FILE

COVENTRY CITY COUNCIL

ENVIRONMENTAL PROTECTION ACT 1990, SECTION ~~8(8)~~ 12

NOTICE OF REVOCATION

48

To: ***Marvic EMPE Ltd***
Bodmin Road
Coventry
CV2 5DY

Coventry City Council ("the Council"), in exercise of the powers conferred on it by section ~~8(8)~~, 12 of the Environmental Protection Act ("the Act"), hereby gives you notice as follows:

1. The authorisation reference **048 for the coating of veneered wood at Unit 3 Marvic EMPE Ltd, Bodmin Road, Coventry** is hereby revoked with effect from **11th October 1995.**

Signed on behalf of Coventry City Council

[redacted]

.....

City Environment Officer
The officer appointed for that purpose

Date: 12 SEP 1995

coa/revoke048

epa/st/authrovoke

EH/EP/DRP
D R Packard
831856
5th September 1995

M E Wilson
Marvic EMPE Ltd
Bodmin Road
Coventry
CV2 5DY

Dear Mr Wilson

Environmental Protection Act 1990
Authorisation No. 048

Further to your letter of 10th August 1995 I confirm your request to rescind your authorisation No.048 with effect from 9th August 1995.

Under the terms of the Environmental Protection Act 1990 the Authorisation remains in force until it is formally revoked by the enforcing authority.

Please find attached therefore a notice revoking authorisation No.048. The authority is obliged by law to give no less than 28 days notice of the date of revocation.

As the authorisation is to be revoked part way through the financial year for which the annual subsistence fee has been paid you are entitled to a refund based on the number of full months remaining in the financial year. As notification of the request for revocation was received in August I have calculated that you are entitled to a refund of $^{7}/_{12}$ of the annual fee of £605 totalling £352.90.

However, your company is obliged to pay the part year contribution for the annual subsistence of authorisation No.072 for the Siskin Drive plant, issued to the company on 18th July 1995. Based on the number of full months remaining in the financial year I have calculated the company is due to pay $^{8}/_{12}$ of the annual subsistence fee of £605 totalling £403.33.

For ease of payment I suggest the company submit a cheque for the balance of £50.43 payable to Coventry City Council. An invoice for this amount can be despatched if required.

I trust these arrangements are satisfactory but should you wish to discuss them further please do not hesitate to contact me.

Yours sincerely

David R Packard
Principal Environmental Health Officer

tu/ic05091drp

MARVIC-EMPE LTD
Registered in England Reg. No. 1905434
BODMIN ROAD, COVENTRY, CV2 5DY
TEL: 01203 611180 FAX: 01203 616909
BSI REGISTERED FIRM
BSI Reg. No: FM 25514

10 August 1995

City Environmental Officer
Coventry City Council
Broadgate House
Broadgate
Coventry
CV1 1NH

For the attention of Mr David Packard.

Dear Mr Packard

Environmental Protection Act 1990
Authorisation No. 048.

I refer to our telephone conversation regarding the above Authorisation for our Unit 3.

As I explained the factory is now empty for completion of sale on 21 August. We wish therefore to rescind the Authorisation with effect from 9 August 1995.

I trust that you will make the necessary adjustments to your records and I look forward to receiving any refund that is due to us.

Yours sincerely

[redacted]

M E Wilson
Director

1. DESCRIPTION OF PROCESS

1.1 This authorisation is for the preparation and coating of veneer compounds, as described in the Environmental Protection (Prescribed Processes and Substances) Regulations 1991, SI472, Section 6.5 Part B paragraph (b) within the process boundary outlined in red on the attached Plan numbered 1 and specifically relates to the processes outlined below.

1.2 The delivery and storage of Bleaching agents, lacquers, thinners, sealers, and cleaning solvents in the General store as shown in the Plan numbered 1.

1.3 The staining of the components with a water and oil based stain in the staining/sealing spraybooth employing hand spraying techniques.

1.4 The sealing of the components with a sealer in the staining/ sealer spraybooth employing hand spraying techniques.

1.5 The repairing of faults by hand bush and air brush touching in.

1.6 The spraying of 4 coats of a polyester coating wet on wet to parts employing a airless spray gun, followed by air curing.

1.7 The sanding by hand or belt sander of the components employing suitable arrestment equipment.

1.8 Polishing by autopolishers and column polishers ready for final assembly, finishing including where appropriate the application of blotter inspection and packing.

1.9 Any change to the above descriptions must not take place without the prior consent from this Authority.

2. EMISSION LIMITS AND CONTROLS

2.1 All emissions to air shall be free from offensive odour outside the process boundary, as perceived by the local Authority Inspector.

2.2 There shall be no emissions of particulate matter noticeable beyond the process boundary.

2.3 All pollution concentrations shall be expressed at standard conditions of 273K and 101.2Kpa without correction for water vapour content.

2.4 The introduction of dilution air to achieve the emission concentration limits in this authorisation is not permitted. Exhaust flow rates should be consistent with the efficient capture of emissions.

3. MONITORING SAMPLING AND MEASUREMENT OF EMISSIONS

3.1 A visual assessment of particulate emissions from the spray booths shall be carried out at least once a day while spraying operations are in progress. This shall be carried out by making an assessment of paint deposits beyond the process boundary.

3.2 An olfactory assessment of emissions of volatile organic compounds shall be carried out at least once a day from the position marked x on the Plan numbered 1.

3.3 The results of monitoring to comply with 3.1 and 3.2 shall be recorded in a log book. This shall include the date, time, wind strength and direction, the name of the observer and an assessment of the emissions. This log book shall be retained, on site, for a minimum of four years.

3.4 Any adverse results from the monitoring required in 3.1 and 3.2 shall be followed up immediately by the investigation of the cause of the emission and any corrective action taken, with this also being recorded in the log book.

3.5 A detailed record shall be kept of all organic solvents used in the prescribed processes. This shall include cleaning solvent usage, diluent solvent usage and solvents contained within coatings used. This inventory shall be forwarded to the local Authority at least once every six months and shall include a determination for the total organic solvent usage for that period.

4. MATERIALS HANDLING

4.1 The cleaning of spray guns and other equipment shall only be carried out in the water wash spraybooths.

4.2 The mixing of coatings shall only be carried out in the coating mixing area.

4.3 Spray gun testing, following cleaning shall only be carried out in the spray booths. This shall only be undertaken while the spray booths are in proper working order.

4.4 All full, partially full and nominally empty containers which hold or have held materials which contain organic solvents must be stored in the compound area by unit 3 or temporarily in the hold area of unit 5 and have lidded containers.

5. CHIMNEYS, VENTS AND PROCESS EXHAUSTS

5.1 Emissions from the staining and sealing of parts shall be emitted via the
water wash spray booth.

5.2 Emissions from the airless spraying of polyester coating shall only be emitted via the water wash spray booth.

5.3 Emissions from the sanding of parts shall be via dust extraction vented to atmosphere via dust arrestment equipment.

6. GENERAL OPERATIONS

6.1 Any mechanical malfunction or spillage of material shall be attended to and remedied as soon as possible. Any incident likely to give rise to atmospheric emissions shall be noted in detail in the process log book as described in 3.3.

6.2 Any incidents likely to give rise to emissions which may have an impact on neighbouring residents shall be reported immediately to this Authority.

6.3 A copy of this authorisation shall be displayed so it can be conveniently read by persons having duties which are or maybe affected by this authorisation.

6.4 The operator shall supply, to this Authority, on demand and without charge, a copy of all or part of the monitoring records kept in accordance with this authorisation.

7. UPGRADING OF THE PROCESS

7.1 No later than six months from the date of this authorisation, a programme for upgrading the process shall be submitted to this Authority. The upgrading programme shall have regard to the Secretary of State's Guidance:

Wood Coating Processes PG 6/33 (92).

7.2 Any proposed methods for non-continuous emission sampling for the purposes of complying with the authorisation must be agreed in writing with this Authority.

SUPPLEMENTARY NOTES

THESE NOTES ARE NOT PART OF THE AUTHORISATION

1. Your attention is drawn to your obligation under Section 7(2) of the Environmental Protection Act 1990 to ensure that the best available techniques, not entailing excessive cost (BATNEEC) for:

   A) preventing the release of prescribed substances into the air or where that is not practicable by such means, for reducing the release into the air of such substances to the minimum and for rendering harmless any such substances that are so released

   and

   B) for rendering harmless any other substances which might cause harm if released into the air.

2. The authority for contact purposes should be taken to mean the head of the Environmental Protection Section, Tel 831810 during office hours, 832222 outside office hours.

3. You will note that condition 7.1 of the authorisation requires you to submit a schedule of works for approval by this Authority, within six months of the issue date. This schedule must describe the procedures and improvements that you intend to implement in order to meet the requirements of the relevant guidance note referenced within the authorisation. From observations and inspections of the process I would recommend that the following topics are specifically included.

   a) The results of non-continuous emission sampling of emissions from the Spraybooths to indicate what improvements (if any) are required to ensure compliance with the emission limits stated in the Process Guidance Note.

   b) The proposed frequency of further non-continuous emission sampling, taking into account the results of the initial monitoring exercise.

   c) The adoption of electrostatic or other spraying techniques.

   d) The increase in height of the final discharge points from the Spraybooths and other exhausts according to the requirements of the Process Guidance Note. This should include a calculation of the proposed ground level pollutant concentration around the prescribed process.

   e) An initial indication of the intended options for emissions of volatile organic compounds to be pursued according to Clause 19 of the Process Guidance Note.

Environmental Protection Act 1990

Application For Authorisation To Carry Out A Prescribed Process At Unit 3

Contents

ENVIRONMENTAL PROTECTION ACT 1990, Part I
The Environmental Protection (Prescribed Processes and Substances) Regulations 1991
The Environmental Protection (Applications, Appeals and Registers) Regulations 1991

See Notes on pages 3 and 4 before completing this form.

APPLICATION FOR AUTHORISATION to carry out prescribed process under section 6 of the Environmental Protection Act 1990

To(1) Coventry City Council

1 Name and address of applicant (2): *(in the case of a registered Company, name, number and registered office)*

Marvic-Empe Ltd.
Bodmin Road
Coventry CV2 5DY

Reg. No. 1905434

Tel.No. 0203 611180

2 Name and address of premises where process is or will be carried on *(not applicable to mobile processes)*

Unit 3 of above premises

Tel.No.

3 In the case of mobile plant, name and address of the principal place of business:

N/A

Tel.No.

4 Address for correspondence relating to the application

As above

Contact name Mr M Wilson

Tel.No.

5 List of maps or plans enclosed with the application showing the location of the premises where the process is or will be carried on.

TITLE	Reference No.
Location Plan Scale 1 : 2500	
Site Layout	

Where the process is or will be carried on on only part of the premises whose address is given at 2 above, describe which part of the premises and list the plan(s) which identif(y)(ies) this part or these parts.

6 Describe the prescribed process (3) *(use a continuation sheet if necessary)*

See attached sheets

7 When was the plant first installed? 1989

Please also give the details and dates of any major modifications or improvements which have been carried out.

Additional spraybooth added in 1991 and height of chimneys extended to ridge height and cowls removed

8 List the prescribed substances (and any other substances which might cause harm) used in connection with or which might be released into the air resulting from the prescribed process.(4)

See attached list and safety data sheets

9 Describe the techniques to be used for preventing releases into the air of substances listed above, for reducing such substances to a minimum and for rendering harmless any such substances that are released.(5) *(use a continuation sheet if necessary and attach drawings of plant and equipment, where appropriate)*

See attached response

10 Give details of the source, nature and amount of current and/or anticipated emissions to air from the process. *(use a continuation sheet if necessary)*

See attached response

11 Give the assessment of the likely environmental consequences of the emissions to air. *(use a continuation sheet if necessary)*

The methods used in the process minimise all emissions to atmosphere and therefore there are no adverse environmental consequences due to the emissions

12 What monitoring is or will be carried out of emissions to air?

Currently taking into account the level of solvents used and the calculated emissionlevels it is not considered necessary to implement a monitoring programme. Should the situation change an appropriate monitoring scheme will be established

13 What monitoring will be carried out of the environmental consequences of emissions to air?

Not necessary at present, see response to Question 12

---

14 How will you monitor the techniques described in the answer to question 9?

See response to Question 12

---

15 State how you will ensure that the objectives listed in section 7(2) of the Environmental Protection Act 1990 will be achieved and how the condition implied by section 7(4) of the Act will be complied with.(6)

See attached response

---

16 If you have any proposals for improvements which might prevent or reduce emissions, please give details. *(use a continuation sheet if necessary)*

None deemed necessary at present

---

17 Give any other additional information which you would like to be taken into account by the local authority in considering your application.

Official guidance on the best available techniques not entailing excessive cost is published by the Department of the Environment in the process guidance notes for specific industries, copies of which are available from HMSO or can be ordered from certain bookshops. YOU ARE ADVISED TO CONSULT THE PROCESS GUIDANCE NOTE FOR YOUR INDUSTRY BEFORE COMPLETING THIS FORM. YOU MIGHT ALSO FIND IT USEFUL TO READ THE GENERAL GUIDANCE NOTE GG3.(7)

If you require any further information or assistance in completing this form, please contact your local Council at the address shown below.

Please complete the final section of this form on page 4 overleaf.

I enclose the fee of £ 900 — (8).
Cheques should be made payable to:

I HEREBY CERTIFY that all the information contained in this application is correct to the best of my knowledge and belief [and that I am authorised to sign on behalf of the Company].

Signature .....[redacted].....

Official title ..... DIRECTOR .....

Date ..... 21st September 1992 .....

Please complete and return this form together with FOUR copies of each of the plans listed in the reply to question 5 and the required fee to:

Tel.No.

NOTES

1 This is the local authority in whose area the prescribed process will be carried on, or in the case of mobile plant, the local authority in whose area the applicant has his principal place of business.

2 Please state the person/Company who is operating or will operate the process, **not** an agent who may be completing the application on the operator's behalf.

3 A list of prescribed processes for local authority control is given in **Appendix A**, which accompanies this form. Further advice can be obtained if necessary from the local authority.

4 A list of prescribed substances for release into the air is given in **Appendix B**, which accompanies this form. "Harm" includes offence to the senses or harm to property.

5 Please list fully all pollution control measures for all stages of the process, from the receipt of raw materials to the despatch of wastes and finished products, including, for example, the height and location of any stacks or vents; the abatement technology; process control and operational data; arrangements for maintenance; the extent of supervision; the relevant qualifications and experience of the workforce; staff training; and contingency plans for breakdowns and emergencies.

All calculations should be shown, particularly for the chimney height(s). Justification for the selection of a particular abatement option should be given.

6 Section 7(2) and 7(4) of the Environmental Protection Act 1990 requires every operator of a prescribed process to use the best available techniques not entailing excessive cost for -

(i) preventing the release of prescribed substances, or where that is not practicable, for reducing the release of such substances to a minimum and rendering them harmless; and

(ii) rendering harmless any other substances which might be released.

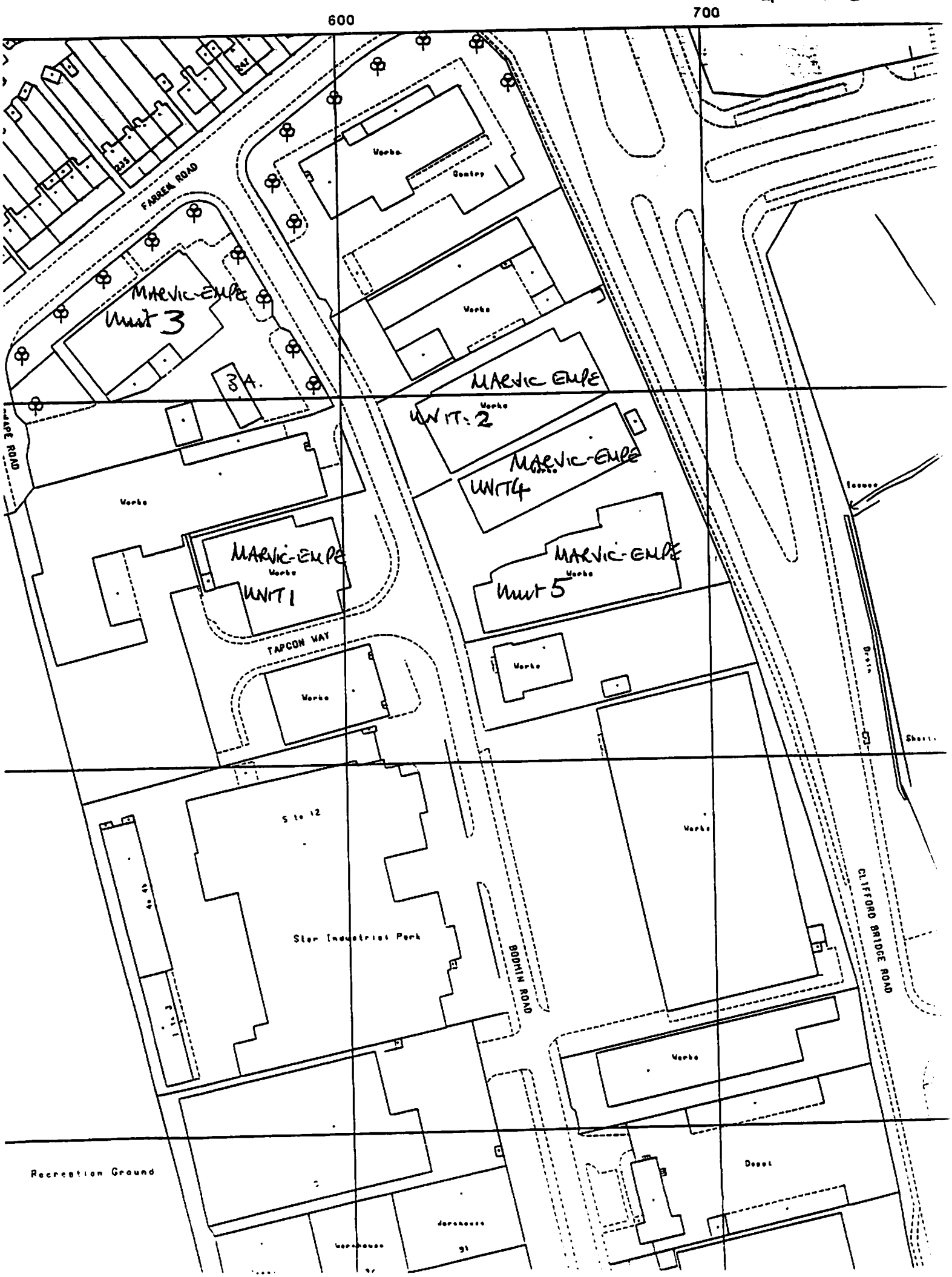
7 Much of the information contained in the application form will be included in a register which the local authority is required to keep for public examination in accordance with section 20 of the Environmental Protection Act 1990 and the Environmental Protection (Applications, Appeals and Registers) Regulations 1991. Sections 21 and 22 provide for certain information (affecting national security, or commercial confidentiality) to be excluded from the register. Such information should be clearly identified in this application form.

8 £800 in the case of initial applications.
£530 in the case of applications for a substantial change.
£530 in the case of processes transferred from previous HMIP control.
£100 for small waste oil burners.

MARVIC-EMPE LTD SITE LOCATION PLAN

WEST MIDLANDS COUNTY

SCALE 1:2500



Unit 3

Process A - Outline Description of Process Using High Gloss U.V. Acrylic Lacquer

1. Receipt of sanded parts.
2. Sealing of parts by hand-wiping application of sealer and spray application of blotter for edges.
3. Repair of parts with filler, sanding and reseal by hand.
4. Spray parts with acrylic gloss (1st coat), using automatic sprayline. Curing by U.V.
5. Sand (Flat) parts by hand and by autosander.
6. Apply fixings to rear of parts.
7. Repair any faults with paint (touching-in).
8. Spray parts with acrylic gloss (2nd coat). Curing by U.V
9. De-nibbing (sanding localised imperfections).
10. Polishing.
11. Packing and despatch to customer.

Process B - Outline Description of Process Using High Gloss Polyester

1. Receipt of sanded parts.
2. Bleaching of parts by spray application.
3. Sealing of parts by spray application.
4. Repair any faults with paint (hand application) - touching-in.
5. Spraying of parts with polyester. Four coats 'wet on wet' followed by air curing.
6. Sanding of parts (flatting) by hand and belt sanders.
7. Polishing of parts by column polishers.
8. Inspection and packing - dispatch to customer.

Related Information

The application is for an existing process (Process A) as defined by the Regulations in that it is currently carried out and has been carried out for approximately 4 years.

Process B is also an existing process as defined by the Regulations in that it has been carried out in low volume for over one year.

1. Materials

   Lacquers used in the process are stored in locked outdoor steel cabinets in accordance with the HSE publication 'The Storage of Flammable Liquids in Containers'. Up to 100 litres may be stored inside the premises in similar steel cabinets for day-to-day usage.

2. Waste Materials

   Overspray from lacquer and bleach application is collected in the water bath associated with the spraybooths. In the case of lacquer it is collected using a foaming agent.

   The waste is removed and stored in sealed containers pending removal by an approved waste contractor under the requirements of S17 of the Control of Pollution Act.

3. Maintenance of Plant

   Regular maintenance and housekeeping is carried out in accordance with manufacturers recommendations.

4. Supervision/Operator Skills

   All operators are fully experienced and trained in their particular work activity. Each section is supervised by a team leader to ensure compliance with in-house procedures and work practices.

5. Manufacturing Method

   The manufacturing method is a batch process co-ordinated to meet delivery schedules supplied by our customers.

6. Cleaning of Trays

   The annex to unit 3 is used, in part, for cleaning the trays for carrying the parts through the lacquering process. The trays become covered in the lacquer and as the lacquer cures the build-up becomes excessive. After several passes through the process it is necessary to remove this build-up.

   The hardened lacquer is removed by dipping the trays into methylene chloride. The methylene chloride is stored in a dip tank with a lid.

List of Materials used in the Process

- Response to Question 8

Process A

1. Brown Blotter	Ref. 6412
2. Polyurethane Basecoat	54.044.3645
3. Polyurethane Curing Agent	54.043.3460
4. Dual Thinners	65.002.2222
5. U.V. Acrylic Lacquer	82.090.7750
6. Cleaning Solvent	Ref. 582
7. Walnut stain for touching-in	Ref. 1789

Safety Data Sheets enclosed

Process B

1. UPE Filler	10.802.0.8011
2. Hardener	58.302.0.0000
3. Stain	L 6801297
4. Puridur Sealer	30513.0.0000
5. Puridur Sealer	38020.0.0000
6. UPE Lacquer	52 034.0.0000
7. UPE Accelerator	59 045.0.0000
8. UPE Ventilation	59 022.0.0000
9. UPE Thinners	59 999.0.0000
10. UPE Hardener	58.012.0.0000
11. Hydrogen Peroxide	

Safety Data Sheets enclosed

Annex

12. Methylene Chloride	UN No. 1593

Response To Question 9

A. Acrylic Process

Blotter for edge sealing is applied using a water wash spray booth and hand spray gun. The ducting is 600mm diameter and extends to the height of the ridge. The extraction rate is 115 m3/min.

The sealing process using polyurethane basecoat and curing agent is carried out by hand-wiping application (fadding) to minimise the emission of particles to atmosphere. Ventilation is provided by a ducted extraction system.

The high gloss U.V. lacquer is applied using a purpose made automatic sprayline. Parts are applied onto a moving conveyor and pass beneath two pairs of spray guns (only one pair used at a time). The overspray is collected in a water bath. Air is forced through the water curtain at the bottom of the plate and the removal of particles is achieved. Baffles and filters further remove water droplets. The cleaned air is discharged vertically through 510mm ducting which extends to approximately the height of the ridge. The extraction rate is 115 m3/min.

The parts pass between U.V. lights for heat and curing. Emissions are removed vertically by two 175 mm ducts which extend to approximately 600mm above the ridge height.

B. Polyester Process

Parts are bleached by spray application of the hydrogen peroxide using the water wash spray booth and hand spray gun.

Sealing and polyester application is carried out using a Binks 'no pump' water bath spray booth and HVLP spray gun.

The ducting from the spraybooths extends to the ridge height. The 'no pump' booth used for polyester application has 450mm ducting and extends to approximately the ridge height. The extration rate is 115 m3/min.

The room used for polyester spraying is provided with air lock doors to minimise any low level emissions. The use of the above equipment is considered the most appropriate for minimising emissions to atmosphere.

In the annex to unit 3, the dip tank containing methylene chloride is maintained with a fitted lid which is only removed to insert and remove trays. The only emissions therefore are during the opening/closing process and from the trays when they are removed from the dip-tank.

Response To Question 10

The enclosed drawing shows the position of the emission points.

The estimates of maximum and 15 minute mean emissions are calculated as follows:

Calculations are based on the following formulae:

Emissions of solids (mg/m3)

$$= \frac{\text{Flow rate} \times \text{solid content} \times \text{overspray loss} \times \text{spray booth} \times SG \times 10^6}{\text{Extraction Rate}}$$

Emission of solvents (mg/m3)

$$= \frac{\text{Flow rate} \times \text{solvent content} \times SG \times 10^6}{\text{Extraction Rate}}$$

1. Blotter

Usage		=	12.5 l/wk
Max flow rate when spraying		=	0.1 l/min
Mean 15mm flow rate		=	0.08 l/15 min
Solid content	: 33%		SG 1.1
Solvent content	: 67%		SG 0.9
Spraybooth loss	: 5%		
Extraction rate	: 115 m3/min		

$$\text{Solid emissions (max)} = \frac{0.1 \times 0.33 \times 0.35 \times 0.05 \times 1.1 \times 10^6}{115}$$

$$= \underline{5.5 \text{ mg/m3}}$$

$$\text{15 Min Mean} = \frac{0.08 \times 0.33 \times 0.35 \times 0.05 \times 1.1 \times 10^6}{115 \times 15}$$

$$= \underline{0.29 \text{ mg/m3}}$$

$$\text{Solvent emission (max)} = \frac{0.1 \times 0.67 \times 0.9 \times 10^6}{115}$$

$$= \underline{524 \text{ mg/m3}}$$

$$\text{15 Min Mean} = \frac{0.08 \times 0.67 \times 0.9 \times 10^6}{115 \times 15}$$

$$= \underline{28 \text{ mg/m3}}$$

2. U.V. Acrylic Lacquer

Usage = 200l/wk
Max flow rate when spraying = 0.2 l/min
Mean 15 min flow rate = 1.25 l/15min
Solid content : 93.1% SG 1.1
Solvent content : 6.9% SG 0.9
Extraction rate : 115 m3/min
Booth losses : 10%
Overspray : 50%

$$\text{Solid emissions (max)} = \frac{0.2 \times 0.931 \times 0.5 \times 0.1 \times 1.1 \times 10^6}{115}$$

= 89 mg/m3

$$\text{15 min mean} = \frac{1.25 \times 0.931 \times 0.5 \times 0.1 \times 1.1 \times 10^6}{115 \times 15}$$

= 37 mg/m3

$$\text{Solvent emissions (max)} = \frac{0.2 \times 0.069 \times 0.9 \times 10^6}{115}$$

= 108 mg/m3

$$\text{15 min mean} = \frac{1.25 \times 0.069 \times 0.9 \times 10^6}{115 \times 15}$$

= 45 mg/m3

3. Polyester Mix (see details in application for units 4/5)

Usage		=	40 l/wk
Max flow rate when spraying		=	0.45 l/min
Mean 15 min flow rate		=	0.25 l/15min
Solid content	: 63%		SG 1.2
Solvent content	: 37%		SG 0.9
Booth losses	: 5%		
Overspray	: 35%		
Extraction rate	: 115 m3/min		

Solvent emissions:

$$\text{max} = \frac{0.45 \times 0.63 \times 0.35 \times 0.05 \times 10^{6} \times 1.2}{115}$$

$$= \underline{51.8 \text{ mg/m3}}$$

$$\text{15 min mean} = \frac{0.25 \times 0.63 \times 0.35 \times 0.05 \times 10^{6} \times 1.2}{115 \times 15}$$

$$= \underline{1.9 \text{ mg/m3}}$$

Solvent emissions:

$$\text{max} = \frac{0.45 \times 0.37 \times 0.9 \times 10^{6}}{115}$$

$$= \underline{1303 \text{ mg/m3}}$$

$$\text{15 min mean} = \frac{0.25 \times 0.37 \times 0.9 \times 10^{6}}{115 \times 15}$$

$$= \underline{48.3 \text{ mg/m3}}$$

4. Sealer/Hardener

Usage		=	5 l/wk
Max flow rate when spraying		=	0.45 l/min
Mean 15 min flow rate		=	0.03 l/15min
Solid content	: 24%		SG 1.2
Solvent content	: 76%		SG 0.9
Booth losses	: 5%		
Overspray	: 35%		
Extraction rate	: 115 m3/min		

Solid emissions:

$$\text{max} = \frac{0.45 \times 0.24 \times 0.35 \times 0.05 \times 1.2 \times 10^6}{115}$$

$$= \underline{19.7 \text{ mg/m3}}$$

$$\text{15 min mean} = \frac{0.03 \times 0.24 \times 0.35 \times 0.05 \times 1.2 \times 10^6}{115 \times 15}$$

$$\underline{< 1 \text{ mg/m3}}$$

Solvent emissions:

$$\text{max} = \frac{0.45 \times 0.76 \times 0.9 \times 10^6}{115}$$

$$= \underline{2677 \text{ mg/m3}}$$

$$\text{15 min mean} = \frac{0.03 \times 0.76 \times 0.9 \times 10^6}{115 \times 15}$$

$$= \underline{11.9 \text{ mg/m3}}$$

5. Methylene Chloride (Dip Tank)

The usage of methylene chloride is 50 l/week. This is the amount that is used to replenish the dip tank and so represents the mass emission from the tank due to evaporaton.

Response To Question 15

We will have continued liaison with manufacturers of lacquer to ensure that efforts are made to develop products that will meet the requirements of the Environmental Protection Act 1990. In addition we will continue to use equipment and plant that minimises emissions to atmosphere but not entailing excessive cost.

Our products have to meet stringent specifications laid down by the automotive manufacturers. These requirements can only be met by solvent-based lacquering systems at the present time. In many cases our customers specify the actual material to be used to meet their requirements.