



Environmental Quality Board

Original: 2058

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cc: Harris
Nanorta
Wilmarth

p.o. box 8477 Sandusky, Legal
Harrisburg, pa. 17105-8477 (717)787-4526

December 9, 1999

Mr. Robert E. Nyce, Executive Director
Independent Regulatory Review Commission
14th Floor, Harrisburg #2
333 Market Street
Harrisburg, PA 17120

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

Dear Mr. Nyce:

Enclosed are copies of the official verbatim transcripts for the public hearings the Environmental Quality Board recently held on the proposed solvent cleaning operations.

If you have any questions, please call me.

Sincerely,

Sharon K. Freeman
Regulatory Coordinator

Enclosures

RECEIVED
1999 DEC 16 AM 8:55
INDEPENDENT REGULATORY
REVIEW COMMISSION

ENVIRONMENTAL QUALITY BOARD
PUBLIC HEARING

- - - - -

IN RE:)
)
PROPOSED REGULATIONS -)
SOLVENT CLEANING)
OPERATIONS)

- - - - -

DEP - Southwest
Regional Office
500 Waterfront Drive
Tuesday, September 28,
1999 at 10:04 a.m.

- - - - -

BEFORE: Terry Black, Bureau of Air Quality
Bill Charlton, Bureau of Air Quality

- - - - -

Reported by:

Kathleen A. Myers
Court Reporter

RECEIVED
1999 DEC 16 AM 8:55
INDEPENDENT REGULATORY
REVIEW COMMISSION

P R O C E E D I N G S

MR. BLACK: Welcome to this Environmental Quality Board public hearing on a proposal to reduce volatile organic compound (VOC) emissions from solvent cleaning operations. This proposal was approved by the EQB on May 19, 1999.

My name is Terry Black. I am Chief, Regulation & Policy Development Section, Bureau of Air Quality. I am chairing this hearing due to the unavailability of any EQB members today. With me today is Bill Charlton of the Southwest Regional Office, Bureau of Air Quality.

Notice of today's hearing was printed in the Pennsylvania Bulletin on August 29, 1999. In addition, notices were published in major newspapers throughout the Commonwealth.

The proposal is part of Pennsylvania's plan to achieve the ozone reductions mandated by the Environmental Protection Agency and is based on recommendations of the Southeast and Southwest

1
2 Pennsylvania Ozone Stakeholder Working Groups
3 to reduce emissions of ozone precursors that
4 result from the use of solvents for cleaning of
5 parts.

6 Chapter 121 is revised to both add
7 and modify definitions related to solvent
8 cleaning operations and degreasing equipment.
9 Chapter 129 revises the hardware requirements
10 for solvent cleaning machines for consistency
11 with the federal Maximum Achievable Control
12 Technology (MACT).

13 In addition, revisions to
14 Chapter 129 establish volatility limits for
15 solvents used in both cold cleaning degreasers
16 and establish housekeeping requirements for
17 hand wipe cleaning cloths. These modifications
18 will reduce the evaporative loss of solvents,
19 which in turn will reduce operating costs.

20 DEP convened a technical work group
21 to assist in drafting the proposed regulations,
22 and this proposal represents the consensus of
23 this group. The group represented major
24 equipment and solvent suppliers, the automotive
25 service industry, coating manufacturers and

1
2 solvent equipment suppliers, and environmental
3 groups and regulatory agencies.

4 In addition, DEP consulted with the
5 Small Business Assistance Program Compliance
6 Advisory Committee as well as the Air Quality
7 Technical Advisory Committee (AQTAC) in
8 developing this proposal.

9 The regulation, if approved, will be
10 submitted to the Environmental Protection
11 Agency as a revision to the State
12 Implementation Plan.

13 In order to give everyone an equal
14 opportunity to comment on this proposal, I
15 would like to establish the following ground
16 rules:

17 1. I will first call upon the
18 witnesses who have preregistered to testify at
19 today's hearing as included on today's schedule
20 of witnesses. There have been no individuals
21 preregistered to testify. After hearing from
22 these witnesses, I will provide any other
23 interested parties with the opportunity to
24 testify as time allows.

25 2. Oral testimony is limited to ten

minutes.

3. Each organization is requested to designate one witness to present testimony on its behalf.

4. Each witness is asked to submit three written copies of the testimony to aid in transcribing the hearing. Please hand me your copies prior to presenting your testimony.

5. Please state your name and address for the record prior to presenting your testimony.

6. We would also appreciate your help in spelling names and terms that may not be generally familiar so that the transcript can be as accurate as possible.

Interested persons may submit written comments in addition to or in place of oral testimony presented here. All comments must be received by the EQB by October 27, 1999. Comments should be addressed to the Environmental Quality Board, P.O. Box 8477, Harrisburg, Pennsylvania 17105-8477.

Anyone interested in a transcript of this hearing may contact the reporter here

1
2 today to arrange to purchase a copy. I will
3 now call the first witness.

4 There is no indication that anyone
5 is interested in testifying. We'll give a
6 couple of minutes for stragglers to show up.

7 (Short recess.)

8 I would like to remind you that
9 written comments are due to the EQB no later
10 than October 27. As there are no persons here
11 that wish to comment, I hereby close this
12 public hearing at 10:10 a.m.

13 Thank you for coming.

14 (Whereupon, the above-entitled
15 matter was concluded at 10:10 a.m., this date.)
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C E R T I F I C A T E

I hereby certify that the
proceedings and evidence are contained
fully and accurately in the
stenographic notes taken by me on the
hearing of the within cause and that
this is a correct transcript of the
same.

-----Kathleen A. Myers-----

BEFORE THE OFFICE OF CHIEF COUNSEL
OF
DEPARTMENT OF ENVIRONMENTAL PROTECTION

- - -

IN RE: PROPOSAL TO REDUCE VOLATILE
ORGANIC COMPOUND EMISSIONS
FROM SOLVENT CLEANING
OPERATIONS

BEFORE: TERRY L. BLACK
REGULATION AND POLICY
DEVELOPMENT SECTION BUREAU
OF AIR QUALITY CONTROL
FREDERICK R. TAYLOR, ESQ.
DIRECTOR AND COUNSEL
ENVIRONMENTAL RESOURCES AND
ENERGY COMMITTEE (R)

LOCATION: Southeast Regional Office
Suite 6010, Lee Park
555 North Lane, Conshocken, Pennsylvania

HEARING: October 1, 1999, 10:00 a.m.

WITNESS: Charles Fiore

CAPITAL COURT REPORTING
42 S. 15th Street
10th Floor, Suite 1006
Philadelphia, Pennsylvania 19102
(215) 636-9800

A P P E A R A N C E S:

DEPARTMENT OF ENVIRONMENTAL PROTECTION
POLICY OFFICE

BY: LOUIS J. GUERRA JR., ESQUIRE

400 Market Street

Harrisburg, PA 17101

(717) 783-8727

Counsel for Plaintiff, Department of Environmental
Protection

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: TERRY L. BLACK

Bureau of Air Quality

Rachel Carson State Office Building

P.O. Box 8468

Harrisburg, PA 17105

Chief Regulation and Policy

Development Section Division of Air Resource
Management

(717) 787-4310

FREDERICK R. TAYLOR

BY: FREDERICK R. TAYLOR, ESQUIRE

House Box 202217

Harrisburg, PA 17120

(717) 787-3677

Environmental Resources and Energy Committee (R)

ALSO PRESENT:

George F. Lorenson Jr.

- - -

I N D E XWITNESS:PAGE

Charles Fiore

By Mr. Guerra

- - -

E X H I B I T SNO.DESCRIPTIONPAGE

(NONE WERE MARKED.)

- - -

1 - - -
2 PROCEEDINGS
3 - - -

4 MR. TAYLOR: Rather than go through the
5 entire process of reading the statement into
6 the record, I'm just going to introduce Terry
7 Black, who is sitting next to me and Mr. Lou
8 Guerra from the Policy Office and my name is
9 Fred Taylor. I am a representative of Art
10 Hershey. And as I mentioned, the hearing
11 today is being conducted to hear testimony on
12 the Regulation Solvent Cleaning Operations
13 which was published in the Pennsylvania
14 Bulletin on August 28, 1999, and also
15 published in major newspapers throughout the
16 Commonwealth. Rather than read into the
17 record a statement, all which basically
18 describes regulations, I'll ask that the
19 Stenographer just insert this into the record
20 unless anybody would like me to read it. If
21 not, I will ask that that be done. And since
22 there's nobody who wants to present testimony,
23 we will hold the desk open for another 12
24 minutes in case anybody shows up who would

1 like to present testimony because they got
2 stuck on the Turnpike at the Valley Forge
3 exit.

4 The hour having been repeatedly
5 announced, I'm going to withhold the meeting.
6 Should anyone appear or make any or submit any
7 testimony -- let me ask, is there anybody who
8 would like to testify here? If not, I will
9 ask that the record be closed and read a short
10 statement. And that is to remind you that all
11 comments must be received by the Environmental
12 Quality Board no later than October 27, 1999.
13 And if no other person wishes to comment, I am
14 adjourning the meeting at 10:15 a.m.

15 - - -

16 (Whereupon, the meeting concluded at
17 10:15 a.m.)

18 - - -

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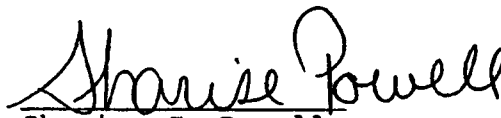
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C E R T I F I C A T I O N

I, Sharise J. Powell, a Court Reporter and
Commissioner of Deeds for the Commonwealth of
Pennsylvania, do hereby certify the foregoing to be a
true and accurate transcript of my original stenographic
notes taken at the time and place hereinbefore set forth.


Sharise J. Powell
Court Reporter
Commissioner of Deeds

DATED: 10-22-99

(The foregoing certification of this
transcript does not apply to any reproduction of the same
by any means, unless under the direct control and/or
supervision of the certifying shorthand reporter.)

SHARISE J. POWELL
NOTARY PUBLIC
Commonwealth of Pennsylvania
My Commission Expires July 4, 2004

ORIGINAL

EQB PUBLIC HEARING
FOR AMENDMENTS TO PENNSYLVANIA'S
AIR QUALITY REGULATIONS AND THE
STATE IMPLEMENTATION PLAN
SOLVENT CLEANING OPERATIONS

- - -

- - -

TUESDAY, OCTOBER 5, 1999

- - -

The following Public Hearing was taken at the location of DEP - Southcentral Regional Office, Susquehanna River Conference Room, 909 Elmerton Avenue, Harrisburg, Pennsylvania, commencing at approximately 10:00 a.m., October 5, 1999 before Marianne Moore, Shorthand Reporter and Commissioner of Deeds in the Commonwealth of Pennsylvania.

A P P E A R A N C E S

(BOARD MEMBERS)

PAUL HESS,
Citizens Advisory Council Member

TERRY BLACK, Chief
Division of Regulation and Policy Development
Section
Bureau of Air Quality Control

BO REILEY,
Assistant Counsel

SHARON FREEMAN,
Regulatory Coordinator
Policy Office

WITNESSES:

MRS. SHARON ROTH
Pennsylvania Chamber of Business and Industry

MR. JOHN O'SULLIVAN
Lucent Technologies

1 - - -
2 PROCEEDINGS
3 - - -

4 BY MR. HESS: Welcome to this Environmental
5 Quality Board (EQB) public hearing on a proposal to
6 reduce volatile organic compound (VOC) emissions from
7 solvent cleaning operations. This proposal was
8 approved by the Environmental Quality Board on May
9 19th, 1999. My name is Paul Hess and I am a Citizens
10 Advisory Council member of the Environmental Quality
11 Board. With me today from the Department of
12 Enviromental Protection are Terry Black, Chief,
13 Division of Regulation and Policy Development Section
14 Bureau of Air Quality Control. And Bo Reiley, and Bo
15 is Assistant Counsel from the DEP. And on my left is
16 Sharon Freeman. And Sharon is a Regulatory
17 Coordinator of the Policy Office.

18 Notice of today's hearing was printed in the
19 Pennsylvania Bulletin on August 28th, 1999. In
20 addition, notices were published in major newspapers
21 throughout the Commonwealth.

22 The proposal is part of Pennsylvania's plan to
23 achieve the ozone reductions mandated by the
24 Environmental Protection Agency (EPA) and is based on

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1 recommendations of the Southeast and Southwest
2 Pennsylvania Ozone Stakeholder Working Groups to
3 reduce emissions of ozone precursors that result from
4 the use of solvents for the cleaning of parts.
5 Chapter 121 is revised to both add and modify
6 definitions related to solvent cleaning operations and
7 degreasing equipment. Chapter 129 revises the
8 hardware requirements for solvent cleaning machines
9 for consistency with the federal maximum achievement
10 control technology (MACT). In addition, revisions to
11 Chapter 129 establish volatility limits for solvents
12 used in cold cleaning degreasers and establish
13 housekeeping requirements for hand wipe cleaning
14 cloths. These modifications will reduce the
15 evaporative loss of solvents which, in turn, will
16 reduce operating costs.

17 DEP has convened a technical work group to
18 assist in drafting the proposed regulations, and this
19 proposal represents the consensus of this group. The
20 group represented major equipment and solvent
21 suppliers, the automotive service industry,
22 environmental groups and regulatory agencies. In
23 addition, DEP consulted with the Small Business
24 Assistance Program Compliance Advisory Committee as

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1 well as the Air Quality Technical Advisory Committee
2 (AQTAC) in developing this proposal.

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

6 In order to give everyone an equal opportunity
7 to comment on this proposal, I would like to establish
8 the following ground rules. I will first call upon
9 the witnesses who have preregistered to testify at
10 today's hearing as included on today's schedule of
11 witnesses. After hearing from these witnesses, I will
12 provide any other interested parties with the
13 opportunity to testify as time allows.

14 Oral testimony is limited to ten minutes. Each
15 organization is requested to designate one witness to
16 present testimony on its behalf.

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18 copies of the testimony to aid in transcribing the
19 hearing. Please hand me your copies prior to
20 presenting your testimony.

21 Please state your name and address for the
22 record, prior to presenting your testimony. We would
23 also appreciate your help in spelling names and terms
24 that may not be generally familiar so that the

1 transcript can be as accurate as possible.

2 Interested persons may submit written comments
3 in addition to or in place of oral testimony presented
4 here. All comments must be received by the
5 Environmental Quality Board by October 27th, 1999.
6 Comments should be addressed to the Environmental
7 Quality Board, P.O. Box 8477, Harrisburg, PA 17105-
8 8477.

9 Anyone interested in a transcript of this
10 hearing may contact the reporter here today to arrange
11 to purchase a copy. I will now call the first
12 witness, Ms. Sharon Roth. Sharon is from the
13 Pennsylvania Chamber of Business and Industry.
14 Sharon?

15 BY MS. ROTH: My name is Sharon Roth,
16 R-O-T-H with the Pennsylvania Chamber of Business and
17 Industry located in Harrisburg, Pennsylvania.

18 Good morning. As I said, my name is Sharon
19 Roth. I am the Director of Regulatory Affairs for the
20 Pennsylvania Chamber of Business and Industry. I want
21 to thank you for the opportunity to testify today on
22 the proposed changes to the regulations for solvent
23 cleaning operations.

24 I represent the Chamber, and the Chamber is the

1 largest broad based business association in
2 Pennsylvania. Our more than six thousand employ about
3 fifty percent of Pennsylvania's private work force or
4 approximately 1.5 million employees. Eighty percent
5 of our members have less than one hundred employees.
6 The Chamber is dedicated to advocating reasonable
7 regulations that encourage economic growth while
8 protecting the environment.

9 The package before you greatly concerns the
10 Chamber's membership. On August 9th, 1995, DEP
11 Secretary, Jim Seif announced the regulatory basics
12 initiative at the Chamber's DEP Quarterly meeting. He
13 challenged the Chamber members to identify regulations
14 or policy that were more stringent than federal
15 standards, overly burdensome or costly, outdated or
16 unclear. On November 15th, 1995 the Chamber met the
17 challenge and delivered a one hundred and fifty-six
18 page document full of regulations that qualified for
19 the regulatory basics initiative with recommendations
20 for improvement. To our members, this initiative
21 signified the dawning of a common sense approach to
22 the regulatory process and a recognition that
23 environmental protection and economic prosperity were
24 not mutually exclusive.

1 While we have seen improvement over the past few
2 years in various areas, this particular package
3 appears to be a deviation from the spirit of the
4 regulatory basics initiative. This regulation is
5 being proposed to update equipment requirements to
6 current technology and mandates improved operating
7 practices to stress pollution prevention. However,
8 it will greatly restrict the use of solvents in
9 cleaning operations while potentially increasing the
10 cost of doing business. In many cases, there is no
11 satisfactory alternative to the solvents our members
12 are using.

13 The current regulation breaks solvent cleaning
14 into three parts: cold cleaning degreasers, open top
15 vapor degreasers, and conveyORIZED degreasers. All of
16 which apply only to degreasers with an opening greater
17 than ten square feet. The new proposal breaks solvent
18 cleaning equipment into four different kinds: cold
19 cleaning machines, batch vapor, in line vapor and
20 airless/air tight machines. The proposed regulations
21 would cover all sizes of solvent cleaning machines,
22 not just those with openings greater than ten square
23 feet. With no de minimis limit, even dipping parts in
24 a pan or beaker would be covered by this rule. It is

1 critical to note that the proposed rule alters the
2 distinction between cold degreasers and vapor
3 degreasers by defining all heated degreasers as vapor
4 degreasers whether or not the solvent is boiling.
5 This is opposite to the current deregulations and
6 opposite to the way EPA defines cold and vapor
7 degreasers under the federal MACT standard.
8 For the record, MACT is M-A-C-T.

9 An additional requirement to dispose of used
10 hand wipe rags into closed containers is also
11 proposed. This will prohibit air drying of rags and
12 will increase waste disposal costs for small
13 businesses in particular.

14 While DEP assumes these vapor pressure
15 restrictions will result in a cost savings to industry
16 and that compliant alternative cleaning methods will
17 be available for all cleaning processes, this will
18 likely not be the case. Industry may have difficulty
19 finding cleaning alternatives that comply with the new
20 rule for all industrial or commercial applications.
21 Compliant alternatives may be costly, if they are
22 available; efficiency and quality may suffer due to
23 less effective cleaning options; and parts drying time
24 will be drastically increased, with no assured

1 reduction in emissions.

2 The new regulations for batch vapor, in line
3 vapor and airless/air tight machines adopts the EPA's
4 Degreaser MACT standard for hazardous air pollutants,
5 including the alternative emission limits as a means
6 of compliance. However, while the federal regulations
7 cover only six halogenated solvents that are HAPS, the
8 DEP proposal extends these regulations to all solvent
9 cleaning operations, even if using non-HAPS or even if
10 using Non-VOCs. This may require product
11 substitution, additional equipment, and monitoring
12 expenditures for facilities with these types of
13 equipment. In addition, this makes Pennsylvania's
14 program more stringent than the federal standards.

15 Following are some concerns that were raised by
16 our members. We will include more detailed and
17 additional concerns in our written comments.

18 The first concern that was raised was current
19 degreaser MACT standard. There is currently a MACT
20 standard that covers six halogenated solvents, as I
21 noted earlier. The DEP rule copies the requirements
22 of the vapor, both batch or conveyor, vapor degreasers
23 and airless air tight degreasers from the federal
24 rule, including the emission exemption levels. This

1 MACT standard has equipment requirements for cold
2 degreasers and remote reservoir cleaners that permit
3 the use of these six halogenated solvents. The
4 proposed rule before you is significantly more strict
5 than the MACT for cold degreasers and remote reservoir
6 cleaners in that it completely disallows the use of
7 these six chemicals.

8 The next point is the rule is not internally
9 consistent. Chapter 129.63(f) states that "as an
10 alternative to complying with these subsections (a)
11 through (d), the operator of a solvent cleaning
12 machine may demonstrate compliance with paragraph
13 (1)", an exemption based on emission limits.
14 Following in section (f) are exemptions for batch
15 vapor and in line vapor cleaning machines and airless
16 and air tight cleaning machines. While paragraph (f)
17 states that exemptions are included for equipment
18 covered under paragraph (a) remote reservoir and
19 immersion cold cleaning machines, no exemption levels
20 are given for these types of equipment.

21 Note that exemptions based emissions levels, if
22 they were included in the rule, would only provide
23 relief to cold cleaners with small through puts.
24 Solvent drag out would be the largest portion of

1 losses from cold cleaners with largest through puts.

2 The calculations and assumptions for VOC and
3 cost reductions used as the basis of this proposal are
4 flawed. The proposed emission reductions resulting
5 from the vapor pressure limits are based on equipment
6 standing losses with no inclusion of drag out. Cold
7 cleaning degreasers vary in size from handling just a
8 few pounds per day to processing many tons in a day.

9 For large cold cleaning degreasers which process
10 high volumes, the assumption that the majority of
11 emissions is based on standing losses is incorrect.
12 The majority of emissions for this equipment are
13 directly proportional to the wetted surface area of
14 the parts leaving the machine and most typically, air
15 dried after leaving the process. The reduction of
16 vapor pressure while slowing the drying rate, will not
17 significantly reduce the VOC emissions from this drag
18 out on the parts. It will, however, significantly
19 increase the cost of producing many manufactured
20 goods, since slower drying may necessitate the
21 installation of drying ovens or may simply slow
22 overall production rates with resultant loss in
23 profits.

24 For some processes, compliance with these rules

1 through substitution of alternative solvents will
2 increase chemical costs many times. Switching to
3 lower vapor pressure, and inherently less effective in
4 many cases, solvent cleaners will increase the
5 cleaning process cycle time while also increasing re-
6 work on these items, both of which lead to increased
7 overall emissions. The resulting increase in drying
8 time may also cause logistical problems for
9 manufacturers. For some industries the emissions
10 reduction will be less than is assumed by the DEP
11 analysis.

12 Exemptions need to be included in the regulation
13 for those who use non-VOC or low volatility solvents
14 is our next point. Rather than mandate the use of low
15 volatility solvents DEP should provide incentives to
16 use such solvents by exempting those who use such
17 solvents from the equipment and record-keeping
18 requirements of this rule.

19 DEP states that its proposed rule is modeled
20 after the rule promulgated for the Los Angeles area.
21 That rule includes an exemption for those degreasers
22 using clean air solvents, defined in California as
23 solvents with VOC vapor pressure of less than five mm
24 Hg, for the record. Note that California volatility

1 limit is five times higher than the DEP proposed
2 limit.

3 The Southeast Ozone Stakeholders Group
4 recommended that DEP include an exemption for those
5 using a solvent with a VOC vapor pressure of less than
6 five mm Hg, for the record. If this rule proceeds,
7 the low volatility solvents are required for certain
8 applications. The California limit should be adopted
9 rather than the more stringent one mm Hg, for the
10 record, limit in the currently proposed rule.

11 The proposed rule will regulate all solvent
12 degreasers, even those which use non-VOC solvents.
13 Since these compounds do not contribute to ozone
14 formation, there is no rationale for regulating such
15 solvents under the guise of a RACT rule. This rule is
16 thus more stringent than any other solvent rule in
17 effect in America today.

18 Exemptions for cleaning of non-metal or
19 electronic components need to be incorporated into
20 this rule is our next point. Other states that have
21 enacted similar rules have either limited the
22 applicability of the rule of cleaning to metal parts,
23 such as Maryland, or have specifically exempted
24 certain types of operation, such as cleaning of

1 electronics components, such as Illinois and
2 California have done. Pennsylvania should adopt
3 similar exemptions, especially for the semiconductor
4 and optoelectronics industries which manufacturing
5 tolerances do not permit substitutions of solvents.

6 The final point is storage and disposal of
7 solvent soaked rags. Under the rule, all rags, paper
8 towels or other materials used in hand-wipe cleaning
9 with a solvent which contains more than five percent
10 VOC or HAP must be stored in a closed container
11 pending disposal or recycling. There is no diminimis
12 level for this requirement. There has been no
13 apparent assessment by the Department as to whether
14 this practice will create any potential fire or other
15 safety hazards. The implications of this rule, in
16 terms of its impact on waste disposal requirements and
17 the resultant cost impact on industry have also not
18 been assessed.

19 In conclusion, while the reduction of air
20 pollution is an important objective for Pennsylvania,
21 this proposal could prove too costly for industry and
22 does not recognize the unique cleaning needs of
23 various industries, nor does the proposal allow for
24 exceptions or alternative compliance methods. The

1 proposal's lack of a de minimus limit is a significant
2 departure from the current PA regulations that
3 regulate only degreasers with an opening greater than
4 ten square feet which are used to clean metal parts.
5 In addition, this proposal is more stringent than the
6 comparable federal standards.

7 BY MR. HESS: Thank you. Any
8 questions, Bo?

9 BY MR. REILEY: No, I have no
10 questions.

11 BY MR. BLACK: No.

12 BY MR. HESS: All right. Thank you.

13 BY MS. ROTH: Thank you.

14 BY MR. HESS: Okay. Good morning,
15 John.

16 BY MR. SULLIVAN: Good morning.

17 BY MR. HESS: Go...

18 BY MR. SULLIVAN: My name is John
19 O'Sullivan and I am the Environment Health and Safety
20 Manager at the Reading facility, located at 2525 North
21 Twelfth Street, Reading, Pennsylvania, of the Lucent
22 Technologies Microelectronics Business Group. With me
23 today is Phillip Cornejo, the Air Quality Engineer at
24 Lucent's Reading facility. I am here today to provide

1 the Environmental Quality Board and the Department of
2 Environmental Protection with comment on the solvent
3 cleaning operations proposed rule making. Thank you
4 for making the time available for these comments.

5 I would like to begin by explaining who we, at
6 Lucent Microelectronics are, what we do, where we came
7 from and where we're headed.

8 The Microelectronics Group has its worldwide
9 headquarters in Allentown, Pennsylvania. It grew out
10 of Western Electric's electronics components business
11 which was the first in the world to manufacture
12 transistors. Today, this Lucent business group is the
13 world's leading provider of semiconductors for
14 communications applications. More than seventy-five
15 percent of the business group's revenues derive from
16 communications components including high-performance
17 systems semiconductor chips and optoelectronics
18 devices. Lucent's integrated circuit business is one
19 of the fastest growing semiconductor businesses in the
20 world, serving customers such as Motorola, Sun
21 Microsystems, Compaq, Quantum, Seagate and Hewlett-
22 Packard.

23 Lucent's Microelectronics Group provides high
24 quality products that enable customers to deliver and

1 receive voice data and images. Among the products we
2 manufacture in Pennsylvania are (1) Integrated Circuit
3 Digital Signal Processors for modems, wired, cordless
4 and cellular phones; (2) components and subsystems for
5 fiber-optic telecommunications; (3) Standard-cell
6 Applications Specific Integrated Circuits, otherwise
7 called ASIC's for disk drives and other applications;
8 and (4) Field Programmable Gate Arrays for
9 telecommunications networks.

10 Lucent's Microelectronics Group is on the
11 leading edge of the development of semiconductor chips
12 used in communication devices and networks. Our chips
13 even come with a lifetime warranty.

14 Focusing in closer on the Pennsylvania
15 operations, in addition to our Allentown Headquarters,
16 we also have manufacturing facilities in Muhlenberg
17 Township, located just outside of Reading, and in
18 Breiningsville, midway between Allentown and Reading.
19 Employing more than thirty-nine hundred people, the
20 Allentown facility primarily produces Digital Signal
21 Processors, ASIC's and other communication related
22 integrated circuits.

23 The Reading facility employs nearly twenty-three
24 hundred people and its principal products include

1 linear bipolar as well as high voltage integrated
2 circuits that are used in telephone electronic
3 switching systems, computer disk drives and computer
4 modems. Reading's Otoelectronics Product Unit
5 manufactures devices for the transmission,
6 amplification and receival of voice data and video
7 communication signals through optical fibers.
8 Specific devices made at Reading include cable
9 television and high-speed digital distributed feedback
10 laser modules, pump lasers and other optical devices.

11

12 Finally, twelve hundred people work at the
13 Breiningsville facility. Breiningsville is a leading
14 supplier of optoelectronic modules and components
15 serving the cable television, telecommunication, and
16 network computing markets. Lucent has high
17 aspirations for transforming the Lehigh Valley and the
18 Reading area into high-tech centers. Capital spending
19 at the three Pennsylvania Microelectronics facilities
20 increased thirty-two percent from 1998 to 1999 to
21 nearly Two Hundred Million Dollars. In fact, Lucent
22 is busy, as we sit here today, preparing to construct
23 a new One Hundred Sixty-five Million Dollar office
24 building at the Allentown facility that, when complete

1 in two years, will have space for twenty-three hundred
2 additional workers.

3 As the Philadelphia Inquirer noted in its recent
4 September 27th article, quote "near long shuttered
5 area plants that once made steel girders to build
6 bridges and roadways for cars and trucks, Lucent
7 semiconductors are paving the way for bits and bytes
8 to travel the world", unquote. Clearly, Lucent has
9 every intention of remaining a strong presence in
10 Eastern Pennsylvania, a responsible employer of
11 thousands of Pennsylvanians and a good neighbor in the
12 local communities where its employees live and work.
13 However, this Solvent Cleaning Rule poses a real
14 threat, not only to Lucent's expansion of Pennsylvania
15 but also to its ability to operate here at all. Let
16 me explain.

17 The proposed rule targets the use of volatile
18 organic compounds (VOC's) in several types of solvent
19 cleaning operations including cold cleaning machines,
20 hand-wipe operations, vapor cleaning machines, airless
21 cleaning systems, and air tight cleaning systems.
22 Under the rule, this equipment and these operations
23 must meet the design, work practice, control, record
24 keeping and emission limitation requirements. In

1 addition to the concerns with the regulation that I
2 will share with you in a moment, I want to express
3 concern for the comments of the Pennsylvania Chamber
4 of Business and Industry, especially as they concern
5 the proposed regulation of hand-wipe operations, non-
6 VOC solvents and halogenated solvent cleaning
7 operations currently exempted under federal
8 regulations.

9 The proposed rule goes too far in its broad
10 definition of a solvent degreasing operation insofar
11 as it captures necessary cleaning operations beyond
12 the degreasing of metal parts. Moreover, it ignores
13 the distinction between cold degreasers and vapor
14 degreasers by defining all heated degreasers as vapor
15 degreasers whether or not the solvent is boiling.
16 This represents a hundred and eighty degree shift from
17 the current regulations, as well as from the manner in
18 which the EPA defines cold and vapor degreasers under
19 the federal Maximum Available Control Technology
20 standard. No relief from the broad scope of this rule
21 can be found in the rule's definitions since none were
22 provided for the critical terms machine, degreaser,
23 degreasing and parts. The overly broad nature of the
24 proposed rule is further evidenced by the incomplete

1 definition provided for the term solvent, which (1)
2 fails to exclude non-VOC solvents from its grasp.
3 Such as acetone, perfluorocarbons, and
4 hydrofluorocarbons, none of which contribute to ozone
5 formation and all of which are excluded in the federal
6 definition of VOC under 40 CFR, Section 51.1000,
7 Subsection S.

8 And (2) it fails to provide for a threshold
9 below which an exemption is allowed. With no
10 de minimus exemption, even the cleaning of components
11 in a small beaker like this one, this is a hundred
12 millimeter beaker, would require compliance with this
13 rule.

14 So, from Lucent's perspective, the result of
15 these failures is that the necessary cleaning steps
16 that must occur in the manufacture of semiconductor
17 and optoelectronic components can, literally, no
18 longer occur. It's critical to make clear that none
19 of our cleaning processes in which solvents are used
20 constitute degreasing in any sense. Instead, we remove
21 a protective film that's been placed on the surface of
22 the semiconductor wafer, integrated circuit or
23 optoelectronic component at the prior process step.

24 This film allows the wafer, circuit or component

1 to move to the next step of the process where it may
2 undergo, among other process steps etching, deposition
3 and/or implantation. While the proposed regulation
4 draws no distinction, the placement and removal of
5 this protective layer is wholly different from metal
6 parts cleaning. Our concern with this lack of
7 distinction is created by the proposed definition of
8 the term cleaning machine which includes the use of a
9 solvent for removal of a coating. Similar rules in
10 other states define solvent cleaning as removal of
11 grease or of a contaminant.

12 The current state of the art in semiconductor
13 and optoelectronic manufacturing requires the use of
14 VOC containing solvents in many stages of the
15 manufacturing process. Solvents may be used at room
16 temperature, heated to below the boiling point, or as
17 a vapor. Solvents are generally used in small baths,
18 sinks or beakers, none with solvent to air interfaces
19 greater than five square feet. Containers with a
20 solvent to air ration of less than ten square feet are
21 currently exempted by the Department.

22 Based upon state of the art manufacturing
23 processes the cost to control emissions for smaller
24 units would be unreasonable and would yield little or

1 no emission reduction. This is true for two reasons,
2 (1) there are no non-VOC solvents commercially
3 available for all of the process steps in which
4 solvents are used in semiconductor and optoelectronic
5 manufacturing. Notwithstanding the Department's
6 reference in the proposed rule to citric based
7 solvents which may be appropriate for the general
8 cleaning of metal parts, but are unacceptable for the
9 film removal on precision semiconductor components.

10 And, (2) even if ultra-low VOC solvents were
11 commercially available, their use in our process steps
12 would result in significant delays between process
13 steps. A delay would occur due to the fact that such
14 solvents would take longer to dry because we would
15 have to add process steps such as baking to counter
16 the lower volatility of the solvents. It is also
17 conceivable that additional process steps would be
18 needed during which a second coat of ultra-low VOC
19 solvent would be applied to ensure complete film
20 removal from the wafer, circuit or component.

21 In summary, the results of the proposed rule is
22 that the cleaning steps that take place in the
23 semiconductor and optoelectronic manufacturing process
24 are swept in under this rule in a manner that makes

1 continued fabrication of our products, literally,
2 impossible. We use a variety of VOC and non-VOC
3 solvents to remove photoresist and other coatings from
4 silicon wafers and fiber optic components. Many of
5 these operations are conducted in clean rooms where
6 exhaust rates are very high and where contaminant
7 tolerance is very low. There are no low volatility
8 solvents which are suitable for our applications,
9 where removal of contaminants or coatings must be
10 accurate to the Angstrom level. An Angstrom is one
11 ten-billionth of a meter.

12 It is thus imperative that these regulations be
13 amended to exempt solvent processes used in the
14 manufacture, assembly and testing of semiconductors
15 and optoelectronics. Similar exemptions exist in
16 California, Illinois and Maryland, the only other
17 states to have enacted low volatility standards for
18 cleaning solvents.

19 I would like to turn now to a brief discussion
20 of the comparisons to the regulations of other states
21 relied upon by the Department in its regulatory
22 analysis.

23 In the analysis developed by the Department in
24 support of this proposed rule, the Department suggests

1 that the rules enacted in Illinois and Maryland have
2 similar regulatory schemes, no different from what the
3 Department proposes here. Without taking too much
4 time here today, suffice it to say, that a careful
5 reading of the Illinois and Maryland regulations show
6 that they provide either a de minimus exemption,
7 pertain only to the removal of contaminants from metal
8 parts, or carve out from its definitions certain
9 electronics manufacturing.

10 In conclusion, I would like to tell you about
11 the environmental commitment of my company. The
12 Microelectronic Group of Lucent Technologies has, as
13 its express policy, a commitment to the protection and
14 preservation of the environment and a safe and healthy
15 work place for its employees. It is our intent to be
16 recognized by our customer, employees, community and
17 stockholders as a business that upholds the highest
18 standards of commitment to environmental
19 responsibility and one committed to continual
20 improvement in environmental health and safety
21 management.

22 In support of this policy and in recognition
23 that environmental responsibility can go hand in hand
24 with business success, in April of 1997, Lucent's

1 Microelectronics Group, including these three
2 Pennsylvania facilities, received ISO 14001
3 environmental certification making it one of the first
4 multi-site businesses in the world to achieve this
5 distinction. To receive business-wide ISO 14001
6 certification, all of the world-wide Microelectronics
7 Group's manufacturing and design facilities had to
8 conform with conditions and guidelines and pass
9 stringent audits of an environmental management
10 system, measured against ISO 14001 requirements.
11 Strict adherence of these requirements is closely
12 monitored by the Lucent Global Environmental, Health
13 and Safety Department and audited semi-annually by an
14 independent ISO 14001 Registrar.

15 Beyond pure environmental responsibility, early
16 in 1997, all of Lucent's Pennsylvania operations,
17 including the three Microelectronics facilities, also
18 were awarded the Occupational Safety & Health
19 Administration's coveted Voluntary Protection Plan
20 status for meeting or exceeding OSHA requirements.

21 In summary, this proposed rule as currently
22 drafted, will have a devastating effect on our ability
23 to manufacture semiconductors and optoelectronics
24 devices in Pennsylvania. We hope that the Department

1 will heed our concerns and make the necessary
2 revisions to the proposed regulation to allow for a
3 targeted exemption for the manufacture, assembly and
4 testing of semiconductor and optoelectronic
5 components.

6 I thank you very much for your time. And either
7 Mr. Cornejo, our Environmental counsel, or I would be
8 happy to answer any questions. Thank you very much.

9 BY MR. HESS: Thank you very much.

10 Now, Bo, any questions?

11 BY MR. REILEY: I have no questions.

12 BY MR. HESS: Okay. Thank you. I
13 think that's all that's here to speak. So, thank you
14 very much for coming. I would like to remind you that
15 written comments, if you have additions to what you
16 said today, are due to the EQB no later than October
17 27th. So, if you have additional information you want
18 to send --as there are no other persons here who wish
19 to comment, I hereby close this public hearing at
20 10:35 a.m. today. Thank you very much for coming.

21 (Whereupon, the hearing was concluded)

CERTIFICATION

I, MARIANNE MOORE, do hereby certify that the foregoing Public Hearing is a true and correct copy of said proceedings.

WITNESS MY HAND.

Marianne Moore

MARIANNE MOORE

SHORTHAND REPORTER