

Your Reference :
Reference : **EH/EP/MHK**
Please ask for : **M Hardy-King**
Dialling No : **831807**
Date : **26th August 1993**



**HOUSING AND ENVIRONMENTAL
SERVICES DIRECTORATE**

Director Howard T. Farrand
Providing Housing, Environmental and
Client Agency Services

Michael Green
City Environment Officer
Broadgate House
Broadgate
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Telephone : 0203 83 3333
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THE ENVIRONMENTAL PROTECTION ACT 1990

**The Environmental Protection (Prescribed Processes and Substances)
Regulations 1991, SI 472.**

**The Environmental Protection (Application, Appeals and Registers)
Regulations 1991, SI 507.**

**Authorisation No: 061
Application Received: 12th October 1992**

Notice is hereby given that under the Environmental Protection Act
1990 Coventry City Council (hereafter called the Authority) gives
authorisation to:

**Premier Exhaust Systems Ltd
Beresford Avenue
Coventry
CV6 5LZ**

Register in England No:

For the painting of the rear silencer and tail pipe of exhaust
systems as described on Page 2 at:

**Premier Exhaust Systems Ltd
Beresford Avenue
Coventry
CV6 5LZ**

Subject to the conditions specified on the attached pages, Nos 1
to 4, and within the process boundary as indicated on Plan No. 1.

Signed.....  Dated ^{1st}..... day of ^{September}..... 1993
City Environment Officer

1. **DESCRIPTION OF PROCESS**

- 1.1 This authorisation is for the painting of the rear silencer and the tail pipe of exhaust systems, as described in the Environmental Protection (Prescribed Processes and Substances) Regulations 1991, SI472, Section 6.5 Part B paragraph (a) 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 paints, degreasers and cleaning solvents in the paint store as shown in the Plan numbered 1.
- 1.3 The degreasing of units in the pre-treatment plant as shown on the Plan numbered 2 comprising of an alkaline spray degrease section, a cold water spray wash and a hot water spray wash at 60°C.
- 1.4 The dry-off oven, being a gas fired 'tunnel' running at 100°C as shown on the plan numbered 2.
- 1.5 The spraying of the units in the Spraybooth, as shown on the Plan numbered 2, employing electrostatic spraying techniques.
- 1.6 The flash off and curing of paints at 150°C in the curing ovens shown on the Plan numbered 2.
- 1.7 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 booth marked B on plan 2 shall be carried out at least once a day while spraying and degreasing 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 fully enclosed spray booth as shown on the plan numbered 2.
- 4.2 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.
- 4.3 All full, partially full and nominally empty containers which hold or have held materials which contain organic solvents must be stored in the waste paint storage area and have lidded containers.

5. **CHIMNEYS, VENTS AND PROCESS EXHAUSTS**

- 5.1 Emissions from the spraying of coatings in the spray booth shall only be emitted to atmosphere via the cascading water filtration system.
- 5.2 Emissions from the flashing off or curing of coatings shall only be emitted to air via proper process exhausts.

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 3.4.
- 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 ^{5 Dec} ~~twelve~~ 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:

Coating of metal and plastic PG 6/23 (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 Department, 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} ~~twelve~~ 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 spray booth 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 increase in height of the final discharge points from the spray booths 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.
 - d) Any other matter detailed within the Secretary of State's guidance notes on the coating of Metal and Plastic PG 6/23 [92].
 - 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 PART 1.

The Environmental Protection (prescribed processes and substances) Regulations 1991 51.

The Environmental Protection (applications, appeals and registers) Regulations 1991 51.

Application for authorisation under section 6 of the Environmental Protection Act 1990.

1. Name and address of applicant.

**PREMIER EXHAUST SYSTEMS LTD
BERESFORD AVENUE
COVENTRY
CV6 5LZ**

2. Name and address of premises where process is or will be carried on.

**PREMIER EXHAUST SYSTEMS LTD
BERESFORD AVENUE
COVENTRY
CV6 5LZ**

3. Address for correspondence.

**PREMIER EXHAUST SYSTEMS LTD
BERESFORD AVENUE
COVENTRY
CV6 5LZ**

4. List of maps and plans enclosed with application.

1. Map showing location of factory.
2. Map showing location of process within the site.
3. Layout of process plant.

The factory complex comprises of Blocks A - L.

The process is carried out in Bay 24 of 'A' Block. (see plan 2)

DESCRIPTION OF PROCESS.

The object of the process is to paint the rear silencer and tail pipe of Exhaust Systems manufactured on site and supplied as original equipment to motor vehicle manufacturers.

THE PROCESS.

Plan 3 should be referred to during this description.

The silencers are delivered to the paint plant in either wheeled stillages or wheeled racks (dependant on the type of unit).

They are manually loaded onto an overhead conveyor at loading point shown on plan. The units are then transported into a pre-treatment plant. The object of this is to degrease the units prior to painting. It comprises of three sections.

The first is a spray degrease section. This is charged with an I.C.I chemical "Ridoline 600" (see later Note).

The time passage through the spray is 1-2 minutes.

A data sheet for "Ridoline 600" is included.

Following the chemical spray the work passes through two further sections. The first being a cold water spray wash at ambient, and the second a hot water spray wash, at 60°C.

After leaving the pre-treatment the conveyor takes them through a 180° turn and into a dry-off oven. This is purely a gas fired "tunnel" running at 100°C and is used to remove all moisture prior to spraying.

The spray booth is located on the corner of the main paint unit. It comprises of an electrostatic spray unit, which is fed directly from the 25litre cans that the paint is delivered in. The components are passed over a wet tank which draws the over spray through the water and up the back of the booth, passing through a series of baffles to remove any particles. The processed air is then exhausted to atmosphere.

The principle of electrostatic spraying is that the conveyor and thus the component are given an electrical charge. The paint is then given the opposite charge and when sprayed the paint is attracted to the component and therefore keeps over spray to a minimum. % efficiency

Because the water tank removes most of the paint particles, there is a tendency for sludge to build up in the bottom. It is, therefore necessary to put certain additives to the water to **keep** the particles in suspension which greatly aids the cleaning out process (see later note).

There are two additives in the water 1. Lime (see later note)

2. A liquid additive.

Produced by Chemvicon Chemicals Ltd, with a trade name of "Paint Kill 9511E" (see note later).

After the paint spray operation the components travel through the curing ovens for approximately 25 minutes at 150°C and are then removed manually at the unload station. Following unloading the components are either loaded into special trolleys for delivery directly to the customer or are held in store awaiting call off.

MATERIALS.

"RIDOLINE 600".

Is an I.C.I chemical degreaser which is a mild alkaline spray that has been specially formulated for the subsequent application of all types of paint and powder coating. It is mixed in a hot tank at the rate of 10kg of "Ridoline 600" to 1000litres of water. The temperature is between 40°C - 60°C (110° - 150°f). The resultant liquid has a PH of 9. (see data sheet)

HYDRATED LIME.

Is added to the paint spray water tank to make the solution more alkaline. This is done to enable the "Paint Kill" to work more effectively the water tank holds approximately 2250 litres and the lime is added at the rate of 1kilo per day. (see data sheet)

"PAINT KILL 9511".

Is a cationic copolymer that is completely soluble having a PH of 1.4 - 2.1 and contains 0.1% by weight of formaldehyde. This chemical is added (together with the lime) to hold the paint particles in suspension within the water tank to enable cleaning out to be achieved more easily. (see data sheet)

NEWTOWN PAINTS.

Supply the paint used in the spray booth. The designation is S.S.E. E/S HR Matt Black, code No' 2600-5-2.

It consists of inorganic pigments dispersed in synthetic resins dissolved in aromatic hydrocarbons and alcohols.

The main constituent being xylene at 25% and by weight and diacetone alcohol at 5-10% by weight. The paint is used directly from the 25litre cans as delivered and is not mixed with thinners. (see data sheet)

NEWTOWN PAINTS also supply the thinner used. These are NOT mixed with the paint but used purely for cleaning the guns and lines. The coding is T-15 and is a blend of aromatic hydrocarbons and alcohol solvents. (see data sheet)

STORAGE.

There is a specially built storage unit (shown on plan 3) designed with exploding roof and vents. All paints and chemicals are held in this locked store. The only hazards are the explosion and fire risk of the paint and thinner. The chemicals are not a fire risk. The only exception to this are the cans in actual use.

HANDLING.

All deliveries of paint and chemicals are received on pallets. They are transported from the delivery point to the store by fork lift truck and are then removed from the pallets and stacked in the store.

As each can or sack of chemical powder is required for use in the factory, it is withdrawn from the store and placed on a manually propelled trolley which in turn is taken to the point of use.

DISCHARGE AND DISPOSAL.

Reference to plan 3 will indicate the discharge point within the process plant.

Discharge point ^{base} A is situated above the pre-treatment plant and will be mainly steam. There may be a slight contamination of Ridoline 600 but as this has a PH of 9 should not create any problems.

The second discharge point ^{feed} B is over the paint spray booth. This is where the residue of the xylene based paint is exhausted.

All other stacks, discharge the heat from the ovens, or intake the make up air for the booth. ^{green}

WASTE DISPOSAL.

PRE-TREATMENT PLANTS.

Due to the fact that the PH of the degreaser is on 9, we have permission from Severn Trent Water Authority to dispose to the foul sewers. To ensure that there is no danger of any form of pollution. Severn Trent regularly take samples for analysis of that waste.

The hot and cold washes are also disposed off to foul sewers.

SPRAY BOOTH.

The spray booth tank containing lime and "Paint Kill" are cleaned out, on a 3-4 week basis. The residue is pumped out into a tanker and is then disposed of as hazardous waste.

GENERAL.

Paint cans when empty are held in a pre-determined area and once a full load has been collected are disposed of as hazardous waste.

- covered separately

FINISHED PARTS.

The paint spray is the last operation of the manufacturing cycle. Therefore, as they are unloaded from the overhead track, the bulk of the components are loaded on to special trolley for immediate delivery to the motor manufacturers.

Those that are not are held in the finished parts stores awaiting call-off.

MALFUNCTIONS.

GAS SUPPLY FAILURE.

In the event of a loss of town gas each burner will immediately sound an alarm on lock out. The line is then stopped until the problems have been overcome.

POWER FAILURE.

Should the plant lose its power supply then it will immediately stop but with no detrimental effects to anything. It will mean, however, that the painting operation cannot restart until the plant is up to temperature again.

AIR FAILURE.

This will prevent the spray guns being used. The line is stopped until the problem is rectified.

FIRE.

There is an explosion risk from the paint, Although only one tin is in use. There are fire points around the plant all of which are approved by the West Midlands Fire Brigade, as are the number and location of fire exists. *Approved report*

TANK RUPTURE.

In the event of a tank rupturing then if it is on the pre-treatment plant the spillage can be hosed to drain.

If it is from the paint booth tank then it is sucked up and held in tanks ready for disposal in the normal fashion. .?

ABATEMENT TECHNIQUES.

The wet back extraction system can be considered to be a built in technique (see process description) As can the electrostatic paint spray technique.

Working techniques are covered by pumping directly from the paint can. This prevents mixing problems and risk of spillage.

All spray operators have full safety wear, together with air fed full helmets.

PRESCRIBED SUBSTANCES.

There are no substances which could cause harm if released into the air.
It is not proposed to introduce any other substances in the foreseeable future.


MONITORING.

It is proposed that within the next three months to do spot checks on the emissions. This will be done either by ourselves or by a recognised contractor.

CONTINUOUS MONITORING.

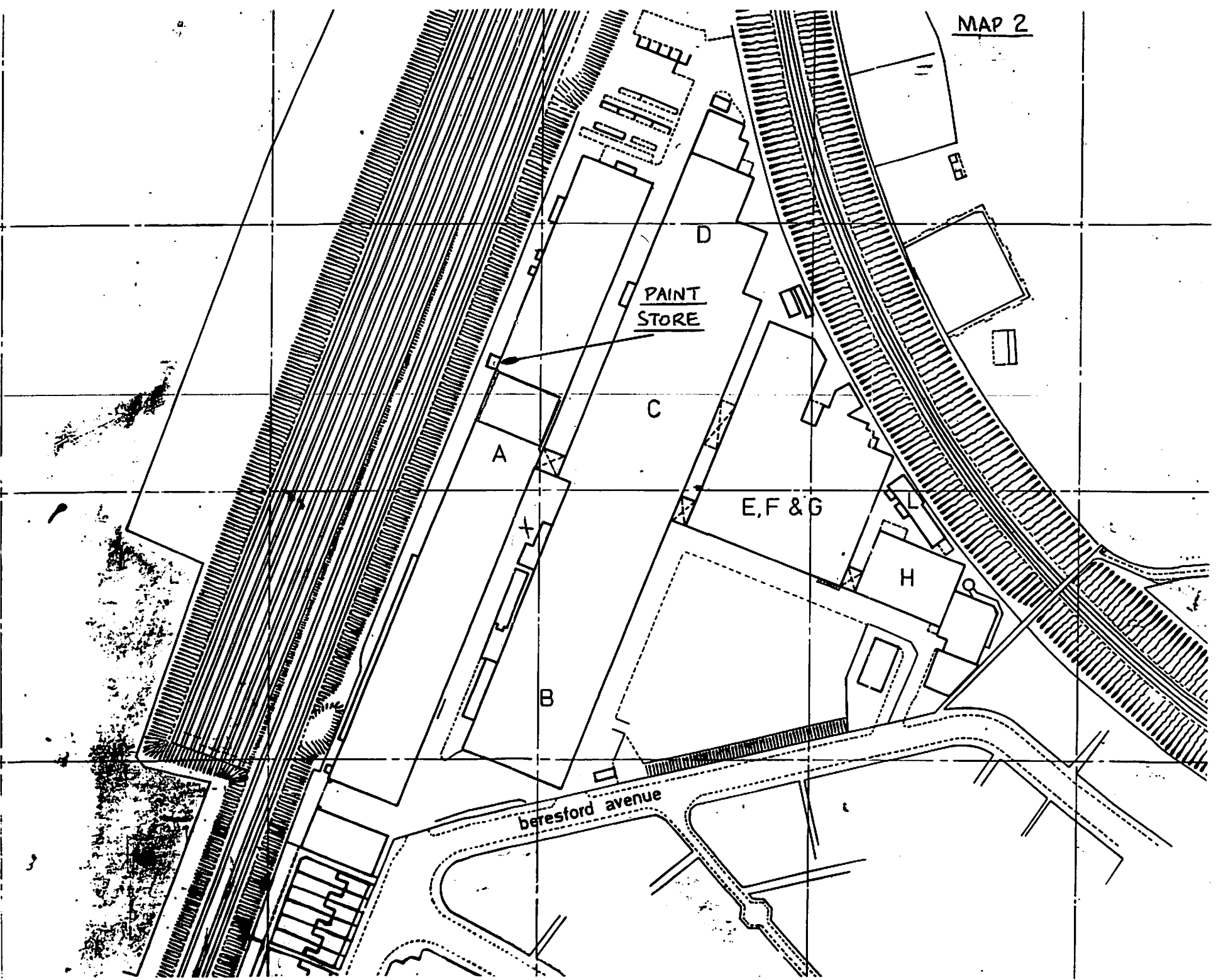
It is proposed to set up a continuous improvement group to investigate the subject and make any necessary proposals that will be required.

We hereby certify that all the information contained in this application is to the best of my knowledge correct.

Signature..........

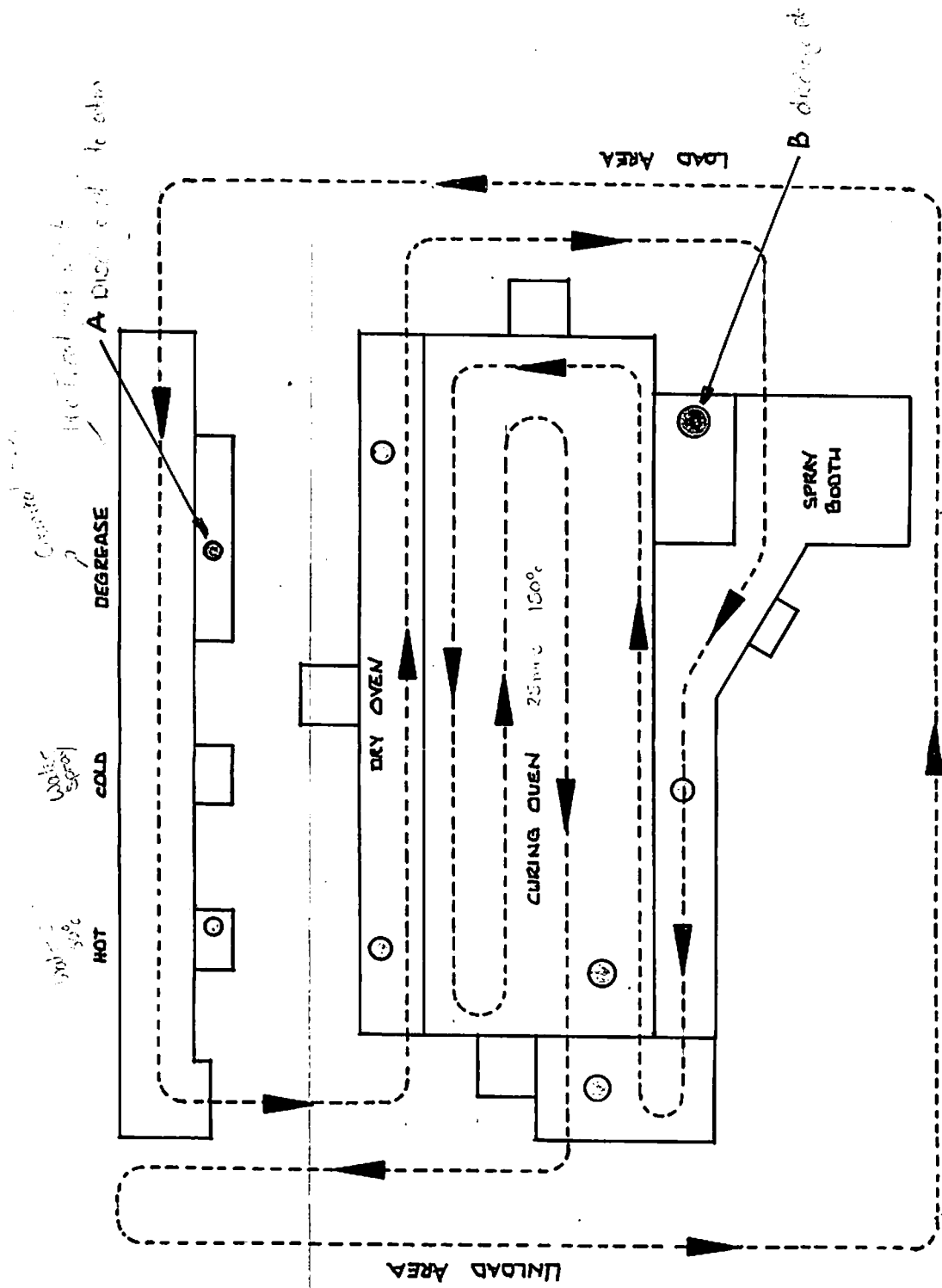
Date

Please also find enclosed cheque made payable to 'Coventry City Council'.



PREMIER EXHAUST SYSTEMS LTD

PAINT SHOP LAYOUT



COVENTRY CITY COUNCIL



ENVIRONMENTAL PROTECTION ACT 1990, SECTIONS 8(8), 12

NOTICE OF REVOCATION

61

To: *Premier Exhaust Systems Ltd*
Beresford Avenue
COVENTRY
CV6 5LZ

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 061 is issued by Coventry City Council for the painting of the rear silencer and the tail pipe of exhaust systems at Premier Exhaust Systems Ltd, Beresford Avenue, Coventry, is hereby revoked with effect from 2nd April 1998.

Signed on behalf of Coventry City Council

.....
City Environment Officer
The Officer appointed for that purpose

Date: 5th MARCH 1998