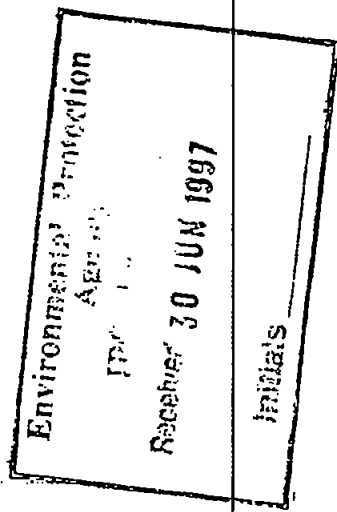
Parameter	Monitoring frequency	Accessibility of sampling point	Sampling method	Analysis method / technique	Quality control
BOD COD Suspended Solids Detergents pH Chlorides Sulphate Chromium Nickel Cyanide Silver Barium Copper Platinum Oils, Fats & Grease Sulphide Tarry matter Petroleum Organic solvents	Annual	Manhole	Grab sample	As per Standard Methods Examination of Water and Wastewater AWWA APHA	As per Standard Methods Examination of Water and Wastewater AWWA APHA

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**TABLE 18(ii): EMISSIONS MONITORING AND SAMPLING POINTS - Emissions to Surface Waters (1 table per monitoring point)**

Emissions reference point No : SW2

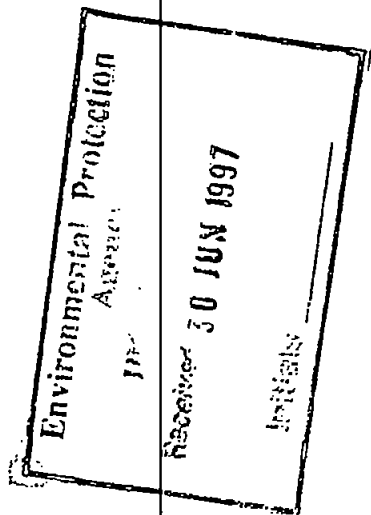
Parameter	Monitoring frequency	Accessibility of sampling point	Sampling method	Analysis method / technique	Quality control
BOD COD Suspended Solids Detergents pH Chlorides Sulphate Chromium Nickel Cyanide Silver Barium Copper Platinum Oils, Fats & Grease Sulphide Tarry matter Petroleum Organic solvents	Annual	Manhole	Grab sample	As per Standard Methods Examination of Water and Wastewater AWWA APHA	As per Standard Methods Examination of Water and Wastewater AWWA APHA



**TABLE 18(iii): EMISSIONS MONITORING AND SAMPLING POINTS - Emissions to Sewer ( 1 table per monitoring point)**

Emission reference point No : SE1

Parameter	Monitoring frequency	Accessibility of sampling point	Sampling method	Analysis method / technique	Quality control
BOD COD Suspended Solids Detergents pH Chlorides Sulphate Chromium Nickel Cyanide Silver Barium Copper Platinum Oils, Fats & Grease Sulphide Tarry matter Petroleum Organic solvents	Annual	Manhole	Automatic composite sampler	As per Standard Methods Examination of Water and Wastewater AWWA APHA	As per Standard Methods Examination of Water and Wastewater AWWA APHA



**TABLE 18(iv): EMISSIONS MONITORING AND SAMPLING POINTS - Emissions to Ground ( 1 table per monitoring point)**

Emission reference point No : There are no emissions to ground

Parameter	Monitoring frequency	Accessibility of sampling point	Sampling method	Analysis method / technique	Quality control
			<div style="border: 1px solid black; padding: 5px; transform: rotate(-10deg);"> <p>Environmental Protection Agency                      IPC                      Received 30 JUN 1997                      Encl: 000</p> </div>		

**TABLE 18(v): EMISSIONS MONITORING AND SAMPLING POINTS - Waste Emissions (one table per monitoring point)**

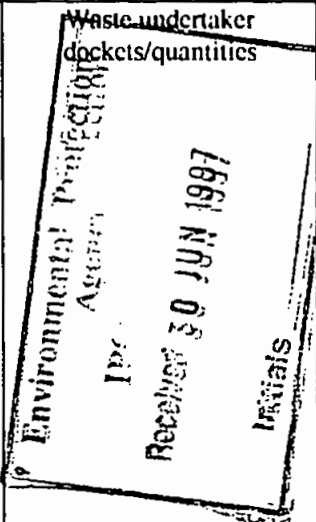
Emission reference point/location No : WS1

Parameter	Monitoring frequency	Accessibility of sampling point	Sampling method	Analysis method / technique	Quality control
Food Waste	Weekly	N/A	Waste undertaker dockets/quantities	Ref. ISO 14001 Waste Management Procedure	Ref. ISO 14001 Waste Management Procedure

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**TABLE 18(v): EMISSIONS MONITORING AND SAMPLING POINTS - Waste Emissions (one table per monitoring point)**

Emission reference point/location No : WS2

Parameter	Monitoring frequency	Accessibility of sampling point	Sampling method	Analysis method / technique	Quality control
Solid Waste	Weekly	N/A	Waste undertaker docket/quantities 	Ref. ISO 14001 Waste Management Procedure	Ref. ISO 14001 Waste Management Procedure

**TABLE 18(v): EMISSIONS MONITORING AND SAMPLING POINTS - Waste Emissions (one table per monitoring point)**

Emission reference point/location No : WS3

Parameter	Monitoring frequency	Accessibility of sampling point	Sampling method	Analysis method / technique	Quality control
Solder Flux	Annual	N/A	CI Forms <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;">                         Environmental Protection Agency                          IPC Licensing                          Received 30 JUN 1997                          Initials                     </div>	CI Forms	CI Forms

**TABLE 18(v): EMISSIONS MONITORING AND SAMPLING POINTS - Waste Emissions (one table per monitoring point)**

Emission reference point/location No : WS4

Parameter	Monitoring frequency	Accessibility of sampling point	Sampling method	Analysis method / technique	Quality control
Nickel Sludge	Annual	N/A	CI Forms	CI Forms	CI Forms

**TABLE 18(v): EMISSIONS MONITORING AND SAMPLING POINTS - Waste Emissions (one table per monitoring point)**

Emission reference point/location No : WS5

Parameter	Monitoring frequency	Accessibility of sampling point	Sampling method	Analysis method / technique	Quality control
Ink Rags	Monthly	N/A	Purchasing Records  <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: auto;">                         Environmental Protection Agency                          IP                          Received 30 JUN 1997                          Initials _____                     </div>	Purchasing Records	Ref. ISO 14001

**TABLE 18(v): EMISSIONS MONITORING AND SAMPLING POINTS - Waste Emissions (one table per monitoring point)**

Emission reference point/location No : WS6

Parameter	Monitoring frequency	Accessibility of sampling point	Sampling method	Analysis method / technique	Quality control
Waste Oil	Monthly	N/A	C1 Forms	C1 Forms	C1 Forms / Ref. ISO 14001 Waste Management Procedure

**TABLE 18(v): EMISSIONS MONITORING AND SAMPLING POINTS - Waste Emissions (one table per monitoring point)**

Emission reference point/location No : WS7

Parameter	Monitoring frequency	Accessibility of sampling point	Sampling method	Analysis method / technique	Quality control
Waste Oil	Monthly	N/A	CI Forms <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;">                         Environmental Protection Agency                          IPC                          Received 30 JUN 1997                          Initials                     </div>	CI Forms	CI Forms / Ref. ISO 14001 Waste Management Procedure

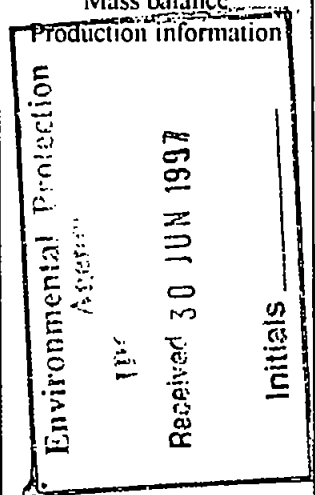
**TABLE 18(v): EMISSIONS MONITORING AND SAMPLING POINTS - Waste Emissions (one table per monitoring point)**

Emission reference point/location No : WS8

Parameter	Monitoring frequency	Accessibility of sampling point	Sampling method	Analysis method / technique	Quality control
Plastic Cartridges	Weekly	N/A	Undertaker documentation Mass balance Production information	Undertaker documentation Mass balance Production information	Ref. ISO 14001 Waste Management Procedure

**TABLE 18(v): EMISSIONS MONITORING AND SAMPLING POINTS - Waste Emissions (one table per monitoring point)**

Emission reference point/location No : WS9

Parameter	Monitoring frequency	Accessibility of sampling point	Sampling method	Analysis method / technique	Quality control
Cardboard	Weekly	N/A	Undertaker documentation	Undertaker documentation Mass balance Production information 	Ref. ISO 14001 Waste Management Procedure

**TABLE 18(v): EMISSIONS MONITORING AND SAMPLING POINTS - Waste Emissions (one table per monitoring point)**

Emission reference point/location No : WS10

Parameter	Monitoring frequency	Accessibility of sampling point	Sampling method	Analysis method / technique	Quality control
Foil cuttings	Monthly	N/A	Undertaker documentation	Undertaker documentation	Ref. ISO 14001 Waste Management Procedure

**TABLE 18(v): EMISSIONS MONITORING AND SAMPLING POINTS - Waste Emissions (one table per monitoring point)**

Emission reference point/location No : WS11

Parameter	Monitoring frequency	Accessibility of sampling point	Sampling method	Analysis method / technique	Quality control
Wire Cuttings	Monthly	N/A	Undertaker documentation	Undertaker documentation	Ref. ISO 14001 Waste Management Procedure

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**TABLE 18(v): EMISSIONS MONITORING AND SAMPLING POINTS - Waste Emissions (one table per monitoring point)**

Emission reference point/location No : WS12

Parameter	Monitoring frequency	Accessibility of sampling point	Sampling method	Analysis method / technique	Quality control
Plastic Swarf	Monthly	N/A	Undertaker documentation	Undertaker documentation	Ref. ISO 14001 Waste Management Procedure

**TABLE 18(v): EMISSIONS MONITORING AND SAMPLING POINTS - Waste Emissions (one table per monitoring point)**

Emission reference point/location No : WS13

Parameter	Monitoring frequency	Accessibility of sampling point	Sampling method	Analysis method / technique	Quality control
Folder Filters	Monthly	N/A	Undertaker documentation	Undertaker documentation	Ref. ISO 14001 Waste Management Procedure
Main			Undertaker documentation and CI forms	Undertaker documentation and CI forms	Ref. ISO 14001 Waste Management Procedure and CI forms
Pre			Undertaker documentation and CI forms	Undertaker documentation and CI forms	Ref. ISO 14001 Waste Management Procedure and CI forms

Environmental Protection Agency  
 JP  
 Received 30 JUN 1997  
 Initials \_\_\_\_\_

**TABLE 18(v): EMISSIONS MONITORING AND SAMPLING POINTS - Waste Emissions (one table per monitoring point)**

*Emission reference point/location No :* WS14

Parameter	Monitoring frequency	Accessibility of sampling point	Sampling method	Analysis method / technique	Quality control
Plastic Sheeting	Weekly	N/A	Undertaker documentation	Undertaker documentation	Ref. ISO 14001 Waste Management Procedure

**TABLE 18(vi): AMBIENT ENVIRONMENT MONITORING AND SAMPLING POINTS- Air ( 1 table per monitoring point)**

Monitoring Point Reference No : \_\_\_\_\_ There are no Ambient Air monitoring points

Parameter	Monitoring frequency	Accessibility of sampling point	Sampling method	Analysis method / technique	Quality control
				<div style="border: 1px solid black; padding: 5px; transform: rotate(-15deg);">                     Environmental Protection Agency                      Received 30 JUN 1997                      Initials _____                 </div>	

**TABLE 18(vii): AMBIENT ENVIRONMENT MONITORING AND SAMPLING POINTS - Surface Waters ( 1 table per monitoring point)**

Monitoring Point Reference No :                     There is no Ambient SurfaceWater monitoring point                    

Parameter	Monitoring frequency	Accessibility of sampling point	Sampling method	Analysis method / technique	Quality control

**TABLE 18(viii): AMBIENT ENVIRONMENT MONITORING AND SAMPLING POINTS - Groundwater ( 1 table per monitoring point)**

Monitoring Point Reference No : AGW1

Parameter	Monitoring frequency	Accessibility of sampling point	Sampling method	Analysis method / technique	Quality control
Volatile Organics	Annual	Bore hole	Bottom filling bailer after purging of well	As per Standard Method: Examination of Water and Wastewater AWWA APHA	As per Standard Method: Examination of Water and Wastewater AWWA APHA
Semi volatile organics					
pH					
Conductivity					
BOD					
COD					
Total Coliforms					
Faecal coliforms					
T.V.C. @ 37°C					
T.V.C. @ 22°C					

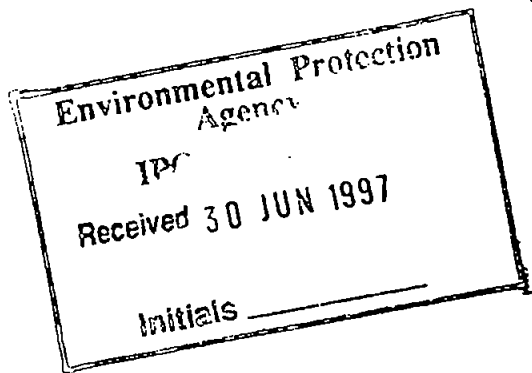
RECEIVED  
 26 JUN 1997  
 WATER & WASTEWATER  
 DIVISION  
 APHA

**19. Environmental Considerations**

Describe any environmental considerations which have been made with respect to the use of cleaner technologies, waste minimisation and raw material substitution.

Supporting information should form **Attachment N<sup>o</sup> 19**.

**This information is contained in Attachment No. 19**



**20. Accidental Emissions.**

Describe the existing or proposed measures, including emergency procedures, to minimise the impact on the environment of an accidental emission or spillage.

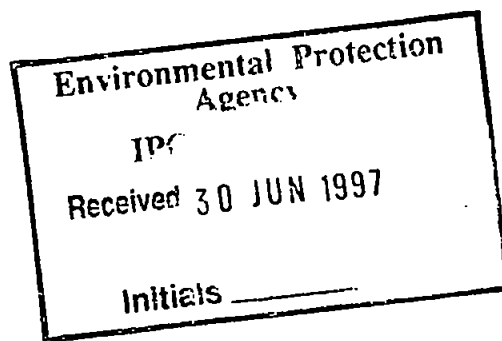
Also outline what provisions have been made for response to emergency situations outside of normal working hours, i.e. during night-time, weekends and holiday periods.

Supporting information should form Attachment N<sup>o</sup> 20.

**Procedures are in place which specify the method by which minor chemical spillages are controlled and how the company reacts to an emergency (included in Attachment 20).**

**The company is in the process of implementing ISO 14001, the Environmental Management Standard. Clause # 4.4.7 "Emergency preparedness and Response" requires the company to implement an emergency plan which will mitigate any adverse environmental impacts, such as would be caused by fire or chemical spillage.**

**The company expects to be accredited to ISO 14001 by the end of 1997.**



**21. Statutory Requirements.**

Indicate how the requirements of section 83 (3) (a) to (e) of the E.P.A. Act, 1992 shall be met, having regard, where appropriate, to any relevant specification issued by the Agency under section 5 (3) of the Act and the reasons for the selection of the arrangements proposed.

Supporting information should be included as **Attachment N<sup>o</sup> 21.**

**This information is contained below:**

**83 (3) (a)**

Any emissions from the activity will not result in the contravention of any relevant air quality standard specified under Section 50 of the Air Pollution Act, 1987 and will comply with any relevant emission limit values specified under Section 51 of the Air Pollution Act, 1987.

**83 (3) (b)**

Any emission from the activity will comply with or will not result in the contravention of any relevant water quality standard for waters, trade effluents and sewage effluents and standards in relation to treatment of such effluents prescribed under Section 26 of the Local Government (Water Pollution) Act, 1977.

- The trade effluent which is discharged from the site meets the current conditions of the Effluent Discharge Licence.
- Surface water from the site will be monitored annually.

**83 (3) (c)**

Any emissions from the activity or any premises, plant, methods, processes, operating procedures or other factors which affect such emissions will comply with, or will not result in the contravention of any relevant standard including any standard for an environmental medium under regulations made under the European Communities Act 1977.

**83 (3) (d)**

Any noise from the activity will comply with, or will not result in the contravention of, any regulations made under Section 106.

No relevant regulations have been made under Section 106 of the EPA Act.

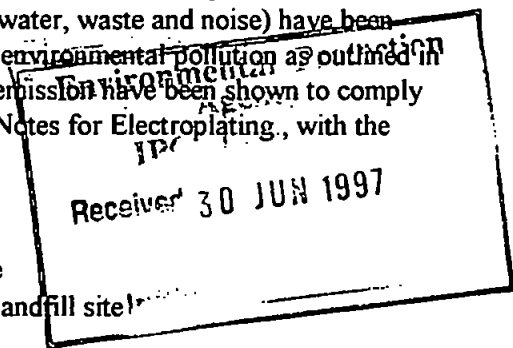
The site is contiguous to a main road, therefore the traffic contributes to the boundary noise levels.

**83 (3) (e)**

Any emissions from the activity will not cause significant environmental pollution. Emissions from the activity to the four environmental media (air, water, waste and noise) have been analysed and have been shown not to cause significant environmental pollution as outlined in this application form and attachments thereto. All air emissions have been shown to comply guidelines set down in the EPA BATNEEC Guidance Notes for Electroplating, with the exception of the ink mixing process duct, A2-1.

Waste leaving the site will be minimised by:

- Segregation of waste on site
- Operating of waste minimisation programme on site
- All residual waste will be disposed of at a licenced landfill site



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**SECTION D - CESSATION, DECOMMISSIONING & POST-CLOSURE CARE**

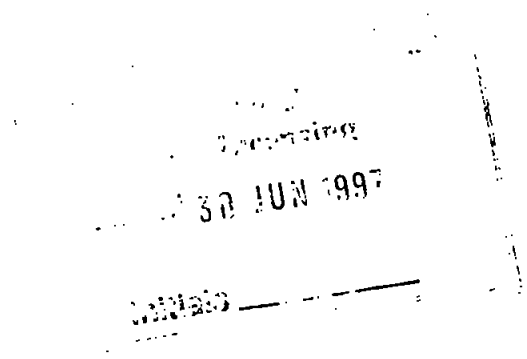
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**22. Cessation of Activity.**

Describe the existing or proposed measures to minimise the impact on the environment after the activity or part of the activity ceases operation, including provision for post-closure care of any potentially polluting residuals.

Supporting information should be included as **Attachment No. 22.**

**This information is contained in Attachment No. 22.**



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**SECTION E - MANAGEMENT & CONTROL**

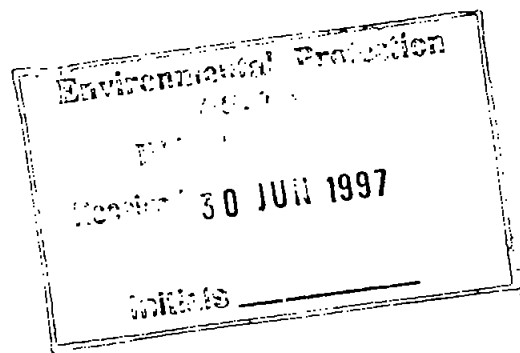
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**23. Site Management & Control**

Details should be provided on the management structures for the activity. Organisational charts, and all relevant environmental management policy statements, including provisions for on-going assessment of environmental performance are required.

This information should form **Attachment N<sup>o</sup> 23**.

**Details of the company organisation and management are given in Attachment No. 23.**



**SECTION F - DECLARATION**

**Declaration**

I hereby make application for a licence / revised licence, pursuant to the provisions of the Environmental Protection Agency Act, 1992 and Regulations made thereunder.

I certify that the information given in this application is truthful, accurate and complete.

I have no objection to the provision by the Agency or local authority of a copy of the application or parts thereof to any person.

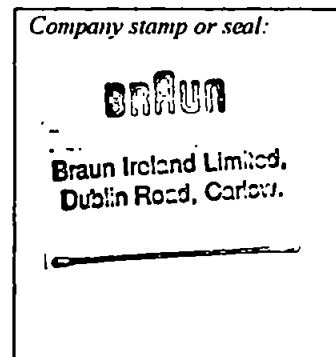
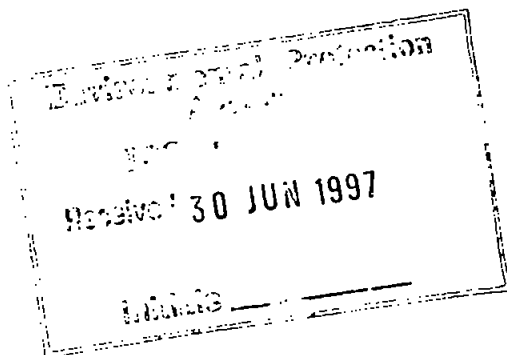
Signed by : *H. J. Priscei*

Date : 30.6.97

*(on behalf of the organisation)*

Print signature name: Hans-Jurgen Dittombee

Position in organisation : Managing Director



**ATTACHMENT NO. 1**

- (A) Certification of Incorporation (see attached)
- (B) Company Number: 45327
- (C) Registered Office: Braun Ireland Limited.  
1 Stoker Place,  
Stephens Green,  
Dublin 2.

# Certificate of Incorporation

---

*I hereby Certify* that BRAUN IRELAND LIMITED is this day Incorporated under the Companies Act, 1963, and that the Company is Limited.

*Given* under my hand at Dublin this 17th day of December, One Thousand Nine Hundred and Seventy-three.

Fees and Deed Stamps ... £42.00

Stamp Duty on Capital ... £1.00



**M. SINSEOIN,**  
for Registrar of Companies.





**ATTACHMENT NO. 6**

**Summary List of Planning Permissions**

Reference number in Register

P.D. 567

P.D. 1251

P.D. 1293

P.D. 1302

P.D. 1360

P.D. 1475

P.D. 1615

P.D. 2660

P.D. 3184

P.D. 3207

LOCAL GOVERNMENT (PLANNING & DEVELOPMENT) ACT, 1963.

NOTIFICATION OF A GRANT OF A PERMISSION OR AN APPROVAL.

BY REGISTERED POST:

TO Industrial Development Authority Reference No.  
in Register: F.P. 567  
Lansdowne House,  
Dublin 4.

Application/~~Outline~~ Application by Industrial Development Authority,

of Lansdowne House, Dublin 4,

on 9th August, 1973, for a permission/~~an approval~~ for

Erection of Special Factory at Rathnapih, Carlow,

at Rathnapih, Carlow.

A permission/~~An Outline permission/An approval~~ has been granted for the development/retention described above, subject to the following conditions:

SEE ATTACHED REPORT

~~The permission/approval~~ is also subject to further approval being obtained in accordance with Article 5 of the Local Government (Planning & Development) Act, 1963, (Permission) Regulations, 1964, prior to the commencement of any part of the development other than

Signed on behalf  
of the Council:

TOWN CLERK

As proposed to install a sprinkler in the factory, it will be necessary to comply with the requirements for water supplies in accordance with the F.O.C. rating of the occupancy hazard, for primary hazard group 3.

If the water is being taken from a borehole for fire fighting and sprinkler system it will be necessary to provide a private reservoir supply in excess of 500 M<sup>3</sup>.

Provide 4 No. hydrants at each corner of the building served by a water main of minimum diameter of 4" which should form a ring main around the initial and future development.

- (a) That a self-closing fire resistant smoke stop door be provided at position marked 'A' in red on Drawing No. 10.
- (b) That the stairs leading from the canteen down to the kitchen store shall be enclosed by a solid incombustible wall throughout its full length and open direct to the open air.
- (c) That the Polishing and Grinding shall have a second exit, extraction fan and ducting to open air and certified intrinsically safe electrical installations.
- (d) That the spray shop have a second exit to the open air, to have flame-proof electrical installation and extraction fan, and ducting to the external atmosphere.
- (e) If it is proposed to use or store inflammable liquids in the tank assembly and filling department, a second exit must be fitted and flame-proof electrical apparatus installed and the department vented direct to open air.
- (f) Fire precautions appropriate to the risk must be taken, which if necessary will require to be re-assessed when the factory is in operation.

#### 5. ROADWAY:

- (a) That the service road shown linking the Dublin Road with the Pollerton Road shall be 30' wide and shall have two 10' wide paths.
- (b) That the building line shall be as shown on Drawing No. 9 showing layout plan and that the deceleration and filter lane shall be provided in consultation with the Planning Authority on the ground where the service road exists onto (a) the Dublin Road and (b) the Pollerton Road and that the Industrial Development Authority shall agree to make available to the Council sufficient land at these two points to enable the filter and deceleration lanes to be constructed and adequate sight distance for emerging onto these roads to be created.

1. In the interest of Fire Safety.

2. In the interest of Fire Safety.

3. In the interest of Fire Safety.

4. In the interest of Fire Safety.

5. To ensure the orderly development of the area consistent with the objectives of the Development Plan.

parking shall be provided  
the Industrial Estate  
sufficient with the needs generated.

development of the area  
consistent with the  
objectives of the Development  
Plan.

All surface water on the Estate  
shall be piped to the existing drain  
to the east of the site bounding the  
estate and that no surface water drains  
shall be connected to any public sewer.

That all domestic effluent shall be  
discharged to the public sewer which  
is being provided to the curtilage of  
the Industrial Estate.

(f) That before any factory or any factory  
unit is occupied by any Industrialist  
the Industrialist shall give a  
statement on the amended Form A of the  
Institute for Industrial Research and  
Standards giving full details of the  
effluent from the process and that An  
Foras Forbartha and the Institute for  
Industrial Research and Standards, in  
consultation with the Department of  
Agriculture and Fisheries or other  
interests as appropriate, will then  
prepare for the I.D.A. using Form B a  
joint recommendation on the standard to  
which the effluent shall be treated  
having regard to all relevant factors  
including the condition of the  
receiving waters and that the completed  
Forms A and B will be sent by the  
Industrial Development Authority to the  
Planning Authority so that conditions can  
be devised which will avoid pollution into  
the receiving waters. (A copy of Forms  
A and B are attached).

(g) That in the absence of alternative arrangements  
being agreed subsequently with the Planning  
Authority in respect of trade waste and  
sewage treatment and disposal the effluent  
shall be treated to the following minimum  
standard:-

(i) All trade and industrial effluent to  
be to the following standard prior to  
discharge from the site; namely the  
biochemical oxygen demand of the effluent  
to be such that on a mixture with the  
receiving water it does not increase the  
B.O.D. value of the receiving water by  
more than one milligram per litre on  
average. In no circumstances should the  
B.O.D. value of the effluent be such that  
the B.O.D. of the receiving waters would  
be increased by more than 5 milligrams  
per litre.

(ii) That suspended solids shall be in  
accordance with the requirements of the  
Institute for Research and Standards  
1970/71. No. 5.

*Cellerung*

ADWAY:

- (g) (iii) Size, levels and gradients of both surface water drains and foul sewers connecting both the surface water drain and the foul sewer shall be submitted for approval to the Planning Authority before any factory building or unit is occupied.
- (h) That the contribution of £40,500 to the Planning Authority in respect of services both for water supply and sewage disposal being provided by the Planning Authority to the Industrial Estate, provided for in the outline permission granted this date for the development of the Industrial Estate, shall be paid within three months of the date of commencement of the building of this factory.
- (i) That telephone services and power services within the curtilage of the Industrial Estate shall be laid underground.

- 5. To ensure the orderly development of the area consistent with the objectives of the Development Plan.

-----

*Cellanery*  
21.07.73



CARLOW URBAN DISTRICT COUNCIL

LOCAL GOVERNMENT (PLANNING & DEVELOPMENT) ACTS, 1963 and 1976.

NOTIFICATION OF A GRANT OF A PERMISSION/~~AN OUTLINE PERMISSION/AN APPROVAL.~~

BY REGISTERED POST:

To: Braun Ireland, Ltd., Reference No. in Register: P.D. 1293  
Dublin Road,  
Carlow. Application received 27/7/78

Application/~~outline application~~ by Braun Ireland Ltd.,  
of Dublin Road, Carlow  
for a permission/~~outline permission/approval~~ for introduction of new  
nickel process  
at Dublin Road, Carlow

A permission/~~an outline permission/approval~~ has been granted for the development/~~development~~ described above, subject to the following conditions:-

CONDITIONS

REASONS FOR CONDITIONS

See attached Schedule....

The outline permission is also subject to further approval being obtained in accordance with the Local Government (Planning & Development) Acts, 1963 and 1976, Permission (Regulations) 1977, prior to the commencement of any part of the development.

CARLOW URBAN DISTRICT COUNCIL

TOWN HALL

Signed on behalf of the Council:

A.P. SHARKEY,  
Town Clerk

5 MAR 1979  
Date.

CONDITIONS

REASONS FOR CONDITIONS

- |  |   |
|--|---|
| <p>1. All process effluents shall be discharged to the Carlow Urban District Council sewer system.</p> <p>2. Process effluent contaminants shall not exceed the following limit values:</p> <p>Maximum daily volume.....160m<sup>3</sup>/day<br/>Maximum hourly volume.....30m<sup>3</sup>/hour<br/>Platinum (Pt) .....0.1 mg/l<br/>Copper (Cu).....1 mg/l<br/>Silver (Ag).....0.1 mg/l<br/>Nickel (ni).....2 mg/l<br/>Total chromium (Cr<sup>3+</sup> + Cr<sup>6+</sup>) 1 mg/l</p> <p>Hexavalent chromium (Cr<sup>6+</sup>)...0.5 mg/l<br/>Barium (Ba).....1 mg/l<br/>Cyanide(CN).....0.1 mg/l<br/>Sulphates (SO<sub>4</sub>).....500 mg/l</p> <p>Chlorides (Cl) .....300 mg/l<br/>Petroleum ether, extractable oils and fats.....20 mg/l<br/>Temperature.....42°C<br/>pH.....6 - 9</p> <p>3. A composite sample of the continuous effluent discharged to sewer shall be taken on a daily basis. These composites shall be stored until the end of each calendar month whereupon all composites taken during the month shall be mixed in equal proportions to form a single composite sample representative of that month. This composite shall be forwarded to an independent laboratory each month for analysis for the parameters listed in (2) above. Copy of analysis to be sent on a monthly basis to Carlow Urban District Council. The daily composites shall be collected by means of an automatic sampling unit.</p> <p>4. Provisions shall be made to facilitate the Local Authority, its agent or representative in the measuring of effluent flow and the taking of effluent samples. The applicant shall provide Carlow Urban Council and its agents with details and the locations of measuring and sampling points to which the Local Authority shall have access at all reasonable times.</p> | <p>1. For the proper planning and development of the area and in the interests of environmental protection.</p> <p>2. For the proper planning and development of the area and in the interests of environmental protection.</p> <p>3. For the proper planning and development of the area and in the interests of environmental protectives.</p> <p>4. In the interest of environmental protection.</p> |
|--|---|

CONDITIONS

REASONS FOR CONDITIONS

- |  |  |
|--|--|
| 5. Before discharge of each batch of treated concentrate solutions sample of this effluent shall be taken and analysed by the company for Cu, Ag, Ni, Cr, Ba and CN. These analytical results shall be regularly submitted to the Planning/sanitary Authority on a monthly basis.  | 5. For the proper planning and development of the area and in the interests of environmental protection. |
| 6. The waste copper chloride (CuCl <sub>2</sub> ) solution shall be regularly removed off site for copper recovery by a suitable reprocessor at a site to be notified and agreed with the Planning Authority.  | 6. For the proper planning and development of the area and in the interests of environmental protection. |
| 7. The sludge arising from filtration of the nickel and platinum concentrate solutions through activated carbon and amounting to about 0.6m <sup>3</sup> per year at approx. 20 - 50% solids content shall be removed off site by a competent waste disposal contractor for disposal at a site and in a manner approved by the Planning/Sanitary Authority.  | 7. For the proper planning and development of the area and in the interest of environmental protection.  |
| 8. The sludge arising from batch treatment of concentrate solutions in the factory effluent treatment plant and which amounts to about 10 m <sup>3</sup> /year containing the metals, Cu, Cr, Ni, Ba shall be dewatered to solids content approx. 15 - 20%. The dewatered sludge shall then be removed off site by a competent waste disposal contractor for disposal at a site and in a manner approved by the Planning/Sanitary Authority. The location of the site shall be made known to and agreed with the Planning Authority. | 8. For the proper planning and development of the area and in the interests of environmental protection. |
| 9. All continuous monitoring charts incorporated in the treatment process such as the pH recorder shall be available for inspection by the Planning Authority on demand.   | 9. For the proper planning and development of the area and in the interest of environmental protection.  |
| 10. The batch treatment tank, final pH control tank, continuous neutralization tank and sludge thickening tank shall not incorporate any drain pipe which can discharge by gravity to the public sewer.  | 10. For the proper planning and development of the area and in the interest of environmental protection. |
| 11. All chemicals used in the process shall be stored in accordance with the manufacturer's instructions and used under strict supervision.  | 11. For the proper planning and development of the area and in the interest of environmental protection. |

CONDITIONS

REASONS FOR CONDITIONS

- |   |  |
|---|--|
| 12. The developer shall ensure that the effluent treatment plant log book is kept up to date and shall be available for inspection by the Planning Authority on demand.   | 12. For the proper planning and development of the area and in the interest of environment protection.   |
| 13. A suitable stop valve or penstock shall be fitted to the surface water drainage system at a location agreed with the Planning Authority.  | 13. For the proper planning and development of the area and in the interest of environment protection.   |
| 14. The area in the vicinity of the continuous and the concentrated treatment installations shall be properly ventilated.   | 14. In the interest of the safety of company personnel and the public.                                   |
| 15. No waste materials or empty chemical containers arising from the proposed operation shall be disposed of in any dump within or without the County Health District of Carlow without the prior approval of the relevant Sanitary and Health Authority being submitted to the Carlow Urban District Council for inspection. | 15. In the interests of the proper Planning and Development of the area and of environmental protection. |
| 16. No material increase in the quantity or contents of the effluent discharged shall be made without the prior consent of Carlow Urban District Council.   | 16. In the interest of environmental protection.   |
| 17. The applicant shall comply in all respects with the Factories Act, 1955.  | 17. In the interests of the safety of company personnel and the public.                                  |
| 18. The applicant shall comply with the Atmospheric Pollution Regulations 1970.   | 18. In the interest of environmental protection.   |
| 19. The applicant shall comply in all respects with the Local Government Water Pollution Act, 1977.   | 19. In the interests of environmental protection.  |
| 20. All floors to be of solid incombustible material.   | 20. In the interests of safety and fire prevention.  |
| 21. The premises to be adequately ventilated.   | 21. In the interests of public health  |
| 22. The electrical installation to be in screwed conduit.   | 22. In the interests of safety and prevention.   |

*Hub*  
26/1/79

CARLOW URBAN DISTRICT COUNCIL

LOCAL GOVERNMENT (PLANNING & DEVELOPMENT) ACTS, 1963 and 1976.

NOTIFICATION OF A GRANT OF A PERMISSION/~~AN OUTLINE PERMISSION/ AN APPROVAL~~

BY REGISTERED POST:

To: Mr. Peter Doyle, Reference No. in  
Architect, Register: P.D. 1302  
31, Percy Place, Application received 9/8/78  
Dublin, 4.

Application/~~outline application~~ by Mr. Peter Doyle, Architect,  
of 31, Percy Place, Dublin, 4, on behalf of M/S Braun (I) Ltd., Dublin, Rd., Carlow  
for a permission/~~outline permission/an approval~~ to erect a revised tank cover  
structure  
at the rear of premises at Dublin Road, Carlow.

A permission/~~outline permission/an approval~~ has been granted for the  
development/~~extension~~ described above, subject to the following conditions:-

CONDITIONS

REASONS FOR CONDITIONS

Nil.

The outline permission is also subject to further approval being obtained in accordance with the Local Government (Planning & Development) Acts, 1963 and 1976, Permission (Regulations) 1977, prior to the commencement of any part of the development.

Signed on behalf of the Council:

A. P. SHARKEY,  
Town Clerk.

Date.

CARLOW URBAN DISTRICT COUNCIL

LOCAL GOVERNMENT (PLANNING & DEVELOPMENT) ACTS, 1963 and 1976.

NOTIFICATION OF A GRANT OF A PERMISSION/~~AN OUTLINE PERMISSION/AN APPROVAL.~~

BY REGISTERED POST:

To: Braum Ireland Ltd., Reference No. in  
Dublin Road, Register: P.D. 1360  
Carlow. Application received 22/1/79

Application/~~Outline application~~ by Mr. F. Archbold,  
of Braum Ireland Ltd., Dublin Road, Carlow.

for a permission/~~Outline permission/An approval~~ for extension to car park

at Dublin Road, Carlow

A permission/~~Outline permission/An approval~~ has been granted for the  
development/~~extension~~ described above, subject to the following conditions:-

CONDITIONS

REASONS FOR CONDITIONS

See attached Schedule.....

The outline permission is also subject to further approval being obtained  
in accordance with the Local Government (Planning & Development) Acts, 1963  
and 1976, Permission (Regulations) 1977, prior to the commencement of any part  
of the development.

CARLOW URBAN DISTRICT COUNCIL  
TOWN HALL.

Signed on behalf of the Council: CARLOW  
A.P. SHARKEY,  
Town Clerk.

27 APR 1979  
Date.

CONDITIONS

REASONS FOR CONDITIONS

- |  |   |
|--|---|
| 1. The new entrance to be relocated at point A as on the attached map.         | 1. In the interest of road safety.        |
| 2. The relocated entrance to be constructed exactly as existing entrance at B. | 2. In the interest of road safety.        |
| 3. The grass slope shown hatched on the attached map to remain as at present.  | 3. To preserve the amenities of the area. |

60-4

N

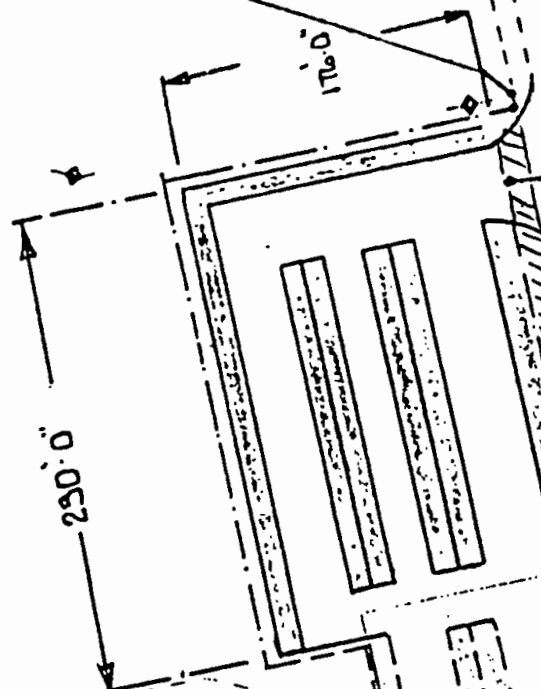
A

+ 62.5

P

II

CARLOS L. ... DISTRICT COUNCIL  
 22 JUN 1959

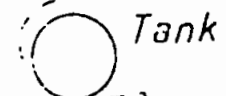


PROPOSED NEW ENTRANCE

A

B

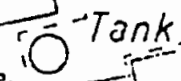
Engine



Tank

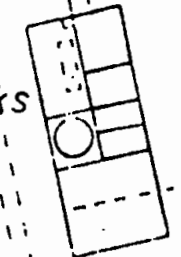


ES



Tank

Air Vent



Tanks

CARLOW URBAN DISTRICT COUNCIL

LOCAL GOVERNMENT (PLANNING & DEVELOPMENT) ACTS, 1963 and 1976.

NOTIFICATION OF A GRANT OF A PERMISSION/ AN OUTLINE PERMISSION/ AN APPROVAL

BY REGISTERED POST:

To: Braum (Ireland) Ltd. Reference No. in  
Dublin Road, Register: P.D. 1475  
Carlow Application received: 18th October, 1979

Application/~~outline permission~~ by Braum (Ireland) Ltd  
of Dublin Road, Carlow.  
for a permission/~~outline permission/approval~~ To erect a Chemical Store and  
convert existing Tank Structure to Workshop  
at Dublin Road, Carlow.

A permission/~~outline permission/approval~~ has been granted for the  
development/~~outline permission/approval~~ described above, subject to the following conditions:-

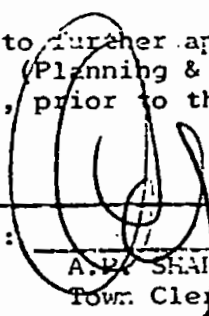
CONDITIONS

REASONS FOR CONDITIONS

See attached Schedule and Map

The outline permission is also subject to further approval being obtained in accordance with the Local Government (Planning & Development) Acts, 1963 and 1976, Permission (Regulations) 1977, prior to the commencement of any part of the development.

Signed on behalf of the Council:

  
A. P. SHANKEY,  
Town Clerk.

16th February 1980  
Date  
CARLOW URBAN DISTRICT COUNCIL  
TOWN HALL  
CARLOW

Development Proposed:- Erection of Chemical Store and conversion of existing Tank  
Structure to Workshop for Braun (Ireland) Ltd.  
Dublin Road, Carlow.

P.D. Ref No. 1475.

Schedule of Conditions attached to Grant of Permission

1. External finish on all new walls and roofs  
to be same as existing
2. A door, not less than 3 feet in clear width, to be provided from the store at point  
marked "X" on the plan attached.
3. Satisfactory ventilation to be provided from the tanks in the Chemical store.

Reason for Conditions

1. To protect the amenity of the area.
2. & 3. To comply with the requirements of the Chief Fire Officer.

-----oooooooooooo-----



CARLOW URBAN DISTRICT COUNCIL

LOCAL GOVERNMENT (PLANNING & DEVELOPMENT) ACTS, 1963 - 1983

NOTIFICATION OF A GRANT OF PERMISSION/~~OUTLINE PERMISSION/~~~~APPROVAL~~

BRAUN (Ire) LTD,

Reference No.  
in Register: PD 2660

DUBLIN ROAD,

CARLOW.

Application  
received: 30/11/1990

Application by BRAUN (Ire) LTD,

Of DUBLIN ROAD, CARLOW,

for permission/~~outline permission/~~~~approval~~ in accordance with plans and  
specification submitted to the Council on 30th November, 1990,

for Extend (i) car park (ii) chiller room and (iii) dry goods store

at Dublin Road, Carlow.

Permission/~~outline permission/~~~~approval~~ has been granted for the  
development/~~extension~~ described above, subject to the conditions attached  
hereto.

CARLOW URBAN DISTRICT COUNCIL  
TOWN HALL  
CARLOW

Signed on behalf  
of the Council.

SEAN O'SHEA.  
Town Clerk.

Date 19th February, 1991.

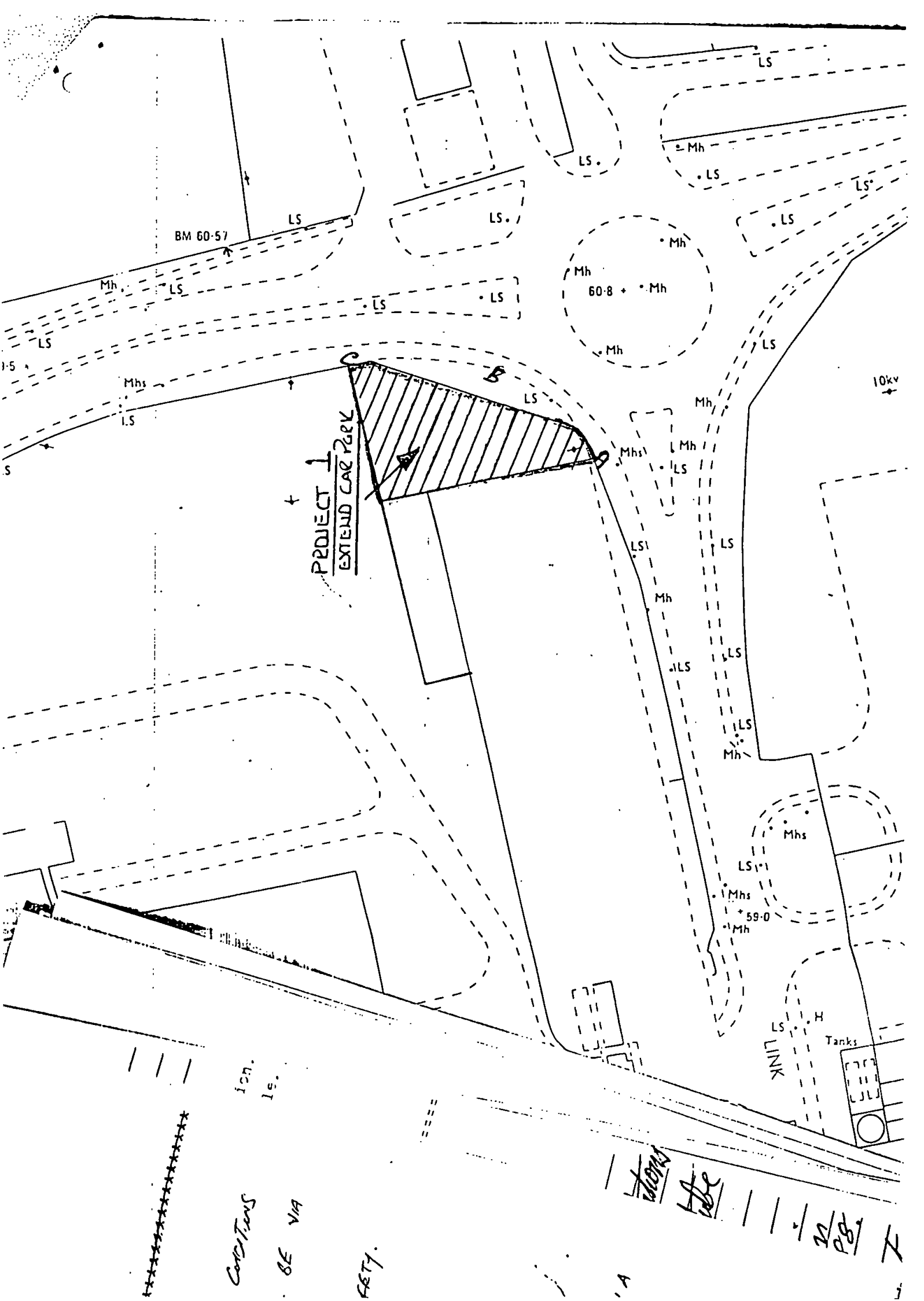
COLUMN 1 - Conditions

1. Access to and from the proposed extension to the car park shall be via the existing entrance.
2. The external finish of the walls shall match the existing building.
3. The applicant shall plant and maintain a hedge, or alternatively a tree screen, not more than 1.5 metres high when mature along the roadside boundary marked A-B-C in red on the attached map.

COLUMN 11 - Reasons for Conditions

1. In the interests of orderly development and traffic safety.
2. In order to preserve the amenities of the area.
3. In order to preserve the amenities of the area.

\*\*\*\*\*



PROJECT 1  
EXTEND CAR PARK

BM 60-57

60-8

59-0

LINK

Tanks

CONDITIONS  
BE VIA  
F&TY.

A  
1000V  
10kV  
N

CARLOW URBAN DISTRICT COUNCIL

LOCAL GOVERNMENT (PLANNING & DEVELOPMENT) ACTS, 1963 - 1993

NOTIFICATION OF A GRANT OF PERMISSION/~~OUTLINE PERMISSION/~~~~APPROVAL~~

Braun Ireland Limited,  
Dublin Road,  
Carlow.

Reference No.  
in Register: PD 3184

Application  
received: 22nd June 1995

Application by Braun Ireland Limited

Of Dublin Road, Carlow

for permission/~~outline permission/~~~~approval~~ in accordance with plans and  
specification submitted to the Council on 22nd June 1995

for Install 3 No. Silo Containers

at Braun Ireland Limited, Dublin Road, Carlow.

Permission/~~outline permission/~~~~approval~~ has been granted for the  
development/~~extension~~ described above, subject to the conditions attached  
hereto.

Signed on behalf  
of the Council.



J. WATTERS,  
Town Clerk.

Date

3<sup>rd</sup> Aug 95  
CARLOW URBAN DISTRICT COUNCIL

TOWN HALL

CARLOW

0500 2114

P. D. 3184      **INSTALL 3 NO. SILO CONTAINERS AT  
BRAUN IRELAND LIMITED, DUBLIN ROAD,  
CARLOW.**

**BRAUN IRELAND LIMITED,  
DUBLIN ROAD,  
CARLOW.**

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**COLUMN 1 - Conditions**

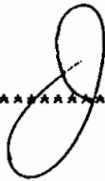
**COLUMN 2 - Reason for Conditions**

---

1.      **The colour of the Silos shall  
be agreed with the Planning  
Authority.**

1.      **In the interests of the visual  
amenities of the area.**

\*\*\*\*\*

A handwritten signature in black ink, consisting of a large, stylized loop that crosses itself, positioned centrally over the dotted line.

CARLOW URBAN DISTRICT COUNCIL

LOCAL GOVERNMENT (PLANNING & DEVELOPMENT) ACTS, 1963 - 1993

NOTIFICATION OF A GRANT OF PERMISSION/~~XXXXXX PERMISSION/ APPROVAL~~

Braun Ireland Limited,  
Dublin Road,  
Carlow.

Reference No.  
in Register: PD 3207

Application  
received: 11th Sept. 1995

Application by Braun Ireland Limited

Dublin Road, Carlow.

Of \_\_\_\_\_

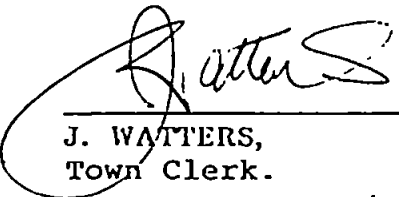
for permission/~~outline permission/ approval~~ in accordance with plans and  
specification submitted to the Council on 11th September 1995

for Demolish existing building and build new storage area

at Braun Ireland Limited, Dublin Road, Carlow.

Permission/~~outline permission/ approval~~ has been granted for the  
development/~~retention~~ described above, subject to the conditions attached  
hereto.

Signed on behalf  
of the Council.

  
\_\_\_\_\_  
J. WATTERS,  
Town Clerk.

Date

A<sup>n</sup> Dec 95  
\_\_\_\_\_  
CARLOW URBAN DISTRICT COUNCIL  
TOWN HALL  
CARLOW  
2607 1995

P.D. 3207

**DEMOLISH EXISTING BUILDING AND BUILD NEW STORAGE AREA  
AT BRAUN IRELAND LIMITED, DUBLIN ROAD, CARLOW.**

**BRAUN IRELAND LIMITED,  
DUBLIN ROAD,  
CARLOW.**

---

**COLUMN 1 - Conditions  
conditions**

**COLUMN 2 - Reason for**

---

1. **Surface water from within the site shall be disposed of either within the site by means of soakpits or else discharged properly into ditches or drains adjacent to the site.**

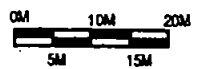
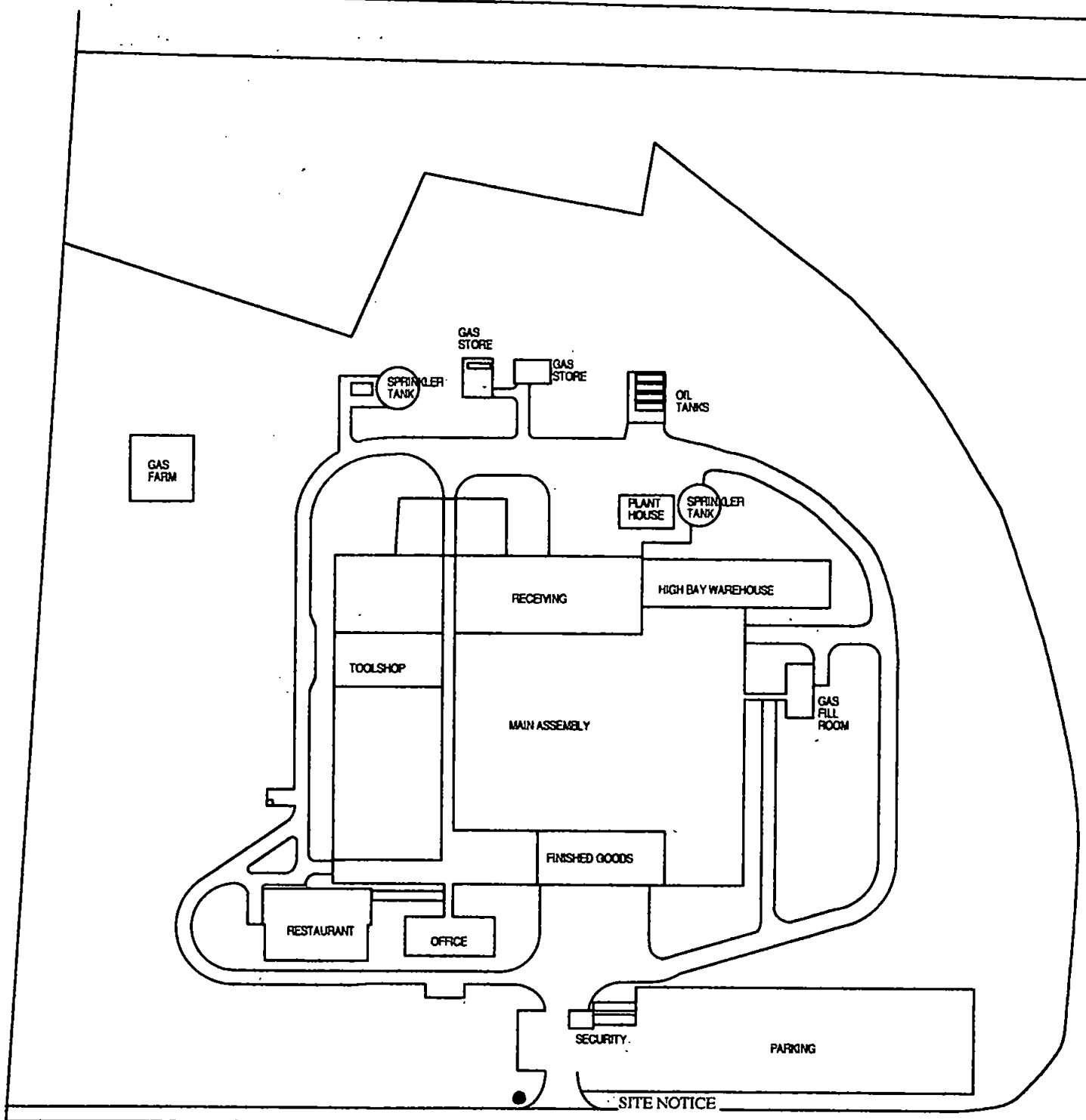
1. **To ensure that flooding of the public road by surface water from the site does not occur.**

\*\*\*\*\*





# SITE NOTICE LOCATION MAP



# BRAUN

Braun Ireland Limited,  
Dublin Road,  
Carlow,  
Ireland.

Telephone: Reception (++) 353 503 76400

Telefax: Engineering (++) 353 503 76402

Finance (++) 353 503 76403

Planning (++) 353 503 76402

Purchasing (++) 353 503 76404

Shipping (++) 353 503 76405

Braun Ireland Limited, Dublin Road, Carlow.

---

Joe Waters  
Town Clerk  
Town Hall  
Carlow

9 June 1997

Dear Sir

I wish to inform the Carlow Urban Council that Braun Ireland Limited is applying for an IPC Licence to the EPA as outlined on the following sheet.

Attached is the text that will be posted at our site and in the local paper from Monday, 16th June.

Yours sincerely

Braun Ireland Limited

P.J. Henry   
Environmental Safety Officer

c.c. Michael Delahunty  
Acting County Secretary  
Carlow County Council  
Athy Road  
Carlow

**“ Application to the Environmental Protection Agency for a Licence “**

**Braun Ireland Limited, Dublin Road, Carlow, Co Carlow, (Grid Reference E273366 N177502) hereby applies for a licence to the Environmental Protection Agency.**

**Braun Ireland Limited is making the application under the following classes in accordance with the First Schedule of the Environmental Protection Agency.**

### **12.3 Electroplating Operations**

**A copy of the application may be inspected at or obtained from the Head Quarters of the Agency.**

**Site Notice - 16/6/1997**

**“ Application to the Environmental Protection Agency for a Licence “**

**Braun Ireland Limited, Dublin Road, Carlow, Co Carlow, (Grid Reference E273366 N177502) hereby applies for a licence to the Environmental Protection Agency.**

**Braun Ireland Limited is making the application under the following classes in accordance with the First Schedule of the Environmental Protection Agency.**

**12.3 Electroplating Operations**

**A copy of the application may be inspected at or obtained from the Head Quarters of the Agency.**



**CARLOW URBAN DISTRICT COUNCIL,**  
Town Hall, Carlow.  
Tel. (0503) 31759 & 31578

## PROPOSED HOUSING DEVELOPMENT AT GOVERNEY SQUARE, CARLOW

In accordance with the Local Government (Planning & Development) Regulations 1994, Carlow U.D.C. hereby gives notice of proposal to construct a 6 House Development at Governey Square, Carlow. The proposed development will comprise of 5 two-bedroom houses and 1 three-bedroom house.

Plans and particulars to the proposed development will be available for inspection at the Town Hall, Centaur Street, Carlow between the hours of 10.00 a.m. to 1 p.m. and 2 p.m. to 5 p.m., Monday to Friday, excluding Bank Holidays, for a period of one month from the date of this notice.

Submissions or observations with respect to the proposed development, dealing with the proper planning and development of the area, may be made by writing to the Town Clerk, Carlow U.D.C. before the 5th August, 1997.

**J. WATTERS, Town Clerk,**  
20th June, 1997.



## COISTE GHAIRM OIDEACHAIS CHONTAE CHILL DARA

(County Kildare Vocational Education Committee)

County Kildare Vocational Education Committee will welcome submissions for financial assistance under the two schemes listed below:

- (A) Grants for Youth and Sports Organisations.
- (B) Grants for the Provision of Special Projects of a Sporting Nature with a Focus on Persons from Disadvantaged Backgrounds.

- (A) Applications for assistance under this scheme are invited from youth and sports organisations within the County of Kildare.

Grants-in-aid may be available for attendance at certain training and coaching courses, as well as for the provision of rented premises, for heating, lighting, equipment and administrative expenses.

Grants-in-aid may be available for purposes other than those listed above.

- (B) Applications for assistance under this scheme are invited from organisations within County Kildare. Examples of projects which may be assisted (not in any order of priority) are listed hereunder.

- Introduction of Youth and Sport projects in selected areas where opportunities do not exist already.
- Playscheme for young travellers.
- Youth and Sport Leadership Courses
- Outdoor Education Courses for young people from disadvantaged backgrounds.
- Introduction of sports activities to young people.
- Summer camps.
- Watersports programme.
- Support for youth information centres and distribution of information on youth and sports activities and facilities.
- Development of special projects for children at risk.

Application for grants in aid under the above schemes must be lodged on the official application form, obtainable from the undersigned, before 5 pm on Friday, 29th August, 1997.

**Please note\*** These grants are funded by the Department of Education from the proceeds of the National Lottery.

**C. Ó Ceannabháin,**  
Chief Executive Officer.

County Offices,  
Limerick Road,  
Naas,  
Co. Kildare.

clearance certificate.

Successful applicants will be chosen on the basis of the quality of the design, and the extent to which the new signage/shopfronts will improve the appearance of the town or village. Applications are limited to shops, offices and licensed premises located within any village or town within the county, except the towns of Naas, Athy, Leixlip and Droichead Nua (Newbridge).

Applications should be submitted to the County Secretary, St. Mary's, Naas, not later than July 31st, 1997. Successful applicants will be notified in mid-August.

Further details of the scheme, together with applications forms and an information pack, can be obtained from the Council's Planning Department.

**KILDARE COUNTY COUNCIL**  
**YOUR SERVICE PROVIDER**

## COUNTY LAOIS VOCATIONAL EDUCATION COMMITTEE

# NOTICE

## YOUTH AND SPORT GRANT

Applications are invited from Youth and Sport Organisations for limited grants from the Youth and Sport Fund to cover costs in respect of administration, training and coaching, purchase of equipment, etc.

Application forms are available from the undersigned, with whom completed applications should be lodged not later than 5.00 p.m. on Friday, 27th June, 1997. It should be pointed out that because of financial curtailments, it may not be possible to award grants to all qualified applicants.

## SPECIAL PROJECTS

Applications are also invited for Special Projects of a Sporting nature and with a focus on persons from disadvantaged backgrounds. Capital Projects are not eligible for grant aid under this scheme.

Application forms are available from the undersigned, with whom completed applications should be lodged not later than 5.00 p.m. on Wednesday, 25th June, 1997.

The above schemes are funded by the Dept. of Education from the proceeds of the National Lottery.

**Ronan Rice,**  
Chief Executive Officer,  
Administrative Offices,  
Ridge Road, Portlaoise, Co. Laois.  
Phone: (0502) 21352/22435/22316.

**Kildare County Council.**  
Planning permission sought from Kildare Co. Council for change of bungalow design to existing planning permission Ref. No. 1480/95 at Kildoon, Nurney, Co. Kildare. Paddy & Vanessa Dempsey.

**Kildare County Council.**  
Planning permission sought for bungalow, garage and puraflo system at Loughabar, Rathconnell, Nurney, Co. Kildare. Signed: Thomas Fleming.

**Braun Ireland Limited,**  
Dublin Road, Carlow, Co. Carlow. Grid Reference E273366, N177502. Hereby applies for a licence to the Environmental Protection Agency. Braun Ireland Limited is making the application under the following classes in accordance with the first schedule of the Environmental Protection Act, 1992. 12.3 ElectroPlating Operations. A copy of the application may be inspected at or obtained from the head quarters of the agency.

**Laois Cou**  
Planning pe  
hereby sough  
house, septi  
"Bord Na M  
effluent treat  
and associate  
opment works  
Crettyard,  
Signed: John  
O'Neill.

**Carlow Cou**  
Full permissi  
dwellinghouse  
and percolat  
Graignaspido  
Signed: Bartle  
Colette Kelly.

**Carlow Cou**  
Full permissi  
bungalow, se;  
percolation  
Ballaghaclay.  
Co. Carlow.  
Dowling.

**Laois Cou**  
Permission  
changes to  
ning permiss  
97/41 namely  
bungalow lay  
layout. Sig  
Coffey.

**Laois Cou**  
Full planning  
sought for dor  
and septic la  
Ballylinan.  
Hyland & B. M.

**Carlow Co**  
Full planning  
requested for  
two storey pr  
and septic ta  
Co. Carlow.  
Damian Wilki

**Carlow Co**  
Bagenalstow  
Putt Club wi  
Carlow Co. C  
ning permiss  
and refurbish  
Club House  
Park, Bagen  
on behalf of  
Kathleen Her

**Athy UDC**  
sought for  
entrance to  
Leinster S  
Clancy.

**Athy UDC**  
sought for rel  
floor apartm  
ciated site  
provision of  
ments at  
Press, Offaly  
King.

To place an advertisement - Carlow (0503) 43366; Fax (0



## **ATTACHMENT NO. 9 (Process Descriptions & Flowcharts)**

### **PROCESS DESCRIPTION**

The manufacturing operation consists of three main phases; moulding, assembly and packaging.

In the moulding area, plastic granules are melted and moulded into various parts such as housings, fans and switches, which will later be used in assembly. The plastic granules may be of the following types; polycarbonate, ABS, Polypropylene, polyanide, SAN, POM, Polybutyl T, APEC, PVC or others. Reject moulds or sprue may be reground and used again in the moulding process. There are thirty six moulding machines which vary in size from 50 to 250 tonnes.

The Tool Room acts as a support service to moulding, by cleaning and repairing moulds or making machine assembly fixtures.

Assembly can be divided into the following areas; Hairdryers, curlers, shaver foils, gas cartridges, and shaver bushes.

In the hairdryer assembly the winding of elements occurs and a lubricating oil is placed on the wires. This is burnt off during testing and the fumes are extracted and filtered. The element is then glued using a ceramic glue. Following this are the soldering and printing stages of the product. Currently tampon printing is used but this operation as well as soldering is expected to be phased out in the future by replacing with laser printing and snap assembly respectively. The hairdryers are then sent for packaging. The assembly of haircurlers involves the same stages as hairdryer stage.

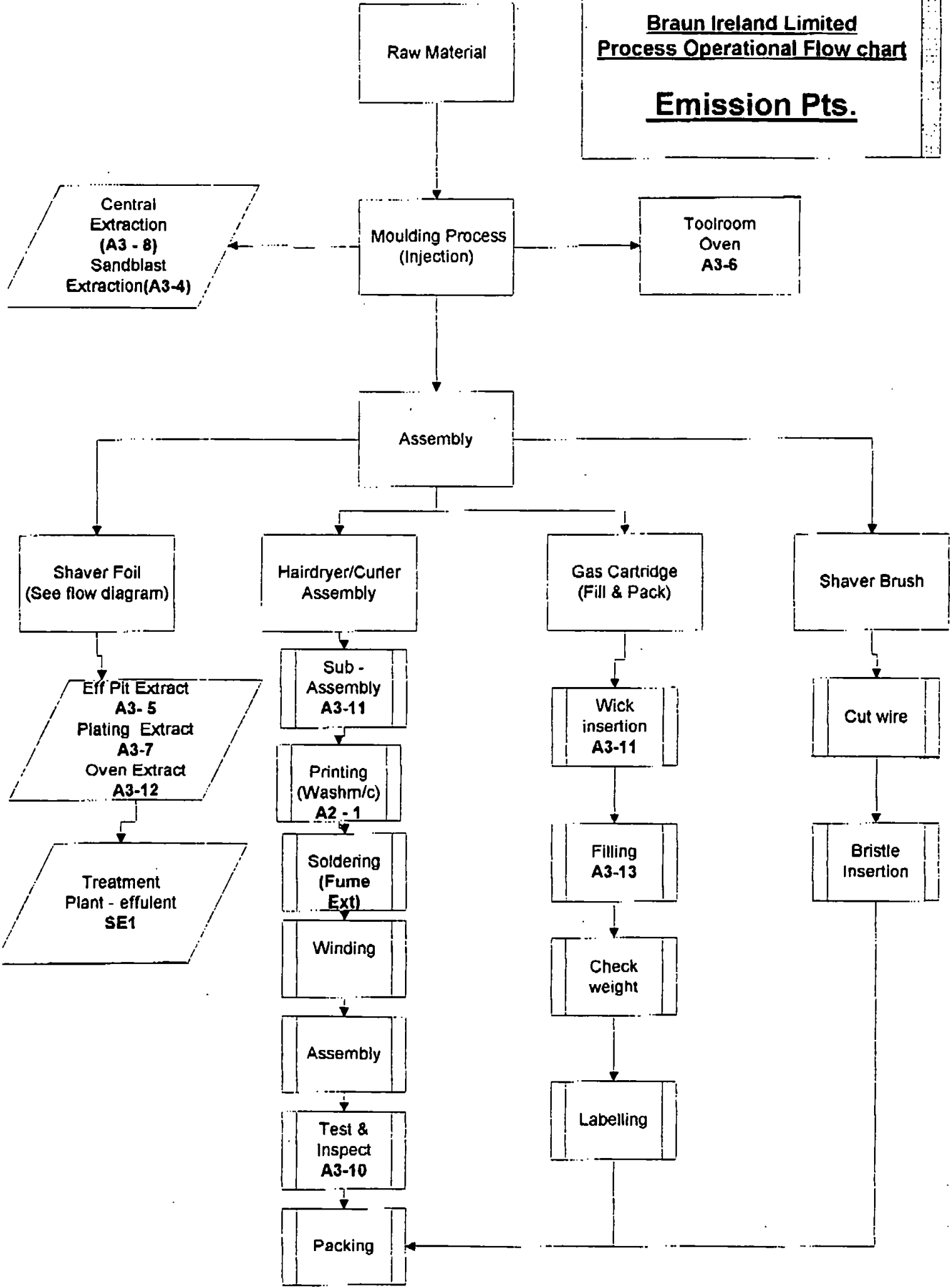
(Methanol is used on production lines to clean plastic parts.)

The gas cartridges (made in moulding) have a carbon filter bag, a wick and ball bearing inserted in each before being filled with isobutane in the clean room. They are then weighed to ensure fullness, reject or underweight cartridges are burst and the isobutane is burnt off to give CO<sub>2</sub> and water.

The shaver foil process involves standard electroplating with Nickel, Palladium and Platinum.

Finally product packing utilises cardboard, paper, leaflets, and in the case of hairdryers, plastic.

**Braun Ireland Limited**  
**Process Operational Flow chart**  
**Emission Pts.**



**Braun Ireland Limited  
Process Operational Flow chart**

**Waste Generation  
Pts.**

Raw Material

Atlas Oil collect oil for recycling

Moulding Process  
(Injection)

Toolroom  
(Waste Oil Recycled)

Waste Sprue  
Waste Oil  
Recycled

Assembly

Shaver Foil  
(See flow diagram)

Hairdryer/Curler  
Assembly

Gas Cartridge  
(Fill & Pack)

Shaver Brush

KMK METALS COLLECT AND DISPOSE OF IN UK

Collected by Midland metal for recycling

50% RECYCLED INHOUSE  
50% COLLECTED BY KMK  
AND DISPOSED OF AS  
HAZARDOUS WASTE IN  
UK

Waste Nickle  
Sludge  
(Recycled)

Crimp/  
Weld  
(Waste Metal -  
Recycled)

Wick insert  
(Waste plastic  
Swarf - Landfill)

Cut wire  
(Waste wire -  
Landfill)

Waste foil  
Cuttings -  
Recycled

Sub-  
assembly  
(Dross/flux  
Recycled)

Filling  
(Reject plastic  
Cartridges  
landfill)

Bristle  
Insert  
(Waste bristle  
Landfill)

Soldering  
(Filters -  
hazardous)

Check  
weight

Winding  
(Waste  
wire -  
Recycled)

Assembly

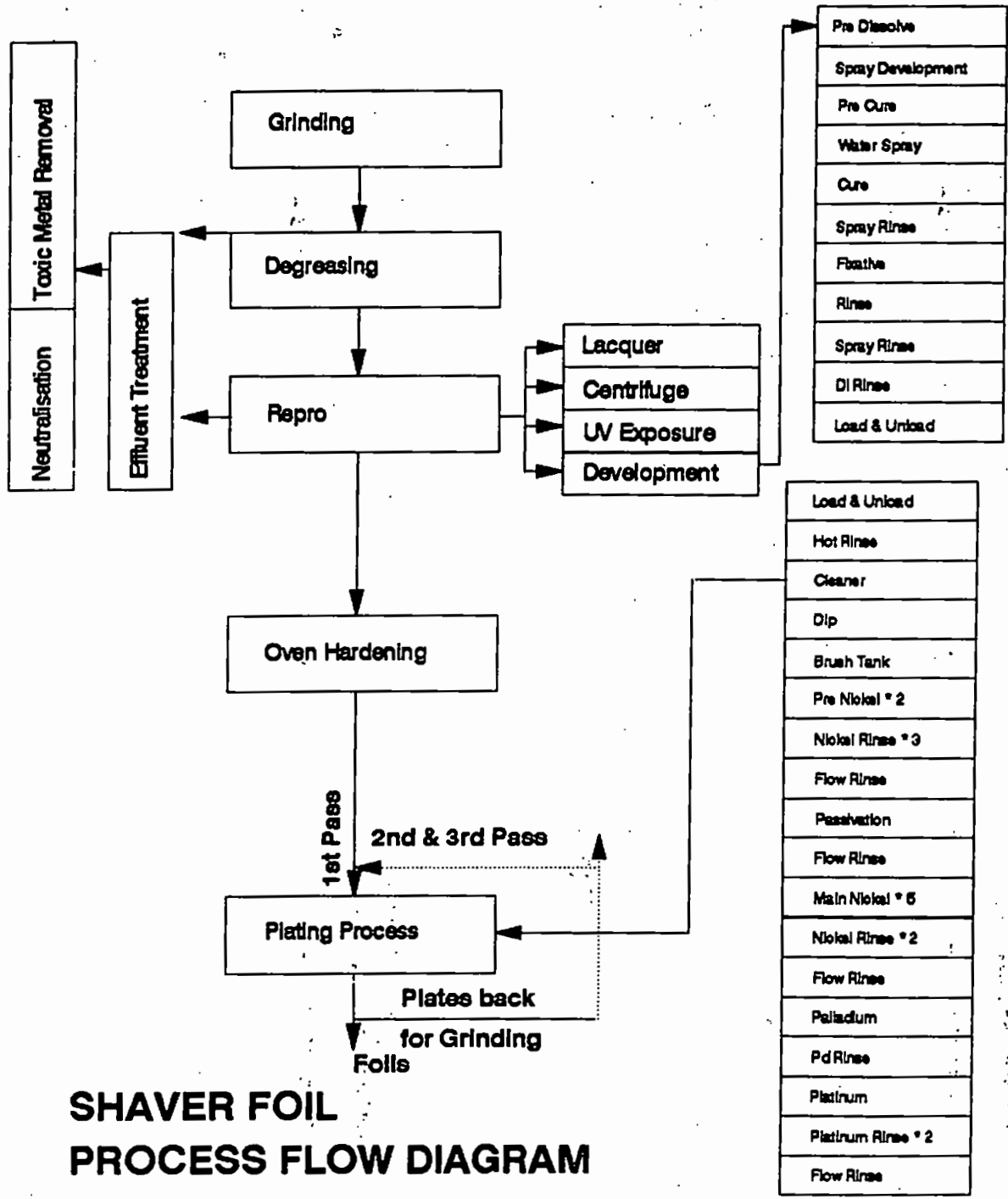
Labelling

Test &  
Inspect

Waste cardboard  
collected by Ray  
Whealan for  
recycling - Smirfit

Packing  
(Waste Cardboard  
Recycled)

061 -401093

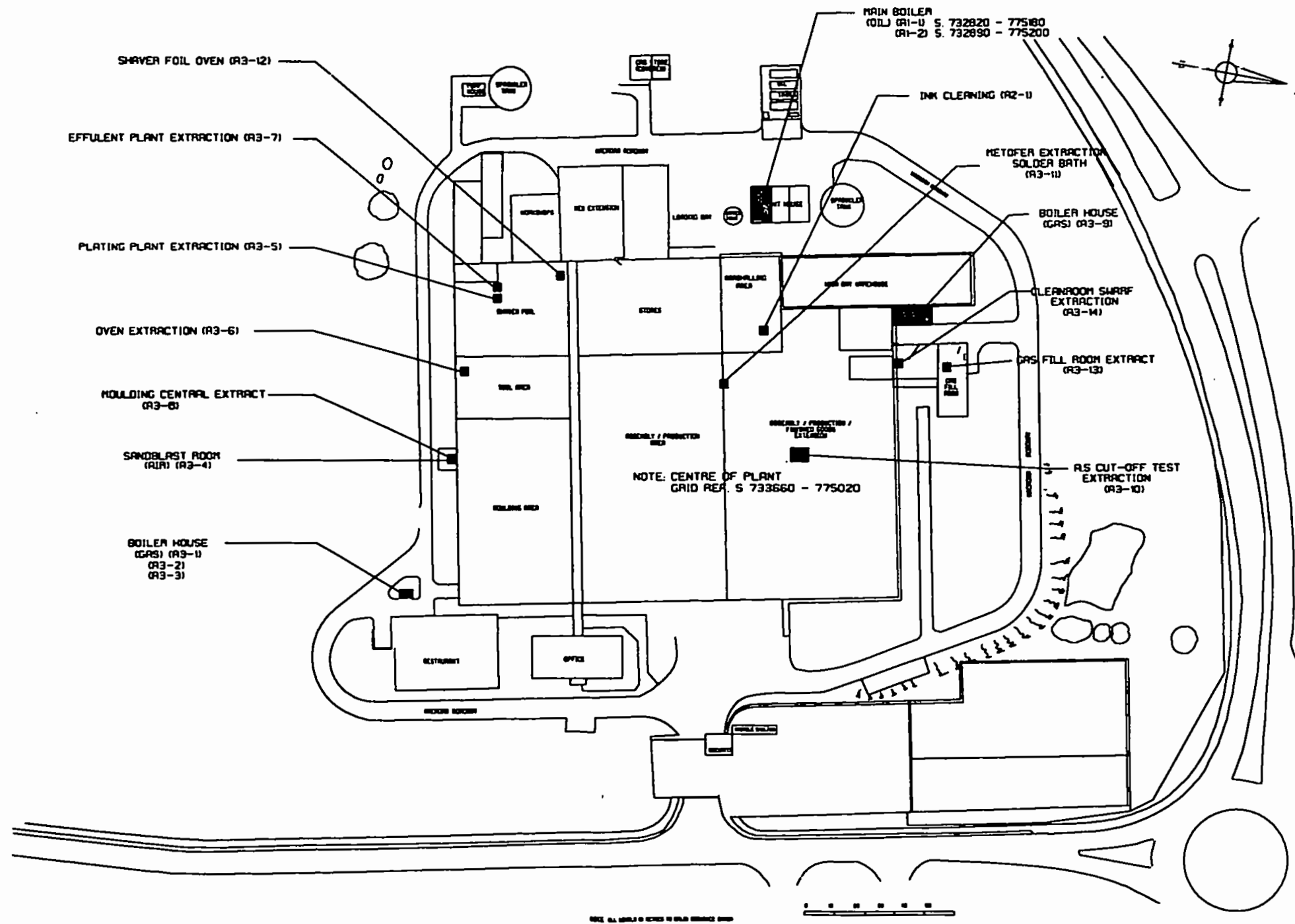


**SHAVER FOIL  
PROCESS FLOW DIAGRAM**

12A

**ATTACHMENT NO. 12A**

Emission point Reference Numbers	Description	National Grid Reference
A1-1	Main Oil Boiler House	E273282 N177518
A1-2	Main Oil Boiler House	E273289 N177520
A2-1	Ink Mixing Machine	E273323 N177524
A3-1	Natural Gas Boiler 220Kw Restaurant	
A3-2	Natural Gas Boiler 220Kw Front Office	
A3-3	Natural Gas Boiler 35Kw Hot Water (domestic use)	
A3-4	Sand Blast Room Extract	
A3-5	Plating Plant Extract	
A3-6	Oven Extract: Tool Room	
A3-7	Effluent Plant Extract	
A3-8	Moulding Central Extract	
A3-9	Natural Gas Boiler 220Kw Gas Fill Room	
A3-10	As Cut-Off Test Extract	
A3-11	Metefor Extract	
A3-12	Shaver Foil Oven	
A3-13	Gas Fill Room Extract	
A3-14	Swarf Extract	

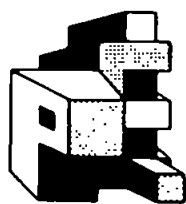


NOTE: AIR EMISSION POINTS

				TOL. FOR UNSPEC. DIMS.		MATERIAL				
				±0.1						
				DATE	NAME	TITLE		SCALE		
				DRAWN	20-5-97					PD
				CHECKED						
				APPROVED			AIR EMISSION POINTS		ISSUE	
				BRAUN		ORG. No.				
ISS	MODS.	DATE	NAME					1		

**ATTACHMENT NO. 12A**

**Details on abatement for minor emissions**



# Production Equipment Ltd.

Riverside Commercial Estate, Galway, Ireland.

Telephone 091-755557 Fax 091-751299

## LIST OF BRAUNS MACHINES TO DATE

TYPE	LOCATION PLANT	FILTER TYPE	SERIAL NO :
Welding Extractor	Moulding Room	Special	
Parafin Wash Machine	Moulding Room	Special	
7000/180 HDPF	Moulding Room	Standard SFE	180 HD-001
7000/180 HDPF	Moulding Room	Standard SFE	134
7000/2-6 Arm	Grinder	Standard SFE & Flame Arrest Prefilter	008
7000/4 Arm	HLH Line	Castle Chemical	4-007
7000/16 Arm	HLH Line	Castle Chemical	106
7000/100 HD	HLH Line	Chemical Oil	1560421
7000/100 HDPF	Not Fitted (No Position Now)	Chemical Oil	110
7000/16 Arm	PX/PXE Line	Castle Chemical	107
7000/100 HDPF	PX/PXE Line	Chemical Oil	125
7000/2000 PF	PX/PXE Line	Castle Chemical	110
7000/16 Arm	PF/PFV/600	Castle Chemical	108
7000/16 Arm	Ratio / PF	Castle Chemical Oil	112
7000/16 Arm	Ratio Line	Castle Chemical	111
7000/16 Arm	Metaphor	Castle Chemical	16-001
7000/4 Arm	Milling Machine / Ratio	Castle Chemical	065
7000/4 Arm	HS Line	Castle Chemical	064
7000/4 Arm	AS 11/12/22	Castle Chemical	063
7000/1500 PF	AS 400/R	Castle Chemical	001
7000/100 HD Special	Gas Room	SFE Standard	119
7000/150 PF	Polishing Station	SFE Yellow	150
6000/500	Not in Use	Chemical	A168

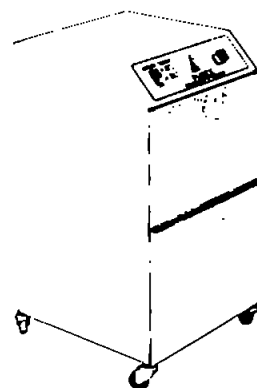
## Extensive range of systems combined with a comprehensive range of Multi-position Arms and Cowlings

How to select which Purex system you require.

Purex industrial fume purification systems are available in a wide range, enabling companies to accommodate any number of extraction points. In addition to this, an impressive range of Purex Multi-position Arms and cowlings ensures that personnel can be protected from all fume producing production processes.

The model number (7000/16 Arm) is divided into two parts, ie. 7000 represents the series no. and the last number, ie. 16 indicates the maximum number of extraction positions that this system can accommodate.

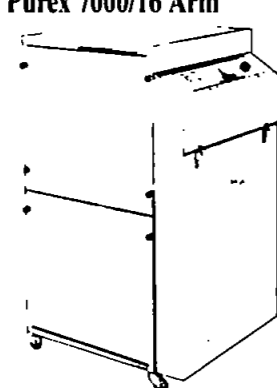
Purex 7000/1 Arm



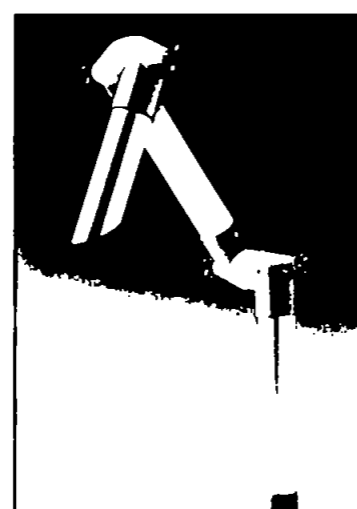
Purex 7000/2 Arm  
Purex 7000/4 Arm



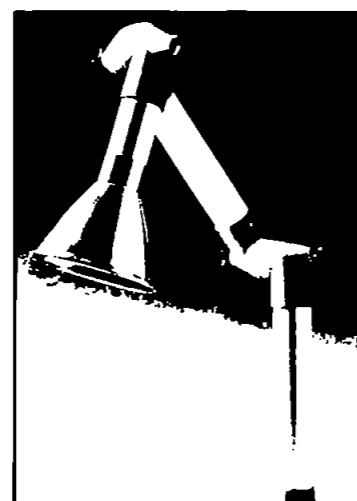
Purex 7000/8 Arm  
Purex 7000/10 Arm  
Purex 7000/16 Arm



DELTA COWL



PEN NIB COWL



CONICAL COWL

An attractively polished, soundproofed, solvent and corrosion resistant stainless steel machine. Designed to give protection to a single operator.

This range comprises two attractively polished, soundproofed, solvent and corrosion resistant stainless steel machines. Giving complete protection for 2 to 4 operators.

This range comprises three attractively polished, soundproofed, solvent and corrosion resistant stainless steel machines. Giving complete protection for 8 to 16 operators.

- Total protection from industrial fumes
- Guaranteed non-collapsible three stage filter system - tested by photometry to 99.997% at 0.3 micron
- Acid gas neutraliser
- All filters individually tested and certified
- Stainless steel soundproofed housing
- Electronic monitoring panel
- Filter condition LED Bar Graph
- Remote monitoring facility
- Integral silencer
- Complies with all international regulations

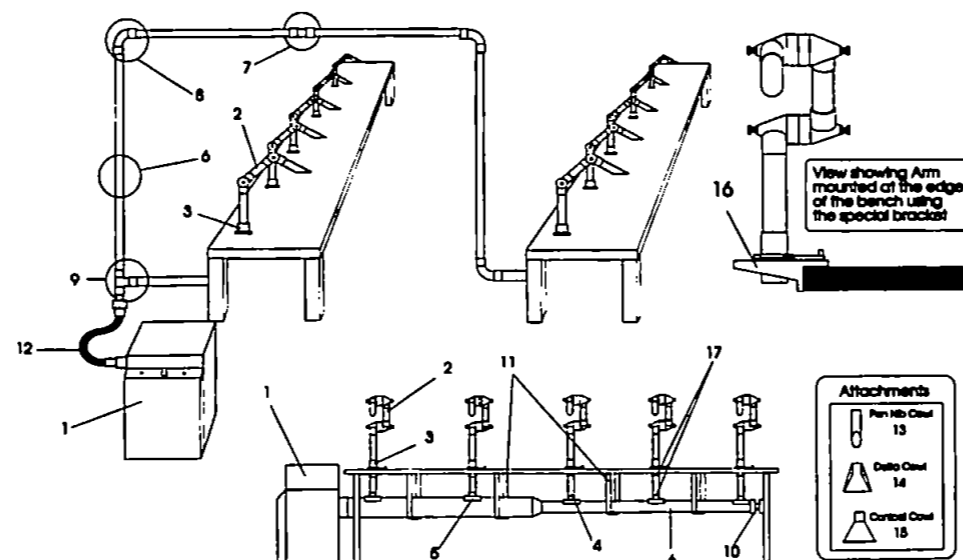
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- Remote monitoring facility
- Integral silencer
- Complies with all international regulations

### Piping

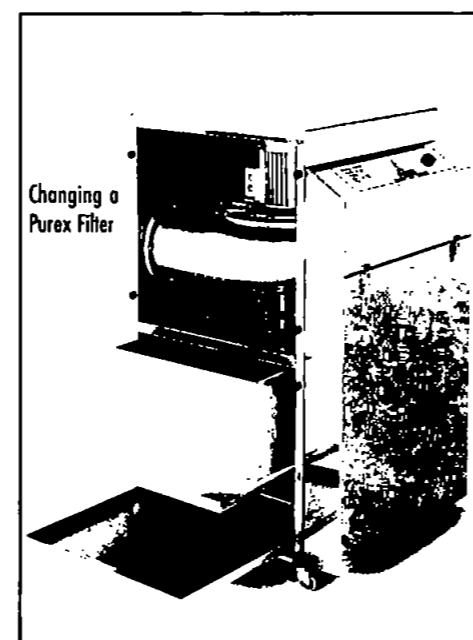
The piping can be stainless steel or galvanised steel. When purchasing a system, contact your supplier who will advise you on the piping layout required for your machine.

## Typical Purex 7000 Multi-position Extraction Arm System Layout



Item	Description
1.	Purex 7000 Fume Purification Machine
2.	Multi-Position Extraction Arm
3.	Support Collar complete with On/OFF Valve
4.	Flexible Hose
5.	Piping Saddle
6.	Galvanised Piping
7.	Straight Connector
8.	90° Bend
9.	Equal 'T'
10.	End Blank
11.	'U' Bracket
12.	Flexible Hose & Assembly Coupling
13.	Pen Nib Cowl
14.	Delta Cowl
15.	Conical Cowl
16.	Bracket for Bench Mounting Arm
17.	Jubilee Clip

### Routine Maintenance



The Purex 7000 range of Multi-position Arm Extraction systems are very simple to maintain and can easily be cared for by the operators. The centralised filtration unit and reverse airflow feature reduces maintenance, thereby saving valuable man-hours.

### Technical Data

	Purex 7000/1 Arm	Purex 7000/2 Arm	Purex 7000/4 Arm	Purex 7000/8 Arm	Purex 7000/10 Arm	Purex 7000/16 Arm
Size	H= 660mm W= 433mm L= 433mm	H= 995mm W= 580mm L= 680mm	H= 995mm W= 580mm L= 680mm	H= 1240mm W= 715mm L= 770mm	H= 1240mm W= 715mm L= 770mm	H= 1240mm W= 800mm L= 830mm
Weight	32 Kg	92 Kg	94 Kg	130 Kg	130 Kg	140 Kg
Voltage EC	230V	240V	240V	400V 3 Ph + Neut.	400V 3 Ph + Neut.	400V 3 Ph + Neut.
Voltage US	230V	240V	240V	220V 3 Ph + Neut.	220V 3 Ph + Neut.	220V 3 Ph + Neut.
Frequency EC	50 Hz	50 Hz	50 Hz	50 Hz	50 Hz	50 Hz
Frequency US	60 Hz	-	60 Hz	60 Hz	60 Hz	60 Hz
Wattage EC	0.68kW	0.75kW	1.1kW	2.2kW	2.2kW	5.5kW
Wattage US	0.58kW	-	1.1kW	1.8kW	1.8kW	3.6kW
Vacuum	1500mm wg	150mm wg	200mm wg	255mm wg	260mm wg	520mm wg
Noise Level	62 dBA	62 dBA	63 dBA	66 dBA	68 dBA	72 dBA
Flow Rate EC	100 m³/hr per arm	100 m³/hr per arm	100 m³/hr per arm	100 m³/hr per arm	100 m³/hr per arm	100 m³/hr per arm
Flow Rate US	58.8 cfm per arm	-	58.8 cfm per arm	58.8 cfm per arm	58.8 cfm per arm	58.8 cfm per arm
Extraction Points	1	2	4	8	10	16

Hi-Tech UK are committed to a continuous Product Research & Development Programme, therefore the above data may be subject to change without prior notice. If you require any advice, a demonstration or wish to take advantage of our free consultancy service, call Hi-Tech UK or your distributor.

## PUREX SYSTEMS

Providing fume extraction with purification, complying to Worldwide health regulations, in the following industries:  
Electronics, Engineering, Pharmaceutical, Laser, Food, Welding, General Engineering, Medical, Chemical, Educational Establishments and Government Organisations.

**Guarantee**  
Hi-Tech UK and its Distributors pledge the following:  
To continue the search for reliable, efficient and economical methods of equipment construction.  
To achieve engineering excellence throughout our manufacturing process.  
To give the latest training to our engineers enabling them to carry out a professional installation service.  
To enable companies to comply with Worldwide health regulations.  
To support our equipment with a fast and reliable maintenance and spares service.  
To provide a superior free consultancy service regarding all matters of hazardous fume extraction.

Distributed by:

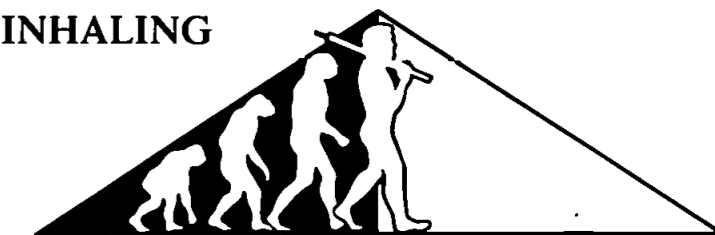
**HI-TECH UK**  
Unit 13, Purex House, Monksbridge Trading Estate, Outgang Lane,  
Dinnington, Sheffield S31 7QY. Tel: 01909 569867 Fax: 01909 569145



THE ULTIMATE IN FUME PURIFICATION FROM

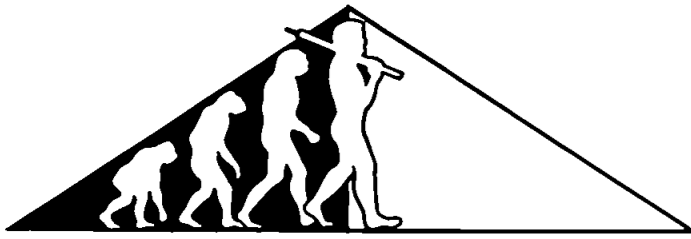
# HI-TECH UK

UNIQUE REVERSE AIRFLOW FEATURE TOTALLY PROTECTS PERSONNEL FROM INHALING HAZARDOUS FUMES



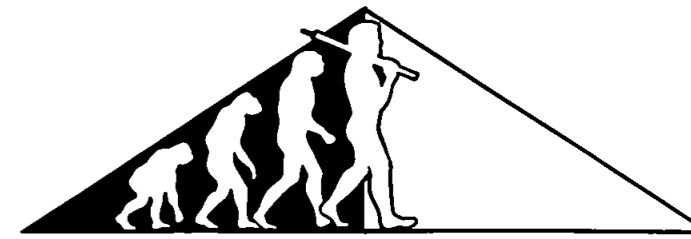
Purex Multi-position Arm Systems

HEAT SAVING • LOW MAINTENANCE • RELIABILITY • PROTECTS THE ENVIRONMENT



# PUREX FUME PURIFICATION SYSTEMS

## A cost effective answer to fume extraction;



# Recommended and endorsed by hundreds of satisfied International Blue Chip Companies & Government Organisations

Does your company need Fume Extraction?

### HEALTH WARNING:

Inhaling fumes can seriously damage your health.

Medical researchers have discovered that a large proportion of Production Staff suffer from the following symptoms: Chest Pains, Influenza and a wide range of Allergic Reactions. When workers are regularly exposed to the inhalation of hazardous fumes, serious illnesses such as Occupational Asthma, Bronchitis and Stomach Cancer can often develop.

If your employees are not currently protected by a fume extraction system, the chances are you could be losing hundreds of productive manhours through sickness, absenteeism and high employee turnover. This may result in higher staffing levels and reduced productivity. New International Legislation could mean that you are vulnerable to expensive compensation claims from employees who display any of the aforementioned symptoms. Worldwide regulations are moving towards preventing companies carrying out work which is liable to expose employees to any substances considered to be hazardous to health.

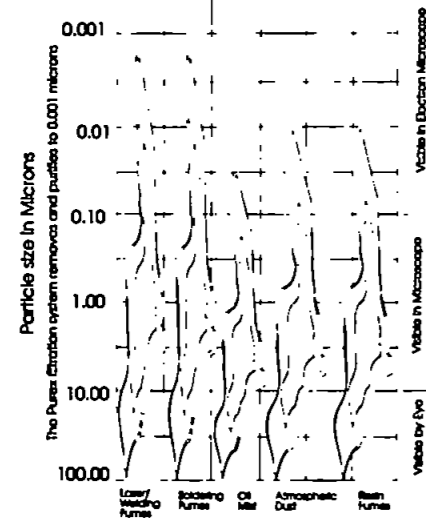
Discover how to prevent fumes from adversely affecting the health of your employees.

Hi-Tech UK manufacture the Purex 7000 Multi-position Arm Fume Extraction range. These systems enable companies to totally comply with all existing worldwide health standards and provide complete protection from the inhalation of fumes.

ILLUSTRATION SHOWING HOW HARMFUL FUMES ENTER AND DAMAGE SENSITIVE LUNG TISSUE



### WHAT ARE FUMES?



### How are they extracted?

Industrial fumes are extracted and purified by the Purex 7000 range of machines and Multi-position Arms.

### PHOTOGRAPHS CLEARLY SHOWING THE AMAZING TRANSFORMATION CREATED BY THE PUREX 7000 MULTI-POSITION FUME EXTRACTION ARM SYSTEM.



### How are they purified?

By means of the superior filtration system, only available with Purex.

In the Purex system we have incorporated an environmental filter which will remove all particulate debris down to 0.3 micron and 95% of particles down to 0.01 micron. The harmful toxic gases present in hazardous fumes cannot be removed by particle filtration; to overcome this, gases are purified within a chemical cartridge. The expelled air is so pure that, if required, it can be recycled back into the workplace (a

guaranteed air purification factor of 99.997%). Not only does this protect the environment but it is also a major heat and energy saving feature.

### Revolutionary Reverse Airflow feature, increases filter life and reduces maintenance.

The airflow in ordinary fume extraction machines causes filters to block up faster, thus shortening filter life and creating poor extraction during the normal life of a filter.

Purex have the answer. A revolutionary design which uses gravitational forces to remove large particles before they enter the filtration system.

All Purex systems have a reverse flow feature, this means that the fume is driven up into the filtration system, thus causing larger particles to fall out of the airflow and into a collection tray, before they reach the filtration system. This therefore stops the filter becoming prematurely blocked, increases filter life and reduces maintenance.

### Guaranteed non-collapsible HEPA filter

Most existing HEPA filter housings are made from chipboard. The filter element is usually formed in box pleats, which are separated by corrugated cardboard or corrugated aluminium supports. During operation three things happen:

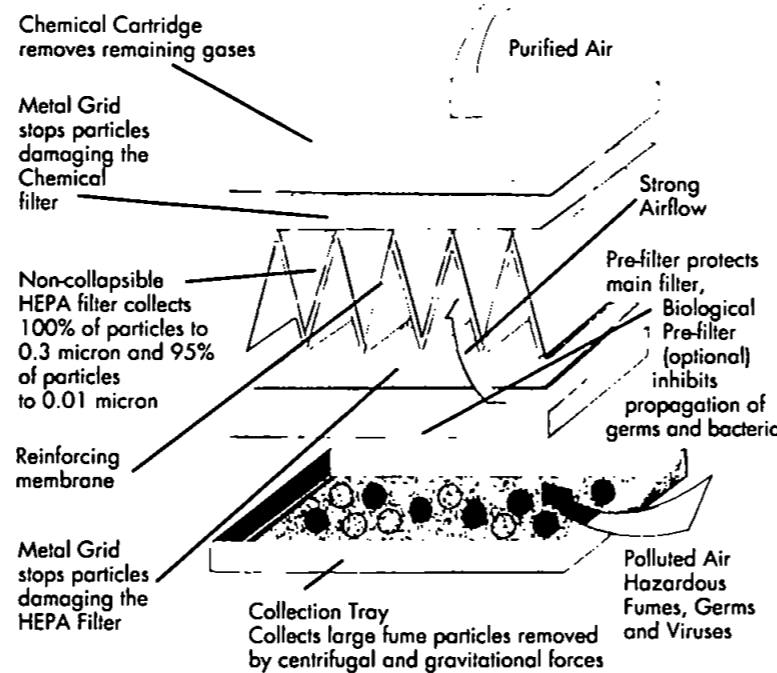
1. The filter vibrates in the airflow, this causes the corrugated supports to wear holes through the HEPA element, thus causing untreated fumes to be discharged into the work area.
2. Filter becomes blocked. Pressure differential increases, causing filter elements to collapse and split.
3. Moisture in the airstream attacks chipboard, causing delamination of the element.

Box pleats require larger housing than "V" pleats, thus reducing filter surface area in a given space.

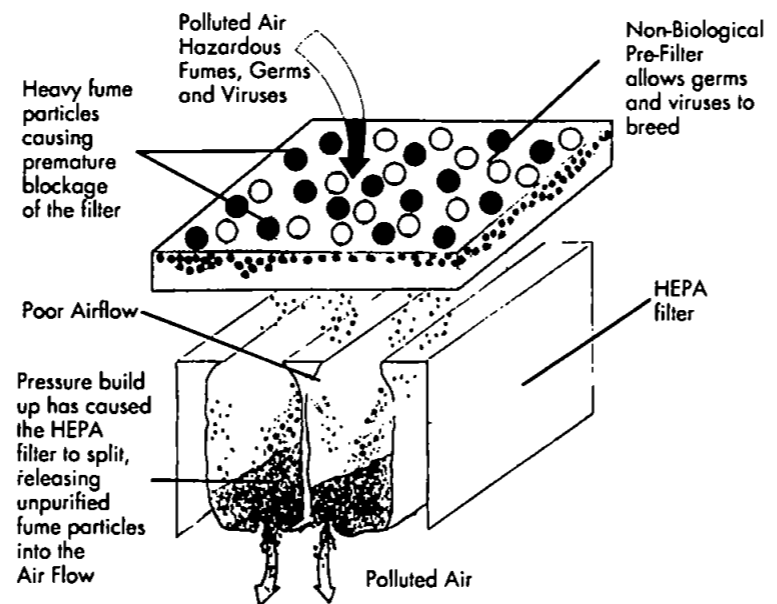
### Purex filters overcome these problems.

The Purex HEPA filter housings are made from aluminium alloy or stainless steel. They are extremely strong and are water and acid resistant. The "V" pleats are both separated and reinforced by a unique porous membrane thus eliminating vibration damage and supporting the filter in high pressure differential situations. Purex filters are manufactured in a wide range of borosilicate fibres, allowing them to be impervious to water and to operate in high temperature conditions.

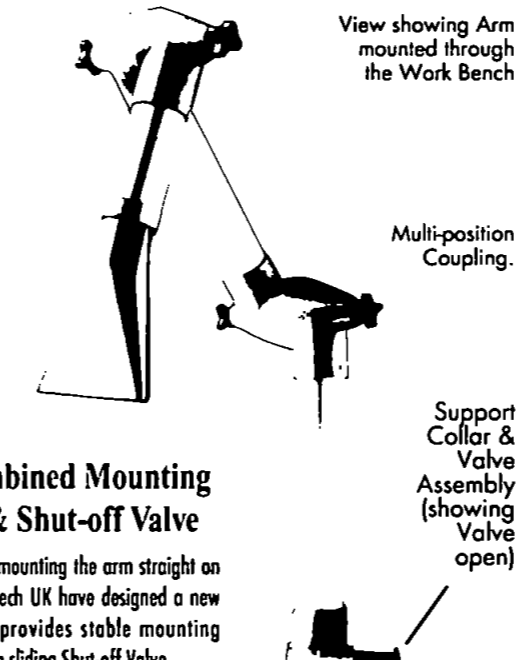
### THE PUREX UNIQUE REVERSE AIRFLOW FILTRATION SYSTEM



### ORDINARY FILTRATION SYSTEMS



### GUARANTEED NON-COLLAPSIBLE MULTI-POSITION FUME EXTRACTION ARM

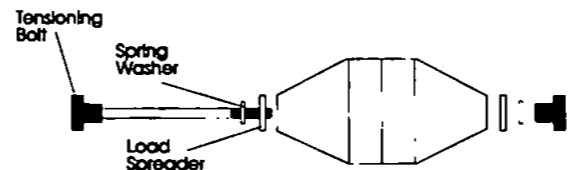


### The combined Mounting Pillar & Shut-off Valve

Instead of just mounting the arm straight on the bench, Hi-Tech UK have designed a new fitting which provides stable mounting combined with a sliding Shut-off Valve.

For some years now, Multi-position extraction arms have suffered from a problem which causes the arm to "pivot down" onto the bench. This fault is caused by the crown of the "knuckle joint half" collapsing when the joint is tightened in order to hold the arm in position. To overcome this problem, Hi-Tech UK have developed a totally unique knuckle joint which will remain in its selected position without collapsing the knuckle joint.

### The uniquely designed Multi-position Knuckle Joint. (Patent applied for)



Hi-Tech UK's Multi-position knuckle joint consists of two different conical shaped male and female coupling halves, whose tapered moulded tongue and groove seal incorporates a multi-wave shaped cam profile on the mating faces.

The two halves of the knuckle joint are held in position by means of a spring loaded bolt acting on the moulded seal and locking cams.

This design feature enables the joint to be locked in position without excessive compression force.

The spring loaded cams enable the arm to be repositioned by simply moving the extraction nozzle to your selected working position, without the need to slacken and retighten the joint.

What could be easier?

### Pumping System

At the heart of our system is a versatile range of pumps which can be configured to support any number of soldering stations. As an indication of the reliability of the system, we currently hold field information showing pumps which have been operating continuously for 9 years. The pump motors are protected against over-voltage and overheating.

### PUREX 7000 SHOWING REVERSE AIRFLOW FEATURE

### Purified Air Outlet

Whereas most systems use activated carbon, PUREX systems utilise a patented mixture of impregnated aluminas, which actually change the fume acids into harmless oxides.

### Main Filter

Designed not only to remove all fumes but to withstand the internal differential pressures, (experienced in system operation) to a level which guarantees that the filter will not fail in service. This is a unique feature.

### Contaminated Fume Inlet

### Pre-Filter

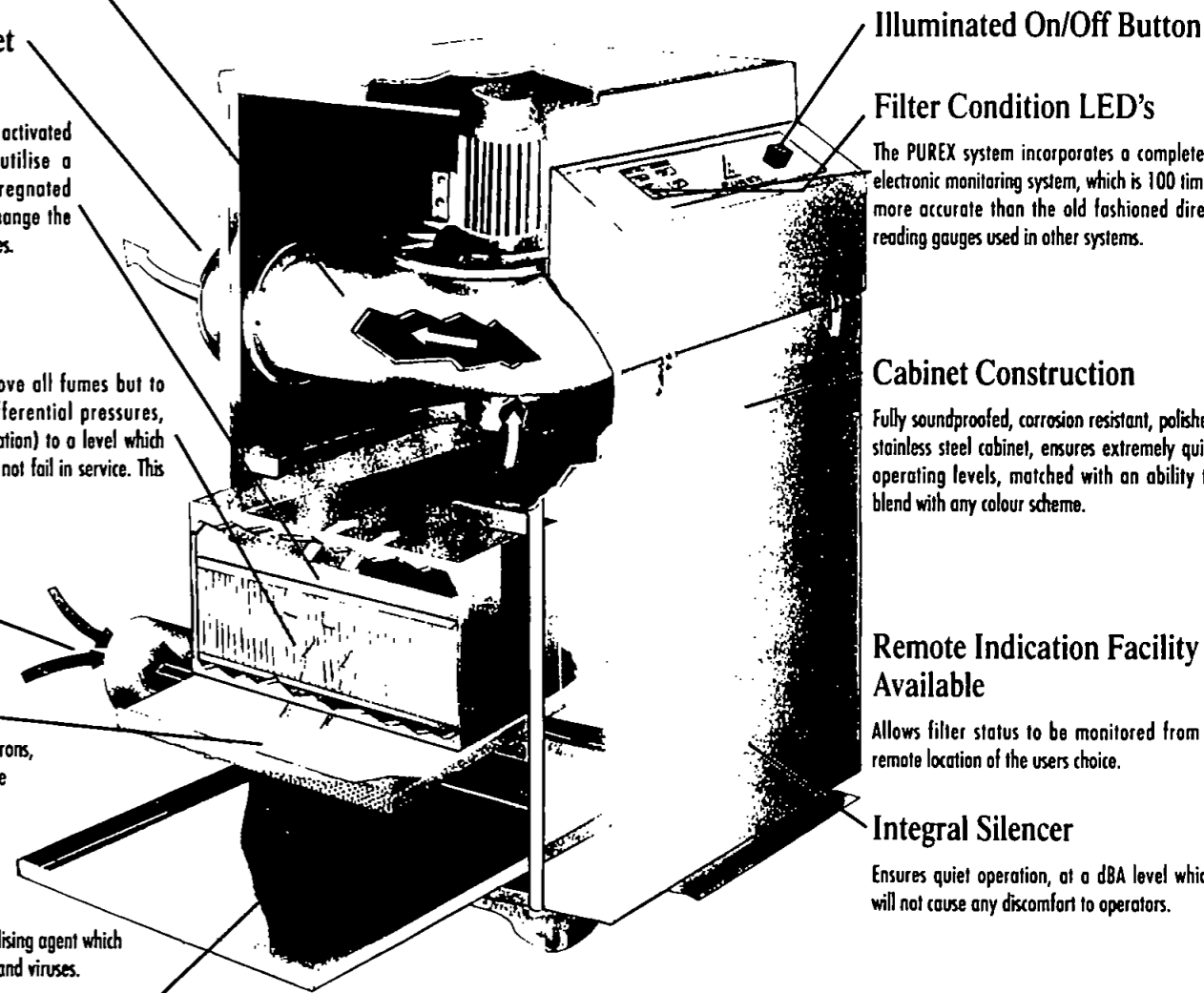
Arrests particles down to 2 microns, preventing premature blockage of the Main Filter.

### Biological Pre-Filter (optional)

Chemically treated with a sterilising agent which inhibits propagation of germs and viruses.

### Removable Collection Tray

Enables large particles that have fallen from the reverse airflow, to be collected and removed from the system filtration assembly.



COMPLETE PROTECTION FROM HAZARDOUS INDUSTRIAL FUMES • UNIQUE REVERSE AIRFLOW FEATURE • NON-COLLAPSIBLE FILTER • POWERFUL VACUUM • NON-COLLAPSIBLE MULTI-POSITION EXTRACTION ARM • LOW COST • MAJOR

## PUREX 7000 SHOWING REVERSE AIRFLOW FEATURE

**Illuminated On/Off Button**

**Filter Condition LEDs**

The Purex system incorporates a completely electronic monitoring system, which is 100 times more accurate than the old fashioned direct reading gauges used in other systems.

**System Status LED**

This alerts the system user of any leakage in the ducting network.

**Remote Indication Facility Available**

Allows both filter and system status to be monitored from a remote location of the user's choice.

**Integral Silencer**

Ensures quiet operation, at a dBA level which will not cause any discomfort to operators.

**Cabinet Construction**

Fully soundproofed, painted, acid and corrosion resistant, stainless steel, ensures extremely quiet operating levels, matched with an ability to blend with any colour scheme.

**Purified Air Outlet**

**Pumping System**

At the heart of our system is a versatile range of pumps which can be configured to support any number of soldering stations. As an indication of the reliability of the system, we currently hold field information showing pumps which have been operating continuously for 9 years. The pump motors are protected against over-voltage and over-heating.

**Pressure Regulator**

**Safety Valve**

**Chemical Filter**

Whereas most systems use activated carbon, PUREX systems utilise a patented mixture of impregnated chemicals, which actively change the solder fume acids into harmless oxides.

**Contaminated Solder Fume Inlet**

**Main Filter**

Designed not only to remove all solder fumes but to withstand the lateral differential pressures (experienced in system operation) to a level which guarantees that the filters will not fall in service. This is a unique feature.

**Removable Collection Tray**

Enables large particles to be collected and removed from the system filtration assembly.

**Pre-Filter**

Arrests particles down to 2 microns, preventing pressure blockage of the main filter.

**Biological Pre-Filter (optional)**

Chemically treated with a sterilising agent which inhibits propagation of germs and viruses.

## PUREX SYSTEMS

Providing fume extraction with purification, complying to Worldwide health regulations, in the following industries:

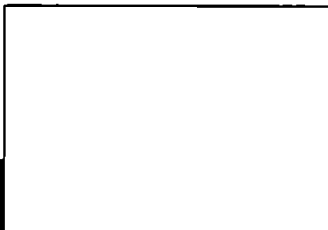
**Electronics, Engineering, Pharmaceutical, Laser, Food, Welding, General Engineering, Medical, Chemical, Educational Establishments and Government Organisations.**

### Guarantee

Hi-Tech UK and its Distributors pledge the following:  
 To continue the search for reliable, efficient and economical methods of equipment construction.  
 To achieve engineering excellence throughout our manufacturing process.  
 To give the best training to our engineers enabling them to carry out a professional construction service.  
 To enable companies to comply with Worldwide Health regulations.  
 To support our equipment with a fast and reliable maintenance and spares service.  
 To provide a superior free consultancy service regarding all matters of hazardous fume extraction.



Distributed by:



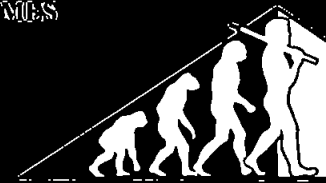
Fume Extraction Explained

THE ULTIMATE IN FUME PURIFICATION

FROM

**Hi-TECH UK**

UNIQUE REVERSE AIRFLOW FEATURE TOTALLY PROTECTS PERSONNEL FROM INSIDING HAZARDOUS FUMES



## WHY IS FUME EXTRACTION NEEDED?

To remove hazardous fumes from Production Workplaces, Repair Centres, Laboratories & Testing Areas in the following industries:-

- Electronics • Engineering • Electrical • Laser
- Government Departments
- Educational Establishments
- Food • Medical • Pharmaceutical

Injurious fumes are produced whilst soldering, welding, printing, gluing and many other manufacturing & industrial processes.

## Health Hazards:

Within the above industries, Medical Researchers have discovered that a large proportion of workers display the following symptoms:

- Chest pains • Influenza • allergic reactions

ILLUSTRATION SHOWING HOW HARMFUL FUMES ENTER AND DAMAGE SENSITIVE LUNG TISSUE



Fumes contain acids and abrasives which when inhaled, can penetrate and scar the sensitive bronchiole air passages.

When workers are regularly exposed to the inhalation of hazardous fumes, serious illnesses such as Occupational Asthma, Bronchitis & Sionasal Cancer can often develop.

## Loss of Profit – Unhealthy Staff:

If your employees are not currently protected by Fume Extraction, the chances are, you could be losing hundreds of productive manhours through:

- Sickness • Absenteeism
- High employee turnover

This may result in higher staffing levels and reduced productivity. New International Legislation could also mean that you are vulnerable to expensive compensation claims from employees who display any of the aforementioned symptoms.

If you are currently ventilating or extracting the fumes straight out to atmosphere, a Fume Extraction/Purification system will be a major heat saving advantage. Once fume extraction is installed, your energy costs will decrease immediately.

## WHAT DOES FUME EXTRACTION DO?

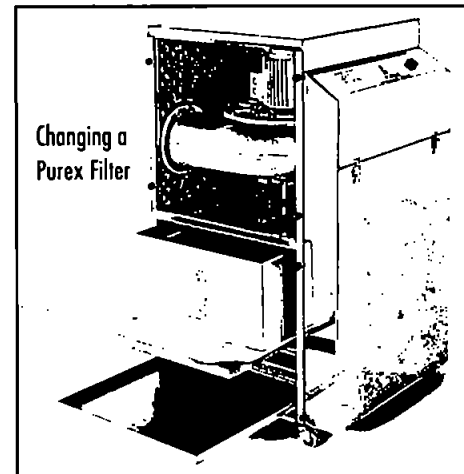
It makes the air safe to breathe. PUREX Fume Extraction/Purification systems are designed to remove fumes at source, BEFORE they enter the operator's breathing zone. The fume is then filtered, so that the purified air can be recycled back into the workplace, if required.

## ROUTINE MAINTENANCE

The PUREX range of systems are very simple to maintain and can easily be cared for by the operators. The centralised filtration unit and reverse airflow feature reduce maintenance, thereby saving valuable manhours. All PUREX systems are fitted with Filter Condition LED's. On our Tip Extraction system we have incorporated a "SYSTEM" monitor which notifies operators if a leak occurs in the system pipework. This electronic monitoring system is 100 times more accurate than the old fashioned direct reading gauges used in other systems.

## HOW OFTEN DO FILTERS NEED TO BE REPLACED?

Every customer is different, filter life is dependent on the level of usage and the composition of the fume. On average, a PUREX Main filter lasts 9 months and a PUREX Pre-filter lasts 2 months. These are only guidelines. Some filters will last longer, due to smaller quantities of fume and some filters will have a shorter life, due to heavy usage or higher compositions of fume. When a filter needs changing, the Filter Condition LED will illuminate Red.



The Purex 7000 range of Extraction Systems are very simple to maintain and can easily be cared for by the operators. The centralised filtration unit and reverse airflow feature reduces maintenance, thereby saving valuable manhours.

## SERVICE & REPLACEMENT PARTS AVAILABILITY

The systems are installed by qualified, highly skilled engineers, who are trained to follow the installation procedure outlined below:

To install systems without interrupting production.

Route pipework professionally and unobtrusively.

Achieve the highest standard of workmanship.

Liaise with the customer throughout.

Test and commission and certify the system to satisfy International Regulations.

Train all operators in the use of equipment.

Hi-Tech UK and its distributors fully understand the obligation they have to their customers. Therefore, once the system is installed they can be relied upon to give expert and prompt back-up regarding all parts, consumables and service.

## WHERE CAN I GET FURTHER INFORMATION?

If you require any advice, a demonstration, or wish to take advantage of our Free consultancy service, call Hi-Tech UK or your distributor.

## WHAT CRITERIA MUST THE HEPA FILTER MEET?

The hazardous particles associated with allergic and respiratory problems are usually below 1 micron in size. Even low exposure levels of the particles can often cause serious respiratory problems. The Health & Safety Executive (H.S.E.), The Occupational Safety & Health Administration (O.S.H.A.) and many other International Industrial safety bodies recommend HIGH EFFICIENCY PARTICLE ARRESTORS (HEPA) FILTERS, as being the best method of removing fine particles. At a fume removal efficiency of 99.997% at 0.3 micron, PUREX filters are the best.

## ARE ALL HEPA FILTERS THE SAME?

No. Most companies selling fume purifiers use ordinary air conditioning HEPA filters which rupture in differential pressures of more than 20mm.

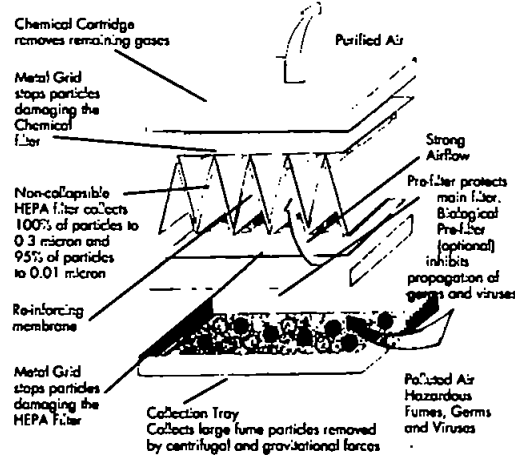
Unlike other HEPA filters, **PUREX HEPA filters are reinforced and are guaranteed to be non-collapsible when subjected to differential pressures up to 1500mm.** The filter housings are made from aluminium alloy or stainless steel, making them extremely strong and water and acid resistant.

The PUREX filter element is constructed using "V" pleats, which are separated and reinforced by a unique porous membrane. This eliminates vibration damage and supports the filter in high pressure differential situations.

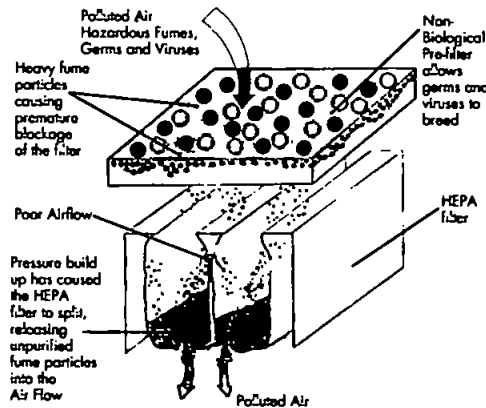
## WILL PUREX FUME EXTRACTION/PURIFICATION REQUIRE ELABORATE PIPEWORK SIMILAR TO AIR CONDITIONING SYSTEMS?

No. In most cases PUREX systems are designed to be situated close to the operators. Therefore only a small amount of pipework is required to connect the extraction tool to the filtration unit. PUREX provide a wide variety of Tip Extraction, Arm Extraction & Powerflow filtration units to accommodate all needs.

## THE PUREX UNIQUE REVERSE AIRFLOW FILTRATION SYSTEM



## ORDINARY FILTRATION SYSTEMS



## IF THE EXTRACTION MACHINE IS LOCATED IN THE WORK AREA, WON'T IT BE NOISY?

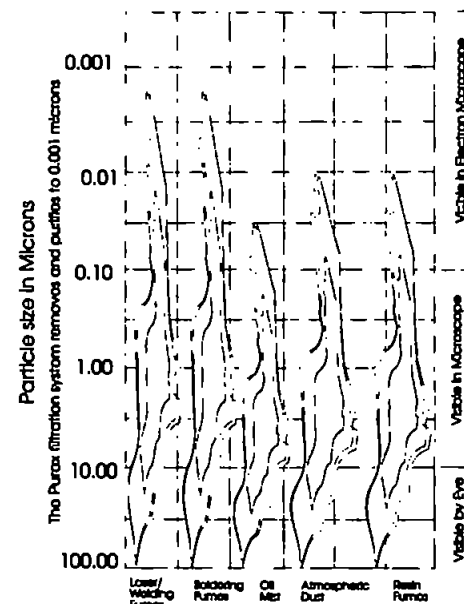
Most PUREX systems are designed and built with an integral silencer which enables quiet operation, at a decibel level which will not cause discomfort to operators. As an example, in a typical production area, the PUREX unit cannot be heard above the background noise level.

## ARE EXISTING AIR CONDITIONING AND VENTILATION SYSTEMS CAPABLE OF REMOVING THESE FUMES?

**NO.** Normal Air Conditioning systems are not suitable for two reasons:

1. Air conditioning systems are not capable of removing fumes at source. Therefore, as the operator inhales, exposure to hazardous fumes will continuously occur.
2. The level of filtration given by air conditioning systems is incapable of removing the irritants & harmful particles which can contribute to allergic reactions and serious illnesses in workers.

## WHAT LEVEL OF FILTRATION IS EFFECTIVE?



The hazardous particles present in fumes, are generally below 1 micron in size. Most air conditioning systems can only filter particles larger than 5 microns and therefore do not have the ability to remove the harmful particles. These particles not only contaminate the operators in the immediate exposure area, but also can be re-circulated throughout the building, via the air conditioning system, thus exposing everyone in the building to hazardous fumes.

## HOW DOES FUME EXTRACTION EQUIPMENT WORK?

Fume Extraction equipment comprises 3 different stages:

### 1. Fume Extraction Tool

This, complete with ducting (if required), removes the fumes at source and draws the fume away, before it reaches the operator's breathing zone.

### 2. Vacuum Pump

This creates the vacuum which pulls the fume through the tool & up into the Central filtration unit.

### 3. Central Filtration Unit

This is where the hazardous fumes are purified, allowing clean air to be recycled.

## HOW IS THE VACUUM PRODUCED?

A vacuum pump is used to produce the vacuum. Its dimensions and capacity are dependent on the extraction levels required, eg. if only 1 operator requires extraction, a relatively small pump will be employed. If lots of operators require extraction, a larger pump will be used.

## WHAT VACUUM PUMP CHARACTERISTICS ARE IMPORTANT?

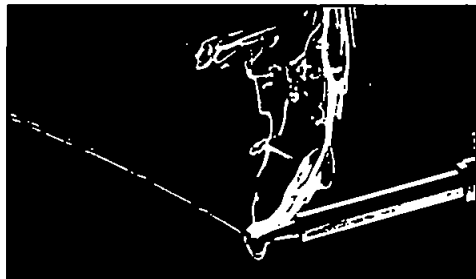
The ideal pump will be powered by an induction motor, thus eliminating the fire hazard caused by sparking brushes on conventional electric motors. Capture velocity at the fume source is critical and will dictate which type of pumps will be required.

## WHICH METHODS CAN BE USED TO PREVENT INHALATION OF FUMES FROM THE OPERATOR'S BREATHING ZONE?

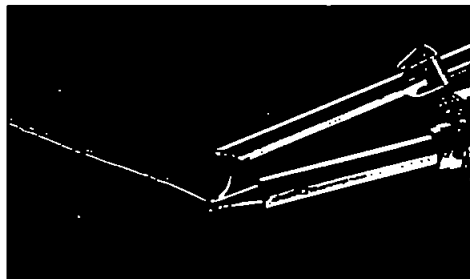
The method of extraction is dependent on the activity being carried out.

1. For soldering iron fumes, **PUREX Tip Extraction** is recommended. Solder fumes are removed via a small fully adjustable suction tube, which is positioned conveniently on the soldering iron. By extracting from the tip of the iron, solder fumes are prevented from entering the operator's breathing zone.

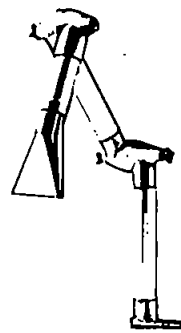
## PHOTOGRAPHS CLEARLY SHOWING THE AMAZING TRANSFORMATION CREATED BY FUME EXTRACTION



Before



After



2. For general fumes **Arm Extraction** is recommended. Fumes must be removed at source to stop them entering the operator's breathing zone. The point at which fumes are generated may vary. The **PUREX bench-mounted Multi-Position Extraction Arm** can extract fumes from anywhere within a 2m radius and is therefore ideal for this situation.

3. **PUREX Powerflow machines** can extract industrial fumes from many different production processes, for example: Wave Soldering machines & I.R. Reflow Ovens.

## DO THESE EXTRACTION PROCESSES HAVE THE SAME AIR REQUIREMENTS?

**NO.** **Tip Extraction Systems** use small diameter extraction tubes, which are attached to the soldering irons. They require pumps with a relatively low airflow.

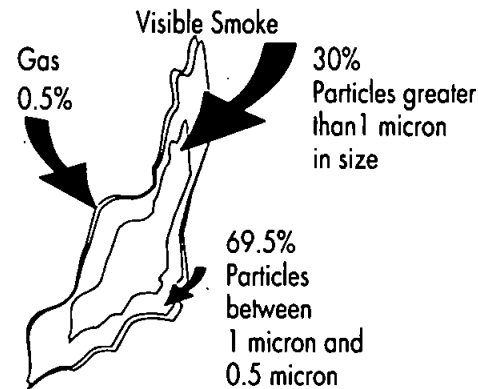
**Arm Extraction Systems & Powerflow Systems** use larger diameter arms or hoods and therefore need a greater airflow.

Vacuum pumps are specifically designed for these applications and are not usually interchangeable.

## WHAT ARE FUMES?

1. Coarse airborne particles greater than 1 micron in size.
2. Smoke and vapour between 1 and 0.5 micron in size.
3. Gases below 0.5 micron in size.

## HOW ARE FUMES PURIFIED?



Hi-Tech UK PUREX systems use a unique **4 stage filtration system** to compliment their revolutionary reverse airflow feature.

## Stage 1. – Coarse Airborne particles greater than 2 microns.

In other fume extraction machines, the airflow travels downwards through the filtration system, thus forcing large particles to be crammed into the filter. **All PUREX systems have a reverse airflow feature.** This means that the fumes are driven upwards into the purifier, causing larger particles to fall out of the airflow and into a collection tray, before they reach the filtration system.

This unique feature enhances performance, prevents the filter becoming prematurely blocked, increases filter life and reduces maintenance.

## Stage 2. – Airborne particles of 1 micron – 2 micron in size.

### Pre-filter

Arrests 100% of particles down to 2 microns and coarse particles down to 1 micron, thus protecting the main filter.

### Biological Pre-filter (optional)

Arrests 100% particles down to 2 microns, preventing premature blockage of the Main Filter. Chemically treated with a sterilising agent which inhibits propagation of germs and viruses.

## Stage 3. – Sub-micronic particles down to .01 micron.

### Non-collapsible HEPA filter

Collects 100% of particles to 0.3 micron and 95% of particles to 0.01 micron.

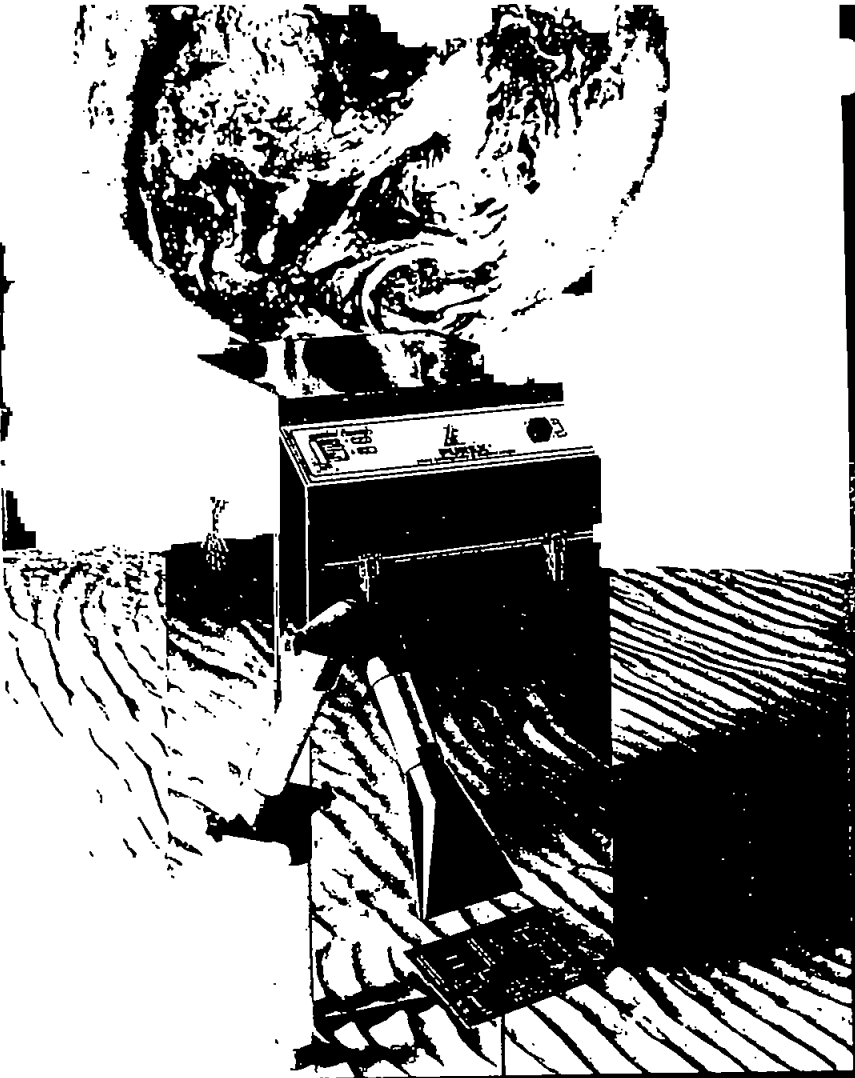
## Stage 4. – Gases.

### Chemical Cartridge

Removes remaining gases. Changing the fume acids into harmless oxides. In most cases the expelled air is so pure that, if required, it can be recycled back into the workplace (a guaranteed air purification factor of 99.997%).

Many of our competitors use ordinary activated charcoal/carbon, which acts like a sponge absorbing fumes until it eventually becomes saturated. When this occurs, instead of absorbing fumes, the carbon actually starts to liberate them, causing the workplace to become contaminated.

# Humme Extraction Explained



## WHY IS FUME EXTRACTION NEEDED?

To remove hazardous fumes from Production Workplaces, Repair Centres, Laboratories & Testing Areas in the following industries:-

- Electronics • Engineering • Electrical • Laser
- Government Departments
- Educational Establishments
- Food • Medical • Pharmaceutical

Injurious fumes are produced whilst soldering, welding, printing, gluing and many other manufacturing & industrial processes.

## Health Hazards:

Within the above industries, Medical Researchers have discovered that a large proportion of workers display the following symptoms:

- Chest pains • Influenza • allergic reactions

ILLUSTRATION SHOWING HOW HARMFUL FUMES ENTER AND DAMAGE SENSITIVE LUNG TISSUE



Fumes contain acids and abrasives which when inhaled, can penetrate and scar the sensitive bronchial air passages.

When workers are regularly exposed to the inhalation of hazardous fumes, serious illnesses such as Occupational Asthma, Bronchitis & Sionasal Cancer can often develop.

## Loss of Profit – Unhealthy Staff:

If your employees are not currently protected by Fume Extraction, the chances are, you could be losing hundreds of productive manhours through:

- Sickness • Absenteeism
- High employee turnover

This may result in higher staffing levels and reduced productivity. New International Legislation could also mean that you are vulnerable to expensive compensation claims from employees who display any of the aforementioned symptoms.

If you are currently ventilating or extracting the fumes straight out to atmosphere, a Fume Extraction/Purification system will be a major heat saving advantage. Once fume extraction is installed, your energy costs will decrease immediately.

## WHAT DOES FUME EXTRACTION DO?

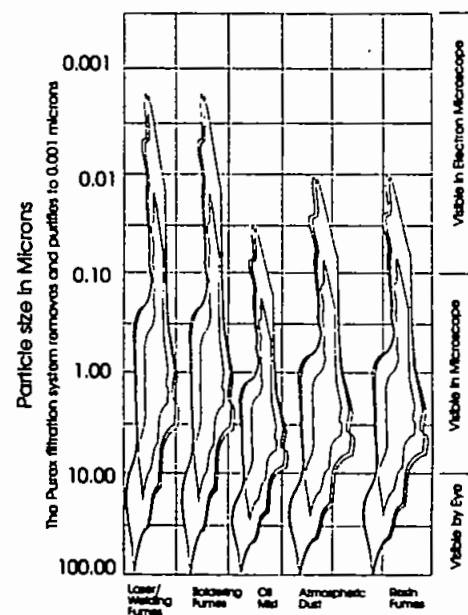
It makes the air safe to breathe. PUREX Fume Extraction/Purification systems are designed to remove fumes at source, **BEFORE** they enter the operator's breathing zone. The fume is then filtered, so that the purified air can be recycled back into the workplace, if required.

## ARE EXISTING AIR CONDITIONING AND VENTILATION SYSTEMS CAPABLE OF REMOVING THESE FUMES?

**NO.** Normal Air Conditioning systems are not suitable for two reasons:

1. Air conditioning systems are not capable of removing fumes at source. Therefore, as the operator inhales, exposure to hazardous fumes will continuously occur.
2. The level of filtration given by air conditioning systems is incapable of removing the irritants & harmful particles which can contribute to allergic reactions and serious illnesses in workers.

## WHAT LEVEL OF FILTRATION IS EFFECTIVE?



The hazardous particles present in fumes, are generally below 1 micron in size. Most air conditioning systems can only filter particles larger than 5 microns and therefore do not have the ability to remove the harmful particles. These particles not only contaminate the operators in the immediate exposure area, but also can be recirculated throughout the building, via the air conditioning system, thus exposing everyone in the building to hazardous fumes.

## HOW DOES FUME EXTRACTION EQUIPMENT WORK?

Fume Extraction equipment comprises 3 different stages:

### 1. Fume Extraction Tool

This, complete with ducting (if required), removes the fumes at source and draws the fume away, before it reaches the operator's breathing zone.

### 2. Vacuum Pump

This creates the vacuum which pulls the fume through the tool & up into the Central filtration unit.

### 3. Central Filtration Unit

This is where the hazardous fumes are purified, allowing clean air to be recycled.

## HOW IS THE VACUUM PRODUCED?

A vacuum pump is used to produce the vacuum. Its dimensions and capacity are dependent on the extraction levels required, eg. if only 1 operator requires extraction, a relatively small pump will be employed. If lots of operators require extraction, a larger pump will be used.

## WHAT VACUUM PUMP CHARACTERISTICS ARE IMPORTANT?

The ideal pump will be powered by an induction motor, thus eliminating the fire hazard caused by sparking brushes on conventional electric motors. Capture velocity at the fume source is critical and will dictate which type of pumps will be required.

## WHICH METHODS CAN BE USED TO PREVENT INHALATION OF FUMES FROM THE OPERATOR'S BREATHING ZONE?

The method of extraction is dependent on the activity being carried out.

1. For soldering iron fumes, **PUREX Tip Extraction** is recommended. Solder fumes are removed via a small fully adjustable suction tube, which is positioned conveniently on the soldering iron. By extracting from the tip of the iron, solder fumes are prevented from entering the operator's breathing zone.

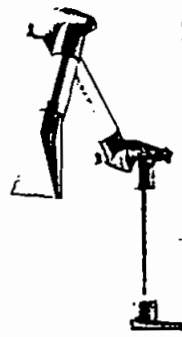
## PHOTOGRAPHS CLEARLY SHOWING THE AMAZING TRANSFORMATION CREATED BY FUME EXTRACTION



Before



After



2. For all fumes **Arm Extraction** is recommended. Fumes must be removed at source to stop them entering the operator's breathing zone. The point at which fumes are generated may vary. The **PUREX bench-mounted Multi-Position Extraction Arm** can extract fumes from anywhere within a

2m radius and is therefore ideal for this situation.

3. **PUREX Powerflow machines** can extract industrial fumes from many different production processes, for example: Wave Soldering machines & I.R. Reflow Ovens.

## DO THESE EXTRACTION PROCESSES HAVE THE SAME AIR REQUIREMENTS?

**NO.**

**Tip Extraction Systems** use small diameter extraction tubes, which are attached to the soldering irons. They require pumps with a relatively low airflow.

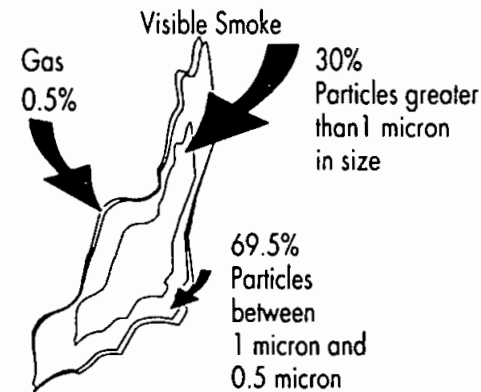
**Arm Extraction Systems & Powerflow Systems** use larger diameter arms or hoods and therefore need a greater airflow.

Vacuum pumps are specifically designed for these applications and are not usually interchangeable.

## WHAT ARE FUMES?

1. Coarse airborne particles greater than 1 micron in size.
2. Smoke and vapour between 1 and 0.5 micron in size.
3. Gases below 0.5 micron in size.

## HOW ARE FUMES PURIFIED?



Hi-Tech UK **PUREX** systems use a unique **4 stage filtration system** to compliment their revolutionary reverse airflow feature.

## Stage 1. – Coarse Airborne particles greater than 2 microns.

In other fume extraction machines, the airflow travels downwards through the filtration system, thus forcing large particles to be crammed into the filter. **All PUREX systems have a reverse airflow feature.** This means that the fumes are driven upwards into the purifier, causing larger particles to fall out of the airflow and into a collection tray, before they reach the filtration system.

This unique feature enhances performance, prevents the filter becoming prematurely blocked, increases filter life and reduces maintenance.

## Stage 2. – Airborne particles of 1 micron – 2 micron in size.

### Pre-filter

Arrests 100% of particles down to 2 microns and coarse particles down to 1 micron, thus protecting the main filter.

### Biological Pre-filter (optional)

Arrests 100% particles down to 2 microns, preventing premature blockage of the Main Filter. Chemically treated with a sterilising agent which inhibits propagation of germs and viruses.

## Stage 3. – Sub-micronic particles down to .01 micron.

### Non-collapsible HEPA filter

Collects 100% of particles to 0.3 micron and 95% of particles to 0.01 micron.

## Stage 4. – Gases.

### Chemical Cartridge

Removes remaining gases. Changing the fume acids into harmless oxides. In most cases the expelled air is so pure that, if required, it can be recycled back into the workplace (a guaranteed air purification factor of 99.997%).

Many of our competitors use ordinary activated charcoal/carbon, which acts like a sponge absorbing fumes until it eventually becomes saturated. When this occurs, instead of absorbing fumes, the carbon actually starts to liberate them, causing the workplace to become contaminated.

## WHAT CRITERIA MUST THE HEPA FILTER MEET?

The hazardous particles associated with allergic and respiratory problems are usually below 1 micron in size. Even low exposure levels of the particles can often cause serious respiratory problems. The Health & Safety Executive (H.S.E.), The Occupational Safety & Health Administration (O.S.H.A.) and many other International Industrial safety bodies recommend HIGH EFFICIENCY PARTICLE ARRESTORS (HEPA) FILTERS, as being the best method of removing fine particles. At a fume removal efficiency of 99.997% at 0.3 micron, PUREX filters are the best.

## ARE ALL HEPA FILTERS THE SAME?

No. Most companies selling fume purifiers use ordinary air conditioning HEPA filters which rupture in differential pressures of more than 20mm.

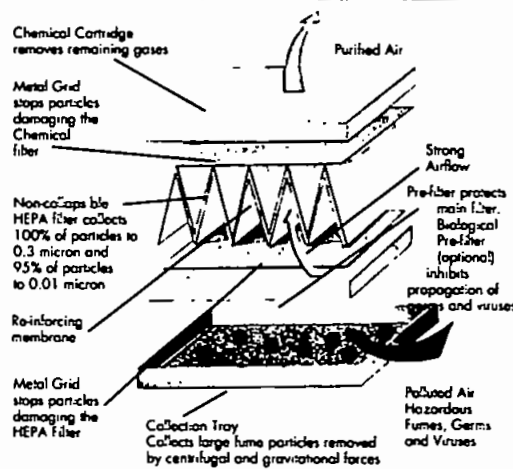
Unlike other HEPA filters, **PUREX HEPA filters are reinforced and are guaranteed to be non-collapsible when subjected to differential pressures up to 1500mm.** The filter housings are made from aluminium alloy or stainless steel, making them extremely strong and water and acid resistant.

The PUREX filter element is constructed using "V" pleats, which are separated and reinforced by a unique porous membrane. This eliminates vibration damage and supports the filter in high pressure differential situations.

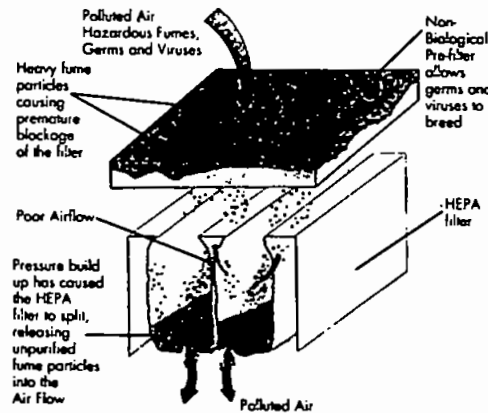
## WILL PUREX FUME EXTRACTION/PURIFICATION REQUIRE ELABORATE PIPEWORK SIMILAR TO AIR CONDITIONING SYSTEMS?

No. In most cases PUREX systems are designed to be situated close to the operators. Therefore only a small amount of pipework is required to connect the extraction tool to the filtration unit. PUREX provide a wide variety of Tip Extraction, Arm Extraction & Powerflow filtration units to accommodate all needs.

## THE PUREX ULTIMATE REVERSE AIRFLOW FILTRATION SYSTEM



## ORDINARY FILTRATION SYSTEMS



## IF THE EXTRACTION MACHINE IS LOCATED IN THE WORK AREA, WON'T IT BE NOISY?

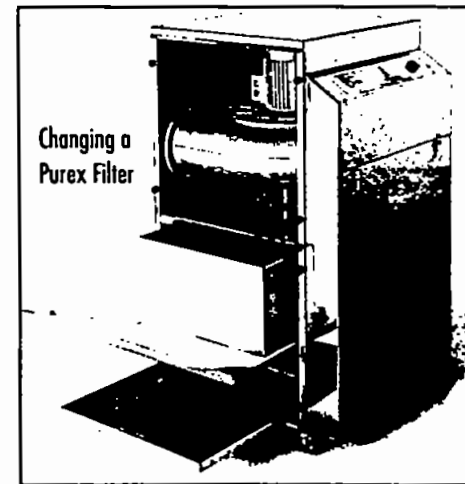
Most PUREX systems are designed and built with an integral silencer which enables quiet operation, at a decibel level which will not cause discomfort to operators. As an example, in a typical production area, the PUREX unit cannot be heard above the background noise level.

## ROUTINE MAINTENANCE

The PUREX range of systems are very simple to maintain and can easily be cared for by the operators. The centralised filtration unit and reverse airflow feature reduce maintenance, thereby saving valuable manhours. All PUREX systems are fitted with Filter Condition LED's. On our Tip Extraction system we have incorporated a "SYSTEM" monitor which notifies operators if a leak occurs in the system pipework. This electronic monitoring system is 100 times more accurate than the old fashioned direct reading gauges used in other systems.

## HOW OFTEN DO FILTERS NEED TO BE REPLACED?

Every customer is different, filter life is dependent on the level of usage and the composition of the fume. On average, a PUREX Main filter lasts 9 months and a PUREX Pre-filter lasts 2 months. These are only guidelines. Some filters will last longer, due to smaller quantities of fume and some filters will have a shorter life, due to heavy usage or higher compositions of fume. When a filter needs changing, the Filter Condition LED will illuminate Red.



The Purex 7000 range of Extraction Systems are very simple to maintain and can easily be cared for by the operators. The centralised filtration unit and reverse airflow feature reduces maintenance, thereby saving valuable manhours.

## SERVICE & REPLACEMENT PARTS AVAILABILITY

The systems are installed by qualified, highly skilled engineers, who are trained to follow the installation procedure outlined below:

To install systems without interrupting production.

Route pipework professionally and unobtrusively.

Achieve the highest standard of workmanship.

Liaise with the customer throughout.

Test and commission and certify the system to satisfy International Regulations.

Train all operators in the use of equipment.

Hi-Tech UK and its distributors fully understand the obligation they have to their customers. Therefore, once the system is installed they can be relied upon to give expert and prompt back-up regarding all parts, consumables and service.

## WHERE CAN I GET FURTHER INFORMATION?

If you require any advice, a demonstration, or wish to take advantage of our Free consultancy service, call Hi-Tech UK or your distributor.

# PUREX 7000 SHOWING REVERSE AIRFLOW FEATURE

**Illuminated On/Off Button**

**Filter Condition LEDs**

The Purex system incorporates a completely electronic monitoring system, which is 100 times more accurate than the old fashioned direct reading gauges used in other systems.

**System Status LED**

This alerts the system user of any leakage in the ducting network.

**Remote Indication Facility Available**

Allows both filter and system status to be monitored from a remote location of the user's choice.

**Integral Silencer**

Ensures quiet operation, at a CBA level which will not cause any discomfort to operators.

**Cabinet Construction**

Fully second-coated, polished, acid and corrosion resistant, stainless steel, ensures extremely quiet operating levels, matched with an ability to blend with any colour scheme.

**Pumping System**

At the heart of our system is a versatile range of pumps which can be configured to support any number of soldering stations. As an indication of the reliability of the system, we currently hold field information showing pumps which have been operating continuously for 9 years. The pump motors are protected against over-voltage and overheating.

**Pressure Regulator**

**Safety Valve**

**Chemical Filter**

Whereas most systems use activated carbon, PUREX systems utilise a patented mixture of impregnated chemicals, which exactly change the solder fume acids into harmless oxides.

**Contaminated Solder Fume Inlet**

**Main Filter**

Designed not only to remove all solder fumes but to withstand the inherent differential pressures (experienced in system operation) to a level which guarantees that the filters will not fail in service. This is a unique feature.

**Removable Collection Tray**

Enables large particles to be collected and removed from the system filtration assembly.

**Pre-Filter**

Arrests particles down to 2 microns, preventing premature blockage of the main filter.

**Biological Pre-Filter (optional)**

Chemically treated with a sterilising agent which inhibits propagation of germs and viruses.

**Purified Air Outlet**

## PUREX SYSTEMS

Providing fume extraction with purification, complying to Worldwide health regulations, in the following industries:

**Electronics, Engineering, Pharmaceutical, Laser, Food, Welding, General Engineering, Medical, Chemical, Educational Establishments and Government Organisations.**

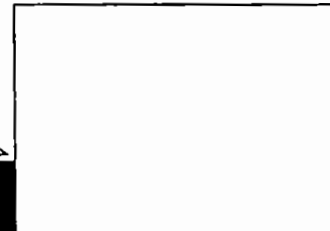
### Guarantee

We Tech UK and its distributors pledge the following to ensure the world for reliable, efficient and economical methods of equipment maintenance:

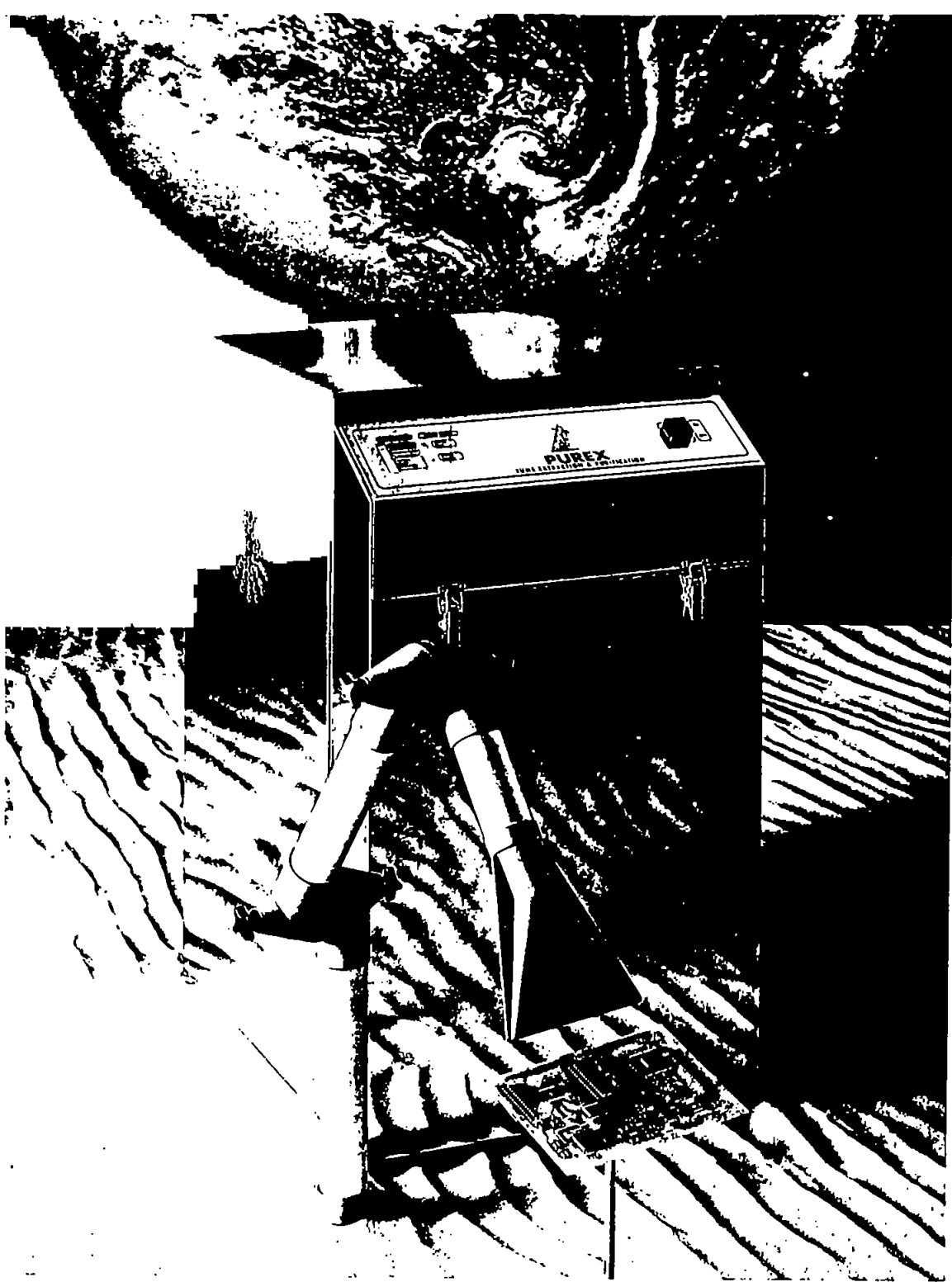
- To ensure long-term reliability through our manufacturing process.
- To give the best training to our operators enabling them to carry out a professional maintenance service.
- To enable companies to comply with Worldwide Health regulations.
- To support our equipment with a fast and reliable maintenance and repair service.
- To provide a superior line maintenance service regarding all matters of hazardous fume extraction.



Distributed by:



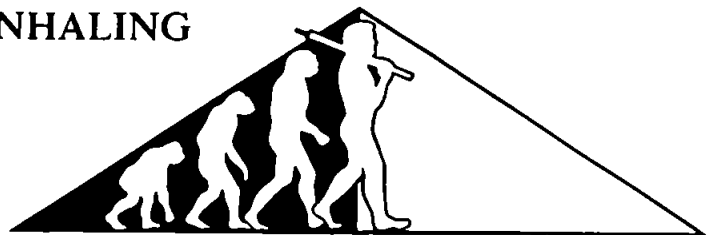
# Purex Multi-position Arm Systems



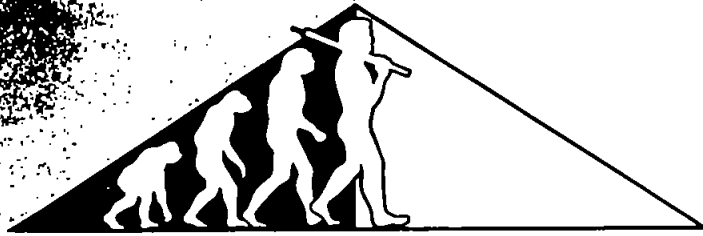
THE ULTIMATE IN FUME PURIFICATION  
FROM

## HI-TECH UK

UNIQUE REVERSE AIRFLOW FEATURE TOTALLY  
PROTECTS PERSONNEL FROM INHALING  
HAZARDOUS FUMES



# PUREX



## Recommended and endorsed by hundreds of leading industrial firms

### Does your company need Fume Extraction?

#### HEALTH WARNING:

Inhaling fumes can seriously damage your health.

Medical researchers have discovered that a large proportion of Production Staff suffer from the following symptoms: Chest Pains, Influenza and a wide range of Allergic Reactions. When workers are regularly exposed to the inhalation of hazardous fumes, serious illnesses such as Occupational Asthma, Bronchitis and Sionasal Cancer often develop.

.. your employees are not currently protected by a fume extraction system, the chances are you could be losing hundreds of productive manhours through sickness, absenteeism and high employee turnover. This may result in higher staffing levels and reduced productivity. New International Legislation could mean that you are vulnerable to expensive compensation claims from employees who display any of the aforementioned symptoms. Worldwide regulations are moving towards preventing companies carrying out work which is liable to expose employees to any substances considered to be hazardous to health.

### Discover how to prevent fumes from adversely affecting the health of your employees.

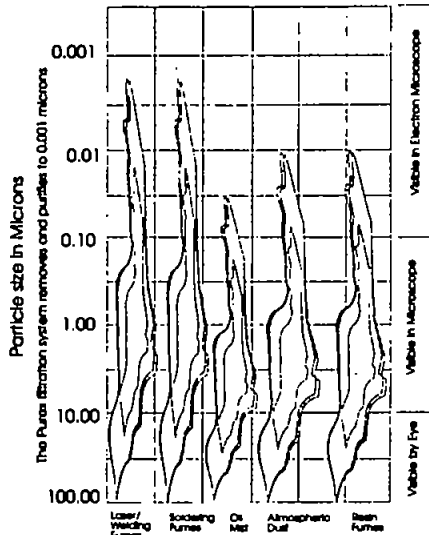
Hi-Tech UK manufacture the Purex 7000 Multi-position Arm Fume Extraction range. These systems enable companies to totally comply with all existing worldwide health standards and provide complete protection from the inhalation of fumes.

#### ILLUSTRATION SHOWING HOW HARMFUL FUMES ENTER AND DAMAGE SENSITIVE LUNG TISSUE



Fumes contain acids and abrasives which when inhaled, can penetrate and scar the sensitive bronchiole air passages.

### WHAT ARE FUMES?



### How are they extracted?

Industrial fumes are extracted and purified by the Purex 7000 range of machines and Multi-position Arms.

### PHOTOGRAPHS CLEARLY SHOWING THE AMAZING TRANSFORMATION CREATED BY THE PUREX 7000 MULTI-POSITION FUME EXTRACTION ARM SYSTEM.



Before

After

### How are they purified?

By means of the superior filtration system, only available with Purex.

In the Purex system we have incorporated an environmental filter which will remove all particulate debris down to 0.3 micron and 95% of particles down to 0.01 micron. The harmful toxic gases present in hazardous fumes cannot be removed by particle filtration; to overcome this, gases are purified within a chemical cartridge. The expelled air is so pure that, if required, it can be recycled back into the workplace (a

guaranteed air purification factor of 99.997%). Not only does this protect the environment but it is also a major heat and energy saving feature.

### Revolutionary Reverse Airflow feature, increases filter life and reduces maintenance.

The airflow in ordinary fume extraction machines causes filters to block up faster, thus shortening filter life and creating poor extraction during the normal life of a filter.

Purex have the answer. A revolutionary design which uses gravitational forces to remove large particles before they enter the filtration system.

All Purex systems have a reverse flow feature, this means that the fume is driven up into the filtration system, thus causing larger particles to fall out of the airflow and into a collection tray, before they reach the filtration system. This therefore stops the filter becoming prematurely blocked, increases filter life and reduces maintenance.

### Guaranteed non-collapsible HEPA filter

Most existing HEPA filter housings are made from chipboard. The filter element is usually formed in box pleats, which are separated by corrugated cardboard or corrugated aluminium supports. During operation three things happen:

1. The filter vibrates in the airflow, this causes the corrugated supports to wear holes through the HEPA element, thus causing untreated fumes to be discharged into the work area.
2. Filter becomes blocked. Pressure differential increases, causing filter elements to collapse and split.
3. Moisture in the airstream attacks chipboard, causing delamination of the element.

Box pleats require larger housing than "V" pleats, thus reducing filter surface area in a given space.

### Purex filters overcome these problems

The Purex HEPA filter housings are made from aluminium alloy or stainless steel. They are extremely strong and are water and acid resistant. The "V" pleats are both separated and reinforced by a unique porous membrane thus eliminating vibration damage and supporting the filter in high pressure differential situations. Purex filters are manufactured in a wide range of borosilicate fibres, allowing them to be impervious to water and to operate in high temperature conditions.

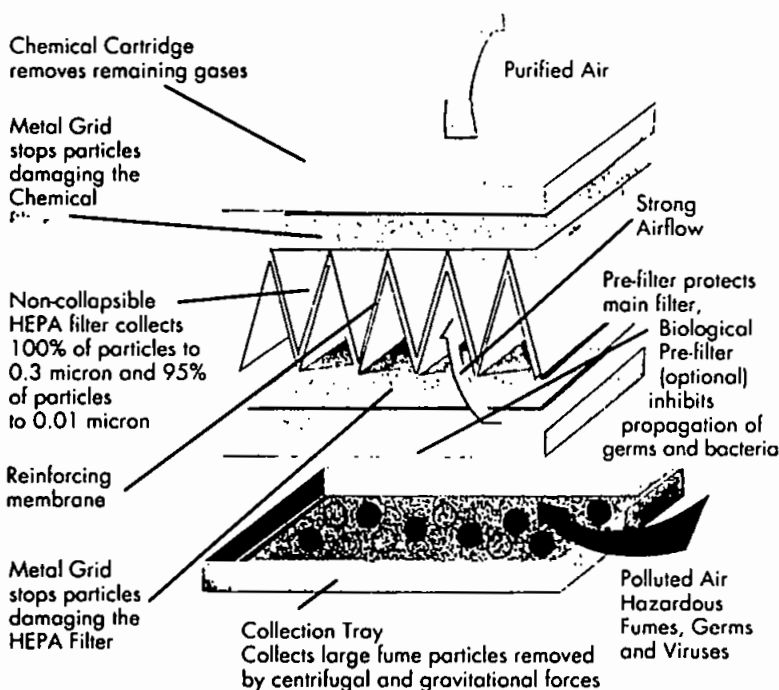
## COMPLETE PROTECTION FROM HAZARDOUS INDUSTRIAL FUMES • UNIQUE

# FUME PURIFICATION SYSTEM

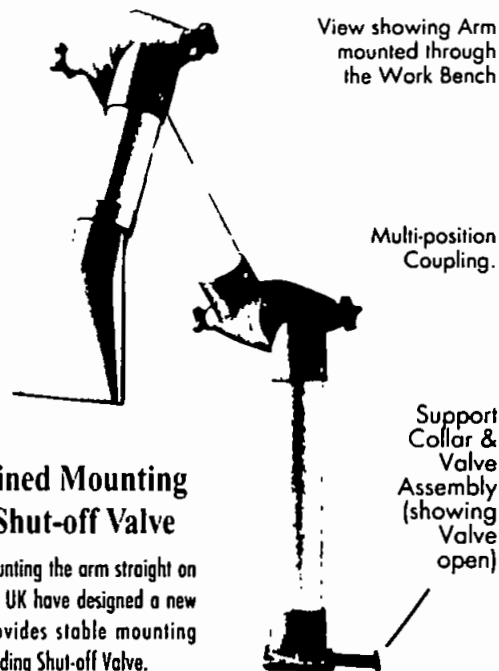
## A cost effective answer to fume extraction

## Needs of satisfied International Blue Chip C

### THE PUREX UNIQUE REVERSE AIRFLOW FILTRATION SYSTEM



### GUARANTEED NON-COLLAPSIBLE MULTI-POSITION FUME EXTRACTION ARM

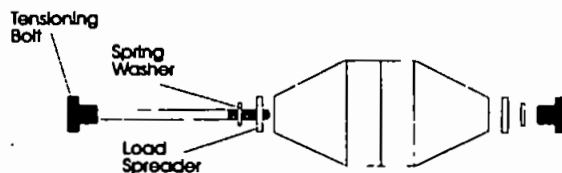


### The combined Mounting Pillar & Shut-off Valve

Instead of just mounting the arm straight on the bench, Hi-Tech UK have designed a new fitting which provides stable mounting combined with a sliding Shut-off Valve.

For some years now, Multi-position extraction arms have suffered from a problem which causes the arm to "pivot down" onto the bench. This fault is caused by the crown of the "knuckle joint half" collapsing when the joint is tightened in order to hold the arm in position. To overcome this problem, Hi-Tech UK have developed a totally unique knuckle joint which will remain in its selected position without collapsing the knuckle joint.

The uniquely designed Multi-position Knuckle Joint. (Patent applied for)



Hi-Tech UK's Multi-position knuckle joint consists of two different conical shaped male and female coupling halves, whose tapered moulded tongue and groove seal incorporates a multi-wave shaped cam profile on the mating faces.

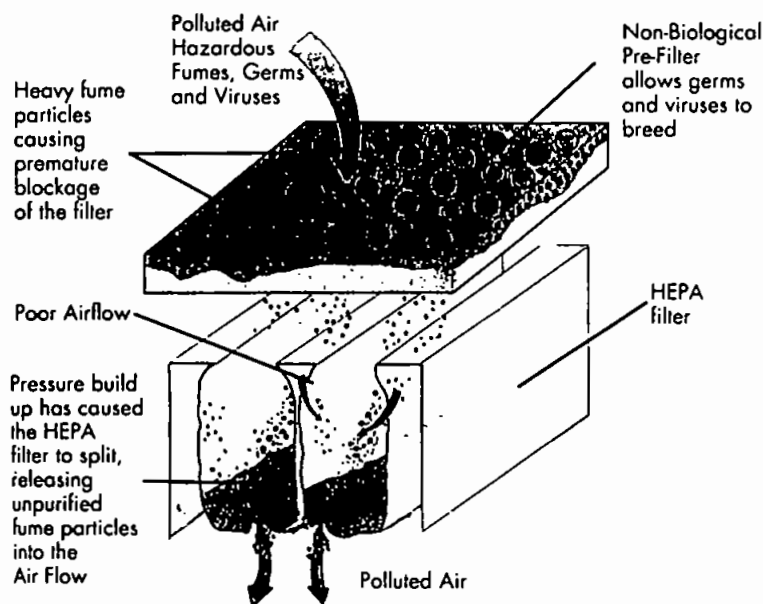
The two halves of the knuckle joint are held in position by means of a spring loaded bolt acting on the moulded seal and locking cams.

This design feature enables the joint to be locked in position without excessive compression force.

The spring loaded cams enable the arm to be repositioned by simply moving the extraction nozzle to your selected working position, without the need to slacken and retighten the joint.

What could be easier?

### ORDINARY FILTRATION SYSTEMS

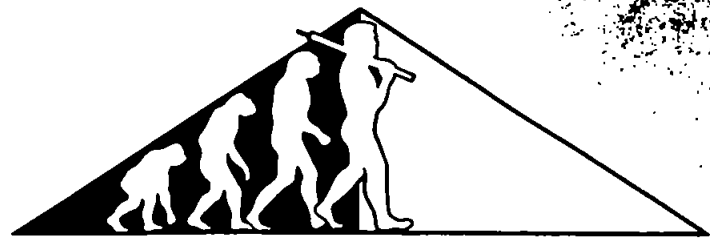


VERSE AIRFLOW FEATURE • NON-COLLAPSIBLE FILTER • POWERFUL VACUUM

# SYSTEMS

1;

## Companies & Government Organisations



### Pumping System

At the heart of our system is a versatile range of pumps which can be configured to support any number of soldering stations. As an indication of the reliability of the system, we currently hold field information showing pumps which have been operating continuously for 9 years. The pump motors are protected against over-voltage and overheating.

PUREX 7000 SHOWING REVERSE AIRFLOW FEATURE

### Purified Air Outlet

### Chemical Filter

Whereas most systems use activated carbon, PUREX systems utilise a patented mixture of impregnated aluminas, which actually change the fume acids into harmless oxides.

### Main Filter

Designed not only to remove all fumes but to withstand the internal differential pressures, (experienced in system operation) to a level which guarantees that the filter will not fail in service. This is a unique feature.

### Contaminated Fume Inlet

### Pre-Filter

Arrests particles down to 2 microns, preventing premature blockage of the Main Filter.

### Biological

### Pre-Filter (optional)

Chemically treated with a sterilising agent which inhibits propagation of germs and viruses.

### Removable Collection Tray

Enables large particles that have fallen from the reverse airflow, to be collected and removed from the system filtration assembly.

### Illuminated On/Off Button

### Filter Condition LED's

The PUREX system incorporates a completely electronic monitoring system, which is 100 times more accurate than the old fashioned direct reading gauges used in other systems.

### Cabinet Construction

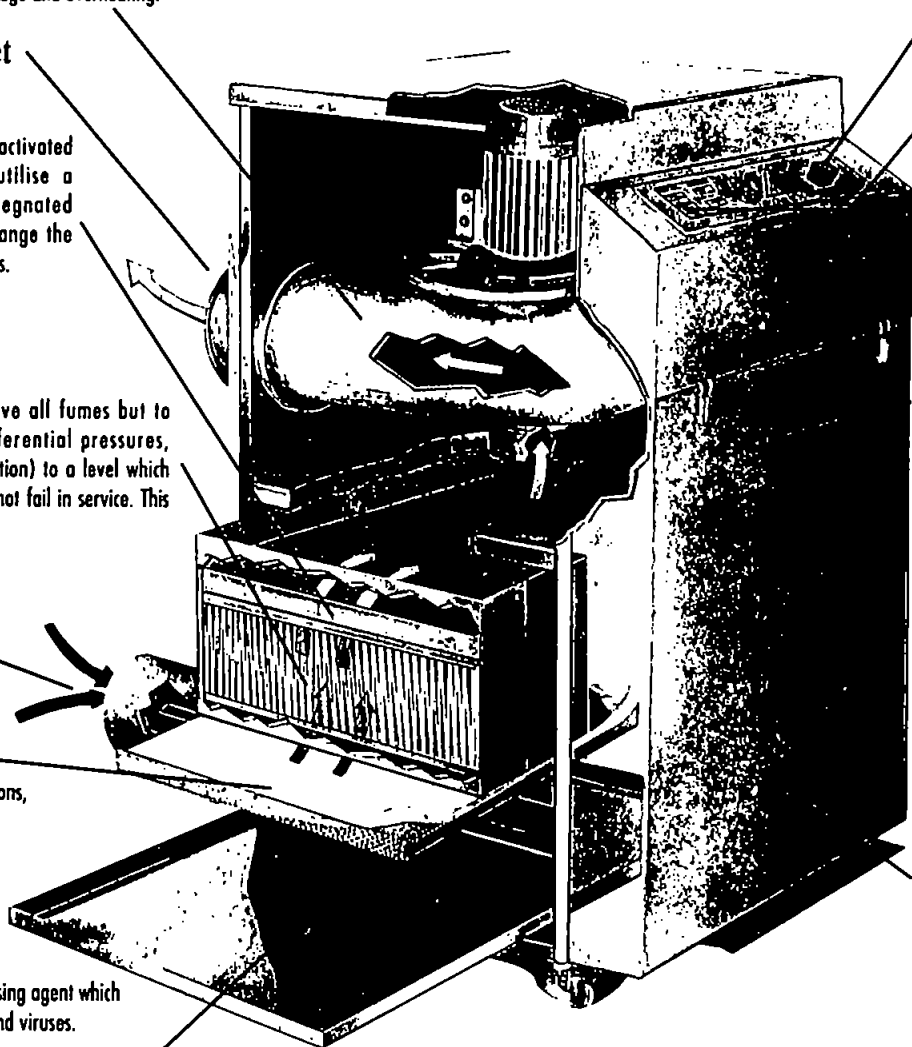
Fully soundproofed, corrosion resistant, polished stainless steel cabinet, ensures extremely quiet operating levels, matched with an ability to blend with any colour scheme.

### Remote Indication Facility Available

Allows filter status to be monitored from a remote location of the users choice.

### Integral Silencer

Ensures quiet operation, at a dBA level which will not cause any discomfort to operators.



NON-COLLAPSIBLE MULTI-POSITION EXTRACTION ARM • LOW COST • MAJOR

# Extensive range of systems combined with a comprehensive range of Multi-position Arms and Cowlings

How to select which Purex system you require.

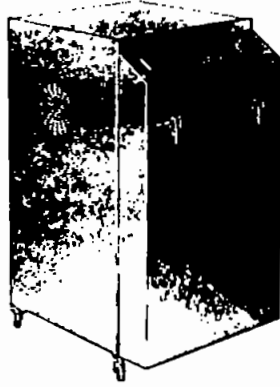
Purex industrial fume purification systems are available in a wide range, enabling companies to accommodate any number of extraction points. In addition to this, an impressive range of Purex Multi-position Arms and cowlings ensures that personnel can be protected from all fume producing production processes.

The model number (7000/16 Arm) is divided into two parts, ie. 7000 represents the series no. and the last number, ie. 16 indicates the maximum number of extraction positions that this system can accommodate.

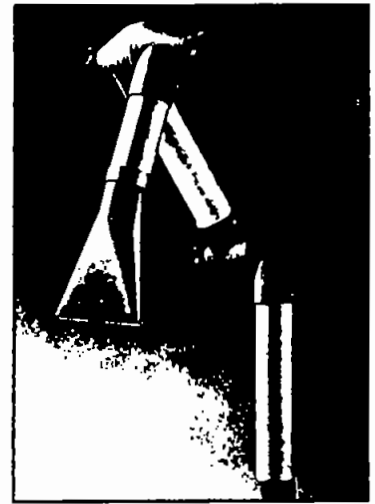
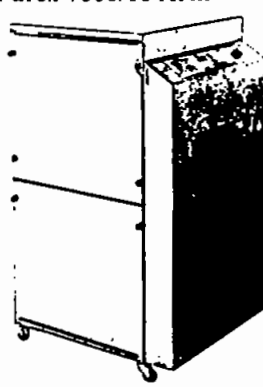
Purex 7000/1 Arm



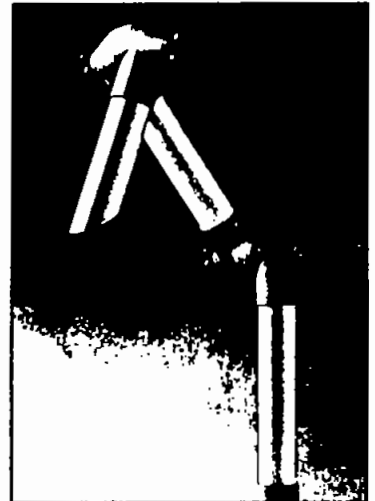
Purex 7000/2 Arm  
Purex 7000/4 Arm



Purex 7000/8 Arm  
Purex 7000/10 Arm  
Purex 7000/16 Arm



DELTA COWL



PEN NIB COWL



CONICAL COWL

This range of stainless steel soundproofed housing for machine tools.

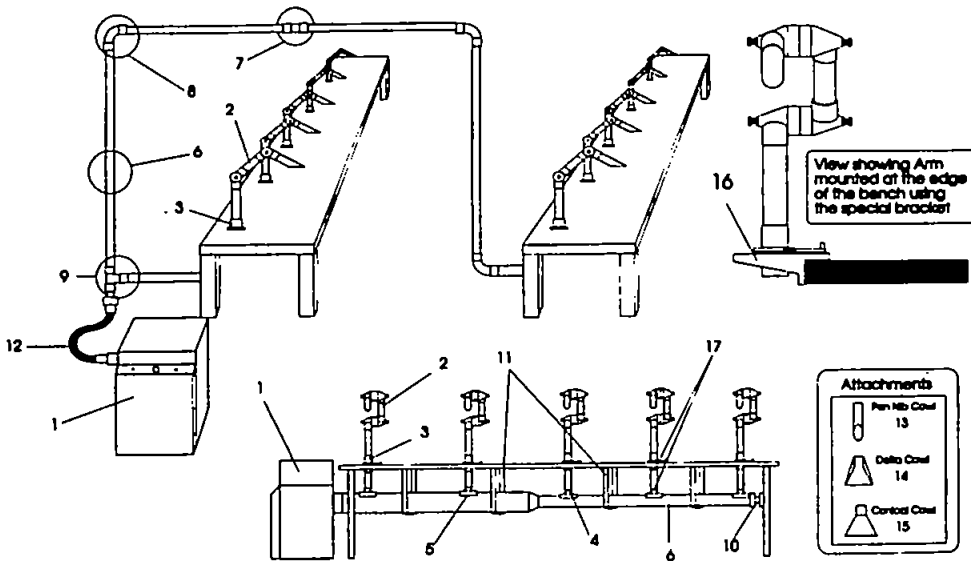
This range comprises three attractively polished, soundproofed, solvent and corrosion resistant stainless steel machines. Giving complete protection for 8 to 16 operators.

- Total protection from industrial fumes
- Guaranteed non-collapsible three stage filter system – tested by photometry to 99.997% at 0.3 micron
- Acid gas neutraliser
- All filters individually tested and certified
- Stainless steel soundproofed housing
- Electronic monitoring panel
- Filter condition LED Bar Graph
- Remote monitoring facility
- Integral Silencer
- Complies with all International regulations

The piping can be stainless steel or galvanised steel. When purchasing a system, contact your supplier who will advise on the piping layout required for your machine.

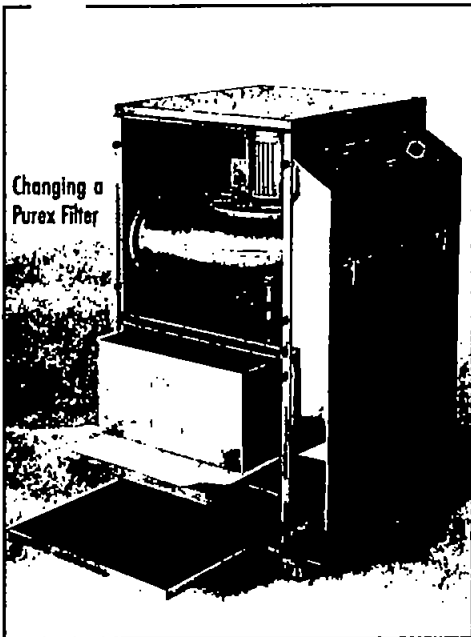
HEAT SAVING • LOW MAINTENANCE • RELIABILITY • PROTECTS THE ENVIRONMENT

# Typical Purex 7000 Multi-position Extraction Arm System Layout



Item	Description
1.	Purex 7000 Fume Purification Machine
2.	Multi-Position Extraction Arm
3.	Support Collar complete with On/Off Valve
4.	Flexible Hose
5.	Piping Saddle
6.	Galvanised Piping
7.	Straight Connector
8.	90° Bend
9.	Equal 'T'
10.	End Blank
11.	'U' Bracket
12.	Flexible Hose & Assembly Coupling
13.	Pen Nib Cowl
14.	Delta Cowl
15.	Conical Cowl
16.	Bracket for Bench Mounting Arm
17.	Jubilee Clip

## Routine Maintenance



The Purex 7000 range of Multi-position Arm Extraction systems are very simple to maintain and can easily be cared for by the operators. The centralised filtration unit and reverse airflow feature reduces maintenance, thereby saving valuable man-hours.

## Technical Data

	Purex 7000/1 Arm	Purex 7000/2 Arm	Purex 7000/4 Arm	Purex 7000/8 Arm	Purex 7000/10 Arm	Purex 7000/16 Arm
Size	H= 660mm W= 433mm L= 433mm	H= 995mm W= 580mm L= 680mm	H= 995mm W= 580mm L= 680mm	H= 1240mm W= 715mm L= 770mm	H= 1240mm W= 715mm L= 770mm	H= 1240mm W= 800mm L= 830mm
Weight	32 Kg	92 Kg	94 Kg	130 Kg	130 Kg	140 Kg
Voltage EC	230V	240V	240V	400V 3 Ph + Neut.	400V 3 Ph + Neut.	400V 3 Ph + Neut.
Voltage US	230V	240V	240V	220V 3 Ph + Neut.	220V 3 Ph + Neut.	220V 3 Ph + Neut.
Frequency EC	50 Hz	50 Hz	50 Hz	50 Hz	50 Hz	50 Hz
Frequency US	60 Hz	-	60 Hz	60 Hz	60 Hz	60 Hz
Wattage EC	0.68kW	0.75kW	1.1kW	2.2kW	2.2kW	5.5kW
Wattage US	0.58kW	-	1.1kW	1.8kW	1.8kW	3.6kW
Vacuum	1500mm wg	150mm wg	200mm wg	255mm wg	260mm wg	520mm wg
Noise Level	62 dBA	62 dBA	63 dBA	66 dBA	68 dBA	72 dBA
Flow Rate EC	100 m <sup>3</sup> /hr per arm	100 m <sup>3</sup> /hr per arm	100 m <sup>3</sup> /hr per arm	100 m <sup>3</sup> /hr per arm	100 m <sup>3</sup> /hr per arm	100 m <sup>3</sup> /hr per arm
Flow Rate US	58.8 cfm per arm	-	58.8 cfm per arm	58.8 cfm per arm	58.8 cfm per arm	58.8 cfm per arm
Extraction Points	1	2	4	8	10	16

Hi-Tech UK are committed to a continuous Product Research & Development Programme, therefore the above data may be subject to change without prior notice. If you require any advice, a demonstration or wish to take advantage of our free consultancy service, call Hi-Tech UK or your distributor.

## PUREX SYSTEMS

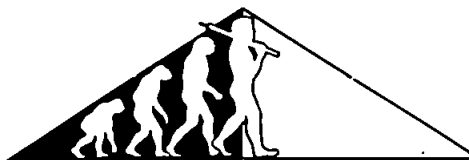
Providing fume extraction with purification, complying to Worldwide health regulations, in the following industries:

Electronics, Engineering, Pharmaceutical, Laser, Food, Welding, General Engineering, Medical, Chemical, Educational Establishments and Government Organisations.

### Guarantee

Hi-Tech UK and its Distributors pledge the following:

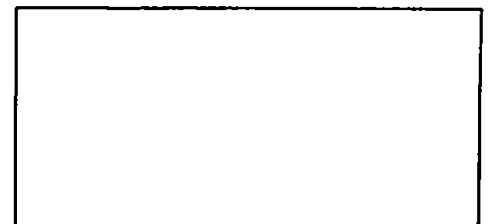
- To achieve the search for reliable, efficient and economical methods of equipment construction.
- To achieve engineering excellence throughout our manufacturing process.
- To give the latest training to our engineers enabling them to carry out a professional installation service.
- To enable companies to comply with Worldwide Health regulations.
- To support our equipment with a fast and reliable maintenance and spares service.
- To provide a superior free consultancy service regarding all matters of hazardous fume extraction.



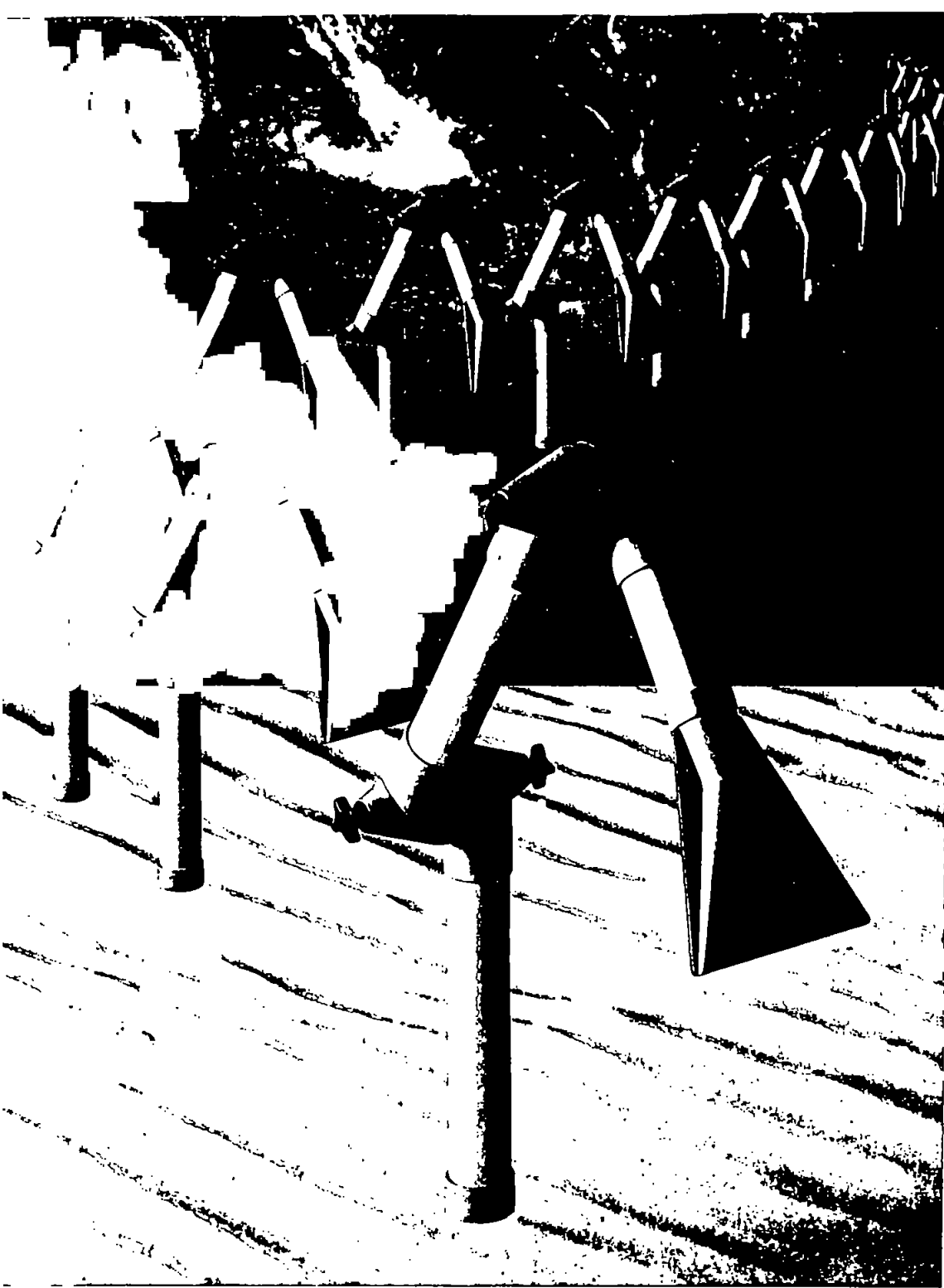
# HI-TECH UK

Unit 13, Purex House, Monksbridge Trading Estate, Outgang Lane, Dinnington, Sheffield S31 7QY. Tel: 01909 569867 Fax: 01909 569145

Distributed by:



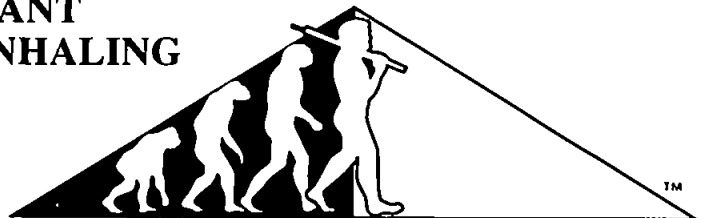
# Purex® Fume Extraction Arms



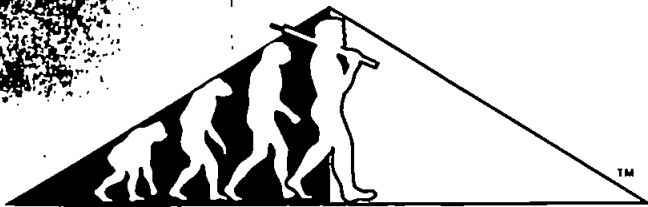
THE ULTIMATE IN ARM TECHNOLOGY  
FROM

# HI-TECH UK

UNIQUE PATENTED KNUCKLE DESIGN  
HEAT & CHEMICAL RESISTANT  
PROTECTS PERSONNEL FROM INHALING  
HAZARDOUS FUMES



# PURE



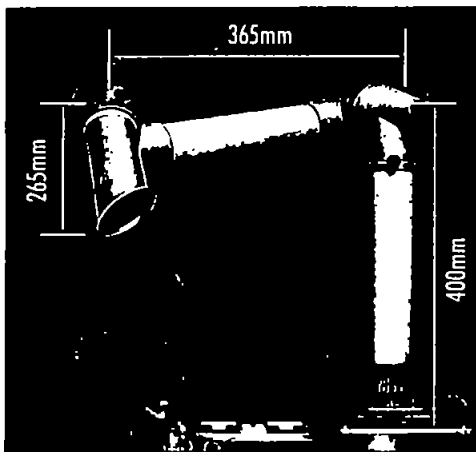
## Recommended and endorsed by hunc

Purex arms are used worldwide throughout industry to enable safe and efficient extraction of hazardous dust and fumes. When used with Purex Arm Extraction Systems, operators can take advantage of a wide range of specialist filtration units incorporating HEPA, Chemical, Dust, Coalescing and Odour Removal Filters to capture micronic and submicronic particles and purify hazardous gases or unpleasant odours.

There are 2 arm types to choose from -  
● Multi-position ● Flexible Stainless Steel

### Multi-position Arms

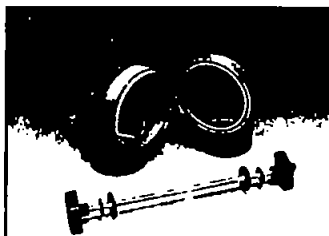
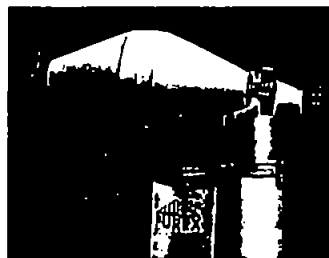
dia 54mm



Recommended for applications where high flow rates (approx 100M<sup>3</sup>/hr) and wide fume capture zones are required.

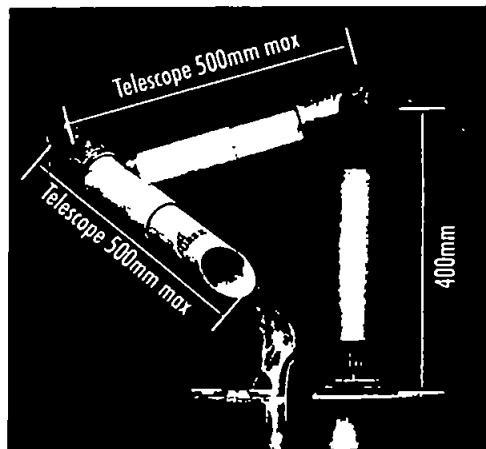
Purex Multi-position arms incorporate a unique patented knuckle joint to ensure reliable positioning, time after time. A spring-loaded tensioning bolt enables the operator to tighten the arm with minimum force, creating a positive lock between serrated inner cams on the inside of the knuckle halves.

Once set to the correct tension, the position of the arm can be adjusted without unscrewing and re-tightening the bolt. The spring allows the cam ridges to ride over each other and click into place as the arm turns, re-locking each time. Knuckle joints are resistant to both acids and solvents.



### Telescopic Multi-position Arms

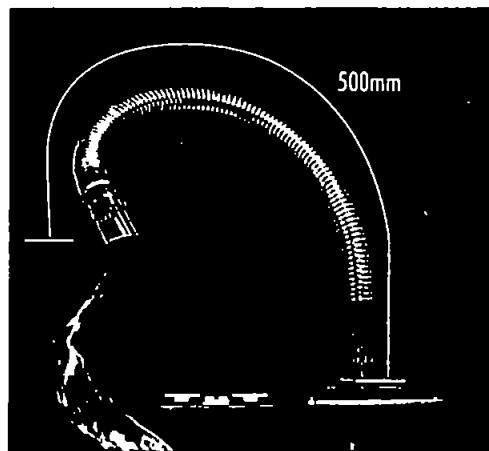
dia 54mm



Because Purex Multi-position arms are held in position by a positive locking system, they will support a telescopic section up to 0.5M long. This gives greater flexibility when working on products of different heights and allows extraction to be installed in areas where access is otherwise impossible.

### Flexible Stainless Steel Arms

dia 38mm 32mm 25mm



Ideal for applications where high velocity extraction is required over specific points and where resistance to high temperatures or chemicals is important. Flow rates range from approx 40M<sup>3</sup>/hr from 25mm arms to approx 60M<sup>3</sup>/hr from 38mm arms.

10 types of cowls are available to fit the standard arm, giving a full range of 38mm, 32mm and 25mm pen nib, conical and delta cowls as well as a clear hood cowl for extraction over wider areas.

All cowls are fully interchangeable and slot onto the arm in seconds.

PATENTED POSITIVE LOCKING SYSTEM ● ESD SAFE ● CHEMICAL

# PUREX<sup>®</sup> FUME EXTRACTION

## The Professional answer to Fume Extraction Needs of satisfied International Blue Chip Companies

### Complete range of quick-change cowls

When several processes are carried out at the same workstation it may be necessary to use different cowls to ensure fumes from each process are captured in the most efficient way. Purex extraction arms are designed to enable quick changeover of cowls, minimising any inconvenience caused when changing processes. For guidelines on the appropriate cowl to use, see fume capture pattern diagrams.

To remove the existing cowl from Multi-position arms, simply undo the thumbscrew and slide the cowl out. Slide the replacement cowl in and re-tighten the thumbscrew.

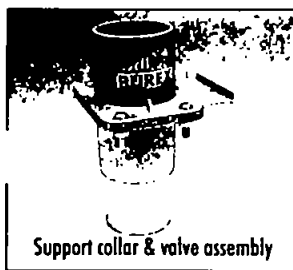
Changing the cowl on Flexible Stainless Steel Arms is even quicker. Just slide the cowl currently in use off the cowl adaptor and slide the replacement cowl on.

All Purex arms from 25mm to 54mm are supplied with a common adaptor which serves as an On/Off Valve, Airflow Regulator and Support Collar. Arms are secured in the mounting simply by tightening the thumbscrew.

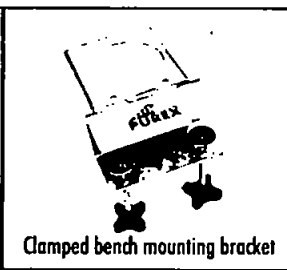


### Purex<sup>®</sup> Mounting Brackets accept all arm configurations

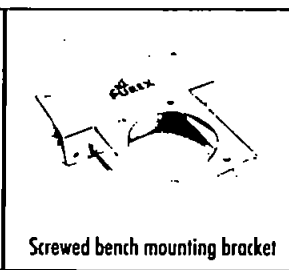
A range of mounting brackets is available so that Purex extraction arms can be located conveniently, wherever you work.



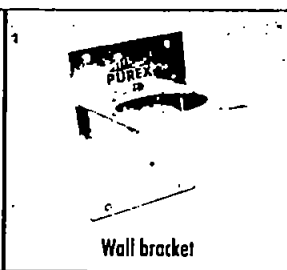
Support collar & valve assembly



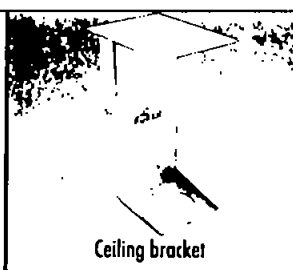
Clamped bench mounting bracket



Screwed bench mounting bracket



Wall bracket



Ceiling bracket

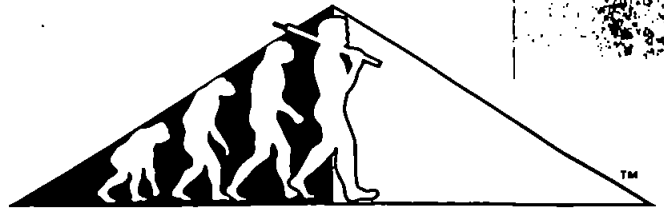
### Choosing the correct arm for your application

Follow the steps below in order to determine the correct arm to use for your application:

- 1 Examine the fume pattern and measure the approximate area of fume.
  - 2 Check the Fume Capture Pattern table overleaf and select the cowl with the capture pattern that matches your fume pattern most closely.
  - 3 Check the Fume Capture Area to select the correct arm diameter.
  - 4 Decide the most convenient location of the arm, ensuring it will reach the required extraction area.
- 3-knuckle Multi-position Arms and longer arm sections are available for extended reach. Maximum arm section length for Multi-position arms (including knuckle joint) - 0.5M, maximum length for Flexible Stainless Steel Arms - 0.5M.

RESISTANT ● INFINITE POSITIONING ● HEAT RESISTANT ● WIDE R

# ARMS



## Companies & Government Organisations

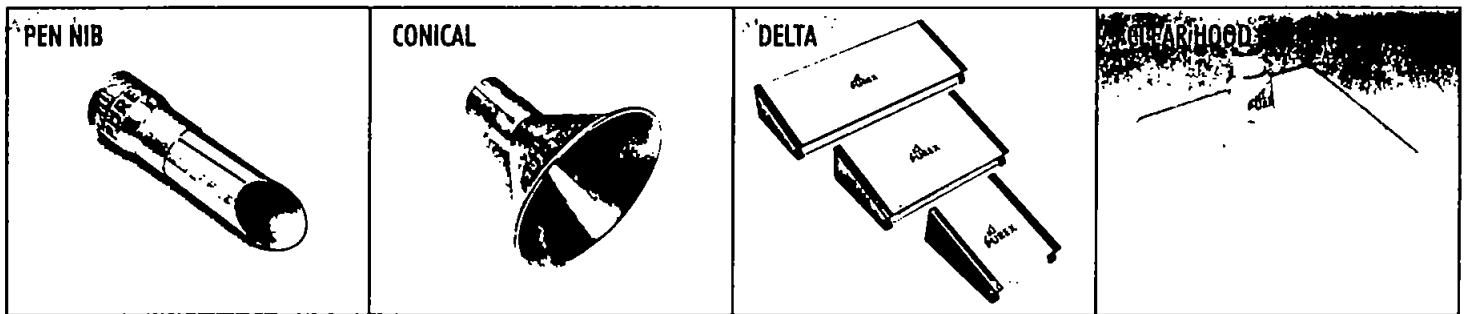
### Choosing the appropriate type of cowl

Each cowl has its own unique fume capture pattern. Some processes, such as soldering, gluing, laser marking, welding, and chemical mixing give off fumes from one specific point thousands of times a day, therefore requiring high-velocity spot extraction. Other processes may require a laminar flow across the working surface for most efficient removal of fumes. Choosing the right combination of cowls for your arms means you can achieve maximum efficiency of extraction over a wide variety of processes.

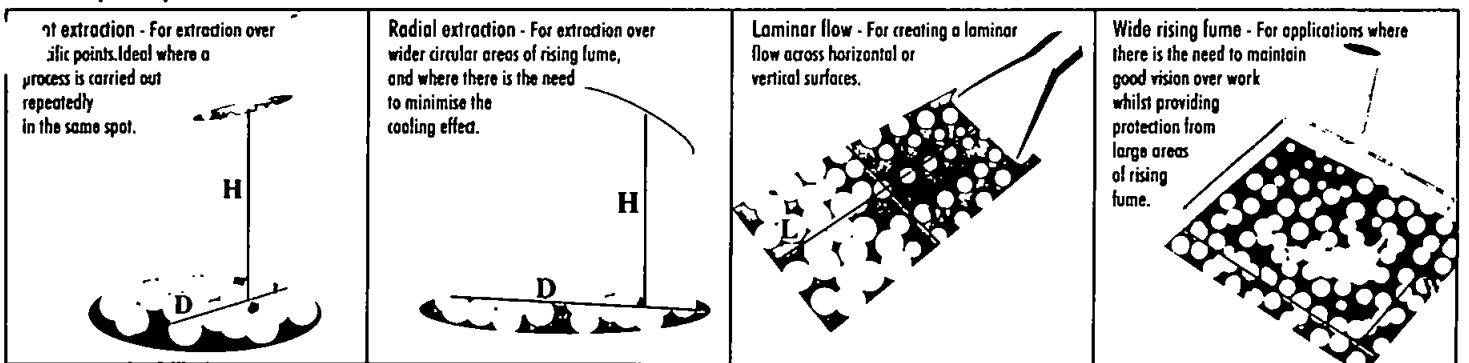
### Multi-position arm cowls for 54mm diameter arms



### Flexible Stainless Steel arm cowls for 38mm, 32mm & 25mm diameter arms



### Fume capture pattern



### Fume capture area dimensions (approx.)

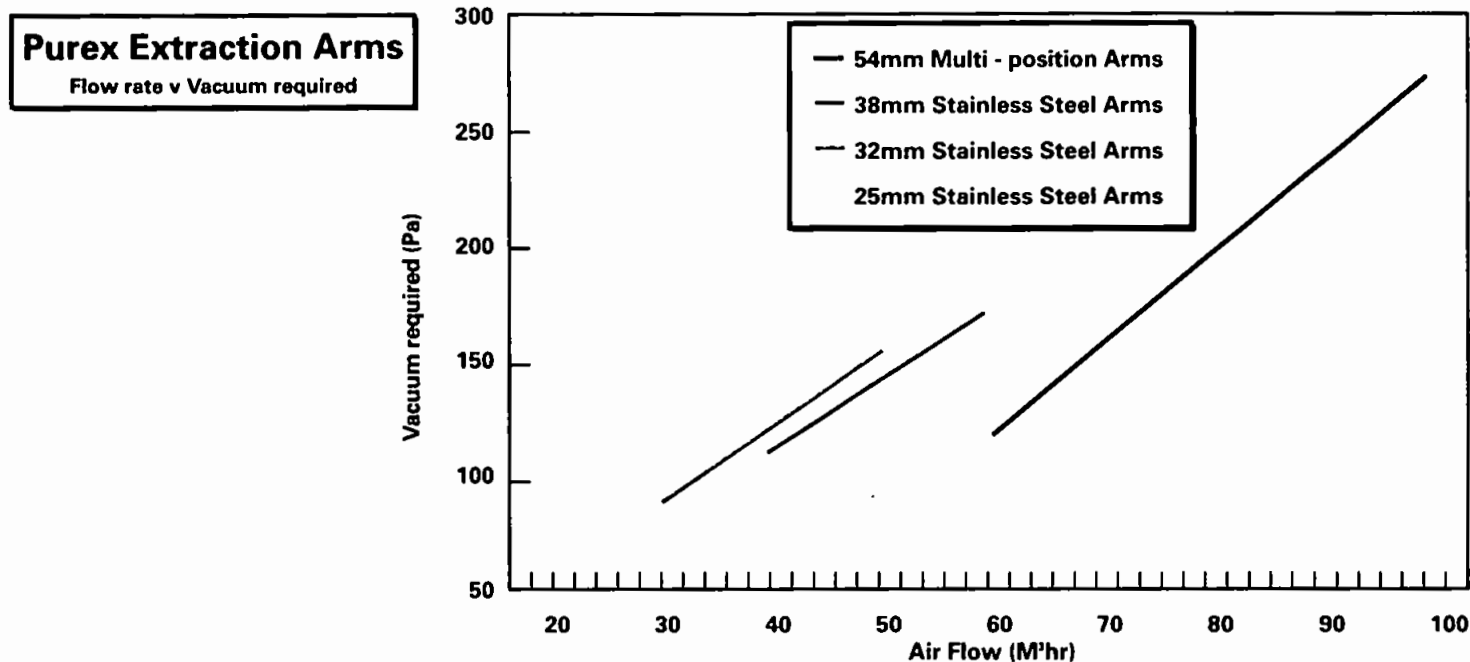
Arm Dia.	Max D,H	Arm Dia.	Max D,H	Arm Dia.	Max D,H	Arm Dia.	Max WxL	Arm Dia.	Max WxL	Arm Dia.	Max WxL
54mm	200, 260	32mm	140, 160	54mm	210, 260	32mm	150, 160	54mm	300x300	32mm	200x150
38mm	180, 190	25mm	100, 100	38mm	190, 200	25mm	110, 150	38mm	300x200	25mm	100x100
										54mm	300x300
										38mm	300x200

RANGE OF COWLS ● INTEGRAL AIRFLOW REGULATOR ● LOW COST

## System specification

In order to determine the size of pump you require:

- > Decide what flow rate you require from your arms. Ask your distributor for advice if you are unsure what to specify, as recommended flows vary according to the type of fumes to be extracted.
- > Identify the flow curve representing the arm you wish to use and draw a vertical line from the required flow rate (x-axis) to the curve.
- > The corresponding value on the y-axis gives you the approximate vacuum required (Pa) from the extraction pump.
- > Additional allowances must be made for filter and ductwork resistance.



For further advice on system design, please contact Hi-Tech UK or your distributor.

## Purex<sup>®</sup> Extraction Arm Systems Technical Data

Machine Type	7000/1-3	7000/2-6	7000/4-10	7000/6-15	7000/8-20	7000/10-25	7000/16-40
Machine Part No.	072042	072082	072090	072160	072120	072130	072140
Dimensions	H = 660mm W = 433mm L = 433mm	H = 660mm W = 433mm L = 433mm	H = 995mm W = 580mm L = 680mm	H = 995mm W = 580mm L = 680mm	H = 1240mm W = 715mm L = 770mm	H = 1240mm W = 715mm L = 770mm	H = 1240mm W = 800mm L = 830mm
Sound Rating	52dBa	52dBa	54dBa	54dBa	58dBa	58dBa	61dBa
Max No. of 54mm Arms	1	2	4	6	8	10	16
Max No. of 38mm Arms	1	3	6	8	12	15	25
Max No. of 32mm Arms	2	4	8	10	15	20	30
Max No. of 25mm Arms	3	6	10	15	20	25	40

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# COMPLETE PROTECTION FROM HAZARDOUS INDUSTRIAL FUME

# PUREX® EXTRACTION ARMS

- Fully adjustable, reliable positioning
- ESD safe
- Choice of 54mm, 38mm, 32mm and 25mm diameters, covering all flow rate requirements
- 4 cowl options available for each type of arm
- Convenient location of arms, wherever you work, is achieved through a range of versatile bench, wall and ceiling mounting brackets
- Adaptable mountings fit all types of Purex arm, allowing operators to interchange Multi-position and Flexible Stainless Steel Arms
- Purex extraction arms can be connected to Purex Arm Extraction Systems or combined with Purex Cleancab Extraction Cabinets on a Purex Cleancab Extraction System (See Purex Arm and Cleancab System brochures for further details)

## Multi-position Arms



2-knuckle Multi-position Arm\*  
Basic arm  
120140



Pen nib nozzle  
120156



Delta cowl  
120157



Conical cowl  
120158



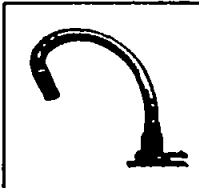
Clear hood cowl  
120159



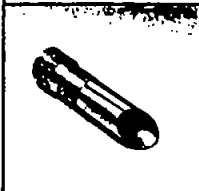
Telescopic arm  
120155

\*Available with white or grey knuckles

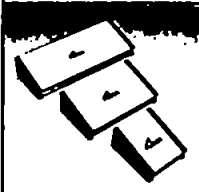
## Flexible Stainless Steel Arms



Flexible Stainless Steel Arm  
Basic arm  
120135



Pen nib nozzle  
38mm 32mm 25mm  
840170 840172 840175



Delta cowl  
300mm 200mm 100mm  
840180 840182 840185



Conical cowl  
38mm 32mm 25mm  
840190 840192 840195



Clear hood cowl  
38mm  
840160

## Universal Spares



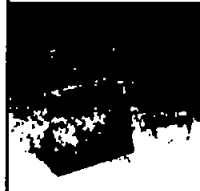
Support collar & valve assembly  
840050



Clamped bracket  
840205



Screwed bracket  
840200



Wall bracket  
840210

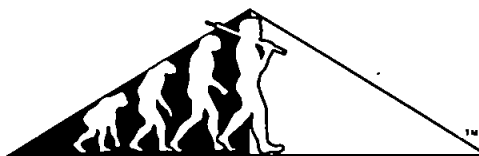


Ceiling bracket  
840215

### Guarantee

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- To continue the search for reliable, efficient and economical methods of equipment construction
- To achieve engineering excellence throughout our manufacturing process
- To give the latest training to our engineers enabling them to carry out a professional installation service
- To enable companies to comply with Worldwide Health Regulations
- To support our equipment with a fast and reliable maintenance and spares service
- To provide a superior free consultancy service regarding all matters of hazardous fume extraction

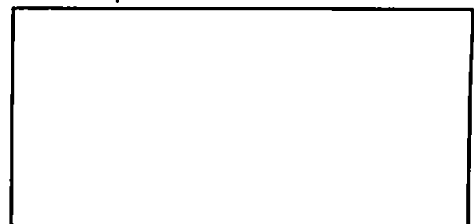


## HI-TECH UK

PUREX® House, Monksbridge Trading Estate,  
Outgang Lane, Dinnington, Sheffield S31 7QY  
Tel: ++ 44 1909 569867 Fax: ++ 44 1909 569145

Email: [purex@dial.pipex.com](mailto:purex@dial.pipex.com) Internet: <http://www.hi-tech-uk.co.uk>

Distributed by:



### Changing the Filters

The soldering process liberates a complex mixture of naturally occurring diterpine acids. Whilst the aforementioned substances are hazardous if inhaled during soldering, once collected, compacted and neutralised within the filter cartridge they become completely harmless. The filters can be disposed of by placing them into a large plastic bag (to avoid dust inhalation) and passed onto normal Council refuse collection.

### Filter Disposal Instructions

It is advisable, due to the dust that can be blown into the area, to take some sensible precautions to avoid inhalation when disposing of a used filter.

1. Remove the filter cover.
2. Wear rubber gloves.
3. Remove the pre-filter, taking care not to disturb the covering of dust.
4. Place into a plastic refuse bag.
5. Place in skip.

If the Main Filter requires changing, repeat steps 3-5.

Most European Countries will accept the filters as normal harmless domestic refuse. If you are in any doubt, consult you local authority.

***Filter condition LED showing RED:***

### Filter Fitting Instructions

#### Empty Debris Compartment Tray

1. Remove the filter door
2. Lift and slide out the debris tray
3. Empty the tray into a suitable polythene bag
4. Refit the debris tray
5. Replace the filter door

**NOTE:** *Ensure that the filter door is replaced properly or this could lead to a drop in pressure.*

### **Renew the Pre-Filter**

1. Remove the filter door
2. Slide out the filter shelf
3. Renew the Pre-filter and place the used filter in a suitable polythene bag for disposal.
4. Refit the filter shelf
5. Replace the filter door

**NOTE:** *If after carrying out steps 1 - 5 the LED reading remains RED, renew the Main Filter.*

**NOTE:** *The Pre-filter should be changed at regular intervals; this will extend the life of the Main Filter if it is not allowed to become completely clogged.*

### **Renew the Main Filter**

1. Remove the filter door
2. Remove the one piece Main Filter
  - (a) Release the main filter by either turning; the locking lever (located centrally under the filter) or the two locking clamps (located on the side of the filter cradle)
  - (b) Ensure that the filter drops down (3mm minimum) and then slide it out
3. Place used filter in a suitable polythene bag for disposal
4. **Before Fitting a Replacement Main Filter** - A certain amount of dust is quite normal at the bottom of the Main Filter packing box (Special Filters can be obtained from Hi-Tech UK for Clean Room situations)
  - (a) Hold the filter in a vertical position (air flow arrow pointing upwards) and shake from side to side. This will ensure that the Chemical is level at the bottom of the filter
  - (b) Place the filter in position in the machine with the test label facing out, arrow point upwards
5. Refit 2. above
6. Replace the filter door

**NOTE:** *If the LED still reads RED refer to the Fault Finding section*

**NOTE:** *The Main Filter should be changed after nine months irrespective of the LED reading due to chemical saturation.*



**Title of Report:** Occupational Exposure Monitoring

**Client:** Braun Ireland Ltd.

**Attention:** Mr. P. J. Henry.

**Date:** 8<sup>th</sup> May 1997

**TMS Ref. No:** 97043

**Written By:** *Niall O'Connell*

NIALL O'CONNELL

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## **1.0 INTRODUCTION**

TMS Consultancy Ltd. was requested by Braun Ireland Ltd. to carry out occupational exposure monitoring at specified work stations in their plant, at Dublin Road, Carlow. The work stations monitored were the Ink Mixing Machine for organics and the Shaver Foil area for Nickel and Chromium.

## **2.0 SAMPLING**

Samples were collected by affixing a personal sampling pump to an operator and positioning the collection medium as close to the breathing zone as practicable. In the Ink Mixing Machine area sampling was carried out during the morning set up and the afternoon clean-up period to establish whether any variations in exposure levels exist. Organic samples were collected by filtration on charcoal tubes and were in general compliance with NIOSH Method  
Metal samples were collected by filtration, using cellulose ester filters.  
Sampling was carried out on 14<sup>th</sup> March, 1997.

## **3.0 ANALYSIS**

Organic sample tubes were analysed by Gas Chromatography with both mass selective and flame ionization detection, after solvent desorption.  
Nickel was determined by Atomic Absorption Spectroscopy after digestion of filter.

## 4.0 RESULTS

### 4.1 Ink Mixing Machine

Parameters	Morning Set-up 97043.1	Afternoon Clean-up 97043.2	Occupational Exposure Limit 15 min. ref. Period	Units
Cyclohexanone	1.16	9.3	400	mg/m <sup>3</sup>
n Butyl Acetate	19.6	15.4	1190	mg/m <sup>3</sup>
Ethyl benzene	1.0	0.6	545	mg/m <sup>3</sup>
m,p, xylene	3.0	1.8	650	mg/m <sup>3</sup>
2-methoxy-1-methyl ethyl acetate	2.6	1.9	50*	mg/m <sup>3</sup>
o-xylene	0.56	0.36	650	mg/m <sup>3</sup>
Iso propyl benzene	0.13	0.1	370	mg/m <sup>3</sup>
Trimethyl benzene	2.2	1.9	20*	mg/m <sup>3</sup>

\* Denotes Limit for 8 hour reference period which is currently under consideration

### 4.2 Shaver Foil Area

TMS Ref.	Parameter	Result	Occupational Exposure Limit	Reference Period	Units
97043.3	Chromium	0.1	0.5	8 hr TWA	mg/m <sup>3</sup>
97043.4	Nickel	<0.02	0.5	8 hr TWA	mg/m <sup>3</sup>

## **5.0 OCCUPATIONAL EXPOSURE LIMITS**

The Limits quoted are drawn from the Code of Practice for the Safety, Health and Welfare at Work (Chemical Agents) Regulations 1994, January 1997 Revision.

For substances which have not been assigned a short term exposure limit and where exposure times are less than the 8 hour reference period, exposure should not exceed three times the 8 hour exposure limit value.

Exposure times less than the short term reference period should not exceed three times the short term exposure limit.

## **6.0 COMMENTS**

The exposure levels measured indicate compliance with Occupational Exposure Limits as set out in the Code of Practice for the Safety, Health and Welfare at Work (Chemical Agents) Regulations 1994, January 1997 Revision.

## **7.0 GLOSSARY OF TERMS**

### **7.1 "Occupational Exposure Limit"**

The maximum permissible concentration of a chemical agent in the air at the workplace to which workers may be exposed in relation to an 8 hour or a 15 minute reference period.

### **7.2 "8 Hour reference period"**

This is the procedure whereby the occupational exposures in any 24 hour period are treated as equivalent to a single uniform exposure for 8 hours (8 hour time weighted average TWA).

### **7.3 "15 minute reference period"**

This is the short term exposure reference period and is the sampling period used for assessing compliance with the associated exposure limit.

120

## **ATTACHMENT 12C**

### **Boiler Emissions**

Assessment of boiler emission at the plant has shown all boiler emissions to be within the T.A. Luft Emission Limit Values. Concentration levels of NO<sub>x</sub> (Nitrogen Oxides), SO<sub>x</sub> (Sulphur Oxides) and CO (Carbon Monoxide) were measured.

The principal emissions are from the extraction system and combustion gases such as SO<sub>x</sub>, NO<sub>2</sub>, CO and CO<sub>2</sub> from the boilers. Carbon Dioxide is a greenhouse gas. Man made emissions of greenhouse gases have the impact of enhancing the greenhouse effect which leads to an increase in the mean temperature of the earth's surface. World-wide global warming is expected to impact sea levels, forests and agricultural areas.

NO<sub>x</sub> and SO<sub>x</sub> cause an increase in the acidity of rainwater, i.e. lower the pH to less than 5.0. Acid rain is deleterious to flora in rural areas and can damage buildings in urban areas.

### **Main Emission**

A full characterisation and quantification of the organic species emitted from emission point A2-1 (ink mixing) has been carried out. The results are tabulated below. Comparison with emission limit values representing BATNEEC have shown levels to be in excess.

VOCs consist of a wide range of reactive hydrocarbons and similar compounds. The action of ultra violet light on VOCs cause the formation of ozone at groundlevel which has adverse implications for human health and for crops and other vegetation.

The presence of VOCs in the Stratosphere causes the formation of free radical halogen atoms which destroy ozone molecules. Ozone depletion in the stratosphere allows the penetration of harmful ultraviolet-B radiation which can adversely affect animal and plant life.

Elevated concentrations may be explained by the lack of efficient exhaust. It was noted that the duct velocity reached a maximum of 1.0 m/s, suggesting that gases are setting in the duct

and so increasing concentration levels. The mass flow values are significantly below emission limit values expressed in the BATNEEC Guidance Note for Electroplating Operations.

The periods of emission occur during start up and shut down stages and amount to 2 hours per day for 260 days/year.

Therefore, overall quantities of the gaseous emission are low and the environmental load is not excessive.

<b>Emission Point Reference Number</b>	<b>Parameter</b>	<b>Conc mg/m<sup>3</sup></b>	<b>Mass Flow Kg/hr</b>
A2-1	VOC	9365	0.519
	n Butyl / Acetate	39.6	0.002
	Ethyl Benzene	0.28	<0.001
	m,p xylene	0.952	<0.001
	2-methoxy-1-methyl-ethyl Acetate	2,063	0.1144
	Cyclohexanone	0.317	<0.001
	Iso propyl benzene	28.571	0.002
	O-xylene	30.159	0.002
	Trimethyl-benzene	936.5	0.052

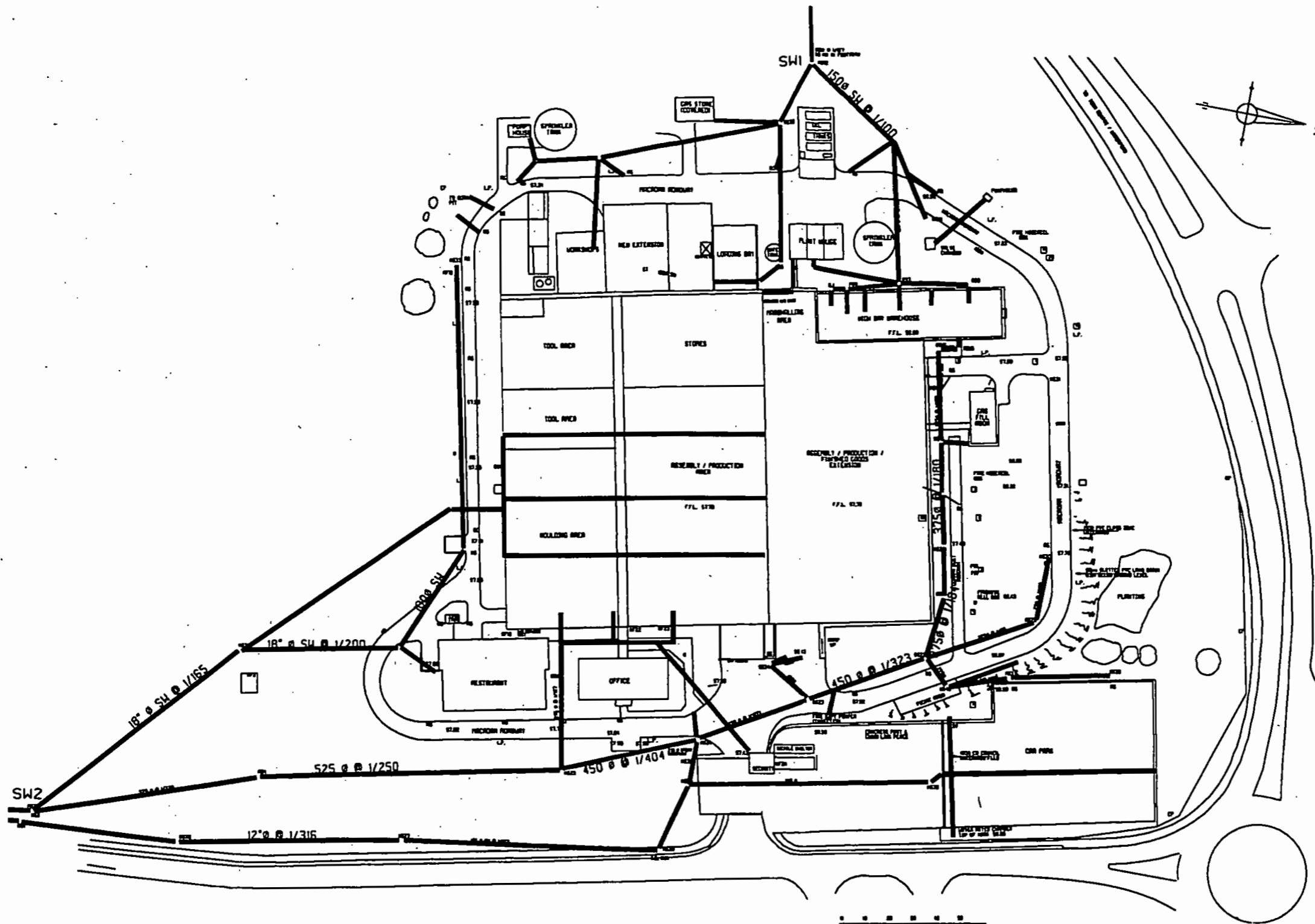
**Emission Point A2-1 Air Emissions**

The company plans to change from Tampo printing to laser imprinting process. This would eliminate use of printing inks and thinners and therefore organic emissions.

**Minor Emissions**

All other extracts were tested for the emission parameters appropriate to the process involved. The results are reproduced in Table A(iii). All indicate levels within BATNEEC Guidance Levels and so do not have a significant adverse environmental impact.





NOTE: ALL LEVELS IN METERS TO MEAN DRAINAGE CENTER

NOTE: STORM DRAINS —————

				TOL. FOR UNSPEC. DIMS.	MATERIAL		
				±0.1			
				DRAWN	DATE	NAME	TITLE
					28-5-97	PD	STORM DRAINS
				CHECKED			
				APPROVED			
				BRAUN			DRG. No.
							3001156
ISS	MODS.	DATE	NAME				ISSUE

**14A**

## ATTACHMENT NO. 14A

### Summary description of workings of the Effluent Plant

Before effluent is discharged to the foul sewer it is treated in the Effluent Treatment Plant. Water entering the Effluent Treatment originates from the Shaver Foil Plating Process, the deionisation unit and several clean rinses. The first stage for process water is Neutralisation by acids or bases depending on the pH of the process water.

Removal of metals such as Nickel and Chrome is then carried out. The  $\text{Cr}^{6+}$  ions present in water from the Photographic Image Repro process is reduced to  $\text{Cr}^{3+}$  ions. The chrome and nickel effluent are then combined for treatment with caustic to precipitate the nickel and chrome metals. The effluent is then pumped to the setting tank to be treated with a poly electrolyte to further precipitate metals. The overflow/supernatant effluent from the settling plant goes through a sand filter to filter out any solids present. The sand filter is backwashed periodically into the setting tank to maintain the filtering capacity of the sand. Finally the effluent is neutralised, as the pH will still be high after caustic treatment, before being released to the County Council foul sewer. An automatic composite sampler is in place at the outflow of the effluent to collect a composite sample for monthly analysis against the requirements of the effluent licence. In addition the levels of nickel and chrome and pH are monitored in-house. The balance from tank is desludged periodically and the sludge containing nickel and chrome is removed by Shannon Environmental Services as a hazardous waste.

Procedure number ECO-01B deals with the Operation of the Effluent Treatment Plant and Discharge to Waste in Abnormal and/or Emergency Conditions. The steps to be followed are:

A. Abnormal Conditions:

Shutdown periods - all discharges are shut off (ref. Process Engineering Procedures Manual).

Start-up periods - (ref. Process Engineering Procedures Manual).

B. Emergency Conditions:

In the event of a non-conformance being identified from test results or an accidental discharge occurring, then either all discharges or the particular affected waste streams will be shut off. There is available storage/buffer capacity for approximately two days of production. Process Engineering will investigate the cause of the problem and initiate corrective action.

If the corrective action is effected within two days, discharges will resume to sewer. If not then production will shutdown, until such time as the problem is rectified. The process engineer will inform the Utilities supervisor and Environmental officer immediately of the problem, who in turn, will inform the EPA within two days of the incident - 1. Cause and 2. Schedule for corrective action.

Once corrective action has been implemented and normal production discharges have been resumed Process Engineering will complete an Accident/Incident Report and Investigation form.

All records of incidents are held for five years by process engineering.

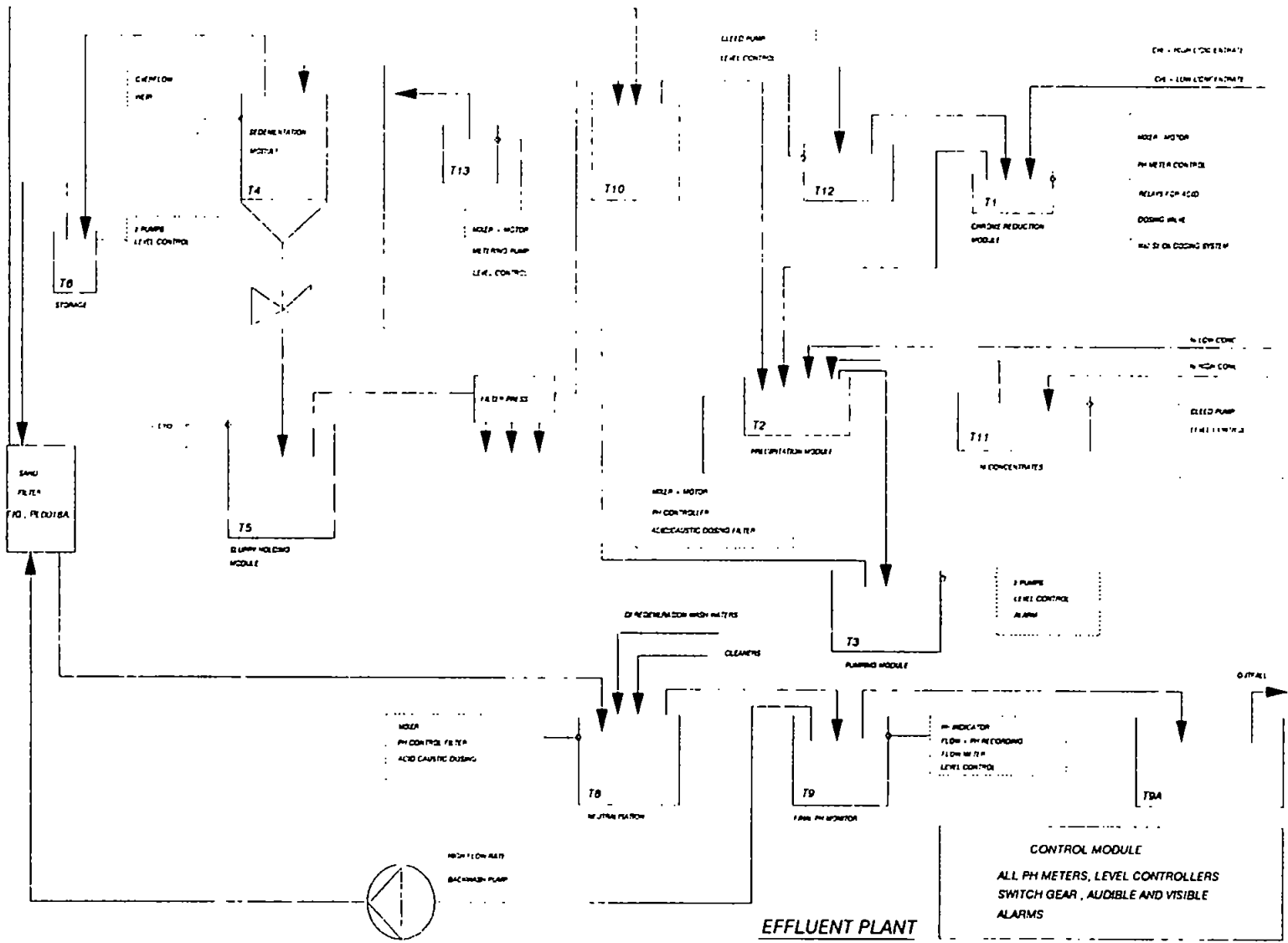


FIG : PL0018B.

**EFFLUENT PLANT  
FLOW DIAGRAM.**

Revision Index  
SF/PL/0018

01

Page No.:

Page 4 of 4

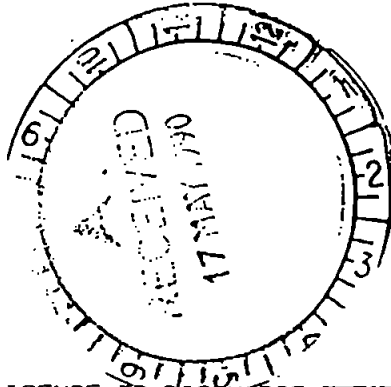
F. M. EALY

LOCAL GOVERNMENT (WATER POLLUTION) ACT 1977

LOCAL GOVERNMENT (WATER POLLUTION REGULATIONS 1978

TOWN HALL,  
CARLOW.

16th May, 1990.

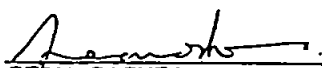


RE/ REVISED LICENCE TO DISCHARGE ~~EFFLUENT~~ TRADE EFFLUENT TO TOWN SEWER

A Chara,

I am to refer to previous correspondence relating to revision of Licence to Discharge ~~Effluent~~ /Trade Effluent to the Town Sewer and to now enclose Revised Licence granted under the above Act in substitution for licence issued on 28th August, 1981.

Mise le Meas,

  
SEAN O'SHEA,  
TOWN CLERK

Encls.

BRAUN (IRELAND) LTD,  
DUBLIN ROAD,  
CARLOW.

LOCAL GOVERNMENT (WATER POLLUTION) ACT, 1977

LICENCE TO DISCHARGE TRADE EFFLUENT OR OTHER MATTER TO A SEWER

SANITARY AUTHORITY

Carlow Urban District Council

TO: Braun (Ireland) Ltd.,  
Dublin Road,  
Carlow

Reference Number  
in Register

W.P.A. 3/90

The Carlow Urban District Council in exercise of the powers conferred on it by the Local Government (Water Pollution) Act, 1977 hereby grants a revised licence in substitution for licence dated 28th August 1981 reference number W.P.A./3 to discharge trade effluent from factory located at Braun (Ireland) Ltd., Dublin Road, Carlow to the public town sewer at Braun (Ireland) Ltd., Dublin road, Carlow, subject to the following conditions.

1. The maximum quantity of effluent discharged shall not exceed 160 m<sup>3</sup> per day.
2. Maximum hourly discharge shall not exceed 7m<sup>3</sup> per hour.
3. The characteristics of the effluent discharged shall not exceed the following limits:-

B.O.D. ....	350 mg/l
C.O.D. ....	1000 mg/l
Suspended Solids .....	400 mg/l
Detergents .....	5 mg/l
pH (Range) .....	6.5 - 8.5
Temperature .....	30°C
Chlorides .....	300 mg/l
Sulphate (SO <sub>4</sub> ) .....	250 mg/l
Chromium .....	0.1 mg/l
Nickel (NI) .....	0.1 mg/l
Cyanide (CN) .....	0.1 mg/l
Silver (AG) .....	0.1 mg/l
Barium (BA) .....	1.0 mg/l
Copper (Cu) .....	1.0 mg/l
Platinum (Pt) .....	0.1 mg/l
Fats, Oils & Grease .....	100 mg/l
Petroleum .....	absent
Sulphide .....	virtually absent
Tarry matter .....	virtually absent
Organic Solvents .....	absent

4. Maximum B.O.D.<sub>5</sub> loadings shall not exceed 36 Kg/day.
5. Maximum suspended solids loading shall not exceed 48 Kg/day

# ENVIRONMENTAL PROCEDURES MANUAL

---

**POLICY NUMBER:** E007

**EFFECTIVE DATE:** 25.05.95

**TITLE:** Waste Water Monitoring Procedure

**REVISION NUMBER:** 00

- POLICY:** 1.0 It is the policy of Braun Carlow to ensure that all waste water discharges from the plant meet the local government and Irish Water Pollution requirements.
- SCOPE:** 2.0 This procedure covers all trade effluent, sewerage, restaurant and production waste water discharges to the town foul sewerage system.
- OBJECTIVES:** 3.0 The objective of this procedure is to ensure that Braun Carlow's waste water discharges complies with the local government (water pollution) Act 1977 and meet all the requirements laid down in our licence conditions to discharge trade effluent issued by the local authority.
- PROCEDURE:**
- 4.0 On the third week of every month's waste water samples will be taken from the last manhole output on the Braun site before the waste water enters the local authority foul sewer system.
- 4.1 Four 1 litre samples will be taken and recorded in the waste water log sheet.
- 4.2 Three 1 litre samples will be sent to an outside independent laboratory for analysis.
- 4.3 One 1 litre sample will be retained in-house and given to the Process Engineer (Frank Mealy) responsible for the effluent treatment plant.
- 4.4 The external laboratory will carry out the following tests:  
Biochemical Oxygen Demand, Chemical Oxygen Demand, Suspended Solids, Detergents, PH, Chlorides, Sulphate, Chromium, Nickel, Cyanide, Silver, Barium, Copper, Platinum, Oils/Fats and Grease, Sulphide, Tarry Matter.
- 4.5 The independent laboratory will issue a report of the samples and forward the results to Braun within one week of analysing the samples.
- 4.6 The test results will be reviewed against our current licence requirements and any action required as a result of the report will be initiated by the Plant Services Manager (Bill Guiry).
- 4.7 The test analysis will be filed and copies sent to the Local Authority, Process Engineer (Frank Mealy) and Plant Services Supervisor (Tommy Fennelly).
- 4.8 The one litre sample retained internally will be analyzed by Process Engineer (Frank Mealy) for the following parameters, e.g. Nickel, Chromium and PH. These results will be recorded and maintained by the Process Engineer (Frank Mealy) responsible for the Effluent Treatment Plant.

---

POLICY PREPARED BY: \_\_\_\_\_  
Env. Protection Officer

POLICY APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
Personnel Manager

POLICY APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
Managing Director

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# ENVIRONMENTAL PROCEDURES MANUAL

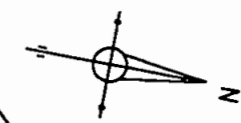
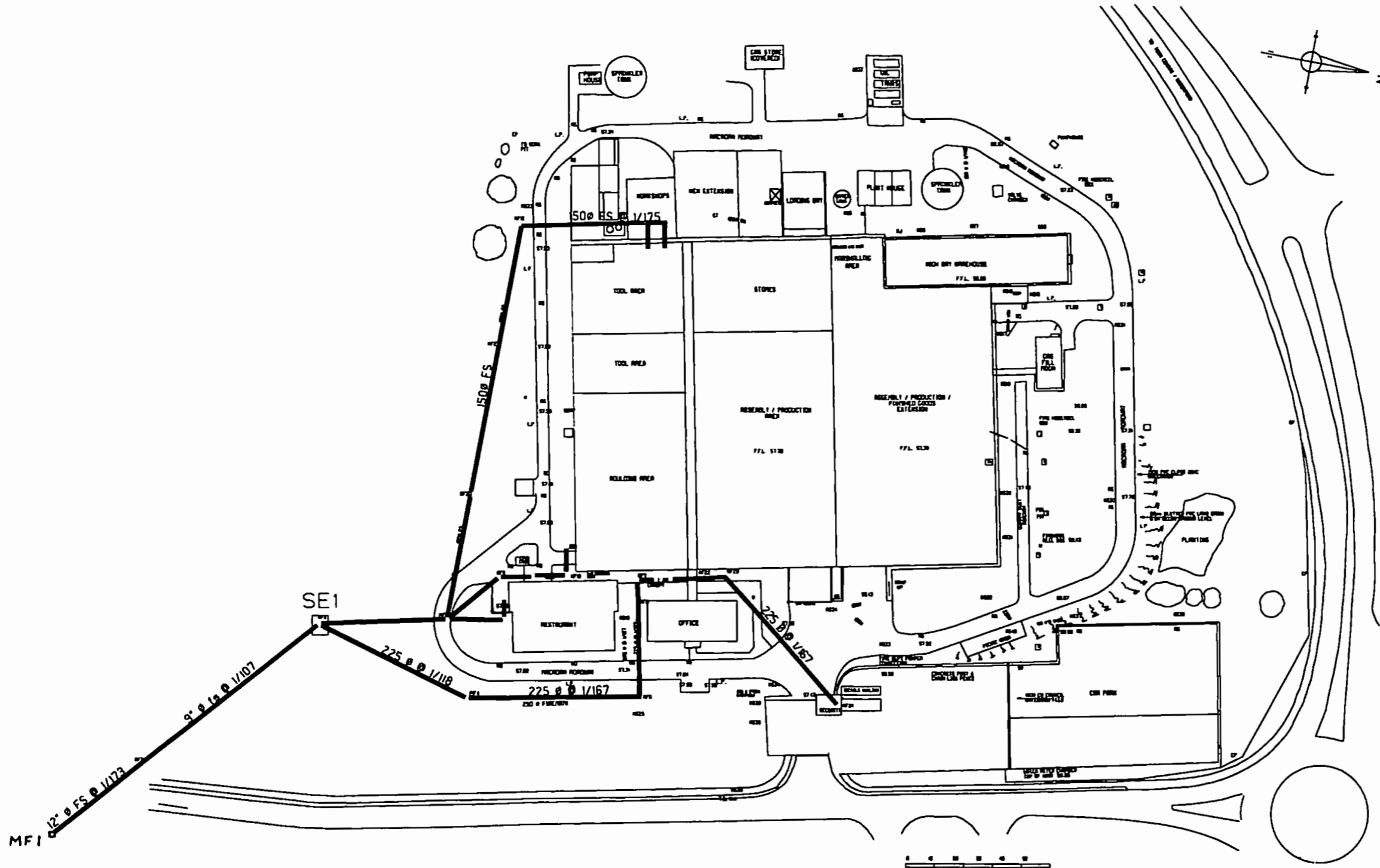
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**POLICY NUMBER:** E007 \_\_\_\_\_

**TITLE:** Waste Water Monitoring Procedure

**CONTINUATION:** Page 2 of 2 \_\_\_\_\_

- RESPONSIBILITY:**
- 5.0 The Plant Services Manager (Bill Guiry) will have overall responsibility for the implementation of this policy and any follow up requirements resulting from the test results.
  - 5.1 The Plant Services Supervisor (Tommy Fennelly) is responsible for the taking of the samples and forwarding of samples to be analyzed.
  - 5.2 The Plant Services Manager (Bill Guiry) is responsible for communicating all test results to the Local Authorities and maintaining Historical Records on site.



NOTE: ALL LEVELS IN METERS TO MAIN SEWERAGE DRAIN

NOTE: FOUL SEWERS DRAINS

			TOL. FOR UNSPEC. DIMS. ±0.1		MATERIAL	
			DRAWN 28-5-97 PD		TITLE	
			CHECKED		FOUL SEWERS	
			APPROVED		SCALE	
			BRAUN		DRG. No.	
					3001156	
			ISS MODS. DATE NAME		ISSUE	

**14B**

## **ATTACHMENT NO. 14B**

### **Assessment of Impact of Sewage Discharge**

Braun discharges trade effluent under licence from its premises, at Dublin Road, Carlow.

The emission limit values specified by the licence are set out in the table below. Samples of effluent are taken monthly, using a composite auto sampler for the purpose ascertaining compliance with licence conditions. Analysis to-date has shown compliance with emission limit values.

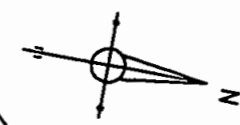
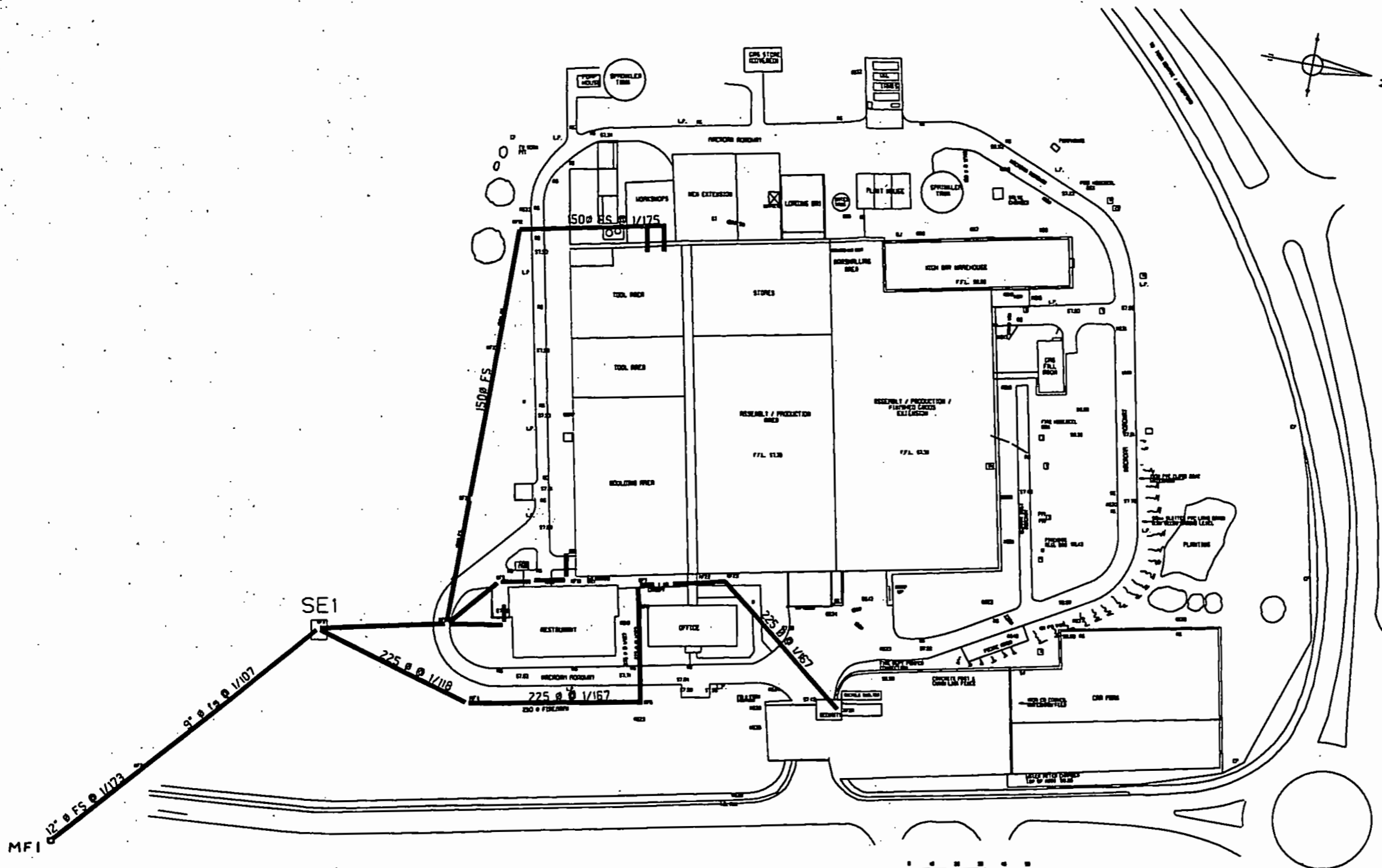
However the Trade Effluent Discharge Licence requires that Petroleum and organic solvents be monitored. No records for these appear to have been maintained and so this is a breach of licence conditions. In addition no records were available on temperatures of discharges as required by the licence.

With regard to BATNEEC, no emission limit values for discharges to foul sewers are given and so a comparison is not possible.

All of Braun discharges to the foul sewer are well within specified limits. As effluent is discharged into the foul sewer, the effluent will be treated by the Sanitary Authority (Carlow Urban District Council) and rendered harmless. In addition to the 30m<sup>3</sup> per day of Process Water discharged, 90 m<sup>3</sup> of domestic effluent is discharged per day.

## Results of Effluent Analysis

Monitoring Parameter	Licence Condition	Sept'96	Oct'96	Nov'96	Dec'96	Jan'97
BOD	350 mg/l	13 mg/l	20 mg/l	56mg/l	135mg/l	133 mg/l
COD	1000 mg/l	112 mg/l	39 mg/l	114mg/l	287mg/l	331 mg/l
Suspended Solids	400 mg/l	30 mg/l	5 mg/l	28 mg/l	86 mg/l	138 mg/l
Detergents	5 mg/l	0.90 mg/l	0.03 mg/l	1.3 mg/l	0.14 mg/l	0.12mg/l
pH (Range)	6.5-8.5	7.4	7.6	7.9	7.4	7.7
Temperature	30°C	-	-	-	-	-
Chlorides	300 mg/l	73.0 mg/l	95.0 mg/l	63.0 mg/l	77 mg/l	147.5mg/l
Sulphate (SO <sub>4</sub> )	250 mg/l	26 mg/l	28 mg/l	80 mg/l	54 mg/l	91 mg/l
Chromium	0.1 mg/l	<0.02 mg/l	<0.02 mg/l	<0.02 mg/l	0.03 mg/l	0.04 mg/l
Nickel (NI)	0.1 mg/l	0.03 mg/l	0.05 mg/l	0.06 mg/l	0.02 mg/l	0.02 mg/l
Cyanide (CN)	0.1 mg/l	<0.01 mg/l	<0.01 mg/l	<0.01 mg/l	<0.01 mg/l	<0.01mg/l
Silver (AG)	0.1 mg/l	<0.02 mg/l	<0.02 mg/l	<0.02 mg/l	<0.02 mg/l	<0.02mg/l
Barium (BA)	1.0 mg/l	0.03 mg/l	<0.02mg/l	<0.02mg/l	0.05 mg/l	0.09mg/l
Copper (CU)	1.0 mg/l	0.07 mg/l	<0.02 mg/l	0.03 mg/l	0.03 mg/l	0.04mg/l
Platinum (Pt)	0.1 mg/l	<0.02 mg/l	<0.02mg/l	<0.02	<0.02mg/l	<0.02mg/l
Fats, Oils & Grease	100 mg/l	2.8 mg/l	<2 mg/l	5.2 mg/l	13.6 mg/l	14.2mg/l
Petroleum	Absent	-	-	-	-	-
Sulphide	Virtually Absent	0.06 mg/l	0.01 mg/l	0.03 mg/l	0.28 mg/l	0.04mg/l
Tarry matter	Virtually Absent	Absent	Absent	Absent	Absent	Absent
Organic Solvents	Absent	-	-			



NOTE: ALL LEVELS IN METERS TO MAIN DRAINAGE SYSTEM



NOTE: FOUL SEWERS DRAINS

		TOL. FOR UNSPEC. MATERIAL	
		DIMS. ±0.1	
	DATE	NAME	TITLE
	28-5-97	PD	FOUL SEWERS
	CHECKED		
	APPROVED		
ISS		BRAUN	
MODS.	DATE	NAME	SCALE
		ORG. No.	ISSUE
		3001156	

**15C**

**ATTACHMENT NO. 15C**

- (1) CAL Report W4252**
- (2) Well Pump Hse. Test Report**
- (3) TMS Soil Report 96029**

---

**Title of Report:** Environmental Site Assessment

**Client:** Braun Ireland Ltd.

**Attention:** Mr. Bill Guiry

**Date:** 28th May, 1996.

**TMS Ref. No.:** 96029

**Written By :**



**EAMONN CORBETT**

## **1.0 INTRODUCTION**

TMS Consultancy Ltd. was requested by Braun Ireland Ltd. to carry out a site assessment at their Carlow plant. An estimation of possible hydrocarbon contamination was required. In addition to boundary samples, emphasis was placed on the area immediately adjacent to the oil storage tanks.

A total of nine samples were taken at locations adjacent to the plant boundary. Eleven samples were taken in an area adjacent to the oil storage area. A further three samples were taken in an area adjacent to the chemical store.

In addition to this a sample was taken at a location adjacent to the tool room and assessed for copper contamination. There was evidence that grass growth had ceased in an area of approximately 2m<sup>2</sup> in this vicinity. The only other evidence of stressed vegetation was at the immediate base of the wall surrounding the oil tanks.

Trial pits were confined to a depth of 1 meter, as the site appeared to consist of general site filling materials below this depth. Composite samples of 1.5 kg were prepared by sub sampling of the contents of the trial pits from 0-1.0 meters. The trial pit samples taken in the oil storage area extended radially to a distance of 25 meters from the store wall. Where possible, locations were distanced 5 meters apart along the three radial boundaries selected.

## **2.0 PROCEDURE**

After solvent extraction, total petroleum hydrocarbons (C9-C28) were determined by gas chromatography using mass spectroscopic detection.

Copper was determined on a dried sample by acid digestion and atomic absorption spectroscopy.

### 3.0 RESULTS

#### (1) TOTAL PETROLEUM HYDROCARBONS mg/kg

<u>Location</u>	<u>mg/kg</u>
Trial Pit 1	96.9
Trial Pit 2	97.5
Trial Pit 3	134.6
Trial Pit 4	75.1
Trial Pit 5	244.6
Trial Pit 6	285.7
Trial Pit 7	168.0
Trial Pit 8	140.4
Trial Pit 9	153.8
Trial Pit 10	913.0
Trial Pit 11	130.9
Trial Pit 12	87.4
Trial Pit 13	96.3
Trial Pit 14	215.4

<u>Location</u>	<u>mg/kg</u>
Boundary Pit 1	121.2
Boundary Pit 2	121.3
Boundary Pit 3	144.7
Boundary Pit 4	125.0
Boundary Pit 5	112.0
Boundary Pit 6	197.8
Boundary Pit 7	271.3
Boundary Pit 8	168.3
Boundary Pit 9	156.6

#### (2) COPPER CONTENT mg/kg dry weight

<u>Location</u>	<u>Cu mg/kg</u>
Trial Pit 15	20.0

#### **4.0 COMMENTS**

The most up to date document available for assessment of contamination of land is published by the Dutch Environment Minister and specified a proposed limit for copper of 190 mg/kg. Thus the sample taken from trial pit 15 does not reflect contamination with copper.

No available document specifies limits for total hydrocarbons, although current limits of 200 mg/kg are specified for polyaromatic hydrocarbons and values of 5000 mg/kg are specified for mineral oils (as per Dutch Environmental Guidelines).

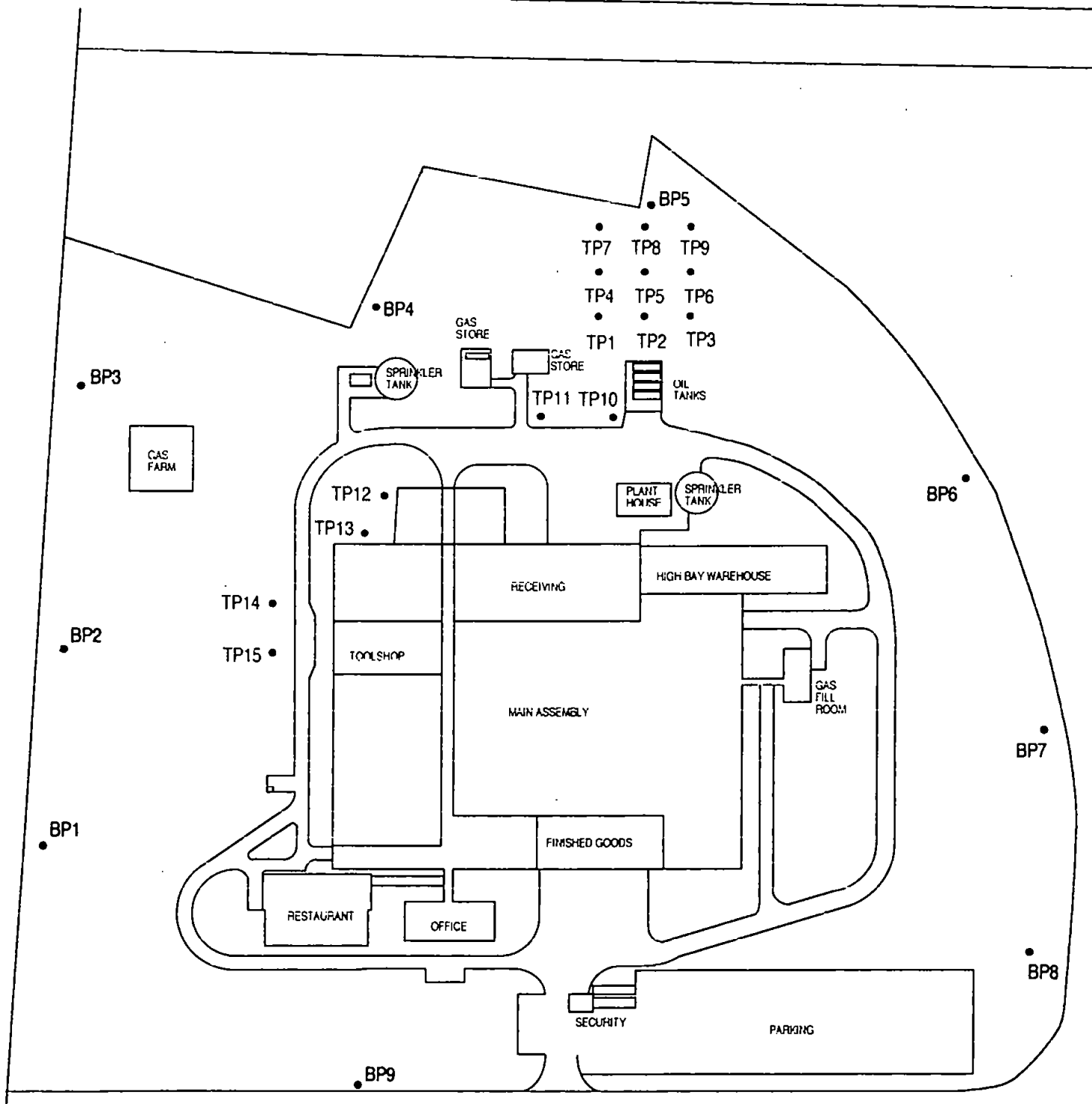
In general, UK local authorities regard areas of 500 mg/kg or less not to require remedial action. On this basis Trial Pit 10 is of significant concern. The absence of significant contamination at Trial Pit 11 indicates localisation of the contamination. Trial Pits 5 and 6 cannot be taken as evidence of outward propagation of the contamination from oil tanks as Trial Pits 1-3 show no such level of contamination.

The extent of contamination at Trial Pit 10 is indicative of ongoing leakage or spillage in the tank area. Had the value been above 1000 mg/kg a clean up of the site would have been recommended. We would however be concerned as to possible contamination of the water table and an evaluation of available hydrogeological data might be of benefit.

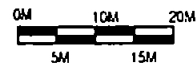
#### **5.0 RECOMMENDATIONS**

- (1) Immediate sealing and bunding of oil storage area.
- (2) Improvement in work practices in this area.
- (3) Evaluation of the depth of contamination by bore hole sampling.
- (4) Action on contamination based on bore hole results.

# SOIL TRIAL PIT LOCATIONS



TP - DENOTES TRIAL PIT  
 BP - DENOTES BOUNDARY TRIAL PIT



# CAL

## CHEMICAL ANALYSIS LABORATORY

Department of Biochemistry Trinity College Dublin 2 Ireland

Tel. (Dublin) 6081574 /6714657 Fax. (Dublin) 6772400

SAMPLE

Water

Our Ref : W4252

DESCRIPTION

Lab No : 10715

TEST	RESULTS ( $\mu\text{g/l}$ )
2,6 - Dinitrotoluene	* N.D. < 2.0
3-Nitroaniline	N.D. < 2.6
Acenaphthene	N.D. < 1.0
2,4-Dinitrophenol	N.D. < 27.0
4-Nitrophenol	N.D. < 18.0
Dibenzofuran	N.D. < 1.4
2,4-Dinitrotoluene	N.D. < 2.0
Diethylphthalate	N.D. < 1.2
4-Chlorophenyl-phenylether	N.D. < 1.2
Fluorene	N.D. < 1.2
4-Nitroaniline	N.D. < 4.0
4,6-Dinitro-2-methylphenol	N.D. < 10.0
N-Nitrosodiphenylamine	N.D. < 3.0
4-Bromophenyl-phenylether	N.D. < 1.0
Hexachlorobenzene	N.D. < 1.0
Pentachlorophenol	N.D. < 20.0
Phenanthrene	N.D. < 1.0
Anthracene	N.D. < 1.0
Di-n-Butylphthalate	N.D. < 1.8
Fluoranthene	N.D. < 1.6

\* N.D. = None detected

# CAL

## CHEMICAL ANALYSIS LABORATORY

Department of Biochemistry Trinity College Dublin 2 Ireland

Tel. (Dublin) 6081574 /6714657 Fax. (Dublin) 6772400

SAMPLE

Water

Our Ref : W4252

DESCRIPTION

Lab No : 10715

TEST	RESULTS ( $\mu\text{g/l}$ )
Pyrene	* N.D. < 1.5
Butylbenzylphthalate	N.D. < 3.0
3,3'-Dichlorobenzidine	N.D. < 4.0
Benzo(a)anthracene	N.D. < 1.6
Chrysene	N.D. < 2.0
bis(2-Ethylhexyl)phthalate	N.D. < 2.0
Di-n-octylphthalate	N.D. < 2.0
Benzo(b)fluoranthene	N.D. < 2.0
Benzo(k)fluoranthene	N.D. < 2.0
Benzo(a)pyrene	N.D. < 1.6
Indeno(1,2,3-cd)Pyrene	N.D. < 1.6
Dibenz(a,h)Anthracene	N.D. < 1.8
Benzo(g,h,i)perylene	N.D. < 2.0
phenol	N.D. < 10.0
bis(2-Chloroethyl)Ether	N.D. < 1.0
2-Chlorophenol	N.D. < 1.0
1,3-Dichlorobenzene	N.D. < 1.8
1,4-Dichlorobenzene	N.D. < 1.8
Benzyl Alcohol	N.D. < 2.0
1,2-Dichlorobenzene	N.D. < 1.0

\* N.D. = None detected

# CAL

## CHEMICAL ANALYSIS LABORATORY

Department of Biochemistry Trinity College Dublin 2 Ireland

Tel. (Dublin) 6081574 /6714657 Fax. (Dublin) 6772400

SAMPLE

Water

Our Ref : W4252

DESCRIPTION

Lab No : 10715

TEST	RESULTS ( $\mu\text{g/l}$ )
2-Methylphenol	* N.D. < 10.0
bis(2-Chloroisopropyl)Ether	N.D. < 2.0
4-Methylphenol	N.D. < 10.0
N-Nitroso-Di-n-Propylamine	N.D. < 2.0
Hexachloroethane	N.D. < 1.5
Nitrobenzene	N.D. < 2.0
Isophorone	N.D. < 1.5
2-Nitrophenol	N.D. < 3.0
2,4-Dimethylphenol	N.D. < 3.0
Benzoic acid	N.D. < 100
bis(2-chloroethoxy)Methane	N.D. < 2.0
2,4-Dichlorophenol	N.D. < 13.0
1,2,4-Trichlorobenzene	N.D. < 1.4
Napthalene	N.D. < 1.2
4-Chloroaniline	N.D. < 4.4
Hexachlorobutadiene	N.D. < 1.5
4-Chloro-3-methylphenol	N.D. < 1.6
2-Methylnaphthalene	N.D. < 1.6
Hexachlorocyclopentadiene	N.D. < 1.5
2,4,6-Trichlorophenol	N.D. < 2.0

\* N.D. = None detected

# CAL

## CHEMICAL ANALYSIS LABORATORY

Department of Biochemistry Trinity College Dublin 2 Ireland

Tel. (Dublin) 6081574 /6714657 Fax. (Dublin) 6772400

SAMPLE

Water

Our Ref : W4252

DESCRIPTION

Lab No : 10715

TEST	RESULTS ( $\mu\text{g/l}$ )
2,4,5-Trichlorophenol	* N.D. < 3.0
2-Chloronaphthalene	N.D. < 1.2
2-Nitroaniline	N.D. < 2.0
Dimethyl Phthalate	N.D. < 2.5
Acenaphthylene	N.D. < 1.0

\* N.D. = None detected

# CAL

## CHEMICAL ANALYSIS LABORATORY

Department of Biochemistry Trinity College Dublin 2 Ireland

Tel. (Dublin) 6081574 /6714657 Fax. (Dublin) 6772400

SAMPLE :

Water

Our Ref : W4252

DESCRIPTION

Lab No : 10715

TEST	RESULT (µg/l)
Dibromochloromethane	* N.D. < 0.8
1, 1, 2 - Trichloroethane	N.D. < 0.8
Benzene	N.D. < 0.8
trans - 1, 3 - Dichloropropene	N.D. < 0.6
Bromoform	N.D. < 1
2 - Hexanone (MBK)	N.D. < 3
Tetrachloroethene	N.D. < 1.1
1, 1, 2, 2 - Tetrachloroethane	N.D. < 1
Toluene	N.D. < 1.5
Chlorobenzene	N.D. < 0.8
Ethylbenzene	N.D. < 1.5
Styrene	N.D. < 1
Xylenes (meta and para)	N.D. < 1.5
o - Xylene	N.D. < 1
Freon 113	10
Methyl t-butyl ether	N.D. < 1
cis - 1, 2 - Dichloroethene	N.D. < 1.1

\* N.D. = None detected

# CAL

## CHEMICAL ANALYSIS LABORATORY

Department of Biochemistry Trinity College Dublin 2 Ireland

Tel. (Dublin) 6081574 /6714657 Fax. (Dublin) 6772400

SAMPLE :

Water

Our Ref : W4252

DESCRIPTION

Lab No : 10715

TEST	RESULTS (µg/l)
Chloromethane	* N.D. < 1
Bromomethane	N.D. < 0.8
Vinyl Chloride	N.D. < 1
Chloroethane	N.D. < 1
Dichloromethane	N.D. < 2
Acetone	** D. < 10
Carbon Disulphide	N.D. < 0.8
1, 1 - Dichloroethene	N.D. < 1
1, 1 - Dichloroethane	N.D. < 1
trans - 1, 2 - Dichloroethene	N.D. < 1.1
Chloroform	N.D. < 0.8
1, 2 - Dichloroethane	N.D. < 0.8
Butanone (MEK)	N.D. < 10
1, 1, 1 - Trichloroethane	N.D. < 1
Carbon Tetrachloride	N.D. < 1
Bromodichloromethane	N.D. < 1
4 - Methyl - 2 - Pentanone (MIBK)	N.D. < 5
1, 2 - Dichloropropane	N.D. < 0.8
cis - 1, 3 - Dichloropropene	N.D. < 0.5
Trichloroethene	N.D. < 1.1

\* N.D. = None detected

D. = Detected

**IAS LIMITED**  
**ANALYSIS REPORT - WATER**

**SAMPLER: Client**

**DESCRIPTION: Well Pump Hse. 4/3/97**

**Client. Braun (Ire.) Ltd.**

**Lab No. 146518**

**Sample Card No. 76412/01**

No.	PARAMETER DESIGNATION	Units of analysis	MAC Value Drink. Water	Actual Value	No.	PARAMETER DESIGNATION	Units of analysis	MAC Value	Actual Value
1	HYDR.ION (pH)	pH unit	6<pH<9	7.9	21	FLUORIDE	mg/l F	Undet.	
2	CONDUCTIVITY	uS/cm 20 <sup>o</sup> C	1500	677	22	BARIUM	ug/l Ba	500	
3	CHLORIDES	mg/l Cl	250		23	ARSENIC	ug/l As	50	
4	SULPHATES	mg/l SO <sub>4</sub>	250		24	CADMIUM	ug/l Cd	5	
5	CALCIUM	mg/l Ca	200		25	CHROMIUM	ug/l Cr	50	
6	MAGNESIUM	mg/l Mg	50		26	MERCURY	ug/l Hg	1	
7	SODIUM	mg/l Na	150		27	NICKEL	ug/l Ni	50	
8	POTASSIUM	mg/l K	12		28	LEAD	ug/l Pb	50	
9	ALUMINIUM	mg/l Al	0.2		29	ANTIMONY	ug/l Sb	10	
10	NITRATES	mg/l NO <sub>3</sub>	50		30	SELENIUM	ug/l Se	10	
11	AMMONIUM	mg/l NH <sub>4</sub>	0.3		31	TIN	ug/l Sn		
12	O <sub>2</sub> - COD	mg/l O <sub>2</sub>	2	<1	32	TOTAL COLIFORMS	no/100ml	MF = 0	0
13	O <sub>2</sub> - BOD <sub>5</sub>	mg/l O <sub>2</sub>	2	<1	33	FAECAL COLIFORMS	no/100ml	MF = 0	0
14	HYD SULPHIDE	ug/l S	Undet.		34	TVC @ 37 <sup>o</sup> C	c.f.u./ml		0
15	BORON	ug/l B	2000		35	TVC @ 22 <sup>o</sup> C	c.f.u./ml		0
16	IRON	ug/l Fe	200		36	TOTAL HARDNESS	mg/l CaCO <sub>3</sub> (MRC)	60	
17	MANGANESE	ug/l Mn	50		37	ALKALINITY	mg/l CaCO <sub>3</sub> (MRC)	30	
18	COPPER	ug/l Cu	500		38	RESID. CHLORINE	mg/l Cl <sub>2</sub> (MRC)	-	
19	ZINC	ug/l Zn	1000						
20	PHOSPHORUS	ug/l P <sub>2</sub> O <sub>5</sub>	5000						

Note B: Tests carried out according to IAS current in-house methods.

## **LIMITATIONS OF LIABILITY**

1. This Report sets out the results of the analysis of the samples specifically referred to in it. Independent Analytical Services Limited (IAS) warrants that the results as stated are accurate in so far as they relate to that sample as received in the IAS laboratory. IAS accepts no other liability or responsibility to any party whatsoever. In particular, but without prejudice to the generality of the foregoing, IAS shall have no liability or responsibility whatsoever in respect of or in any way by reference to:-

(a) the taking of the sample, the accuracy of the sample or its suitability for the purpose(s) for which it is taken or applied, the designation, handling, storage or transport of the sample prior to its delivery to the IAS laboratory or its condition upon such delivery.

(b) the interpretation of this Report and/or the application of the results as stated and/or the accuracy and reliability of any veterinary, farm management or other advices based thereon: and

(c) any (or any alleged) lack of competence, negligence, failure or breach of duty on the part of any person engaged in or responsible for any of the activities or functions referred to above, whether or not such agent is described as an Agent of IAS or otherwise. All such persons shall be deemed to be agents of the person to whom this Report is issued and not to be agents or representatives in any capacity of IAS.

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**IAS LIMITED**  
**ANALYSIS REPORT - WATER**

**SAMPLER: Client**

**DESCRIPTION: Well Pump Hse. 4/3/97**

**Client. Braun (Ire.) Ltd.**

**Lab No. 146518**

**Sample Card No. 76412/01**

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3	CHLORIDES	mg/l Cl	250		23	ARSENIC	ug/l As	50	
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5	CALCIUM	mg/l Ca	200		25	CHROMIUM	ug/l Cr	50	
6	MAGNESIUM	mg/l Mg	50		26	MERCURY	ug/l Hg	1	
7	SODIUM	mg/l Na	150		27	NICKEL	ug/l Ni	50	
8	POTASSIUM	mg/l K	12		28	LEAD	ug/l Pb	50	
9	ALUMINIUM	mg/l Al	0.2		29	ANTIMONY	ug/l Sb	10	
10	NITRATES	mg/l NO <sub>3</sub>	50		30	SELENIUM	ug/l Se	10	
11	AMMONIUM	mg/l NH <sub>4</sub>	0.3		31	TIN	ug/l Sn		
12	O <sub>2</sub> - COD	mg/l O <sub>2</sub>	2	<1	32	TOTAL COLIFORMS	no/100ml	MF = 0	0
13	O <sub>2</sub> - BOD <sub>5</sub>	mg/l O <sub>2</sub>	2	<1	33	FAECAL COLIFORMS	no/100ml	MF = 0	0
14	HYD SULPHIDE	ug/l S	Undet.		34	TVC @ 37 <sup>0</sup> C	c.f.u./ml		0
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16	IRON	ug/l Fe	200		36	TOTAL HARDNESS	mg/l CaCO <sub>3</sub> (MRC)	60	
17	MANGANESE	ug/l Mn	50		37	ALKALINITY	mg/l CaCO <sub>3</sub> (MRC)	30	
18	COPPER	ug/l Cu	500		38	RESID. CHLORINE	mg/l Cl <sub>2</sub> (MRC)	-	
19	ZINC	ug/l Zn	1000						
20	PHOSPHORUS	ug/l P <sub>2</sub> O <sub>5</sub>	5000						

Note B: Tests carried out according to IAS current in-house methods.



## ATTACHMENT NO. 16B

### Ambient Noise Measurement

#### 16B(i) Details of noise and typical points on the boundary

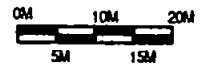
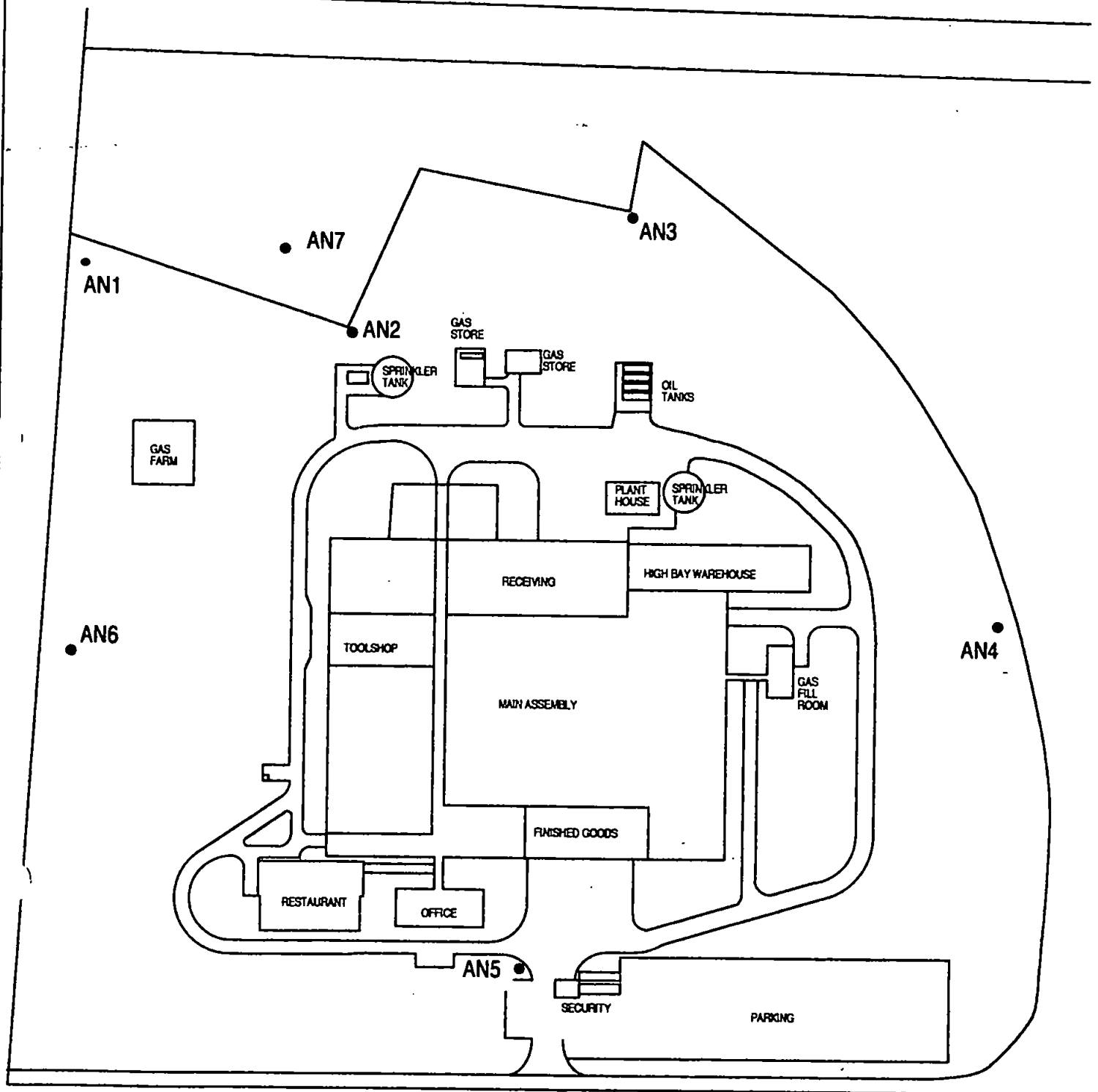
Emission Point Ref. No.	Location	Comments	L <sub>Aeq</sub>
AN1	Near gas farm	Traffic noise and dogs barking	63.6
AN2	Behind sprinkler tank	Traffic noise and fork lift	55.7
AN3	Near oil tanks	Traffic noise from Green Lane	64.4
AN4	Near gas fill room	Traffic noise from Green Lane	65.9
AN5	Main entrance	Traffic entering site	64.1
AN6	Near tool shop	Traffic and noise from adjacent plant	56.9

#### 16B(ii) Noise Sensitive Location

##### Results of overnight survey conducted at AN7

Emission Point Ref. No.	Location	Time	L <sub>Aeq</sub>
AN7	House off Green Lane	5.30 - 7.00 p.m.	64.7
		7.00 - 8.30 p.m.	58.2
		8.30 - 10.00 p.m.	54.4
		10.00 - 11.30 p.m.	44.2
		11.30 - 1.00 a.m.	48.1
		1.00 - 2.30 a.m.	42.8
		2.30 - 4.00 a.m.	41.3
		4.00 - 5.30 a.m.	40.4
		5.30 - 7.00 a.m.	42.6
		7.00 - 8.30 a.m.	49.7

# AMBIENT NOISE MEASUREMENT LOCATIONS





# COMHAIRLE CHONTAE UIBH FHAILI

## OFFALY COUNTY COUNCIL

### PERMIT TO TREAT, DRY AND STORE WASTE AT CAPPANCUR, TULLAMORE

**APPLICANT:** K.M.K. Recycling Ltd.,  
Cappancur,  
Tullamore,  
Co. Offaly.

**REFERENCE NUMBER:** T.W.6(R.3)

**DATE:** 30th August, 1996.

The European Communities (Waste) Regulations, 1979, and the European Communities (Toxic & Dangerous Waste) Regulations, 1982.

Offaly County Council in exercise of the powers conferred on them by Article 5 of the European Communities (Waste) Regulations, 1979 and Article 5 of the European Communities (Toxic & Dangerous Waste) Regulations, 1982, hereby grants a permit to treat, dry and store waste in accordance with the plans and particulars as furnished by you, subject to the following conditions:-

1. Only the facility at Cappancur, shown outlined in red on the location map, to scale of 1/500 on Solon & Bergin drawing 9510/1 dated February, 1995, may be used for the purpose of treating and storing waste. (copy attached)
2. The permit is to apply to the following types of waste only:-
  - (a) Wastes included in the green list of wastes as set out in Annex II to EC Council Regulation No. 259/93 dated the 1st February, 1993, and Table I of Forbairt Report 074475, where all products of treatment at the are included in the above green list. This category shall exclude reclassified under Article 1, Clause 3(c) of the regulations.
  - (b) Wastes included in the amber list of wastes as set out in Annex III to Council Regulation No. 259/93 dated the 1st February, 1993, and in the Table on page 7 of Forbairt Report 074475 subject to - notification as set out in Condition 23 of this permit.

*Cont./...*

- (c) Dewatered copper metal cake in sludge form of 20% solids content, already at the facility.
  - (d) Dewatered nickel metal cake in sludge form of 20% solids content.
  - (e) Vanadium pentoxide (boiler slag) in solid form.
  - (f) Zinc oxide in solid form.
  - (g) Dewatered cobalt/nickel metal cake in sludge form of 30% solids content.
  - (h) Aqueous tin oxide in slurry form of 20% solids form.
  - (i) Aluminium oxide in solid form.
  - (j) Other wastes as may from time to time be authorised in writing by the Council.
3. The maximum through-put at the facility at Cappancur shall be limited to the quantities as set out in the application form dated the 9th September, 1994, as submitted to the Council on the 18th October, 1994.
4. The total quantity of wastes to be stored at the facility prior to being treated or repackaged, shall not exceed 200 tonnes.
5. The total quantity of wastes stored at the facility shall not exceed 500 tonnes at any one time.
6. In general, no waste other than green listed wastes shall be stored on site for any period longer than 90 days save with the written authorisation of the Council. The permit holder shall apply to the Council for such authorisation before any material comes on site which he intends to store for a period greater than 90 days.
7. All waste both treated and as received on site shall be stored indoors under cover save as authorised by the Council. The permit holder shall make written application to the Council for such authorisation at least 10 working days prior to receiving goods which require external storage. In the case of goods currently stored externally the permit holder shall make similar application. Applications for authorisation to store goods externally shall include the following information:-
- (a) Details of the type and quantity proposed.
  - (b) Details of proposed packaging.
  - (c) A layout plan of the facility showing the exact location for proposed storage.

- (d) Details of the base on which material would be stored.
  - (e) Details of measures proposed to keep wastes of different types separate and prevent cross contamination.
  - (f) Confirmation of the reason for external storage, and the proposed time which authorisation is required.
8. Each waste type shall be stored separately from other wastes and kept apart at all times of treatment.
9. Each container of waste at the facility shall be clearly labelled showing the following information:-
- (a) A reference number to be entered in the register referred to in Conditions.
  - (b) A description of the waste.
  - (c) The quantity of waste in the container.
  - (d) The composition of the waste.
  - (e) The name of the producer of the waste.
  - (f) Any precautions appropriate to the storage of the waste.
10. All dewatered copper cake, cobalt nickel cake and super abrasives shall arrive on site in sealed containers (1.0m cubed maximum capacity) or sealed skips (5.0 to 10.0m cubed capacity) shall be unloaded into the covered storage area, be transferred to the process area and bagged in the finished product area into sealed containers for export with no waste or processed waste to be deposited outside these areas.
11. All the solid zinc oxide, solid vanadium pentoxide and solid aluminium oxide shall arrive on site in sealed containers and shall be unloaded and bagged in the finished product area into sealed containers for export with no waste or processed waste to be deposited outside these areas.
12. Tin oxide sludge/slurry shall be unloaded within the process area, directly to the storage tanks. All spillages shall be cleaned up and recycled through the plant immediately after each delivery. Measures shall be taken to keep tin oxide spillages separate from graphite effluent.
13. All dried copper cake, dried nickel cake, nickel cobalt cake, aluminium oxide and tin oxide, vanadium pentoxide and zinc oxide shall be packed in sealed containers or bags in finished product area before exporting from the facility. A high standard of care shall be operated to ensure that no waste, either accidentally or otherwise, is deposited at any time outside the enclosed and roofed storage area, processing and drying area or finished product area.

*Cont./...*

14. All waste shall be received at the facility between the hours of 8.30 a.m. to 5.15 p.m., Monday to Friday, unless previously authorised by the Local Authority.
15. All waste containers shall be off-loaded from transport vehicles either within the buildings or on the hard paved area outside the buildings. No goods handling shall be carried out outside the site boundary.
16. The existing bund at the perimeter of the building shall be made good and so maintained at all times.
17. All containers of waste shall only be set down inside the bunded area.
18. The permit holder shall obtain written approval from the Council for the disposal of any disused containers.
19. All tin oxide and other slurry liquids shall be returned to the producer of the waste unless previously authorised in writing by the Council. No liquid effluent shall be discharged from the facility.
20. All external doorways to the building shall be fitted with heavy duty strip curtain doors internally. Strip curtain doors shall be properly maintained and kept in place at all times when doors are open.
21. All equipment used in the plant for crushing, pelletising and bagging, etc. shall be completely enclosed.
22. The permit holder shall apply for approval to accept amber listed materials to site in accordance with the following procedures:
  - (a) For new sources or types of waste
    - (i) A proposal form similar to that given in Eolas Report 074475 shall be submitted to the Council at least 10 working days prior to the proposed shipment date. This form shall be amended to include the following:-
      - (a) A contact name for the producer of waste.
      - (b) The intended carrier and a contact name.
      - (c) The total number and size of shipments.
      - (d) The ultimate destination of the waste.
      - (e) Accommodation for consent of the Council to the shipment.
    - (ii) The proposed shipment can take place only after written approval is by the Council.

- (b) For additional shipments previously under (a)
  - (i) A form as in a(i) shall be submitted to the Council at least 5 working days prior to the proposed shipment date.
  - (ii) If no objection is raised by Offaly County Council inside the agreed time, the shipment can take place.
- 23. Treatment of wastes at the facility shall be limited to the following processes:-
  - (i) Site activities as set out in Section 2 of Forbairt Report 074475.
  - (ii) Any other treatment processes which may from time to time be authorised in writing by the Council.
- 24. A register of (Toxic and Dangerous ) Waste operations shall be maintained by a permit holder in respect of facility at Cappancur, Tullamore, in accordance with Article 7 of S.I. No. 33 of 1982. This register shall, in respect of each consignment of such waste received at the facility and exported from the facility, show details of quantity, nature, physical and chemical characteristics, origin of waste, processing of waste, dates of receipt and export and transport details of waste. The register shall be in format of Appendix E to memorandum for guidance of local authorities on the European Communities (Toxic and Dangerous) Waste Regulations, 1982.
- 25. A separate register of all other waste operations not covered by clause 25 shall be maintained by the permit holder in similar format to Appendix E to the above-mentioned memorandum.
- 26. The above registers shall be available for inspection at all times by authorised officers of Offaly County Council. The registers shall be completed fully in respect of each consignment of waste received into and exported from the facility, immediately upon movement of the waste.
- 27. All movement of waste into and out of the facility shall be carried out in accordance with the provisions of the European Communities (Toxic and Dangerous Waste) Regulations, 1982, relating to the movement of such wastes within the State and European Communities (Transfrontier Shipment of Waste) Regulations, 1994, for shipments outside the State, as appropriate.
- 28. The permit holder may treat wastes which result in air emissions only while in possession of a current air emission permit issued by the Council.
- 29. The permit holder shall arrange and pay the cost of any independent chemical analysis of any wastes at the facility or which he intends to ship to the facility which the Council deem necessary to ensure proper handling of the wastes.

30. The permit holder shall enter into a binding agreement with each producer of waste to take back any waste which cannot be disposed of properly and safely.
31. The permit holder shall ensure that commercial vehicles shall enter the grounds of the facility on business only.
32. (a) The permit holder shall produce for inspection by Offaly County Council a public liability policy with limit of indemnity £2,000,000 any one accident, endorsed to indemnify Offaly County Council against all damages, claims, costs, expenses, outlay incurred in defending any proceedings by any party whose person or property is damaged or alleged to be damaged because of operation of facility the subject of this permit.  
  
(b) The permit holder shall submit confirmation of renewal of the existing Guarantee Bond with an approved Insurance Company, or Guarantee Company, for the sum of £50,000. This Bond shall cover the total cost of:
  - (i) treating, packing, transporting and disposing of all materials left on site, and
  - (ii) cleaning up of the complete site and all buildings, structures, storage tanks and machinery contained thereon, to the satisfaction of Offaly County Council, in the event of the Company ceasing to operate and leaving stocks of such materials, as mentioned above in Condition 2 of this permit, on the site.
33. The permit holder shall consult with the fire authority in regard to processes carried on and materials stored at the premises and shall comply with all reasonable requirements of the said fire authority.
34. This permit shall operate for a period of 12 months from the date of issue, at which time Offaly County Council shall review and/or extend and/or terminate the permit.
35. The permit holder shall pay the sum of £250.00 annually to Offaly County Council to defray the costs of monitoring and administration associated with this permit.

Signed: *A. O. Gannon*  
*A County Secretary*

Dated this 3<sup>rd</sup> day of August 1996.

## TOXIC AND DANGEROUS WASTE STORING AND TREATING PERMIT

The European Communities (Waste) Regulations, 1979 and the European Communities (Toxic and Dangerous Waste) Regulations, 1982.

Permit to store and treat Waste/Toxic and Dangerous Waste.

### *CLARE COUNTY COUNCIL*

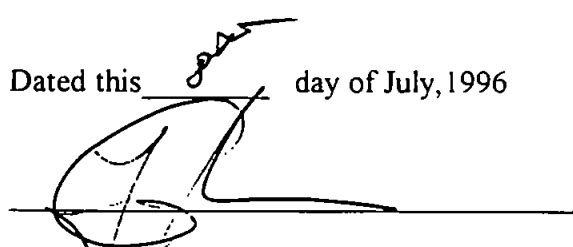
That Clare County Council in exercise of the powers conferred on them by Article 5 of the European Communities (Waste) Regulations, 1979, and by Article 5 of the European Communities (Toxic and Dangerous Waste) Regulations, 1982 hereby grants a permit to store and treat waste/toxic and dangerous waste, as defined by this legislation, (excluding the deposition of these wastes) to

**Shannon Environmental Services Ltd.,  
Smithstown Industrial Estate,  
Shannon,  
Co. Clare.**

in accordance with the plans and particulars furnished with the application , dated 28/02/96, subject to the 58 number conditions set out in the schedule hereto.

This permit shall be valid for a period of one year only. An application to have the permit renewed, altered or reviewed shall be made at least three months prior to the cessation date of the permit

Dated this 8 day of July, 1996

  
CLARE ASSISTANT COUNTY MANAGER.

## CLARE COUNTY COUNCIL

Schedule to permit dated 16 day of March, 1996 issued to Shannon Environmental Services Ltd., Smithstown Industrial Estate, Shannon, Co. Clare.

### CONDITION 1

The storage and treatment of all wastes shall be carried out in compliance with the conditions of this permit and in accordance with the details contained in the drawings, application form and other documentation submitted ( or made reference to) at the time of the application. The permit holder shall ensure the compliance with the conditions of this permit, to the satisfaction of the Local Authority, within two months of the date of issue of the permit.

The Local Authority reserve the right to cancel this permit should there be material non-compliance with the terms of the permit hereof.

### CONDITION 2

The designated areas of the site map as provided to the Local Authority on 12/05/95 shall be used for those purposes unless other wise agreed with the Local Authority. Any changes in the designation of the areas shall be with the prior agreement of the Local Authority.

### CONDITION 3

Any changes which take place concerning the site layout, shall be defined on a revised map of the site and shall detail all areas. The revised map shall be submitted to the Local Authority within one month of such changes.

### CONDITION 4

The company shall take all reasonable steps to exclude unauthorised personnel from the site.

### CONDITION 5

All aqueous based ink wastes and photographic wastes accepted on site shall be registered in terms of quantity and date received.

### **CONDITION 6**

All non-hazardous waste (other than aqueous based inks and photographic wastes) and toxic/hazardous waste shall be approved for transfer to the Company on a proposal form, as provided by the Local Authority . This form shall indicate the following :

- (a) Chemical analysis of the material proposed for movement to the site.
- (b) Intended quantity of material proposed for movement to the site.
- (c) Proposed treatment procedure for the waste/intention to store the waste.
- (d) Proposed date of treatment/export. A consignment of waste shall not be moved to the site without prior approval from the Local Authority on said proposal form.

### **CONDITION 7**

A proposal form number shall reference only one proposal and shall not be reused for subsequent waste consignments. Proposal forms shall expire after three months from the date of approval for waste transfer.

### **CONDITION 8**

A consignment of waste shall not be moved on site unless evidence of proposed treatment effectiveness for the waste can be provided for the Local Authority. In the event of a first consignment of a waste which has not previously been handled on the site being proposed, a bench trial treatment indicating the effectiveness of said treatment may be required by the Local Authority, prior to approval of acceptance of the consignment.

### **CONDITION 9**

The Local Authority may require the taking and analysis of samples of any consignment of waste designated for export, pursuant to the terms of European Communities (Transfrontier Shipment of Waste) Regulations, 1994. Costs incurred in relation to such sampling shall be payable by the notifier of the shipment of waste.

### **CONDITION 10**

The Company shall carry out sampling of waste coming on site to verify the constituents of said consignment, as listed on the C1 form. Records of results of such sampling shall be retained at the facility and shall be available for inspection at all reasonable times to Authorised Officers of the Local Authority.

### **CONDITION 11**

The Company shall maintain an up-to-date register of treatment methodology for all wastes handled on the site. This register shall be available at all reasonable times to Authorised Officers of the Local Authority.

### **CONDITION 12**

The Company shall operate a log system (waste - in form, as detailed in the operational plan for the site) for all waste arriving on site. The waste consignment shall be assigned a number, unique to that consignment. The number assigned for aqueous based inks and photographic wastes shall be generated from the collection job note. The number assigned for all other wastes shall be generated from the C1 form. The C1 form shall reference the proposal form as detailed at Conditions 6 and 7. In any event, adequate documentation to register waste quantities transferred, received, treated, stored and exported shall be in place at all times.

### **CONDITION 13**

Within <sup>no</sup>one week of receipt of any load of toxic and dangerous waste, the Company shall furnish to the Local Authority the appropriate consignment note forms.

### **CONDITION 14**

Any waste consignments received on site for treatment shall normally be treated within a period of four months from the date of their arrival on site. A consignment of waste shall not be accepted on site if the facility is unable to treat the waste within this four month period. The Company shall endeavour to treat any waste arriving on site as soon as may be after their arrival on the site.

Exclusions to the terms of this condition shall apply only in exceptional circumstances. and shall be detailed at the proposal stage ( as described at Condition 6). In any event the company shall detail the reason for the exclusion and provide an accurate time frame within which the treatment will be complete. This time frame agreed with the Local Authority shall then constitute the time limit for the treatment of the specified material.

**CONDITION 15**

Any waste consignments received on site for storage prior to export shall normally be exported within a period of five months from the date of their arrival on the site. A consignment of waste shall not be accepted on the site if the facility is unable to ensure that the waste will be duly exported within this period. The Company shall endeavour to export any such wastes as soon as may be after their arrival on the site.

**CONDITION 16**

The storage of polychlorinated biphenyls at the site shall not exceed 24 hours in time. All documentation ( including Transfrontier Shipment Authorisation from the Authority of Destination, and financial bonding ) shall be in place prior to the arrival of the material on the site. The company shall ensure the area containing such material is clearly marked and adequately labelled with hazard warning signs. The company shall comply in full with all legislation on the movement and storage of polychlorinated biphenyls.

**CONDITION 17**

All wastes already on site prior to the date of issue of this permit shall be treated or exported within six months of the date of issue of this permit. If necessary, the acceptance of incoming waste consignments to the site shall be reduced during this period to enable full compliance with this condition.

**CONDITION 18**

All bulk storage tanks, drummed waste and sludge waste containers shall be adequately labelled to show their contents and equipped with warning notices indicating the nature of their contents and any potential hazards.

**CONDITION 19**

The quantity and storage location of all waste on site shall be indexed by the number as detailed at Condition 12. A record of the total quantity of all waste types stored in the designated areas of the site shall be maintained. This record shall be made available for inspection by Officers of the Local Authority at all reasonable times.

### **CONDITION 20**

For each consignment of waste received on site, a certificate of treatment shall be issued to the producer of the waste immediately on completion of the processing of that consignment. This form shall indicate the date on which processing of the waste was completed, index the C1 form number and reference the proposal form number. A copy of the certificate shall be forwarded to the Local Authority.

### **CONDITION 21**

A record of all documentation relating to waste and toxic and dangerous waste, received on site shall be maintained by the Company and shall be available at all reasonable times to Officers of the Local Authority. This record shall include the following:

- (a) Proposal form numbers.
- (b) Company names.
- (c) C1 form numbers.
- (d) Date of receipt of all waste.
- (e) Description of the waste received.
- (f) Quantity of waste received.
- (g) Storage location.
- (h) Treatment/Dispatch date (indicating quantity).
- (i) Transfrontier Shipment Document Number.
- (j) Certificate of Disposal( including waste filter cake disposal location)
- (k) Certificate of export

### **CONDITION 22**

The personnel nominated in the Operational Plan as responsible for all documentation, processing and analysis shall hereafter be considered as the responsible contact parties for matters relating to these areas respectively. Any change in these personnel should be notified to the Local Authority.

### **CONDITION 23**

The hours at which the facility shall normally operate for the receipt , transfer and treatment of wastes shall be 8.30 hours to 17.15 hours Monday to Friday. Any proposed long term change in these hours shall be notified to the Local Authority and so approved prior to their implementation. Unsupervised treatment of hazardous wastes shall not be permitted on the site.

**CONDITION 24**

The Company shall submit within two months of the date of issue of this permit, to the Fire Authority an Operational Plan for fire control and accidental spillages. This plan shall be certified as satisfactory by the Fire Authority. The plan shall be revised in the event of significant changes in the designated areas on site or significant changes in treatment methodology.

**CONDITION 25**

The operations of Shannon Environmental Services shall be conducted in accordance with all relevant legislation relating to waste treatment, waste movement, discharge of certain materials to waters and emissions to air.

**CONDITION 26**

All operations on the site shall be conducted in such a manner as will not give rise to nuisance or objectionable odours or complaints beyond the boundary fence of the site. The company shall ensure that operations involving the mixing, blending, neutralisation or any other treatment of chemicals shall be carried out in a manner which shall minimise any short term or long term odiferous or offensive emissions.

**CONDITION 27**

The company shall ensure the effective operation and total adequacy of the emission treatment/abatement systems associated with the reactors in the process building. The company shall furnish to the Local Authority a report on the operating efficiency of this equipment at the plant at the end of each calendar year. An independent body, to be agreed with the Local Authority, shall carry out any tests on behalf of the company, for the preparation of this report. The process shall be in full operation at any time when these tests are in process. Any operations undertaken at the site and whose emissions exceed the capacity of the treatment/abatement system shall be deemed to be in contravention of this permit.

**CONDITION 28**

In the event of failure / overloading of the emission treatment/abatement equipment, which result in fugitive emissions the company shall defray the costs of such independent analyses and /or monitoring of emissions from, or of systems in the plant as may be commissioned by the Local Authority. In the event of Local Authority monitoring programmes indicating that such emissions arose at the premises, the company shall reimburse the Local Authority for the costs of such analyses.

### **CONDITION 29**

An olfactory assessment of the process shall be carried out at least twice per day, during the routine operations on the site. The following shall be provided to the satisfaction of the Local Authority:

- (a) A record of such routine monitoring.
- (b) A list of personnel responsible for such routine monitoring.
- (c) Contacts ( telephone, fax or letter ) with the Local Authority, reporting any observed problems

### **CONDITION 30**

In the event of adverse results of olfactory assessment, of accident, of equipment malfunction, of spillages, or any event which might cause environmental nuisance, the nominated responsible persons shall, as soon as may be practicable after the event:

- (a) Notify the Local Authority.
- (b) Initiate adequate monitoring in the receiving environment.
- (c) Reduce/Cease activity at the plant unless it can satisfy the Local Authority that the cause has been identified and corrective action taken to ensure no recurrence of the problem and no further environmental nuisance.
- (d) Ensure the event and the appropriate corrective action taken be recorded in the site log book, as detailed at Condition 29.
- (e) Provide a detailed written report to the Local Authority indicating the timing of, the monitoring programme initiated subsequent to and the cause of the event. Corrective action taken to remedy the cause of the event and action taken to ensure no recurrence of same shall be detailed in this report.

### **CONDITION 31**

Evidence of public liability insurance must be available for inspection at all reasonable times by the Officers of the Local Authority.

### **CONDITION 32**

Staff whose duties include the treatment/handling of waste and toxic and dangerous waste shall receive appropriate training and instruction in these areas.

**CONDITION 33**

Essential spare parts and consumables for the control of odour shall be kept at the plant at all times.

**CONDITION 34**

The Company shall ensure the following procedure is in place during delivery of waste consignments and their handling;

- (a) Vehicles used for the receipt and transfer of waste consignments shall be clean and shall not give rise to offending odours by reason of inadequate cleaning.
- (b) All vehicles used for the delivery and removal of waste consignments shall be fully leak proof and the material fully enclosed.
- (c) All vehicles shall be cleaned as soon as possible after their emptying, normally within an hour of off loading
- (d) Suitable hosing points or other methods shall be provided for clean-up operations.
- (e) All spillages shall be cleaned up immediately.

**CONDITION 35**

All effluent discharges arising from the operations of the Company, including surface water drained or pumped from the bunded areas, storage areas, treatment areas, transfer areas or from any area likely to suffer contamination, shall be discharged to the S.F.A.D.Co. foul sewer system in accordance with the conditions of discharge as implemented by S.F.A.D.Co. in their effluent control regulations. Uncontaminated roof water may be discharged directly to the S.F.A.D.Co stormwater sewer system. Refer to Appendix 1 for details of effluent discharge parameters and conditions ,( as imposed by S.F.A.D.Co.)

If for any reason permission to discharge to the S.F.A.D.Co. foul sewer is withdrawn then this permit is null and void.

**CONDITION 36**

In any event no discharge of untreated waste material shall be made to the foul sewer.

**CONDITION 37**

The Company shall maintain a suitable sampling chamber for access to any effluent discharge line leading to the S.F.A.D.Co. foul sewer to enable sampling of the effluent discharge by any person authorised under the appropriate legislation.

### CONDITION 38

The waste categories which shall be permitted for the purposes of this permit, other than aqueous based inks and photographic wastes, are restricted to the following list:

<b>WASTE TYPE</b>	<b>CATEGORY NUMBER (ex 78/319/EEC and miscellaneous categories specific to this facility)</b>
Mercury and it's compounds( treat/export)	2
Cadmium and it's compounds( treat/export)	3
Thallium and it's compounds(export)	4
Beryllium and it's compounds( export)	5
Chromium 6 compounds(treat)	6
Lead and it's compounds(treat/export )	7
Antimony and it's compounds(export)	8
Phenol and phenolic compounds(treat/export)	9
Cyanides(treat)	10
Isocyanides(treat)	11
Organohalogen compounds(export)	12
Chlorinated solvents(export)	13
Organic solvents(treat/export)	14
Biocides and phytopharmaceuticals(treat/export)	15
Tar residues and tarry materials( treat/export)	16
Pharmaceutical compounds(treat/materials)	17
Peroxides(treat/export)	18
Ethers(treat/export)	19
Laboratory smalls*(treat/export)	20
Aromatic polycyclic compounds(export)	24
Soluble copper compounds(treat)	26
Surface treating Acids and alkalis(treat)	27
Miscellaneous metal salts(treat)	28
Printed Circuit Boards(export/treat)	29
Empty drums(treat)	30
Polychlorinated biphenyls(export)	33
Non-hazardous waste(treat)	34

\*Asbestos contained in consignments of laboratory smalls shall not exceed 500 grams in quantity. The asbestos contained in the consignment shall be accepted and stored for export if and only if the disposal site has been identified prior to the arrival of the material on site.

### CONDITION 39

A maximum of 10,000 tonnes of non-toxic waste shall be handled by the facility in any one year (including aqueous based inks and photographic wastes).

The maximum amount of material on site awaiting treatment at any time shall not exceed 300 tonnes.

**CONDITION 40**

A maximum of 8,000 tonnes of toxic and dangerous waste shall be handled (including treatment and storage) in any one year.

The maximum amount of material on site awaiting treatment shall not exceed 250 tonnes at any time.

**CONDITION 41**

A maximum of 2,200 tonnes of toxic and dangerous waste shall be stored at the site, prior to export, per annum. In any event, toxic and dangerous wastes shall not be accepted at the site unless adequate storage capacity in correctly banded areas is available for these materials.

The maximum amount of material on site awaiting export shall not exceed 100 tonnes at any one time.

**CONDITION 42**

A report of the total quantity of the waste on site shall be submitted on a bimonthly basis to the Local Authority. This report should detail the total drum number in each location( specified on the site map), bulk chemical waste material, non-hazardous waste materials, cyanide waste materials, oil/solvent stored. The origin of the materials shall not be required for the purpose of this report. The report shall enable an overview of the site storage capacity for incoming waste at the site.

**CONDITION 43**

All drummed and packaged waste, including laboratory smalls shall be packed and arranged as to prevent any adverse reactions between incompatible materials during transport to the site, storage at the site and subsequent shipping for export off site. The consignments shall be appropriately labelled in accordance with legislation on packing and labelling of the particular waste category/categories.

**CONDITION 44**

All waste arriving on site shall be supervised by competent personnel as detailed at Conditions 22 and 32. The waste shall then be segregated by said personnel and directed to their respective storage, treatment, or recovery areas, as detailed on the site map.

**CONDITION 45**

The bunding capacity of those areas designated for the storage of drummed wastes shall be 5% of the total drum storage capacity of the area. The bunds shall be of impervious material with mass concrete sills..

**CONDITION 46**

All bulk , liquid storage tanks shall be adequately banded in impervious bunds of 110% capacity of the largest tank surrounded.

**CONDITION 47**

Drainage sumps shall be provided in the bulk waste storage areas, drummed waste storage area, sludge waste area for the collection of spillages or contaminated surface water. All such drainage collected shall be treated to conform to the effluent standard for discharge to the S.F.A.D.Co. Industrial sewer.

**CONDITION 48**

All vehicles used in conjunction with or as temporary plant or storage vessels must undergo the same safety checks as detailed at Condition 34 in relation to vehicles used for the delivery/haulage of wastes and toxic and dangerous wastes.

**CONDITION 49**

Transfer of drummed waste and sludge waste to larger or more suitable containers shall be carried out in an area which can appropriately accommodate and treat to the satisfaction of the Local Authority any spillages which may arise during the operations. The redrumming operations shall be carried out at the minimum safe distance from any area which is identified as being a potential source of sparks/flame /heat, to reduce the risk of fire at the facility.

**CONDITION 50**

The company shall ensure that a supply of suitable absorbent material is kept at the plant at all times. Due care shall be taken to ensure that spillages are fully absorbed in such material and the material suitably disposed in an acceptable manner. In any event spillages of materials shall not be washed into the S.F.A.D.Co foul sewer.

**CONDITION 51**

Equipment to measure effluent flow rate, temperature and pH shall be installed to the satisfaction of the Local Authority and S.F.A.D.Co. Records shall, thereafter, be kept of effluent flow, temperature and pH.

**CONDITION 52**

Waste filter cakes arising from the treatment of waste shall be disposed of to an approved and permitted waste disposal site. The origin of such material and its final destination shall be detailed in the appropriate documentation (see Condition 21).

**CONDITION 53**

Waste filter cakes arising from the treatment of non-toxic wastes and from the biological treatment of waste effluents shall always be contained and separated from any toxic wastes or metallic filter cakes arising from such wastes.

**CONDITION 54**

Waste filter cakes arising from the biological treatment of waste effluent may be disposed of to the Clare County Council landfill site if they are non-toxic in nature and satisfy the following criteria:

- (a) they exhibit none of the properties listed at Annex III ( Properties of Wastes which render them hazardous ), Council Directive 91/689/EEC
- (b) they do not produce in their leachate any substances which are toxic to aquatic species, persistent in waters or liable to bioaccumulate in waters ( criteria defined in 76/464/EEC)

**CONDITION 55**

Any consignments for delivery at the Doora site shall be delivered on a specified day and at a specified time.

**CONDITION 56**

Waste filter cake consignments delivered to the Local Authority landfill site will be subject to spot toxicity testing, costs for which shall be borne by the Company (invoiced directly to Shannon Environmental Services). The results of these tests shall be submitted to the Local Authority and said results must indicate less than 100 toxicity units. In the event of exceedence of this limit, the Local Authority reserve the right to refuse admission of further consignments of such material to the landfill site under their control.

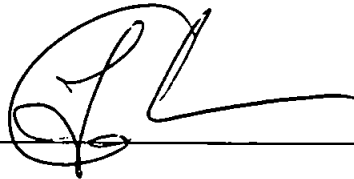
**CONDITION 57**

The company shall furnish to the Local Authority a quarterly record of the waste filter cake disposal details( including quantity and destination) for all such materials arising at the facility.

**CONDITION 58**

A fee of £5,000 shall be paid on receipt of this permit. Should the permit be revoked or suspended for any reason, the fee is non-refundable.

Signed: \_\_\_\_\_



CLARE ASSISTANT COUNTY MANAGER.

Dated this 8 day of July, 1996.



## Comhairle Chontae an Chláir

Roinn Comhshaoil,  
Bothar Nua, Inis.

Tel. (065) 21616

## Clare County Council

Environment Section,  
New Road, Ennis.

Fax (065) 28233

Our Ref: 2/14

18th November, 1996

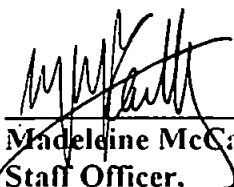
Phillipa King,  
Shannon Environmental Services Ltd.,  
Smithstown Industrial Estate,  
Shannon,  
Co.Clare.

Re: Permit to Store and Treat Waste Oil.

A Chara,

I now enclose copy of Permit under the EC (Waste Oil) Regulations, 1992 signed by the Assistant County Manager and valid for a period of three years from the 15th March, 1996.

Mise, le meas,

  
\_\_\_\_\_  
Madeleine McCarthy,  
Staff Officer,  
Environment Section.

Enc.

M Mc/FQ

**THE EUROPEAN COMMUNITIES (WASTE OIL) REGULATIONS,  
1992**

**PERMIT TO STORE AND TREAT WASTE OIL**

**CLARE COUNTY COUNCIL**

The Clare County Council in exercise of the powers conferred on them by Article 4 of The European Communities (Waste Oils) Regulations, 1992, hereby grants a permit to store and treat waste oils, as defined by this legislation, (excluding the deposition of these waste oils) to:

**SHANNON ENVIRONMENTAL SERVICES**  
**Smithstown Industrial Estate,**  
**Shannon,**  
**Co. Clare**

in accordance with the particulars and plans submitted in the Application No. 1 on 19th March 1996 subject to the following 24 number conditions set out in the schedule hereto:

This permit shall be valid for a period of three years only. An application to have the permit renewed, altered or reviewed shall be made at least one month prior to the cessation date of the permit.

Dated this 13 day of Nov, 1996

  
CLARE ASSISTANT COUNTY MANAGER

## ***CLARE COUNTY COUNCIL***

Schedule to permit dated 15<sup>th</sup> day of MARCH, 1996 issued to Shannon Environmental Services Ltd., Smithstown Industrial Estate, Shannon, Co. Clare.

### ***CONDITION 1:***

The categories of waste oils which shall be accepted at the site shall consist of the following only:

- (i)** Oily wastes and oil sludges from tank bottoms and oily wastes from oil separators
- (ii)** Oil wastes and oil mixtures including those arising from the use of machine oil, cylinder oil, turbine oil, gear spindle oil, cutting and drawing oils and quench oils
- (iii)** Spent water soluble cutting oils and other oil emulsions

### ***CONDITION 2:***

The storage and treatment of these oils shall at no time endanger human health or the environment and due precaution must always be taken to ensure the safe disposal of any residues.

### ***CONDITION 3:***

The permit holder shall ensure that the necessary measures are taken to ensure that the waste oils are not mixed with polychlorinated biphenyls, polychlorinated terphenyls, or toxic and dangerous wastes within the meaning of the European Communities (Toxic and Dangerous Waste) Regulations, 1982 during the course of storage or treatment.

### ***CONDITION 4:***

The permit holder shall take all necessary measures to prevent -

- (a)** any discharges of these waste oils to waters or drains
- (b)** any harmful deposit of these waste oils to the soil

***CONDITION 5:***

All drums shall be suitably labelled with correct details of their contents.

***CONDITION 6:***

All bulk storage tanks shall be contained by bunding which is impervious and resistant to the materials therein contained. Bunding shall be capable of containing 110% of the capacity of the storage tanks.

Drummed waste shall be stored, not more than three drums high, in an area which is likewise impervious and resistant to the materials contained.

***CONDITION 7:***

The permit holder shall ensure that records shall be kept relating to the production, collection, storage and disposal of the waste oils and that these records shall indicate the following:

- (i)*** origin of the waste oil
- (ii)*** date of arrival on site
- (iii)*** quantity and type of oil
- (iv)*** storage location
- (v)*** treatment date

These records shall be available at all reasonable times to Officers of the Local Authority.

***CONDITION 8:***

The proposal form (pre-delivery approval) system in operation at the site, pursuant to the Conditions 6, 7 and 8 of the Permit to Store and Treat Waste/Toxic and Dangerous Waste shall be deemed to cover all movements of waste oils into the facility.

***CONDITION 9:***

The tracking and documentation required pursuant to Conditions 11, 12, 13 and 20 of the existing Permit to Store and Treat Waste/Toxic and Dangerous Waste shall be deemed to apply to all consignments of waste oils received at the facility.

***CONDITION 10:***

Consignments of waste oils received on site for treatment shall be treated within a period of four months from the date of their arrival on site. A consignment of waste oils shall not be accepted on the site if the facility is unable to treat the material within this four month period. This designated period is the maximum period of time which shall be permitted for the storage of this material. The Company shall endeavour to treat the material as soon as may be after it's arrival on site.

***CONDITION 11:***

The quantity and storage location of any and all waste oils accepted on site shall be adequately indexed by the Company. A record of the total quantity of all waste oil stored on the site shall be readily available for inspection by Officers of the Local Authority at all reasonable times.

***CONDITION 12:***

The Company shall nominate persons who shall be responsible for all documentation, processing and analysis. Those persons shall thereafter be considered as the responsible contact parties for matters relating to these areas specifically. Any change in said personnel should be notified to the Local Authority.

***CONDITION 13:***

The Company may be required to undertake monitoring of emissions from the treatment areas. The costs for such monitoring shall be borne by the Company.

***CONDITION 14:***

In the event of any accident, of equipment malfunction, of spillages or any event which might cause environmental damage or nuisance, the nominated responsible persons shall, as soon as may be practicable after the event:

- (a)*** Notify the Local Authority
- (b)*** Initiate adequate monitoring in the receiving environment
- (c)*** Reduce/cease all activity at the plant unless it can satisfy the Local Authority that the cause has been identified and corrective action taken to ensure no recurrence of the problem and no further hazard to the environment.

***CONDITION 15:***

A supply of suitable oil absorbent material shall be maintained on the site, and any liquid spillages shall be cleaned up immediately.

***CONDITION 16:***

Staff whose duties include the treatment and handling of waste oils shall receive appropriate training and instruction in these areas. Certification to this effect shall be submitted to the Local Authority.

***CONDITION 17:***

The handling and storage of waste oil shall be carried out so as to minimise the emission of odorous vapours to the air. Storage tank vents should be located to minimise the risk of odour nuisance to occupiers in the vicinity.

***CONDITION 18:***

All discharges arising from the treatment operations shall be directed to the S.F.A.D.Co. foul sewer, in accordance with the conditions of discharge as implemented by S.F.A.D.Co. in their effluent control regulations. In any event no discharge of untreated waste oils shall be made to the foul sewer.

***CONDITION 19:***

The quantity of waste oils which shall be handled on the site shall not exceed 300 tonnes per annum.

***CONDITION 20:***

Waste oil residues which arise during the treatment process shall be disposed of by a person who holds a permit under Article 4 of the European Communities (Waste Oils) Regulations, 1992.

**CONDITION 21:**

Bulk storage tanks should wherever possible be back vented to the delivery tank during filling. Where this is not practicable, displaced air vents should be sited in such a way as to minimise the generation of offensive odours at or beyond the site boundaries.

**CONDITION 22:**

Bulk storage tanks should be fitted with high-level alarm indicators (of a design not prone to blockage) to warn of, and thereby prevent overfilling.

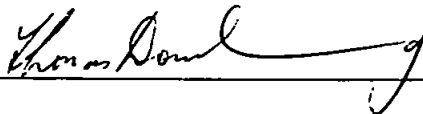
**CONDITION 23:**

In any event the combustion of waste oils is not permitted at the facility.

**CONDITION 24:**

Pursuant to Article 6 of the European Communities (Waste Oils) Regulations, 1992, conditions attached to this permit may be amended or new conditions attached, in the light of changes in disposal technology or in the state of the environment.

Signed: \_\_\_\_\_



CLARE ASSISTANT COUNTY MANAGER.

Dated this 13<sup>th</sup> day of Nov. ~~September~~, 1996



# SHANNON DEVELOPMENT

SHANNON, COUNTY CLARE, IRELAND.  
TELEPHONE +353-61-361555 FAX +353-61-361903 Email: Info@Shannon-Dev.ie URL: <http://www.commerce.ie/shannon-dev/>

*Innovative Action – Regional Growth*

10th January 1997

Mr Ed Storey  
Director  
Shannon Environmental Services Ltd.,  
Smithstown Ind. Estate  
Shannon  
Co. Clare

Dear Ed

I refer to your letter of 14th November to Mr Gerard O'Connor and our meeting on 28th November regarding your request for an increase in the current BOD/COD effluent discharge limits.

As outlined in my letters of March 26th and April 11th, 1996 we are having some difficulties in continuously complying with our trade effluent discharge licence conditions at Tradaree Point Effluent Treatment Plant for these parameters.

However I have reviewed your request and I am attaching a copy of the revised effluent control regulations for your company which will be rigorously enforced. I would be obliged if you would indicate your acceptance of these conditions by countersigning the enclosed copy of the conditions and returning it to me at your earliest convenience.

Yours sincerely

**Ken Power**  
Environmental Services Manager

encl.



COMHLUCHT FORBARTHA AERFORT NEAMHCHUSTAM NA SIONNA TEORANTA  
SHANNON FREE AIRPORT DEVELOPMENT COMPANY LIMITED

DIRECTORS: A. AYLWARD T. BUTLER C. CARROLL B. DINNEEN J. GRIFFIN K. KEENAGHAN M. McKENNA B.F. MURPHY  
L. McELLIOTT (Chairman) B. TEEFY E.M. WALSH D.P. WHELAN

REGISTERED IN IRELAND No. 17351 ESTABLISHED BY THE GOVERNMENT OF IRELAND



SD46-241

**RE: Shannon Effluent Control Regulations for Shannon Environmental Services (SES) Ltd., Smithstown Ind. Estate, Shannon, Co. Clare**

I refer to your request to discharge liquid effluents into the Shannon Development Industrial Effluent Sewerage System and accordingly grant permission subject to the following conditions:-

1. The maximum volume discharged should not exceed 100m<sup>3</sup>/day at a maximum hourly rate of 15m<sup>3</sup>/hour.
2. The characteristics of all effluent samples should not exceed the limits set out in Table 1 below:-

**TABLE 1**

<u>Parameter</u>	<u>Prior to April 1st, 1998 Concentration mg/l</u>	<u>From April 1st 1998 and thereafter Concentration mg/l</u>
C.O.D.	3,000	1,500
B.O.D.	2,000	1,000
S.S.	400	400
Sulphides (as S)	10	10
Sulphates (as SO <sub>4</sub> )	1,000	1,000
Detergents	80	80
Phosphorous (as P)	20	20
Phenols	0.5	0.5
Ammonia (Total)	50	50
Nitrates	70	70
Silver	0.1	0.1
Aluminium	1.0	1.0
Cadmium	0.5	0.5
Cobalt	20.0	1.0
Chrome (Total)	20.0	1.0
Copper	20.0	1.0
Mercury	0.05	0.05
Iron	20	10.00
Nickel	20	3.0
Lead	0.5	0.5
Tin	2.0	1.0
Zinc	20	3.0

<u>Parameter</u>	Prior to April 1st, 1998 Concentration <u>mg/l</u>	From April 1st 1998 and thereafter Concentration <u>mg/l</u>
Arsenic	5.0	0.5
Cyanide	10	0.5
Chlorides	300	300
Fluoride	1.0	1.0
Organic Solvents	Not Detectable	Not Detectable
pH	6 - 10	6 - 9
Temp.	43°C	43°C
Colour	Neutral	Neutral
Fats, Oils and Grease	Not Detectable	200

3. SES shall provide and maintain to the satisfaction of Shannon Development:-

- (i) Flow proportional automatic effluent sampling equipment.
- (ii) Continuous recording equipment to measure flow rate, temperature and pH of effluents being discharged.

These items of equipment shall be located in a hut adjacent to the inspection chamber on the discharge pipeline. This hut shall be locked and the keys held in the custody of Shannon Development and Clare County Council.

4. Samples obtained from the automatic sampling equipment will be treated as follows:-

- (a) The sample shall be thoroughly homogenised and subdivided into 3 equal parts.
- (b) SES to carry out the following analysis on 24 hr. composite sample.
  - Flow - Daily
  - pH - Daily
  - COD - Daily
  - Ammonia - three times weekly
  - Total phosphorous (as p) - once weekly
  - Suspended solids - three times weekly
- (c) One part shall be held by Clare County Council and analysed as required to check the standard of the effluent.
- (d) One part shall be held by Shannon Development and analysed as required to check the standard of the effluent.

- (e) A composite sample shall be taken once per month and treated as in (a) above. This sample shall be analysed by SES for all parameters listed in Condition 2.
  - (f) There shall be no other emission to sewer of environmental significance.
5. Satisfactory records shall be kept of analyses of effluent samples, flows, temperature and pH range and shall be made available to Shannon Development for inspection.
  6. The results of all effluent analyses carried out under Condition 4 shall be forwarded to Shannon Development on a monthly basis. This report is to be issued by the 10th day of the following month.
  7. Surface water drained or pumped from the bunded areas, treatment facility, storage and transfer areas and all other ground water likely to suffer contamination shall be discharged to the industrial foul sewer.
  8. Uncontaminated roof water from sheds etc. may be discharged directly to the Shannon Development stormwater sewer system.
  9. Domestic effluent from the SES treatment facility shall be discharged to the Shannon Development industrial foul sewer system.
  10. Shannon Development personnel shall have the authority to enter any area used by SES in the treatment / storage or transfer of wastes for the purpose of inspecting the plant and taking samples of effluent as may be desired.
  11. Any sludge arising from the collection, storage or treatment of waste must not be discharged into the sewer system.
  12. SES shall at no time discharge or permit to be discharged into the sewer any liquid matter or thing which is or may be liable to set or congeal at average sewer temperature or is capable of giving off any inflammable or explosive gas or any acid, alkali or other substance in sufficient concentration to cause corrosion to sewer pipes, penstock and sewer fittings or the general integrity of the sewer.

No substance shall be present in such concentrations as would constitute a danger to sewer maintenance personnel, or sewer fabric, or the liberation of by-products which may interfere with the operations of Tradaree Point Waste Water Treatment Plant.

SES shall ensure that the effluent discharge shall not contain petroleum spirits or organic solvents (including chlorinated organic solvents) which would give rise to flammable or explosive vapours in sewers.

13. The toxicity of a representative volume of the discharged effluent, as expressed in toxic units, shall be determined twice per annum, with regard to a representative aquatic organism, by standardised and internationally accepted procedures and carried out by a competent laboratory.

The toxic concentration in the discharged effluent shall not exceed 10 toxic units (tu).

$$\text{Where tu is defined as} \\ \text{tu} = \frac{100}{48 \text{ hour EC } 50}$$

Shannon Development may request a toxicity test incorporating 96hr assays if considered necessary. Copies of all reports shall be submitted on receipt of same to Shannon Development.

Originators of toxic wastes are liable to provide a toxicity rating to SES before the waste is accepted on site. Both Shannon Development and Clare Co. Co. are to be allowed access to this information.

14. Costs incurred by Shannon Development in monitoring effluent discharges shall be recoverable from SES in accordance with the rates for effluent discharge analysis as issued by Shannon Development from time to time, and payable monthly in accordance with the terms of the invoice.
15. A representative sample of effluent shall be screened for the presence of organic compounds once per annum. All reports of this screening shall be submitted on receipt of same to Shannon Development.
16. Any costs incurred by Shannon Development, as a result of the discharge by SES of effluent contrary to the conditions herein shall be recoverable in full by Shannon Development, from SES.
17. Shannon Development reserve the right to levy a charge of SES for accepting and treating their effluents. The rate of charge shall be based on the volume/strength of effluents discharged as determined in conditions 3 and 4 of this permit. SES shall be advised of the rate of charge and the payment conditions.
18. SES shall present to Shannon Development, before any discharge takes place, evidence of insurance, in which policy the interests of Shannon Development shall be noted, adequate to indemnify Shannon Development against all damages consequential to non-compliance with these conditions.
19. Any infringement of the effluent discharge conditions stated herein will lead to consideration of withdrawal of the facility; recovery of all remedial costs and if the facility is to continue, increased monitoring the full cost of which is to be borne by SES.

I would be grateful if you would indicate your acceptance of these conditions by countersigning the enclosed copy of these conditions and returning it to me at your earliest convenience.

That Clare County Council in exercise of the powers conferred on them by Article 5 of the European Communities (Waste) Regulations, 1979, and by Article 5 of the European Communities (Toxic and Dangerous Waste) Regulations, 1982 hereby grants a permit to store and treat waste/toxic and dangerous waste, as defined by this legislation, (excluding the deposition of these wastes) to

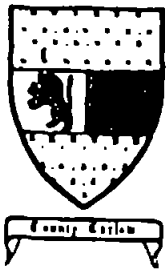
**Shannon Environmental Services Ltd.,  
Smithstown Industrial Estate,  
Shannon,  
Co. Clare.**

in accordance with the plans and particulars furnished with the application , dated 28/02/96, subject to the 58 number conditions set out in the schedule hereto.

This permit shall be valid for a period of one year only. An application to have the permit renewed, altered or reviewed shall be made at least three months prior to the cessation date of the permit

Dated this 10 day of July, 1996

  
CLARE ASSISTANT COUNTY MANAGER.



## COMHAIRLE CHONTAE CHEATHARLOCHA

CARLOW COUNTY COUNCIL,  
COUNTY OFFICES, CARLOW.

TELEPHONE (0503) 31126

FAX NO. (0503) 41503

OUR REF .....

YOUR REF .....

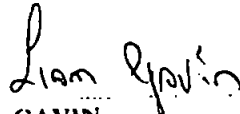
19th August, 1996

TO WHOM IT MAY CONCERN

RE: Mr Raymond Whelan, Ballyharmon, Carlow -  
Waste Disposal Contractor

To whom it concerns I wish to confirm that Mr Raymond Whelan of Ballyharmon, Carlow by agreement with Carlow County Council collects domestic refuse throughout Carlow County. Mr Whelan disposes of this domestic refuse at our lined, engineering managed landfill site at Powerstown, Co. Carlow. this landfill is provided by Carlow County Council as the Sanitary Authority for County Carlow. Mr Whelan also provides a collection service to industrial and commercial premises throughout the County. For example he collects cardboard packaging and plastic from Kepak at Hacketstown. This packaging is disposed of at our landfill site at Powerstown. Mr Whelan's domestic collection service throughout the County is carried out in a most satisfactory manner. Mr Whelan's collection service from commercial/industrial premises and disposal to our landfill is done to our requirements and satisfaction.

All refuse disposed of by Mr Whelan to our landfill is of the non-hazardous type and conforms with all existing E.C. legislation on the disposal of waste. Our landfill is a well managed landfill conforming with existing and proposed E.C. legislation for disposal of non-hazardous type waste.

  
L. GAVIN,  
Senior Executive Engineer.

Comhairle  
Chondae  
Chill Dara



Your Ref:

Our Ref:

Date

Kildare Co. Council  
St. Mary's, Naas.


H. Lyons  
County Secretary  
Phone: (045) 873800  
Fax: (045) 876875

TDW 5.4

- 4 -

- (13) The Council reserves the right to cancel this permit, should there be material non-compliance with the terms of the permit hereof.
- (14) The permit is valid from the date hereunder to the 31 December 1998. An application to have the permit renewed, alterations made to the permit or have the permit reviewed shall be made at least one month prior to the cessation date of the permit.

Date of commencement of permit: 4 February 1997

Signed:   
County Secretary

Date: 4/2/97

**Comhairle  
Chondae  
Chill Dara**



Our Ref:

Our Ref:

Date

Kildare Co. Council  
St. Mary's, Naas.

H. Lyons  
County Secretary  
Phone: (045) 873800  
Fax: (045) 876875

TDW 5.4

- 3 -

- (8) The waste batteries and thermometers shall be stored in a covered bunded area in sealed UN approved containers. The quantity of waste batteries and thermometers shall not exceed one tonne per annum. They shall be stored and disposed of in accordance with the E.C. (Toxic and Dangerous Waste) Regulations 1982 and the E.C. (Transfrontier Shipment of Waste) Regulations 1994, the Waste Management Act, 1996 and any relevant regulations issued under this Act.. The Company shall notify Kildare County Council immediately, in writing, of any difficulties encountered or anticipated with respect to the disposal of the waste.
- (9) The Company shall maintain a register showing the quantity and characteristics of all waste streams and the method and location of their disposal. A copy of this register shall be submitted to Kildare County Council every 4 months.
- (10) Irish Lamp Disposal shall recycle the broken glass waste resulting from the crushing of the lamps. This waste shall be stored in a secure area prior to collection for recycling. If stored outside the building, it shall be stored in a secure covered container. The storage area and container shall be locked when not in operation. The Company shall notify Kildare County Council immediately, in writing, of any difficulties encountered or anticipated with respect to the recycling of this broken glass. The company shall have an analysis carried out on the cleaned glass by Forbairt, or a similar competent body at six monthly intervals.
- (11) The company shall continue to recycle all other waste generated where possible, in particular waste cardboard.
- (12) The permit holder shall produce to the Council current insurances under the following headings:
- (a) Public Liability to a minimum cover of £1,000,000 for any one claim.
  - (b) Employer's Liability- unlimited

These policies shall include a clause indemnifying the Council against any claims arising. In the event of any such policy expiring during the currency of the permit, it shall be renewed with effect from the date of expiry and evidence of such renewal shall be produced to the Council.

Cont'd

**Comhairle  
Chondae  
Chill Dara**



Your Ref:

Our Ref:  
TDW 5.4

Date

Kildare Co. Council  
St. Mary's, Naas.

H. Lyons  
County Secretary  
Phone: (045) 873800  
Fax: (045) 876875

- 2 -

- (3) Collection vehicles shall have, and display:
- (i) A current certificate of road worthiness issued in accordance with the European Communities (Vehicle Testing) Regulations, 1981, in respect of each vehicle being used for the collecting and transporting of the waste.
  - (ii) Current motor insurance in respect of each vehicle being used for the collecting and transporting of the waste.
  - (iii) Current licence disc in respect of each vehicle being used for the collecting and transporting of the waste.
- (4) The used lamps and tubes shall be stored in a secure container, prior to crushing, in such a manner as to prevent breakages. The container shall be located in a compound or building adequately secured to prevent unauthorised access. A maximum of 10,000 lamps shall be stored on site at any time.
- (5) The Simister lamp crushing machine shall have full water recirculation and there shall be no effluent discharge from the machine.
- (6) The lamp crushing machine shall be located under cover in a bunded area and shall stand on an impermeable concrete base which shall be graded to a sump. Any spillages shall be recirculated through the machine or disposed of as toxic and dangerous waste in accordance with (7) below.
- (7) The used filters of the lamp crushing machine and any sediment or residue from the process shall be considered toxic and dangerous waste and shall be stored in a covered area in sealed containers, prior to being collected for appropriate disposal by a reputable contractor. This waste shall be stored and disposed of in accordance with the E.C. (Toxic and Dangerous Waste) Regulations 1982, the E.C. (Transfrontier Shipment of Waste) Regulations 1994, the Waste Management Act, 1996 and any relevant regulations issued under this Act. The Company shall notify Kildare County Council immediately, in writing, of any difficulties encountered or anticipated with respect to the disposal of the waste.

Cont'd

**Comhairle  
Chondae  
Chill Dara**



Your Ref:

Our Ref:

Date

Kildare Co. Council  
St. Mary's, Naas.

H. Lyons  
County Secretary  
Phone: (045) 873800  
Fax: (045) 876875

TDW 5.4

**The European Communities (Waste) Regulations 1979  
The European Communities (Toxic and Dangerous Waste)  
Regulations 1982  
Waste Management Act 1996**

**Permit to collect and crush used fluorescent lamps and the storage of used filters from lamp crushing machine at Irish Lamp Disposal Co Ltd, Kilkenny Road, Athy and to collect and store waste batteries and thermometers which contain mercury**

**Irish Lamp Disposal Co. Ltd.  
Kilkenny Road,  
Athy  
Co Kildare**

The Kildare County Council, in exercise of the powers conferred on it by Article 5 of the European Communities (Waste) Regulations 1979, the European Communities (Toxic and Dangerous Waste) Regulations 1982 and the Waste Management Act 1996 hereby grants a permit to Irish Lamp Disposal Co Ltd to collect and crush used fluorescent lamps and store used filters from the lamp crushing machine at Irish Lamp Disposal Co Ltd, Kilkenny Road, Athy and collect and store waste batteries and thermometers which contain mercury, in accordance with application dated 9 December 1996, subject to the following conditions, viz:

- (1) This permit allows for the collection and crushing of used fluorescent lamps and the storage of used filters from the lamp crushing machine at Irish Lamp Disposal Co. Ltd, Kilkenny Road, Athy. It also allows for the collection and storage of waste batteries and thermometers which contain mercury.
- (2) The waste batteries, thermometers, used lamps and broken glass shall be collected and transported in vehicles designed for the safe handling of such waste and operated in a fashion which will not endanger human health or harm the environment.

Cont'd



# Merseyside Waste Disposal Authority

## CERTIFICATE OF REGISTRATION UNDER THE CONTROL OF POLLUTION (AMENDMENT) ACT 1989

Regulation Authority  
 Name: **MERSEYSIDE WASTE DISPOSAL AUTHORITY**  
 Address: **4th Floor, Steere House, 100, Old Hall Street, Liverpool, Merseyside, L3 9LQ**

Regulation Authority  
 Name: **Brendan Henry Guy**  
 Business Name (if any): **Guy Packaging**  
 Address of registered premises:  
**Tullygoonigan Industrial, Est. 89, Moy Road, Armagh, N. Ireland**  
 Telephone: **0861 527102**      Fax: **0861 527103**  
 Date of registration: **14/07/95 (renewed)**  
 Date of expiry of registration: **13/07/98**  
 Date on which last amendment (if any) was made to the entries in the register:

Signature of authorised officer of the regulation authority:

*B. Guy*

Date: 7 July 1995

[See over]

**LOCAL GOVERNMENT (Planning and Development) ACTS 1963 TO 1983**

**NOTIFICATION OF DECISION TO GRANT A PERMISSION / ~~APPROVAL~~ (SUBJECT TO CONDITIONS)  
UNDER SECTION 26/27 OF THE ACT OF 1963**

**Mr. Con Ward,  
Burnet's Wood,  
Killeigh,  
Tullamore,  
Co. Offaly.**

**COUNCIL OF THE COUNTY OF LAOIS**

Reference No. in **336/85**  
Planning Register: .....

Application received on: **2nd August, 1985.**

In pursuance of the powers conferred upon them by the above-mentioned Act, the Laois County Council have by Order dated **22nd November, 1985** decided to grant a permission/~~approval~~ for the development of

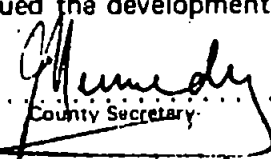
land/~~for the retention of an unauthorised structure~~, namely:—  
**Erection of Scrap Yard at Canal Stores, Mountmellick, in accordance with drawings  
mitted to the Council on the 2nd August, 1985, as amended by drawings submitted on  
/10/1985**

**SUBJECT TO** the conditions set out in column 1 of the Schedule hereto. The reasons for the imposition of the said conditions are set out in column 2 of the Schedule.

If there is no appeal against the said decision, a grant of permission / ~~approval~~ in accordance with the decision will be issued after the expiration of the period within which an appeal may be made to An Bord Pleanala (See footnote).

It should be noted that until a grant of permission / ~~approval~~ has been issued the development / ~~retention~~ in question is NOT AUTHORISED.

Signed on behalf of the said Council, .....



County Secretary

Date **22nd November, 1985.**

**SCHEDULE**

# · B · S · M · A ·

**BRITISH SECONDARY METALS ASSOCIATION**  
*Park House, 25 Park Road, Runcorn, Cheshire, WA7 4SS*  
*Telephone: 01928 572400 Fax Number: 01928 580493*

Conleth Ward Metals  
Harbour Street  
Mountmellick  
County Laoise  
Ireland.

30th April 1997

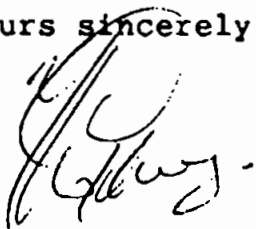
Dear Sirs,

It gives me great pleasure to forward to you your Certificate of Membership of the British Secondary Metals Association, following your recent election to membership, and to welcome you on behalf of the Members.

May I take this opportunity to extend to you my personal welcome, with a sincere wish that your membership of the B.S.M.A. will be a long and beneficial one.

With all good wishes,

Yours sincerely,



**T. George**  
**PRESIDENT**



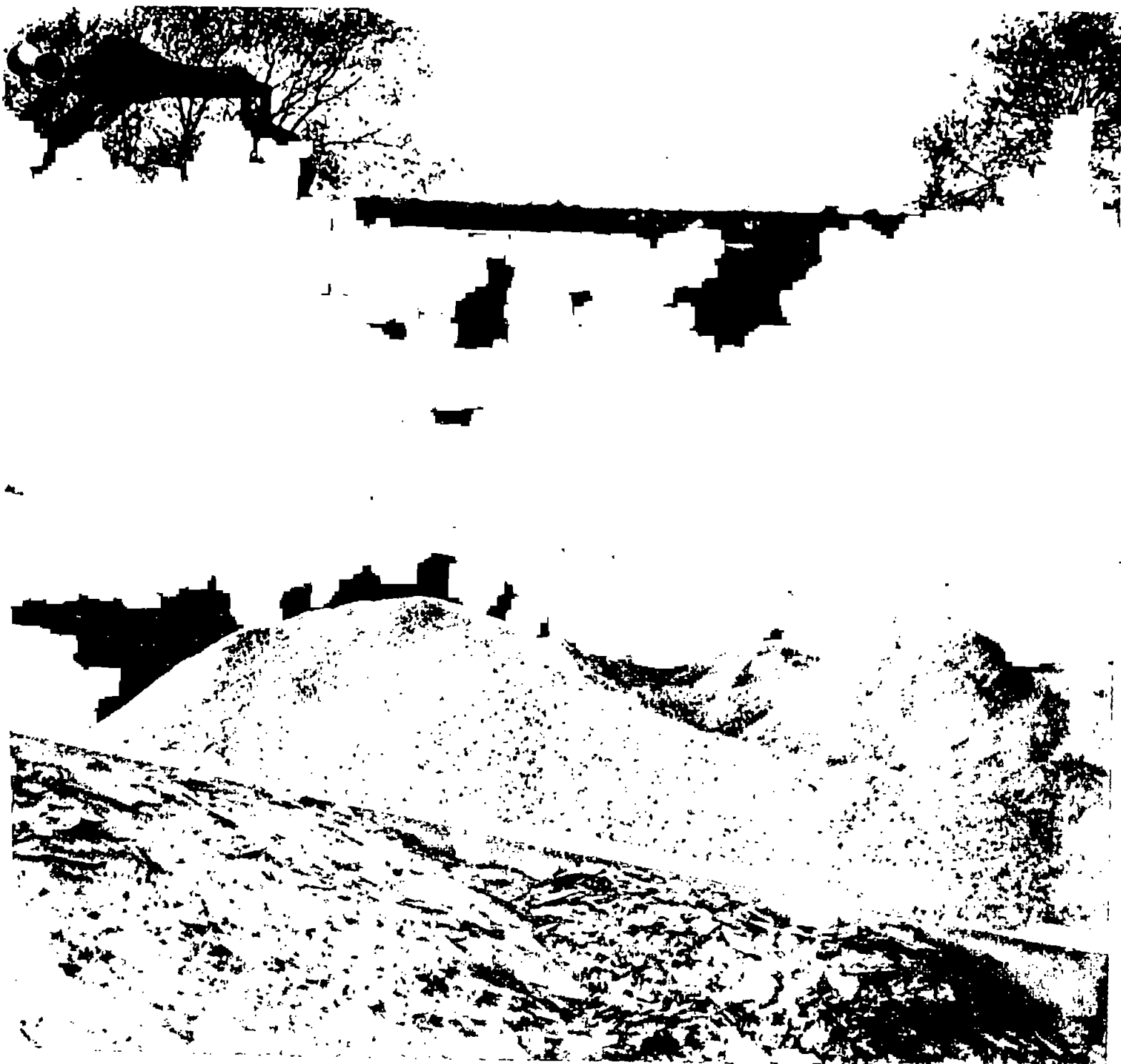
*President Mr.T.W.George (William George (Wath) Ltd.)*  
*Honorary Treasurer Mr.G.Bean (Gerald Bean Metals Ltd.)*  
*Executive Officer Mr.T.D.Wynys*  
*Secretary Mrs.E.G.Gray*

# *C & A Recycling*

*Harbour Street, Mountmellick, Co. Laois.*

*Tel. (0502) 24160 (O) (0506) 54185 (H)*

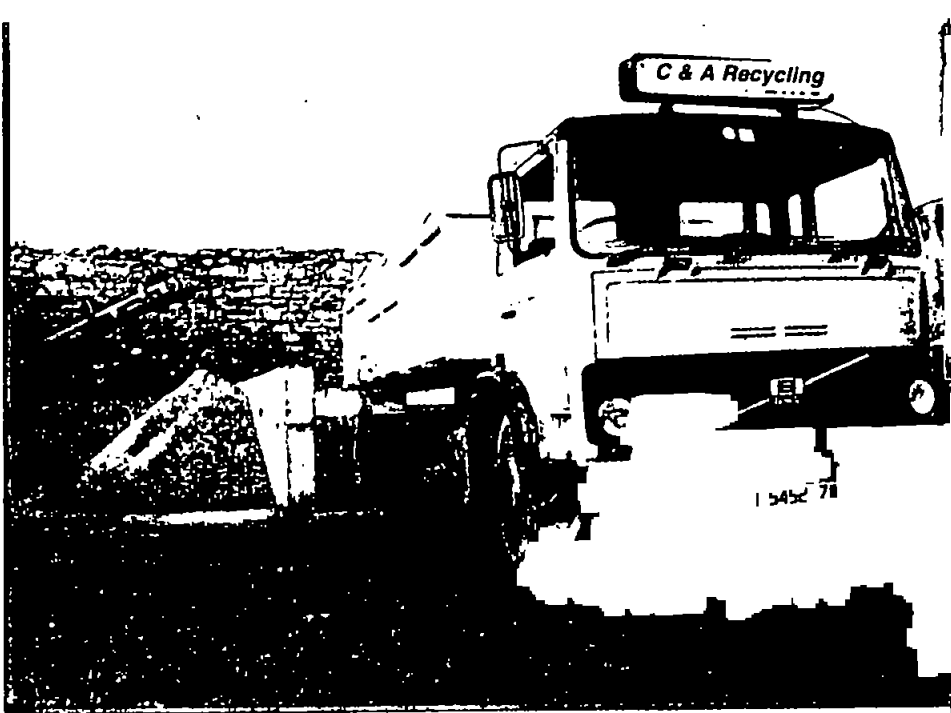
*We collect Waste from Trade, Domestic, Industrial & Agricultural if required.  
We will collect used Glass, Paper, Tyres, Oil, etc. from Country and  
In any & committal quantity.*

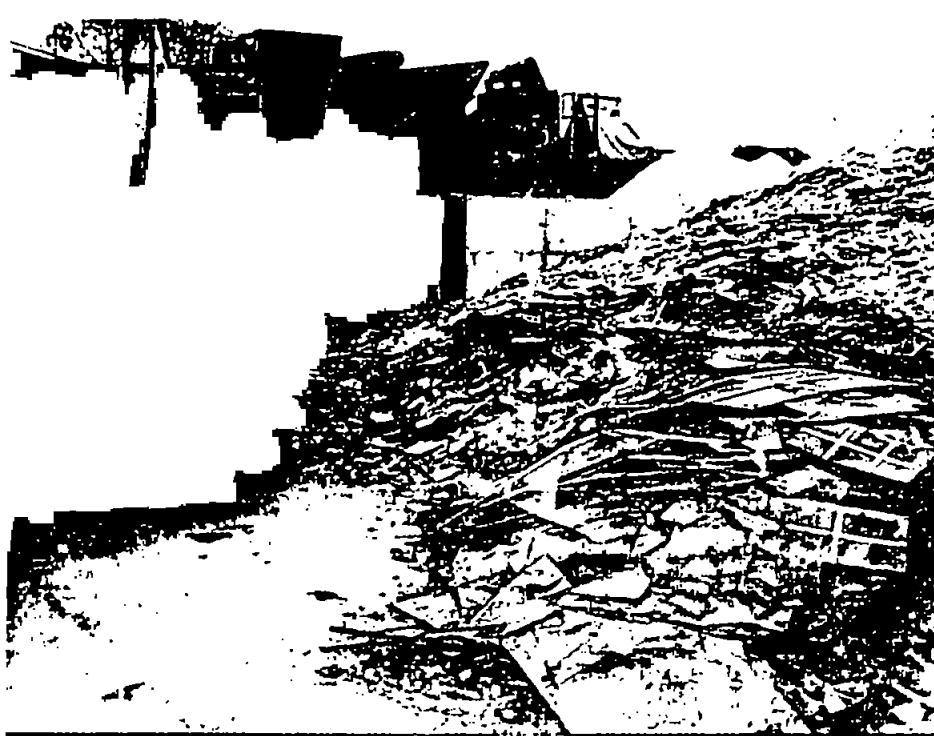


# *C & A Recycling*

## **PROCESSING**

Once the glass is delivered to our Works, we remove all unwanted elements leaving a purer end product for re-use. Then the Glass is crushed into very small granules and screened to give a very high quality finished product.





The crushed waste is then selected down to a liquid state and is then used for use in the Housing and other areas.

Any surplus waste that remains is then exported for recycling abroad.



C & A Recycling are the only company in Ireland collecting, processing and exporting this product. There is now an outlet for all the waste flat glass produced in this Country.

With the increased emphasis on recycling and the fact that the companies are now ultimately responsible for the waste they produce, it makes good corporate sense to recycle as much as possible. What was previously a waste product, going into landfill dumps with all the attendant consequences, is now a valuable raw material providing jobs in a recycling industry while improving the country's balance of payments through import substitution and exports.

# *C & A Recycling*

## *Summary of Involvement of Company in Waste Recycling*

### **1. Incorporation of C & A Recycling Ltd.**

C & A Recycling Ltd. was incorporated approximately two years ago. It evolved out of a long established metal recycling business run by Con Ward & Sons. Con Ward & Sons has been involved in the recycling of metals such as aluminium cans, car bodies and industrial metals for the past twenty five years. Con Ward & Sons has historically carried out very small scale glass recycling, but as the market grew and substantially more investment was needed, it became necessary to incorporate it into a separate company and hence C & A Recycling Ltd. came into being.

### **2 Promoters of The Company**

The promoters of the company are Con Ward and Anthony Ward who between them have almost forty years of experience in the recycling business. Both are highly committed to the development of the glass recycling business to its potential.

### **3. History of the Business**

As stated already C & A Recycling Ltd. was involved in small scale glass recycling, mainly bottle glass. Two years ago Con Ward was approached by Moy Insulation Ltd. in Clonmel to set up a supply operation involving the collection and processing of flat glass for use as a raw material in Moy's glass wool insulation business. Moy are the only manufacturer of this product on the island of Ireland and prior to this Moy had to import its raw materials either in the raw state or in 5,000 ton lots of waste cullet glass (glass cullet). Because Moy was experiencing very difficult trading conditions at the time it was envisaged that the plant would change to using a hundred per cent cullet as its raw material within a year or so. Accordingly it would be necessary to ensure that continuous supplies of high quality cullet would be available and Con Ward set up C & A Recycling to provide such a service.

C & A Recycling Ltd. then proceeded to contact all the manufacturers of car and window glass in Ireland and over a period of time managed to persuade these manufacturers to separate their glass waste from other forms of waste and to place it in bins provided by C & A Recycling Ltd. The glass manufacturers would then contact the company when the bin was full and arrangements would then be made to immediately replace that bin with an empty one. In this way over a period of time a supply network of approx. 5,000 tons per annum has been set up and it is projected the C & A can considerably expand on this quantity which it collects over the next two years.

The collected glass was transported back to Mountmellick whereupon it had to be processed and decontaminated for subsequent use in Moys furnaces. C & A Recycling was forced to design and commission the manufacture of a new glass crushing machine to cater for the specifications required by Moy Insulation Ltd.

### **4. Market Potential**

We expect to salvage approximately 1,000 tons of waste bottle glass this year and a further 8,000 tons of flat glass. Over the next two years if the viability of the operation can be assured we see the potential to increase our bottle glass operation to 2,000 tons and our flat glass operation to 15,000 tons. This must be a major contribution to the recycling programme for this country. In addition we also offer a confidential disposal service.

# *Conleth Ward Metals*

*Harbour Street, Mountmellick, Co. Laois.*

*Tel. (0502) 24160 (O) (0506) 54185 (H)*

*Con Ward & Sons has been involved in the Recycling of metals such as aluminium cans, car bodies and industrial metals for the past twenty five years.*



# *Conleth Ward Metals*

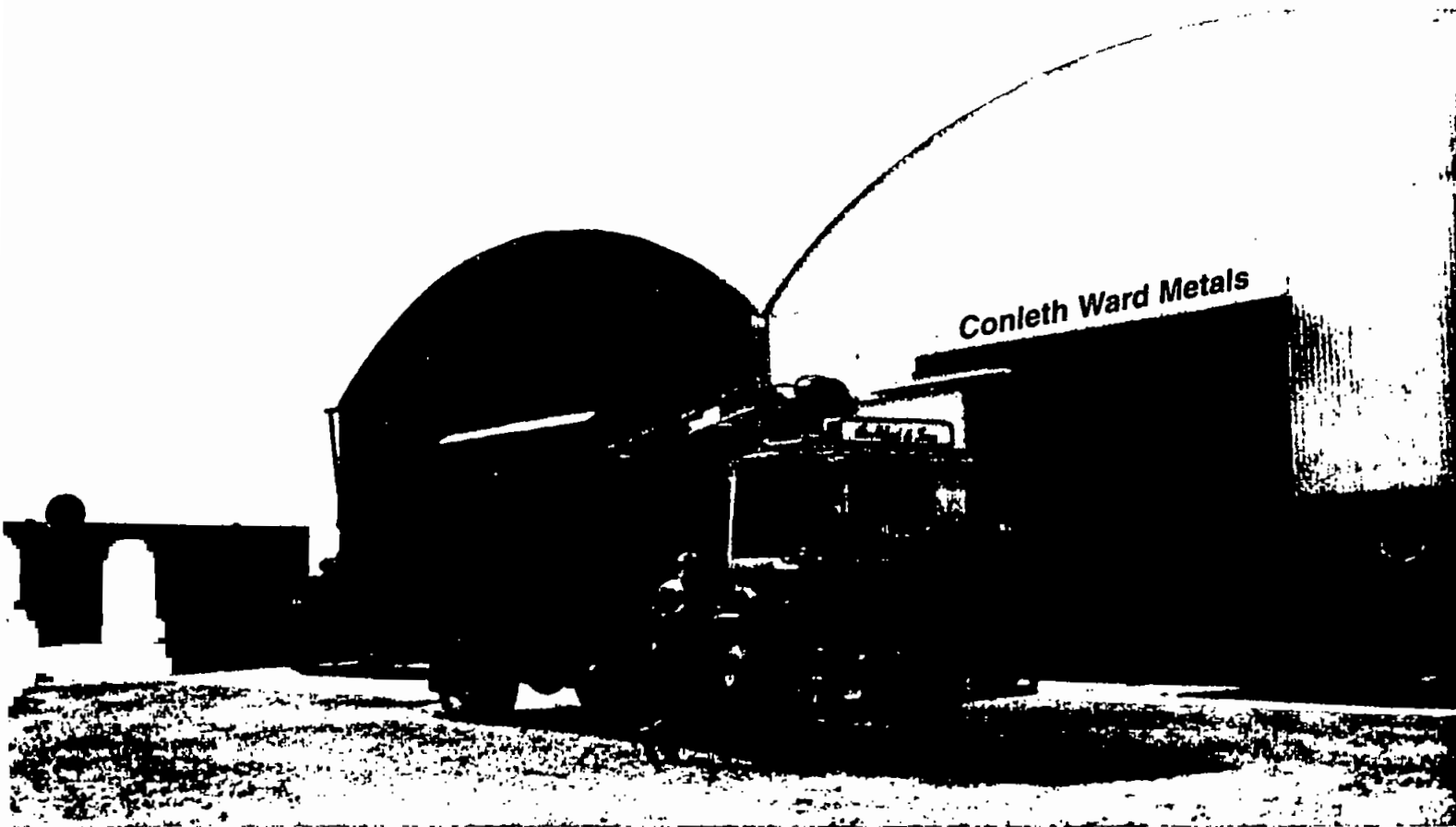
## **SERVICE**

We understand the sensitivity of some manufacturing processes and the need for prompt scrap collections.

Our drivers will be there to collect your scrap and redundant metal when you want them 6 days a week.

With speed and efficiency we'll make sure you're never left waiting.

We also offer a confidential disposal service.



## **INTEGRITY**

Our Lorries weigh in at our public weighbridge and the relevant documents are forwarded to you.

We guarantee you'll get paid for what you give us - and not a scrap less.

# **VALUE**

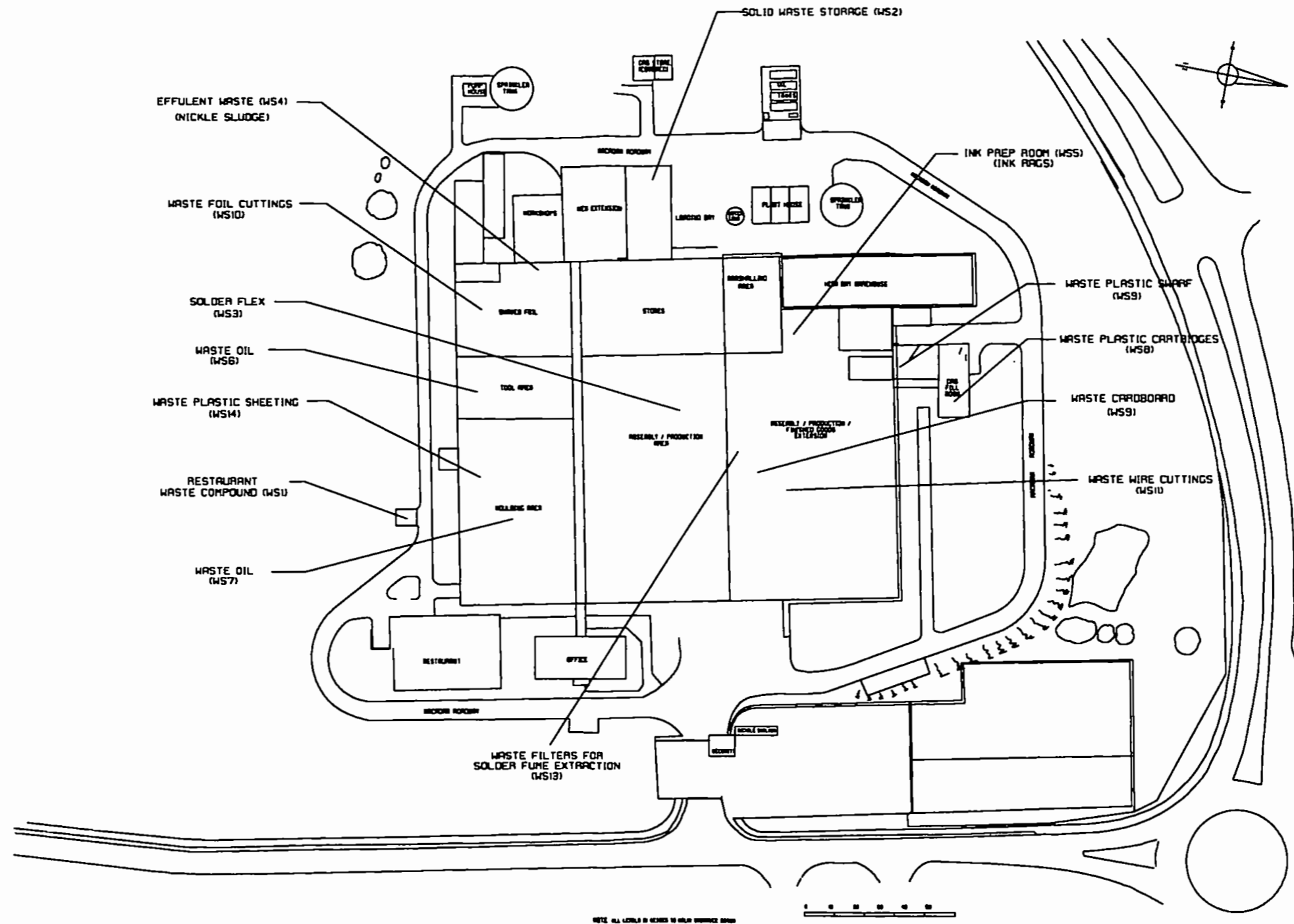
**We pay the best prices and no matter how the market fluctuates we ensure that you always get the top rates.**

**The massive volume of scrap we purchase coupled to our extensive dealing routes ensures you realise the maximum from your scrap. Better than anyone else in the market.**

**We have built our reputation on four ideals, honesty, reliability, value and that which seems to encompass them all, integrity.**

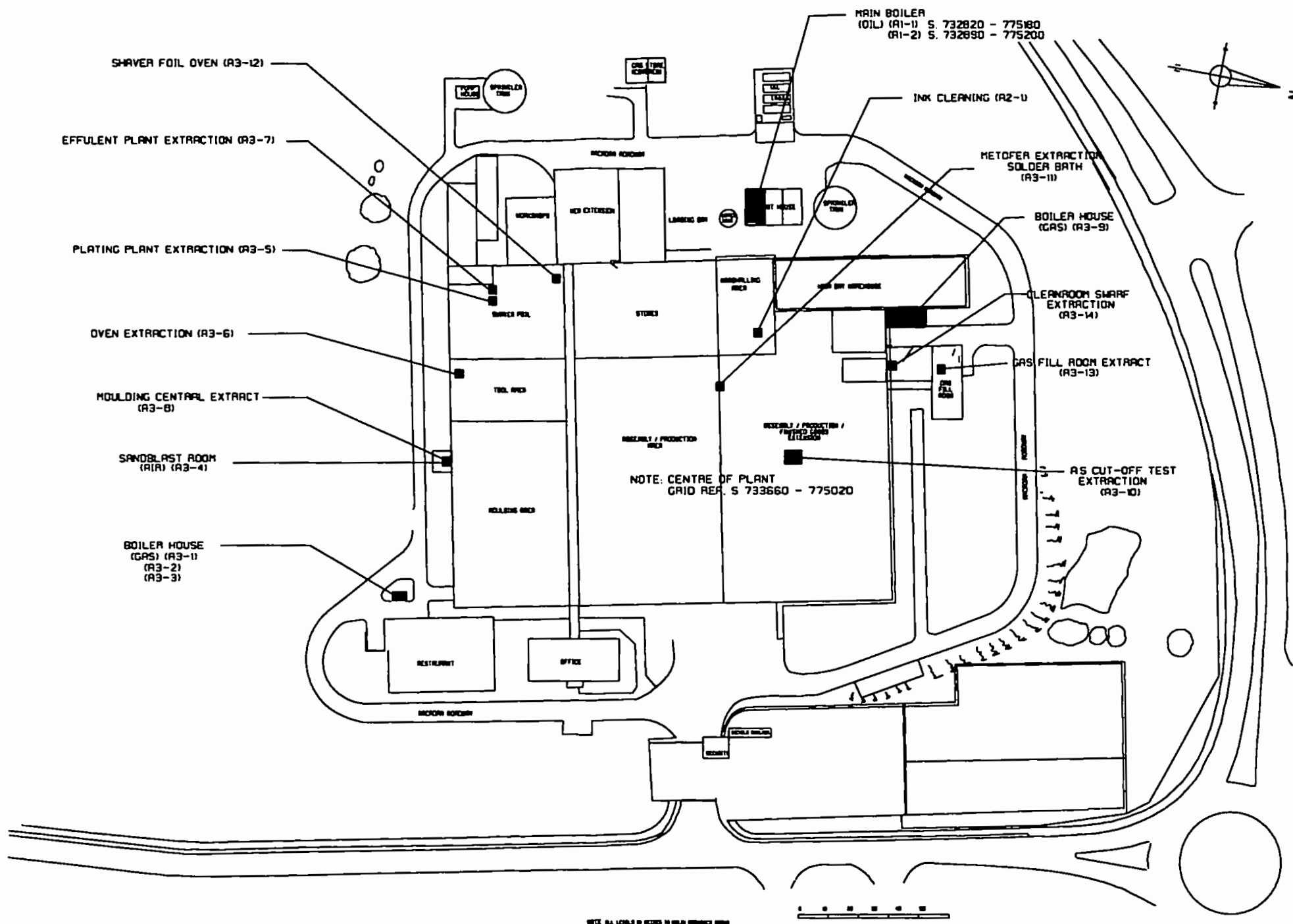






NOTE: WASTE GENERATION/STORAGE AREAS [REDACTED]

		TOL. FOR UNSPEC. DIMS. ±0.1		MATERIAL	
		DATE	NAME	TITLE	
		20-5-97	PD	WASTE GENERATION AREAS	
		CHECKED		SCALE	
		APPROVED		ISSUE	
		BRAUN		DRG. No.	
				300154	
ISS	MODS.	DATE	NAME	1	



NOTE: AIR EMISSION POINTS [REDACTED]

NOTE: ALL LEVELS IN METERS TO MEAN SEA LEVEL UNLESS STATED

		TOL. FOR UNSPEC. DIMS.		MATERIAL	
		±0.1			
	DATE	NAME	TITLE		SCALE
	20-5-97	PD	AIR EMISSION POINTS		
	CHECKED				
	APPROVED				
		DRG. No.		ISSUE	
		300154		1	
ISS	MODS.	DATE	NAME	BRAUN	





## **Attachment Number 19**

### **Energy Saving Measures**

In 1994, the company instigated a lighting project with a view towards saving on electricity. The following results were observed:

1. Current measured at electrical distribution boards showed 50% approx reduction. This indicates that the electrical consumption of the high frequency 5ft light fittings with silver reflectors is half that of the old 8ft fittings.  
Electrical distribution boards which were dangerously overloaded have now extra capacity due to reduced current of (50%) on the lighting board.
2. Lighting levels have raised from average 600 - 700 lux. Prior to start of project to 900-1000lux. This is a 30% increase in light levels.
3. On 1000 lights presently fitted, a reduction of 125 Kw was achieved as was seen from our max. demand figures. This works out to be a substantial saving per annum in electricity costs.
4. During the project, half of the assembly was rewired such that switching could take place parallel to production lines, as previously this area had its switching arrangements perpendicular, meaning that the whole area was lighted even if only a part of the area needed light. Estimated savings at present shift levels, from this and automatic switching via building management system (Trend), is estimated at £10,000 / annum in electricity costs.

## **WASTE MINIMISATION MEASURES**

All solid waste formerly went to landfill, but since 1995 efforts have been made to recycle solid waste by installing compactors for plastic and cardboard waste.

Cardboard recycling is dependent on the market conditions.

Throughout the plant large recycling bins have been in place to facilitate separation of cardboard and plastic waste. Currently there are 20 cardboard recycling bins and six plastic recycling bins.

In order to reduce the quantities of solid waste from the plant, strenuous efforts have been made by the company to purchase materials in bulk packaging. In the case of plastic materials supplied, 49% is delivered into silos, 44.5% in octobins and 6.5% in bags. The use of silos and the large octobins greatly reduces the amount of waste packaging generated. Element wire is currently packaged in reusable drums. Waste Sprue (plastic) is reground for reuse.



# Braun Ireland Limited

## ENVIRONMENTAL PROCEDURES MANUAL

---

POLICY NUMBER: ECO10

EFFECTIVE DATE: 10.05.97

TITLE: CHEMICAL SPILLAGE PROCEDURE

REVISION NUMBER: 00

---

- POLICY: 1.0 It is the policy of Braun Carlow to ensure that any chemical spills or accidents such as fire, where storm water drains may be contaminated, that adequate controls are in place so that contamination is localised and do not cause any environmental or safety risks to the local community.
- SCOPE: 2.0 This procedure covers the accidental spillage of chemical either from a delivery, fire or other incident.
- OBJECTIVES: 3.0 The objectives of the Chemical Spillage Procedure is to ensure that all substances which could have an impact on the local environment are received, stored and handled correctly to avoid a spillage or pollution of the environment.
- PROCEDURE : 4.0 Safety Officer (6470) and Utilities Supervisor (6471) must be informed immediately of any spillage.
- 4.1 Appropriate personal protective equipment must be worn before attempting to contain or clean up spill.
- 4.1 If spillage occurs during delivery, use spill kit, which is located on the forklift and/or at chemical compound (whichever is nearest), to stop any leak from container or to contain liquid.
- 4.2 Utilities personnel will then block the main storm water drains SW1 & SW2.
- 4.3 In the event of a fire - main storm water drains SW1 & SW2 will be blocked by Utilities Personnel.

**Braun Ireland Limited.**

**ENVIRONMENTAL PROCEDURES MANUAL**

**POLICY NUMBER : ECO06**

**EFFECTIVE DATE : 19May 1997**

**TITLE: Emergency Response Procedure**

**REVISION NUMBER : 00**

**Page: 1 of 11**

**1.0 PURPOSE**

The purpose of this procedure is to establish an emergency response plan for the facility in the event of a fire, chemical spill, serious accident, bomb threat or any other emergency.

**2.0 SCOPE**

These guidelines apply to all Braun employees, contractors, sub-contractors or visitors at our site.

**3.0 RESPONSIBILITY**

The **Managing Director** and **Personnel Manager** have overall responsibility for the Health and Safety of employees whilst working on Braun premises. It is the responsibility of the Managing Director and the Personnel Manager (or in their absence, the most senior person on site) to deliver a statement providing an update of the emergency to all employees and if necessary, deliver a statement to the media.

It is the responsibility of the **Departmental Managers** and **Supervisors** to ensure that staff whom they lead know their evacuation routes, exits and assembly areas and to ensure that in the event of an evacuation all employees have evacuated their work areas to a safe place.

The **Safety/Environmental Officer** has the responsibility of devising, communicating and updating the Emergency Response Procedure. **The Company Nurse** will contact the Health & Safety Authority and **the Safety/Environmental Officer** will contact Carlow County Council/ EPA if it is required to conduct a post accident/incident investigation.

It is the responsibility of **all employees** to be aware of the existence, and to know the contents, of this emergency procedure. It is the responsibility of **all employees** to know the location of fire extinguishers, evacuation routes, exits and assembly areas and immediately evacuate the building when notified.

Specific responsibilities are outlined in Appendix D.

Policy Prepared By: \_\_\_\_\_ Policy Approved By: \_\_\_\_\_

Env. Protection Officer

Personnel Manager

Signature: \_\_\_\_\_ Managing Director Date : \_\_\_\_\_

ENVIRONMENTAL PROCEDURES MANUAL

POLICY NUMBER : ECO06

EFFECTIVE DATE : 19May 1997

TITLE: Emergency Response Procedure

REVISION NUMBER : 00

Page: 2 of 11

4.0 REFERENCE

ECO10            Chemical Spill Procedure  
ASSPTS           Assembly Point Matrix

• 5.0            DEFINITION

- 
- **Emergency Response Committee** - consists of Plant Engineering Manager, Safety/Environmental Officer, Utilities Supervisor, Maintenance Supervisors (Fitting & Electrical), Receiving Stores Supervisor & Shaver Foil Process Engineer.
- **Emergency Controller (Safety Officer)** - Person who co-ordinates on-site Emergency Response in conjunction with the Emergency Response Team.
- **Emergency Response Team** - Persons appointed to control on-site Emergency Response in conjunction with the Emergency Response Committee until the arrival of the emergency services.
- Designated member of EMTeam will block manhole (SW1 & SW2) immediately - (IE. These are the last manholes before storm water leaves the plant).
- **Supervisors** - Persons appointed to represent a specified team of people in the event of an emergency

6.0 PROCEDURE

**IN THE EVENT OF AN EMERGENCY, I.E. BOMB THREAT, FIRE IN THE FACILITY, THE ALARM SHOULD BE RAISED AS FOLLOWS:**

- Go to the nearest fire call point:  
BREAK GLASS  
RAISE ALARM  
DIAL EMERGENCY NUMBER: 99
- Give the **nature** of the emergency, i.e. Fire, Bomb Threat. (See Appendix B&C)
- Give the **location** of the emergency
- Give your **name**
- Security will then notify the emergency services. (See Appendix A)

Policy Prepared By: \_\_\_\_\_ Policy Approved By: \_\_\_\_\_

Env. Protection Officer

Personnel Manager

Signature: \_\_\_\_\_ Managing Director      Date : \_\_\_\_\_

**Braun Ireland Limited.**

**ENVIRONMENTAL PROCEDURES MANUAL**

<b>POLICY NUMBER : ECO06</b>	<b>EFFECTIVE DATE : 19May 1997</b>
<b>TITLE: Emergency Response Procedure</b>	<b>REVISION NUMBER : 00</b>
	<b>Page: 3 of 11</b>

**6.1 On hearing the alarm, all employees, visitors and contractors must:**

- **Stop** work immediately
- **Leave** immediately by the nearest exit point.
- **Do not** stop for personal belongings.
- **Move** to the designated assembly point and report to your Supervisor. There are two choice of exits, the regular or primary exit and an alternative or secondary exit, should a fire be in such a location or of such intensity that a secondary exit is more expedient or keeps the employees away from the hazard. The Supervisor/Manager will direct employees to the alternative exit and will then proceed to their designated Assembly points. Where a supervisor is a member of the Emergency Response Team, he must designate a deputy to carry out roll call during an evacuation.
  - Supervisors will complete the roll call for their area. The supervisor will report to a member of the ERTeam if their is anyone missing. A search party will then be assembled.
  - If you are not working at your normal work station or in your normal area, or if you are in the toilets / canteen, leave by the nearest emergency exit.
  - All visitors are the responsibility of their host and should assemble at the assembly point of their host.

**6.2 In the event of an Emergency please try and remember the following:**

- Excessive haste may cause injury or death. You should walk not run to the nearest exit.
- Evacuate in an orderly fashion ie no horse play,avoid crowding or causing confusion.
- \* Avoid interference with the work of fire, gardai and emergency response team.

**6.3 Contractors,sub-contractors & Visitors**

All personnel are asked not to smoke for the duration of the emergency.  
All contractors,sub-contractors and visitors must be made familiar with the evacuation procedure which is contained in the safety statement, this is the responsibility of the host.  
All Contractors, sub-contractors and visitors must leave the plant by the nearest emergency exit and report immediately to the security hut, where security officers will complete an evacuation roll call.

Policy Prepared By: _____	Policy Approved By: _____
Env. Protection Officer	Personnel Manager
Signature: _____ Managing Director	Date : _____

**Braun Ireland Limited.**

**ENVIRONMENTAL PROCEDURES MANUAL**

**POLICY NUMBER : ECO06**

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**6.4 Emergency Response Team will be trained in:**

- evacuation procedures
- combustion of fire
- use of fire extinguishers, hoses and hydrants
- rescue of casualties/first aid
- spillage response and control

*The Emergency Response Team will be trained in responding to incident fires but will not be required to put themselves at risk.*

**6.3.1 Training - general**

All employees will be familiarised with the evacuation procedure at induction and it is contained in the companies safety statement and posted on main notice board.

Fire Drills will be conducted in compliance with Statutory Regulations.

All supervisory Personnel will additionally be instructed in their responsibilities.

**6.4 Bomb Threat**

6.4.1 In the event of the facility receiving a Bomb Threat, the recipient should follow the guidelines, as outlined in Appendix C.

6.4.2 Employees will be required to follow normal evacuation procedures and await instructions from the Safety/Environmental and/or his deputy to re-enter the building.

6.5 The Safety/Environmental Officer will inform the Nurse of the situation immediately after complete evacuation has occurred. The Nurse will be notified by the Safety/Environmental Officer prior to any fire drill taking place.

**6.6 Emergency Fire Drill**

Fire Drills are carried out twice yearly and records are kept by the Safety/Environmental Officer. The Nurse and members of the Emergency Response Team will be notified before a

Policy Prepared By: \_\_\_\_\_ Policy Approved By: \_\_\_\_\_

Env. Protection Officer

Personnel Manager

Signature: \_\_\_\_\_ Managing Director Date : \_\_\_\_\_

**Braun Ireland Limited.**

**ENVIRONMENTAL PROCEDURES MANUAL**

**POLICY NUMBER : ECO06**

**EFFECTIVE DATE : 19May 1997**

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fire drill and specific duties will be delegated. Fire Drill report sheets will be distributed by the Safety/Environmental Officer to the appropriate members of the ERT. Reports of fire drills will be held and any shortcomings dealt with by the Safety/Environmental Officer.

*This evacuation Procedure also applies during shutdown and non-production periods, where the supervisors on duty will be responsible for supervising the evacuation and carrying out the roll call.*

**7.0 SAFETY FACTORS**

Personnel must not attempt to respond to an incident fire unless trained to do so and **MUST NOT** put themselves at risk.

**8.0 RECORDS**

- The following records will be kept for five years by the Safety/Environmental Officer:
- Records from the quarterly meeting of the Emergency Response Committee
- Post accident/incident investigation records
  - Records of all incidents which warrant activation of the Emergency Response Procedure
  - Records of fire drills and schedules (Attached)
  - ASSPTS - Assembly point matrix, which will be updated as required (attached).

**9.0 FUNCTIONS IMPACTED/DISTRIBUTION**

**9.1 Engineering Department**

Manufacturing - Assembly, Shaver Foil, Moulding (inc Toolroom)

Finance

Purchasing

Planning

Quality Department

Personnel

Facilities - maintenance, utilities and electronics

Restaurant

Policy Prepared By: \_\_\_\_\_ Policy Approved By: \_\_\_\_\_

Env. Protection Officer

Personnel Manager

Signature: \_\_\_\_\_ Managing Director Date : \_\_\_\_\_

**Braun Ireland Limited.**

**ENVIRONMENTAL PROCEDURES MANUAL**

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Contractors

Policy Prepared By: \_\_\_\_\_ Policy Approved By: \_\_\_\_\_

Env. Protection Officer

Personnel Manager

Signature: \_\_\_\_\_ Managing Director Date : \_\_\_\_\_

**Braun Ireland Limited.**

**ENVIRONMENTAL PROCEDURES MANUAL**

**POLICY NUMBER : ECO06**

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**APPENDIX A**

**EMERGENCY LISTINGS**

	<u>Address</u>	<u>Tel. No.</u>
<u>Hospitals</u>		
<u>Ambulance</u>		056 51133
<u>Garda</u>	Green Bank Rd. Carlow	99
<u>Fire Department</u>		99
<u>ESB</u>		
<u>Bord Gais</u>		
<u>Doctors</u>		
<u>Dr Woods</u>		0503 30828
<u>Dr Doyle</u>		0503 31127
<u>Health &amp; Safety Authority</u>		

Policy Prepared By: \_\_\_\_\_ Policy Approved By: \_\_\_\_\_  
Env. Protection Officer Personnel Manager  
Signature: \_\_\_\_\_ Managing Director Date : \_\_\_\_\_

**Braun Ireland Limited.**

**ENVIRONMENTAL PROCEDURES MANUAL**

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County Council

Emergency Response Team

(See attached list)

Health Service

Insurance Company : I.C.I

Factory Mutual

U.K.

0044 161 455 2800

Safety Officer : P.J. Henry

33 The Downes, Carlow

0503 30683

Frank Archbold

0503 42481

Policy Prepared By: \_\_\_\_\_ Policy Approved By: \_\_\_\_\_

Env. Protection Officer

Personnel Manager

Signature: \_\_\_\_\_ Managing Director Date : \_\_\_\_\_

**Braun Ireland Limited.**

**ENVIRONMENTAL PROCEDURES MANUAL**

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**APPENDIX B**

**GUIDELINES IN THE EVENT OF A FIRE**

- Go to nearest fire call point:
  - Break glass
  - Raise the alarm
  - Telephone 99
- Inform Security of the nature and location of fire.
- Security to contact emergency services immediately.
- If the fire is of a very small nature and safe to extinguish the Emergency Response Team can use the fire extinguishers to do so.
- Designated members of EMTeam to manually block SW1 & SW2 storm drains.
- If the fire is of a serious nature it is to be contained and compartmentalised, i.e. close doors.
- The incident will then be dealt with by the Fire Department.

Policy Prepared By: _____	Policy Approved By: _____
Env. Protection Officer	Personnel Manager
Signature: _____	Date : _____
Managing Director	

**Braun Ireland Limited.**

**ENVIRONMENTAL PROCEDURES MANUAL**

**POLICY NUMBER : ECO06**

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- Evacuation (as per outline in this procedure & in Safety Statement)..

Policy Prepared By: _____	Policy Approved By: _____
Env. Protection Officer	Personnel Manager
Signature: _____	Managing Director      Date : _____

**Braun Ireland Limited.**

**ENVIRONMENTAL PROCEDURES MANUAL**

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**APPENDIX C**

**GUIDELINES IN THE EVENT OF A BOMB THREAT**

Upon receipt of a call:

Encourage the caller to stay on the line as long as possible and try to obtain as much information as possible:

- Location of the bomb
- Time set for detonation
- Description of the explosive or container
- Any information that may be of use to the gardai:
  - sex of caller
  - estimation of age
  - background noise, music, motors running, traffic
  - quality of the voice, accent, speech impediment

Relay information *immediately* to Security.

**Priority Search Areas** - Gas Farm, Gas Cartridge Area, Gas cylinder store, Compressors, Pump houses, Boilers, E.S.B substations, Receiving and Finished goods and Computer Department.

Policy Prepared By: \_\_\_\_\_ Policy Approved By: \_\_\_\_\_

Env. Protection Officer

Personnel Manager

Signature: \_\_\_\_\_ Managing Director Date : \_\_\_\_\_

**Braun Ireland Limited.**

**ENVIRONMENTAL PROCEDURES MANUAL**

**POLICY NUMBER : ECC06**  
**TITLE: Emergency Preparedness & Response Procedure**

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**APPENDIX D**  
**ROLES AND RESPONSIBILITIES FOR EMERGENCY RESPONSE**

<u>Emergency Response Committee</u>	<u>Emergency Controller - Safety /Environmental Officer</u>	<u>Security</u>	<u>Supervisors</u>
<p>Set site policy on emergency response</p> <ul style="list-style-type: none"> <li>Establish &amp; maintain site Emergency Response capability.</li> <li>Meet quarterly to monitor Emergency Response readiness / effectiveness.</li> <li>Meet following any emergency to review the incident (Safety Officer to convene this meeting)</li> </ul>	<ul style="list-style-type: none"> <li>Assess nature of the emergency.</li> <li>Co-ordinate the appropriate Emergency Response in conjunction with the Emergency Response Team.</li> <li>If not activated automatically assess if evacuation is appropriate.</li> <li>Check unaccounted personnel as appropriate.</li> <li>Organise a building search, if appropriate.</li> <li>Liaise with the Fire Brigade, Gardai or other emergency services</li> <li>Communicate 'all-clear' to personnel when appropriate.</li> <li>Collate a report on the emergency.</li> <li>After an emergency, convene emergency response council meeting to review emergency and agree corrective actions etc. Contact Factory Mutual</li> </ul> <p><u>Emergency Response Team</u></p> <ul style="list-style-type: none"> <li>Determine nature of response required and plan of action in conjunction with Emergency Controller.</li> <li>Confirm that emergency services have been notified.</li> <li>Confirm with Emergency Controller and Security that the building has been cleared.</li> <li>Collate names of missing or injured persons from the Fire Marshals and report same to Emergency Controller.</li> <li>Control operations until arrival of emergency services.</li> </ul>	<ul style="list-style-type: none"> <li>Contact the Emergency Controller and the Emergency Response Team</li> <li>Wait for instructions from the Emergency Controller</li> <li>Activate alarm and/or establish location of emergency</li> <li>Notify the Fire Brigade, Gardai or other emergency service.</li> <li>Carry out contractor/visitor roll call</li> <li>Ensure that no vehicles (other than emergency vehicles) are permitted to enter the site during a site emergency evacuation and gate barrier is open all the time during the emergency.</li> <li>Ensure plant is fully evacuated.</li> <li>Secure rear / sides of building.</li> <li>Ensure alarm systems are returned to pre-emergency status.</li> <li>Monitor return of personnel to building.</li> <li>After emergency, complete a report on all aspects of emergency, report to be submitted to the Emergency Controller for review by Emergency Response Council.</li> </ul>	<ul style="list-style-type: none"> <li>Maintain up to date listing of their respective roll calls at all times.</li> <li>On evacuation, complete roll-call and hand up after completion.</li> <li>Report any unaccounted personnel to the Emergency Controller.</li> <li>Remain available at assembly point and respond to Emergency Controller instructions.</li> <li>Co-ordinate return to work of personnel.</li> <li>Immediately ensure that the listing is replaced following an evacuation.</li> <li>Pass roll call to the Safety Officer with any additional comments / notes on evacuation to ensure improvement in process.</li> </ul>

Policy Prepared By: \_\_\_\_\_

Env. Protection Officer

Signature: \_\_\_\_\_ Managing Director

Policy Approved By: \_\_\_\_\_

Personnel Manager

Date :

**Braun Ireland Limited.**

**ENVIRONMENTAL PROCEDURES MANUAL**

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- |  |  |  |  |
|--|--|--|--|
|  | <ul style="list-style-type: none"><li>• Awaiting instructions from emergency services.</li></ul> |  |  |
|--|--|--|--|

Policy Prepared By: \_\_\_\_\_

Env. Protection Officer

Signature: \_\_\_\_\_ Managing Director

Policy Approved By: \_\_\_\_\_

Personnel Manager

Date :

**EMERGENCY PHONE NUMBERS**

<u>HOSPITALS</u>	<u>NUMBER</u>	<u>DOCTORS</u>	<u>NUMBER</u>
ST LUKES	056 / 51133	DR DOYLE	0503 / 31127
ST DYMPHNAS	0503/ 31108	DR WOODS	0503 / 30828
BEAUMOUNT	01 / 837755	DR MORAN	0503 / 30770
ARDKEEN	051 / 73192		
EYE & EAR	01/ 6785500		
ROTUNDA	01/ 8730700		
AUTEVEN	056 / 22023		
DISTRICT(CARLOW)	0503 / 31277		
MATER	01/ 8301122		

<u>GARDA</u>	<u>NUMBER</u>	<u>ESB</u>	<u>NUMBER</u>
CARLOW	0503 / 31505	CARLOW	0503 / 40031
ATHY	0507 / 31669	KILKENNY	056 / 64744
KILKENNY	056 / 22222	PORTLAOISE	0502 / 21327
PORTLAOISE	0502 / 21105		

<u>FIRE BRIGADE</u>	<u>NUMBER</u>	<u>COUNTY COUNCIL</u>	<u>NUMBER</u>
EMERGENCY	999	CARLOW	0503 / 31126
CARLOW	0503 / 31144		

<u>HEALTH &amp; SAFETY</u>	<u>NUMBER</u>	<u>S.E.H.B.</u>	<u>NUMBER</u>
HEALTH & SAFETY	01 / 6620400	S.E.H.B.	056 / 51702

**ENVIRONMENTAL PROTECTION AGENCY**

E.P.A                      053 / 47120

# ASSEMBLY POINT - IMATRIX

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
HLH/RS62 C.C. = 34/23	ASS PT 1																
COMPACT		ASS PT 2															
P/PE C.C. = 25			ASS PT 3														
PFV/DIFFUSER C.C. = 36				ASS PT 4													
RATID METOFER C.C. = 31					ASS PT 5												
GCC ASSEMBLY C.C. = 40						ASS PT 6											
T-STAT/H-SHAPER C.C. = 49							ASS PT 7										
AS12/400 C.C. = 33								ASS PT 8									
TRICURL/CARTRIDGE C.C. = 32/39									ASS PT 9								
BRUSH AREA C.C. = 54										ASS PT 10							
CENTRAL PACK C.C. = 30											ASS PT 11						
FRONT OFFICES/ ENGINEERING BLOCK												Office Ass Pt					
MOULDING C.C. = 61													Mid Ass Pt				
TOOLROOM C.C. = 89														Toolroom Ass Pt			
SHAVR FOIL C.C. = 55															Shaver Foil Ass Pt		
MAINTENANCE C.C. = 91																Repair Dept	
RECEIVING STORES C.C. = 85																	Supply CG Ass Pt
FINISHED GOODS/QUALITY ASSURANCE /STORES																	Storage
RESTAURANT C.C. = 82																	Restaurant Ass Pt
CONTRACTORS																	Repair Dept

BRAUN IRELAND LIMITED

EMERGENCY EVACUATION

Date: \_\_\_\_\_

Time: \_\_\_\_\_

Reason: \_\_\_\_\_

A. Check List (Internal)

Yes No

Department: Moulding

- 1. Did Employees React Immediately To The Evacuation Alarm?
- 2. Did Employees Leave By The Designated Fire Exits?
- 3. Did Employees Go Directly To Designated Assembly Parts?
- 4. Did Employees Adhere To The Smoking Regulation For The Duration Of The Emergency?

Department: TOOLROOM

- 1. Did Employees React Immediately To The Evacuation Alarm?
- 2. Did Employees Leave By The Designated Fire Exits?
- 3. Did Employees Go Directly To Designated Assembly Parts?
- 4. Did Employees Adhere To The Smoking Regulation For The Duration Of The Emergency?

Department: SHAVEI SOIL

- 1. Did Employees React Immediately To The Evacuation Alarm?
- 2. Did Employees Leave By The Designated Fire Exits?
- 3. Did Employees Go Directly To Designated Assembly Parts?
- 4. Did Employees Adhere To The Smoking Regulation For The Duration Of The Emergency?

Department: MAINTENANCE / UTILITY

- 1. Did Employees React Immediately To The Evacuation Alarm?
- 2. Did Employees Leave By The Designated Fire Exits?
- 3. Did Employees Go Directly To Designated Assembly Parts?
- 4. Did Employees Adhere To The Smoking Regulation For The Duration Of The Emergency?

B. Check List (External)

Yes No

Department: STORIE'S REG. / FIN GOODS

1. Did Each Supervisor Have His Roll Call Register With Them?
2. Was The Register Up To Date?
3. Were Missing Persons Reported (With Immediate Effect)?
4. Did Employees Remain At Their Assembly Point Until Authorised By The Designated Personnel To Return To The Plant?

Department: \_\_\_\_\_

1. Did Each Supervisor Have His Roll Call Register With Them?
2. Was The Register Up To Date?
3. Were Missing Persons Reported (With Immediate Effect)?
4. Did Employees Remain At Their Assembly Point Until Authorised By The Designated Personnel To Return To The Plant?

Department: \_\_\_\_\_

1. Did Each Supervisor Have His Roll Call Register With Them?
2. Was The Register Up To Date?
3. Were Missing Persons Reported (With Immediate Effect)?
4. Did Employees Remain At Their Assembly Point Until Authorised By The Designated Personnel To Return To The Plant?

Department: \_\_\_\_\_

1. Did Each Supervisor Have His Roll Call Register With Them?
2. Was The Register Up To Date?
3. Were Missing Persons Reported (With Immediate Effect)?
4. Did Employees Remain At Their Assembly Point Until Authorised By The Designated Personnel To Return To The Plant?

Signed: \_\_\_\_\_

Position: \_\_\_\_\_

BRAUN IRELAND LIMITED

EMERGENCY EVACUATION

Date: \_\_\_\_\_ Time: \_\_\_\_\_

Reason: \_\_\_\_\_

A. Check List (Internal)

Yes No

Department: Moulding

- 1. Did Employees React Immediately To The Evacuation Alarm?
- 2. Did Employees Leave By The Designated Fire Exits?
- 3. Did Employees Go Directly To Designated Assembly Parts?
- 4. Did Employees Adhere To The Smoking Regulation For The Duration Of The Emergency?

Department: TOOLROOM

- 1. Did Employees React Immediately To The Evacuation Alarm?
- 2. Did Employees Leave By The Designated Fire Exits?
- 3. Did Employees Go Directly To Designated Assembly Parts?
- 4. Did Employees Adhere To The Smoking Regulation For The Duration Of The Emergency?

Department: SHAVEI SOIL

- 1. Did Employees React Immediately To The Evacuation Alarm?
- 2. Did Employees Leave By The Designated Fire Exits?
- 3. Did Employees Go Directly To Designated Assembly Parts?
- 4. Did Employees Adhere To The Smoking Regulation For The Duration Of The Emergency?

Department: MAINTENANCE / UTILITY

- 1. Did Employees React Immediately To The Evacuation Alarm?
- 2. Did Employees Leave By The Designated Fire Exits?
- 3. Did Employees Go Directly To Designated Assembly Parts?
- 4. Did Employees Adhere To The Smoking Regulation For The Duration Of The Emergency?

## RADIATION SAFETY MANUAL FOR RAD/X - 33 X-RAY CABINET

### 1. TECHNICAL DESCRIPTION:

The RAD/X - 33 consists of a lead lined cabinet with a 80KV, 8mA x-ray set mounted at the top with the x-rays beaming downwards. The exposure area is accessed through a hinged door, which is protected by 2 interlock systems. One interlock switch is operated by any movement of the door, the other consists of a pair of switches operated by the bolt on the door. The control panel is located at the bottom of the unit, and incorporates a safety device to prevent the tube current from exceeding 8mA.

### 2. OPERATING PROCEDURE:

1. Plug into the mains and switch on. The "Mains" light will come on.
2. Shut and fasten the cabinet door. The door handle must be turned through 180 degrees to fasten securely and operate the microswitches. If the door is not properly fastened x-rays will not come on.
3. Switch the key switch to "ON". The airblower will start up and so will the oil circulation pump inside the x-ray head. Both are quiet in operation. You can check the airblower is on by putting your hand near the air outlet grille on the top of the cabinet. The green light "X-ray's OFF" also comes on providing the door is shut and fastened.
4. Turn the 4 position penetration switch (kV) to position 1.
5. Turn the intensity potentiometer (mA control knob) fully anti-clockwise.
6. Press the red button "X-ray's ON" - the green panel light goes off and the red light comes on.
7. Turn the intensity potentiometer until the needle reads 6. The screen should now glow.
8. Switch off x-rays by pressing the green "OFF" button. Opening the cabinet door also switches x-rays off.

### 3. USING THE FLUOROSCOPE:

1. Open the cabinet door and insert a specimen to view.
2. Shut and fasten the door and press the red button "X-ray's ON". You should now have an image visible when you look through the visor.
3. If the image is too dim, turn the penetration switch to position 2, 3 or 4.
4. More brilliance can be obtained by turning the intensity potentiometer clockwise until the needle is a 8mA. This is the proper maximum setting.
5. If you turn this potentiometer too far the x-rays will cut out and the green light will come on. In that case, turn the intensity potentiometer anti-clockwise and then press the red "ON" button. The red light will light up again and the screen will glow.
6. When you have inspected the specimen, press the green "OFF" button. The green light will light up and the x-rays are off.
7. Open the cabinet door and change the specimen.
8. If you open the cabinet door without switching x-rays off, microswitches and a limit switch operated by the unfastening of the door will cut x-rays off.
9. If you then shut the door, in order to get x-rays on again, you have to press the red "ON" button again.

4. SAFETY PROCEDURES:

1. A Dosimeter must be worn on the chest while using the unit. The Dosimeters are held and issued by the Radiation Protection Officer. They are worn for one month and then sent to R.P.I.I. for analysis. The results are returned and filed in the Q.A. Test Lab.
2. The Bristol Bleeper should be placed close to the cabinet when it is in operation. If more than one bleep per 8 seconds is heard the x-rays must be switched off immediately and the Radiation Protection Officer notified. The bleeper should be checked once per quarter by placing it into the cabinet and setting the controls to maximum. A continuous bleep should be heard.
3. The cabinet should be checked quarterly with the fag radiation survey meter, with the controls set to maximum.
4. The operation of the microswitches should be checked before use of the cabinet and also during quarterly safety checks.
5. The Bristol Bleeper and the fag survey meter should be calibrated once per year by the R.P.I.I.
6. Records of Dosimeters, quarterly checks and yearly calibration of meters should be held by the R.P.O. in the Q.A. Test Lab.

Note: The dose rate must not exceed 0.50 uSv/h.

NOTES:

1. Always switch off x-rays when you have finished viewing and return the penetration and intensity controls to zero.
2. Leave the key switch to "ON" for 10 minutes, so that the blower goes on cooling down the x-ray set, then switch to "OFF".
3. Make sure the keys are in safe place but are accessible to authorised personnel. Better to leave them in the lock than to go off with them in your pocket.
4. Do not use the fluoroscope with the intensity potentiometer set at more than 8mA. If you do, the life of the x-ray tube will be shortened.
5. Dust the interior of the cabinet regularly.
6. Keep the air grilles clean.
7. If the mirror needs dusting, lift out the fluoroscopic screen and dust its surface very gently using top quality cotton wool.
8. Never operate with a faulty mains plug or socket.
9. Keep the lead glass viewing window clean using a soft cloth or window leather.
10. Never attempt to move the unit alone. Moving the unit is a four man job.
11. If the exterior of the cabinet should get damaged or the lead glass viewing window be cracked, do not use the unit until it has been monitored, and any radiation leak repaired to surface safe standards.
12. Inside the cabinet is a metal plate. When you are moving the unit take the visor off and put the metal plate over the lead glass window. Stow the visor inside the cabinet where the metal plate is normally housed.

5. AUTHORISED PERSONNEL: .

Radiation Protection Officer .. .. . Mr. M. Owens

Trained Operators .. .. . Mr. M. Owens  
Mr. M. O'Hanlon  
Mr. P. Rice

REF.

1. SI No. 43 of 1991 "European Communities" (Ionising Radiation) regulations 1991.
2. SI No. 151 of 1993 "Radiological Protection Act", 1991 (General Controls of Radioactive Substances, Nuclear Devices and Irradiating Apparatus) Order, 1993.
3. If RAD/X - 33 m/c is to be repaired, sold, disposed of or scrapped NOTIFY: R.P.I.I. (Phone 01-2697766) and R.P.O. Michael Owens.

Signed: Michael Owens  
Radiation Protection Officer

Date: 27.8.96

Signed: M. P. O'Hanlon  
Company Nurse

Date: 27.8.96

Signed: Jeanie Archbold  
Plant Safety Officer

Date: 27.8.96



## **ATTACHMENT NO. 22**

The following information specifies what activities should be undertaken in the event of a cessation of activities.

The nature of the plant and the operations on site are such that the potential for adverse environmental impacts resulting from the cessation of the activity or parts thereof are minimal.

In the event of the activity ceasing operations, the following will apply:

Stocks of raw materials, and spare parts will be reduced to a minimum prior to decommissioning. Remaining materials will be disposed of as follows:

a) Inert materials such as packaging, polymers and metals will be sold at auction.

b) The following constitutes the bulk of chemicals used on site:

- ROCKET WD, 40 SPRAY
- UNISOLVE SPRAY
- HAKU CLEANING FLUID 1025/700
- METFIN AK-16 ALUMINIUM CLEANER
- FEP.CLEANER
- METHYLATED SPIRITS
- ESKANOL No..208
- METHANOL
- BALLISTOL LUBRICANT WAFFENOEL
- PURGEX 2000 PURGING MATERIAL
- HMP SOLDER PAR 1KG
- SOLDEX 185-15 FLUX
- HYDROCHLORIC ACID
- P.V.A.LACQUER 30 SECS.
- INCO NICKEL PELLETS 50 KG BOX
- SODIUM DISULFITE NA<sub>2</sub>S<sub>2</sub>O<sub>5</sub>
- PLATINKONZENTRAT 50G/L
- SODIUM CHLORIDE NA CL GRN SALT
- NITRIC ACID
- NICKLE-SULFAMAT 180 G/L
- BORIC ACID H<sub>3</sub>B<sub>3</sub>O<sub>3</sub>
- CAUSTIC SODA LIQUID 30%
- AMMONIA 31% ISSUE IN 5 LT LOTS
- ISO-PROPANOL -2-01
- CHROMIUM TRIOXIDE
- SURGICAL SPIRIT
- T.AMPO THINNER VD NO. 120101
- TAMPO THINNERS VDS 380
- TAMPOPRINT INK HS-3740 RED.,
- TAMPO THINNER VEIL 1015

These will be returned to the manufacturers or sold at auction.

- c) Chemicals such as inks, solvents, etc. beyond their approved shelf life will be disposed of by a licenced toxic waste disposal contractor.
- d) Other raw materials, such as oils, will be removed from the plant for re-use.
- e) Spare parts will be returned to manufacturers or sold at auction.
- f) Plant and machinery will be either left on the site in running order or will be removed from the site to be sold or to be recycled/scrapped.
- g) Where material is to be disposed of as waste, this disposal will be undertaken by licenced contractors approved by the Environmental Protection Agency.



## **ATTACHMENT NO. 23**

The main duties and responsibilities of the Environment, Security and Safety Officer relating to the environment are as follows:

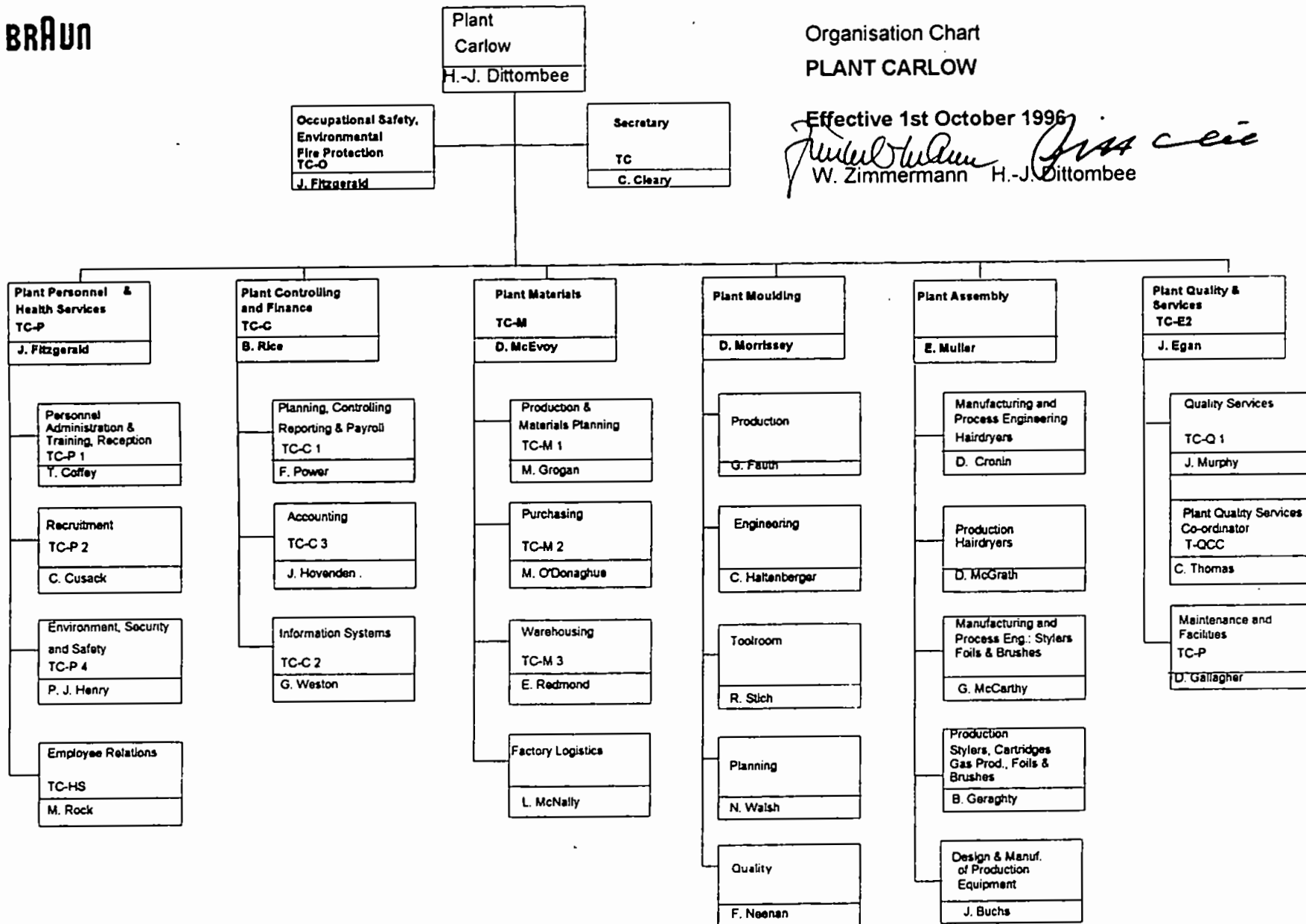
- (i) Establishing and documenting the environmental standards and criteria to be applied for each product and process. These will be clearly documented in the system and will include details of primary inspection points and control processes in the plant.
- (ii) Liaising with regulatory authorities such as EPA.
- (iii) Ensuring that each departments' responsibilities for environmental probity is suitably documented.
- (iv) Maintaining monitoring programmes for gaseous and effluent emissions and noise.
- (v) Ensuring that adequate records are maintained for demonstration of conformance to environmental requirements.
- (vi) Conducting internal audits of the Environmental Management System to ensure continued adherence to documented requirements.
- (vii) Monitoring non-conformances within the environmental system.
- (viii) Ensuring that adequate resources are available to maintain the environmental system at its required level.
- (ix) Dealing with external relations in matters relating to the environment.
- (x) Maintaining a library of environmental literature and documentation.
- (xi) Assisting in internal dissemination of environmental information.

**BRAUN**

Organisation Chart  
**PLANT CARLOW**

Effective 1st October 1996

*W. Zimmermann* *H.-J. Dittombée*  
W. Zimmermann H.-J. Dittombée



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