Regulatory	Analy	sis	This space for use by IRRC	
(1) Agency			93 AUG 17 FN 3: 52	
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Environmental Protection			A MARTINE STATE AND A MARTINE STATE	
7-346			IRRC Number: 2058	
(3) Short Title				
Solvent Cleaning Operations				
(4) PA Code Cite	(5) Agency C	Contacts & Tel	lephone Numbers	
25 Pa. Code Chapter 121 and	Primary C	Contact: Sharon Freeman, 717-783-1303		
25 Pa. Code Section 129.63	25 Pa. Code Section 129.63 Secondary Contact: B			
(6) Type of Rulemaking (Check One) (7) Is a 120 Attached?			-Day Emergency Certification	
X Proposed Rulemaking No Final Order Adopting Regulation Yes: Final Order, Proposed Rulemaking Omitted Yes:			By the Attorney General By the Governor	
(8) Briefly explain the regulation in clear and non-technical language.				
The proposed revisions to Chapter 121 add new definitions and revise one definition related to solvent cleaning machines.				
The proposed revisions to Section 129.63 update equipment requirements for solvent cleaning machines to make the equipment requirements consistent with current technology. In addition, the operating requirements in Section 129.63 have been revised to specify improved operating practices. The proposed revisions also specify volatility limits for solvents used in cold cleaning machines. These revised equipment and operating practice requirements stress pollution prevention.				
(9) State the statutory authority for	the regulation a	and any releva	nt state or federal court decisions.	
This action is being taken under the authority of Section 5 of the Air Pollution Control Act (35 P.S. §4005.)				

(10) Is the regulation mandated by any federal or state law or court order, or federal regulation? If yes, cite the specific law, case or regulation, and any deadlines for action.

The proposed revisions are not mandated by law, court order, or regulation.

The proposed revisions are based on the recommendations of the Southwest and Southeast Pennsylvania Ozone Stakeholders Working Groups which recommended that the Department revise the requirements relating to use of solvents for cleaning of parts. In April of 1996, Southwestern and Southeastern Pennsylvania Ozone Stakeholder Working Groups were formed to address the problem in the major urban areas and to make recommendations to the Secretary regarding the implementation of measures necessary to attain and maintain the health-based standard. Both Stakeholders Groups recommended that the Commonwealth revise the VOC requirements related to solvent cleaning operations in order to reduce emissions of ozone precursors. This recommendation is part of the Commonwealth's ongoing efforts to develop and implement strategies to address the continuing health-related ozone air quality problem in Pennsylvania.

(11) Explain the compelling public interest that justifies the regulation. What is the problem it addresses?

Large areas of the Commonwealth continue to exceed the health-based standard for ground-level ozone. In April of 1996, Southwestern and Southeastern Pennsylvania Ozone Stakeholder Working Groups were formed to address the problem in the major urban areas and to make recommendations to the Secretary regarding the implementation of measures necessary to attain and maintain the health-based standard. Both Stakeholders Groups recommended that the Commonwealth develop VOC reduction measures to address emissions from the solvent cleaning operations in order to reduce emissions of ozone precursors. This regulation will help move the Commonwealth toward attainment of the health-based standard for ozone, which is in the best interest of the public.

(12) State the public health, safety, environmental or general welfare risks associated with non-regulation.

When ground-level ozone is present in concentrations in excess of the federal health-based standard, public health is adversely affected. The federal Environmental Protection Agency has concluded that there is an association between ambient ozone concentrations and increased hospital admissions for respiratory ailments, such as asthma. Further, although children, the elderly, and those with respiratory problems are most at risk, even healthy individuals may experience increased respiratory ailments and other symptoms when they are exposed to ambient ozone while engaged in activity that involves physical exertion. Though such symptoms are often temporary, repeated exposure could result in permanent lung damage.

The implementation of additional measures to address the ozone air quality nonattainment in Pennsylvania is necessary to protect the public health. The reduction of VOC emissions from solvent cleaning operations is one of the strategies recommended by both the Southeast and Southwest Pennsylvania Ozone Stakeholder Working Groups.

(13) Describe who will benefit from the regulation. (Quantify the benefits as completely as possible and approximate the number of people who will benefit.)

The proposed regulations will result in improved air quality for all citizens of the Commonwealth by reducing ozone precursor emissions. The reduction in ozone precursor emissions will result in improved ozone air quality throughout Pennsylvania. In addition, the proposed regulations will result in reduced levels of hazardous air pollutants throughout Pennsylvania. While affected facilities will experience some capital expenses to upgrade, these facilities will benefit over time from reduced operating costs associated with the efficient operating processes.

(14) Describe who will be adversely affected by the regulation. (Quantify the adverse effect as completely as possible and approximate the number of people who will be adversely affected.)

The proposed revisions will require that operators of certain solvent cleaning machines make modifications to the equipment to meet the revised equipment specifications. These equipment specifications are generally consistent with the federal maximum achievable control technology (MACT) requirements for solvent cleaning operations. Certain cleaning machines which are not subject to the MACT standards may be required to make hardware modifications. These modifications will reduce the evaporative loss of solvents and will, therefore, reduce operating costs. Certain cold cleaning machines may have to be refitted with a cover for closing the machine when it is not in use.

Operators of cold cleaning machines will be required to purchase lower volatility cleaning solvent. The anticipated cost increase per gallon of solvent, based on estimates by a major supplier of solvent and cold cleaning machines, will be approximately 45 percent. This cost increase will be offset by the reduced evaporative loss of solvent which will result from the lower volatility.

(15) List the persons, groups or entities that will be required to comply with the regulation. (Approximate the number of people who will be required to comply.)

Batch vapor cleaning machines and in-line vapor and cold cleaning machines are used in a variety of manufacturing operations for cleaning of parts before further processing. Cold cleaning machines are used in a variety of settings including automobile repair facilities, manufacturing operations and in maintenance shops at commercial, industrial, and institutional facilities. Based on emission inventory data, there are fewer than 100 vapor degreasing operations in the Commonwealth. Estimates, based on comparison of EPA methodologies for calculation of emissions from cold cleaning machines, indicate that there are approximately 71,400 cold cleaning units in Pennsylvania.

(16) Describe the communications with and inputs from the public in the development and drafting of the regulation. List the persons and/or groups who where involved, if applicable.

The Ozone Stakeholder Working Groups met for approximately 8 months deliberating ozone reduction strategies for Pennsylvania. Implementation of a program to reduce VOC emissions from solvent cleaning operations was one of the recommendations of the Ozone Stakeholder Working Groups.

A separate stakeholder group, including representatives of the major equipment and solvent suppliers, the automobile service industry, the industrial community, coating manufacturers, coating and coating equipment suppliers, environmental groups, and regulatory agencies met for approximately 8 months to discuss regulatory strategies. The proposed regulation represents the consensus position of the stakeholder group.

The proposed revisions were discussed with the Air Quality Technical Advisory Committee at the July 23, 1998 meeting.

(17) Provide a specific estimate of the cost and/or savings to the regulated community associated with compliance, including any legal, accounting or consulting procedures which may be required.

Cost savings of approximately \$14.6 million annually after the first year are anticipated for operators of cold cleaning machines. Operators of vapor cleaning machines and cold cleaning machines may experience costs for upgrading hardware, but these costs should be offset by reduced solvent loss and replacement purchase costs.

(18) Provide a specific estimate of the cost and/or savings to local governments associated with compliance, including any legal, accounting or consulting procedures which may be required.

The proposed revisions to the regulations are expected to impose no additional direct costs on local governments.

If, however, a local government operates solvent cleaning machines, additional cost savings commensurate with those for the private sector would be experienced.

(19) Provide a specific estimate of the cost and/or savings to state government associated with the implementation of the regulation, including any legal, accounting or consulting procedures which may be required.

To the extent that state government facilities utilize solvent cleaning machines, cost savings will be commensurate with those the private sector would experience.

Nominal costs may be incurred by the Commonwealth to assist in providing training and assistance to the regulated community. No new staff resources are anticipated to be necessary.

(20) In the table below, provide an estimate of the fiscal savings and cost associated with implementation and compliance for the regulated community, local government, and state government for the current year and five subsequent years.

	Current FY	FY +1	FY +2	FY +3	FY +4	FY +5
	Year	Year	Year	Year	Year	Year
SAVINGS:	\$	\$	\$	\$	\$	\$
Regulated Community	0.00	0.00	7.3 million	14.6 million	0.00	0.00
Local Government	0.00	0.00	0.00	0.00	0.00	0.00
State Governments	0.00	0.00	0.00	0.00	0.00	0.00
Total Savings	0.00	0.00	7.3 million	14.6 million	0.00	0.00
COSTS:	0.00	0.00	0.00	0.00	0.00	0.00
Regulated Community	0.00	0.00	0.00	0.00	0.00	0.00
Local Government	0.00	0.00	0.00	0.00	0.00	0.00
State Governments	0.00	0.00	0.00	0.00	0.00	0.00
Total Cost	0.00	0.00	0.00	0.00	0.00	0.00
REVENUE LOSSES:	0.00	0.00	0.00	0.00	0.00	0.00
Regulated Community	0.00	0.00	0.00	0.00	0.00	0.00
Local Government	0.00	0.00	0.00	0.00	0.00	0.00
State Governments	0.00	0.00	0.00	0.00	0.00	0.00
Total Revenue Losses	0.00	0.00	0.00	0.00	0.00	0.00

(20a) Explain how the cost estimates listed above were derived.

Based on data provided by a major solvent supplier, it is estimated that the solvents formulated to meet the lower volatility requirement of 1.0 mm Hg will cost approximately \$ 2.33 per gallon more than higher volatility materials presently in use. Based on the emission estimates, approximately 6,732,000 gallons of cold cleaning solvent are lost due to evaporation each year. These increased costs will be offset by the lower quantity of solvent which will be purchased at the lower volatility. Based on the assumption that there is a linear relationship between volatility and evaporative loss, it is estimated that lowering the vapor pressure from 3.0 mm Hg to 1.0 mm Hg will reduce evaporative loss by approximately 4,484,000 gallons per year.

Although the low volatility solvent cost is estimated to be approximately \$6.50 per gallon compared with a current cost of approximately \$4.15 per gallon for the existing cold cleaner solvents, the increased cost will more than offset the reduced solvent loss. It is estimated that the total cost savings at a vapor pressure of 1.0 mm Hg will be approximately \$14.6 million annually statewide. This is based on the assumption that the average unit currently emits (loses) 0.33 tons of solvent per year. With the low volatility solvent, this loss will be reduced to approximately 0.11 tons per year. The replacement cost for the low volatility solvent lost is \$2.33/gallon greater than the cost of the solvent presently used.

(20b) Provide the past three year expenditure history for programs affected by the regulation.

Program	FY-3	FY-2	FY-1	Current FY
Air Quality 21,000,000	26,000,000 29,000,000	29,000,000	27,000,000	

(21) Using the cost-benefit information provided above, explain how the benefits of the regulation outweigh the adverse effects and cost.

The proposed regulation will result in cost savings of approximately \$14.6 million annually for operators of cold cleaning machines. There may be slight costs for certain operators of vapor cleaning machines and cold cleaning machines which require hardware upgrades. These costs will be offset by reduced solvent use.

(22) Describe the non-regulatory alternative considered and the cost associated with those alternatives. Provide the reasons for their dismissal.

No non-regulatory alternatives were considered. The proposed revisions are responsive to issues raised during the Department's Regulatory Basics Initiative. Non-regulatory approaches would not have been responsive to the issues.

The stakeholder group which was instrumental in the development of the proposed regulation did not consider non-regulatory alternatives.

Non-regulatory approaches would not have been responsive to the matter. They would not have assured that affected facilities utilize the waste minimization and pollution prevention practices contained in the proposed regulation.

(23) Describe alternative regulatory schemes considered and the cost associated with those schemes. Provide the reasons for their dismissal.

Southeast and Southwest Ozone Stakeholder Working Groups' recommendations included a proposal that solvent cleaning be restricted to the use of citrus based materials and aqueous systems.

The third stakeholders group established to assist the development of this proposal determined that these requirements were impractical because they were not universally applicable to the wide variety of solvent cleaning activities required in the work place.

The stakeholder group agreed that a regulatory approach which stressed pollution prevention through appropriate hardware design and operation and through lower volatility solvents was the most practical. In addition, the group believed that waste minimization through proper storage and disposal of solvent-bearing cloths was appropriate.

(24) Are there any provisions that are more stringent than federal standards? If yes, identify the specific provisions and the compelling Pennsylvania interest that demands stronger regulations.

The proposed revisions impose certain hardware requirements for solvent cleaning machines which are not contained in the federal requirements for machines which emit solvent other than hazardous air pollutants. Most of the vapor cleaning machines are required by the federal MACT to install controls similar to those proposed for all vapor cleaning units. There is no federal requirement for low volatility limits for cold cleaning solvent, and there is no general federal requirement related to the proper handling of solvent bearing cloths.

The proposed regulations are based on recommendations of the Southeast and Southwest Pennsylvania Ozone Stakeholder Working Groups. The Stakeholders evaluated available strategies for attaining the health based ozone standard in Pennsylvania and determined that the reduction of VOC emissions from solvent metal cleaning operations was an important component of the attainment strategy.

(25) How does the regulation compare with those of other states? Will the regulation put Pennsylvania at a competitive disadvantage with other states?

Pennsylvania industry should not be put at a competitive disadvantage due to these proposed revisions. Other areas which have continuing ozone air quality concerns have adopted similar requirements for cold cleaning. Maryland has adopted requirements including a 1 mm Hg volatility limit for cold cleaning machines and a similar program is in place in the Chicago area and in the Metro East St. Louis area.

These proposed regulations are anticipated to result in significant cost savings.

(26) Will the regulation affect existing or proposed regulations of the promulgating agency or other state agencies? If yes, explain and provide specific citations.

No.

(27) Will any public hearings or informational meetings be scheduled? Please provide the dates, times, and locations, if available.

Three public hearings will be held.

(28) Will the regulation change existing reporting, record keeping, or other paperwork requirements? Describe the changes and attach copies of forms or reports which will be required as a result of implementation, if available.

The proposed revisions require that vendors of cold cleaning solvents provide the purchaser with documentation of certain physical characteristics of the solvent and that the purchaser maintain records of the solvent purchase for two years. These requirements are not outside the records which should be maintained as normal business activities.

(29) Please list any special provisions which have been developed to meet the particular needs of affected groups or persons including, but not limited to, minorities, elderly, small businesses, and farmers.

There are no specific provisions.

(30) What is the anticipated effective date of the regulation; the date by which compliance with the regulation will be required; and the date by which any required permits, licenses or other approvals must be obtained?

The effective date for the proposed revisions is anticipated to be early-2000. No licenses or permits are required.

(31) Provide the schedule for continual review of the regulation.

This regulation will be reviewed in accordance with the sunset review schedule published by the Department to determine whether the regulation effectively fulfills the goals for which it was intended.



NOTICE OF PROPOSED RULEMAKING DEPARTMENT OF ENVIRONMENTAL PROTECTION ENVIRONMENTAL QUALITY BOARD

SOLVENT CLEANING OPERATIONS 25 PA CODE CHAPTERS 121 AND 129

Notice of Proposed Rulemaking Department of Environmental Protection Environmental Quality Board 25 Pa. Code Chapters 121 and 129 Solvent Cleaning Operations

Preamble

The Environmental Quality Board (Board) proposes to amend 25 *Pa. Code* Chapters 121 (relating to definitions) and 129 (relating to standards for sources) as set forth in Annex A.

The amendments propose to add and revise definitions for terms in Chapter 121 that are used in the substantive sections of Chapter 129. A new Section 129.63 is proposed to change the current Section 129.63 in order to update equipment requirements for solvent cleaning machines to make the equipment requirements consistent with current technology. In addition, the operating requirements in Section 129.63 are proposed to be revised to specify improved operating practices. The proposed revisions also specify volatility limits for solvents used in cold cleaning machines. These revised equipment and operating practice requirements stress pollution prevention.

This notice is given under Board order at its meeting of May 19, 1999.

A. <u>Effective Date</u>

These amendments will be effective upon publication in the *Pennsylvania* Bulletin as final rulemaking.

B. Contact Persons

For further information, contact Terry Black, Chief, Regulation and Policy Development Section, Division of Compliance Enforcement, Bureau of Air Quality, 12th Floor, Rachel Carson State Office Building, P.O. Box 8468, Harrisburg, PA 17105-8468, telephone: 717-787-1663 or R. A. Reiley, Assistant Counsel, Bureau of Regulatory Counsel, Office of Chief Counsel, 9th Floor, Rachel Carson State Office Building, P.O. Box 8464, Harrisburg, PA 17105-8464, telephone: 717-787-7060.

C. Statutory Authority

This action is being taken under the authority of Section 5 of the Air Pollution Control Act (35 P.S. §4005) which grants the Board the authority to adopt regulations for the prevention, control, reduction, and abatement of air pollution.

D. Background of Amendment

The purpose of this proposed regulation is to reduce the volatile organic compounds (VOCs) emitted from solvent cleaning operations. This proposed regulation is a part of Pennsylvania's specific action plan to achieve the ozone reductions mandated by the U.S. EPA. The proposed revisions are based on the recommendations of the Southwest and Southeast Pennsylvania Ozone Stakeholders Working Groups which recommended that the Department revise the requirements relating to use of solvents for cleaning of parts. Both Stakeholders Groups recommended that the Commonwealth revise the VOC requirements related to solvent cleaning operations in order to reduce emissions of ozone precursors.

The proposed revisions will require that operators of solvent cleaning machines make modifications to the equipment to meet the revised equipment specifications. These machines are used in a variety of manufacturing operations for the cleaning of parts before further processing. Solvent cleaning machines are used in a variety of settings including auto repair facilities, manufacturing operations, and maintenance shops at commercial, industrial, and institutional facilities. These modifications will reduce the evaporative loss of solvents and will, therefore, reduce operating costs.

A separate, technical workgroup was convened to help draft the regulatory language. The group consisted of representatives of the major equipment and solvent suppliers, the automotive service industry, coating manufacturers, coating and coating equipment suppliers, environmental groups and regulatory agencies. The proposed regulations represent the consensus position of this workgroup. The regulations were developed taking into account technology, environmental, economic, and enforcement considerations. This group also believes that the best way to implement the proposed regulation is through an outreach and education program to the users of solvent cleaning equipment, particularly small businesses.

The VOC control requirements in the proposed regulations are more stringent than the control requirements in the federal Control Techniques Guidelines issued in November of 1997. Both the technical workgroup and the stakeholders determined that these control requirements were necessary for solvent cleaning operations to enable the Commonwealth to attain and maintain the ozone standard.

Specifically, the proposed revisions include requirements adopted in the federal maximum achievable control technologies (MACT) standard for solvent cleaning operations utilizing non-hazardous air pollutant (HAPS) solvents, as well as HAPS solvents. These provisions are to discourage operators from converting to non-HAPS solvents in order to avoid the more stringent MACT requirements. Such conversions could adversely affect air quality.

For the solvent volatility and hand-wipe requirements, there are no federal counterparts. The technical workgroup suggested this provision as a pollution prevention activity. Furthermore, the technical workgroup borrowed these provisions from the federal guidance for aerospace surface coating and applied them to solvent cleaning operations.

The Department worked with the Air Quality Technical Advisory Committee (AQTAC) in the development of these regulations. At its July 23, 1998 meeting, AQTAC recommended adoption of the proposed regulations.

E. Summary of Regulatory Revisions

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The proposed changes to Chapter 121 add and revise definitions of the terms used in the substantive provisions of Chapter 129. The new definitions include: "airless cleaning system", "airtight cleaning system", "batch vapor cleaning machine", "carbon adsorber", "cold cleaning machine", "dwell", "dwell time", "freeboard refrigeration device", "hand-wipe cleaning operation", "immersion cold cleaning machine", "in-line vapor cleaning machine", "reduced room draft", "remote reservoir cold cleaning machine", "solvent/air interface", "solvent cleaning machine", "solvent cleaning machine automated parts handling system", "solvent cleaning machine downtime", "solvent cleaning machine idle time", "superheated vapor system", "vapor cleaning machine", "vapor cleaning machine primary condenser", "vapor up control switch", and "working mode cover". The amended definition includes "freeboard ratio".

The changes to Sections 129.63(a)-(c) and the addition of (d) apply to cold cleaning machines, batch vapor cleaning machines, in-line vapor cleaning machines, airless cleaning machines, and airtight cleaning machines. These revisions update equipment requirements for these solvent-cleaning machines in order to make the equipment requirements consistent with current technology. These equipment specifications are consistent with the federal MACT requirements for solvent cleaning machines. However, as described in Section D, these revisions are more stringent than the control requirements in the federal control techniques guidelines. In addition, Section 129.63(e) is added to specify improved hand-wipe cleaning operation practices. There is no federal hand-wipe cleaning operation requirement. Finally, new Section 129.63(f), proposes to specify volatility limits for solvents in certain cleaning machines. There are no federal volatility limits for solvents.

This regulatory revision will be submitted to the Environmental Protection Agency as an amendment to the State Implementation Plan (SIP).

F. Benefits, Costs and Compliance

Executive Order 1996-1 requires a cost benefit analysis of the proposed regulation.

Benefits

Overall, the citizens of the Commonwealth will benefit from these recommended changes because they will result in improved air quality by reducing ozone precursor emissions, recognize and encourage pollution prevention practices, and encourage new technologies and practices which reduce emissions. Moreover, it is estimated that these proposed changes will save industry approximately \$7.3 million the first year and \$14.6 million annually thereafter statewide.

Compliance Costs

These regulations will slightly increase the operating costs of industry. However, the cost increase will be offset by the reduced evaporative loss of solvent which will result from the lower volatility, thereby reducing the need to purchase additional solvent.

Compliance Assistance Plan

The Department plans to educate and assist the public and the regulated community with understanding the newly revised requirements and how to comply with them. This will be accomplished through the Department's ongoing Regional Compliance Assistance Program.

Paperwork Requirements

The regulatory revisions will not increase the paperwork that is already generated during the normal course of business operations.

G. Sunset Review

This regulation will be reviewed in accordance with the Sunset Review schedule published by the Department to determine whether the regulation effectively fulfills the goals for which it was intended.

H. <u>Regulatory Review</u>

Under Section 5(e) of the Regulatory Review Act, the Act of June 30, 1998 (P.L. 73, NO. 19) (71 P.S. §745.5(a)), the Department submitted a copy of the proposed rulemaking on August 17, 1999 to the Independent Regulatory Review Commission and the Chairpersons of the Senate and House Environmental Resources and Energy Committees. In addition to submitting the proposed amendments, the Department has provided the Commission and the Committees with a copy of a detailed regulatory analysis form prepared by the Department. A copy of this material is available to the public upon request.

If the Commission has objections to any portion of the proposed amendments, it will notify the Department within thirty (30) days of the close of the public comment period. The notification shall specify the regulatory review criteria which have not been met by that portion. The Act specifies detailed procedures for the Department, the Governor, and the General Assembly to review these objections before final publication of the regulation.

I. Public Comment and Public Hearings

Public Hearings

The Board will hold three (3) public hearings for the purpose of accepting comments on the proposed amendments. The hearings will be held at 10:00 a.m. as follows:

September 28, 1999	Department of Environmental Protection Southwest Regional Office 400 Waterfront Drive Pittsburgh, Pa.
October 1, 1999	Department of Environmental Protection Southeast Regional Office Suite 6010, Lee Park 555 North Lane Conshohocken, Pa.
October 5, 1999	Department of Environmental Protection Southcentral Regional Office Susquehanna River Conference Room 909 Elmerton Avenue Harrisburg, Pa.

Persons wishing to present testimony at the hearings are requested to contact Kate Coleman at the Environmental Quality Board, P.O. Box 8477, Harrisburg, PA 17105-8477, telephone: 717-787-4526, at least one (1) week in advance of the hearing to reserve a time to present testimony. Oral testimony will be limited to ten (10) minutes for each witness and three (3) written copies of the oral testimony are requested to be presented at the hearing. Each organization is limited to designating one witness to present testimony on its behalf.

Persons with a disability who wish to attend the hearings and require an auxiliary aid, service, or other accommodations in order to participate, should contact Kate Coleman at 717-787-4526 or through the Pennsylvania AT&T Relay Service at 1-800-654-5984 (TDD) to discuss how the Department may accommodate their needs.

Written Comments

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In lieu of or in addition to presenting oral testimony at the hearings, interested persons may submit written comments, suggestions, or objections regarding the proposed amendments to the EQB, 15th Floor, Rachel Carson State Office Building, P.O. Box 8477, Harrisburg, PA 17105-8477. Comments received by facsimile will not be accepted. Comments must be received by October 27, 1999. In addition to the written comments, interested persons may also submit a summary of their comments to the EQB. The summary may not exceed one (1) page in length and must be received by October 27, 1999. The summary will be provided to each member of the EQB in the agenda packet distributed prior to the meeting at which the final regulations will be considered.

Electronic Comments

Comments may be submitted electronically to the Board at <u>regcomments@dep.state.pa.us</u>. A subject heading of the proposal and a return name and address must be included in each transmission. Comments submitted electronically must also be received by the Board by October 27, 1999.

BY:

James M. Seif Chairman Environmental Quality Board Annex A

Title 25. Environmental Protection

Part I. Department of Environmental Protection Subpart C. Protection of Natural Resources

Article III. Air Resources

Chapter 121. General Provisions

Chapter 121. General Provisions.

121.1. Definitions.

The definitions in section 3 of the act (35 P.S. §4003) apply to this article. In addition, the following words and terms, when used in this article, have the following meanings, unless the context clearly indicates otherwise:

* * * * *

AIRLESS CLEANING SYSTEM—A SOLVENT CLEANING MACHINE THAT IS AUTOMATICALLY OPERATED AND SEALS AT A DIFFERENTIAL PRESSURE OF 0.50 POUNDS PER SQUARE INCH GAUGE (PSIG) OR LESS, PRIOR TO THE INTRODUCTION OF SOLVENT OR SOLVENT VAPOR INTO THE CLEANING CHAMBER AND MAINTAINS DIFFERENTIAL PRESSURE UNDER VACUUM DURING ALL CLEANING AND DRYING CYCLES.

AIR-TIGHT CLEANING SYSTEM—A SOLVENT CLEANING MACHINE THAT IS AUTOMATICALLY OPERATED AND SEALS AT A DIFFERENTIAL PRESSURE NO GREATER THAN 0.50 PSIG, PRIOR TO THE INTRODUCTION OF SOLVENT OR SOLVENT VAPOR INTO THE CLEANING CHAMBER AND DURING ALL CLEANING AND DRYING CYCLES. * * * * *

BATCH VAPOR CLEANING MACHINE—A VAPOR CLEANING MACHINE IN WHICH INDIVIDUAL PARTS OR A SET OF PARTS MOVE THROUGH THE ENTIRE CLEANING CYCLE BEFORE NEW PARTS ARE INTRODUCED INTO THE CLEANING MACHINE. THE TERM INCLUDES SOLVENT CLEANING MACHINES, SUCH AS FERRIS WHEEL CLEANERS OR CROSS ROD MACHINES, THAT CLEAN MULTIPLE LOADS SIMULTANEOUSLY AND ARE MANUALLY LOADED. THE TERM DOES NOT INCLUDE MACHINES WHICH DO NOT HAVE A SOLVENT/AIR INTERFACE, SUCH AS AIRLESS AND AIR-TIGHT CLEANING SYSTEMS.

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CARBON ADSORBER—A BED OF ACTIVATED CARBON INTO WHICH AN AIR/SOLVENT GAS-VAPOR STREAM IS ROUTED AND WHICH ADSORBS THE SOLVENT ON THE CARBON.

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COLD CLEANING MACHINE—A DEVICE OR PIECE OF EQUIPMENT, CONTAINING AND/OR USING AN UNHEATED LIQUID WHICH CONTAINS GREATER THAN 5% SOLVENT OR HAZARDOUS AIR POLLUTANT (HAP) BY WEIGHT, WHERE PARTS ARE PLACED TO REMOVE DIRT, GREASE, OIL OR OTHER CONTAMINANTS AND COATINGS, FROM THE SURFACES OF THE PARTS OR TO DRY THE PARTS. THE TERM DOES NOT INCLUDE MACHINES WHICH DO NOT HAVE A SOLVENT/AIR INTERFACE, SUCH AS AIRLESS AND AIR-TIGHT CLEANING SYSTEMS.

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DWELL—HOLDING PARTS WITHIN THE FREEBOARD AREA OF A SOLVENT CLEANING MACHINE BUT ABOVE THE SOLVENT VAPOR ZONE. DWELL OCCURS AFTER CLEANING TO ALLOW SOLVENT TO DRAIN FROM THE PARTS OR PARTS BASKETS BACK INTO THE SOLVENT CLEANING MACHINE.

DWELL TIME—THE PERIOD OF TIME BETWEEN WHEN A PARTS BASKET IS PLACED IN THE VAPOR ZONE OF A BATCH VAPOR OR IN-LINE VAPOR CLEANING MACHINE AND WHEN SOLVENT DRIPPING CEASES. DWELL TIME IS DETERMINED BY PLACING A BASKET OF PARTS IN THE VAPOR ZONE AND MEASURING THE AMOUNT OF TIME BETWEEN WHEN THE PARTS ARE PLACED IN THE VAPOR ZONE AND DRIPPING CEASES.

* * * * *

FREEBOARD RATIO—For a cold cleaning [degreaser] MACHINE, the distance from the liquid solvent to the top edge of the [degreaser] COLD CLEANING MACHINE divided by the [degreaser] width OF THE COLD CLEANING MACHINE; for an operating [vapor degreaser or a conveyorized degreaser] BATCH VAPOR CLEANING MACHINE OR AN IN-LINE VAPOR CLEANING MACHINE, the distance from the top of the solvent vapor layer to the top edge of the [degreaser] VAPOR CLEANING MACHINE divided by the [degreaser] width of the VAPOR CLEANING MACHINE.

FREEBOARD REFRIGERATION DEVICE—A SET OF SECONDARY COILS MOUNTED IN THE FREEBOARD AREA OF A SOLVENT CLEANING MACHINE THAT CARRIES A REFRIGERANT OR OTHER CHILLED SUBSTANCE TO PROVIDE A CHILLED AIR BLANKET ABOVE THE SOLVENT VAPOR. A SOLVENT CLEANING MACHINE PRIMARY CONDENSER WHICH IS CAPABLE OF MAINTAINING A TEMPERATURE IN THE CENTER OF THE CHILLED AIR BLANKET AT NOT MORE THAN 30 PERCENT OF THE SOLVENT BOILING POINT IS BOTH A PRIMARY CONDENSER AND A FREEBOARD REFRIGERATION DEVICE.

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HAND-WIPE CLEANING OPERATION—REMOVING CONTAMINANTS SUCH AS DIRT, GREASE, OIL, AND COATINGS WITH A SOLVENT BY PHYSICALLY RUBBING WITH A MATERIAL SUCH AS A RAG, PAPER, OR COTTON SWAB THAT HAS BEEN MOISTENED WITH A CLEANING SOLVENT.

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IMMERSION COLD CLEANING MACHINE—A COLD CLEANING MACHINE IN WHICH THE PARTS ARE IMMERSED IN THE SOLVENT WHEN BEING CLEANED.

* * * * *

IN-LINE VAPOR CLEANING MACHINE—A VAPOR CLEANING MACHINE THAT USES AN AUTOMATED PARTS HANDLING SYSTEM, TYPICALLY A CONVEYOR, TO AUTOMATICALLY PROVIDE A SUPPLY OF PARTS TO BE CLEANED. IN-LINE VAPOR CLEANING MACHINES ARE FULLY ENCLOSED EXCEPT FOR THE CONVEYOR INLET AND EXIT PORTALS.

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REDUCED ROOM DRAFT---DECREASING THE FLOW OR MOVEMENT OF AIR ACROSS THE TOP OF THE FREEBOARD AREA OF A SOLVENT CLEANING MACHINE TO LESS THAN 50 FEET PER SECOND (15.2 METERS PER SECOND) BY METHODS INCLUDING REDIRECTING FANS AND/OR AIR VENTS, MOVING A MACHINE TO A CORNER WHERE THERE IS LESS ROOM DRAFT, OR CONSTRUCTING A PARTIAL OR COMPLETE ENCLOSURE.

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REMOTE RESERVOIR COLD CLEANING MACHINE—A MACHINE IN WHICH LIQUID SOLVENT IS PUMPED TO A SINK-LIKE WORK AREA THAT IMMEDIATELY DRAINS SOLVENT BACK INTO AN ENCLOSED CONTAINER WHILE PARTS ARE BEING CLEANED, ALLOWING NO SOLVENT TO POOL IN THE WORK AREA.

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SOLVENT/AIR INTERFACE—THE LOCATION OF CONTACT BETWEEN THE CONCENTRATED SOLVENT VAPOR LAYER AND THE AIR. THIS LOCATION OF CONTACT IS DEFINED AS THE MID-LINE HEIGHT OF THE PRIMARY CONDENSER COILS. FOR A COLD CLEANING MACHINE, IT IS THE LOCATION OF CONTACT BETWEEN THE LIQUID SOLVENT AND THE AIR.

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SOLVENT CLEANING MACHINE—A DEVICE OR PIECE OF EQUIPMENT THAT USES SOLVENT LIQUID OR VAPOR TO REMOVE CONTAMINANTS, SUCH AS DIRT, GREASE, OIL, AND COATINGS, FROM THE SURFACES OF MATERIALS. TYPES OF SOLVENT CLEANING MACHINES INCLUDE BATCH VAPOR CLEANING MACINES, IN-LINE VAPOR CLEANING MACHINES, IMMERSION COLD CLEANING MACHINES, REMOTE RESERVOIR COLD CLEANING MACHINES, AIRLESS CLEANING SYSTEMS AND AIR-TIGHT CLEANING SYSTEMS.

SOLVENT CLEANING MACHINE AUTOMATED PARTS HANDLING SYSTEM—A MECHANICAL DEVICE THAT CARRIES ALL PARTS AND PARTS BASKETS AT A CONTROLLED SPEED FROM THE INITIAL LOADING OF SOILED OR WET PARTS THROUGH THE REMOVAL OF THE CLEANED OR DRIED PARTS. SOLVENT CLEANING MACHINE DOWN TIME—THE PERIOD WHEN A SOLVENT CLEANING MACHINE IS NOT CLEANING PARTS AND THE SUMP HEATING COILS, IF PRESENT, ARE TURNED OFF.

SOLVENT CLEANING MACHINE IDLE TIME—THE PERIOD WHEN A SOLVENT CLEANING MACHINE IS NOT ACTIVELY CLEANING PARTS AND THE SUMP HEATING COIL, IF PRESENT, IS TURNED ON.

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SUPERHEATED VAPOR SYSTEM—A SYSTEM THAT HEATS THE SOLVENT VAPOR TO A TEMPERATURE 10⁰ ABOVE THE SOLVENT'S BOILING POINT. PARTS ARE HELD IN THE SUPERHEATED VAPOR BEFORE EXITING THE MACHINE TO EVAPORATE THE LIQUID SOLVENT ON THE PARTS.

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VAPOR CLEANING MACHINE—A SOLVENT CLEANING MACHINE THAT BOILS LIQUID SOLVENT, GENERATING A VAPOR, OR THAT HEATS LIQUID SOLVENT THAT IS USED AS PART OF THE CLEANING OR DRYING CYCLE. THE TERM DOES NOT INCLUDE MACHINES WHICH DO NOT HAVE A SOLVENT/AIR INTERFACE, SUCH AS AIRLESS AND AIR-TIGHT CLEANING SYSTEMS.

VAPOR CLEANING MACHINE PRIMARY CONDENSOR—A SERIES OF CIRCUMFERENTIAL COOLING COILS ON A VAPOR CLEANING MACHINE THROUGH WHICH A CHILLED SUBSTANCE IS CIRCULATED OR RECIRCULATED TO PROVIDE CONTINUOUS CONDENSATION OF RISING SOLVENT VAPORS, AND THEREBY, CREATE A CONCENTRATED VAPOR ZONE.

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VAPOR UP CONTROL SWITCH—A THERMOSTATICALLY CONTROLLED SWITCH WHICH SHUTS OFF OR PREVENTS CONDENSATE FROM BEING SPRAYED WHEN THERE IS NO VAPOR. ON IN-LINE VAPOR CLEANING MACHINES THE SWITCH ALSO PREVENTS THE CONVEYOR FROM OPERATING WHEN THERE IS NO VAPOR.

* * * * *

WORKING MODE COVER—ANY COVER OR SOLVENT CLEANING MACHINE DESIGN THAT ALLOWS THE COVER TO SHIELD THE CLEANING MACHINE OPENINGS FROM OUTSIDE AIR DISTURBANCES WHILE PARTS ARE BEING CLEANED IN THE CLEANING MACHINE. A COVER THAT IS USED DURING THE WORKING MODE IS OPENED ONLY DURING PARTS ENTRY AND REMOVAL.

CHAPTER 129. STANDARDS FOR SOURCES

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SOURCES OF VOCs

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§129.63. Degreasing operations.

[(a) Cold cleaning degreasers as defined in §121.1 (relating to definitions) which have a degreaser opening which is greater than 10 square feet shall:

(1) Be equipped with:

(i) A cover to prevent evaporation of solvent during periods of non-use.

(ii) Equipment for draining cleaned parts.

(iii) A permanent, conspicuous label summarizing the operating

requirements.

(2) Be operated in accordance with the following requirements:

(i) Do not dispose of waste solvent or transfer it to another party, such that greater than 20% of the waste solvent (by weight) can evaporate into the atmosphere; store waste solvent only in covered containers.

(ii) Close degreaser cover whenever not handling parts in the cleaner.

(iii) Drain cleaned parts for at least 15 seconds or until dripping ceases.

(b) Open top vapor degreasers as defined in §121.1 which have a degreaser opening which is greater than 10 square feet shall:

(1) Be equipped with:

(i) A cover that can be opened or closed easily without disturbing the

vapor zone.

(ii) A safety switch which shuts off the sump heat if condenser coolant is either not circulating or too warm-condenser flow switch and thermostat.

(iii) A safety switch which shuts off the spray pump if the vapor level drops more than 4 inches.

(iv) A permanent, conspicuous label summarizing the operating requirements found in paragraph (3).

(2) Be equipped with one of the following control devices:

(i) Freeboard ratio greater than or equal to .75 and, if the degreaser opening is greater than 10 square feet, the cover shall be powered.

(ii) Refrigerated chiller.

(iii) Enclosed design in which the cover or door opens only when the dry part is actually entering or exiting the degreaser.

(iv) Carbon adsorption system with ventilation greater than 50 cfm/ft/f2 of air vapor area when cover is open, and exhausting less than 25 parts per million of solvent averaged over one complete adsorption cycle.

(3) Be operated in accordance with the following requirements:

(i) Keep cover closed at all times except when processing work loads through the degreaser.

(ii) Minimize solvent carry-out by: racking all parts to allow full drainage; moving parts in and out of the degreaser at less than 11 feet per minute; degreasing the workload in the vapor zone at least 30 seconds or until condensation ceases; tipping out any pools of solvent on the cleaned parts before removal; and allowing parts to dry within the degreaser for at least 15 seconds or until visually dry.

(iii) Do not degrease porous or absorbent materials, such as cloth, leather,

wood or rope.

(iv) Work loads should not occupy more than half of the open top area of

the degreaser.

(v) [Reserved].

(vi) Never spray above the vapor level.

(vii) Repair solvent leaks immediately or shutdown the degreaser.

(viii) Do not dispose of waste solvent or transfer it to another party such that greater than 20% of the waste by weight will evaporate into the atmosphere; store waste solvent only in closed containers.

(ix) Exhaust ventilation should not exceed 65 cfm/ft/f2 of degreaser open area, unless necessary to meet OSHA requirements; ventilation fans should not be used near the degreaser opening.

(x) Water should not be visually detectable in solvent exiting the water

separator.

(c) Conveyorized degreasers as defined in §121.1 which have a degreaser opening which is greater than 10 square feet shall:

(1) Be equipped with:

(i) Either a drying tunnel or another means such as a rotating (tumbling) basket, sufficient to prevent cleaned parts from carrying out solvent liquid or vapor.

(ii) A safety switch which shuts off the sump heat if condenser coolant is either not circulating or too warm (condenser flow switch and thermostat).

(iii) A safety switch which shuts off the spray pump if the vapor level drops more than 4 inches.

(iv) A safety switch which shuts off the sump heat when vapor level rises too high-vapor level control thermostat.

(v) Entrances and exits which silhouette the work load so that the average clearance between parts of the edge of degreaser is either less than 4 inches or less than 10% of the width of the opening.

(vi) Covers for closing off the entrances and exits during shutdown hours.

(2) Be equipped with one of the following control devices:

(i) Refrigerated chiller.

(ii) Carbon adsorption system, with ventilation greater than 50 cfm/ft/f2 of air/vapor area when downtime covers are open and exhausting less than 25 parts per million of solvent by volume averaged over a complete adsorption cycle.

(3) Be operated in accordance with the following requirements:

(i) Exhaust ventilation may not exceed 65 cfm/ft/f2 of degreaser opening unless necessary to meet OSHA requirements; work place fans may not be used near the degreaser opening.

(ii) Minimize carry out emissions by racking parts for best drainage and by maintaining vertical conveyor speed at less than 11 feet per minute.

(iii) Do not dispose of waste solvent or transfer it to another party such that greater than 20% of the waste by weight can evaporate into the atmosphere; store waste solvent only in covered containers.

(iv) Repair solvent leaks immediately, or shutdown the degreaser.

(v) Water may not be visibly detectable in the solvent exiting the water

separator.

(vi) Down-time cover shall be placed over entrances and exits of conveyorized degreasers immediately after the conveyor and exhaust are shut down and removed just before they are started up.] (Editor's Note: This section is new and printed in regular type to enhance readability.)

(a) This section applies to all cold cleaning machines.

(1) Immersion cold cleaning machines shall have a freeboard ratio of 0.75 or greater.

(2) Immersion cold cleaning machines and remote reservoir cold cleaning machines shall:

(i) Have a permanent, conspicuous label summarizing the operating requirements in (129.63(a)(3).

(ii) Be equipped with a cover that shall be closed at all times except during cleaning of parts or the addition or removal of solvent. For remote reservoir cold cleaning machines which drain directly into the solvent storage reservoir, a perforated drain with a diameter of not more than six inches shall constitute an acceptable cover.

(3) Cold cleaning machines shall be operated in accordance with the following procedures:

(i) Waste solvent shall be collected and stored in closed containers. The closed containers may contain a device that allows pressure relief, but does not allow liquid solvent to drain from the container.

(ii) Cleaned parts shall be drained at least 15 seconds or until dripping ceases, whichever is longer. Parts having cavities or blind holes shall be tipped or rotated while the part is draining. During the draining, tipping or rotating, the parts shall be positioned so that solvent drains directly back to the cold cleaning machine.

(iii) Flushing of parts using a flexible hose or other flushing device shall be performed only within the cold cleaning machine. The solvent spray shall be a solid fluid stream, not an atomized or shower spray.

(iv) Sponges, fabric, wood, leather, paper products and other absorbent materials shall not be cleaned in the cold cleaning machine.

(v) When a pump-agitated solvent bath is used, the agitator shall be operated to produce a rolling motion of the solvent with no observable splashing of the solvent against the tank walls or the parts being cleaned. Air agitated solvent baths may not be used.

(vi) Spills during solvent transfer and use of the cold cleaning machine shall be cleaned up immediately, and the wipe rags or other sorbent material shall be immediately stored in covered containers for disposal or recycling. (vii) Work area fans shall be located and positioned so that they do not blow across the opening of the degreaser unit.

(4) After ______ (the blank refers to one year from effective date of regulations), a person shall not use, sell, or offer for sale for use in a cold cleaning machine any solvent with a vapor pressure of 2.0 millimeters of mercury (mm Hg) or greater, measured at 20°C (68°F) containing volatile organic compounds.

(5) After _____ (the blank refers to two years from the effective date of the regulations), a person shall not use, sell, or offer for sale for use in an cold cleaning machine a solvent with a vapor pressure of 1.0 mm Hg or greater, measured at 20°C (68°F) containing volatile organic compounds.

(6) On and after _____ (the blank refers to one year from the effective date of the regulations), a person who sells or offers for sale any solvent containing volatile organic compounds for use in a cold cleaning machine shall provide, to the purchaser, the following written information:

(i) The name and address of the solvent supplier.

(ii) The type of solvent including the product or vendor identification

number.

(iii) The vapor pressure of the solvent measured in mm hg at 20°C (68°F).

(7) A person who operates a cold cleaning machine shall maintain for not less than two years and shall provide to the Department, on request, the information specified in paragraph (6). An invoice, bill of sale, certificate that corresponds to a number of sales, Material Safety Data Sheet (MSDS), or other appropriate documentation acceptable to the Department may be used to comply with this section.

(b) This section applies to batch vapor cleaning machines.

(1) Batch vapor cleaning machines shall be equipped with:

(i) Either a fully enclosed design or a working and downtime mode cover that completely covers the cleaning machine openings when in place, is free of cracks, holes and other defects, and can be readily opened or closed without disturbing the vapor zone. If the solvent cleaning machine opening is greater than 10 square feet, the cover must be powered. If a lip exhaust is used, the closed cover shall be below the level of the lip exhaust.

(ii) Sides which result in a freeboard ratio greater than or equal to 0.75.

(iii) A safety switch (thermostat and condenser flow switch) which shuts off the sump heat if the coolant is not circulating.

(iv) A vapor up control switch which shuts off the spray pump if vapor is

not present.

(v) An automated parts handling system which moves the parts or parts baskets at a speed of 11 feet (3.4 meters) per minute or less when the parts are entering or exiting the vapor zone. If the parts basket or parts being cleaned occupy more than 50% of the solvent/air interface area, the speed of the parts basket or parts shall not exceed 3 feet per minute.

(vi) A device that shuts off the sump heat if the sump liquid solvent level drops to the sump heater coils.

(vii) A vapor level control device that shuts off the sump heat if the vapor level in the vapor cleaning machine rises above the height of the primary condenser.

(viii) A permanent, conspicuous label summarizing the operating requirements found in Section 129.63(b)(4).

(2) In addition to the requirements of Section (1), the operator of a batch vapor cleaning machine with a solvent/air interface area of 13 square feet or less shall implement one of the following options:

(i) A working mode cover, freeboard ratio of 1.0, and superheated vapor;

(ii) A freeboard refrigeration device and superheated vapor;

(iii) A working mode cover and a freeboard refrigeration device;

(iv) Reduced room draft, freeboard ratio of 1.0 and superheated vapor;

(v) A freeboard refrigeration device and reduced room draft;

(vi) A freeboard refrigeration device and a freeboard ratio of 1.0;

(vii) A freeboard refrigeration device and dwell;

(viii) Reduced room draft, dwell and a freeboard ratio of 1.0;

(ix) A freeboard refrigeration device and a carbon adsorber which reduces solvent emissions in the exhaust to a level not to exceed 100 ppm at any time; or

(x) A freeboard ratio of 1.0, superheated vapor and a carbon adsorber;

(3) In addition to the requirements of Section (1), the operator of a batch vapor cleaning machine with a solvent/air interface area of greater than 13 square feet shall use one of the following devices or strategies:

(i) A freeboard refrigeration device, a freeboard ratio of 1.0 and superheated vapor;

(ii) Dwell, a freeboard refrigeration device and reduced room draft;

(iii) A working mode cover and a freeboard refrigeration device and

superheated vapor;

(iv) Reduced room draft, freeboard ratio of 1.0 and superheated vapor;

(v) A freeboard refrigeration device, reduced room draft and superheated

vapor;

(vi) A freeboard refrigeration device, reduced room draft and a freeboard ratio of 1.0; or

(vii) A freeboard refrigeration device, superheated vapor, and a carbon adsorber which reduces solvent emissions in the exhaust to a level not to exceed 100 ppm at any time;

(4) Batch vapor cleaning machines shall be operated in accordance with the following procedures:

(i) Waste solvent, still bottoms and sump bottoms shall be collected and stored in closed containers. The closed containers may contain a device that allows pressure relief, but does not allow liquid solvent to drain from the container.

(ii) Cleaned parts shall be drained at least 15 seconds or until dripping ceases, whichever is longer. Parts having cavities or blind holes shall be tipped or rotated while the part is draining. A superheated vapor system shall be an acceptable alternate technology.

(iii) Parts baskets or parts shall not be removed from the batch vapor cleaning machine until dripping has ceased.

(iv) Flushing or spraying of parts using a flexible hose or other flushing device shall be performed within the vapor zone of the batch vapor cleaning machine or within a section of the machine that is not exposed to the ambient air. The solvent spray shall be a solid fluid stream, not an atomized or shower spray.

(v) Sponges, fabric, wood, leather, paper products and other absorbent materials shall not be cleaned in the batch vapor cleaning machine.

(vi) Spills during solvent transfer and use of the batch vapor cleaning machine shall be cleaned up immediately. Wipe rags or other sorbent material shall be immediately stored in covered containers for disposal or recycling.

(vii) Work area fans shall be located and positioned so that they do not blow across the opening of the batch vapor cleaning machine.

(viii) During startup of the batch vapor cleaning machine the primary condenser shall be turned on before the sump heater.

(ix) During shutdown of the batch vapor cleaning machine, the sump heater shall be turned off and the solvent vapor layer allowed to collapse before the primary condenser is turned off.

(x) When solvent is added to or drained from the batch vapor cleaning machine, the solvent shall be transferred using threaded or other leakproof couplings and the end of the pipe in the solvent sump shall be located beneath the liquid solvent surface.

(xi) The working and downtime covers shall be closed at all times except during parts entry and exit from the machine, during maintenance of the machine when the solvent has been removed, and during addition of solvent to the machine.

(c) This section applies to in-line vapor cleaning machines.

(1) In-line vapor cleaning machines shall be equipped with:

(i) Either a fully enclosed design or a working and downtime mode cover that completely covers the cleaning machine openings when in place, is free of cracks, holes and other defects, and can be readily opened or closed without disturbing the vapor zone.

(ii) A switch (thermostat and condenser flow switch) which shuts off the sump heat if the coolant is not circulating.

(iii) Sides which result in a freeboard ratio greater than or equal to 0.75.

(iv) A vapor up control switch.

(v) An automated parts handling system which moves the parts or parts baskets at a speed of 11 feet (3.4 meters) per minute or less when the parts are entering or exiting the vapor zone. If the parts basket or parts being cleaned occupy more than 50% of the solvent/air interface area, the speed of the parts basket or parts shall not exceed 3 feet per minute.

(vi) A device that shuts off the sump heat if the sump liquid solvent level drops to the sump heater coils.

(vii) A vapor level control device that shuts off the sump heat if the vapor level in the vapor cleaning machine rises above the height of the primary condenser.

(viii) A permanent, conspicuous label summarizing the operating requirements found in 129.63(c)(3).

(2) In addition to the requirements of Section (1), the operator of an in-line vapor cleaning machine shall use one of the following devices or strategies:

(i) A freeboard ratio of 1.0 and superheated vapor;

(ii) A freeboard refrigeration device and a freeboard ratio of 1.0;

(iii) Dwell and a freeboard refrigeration device; or

(iv) Dwell and a carbon adsorber which reduces solvent emissions in the exhaust to a level not to exceed 100 ppm at any time;

(3) In-line vapor cleaning machines shall be operated in accordance with the following procedures:

(i) Waste solvent, still bottoms, and sump bottoms shall be collected and stored in closed containers. The closed containers may contain a device that allows pressure relief, but does not allow liquid solvent to drain from the container.

(ii) Parts shall be oriented so that the solvent drains freely from the parts. Cleaned parts shall be drained at least 15 seconds or until dripping ceases, whichever is longer. Parts having cavities or blind holes shall be tipped or rotated while the part is draining.

(iii) Parts baskets or parts shall not be removed from the in-line vapor cleaning machine until dripping has ceased.

(iv) Flushing or spraying of parts using a flexible hose or other flushing device shall be performed within the vapor zone of the in-line vapor cleaning machine or within a section of the machine that is not exposed to the ambient air. The solvent spray shall be a solid fluid stream, not an atomized or shower spray.

(v) Sponges, fabric, wood, leather, paper products and other absorbent materials shall not be cleaned in the in-line vapor cleaning machine.

(vi) Spills during solvent transfer and use of the in-line vapor cleaning machine shall be cleaned up immediately, and the wipe rags or other sorbent material shall be immediately stored in covered containers for disposal or recycling.

(vii) Work area fans shall be located and positioned so that they do not blow across the in-line vapor cleaning machine.

(viii) During startup of the in-line vapor cleaning machine the primary condenser shall be turned on before the sump heater.

(ix) During shutdown of the in-line vapor cleaning machine, the sump heater shall be turned off and the solvent vapor layer allowed to collapse before the primary condenser is turned off.

(x) Spraying operations shall be done in the vapor zone or within a section of the machine that is not exposed to the ambient air.

(xi) When solvent is added to or drained from the in-line vapor cleaning machine, the solvent shall be transferred using threaded or other leakproof couplings and the end of the pipe in the solvent sump shall be located beneath the liquid solvent surface.

(d) This section applies to airless cleaning machines and air-tight cleaning machines.

(1) The operator of each machine shall maintain a log of solvent additions and deletions for each machine including the weight of solvent contained in activated carbon or other sorbent material used to control emissions from the cleaning machine.

(2) The operator of each machine shall demonstrate that the emissions from each machine, on a three-month rolling average, are equal to or less than the allowable limit determined by the use of the following equation:

$$EL = 330 (vol)^{0.6}$$

where:

EL = the three-month rolling average monthly emission limit (kilograms/month). vol = the cleaning capacity of machine (cubic meters).

(3) The operator of each machine shall operate the machine in conformance with the manufacturer's instructions and good air pollution control practices.

(4) The operator of each machine equipped with a solvent adsorber shall measure and record the concentration of solvent in the exhaust of the carbon adsorber weekly with a colorimetric detector tube designed to measure a concentration of 100 ppm by volume of solvent to air at an accuracy of \pm 25 ppm by volume. This test shall be conducted while the solvent cleaning machine is in the working mode and is venting to the adsorber. (5) The operator of each machine equipped with a solvent adsorber shall maintain and operate the machine and adsorber system so that emissions from the adsorber exhaust do not exceed 100 ppm by volume measured while the solvent cleaning machine is in the working mode and is venting to the adsorber.

(6) The machine shall be equipped with a permanent, conspicuous label summarizing the operating requirements found in Section 129.63(d)(5).

(7) Airless cleaning machines and air-tight cleaning machines shall be operated in accordance with the following procedures:

(i) Waste solvent, still bottoms, and sump bottoms shall be collected and stored in closed containers. The closed containers may contain a device that allows pressure relief, but does not allow liquid solvent to drain from the container.

(ii) Parts shall be oriented so that the solvent drains freely from the parts. Cleaned parts shall be drained at least 15 seconds or until dripping ceases, whichever is longer. Parts having cavities or blind holes shall be tipped or rotated while the part is draining.

(iii) Parts baskets or parts shall not be removed from the in-line vapor cleaning machine until dripping has ceased.

(iv) Sponges, fabric, wood, leather, paper products and other absorbent materials shall not be cleaned in the airless cleaning machines and air-tight cleaning machines.

(v) Spills during solvent transfer and use of the airless cleaning machines and air-tight cleaning machines shall be cleaned up immediately, and the wipe rags or other sorbent material shall be immediately stored in covered containers for disposal or recycling.

(vi) Work area fans shall be located and positioned so that they do not blow across the airless cleaning machine and air-tight cleaning machine.

(vii) Spraying operations shall be done in the vapor zone or within a section of the machine that is not exposed to the ambient air.

(viii) When solvent is added to or drained from the airless cleaning machine and air-tight cleaning machine, the solvent shall be transferred using threaded or other leakproof couplings and the end of the pipe in the solvent sump shall be located beneath the liquid solvent surface.

(e) The following applies to hand-wipe cleaning operations using cleaning solvents containing greater than 5% VOC or HAP by weight. Cloths, rags, paper towels, and other fabrics used for hand-wipe cleaning shall be placed in closed containers for disposal or recycling.

(f) This section applies to all solvent cleaning machines.

(g) As an alternative to complying with the provisions of §§129.63 (a) through (d) the operator of a solvent cleaning machine may demonstrate compliance with paragraph (1) or (2) below. The operator shall maintain records sufficient to demonstrate compliance. The records shall include, at a minimum, the quantity of solvent added to and removed from the solvent cleaning machine, the dates of the addition and removal and shall be maintained for not less than 2 years.

(1) If the cleaning machine has a solvent/air interface, the owner or operator shall:

(i) Maintain a log of solvent additions and deletions for each solvent cleaning machine.

(ii) Ensure that the emissions from each solvent cleaning machine are equal to or less than the applicable emission limit presented in the following table:

EMISSION LIMITS FOR BATCH VAPOR AND IN-LINE SOLVENT CLEANING MACHINES WITH A SOLVENT/AIR INTERFACE

Solvent cleaning machine	3-month rolling average i (kg/m ² /month)	monthly emission limit lb/ft ² /month
Batch vapor solvent cleaning machines	150	30.7
Existing in-line solvent cleaning machines	153	31.3
New in-line solvent cleaning machines	99	20.2

(2) If the cleaning machine is a batch vapor cleaning machine and does not have a solvent/air interface, the owner or operator shall:

(i) Maintain a log of solvent additions and deletions for each solvent cleaning machine.

(ii) Ensure that the emissions from each solvent cleaning machine are equal to or less than the appropriate limits as described in paragraphs (3) and (4) of this section.

(3) For cleaning machines with a cleaning capacity that is less than or equal to 2.95 cubic meters, the emission limit shall be determined using the following table or equation. If the table is used, and the cleaning capacity of the cleaning machine falls between two cleaning capacity sizes, then the lower of the two emission limits applies.

(4) For cleaning machines with a cleaning capacity that is greater than 2.95 cubic meters, the emission limit shall be determined using the following equation.

$$EL = 330 (vol)0.6$$

where:

EL = the 3-month rolling average monthly emission limit (kilograms/month). vol = the cleaning capacity of machine (cubic meters).

(5) Each owner or operator of a batch vapor or in-line solvent cleaning machine complying with §129.63(f) shall demonstrate compliance with the applicable 3-month rolling average monthly emission limit on a monthly basis. If the applicable 3-month rolling average emission limit is not met, an exceedance has occurred. All exceedances shall be reported to the Department within 30 days of the determination of the exceedance.

Cleaning capacity (M ³)	3-Month rolling average monthly emission limit (kilograms/month)	Cleaning capacity (cubic meters)	3-Month rolling average monthly emission limit (kilograms/month)	Cleaning capacity (cubic meters)	3-Month rolling average monthly emission limit (kilograms/month)
0.00	0	1.00	330	2.00	500
0.05	55	1.05	340	2.05	508
0.10	83	1.10	349	2.10	515
0.15	106	1.15	359	2.15	522
0.20	126	1.20	368	2.20	530
0.25	144	1.25	377	2.25	537
0.30	160	1.30	386	2.30	544
0.35	176	1.35	395	2.35	551
0.40	190	1.40	404	2.40	558
0.45	204	1.45	412	2.45	565
0.50	218	1.50	421	2.50	572
0.55	231	1.55	429	2.55	579
0.60	243	1.60	438	2.60	585
0.65	255	1.65	446	2.65	592
0.70	266	1.70	454	2.70	599

TABLE 6. EMISSION LIMITS FOR CLEANING MACHINES WITHOUTA SOLVENT/AIR INTERFACE

21

Cleaning capacity (M ³)	3-Month rolling average monthly emission limit (kilograms/month)	Cleaning capacity (cubic meters)	3-Month rolling average monthly emission limit (kilograms/month)	Cleaning capacity (cubic meters)	3-Month rolling average monthly emission limit (kilograms/month)
0.75	278	1.75	462	2.75	605
0.80	289	1.80	470	2.80	612
0.85	299	1.85	477	2.85	619
0.90	310	1.90	485	2.90	625
0.95	320	1.95	493	2.95	632

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ENVIRONMENTAL QUALITY BOARD NOTICE OF PUBLIC HEARINGS

PROPOSED AMENDMENTS TO PENNSYLVANIA'S AIR QUALITY REGULATIONS AND THE STATE IMPLEMENTATION PLAN --SOLVENT CLEANING OPERATIONS

The Environmental Quality Board (EQB) will hold three public hearings to accept comments on a proposal to reduce volatile organic compound (VOC) emissions from solvent cleaning operations.

The proposal is part of Pennsylvania's plan to achieve the ozone reductions mandated by the Environmental Protection Agency (EPA) and is based on recommendations of the Southeast and Southwest Pennsylvania Ozone Stakeholder Working Groups to reduce emissions of ozone precursors that result from the use of solvents for the cleaning of parts. Chapter 121 is revised to both add and modify definitions related to solvent cleaning operations and degreasing equipment. Chapter 129 revises the hardware requirements for solvent cleaning machines for consistency with the federal maximum achievable control technology (MACT). In addition, revisions to Chapter 129 establish volatility limits for solvents used in cold cleaning degreasers and establish housekeeping requirements for hand wipe cleaning cloths. These modifications will reduce the evaporative loss of solvents which, in turn, will reduce operating costs.

DEP convened a technical workgroup to assist in drafting the proposed regulations, and this proposal represents the consensus of this group. The group represented major equipment and solvent suppliers, the automotive service industry, coating manufacturers, coating and coating equipment suppliers, environmental groups and regulatory agencies. In addition, DEP consulted with the Small Business Assistance Program Compliance Advisory Committee as well as the Air Quality Technical Advisory Committee (AQTAC) in developing this proposal.

The regulation, if approved, will be submitted to the Environmental Protection Agency (EPA) as a revision to the State Implementation Plan (SIP).

The hearings will be held at 10:00 a.m. as follows:

September 28, 1999	Department of Environmental Protection Southwest Regional Office 400 Waterfront Drive Pittsburgh, Pa.
October 1, 1999	Department of Environmental Protection Southeast Regional Office Suite 6010, Lee Park 555 North Lane Conshohocken, Pa.
October 5, 1999	Department of Environmental Protection Southcentral Regional Office Susquehanna River Conference Room 909 Elmerton Avenue Harrisburg, Pa.

Public Comments

Persons wishing to present testimony at any of the hearings are requested to contact Kate Coleman at the Environmental Quality Board, P.O. Box 8477, Harrisburg, PA 17105-8477, (717) 787-4526, at least one week in advance of the hearing to reserve a time to present testimony. Oral testimony is limited to ten minutes for each witness. Witnesses are requested to submit three written copies of their oral testimony to the hearing chair at the hearing. Each organization is limited to designating one witness to present testimony on its behalf.

Persons with a disability who wish to attend the hearing and require an auxiliary aid, service or other accommodation in order to participate should contact Kate Coleman at (717) 787-4526, or through the Pennsylvania AT&T Relay Service at 1-800-654-5984 (TDD), to discuss how their needs may be accommodated.

In lieu of or in addition to presenting oral testimony at the hearing, interested persons may submit written comments, suggestions, or objections regarding the proposed regulations to the Environmental Quality Board, P.O. Box 8477, Harrisburg, PA 17105-8477 (express mail: Rachel Carson State Office Building, 15th Floor, 400 Market Street, Harrisburg, PA 17101-2301). Comments on the proposal must be received by October 27, 1999. Comments submitted by facsimile will not be accepted. Electronic comments may be submitted to RegComments@dep.state.pa.us. In addition to written or electronic comments, interested persons may submit a summary of their comments to the EQB. The summary cannot exceed one page in length and must also be received by October 27, 1999. One-page summaries will be provided to each member of the EQB in the agenda packet distributed prior to the meeting at which the final regulations will be considered.

Copies of the Proposal

Copies of the proposal are available from Sheila Barley, Division of Air Resource Management, Bureau of Air Quality, P.O. Box 8468, Harrisburg, PA 17105-8468, at (717) 787-9495 (e-mail: Barley.Sheila@a1.dep.state.pa.us). The proposal is also available on the DEP Website at http://www.dep.state.pa.us (choose Public Participation Center, Proposals Open for Comment).

JAMES M. SEIF Chairman



Rachel Carson State Office Building P.O. Box 2063 Harrisburg, PA 17105-2063 August 17, 1999

The Secretary

717-787-2814

Mr. Robert E. Nyce Executive Director Independent Regulatory Review Commission 14th Floor, Harristown II Harrisburg, PA 17101

RE: Proposed Rulemaking: Solvent Cleaning Operations (#7-346)

Dear Bob:

Enclosed is a copy of a proposed regulation for review and comment by the Commission pursuant to Section 5(a) of the Regulatory Review Act. This proposal is scheduled for publication as a proposed rulemaking in the *Pennsylvania Bulletin* on August 28, 1999, with a 60-day public comment period. Three public hearings have been scheduled as indicated on the enclosed public notice. This proposal was approved by the Environmental Quality Board (EQB) on May 19, 1999.

The proposal is part of Pennsylvania's plan to achieve the ozone reductions mandated by the Environmental Protection Agency (EPA) and is based on recommendations of the Southeast and Southwest Pennsylvania Ozone Stakeholder Working Groups to reduce emissions of ozone precursors through the use of solvents for the cleaning of parts. Chapter 121 is revised to both add and modify definitions related to solvent cleaning operations and degreasing equipment. Chapter 129 revises the hardware requirements for solvent cleaning machines for consistency with the federal maximum achievable control technology (MACT). These modifications will reduce the evaporative loss of solvents which, in turn, will reduce operating costs.

DEP convened a technical workgroup to assist in drafting the proposed regulations, and this proposal represents the consensus of this group. The group represented major equipment and solvent suppliers, the automotive service industry, coating manufacturers, coating and coating equipment suppliers, environmental groups and regulatory agencies. In addition, DEP consulted with the Small Business Assistance Program Compliance Advisory Committee as well as the Air Quality Technical Advisory Committee (AQTAC) in developing this proposal.

The Department will provide the Commission with any assistance required to facilitate a thorough review of this proposal. Section 5(g) of the Act provides that the Commission may, within ten days after the expiration of the Committee review period, notify the agency of any objections to the proposed regulation. The Department will consider any comments or suggestions received by the Commission, together with Committee and other public comments prior to final adoption.

For additional information, please contact Sharon Freeman, Regulatory Coordinator, at 783-1303.

Sincerely, James M. Seif Secretary

Enclosures

TRANSMITTAL SHEET FOR REGULATIONS SUBJECT TO THE REGULATORY REVIEW ACT

I.D: NUMBE	ER: 7-346		CO MIC 17 PH 9:52
SUBJECT:	Solvent Cleaning Ope	erations	
AGENCY:	DEPARTMENT OF	ENVIRONME	ENTAL PROTECTION
x	TY Proposed Regulation	PE OF REGUL	LATION
	Final Regulation		
	Final Regulation with Notice	of Proposed Ru	ulemaking Omitted
	120-day Emergency Certifica	ation of the Attor	orney General
	120-day Emergency Certifica	ation of the Gove	/ernor
	Delivery of Tolled Regulatio a. With Revision	n ns b.	Without Revisions
	FIL	ING OF REGU	ULATION
DATE	SIGNATURE	DESIG	GNATION
8-17-99	Lindy Zim	HOUSE COM RESO	MMITTEE ON ENVIRONMENTAL DURCES & ENERGY
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		ATTORNEY	GENERAL
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July 20, 1999)		