



Victoria Government Gazette

No. 120—Wednesday, 24 November 1982

Environment Protection Act 1970 (No. 8056)

STATE ENVIRONMENT PROTECTION POLICY (THE AIR ENVIRONMENT)

At the Executive Council Chamber, Melbourne the twenty-third day of November 1982

PRESENT:

His Excellency the Governor of Victoria
 Mr Jolly | Mrs Toner
 Mr White | Mr Crabb

Whereas His Excellency the Governor of Victoria did at the Executive Council Chamber, Melbourne, 2 June 1981, declare the State Environment Protection Policy (The Air Environment) pursuant to Section 16 (1) of the *Environment Protection Act 1970*, which was published in the *Victoria Government Gazette*, No. 63, Monday, 13 July 1981;

And whereas Section 16 (2) of the *Environment Protection Act 1970* provides that any Order made by the Governor in Council under sub-section (1) may by Order of the Governor in Council published in the *Government Gazette* be revoked or varied;

Now therefore, His Excellency the Governor of Victoria by and with the advice of the Executive Council and on the recommendation of the Environment Protection Authority doth by this Order declare that the following additions and amendments to the State Environment Protection Policy (The Air Environment) shall be observed for the area referred to in the Order from 24 November 1982.

AMENDMENTS TO STATE ENVIRONMENT PROTECTION POLICY (THE AIR ENVIRONMENT)

Page No.	Part, Clause or Schedule	Existing Text	Amendment
2294	Part I Clause 4 (after "Indicator")	Nil	"Justified Complaint" means a complaint which in the opinion of an Authorized Officer of the Environment Protection Authority has resulted from a state of air quality detectably different from that existing in comparable areas.
2294	Part I Clause 4 (after "Licensing Provisions")	Nil	"Local Visual Distance" means the distance (in km) determined by the following approximate relationship $LVD = \frac{47}{10,000 B_{scat}}$ where B scat is the atmospheric scattering coefficient as measured by an integrating nephelometer which conditions each air sample to a relative humidity of less than 70%.
2294	Part I Clause 4 (after "new source")	Nil	"Odour unit" means a dimensionless ratio defined as the volume which an odorous sample would occupy when diluted to the odour threshold divided by the volume of the odorous sample.
2294	Part III Clause 8	(1) The following beneficial uses shall be protected with respect to areas covered by the Policy except as provided by Clause 8 (2):	(1) The following beneficial uses shall be protected with respect to areas covered by the Policy except as provided by Clauses 8 (2) and 8 (3).
2294	Part III Clause 8	Nil	(3) The beneficial use of aesthetic enjoyment and local amenity in areas affected by the discharge of odorous compounds from wood pulp mills employing the Kraft process and complying with the requirements of Schedule F-3 may not be protected at all times with the result that some odours may be detectable on occasions beyond the boundary of the property line.
2294	Part IV Clause 9 (4)	The design ground level concentrations for Class 1, 2 and 3 indicators are prescribed by Schedules B, C and D respectively.	The design ground level concentrations for Class 1, 2 and 3 indicators are prescribed by Schedules B, C and D respectively, except as prescribed by Schedule F.

AMENDMENTS TO STATE ENVIRONMENT PROTECTION POLICY (THE AIR ENVIRONMENT)—*continued*

Page No.	Part, Clause or Schedule	Existing Text	Amendment
2294	Part IV Clause 10 (a)	The concentration of any Class 1 indicator except oxidant does not exceed the Acceptable Level on more than three days in any year and remains below the Detrimental Level at all times.	The one hour concentration of oxidant does not exceed the Acceptable Level on more than one day in any year and remains below the Detrimental Level at all times.
2294	Part IV Clause 10 (b)	The concentration of oxidant does not exceed the Acceptable Level on more than one day in any year and remains below the Detrimental Level at all times.	All other concentrations of Class 1 indicators do not exceed the Acceptable Level on more than three days in any year and remain below the Detrimental Level at all times and local visual distance is not less than the Acceptable Level on more than three days in any year.
2295	Part V Clause 14	Control of wastes shall be achieved through the licensing system and by Regulations.	Control of wastes shall be achieved through the licensing system, air pollution abatement notices and by Regulations.
2295	Part V Clause 25	A plume calculation, as outlined in Schedule E, shall be carried out for each source subject to licensing to ensure that, in the vicinity of the source, the predicted maximum ground level concentrations of emitted wastes do not exceed the design ground level concentrations prescribed in Schedules C, D and E.	A plume calculation, as outlined in Schedule E, shall be carried out for each source subject to licensing to ensure that, in the vicinity of the source, the predicted maximum ground level concentrations of emitted wastes do not exceed the design ground level concentrations prescribed in Schedules C, D and E except as prescribed by Schedule F.
2296	Part V. after Clause 43 (insert new Clause)	Nil (Re-number existing Clauses 44-49.)	Clause 44 <i>Commissioning, Startup, Shutdown and Breakdown of Equipment</i> The emission limits in Schedules F, G and H may be exceeded during commissioning, startup and shutdown or breakdown of pollution control or operating equipment, provided that the Authority has specified conditions under which excess emissions from such events are permitted. Excess emissions resulting from breakdown may be permitted provided: (i) the breakdown is not a result of operator error, neglect or improper operating or maintenance procedures, (ii) the breakdown is not an excessively recurrent breakdown of the same or related equipment, (iii) steps are immediately taken to correct the breakdown and minimize the excess emissions. (iv) the operator informs the Authority of the breakdown within 1 hour of the breakdown occurring and that the excess emissions do not occur for a period exceeding that specified by the Authority.
2298	Schedule C (Section C-1 after second paragraph)	Nil	Where the odour level of emitted wastes from a source can be determined a design ground level concentration of one odour unit may be applied, in the calculation of chimney heights by the procedure outlined in Schedule E.
2298	Schedule C (section C-1 third and sixth column)	mg/m ³	mg/m ³ ^(e)
2298	Schedule C (section C-1 after footnote d)	(nil)	^(e) Gas volumes are expressed at 25°C and at an absolute pressure of one atmosphere (101.325 kPa).
2298	Schedule D (footnote a)	Excluding petrol and liquid mixtures containing 1 per cent or less of benzene.	Excluding petrol, and liquid mixtures containing 1 per cent or less of benzene by volume.
2298	Schedule D (second column footnote b)	ppm (nil)	ppm ^(b) ^(b) Parts per million (volume/volume)
2298	Schedule D (third column footnote c)	mg/m ³ (nil)	mg/m ³ ^(e) ^(e) Gas volumes are expressed at 25°C and at an absolute pressure of one atmosphere (101.325 kPa).
2298	Schedule D	Mercury—inorganic 0.017	Mercury—inorganic 0.0017
2299	Schedule E (Heading—Design Ground Level Concentrations)	Class 2 and Class 3 Indicators. The design three-minute ground level concentrations of class 2 and Class 3 indicators shall be those prescribed in Schedules C and D respectively.	Class 2 and Class 3 Indicators. The design three-minute ground level concentrations of Class 2 and Class 3 indicators shall be those prescribed in Schedules C and D respectively, except as prescribed by Schedule F.

AMENDMENTS TO STATE ENVIRONMENT PROTECTION POLICY (THE AIR ENVIRONMENT)—*continued*

Page No.	Part, Clause or Schedule	Existing Text	Amendment										
2299	Schedule F-1 (preamble)	This section describes emission controls to be applied to cold and hot blast cupolas. For the purposes of this section, cupolas are divided into two broad categories: (a) Cupolas giving rise . . etc. (b) Other cupolas . . etc.	This section describes emission controls to be applied to cold and hot blast cupolas. For the purposes of this section all cold and hot blast cupolas shall comply with the minimum requirements described by Tables 1.1 and 1.2. In addition, those cupolas that give rise to justified complaints may be required to meet additional requirements on an individual basis as specified in licence conditions or air pollution abatement notices.										
2299	Schedule F-1 (Table 1-2)	Discharge Limit mg/Nm ³	Discharge Limit mg/m ³ ^(b)										
2299	Schedule F-1 (Table 1-2 footnote b)	(nil)	^(b) Gas volumes are expressed dry at 0°C and at an absolute pressure of one atmosphere (101.325 kPa).										
2300	Schedule G (item 3 first column)	Total particulate matter	Particulate matter										
2300	Schedule G (item 3 second column)	All stationary sources.	All stationary sources except fuel fired units used for steam or electricity generation and incinerators.										
2300	Schedule G (item 7 second column)	All stationary sources except wood pulp industry.	All stationary sources.										
2300	Schedule G (item 11 second and third columns)	<table border="1"> <thead> <tr> <th>2nd Column</th> <th>3rd Column</th> </tr> </thead> <tbody> <tr> <td>All stationary sources</td> <td>0.05 g/m³ expressed as HF</td> </tr> </tbody> </table>	2nd Column	3rd Column	All stationary sources	0.05 g/m ³ expressed as HF	<table border="1"> <thead> <tr> <th>2nd Column</th> <th>3rd Column</th> </tr> </thead> <tbody> <tr> <td>Any new source manufacturing aluminium from alumina</td> <td>0.02 g/m³ expressed as HF</td> </tr> <tr> <td>All other stationary sources</td> <td>0.05 g/m³ expressed as HF</td> </tr> </tbody> </table>	2nd Column	3rd Column	Any new source manufacturing aluminium from alumina	0.02 g/m ³ expressed as HF	All other stationary sources	0.05 g/m ³ expressed as HF
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2301	Schedule H (item 3 first column)	Total particulate matter	Particulate matter										
2301	Schedule H (item 3 second column)	All stationary sources	All stationary sources except fuel fired units used for steam or electricity generation and incinerators.										
2301	Schedule H (item 5 third column)	1.8 kg/tonne of 100% acid	2.0 kg/tonne of 100% acid										
2301	Schedule H (item 6 third column)	0.1 g/m ³ expressed as SO ₂ 0.07 kg/tonne of 100% acid	0.2 g/m ³ expressed as SO ₂ 0.075 kg/tonne of 100% acid expressed as H ₂ SO ₄										
2301	Schedule H (item 7 second column)	All stationary sources except the wood pulp industry	All stationary sources										
2302	Schedule I (third column)	Alert Level (ppm)	Alert Level ppm ^(a)										
2302	Schedule I (footnote a)	(nil)	^(a) Parts per million (volume/volume)										
2305	After Clause 43 (insert new Clause)	Nil (Renumber existing Clauses 44-49.)	Clause 44 Recognises that it may not be possible to comply with the emission limits in Schedules F, G and H during commissioning, start-up, shutdown and breakdown of pollution control or operating equipment. The clause provides therefore a basis for control of excess emissions during these events.										
2305	Schedule E (second sentence)	The results of the predictions will be used in establishing licence conditions covering chimney heights and emission rates to ensure that design ground level concentrations are not exceeded.	The results of the predictions will be used in establishing control requirements covering chimney heights and emission rates to ensure that design ground level concentrations are not exceeded.										
2305	Schedule F (second sentence)	This will allow specific controls which are appropriate to particular industries to be developed, and will simplify the licensing procedure through publication of these requirements.	This will allow specific controls which are appropriate to particular industries to be developed, and will simplify the control procedure through publication of these requirements.										
2305	Schedule G	Defines emission limits for stationary sources subject to licensing. The emission limits specified by Schedule G represent a level of control which currently is being achieved by most licensed sources, but is not the best control which is technologically possible. These are the maximum limits allowable in a licence except where Schedule F applies. A licence may, of course, contain more stringent limits to conform with good practice or where conditions warrant greater control.	Defines emission limits for stationary sources. The emission limits specified by Schedule G represent a level of control which currently is being achieved by most sources, but is not the best control technologically possible. These are the maximum limits allowable except where Schedule F applies. More stringent limits may be applied where conditions warrant greater control.										

F-2 CONCRETE BATCHING PLANTS

This section describes emission controls to be applied to concrete batching plants. For the purposes of this section a concrete batching plant shall consist of the necessary equipment and facilities which are capable of producing at least 30 cubic metres of concrete per hour at maximum through-put. The requirements in Table 2-1 shall not apply to concrete batching plants which are integrated with and used solely for the manufacture of concrete products.

For the purposes of this section, all concrete batching plants shall comply with the minimum requirements described in Table 2.1. In addition, those plants that give rise to justified complaints may be required to meet additional requirements on an individual basis as specified in licence conditions or air pollution abatement notices.

Table 2-1
Description of Requirements^(a)

General	Description of Requirements ^(a)
<u>Boundaries</u>	Where fences, walls, buildings or other barriers are inadequate to reduce and/or prevent windborne dust emissions being carried beyond the boundaries of the premises, screens of trees and shrubs shall be established and maintained.
<u>Traffic</u>	(a) Roadways and footpaths shall be hard-surfaced and must be kept clean to prevent dust generation. (b) Guide posts or other suitable barriers shall be placed along the edges of sealed roads to prevent traffic movement onto unsealed areas of the works.
<u>Sand and Aggregate</u>	
<u>Delivery</u>	Sand and aggregate shall be delivered in a completely wetted state. If material has dried out during transit, it must be re-wet prior to dumping.
<u>Storage</u>	(a) Sand and aggregate shall be stored in hoppers or bunkers depending on site location. ^(a) (b) Hoppers shall be fitted with effective water sprays to dampen stored material and for use on receipt of raw materials. ^(b) (c) Bunkers shall enclose the stockpile on three sides with all walls extending above the pile and the side walls extending at least 2 metres beyond the front of the pile. Effective water sprays shall be provided to dampen stored materials and for use on receipt of raw materials.
<u>Transfer</u>	(a) Conveyor belts shall be fully enclosed or fitted with windboards where these can be safely incorporated into the existing structure. ^{(a), (c)} (b) Conveyor transfer points and hopper discharge areas shall be enclosed. ^(a) (c) Belt cleaners shall be fitted to the return side of conveyor belt.
<u>Cement</u>	
<u>Delivery</u>	Cement shall be delivered in sealed vehicles equipped with means for pneumatic transfer. ^(a)
<u>Storage</u>	(a) Cement shall be stored in dust-tight cement storage silos with hatches having dust-tight seals. (b) The storage silo shall be vented to atmosphere through a filter fabric dust collector. (c) The storage silo shall be provided with a level sensor, set not less than 0.7 metre below the top of the silo. When activated the sensor shall give an audible warning ^(d) followed by an automatic cessation of the cement supply less than one minute later.
<u>Transfer</u>	(a) Transfer from the delivery vehicle to storage shall take place without over-filling the silo. (b) The storage silo shall be provided with means for accepting and dispensing cement without causing any visible emission.
<u>Fabric and Filter Dust Collector (FFDC)</u>	(a) The fabric filter dust collector (FFDC) shall be housed so as to completely protect the filter elements from the weather and in a manner that is capable of withstanding at least 34.5 kilopascal pressure differential (5 p.s.i.). (b) The FFDC shall be adequately sized to cater for the maximum air volume. Its air to cloth ratio shall not exceed 0.8 cubic metres per minute per square metre of cloth area. (c) The filter elements shall be made of a material capable of withstanding continuous exposure to cement (e.g. polyester, polypropylene). (d) The FFDC shall be provided with means for automatically cleaning filter elements at the conclusion of each silo filling operation. (e) The FFDC shall be properly maintained with the filter elements being inspected at least once every seven days and any repairs being carried out immediately.
<u>Weigh and Gob Hoppers</u>	(a) Cement shall be transferred from silo to weigh hopper and then to gob hopper without causing any visible emission. (b) Weigh and gob hoppers shall be totally enclosed and vented through a FFDC having the same design characteristics as the one serving the silo. (c) The FFDC shall be provided with means for automatically cleaning filter elements at the conclusion of each batching operation. (d) Duct work associated with the silos, the weigh hopper and the gob hopper shall be dust-tight.
<u>Concrete</u>	
<u>Transfer</u>	(a) The gob hopper outlet shall be fitted with a sleeve long enough to enter the hatch of any concrete mixing vehicle. This sleeve shall be made of a fabric capable of withstanding continuous exposure to concrete ingredients. (b) The perimeter of the gob hopper outlet shall be equipped with effective water sprays set to operate automatically whenever a charge is dropped. Alternatively an effective dust extraction system may be used. ^(a)
<u>Charging Station</u>	The concrete mixing vehicle charging station may be required to be enclosed on each side and flexible doors provided at each end, if the above measures are ineffective.

(a) The degree of control depends on individual circumstances, in particular the siting of the plant relative to housing and sensitive areas.

(b) A three-side, roofed enclosure with a rubber curtain across the entry may be required if sprays are ineffective.

(c) Where a structure cannot safely incorporate either of these control measures, a detailed report is required outlining why compliance is not possible.

(d) Double rubber curtain seals on transfer point outlets are recommended.

(e) Vic Rail class J and JX wagons are suitable.

(f) Visual alarms are acceptable where noise may cause local annoyance.

F-3 WOOD PULP MILLS

This section describes control requirements to be applied to wood pulp mills. For purposes of this section wood pulp mills are divided into two broad categories:

- (a) Wood Pulp Mills using a combination of the Neutral Sulphite Semi-Chemical (NSSC) and Kraft process which shall be controlled by the minimum requirements described in sub-sections F 3-1 and F 3-3.
- (b) Wood Pulp Mills using only the Neutral Sulphite Semi-Chemical (NSSC) process which shall be controlled by the minimum requirements described in sub-sections F 3-2 and F 3-3.

Mills that give rise to justified complaints may be required to meet additional requirements on an individual basis, as specified in licence conditions or air pollution abatement notices.

SUB-SECTION F 3-1 DESCRIPTION OF REQUIREMENTS

Tables 3.1 and 3.2 describe respectively the emission control and monitoring requirements for wood pulp mills in category (a).

TABLE 3-1 TRS^(a) EMISSION CONTROL REQUIREMENTS FOR KRAFT/NSSC PULP MILLS

Source	Description of Requirements		
	Existing Source	New Source	Oxygen Reference Level ^(c) %
Digester, Evaporator and Condensate Stripper	Emissions shall be incinerated or controlled by a method of equivalent effectiveness.		
Smelt Dissolver	Emissions shall not exceed 8.4 mg/kg of Black Liquor Solids (dry weight) entering the Cross Recovery Furnace. Emission Limit ppm ^(b)		
Cross Recovery Furnace ^(b)	8	7	8
Lime Kiln ^(b)	20	10	8
Brown Stock Washer	5	5	10
Black Liquor Oxidiser	5	5	10

(a) TRS (Total Reduced Sulphur) compounds are defined as the sum of hydrogen sulphide, methyl mercaptan, dimethyl sulphide and dimethyl disulphide. TRS standards and monitoring results shall be expressed as hydrogen sulphide.

(b) A Cross Recovery Furnace is defined as a process unit where Black Liquor from the Neutral Sulphite Semi-Chemical (NSSC) process is burnt in combinations greater than 10% (v/v) with the Black Liquor from the Kraft process and where the Black Liquor Solids from the NSSC process and Green Liquor Sulfidity leaving the Smelt Dissolver are greater than 7% and 28% (w/w) respectively, averaged over a calendar month.

Existing Cross Recovery Furnaces: No more than one twelve-hour average per week shall exceed 7 ppm and at no time shall any twelve-hour average exceed 20 ppm.

New Cross Recovery Furnaces: No more than one twelve-hour average per week shall exceed 8 ppm and at no time shall any twelve-hour average exceed 20 ppm.

(c) New Lime Kilns: No more than one twelve-hour average per week shall exceed 10 ppm and at no time shall any twelve-hour average exceed 20 ppm.

(d) Parts per million (volume/volume) on a dry basis averaged over twelve consecutive hours. The averages represent contiguous periods of twelve hours and not progressive or running averages.

(e) Emission levels of TRS compounds are to be calculated at the specified oxygen reference level for each source:

$$\text{Corrected Emission Level} = \frac{C_m (20.9 - \% O_2 \text{ reference})}{20.9 - \% O_2 \text{ measured}}$$

C_m is the measured concentration of TRS compounds in ppm.

Table 3-2 MONITORING REQUIREMENTS FOR KRAFT/NSSC PULP MILLS

Source ^(a)	Description of Requirements
Cross Recovery Furnace and Lime Kiln	Oxygen levels and TRS emissions shall be continuously measured and recorded. ^(b)
Digester, Evaporator and Condensate Stripper	Where emissions are incinerated the temperature of exhaust gases shall be continuously measured and recorded. Other monitoring as specified by licence.
Smelt Dissolver, Brown Stock Washer and Black Liquor Oxidiser	Intermittent or once-off monitoring of TRS emissions as specified by licence.

(a) Refers to new and existing sources.

(b) The current use of the continuous coulometric method for measuring TRS compounds will be the standard method, while consideration is given to establishing a more reliable standard method. An automated gas chromatograph capable of measuring individual TRS components is being considered as a possible replacement for the current method.

SUB-SECTION F 3-2 DESCRIPTION OF REQUIREMENTS

Tables 3-3 and 3-4 describe respectively the emission control and monitoring requirements for wood pulp mills in category (b).

TABLE 3-3 TRS EMISSION CONTROL REQUIREMENTS FOR NSSC PULP MILLS

Source ^(a)	Description of Requirement	Emission Limit ppm ^(b)	Oxygen Reference Level ^(c) % (Volume/Volume)
Spent (black) Liquor Recovery Plant ^(d)	Emissions shall be incinerated or controlled by a method equivalent effectiveness	1	5

(a) Refers to new and existing source.

(b) Parts per million (volume/volume) on a dry basis.

(c) Emission levels of TRS compounds are to be calculated at the specified oxygen reference level. Refer to Table 3-1 for the formula.

(d) A Spent (black) Liquor Recovery Plant is defined as a plant where spent (black) liquor from the Neutral Sulphite Semi-Chemical (NSSC) process is treated using a process based on three unit operations—combustion, absorption and filtration.

TABLE 3-4 MONITORING REQUIREMENTS OF NSSC PULP MILLS

Source ^(a)	Description of Requirements
Spent (black) Liquor Recovery Plant Pollution Control Equipment	Oxygen levels and TRS emissions shall be continuously measured and recorded. ^(b)

(a) Refers to new and existing sources.

(b) The current use of the continuous coulometric method for measuring TRS compounds will be the standard method, while consideration is given to establishing a more reliable standard method. An automated gas chromatograph capable of measuring individual TRS components is being considered as a possible replacement for the current method.

SUB-SECTION F 3-3 DESIGN GROUND LEVEL CONCENTRATION

This sub-section prescribes design ground level concentrations for a group of Class 2 indicators. The group of indicators are TRS (Total Reduced Sulphur Compounds) expressed as hydrogen sulphide.

Category (a) Wood Pulp Mills

A design three-minute ground level concentration of 0.018 ppm^(a) (0.026 mg/m³)^(b) shall be applied as a design criterion to emissions of TRS compounds from wood pulp mills in category (a) in the calculation of chimney heights by the procedure outlined in Schedule E.

Category (b) Wood Pulp Mills

A design three-minute ground level concentration of one odour unit or its equivalent value in ppm or mg/m³ expressed as hydrogen sulphide shall be applied as a design criterion in the calculation of chimney heights by the procedure outlined in Schedule E.

(a) Equivalent to 0.01 ppm averaged over one hour; parts per million volume/volume.

(b) Equivalent to 0.014 mg/m³ averaged over one hour; gas volumes are expressed at 25°C and at an absolute pressure of one atmosphere (101.325 kPa).

F-4 TEXTILE DYEING AND FINISHING INDUSTRY

This section describes emission controls to be applied to the textile dyeing and finishing industry. For the purposes of this section, all textile dyeing and finishing plants shall comply with the minimum requirements described in Table 4-1. In addition, those plants that give rise to justified complaints may be required to meet additional requirements on an individual basis as specified in licence conditions or air pollution abatement notices.

TABLE 4-1 DESCRIPTION OF REQUIREMENTS FOR TEXTILE DYEING AND FINISHING PLANTS

Process or Equipment	Basic Requirements
All	<p>(a) Every emission of waste to have free vertical discharge via a chimney.</p> <p>(b) Discharge velocity shall not be less than 8 metres per second for new plant or equipment unless otherwise specified.</p> <p>(c) Chimney heights shall be designed in accordance with the requirements of Schedule E.</p> <p>(d) The preparation of chemicals which give rise to emissions of waste during preparation shall be performed in an area(s) where emission capture facilities are provided.</p> <p>(e) Records shall be kept, detailing the quantities and types of dye carriers^(a) used per month.</p>
Heat Setting Machines	<p>(a) Basic requirements plus equipment to capture and duct all emissions of waste from the heat setting machine to a chimney(s).</p> <p>(b) Goods containing excess volatiles^(b) shall not be heat set or heat dried.^(c)</p>
Atmospheric Batch Dyeing Machines	<p>It is preferable that dyeing be carried out using pressure dyeing machines. Where this is not possible, the following shall apply:</p> <p>(a) During dye carrier^(a) and/or sulphur dyeing operations, the basic requirements apply plus—</p> <ol style="list-style-type: none"> only machines which are capable of being completely enclosed, including machines with ducted outlets, shall be used; machine doors shall remain closed during dyeing cycle except when sampling, or servicing is required; each machine must be provided with adequate seals to prevent the escape of emissions; seals must be inspected at least once every month and repaired if necessary. <p>(b) If venting of waste is necessary during production, it must be via a flue(s) from each machine. All flues are to be ducted to a chimney(s).^{(c), (e)}</p> <p>(c) Every atmospheric dyeing machine shall have a permanently fixed identification number for EPA reference, until that machine is permanently removed from the premises.</p> <p>(d) Where specified by EPA the dye house area shall be provided with forced ventilators with the emissions ducted to a discrete discharge point(s). The exhaust system shall be designed to efficiently capture all emissions. Emissions are not permitted via roof ridges, windows and other openings which are not connected to a chimney.</p>
Levelling or Stripping with Carriers	<p>It is recommended that levelling or stripping be performed only in pressure vessels. Where this is not practical the conditions for enclosed atmospheric dyeing machines must be strictly adhered to.</p>

(a) A dye carrier is defined as a compound used to increase the rate of dye uptake and diffusion at a given temperature.

(b) Excess volatiles are defined as greater than 0.3% (w/w) of volatile material in the textile goods excluding water. Where the volatile content cannot be accurately estimated then measurements shall be made. The reference temperature for volatility is the maximum process temperature to which the goods will be subjected.

(c) Unless the exhaust gases are passed through a control device acceptable to EPA.

(d) Minimising dye carrier usage and using a less odorous dye carrier will significantly reduce the emissions.

(e) This requirement will not be applicable to operations not causing emissions of odorous waste to air. The Authority will accept submissions from companies seeking to be excluded from the requirement.

F-5 CHEMICAL PLANTS MANUFACTURING EITHER ETHYLENE DICHLORIDE, VINYL CHLORIDE MONOMER, OR POLYVINYL CHLORIDE

This section describes control requirements for vinyl chloride monomer to be applied to plants^(a) manufacturing either ethylene dichloride (EDC) vinyl chloride monomer (VCM) or polyvinyl chloride^(b) (PVC).

TABLE 5-1 DESCRIPTION OF REQUIREMENTS^(c) FOR EDC, VCM AND PVC PLANTS

<u>General</u>	
Captive VCM emissions	(a) All emissions shall be discharged freely upwards. (b) Efflux velocities shall not be less than 8 metres per second. (c) Chimney heights shall be designed in accordance with the requirements of Schedule E. (d) The number of emission points should be minimised. (e) Emissions to atmosphere shall be monitored as specified by licence. (f) Automatic means or other means acceptable to the Authority shall be provided to prevent VCM from entering equipment which is being vented to atmosphere:
Ambient monitoring	A continuous ambient monitoring and recording programme ^(d) shall be implemented.
<u>EDC Plants</u>	
EDC finishing	Emission limit ^(e) 5 ppm (volume/volume).
Oxychlorination reactors	Emissions to the atmosphere from each reactor shall not exceed 0.1 gram of VCM per kilogram of 100% EDC product ^(e) .
<u>VCM Plants</u>	
VCM formation and finishing	Emission limit ^(e) 5 ppm.
<u>PVC Plants</u>	
Reactors	(a) Emissions to atmosphere from reactor openings shall not exceed 0.01 grams of VCM per kilogram of PVC ^(g,h) product (b) Reactor openings shall be minimised. (c) No manual vent valve discharge shall occur except under circumstances of extreme emergency. (d) Reactors shall be equipped with an additional relief device ⁽ⁱ⁾ which discharges to a VCM containment recovery or destruction system.
Stripper(s)	(a) Residual VCM level ^(j) in latex resins shall not exceed 400 ppm. (b) Residual VCM level ^(j) in dispersion resins (excluding latex resins) shall not exceed 2000 ppm. (c) Residual VCM level ^(j) in suspension resins shall not exceed 100 ppm.
Mixing, weighing and holding containers	Emission limit ^(e) 5 ppm.
Monomer recovery system	Emission limit ^(e) either 5 ppm or 0.01 g/min.
<u>Fugitive and Relief Emissions from EDC, VCM and PVC Plants</u>	
Relief devices capable of discharging emissions to atmosphere	(a) No detectable VCM emissions shall occur below design safety release pressure. (b) A comprehensive maintenance programme ^(k) for all pressure relief devices shall be implemented. (c) Rupture discs shall be installed between the equipment and the relief valve.
Loading and unloading lines Pump, compressor and agitator seals	Line(s) shall contain less than 0.0038m ³ of VCM ^(l) before being opened to atmosphere. VCM emissions shall be minimised by either double mechanical or outboard seals or by the use of sealless pumps.
Samples	No detectable VCM shall be discharged to atmosphere during sampling of equipment or from unused VCM samples.
Leak detection	A leak detection and elimination programme ^(e) shall be implemented.
Opening of equipment	Before opening any equipment ^(m) the quantity of VCM shall be reduced to 2% of the volume of the vessel or 0.095m ³ of VCM ^(l) , whichever is the greater.
In-process waste	Emission limit ^(e) of 10 ppm for each individual waste water stream before mixing with other in-process waste water stream(s).

(a) Except research and development equipment provided the VCM reactor has a capacity of no more than 0.19m³.

(b) PVC includes PVC copolymers.

(c) Where an existing plant does not meet any of these requirements a date or dates for compliance shall be established by licence.

(d) The details of the programme(s) and/or report(s) shall be acceptable to the EPA.

(e) At least four transportable monitoring stations shall be located at the plant boundaries and an additional station, if required by the Authority, shall be located in a nearby residential area.

The levels of VCM shall be monitored semi-continuously by taking 12 two-hour samples per day at each boundary station. The concentration of VCM in each sample shall be measured and recorded. This sampling requirement may be altered up to one continuous sample in every 24 hours if the Authority considers that satisfactory performance has been demonstrated.

(g) The concentration of VCM in all exhaust gases discharged to atmosphere from each piece of equipment shall not exceed the specified limit except when the equipment has been opened in accordance with the requirement on "Opening of equipment".

(h) On a dry solids basis.

(i) The additional relief device shall be set at a lower pressure than the main safety relief valve.

(j) 24-hour weighted average of all grades of PVC resin measured immediately after the resin leaves the stripper(s).

(k) At 0°C and at an absolute pressure of one atmosphere (101.325 kPa).

(m) VCM removed from the equipment in order to achieve the specified limit shall be recovered or destroyed.

F-6 RENDERING INDUSTRY

This section describes control requirements to be applied to the rendering industry. For the purposes of this section all rendering plants shall comply with the minimum requirements described in Table 6-1. In addition, those rendering plants that give rise to justified complaints may be required to meet additional requirements, on an individual basis, as specified in licence conditions or air pollution abatement notices.

TABLE 6-1 DESCRIPTION OF REQUIREMENTS FOR RENDERING PLANTS

<u>Rendering</u>	
Processing	Material to be rendered down shall be processed as soon as possible after slaughter, or death, to reduce the odours caused by bacterial decay.
Vapour Control	All cooker and pressing vapours shall be vented to odour removal equipment. Solid rendered material shall be removed to bagging area by enclosed conveyor.

F-6 RENDERING INDUSTRY—*continued***Odour Removal**

Odour level in cooker and pressing vapours shall be reduced to less than 200 odour units. Discharges exceeding the odour emission limit will require odour removal equipment comprised of:

- (a) knock out box and condenser—direct or indirect, and
- (b) fume incinerator or chemical wet scrubber, or
- (c) other equipment demonstrated to meet the odour level emission limit.

In addition the following requirements shall be met:

- (a) chimney heights shall be designed in accordance with the requirements of Schedule E.
- (b) exhaust velocity, minimum of 6 metres per second and free vertical discharge.

Sampling Provisions

These shall comply with the EPA "Memorandum on Provision for Stack Emission Determinations".

- (a) Fume incinerator—
exhaust gas temperature shall be continuously measured and recorded. temperature recordings shall be marked to show true calendar date and time of day. calibration records shall be kept of all instruments measuring and recording temperature. temperature recordings and calibration records shall be retained for a minimum period of 6 months from the date of original record.
- (b) Wet scrubber—
inlet temperature or scrubber shall be continuously indicated. solution strength of scrubbing liquors shall be measured and recorded at least every seven (7) days.
- (c) Odour measurements shall be conducted whenever required in writing by the Authority using EPA Analytical Procedure No. B2 Odour—Dynamic Olfactometry.

Condensate Removal

Condensate shall be discharged to sewer wherever sewer connection is available.

Blood or Feather Drying**Odour Emission**

Odour level in the exhaust chimney gases from blood or feather drying process(s) shall not exceed 200 odour units.

Visible Emission

No visible emission, except water vapour is permitted from the chimney.

And the Honourable Evan Herbert Walker, Her Majesty's Minister for Conservation for the State of Victoria, shall give the necessary directions herein accordingly.

TOM FORRISTAL
Clerk of the Executive Council