



CR 87-66

State of Wisconsin

DEPARTMENT OF NATURAL RESOURCES

Carroll D. Besadny
Secretary

STATE OF WISCONSIN)
)
DEPARTMENT OF NATURAL RESOURCES)

TO ALL TO WHOM THESE PRESENTS SHALL COME, GREETINGS:

I, Bruce B. Braun, Deputy Secretary of the Department of Natural Resources and custodian of the official records of said Department, do hereby certify that the annexed copy of Natural Resources Board Order No. AM-9-87 was duly approved and adopted by this Department on May 26, 1988. I further certify that said copy has been compared by me with the original on file in this Department and that the same is a true copy thereof, and of the whole of such original.

IN TESTIMONY WHEREOF, I have here-
unto set my hand and affixed the
official seal of the Department at
the Natural Resources Building in
the City of Madison, this 3rd
day of August, 1988

Bruce B. Braun
Bruce B. Braun, Deputy Secretary

(SEAL)

RECEIVED

AUG 5 1988
9:00 am.
Revisor of Statutes
Bureau

ORDER OF THE STATE OF WISCONSIN
NATURAL RESOURCES BOARD REPEALING, RENUMBERING,
AMENDING, REPEALING AND RECREATING, AND CREATING RULES

.....
IN THE MATTER of repealing ss. NR 406.04(2)(e), .
406.04(4)(d) and Table 1 following .
407.03(2)(e); renumbering ss. NR 406.04(2) .
(d) and (g), 406.04(4)(e), 407.04(1), 445.02(1), .
(2) and (3) and 445.05; renumbering and amending .
ss. NR 406.04(2)(f) and 445.04; amending ss. .
NR 406.04(4)(a)2. and 3., 406.07(2), 407.03(2)(e), .
410.03(2)(g), 445.01(1) and 445.03; repealing .
and recreating s. NR 407.03(2)(d); and creating .
ss. NR 406.04(2)(d), 406.04(2)(f) and (3), .
406.04(4)(a)4., 407.03(2)(bm), .
407.04(1)(b), 445.02(1), (4) to .
(8) and (10), 445.04, 445.05, 445.06 .
and 484.05 of the Wisconsin Administrative .
Code, pertaining to the revision of emission .
limitations and permit exemption criteria for .
sources of hazardous air contaminants .
.....

AM-9-87

Analysis Prepared by the Department of Natural Resources

Statutory authority: ss. 144.31(1)(a), 144.375(5)(b), 144.38, 144.391(6) and 227.11(2)(a), Stats.

Statutes interpreted: ss. 144.31(1)(e) and (f), 144.375(5)(b) and 144.391(6), Stats., and revise the State Implementation Plan (SIP) developed under s. 144.31(1)(f), Stats.

These rules revise the hazardous air contaminant criteria for determining whether new or modified sources and existing stationary sources of air pollution are exempted from requirements to obtain air pollution control permits under ss. NR 406.04 and 407.03, respectively. The revisions specify emission rates (in pounds per hour) for acute hazardous substances and annual emission levels (in pounds per year) for known or suspected carcinogens. If a source emits hazardous air contaminants in excess of the listed rates, the source will be required to obtain an air pollution control permit.

The rules also create eight new definitions specific to chapter NR 445. The terms "hazardous air contaminant", "approved material safety data sheet", "downwash minimization stack height", "indoor fugitive emissions", "refuse derived fuel", "virgin fossil fuel", "best available control technology" and "lowest achievable emission rate" are defined.

Emission limitations (expressed as ambient concentration impacts) are established for substances grouped as acute hazardous air contaminants, and two control technology levels are proposed for sources which emit known or suspected carcinogens.

These revisions also establish compliance dates for existing sources subject to the emission limits. Beginning with sources which emitted more than 100 tons of volatile organic compounds or particulates in 1986, a source has 3 months to identify which contaminants the source emits and the allowable emissions of each substance. Within 6 months, the source must submit a compliance plan. A source must achieve compliance within 18 months if compliance consists of measures other than installation of control equipment, or 30 months if compliance requires control equipment installation. This schedule continues at a 6 month stagger with sources whose 1986 emissions of a criteria pollutant was less than 100 tons but whose allowable emissions exceed 100 tons, and finally at another 6 month stagger with sources whose allowable emissions are less than 100 tons/year. Separate compliance schedules are provided for sources of chloroform and formaldehyde and for wastewater treatment facilities.

Last, these revisions incorporate a review procedure for modifying acceptable ambient concentrations for acute hazardous air contaminants, adding or deleting carcinogenic contaminants, and for reviewing requests for an alternate emission limit for acute hazardous air contaminants emitted on a limited basis. The revisions incorporate by reference the threshold limit values established by the American conference of governmental industrial hygienists. The department has requested authorization for this incorporation by reference under s. 227.21, Stats.

SECTION 1. NR 406.04(2)(e) is repealed.

SECTION 2. NR 406.04(2)(d), (f) and (g) are renumbered to NR 406.04(2)(e), (g) and (h) respectively; and NR 406.04(2)(g) as renumbered is amended to read:

NR 406.04(2)(g) The source will not emit any air contaminant not mentioned in par. (b), (c), (d) ~~or~~, (e) or (f), at a rate of more than 6 pounds per hour for each pollutant emitted, without considering pollution control equipment; and

SECTION 3. NR 406.04(2)(d) is created to read:

NR 406.04(2)(d) The source will not emit lead at a rate of more than 0.13 pounds per hour, without considering pollution control equipment.

SECTION 4. NR 406.04(2)(f) and (3) are created to read:

NR 406.04(2)(f) 1. The source's potential emissions at full capacity, without considering pollution control equipment, of any hazardous air contaminant listed in Table 1 or Table 4 of s. NR 445.04 are not greater than the emission rate listed in Table 1 or Table 4 of s. NR 445.04 for the air contaminant for the respective stack height;

2. The source manufactures or processes pesticides, rodenticides, insecticides, herbicides or fungicides and its potential emissions at full capacity, without considering pollution control equipment, of any hazardous air contaminant listed in Table 2 of s. NR 445.04 are not greater than the emission rate listed in the table for the air contaminant for the respective stack height;

3. The source's potential emissions at full capacity, without considering pollution control equipment, of any hazardous emission contaminant listed in Table 3 of s. NR 445.04 do not exceed the emission rate contained in Table 3 of s. NR 445.04; and

4. The source does not combust municipal solid waste (as defined in s. NR 500.03(86)) or infectious wastes;

(3) DETERMINING HAZARDOUS EMISSIONS. (a) For the purpose of determining emissions under sub. (2)(f), the owner or operator of a source may rely on information on an approved material safety data sheet if the approved material safety data sheet lists a hazardous air contaminant listed in Tables 1 to 4 of s. NR 445.04 and the hazardous air contaminant listed in Table 1, 2, or 4 of s. NR 445.04 constitutes 10,000 parts per million or more of the material or the hazardous air contaminant listed in Table 3 constitutes 1,000 parts per

million or more of the material. If an approved material safety data sheet for a material is not classified as proprietary and does not list a hazardous air contaminant in Tables 1 to 4 of s. NR 445.04 at or above the amounts listed in this paragraph, that material will be presumed not to result in emissions of a hazardous air contaminant unless a hazardous air contaminant is formed in processing of the material.

(b) For the purpose of determining emissions under sub. (2)(f), the owner or operator of a source may rely upon mass balance, or other use, consumption and analytical methodologies for calculating potential emissions. However, the department may require that a stack test be conducted to affirm the accuracy of emission estimations.

(c) For the purpose of determining emissions under sub. (2)(f), the owner or operator of a source is not required to consider indoor fugitive emissions in calculating emissions of any substance in Table 1, 2 or 4 of s. NR 445.04.

(d) For the purpose of determining emissions under sub. (2)(f), the owner or operator of a source is not required to consider emissions resulting directly from naturally occurring constituents in windblown soil.

SECTION 5. NR 406.04(4)(a)2. and 3. are amended to read:

NR 406.04(4)(a)2. Such use will not cause or exacerbate the violation of an ambient air quality standard or an ambient air increment; and

3. Such use is not prohibited by any permit, plan approval or special order applicable to the source; and

SECTION 6. NR 406.04(4)(a)4. is created to read:

NR 406.04(4)(a) 4. The source is subject to an emission limit under s. NR 445.04 or 445.05 and has an air pollution control permit which regulates

a substance in Table 1 or 2 of s. NR 445.04 and the product of the following equation is equal to or less than 1.0:

$$\frac{\text{TLV (old substance)}}{\text{TLV (new substance)}} \times \frac{\text{Emissions (proposed new substance)}}{\text{Emissions (permitted old substance)}} =$$

SECTION 7. NR 406.04(4)(d) is repealed.

SECTION 8. NR 406.04(4)(e) is renumbered NR 406.04(4)(d).

SECTION 9. NR 406.07(2) is amended to read:

NR 406.07(2) If a source undergoes a modification which is exempt from the requirement to obtain a construction or modification and new operation permit under s. NR 406.04(4) or s. 144.391(4), Stats., it will not for this reason be treated as a modified source for purposes of the emission limitations under chs. NR 400 to 499. If a source which is subject to an air pollution control permit, or a source which has submitted a compliance plan as required in s. NR 445.05, undergoes a modification by substituting a raw material which is subject to an emission limitation under s. NR 445.04 or 445.05 and the source replaces that material with another material subject to an emission limitation under s. NR 445.04 or 445.05 and the product of the equation in s. NR 406.04(4)(a)4. is equal to or less than 1.0, the source will not be treated as a modified source for purposes of the emission limitations of chs. NR 400 to 499.

SECTION 10. NR 407.03(2)(bm) is created to read:

NR 407.03(2)(bm) The source will not emit lead at a rate of more than 0.13 pounds per hour, without considering pollution control equipment.

SECTION 11. NR 407.03(2)(d) is repealed and recreated:

NR 407.03(2)(d) The source will not emit any hazardous air contaminants listed in Table 1, 2 or 3 of s. NR 445.04 in amounts greater than the emission rate listed in the table for the air contaminant for the respective stack height; and

SECTION 12. NR 407.03(2)(e) is amended to read:

NR 407.03(2)(e) The source will not emit any air contaminant not mentioned in par. (a), (b), (bm), (c), or (d) at a rate of more than 6 pounds per hour for each pollutant emitted, without considering pollution control equipment.

SECTION 13. Table 1 following s. NR 407.03(2)(e) is repealed.

SECTION 14. NR 407.04(1) is renumbered NR 407.04(1)(a).

SECTION 15. NR 407.04(1)(b) is created to read:

NR 407.04(1)(b) Notwithstanding par. (a), the owner or operator of an existing air contaminant source who is required to submit a mandatory operating permit application for the source solely because of s. NR 407.03(2)(d) shall submit the application to the department no later than 14 months after the effective date of this rule . . . [revisor inserts date].

SECTION 16. NR 410.03(2)(g) is amended to read:

NR 410.03(2)(g) \$500 if the permit application is for a direct source which may emit a ~~toxic or~~ hazardous ~~substance~~ air contaminant listed in s. NR 406.04(2)~~(e)~~(f) and which receives a permit which establishes a specific emission limitation for one or more of such hazardous air contaminants, or the source is subject to an emission limitation under chs. NR 445 446 to 484 483.

SECTION 17. NR 445.01(1) is amended to read:

NR 445.01(1) APPLICABILITY. This chapter applies to all air contaminant sources and to all owners or operators of an air contaminant source. The emission limitations and control requirements of this chapter do not apply to a source of a hazardous air contaminant regulated under chs. NR 446 to 449 for the specific hazardous air contaminants regulated under those chapters or to a source which must meet a national emission standard for a hazardous air pollutant promulgated under section 112 of the federal clean air act for the specific air pollutant regulated under that standard.

SECTION 18. NR 445.02(1), (2) and (3) are renumbered NR 445.02(2), (3) and (9), respectively.

SECTION 19. NR 445.02(1), (4) to (8), (10) and (11) are created to read:

NR 445.02(1) "Approved material safety data sheet" means a material safety data sheet which meets the reporting requirements of the superfund amendments reauthorization act of 1986 (42 USCS §§ 9671-9675) or the occupational safety and health act of 1970 (29 USCS §§ 660).

(4) "Best available control technology" means an emission limit for a hazardous air contaminant based on the maximum degree of reduction practically achievable as specified by the department on an individual case-by-case basis taking into account energy, economic and environmental impacts and other costs related to the source.

(5) "Downwash minimization stack height" means a stack height equal to $(H+1.5D)$ where H is the height of the structure and D is the lesser of the structure height or structure cross-wind horizontal dimension in the immediate vicinity of the stack.

(6) "Hazardous air contaminant" means any air contaminant for which no ambient air quality standard is set in ch. NR 404 and which the department determines may cause or significantly contribute to an increase in mortality or an increase in serious irreversible or incapacitating reversible illness, or may pose a significant threat to human health or the environment. The term hazardous air contaminant includes, but is not limited to, the substances listed in Tables 1 to 4 in s. NR 445.04.

(7) "Indoor fugitive emissions" means an air contaminant present in a workplace which is emitted to the ambient air from general ventilation sources.

(8) "Lowest achievable emission rate" means the rate of emission of a hazardous air contaminant which reflects the more stringent of the following:

(a) The most stringent emission limitation for the hazardous air contaminant which is contained in the air pollution regulatory program of any state for this class or category of source, unless an applicant for a permit demonstrates that this limitation is not achievable; or

(b) The most stringent emission limitation for the hazardous air contaminant which is achieved in practice by the class or category of source.

(10) "Refuse derived fuel" means municipal solid waste which has undergone a process to, at a minimum, remove hazardous waste, minimize metals, glass and other non-combustible material; and has been processed for use as a fuel. Refuse derived fuel does not include tires, tire fragments, waste oils, waste solvents, and other material not normally contained in household solid waste.

(11) "Virgin fossil fuel" means any solid, refined liquid or refined gaseous fossil fuel with a btu content greater than 7,000 btu/lb which is not blended with reprocessed or recycled fuels. Group 1 virgin fossil fuels

consist of natural gas, liquid petroleum gas, distillate fuel oil, gasoline and diesel fuel. Group 2 virgin fossil fuels consist of coal and residual fuel oil.

SECTION 20. NR 445.03 is amended to read:

NR 445.03 GENERAL LIMITATIONS. No person may cause, allow, or permit emissions into the ambient air of any hazardous substances substance in such quantity, concentration, or duration as to be injurious to human health, plant or animal life unless the purpose of that emission is for the control of plant or animal life. Hazardous substances include but are not limited to the ~~following materials, their mixtures or compounds: asbestos; beryllium; cadmium; chromium; chlorine; fluorine; mercury; pesticides; or radioactive material~~ hazardous air contaminants listed in Tables 1 to 4 of s. NR 445.04.

SECTION 21. NR 445.04 and NR 445.05 are renumbered NR 445.07 and NR 445.08 respectively, and NR 445.07 as renumbered is amended to read:

NR 445.07 HAZARDOUS AIR CONTAMINANT LIMITATIONS. ~~Limitations of emissions of~~ The department may establish emission limitations for hazardous pollutants shall follow air contaminants for sources in permits or general or special orders issued by the department.

SECTION 22. NR 445.04 is created to read:

NR 445.04 EMISSION LIMITS FOR NEW OR MODIFIED SOURCES. (1) TABLE 1 and TABLE 4 SUBSTANCES. Except as provided in par. (c) or s. NR 406.07(2), no owner or operator of a stationary source on which construction or modification commenced after the effective date of this rule . . . [revisor inserts date] . . . may cause, allow or permit emissions from a source of a hazardous

air contaminant listed in Table 1 or Table 4 in such quantity or duration as to cause ambient air concentrations off the source's property which exceed the limits in par. (a) or (b).

(a) 24-hour. 1. Two and four tenths percent (2.4%) of the threshold limit value - time weighted average established by the American conference of governmental industrial hygienists, in the threshold limit values and biological exposure indices for 1987-1988, incorporated by reference in ch. NR 484, for any consecutive 24-hour averaging period; or

2. Ten percent (10%) of the threshold limit value - time weighted average established by the American conference of governmental industrial hygienists, in the threshold limit values and biological exposure indices for 1987-1988, incorporated by reference in ch. NR 484, for any 24-hour averaging period if the hazardous air contaminant is emitted no more than 5 days in any consecutive 30-day period and if the department determines after complying with s. NR 445.06(1) that such limits will not pose a threat to public health or welfare.

(b) One-hour. Ten percent (10%) of the threshold limit value - ceiling established by the American conference of governmental industrial hygienists in the threshold limit values and biological exposure indices for 1987-1988, incorporated by reference in ch. NR 484, for any one-hour averaging period.

(c) Exemptions. The following emissions are exempt from the emission limits of Table 1 and Table 4 substances:

1. Emissions from the combustion of group 1 virgin fossil fuels.
2. Emissions from the combustion of group 2 virgin fossil fuels vented from a stack which has downwash minimization stack height or a height approved by the department.

3. Emissions from a laboratory.

4. Indoor fugitive emissions.

(2) TABLE 2 SUBSTANCES. Except as provided in par. (c), no owner or operator of a stationary source which manufactures or processes pesticides, rodenticides, insecticides, herbicides or fungicides and on which construction or modification commenced after the effective date of this rule . . . [revisor inserts date] . . ., may cause, allow or permit emissions from the source of a hazardous air contaminant listed in Table 2 in such quantity or duration as to cause ambient concentrations which exceed the limits in par. (a) or (b).

(a) 24-hour. Two and four-tenths percent (2.4%) of the threshold limit value - time weighted average established by the American conference of governmental industrial hygienists in the threshold limit values and biological exposure indices for 1987-1988, incorporated by reference in ch. NR 484, for any 24-hour averaging period.

(b) One-hour. Ten percent (10%) of the threshold limit value - ceiling established by the American conference of governmental industrial hygienists in the threshold limit values and biological exposure indices for 1987-1988, incorporated by reference in ch. NR 484, for any one-hour averaging period.

(c) Exemptions. The following emissions are exempt from emission limits for Table 2 substances:

1. Emissions from a laboratory.

2. Indoor fugitive emissions.

(3) TABLE 3 SUBSTANCES. (a) Group A. Except as provided in par. (c), the owner or operator of any facility on which construction or modification commenced after the effective date of this rule . . . [revisor inserts

date] . . . and which emits any hazardous air contaminant listed in group A of Table 3 in amounts greater than those listed in group A of Table 3 shall control emissions of those hazardous air contaminants to a level which is the lowest achievable emission rate. The lowest achievable emission rate shall be met by the emissions unit at the facility which emits the greatest amount of the hazardous air contaminant. If application of the lowest achievable emission rate to this emissions unit does not reduce facility emissions of the hazardous air contaminant to a level less than the rate listed in group A of Table 3 for the hazardous air contaminant, then the lowest achievable emission rate shall be met by other emissions units at the facility which emit decreasingly smaller amounts of the hazardous air contaminant until emissions from the facility are below the emission rate listed in group A of Table 3 or until all emissions units at the facility which emit at least 10% of the rate listed in group A of Table 3 for the hazardous air contaminant have met the lowest achievable emissions rate. If application of lowest achievable emissions rate to these emissions units does not result in the control of at least 50% of the potential emissions of the hazardous air contaminant from the facility, then the department may require application of lowest achievable emission rate on a reasonable array of smaller emissions units which emit the hazardous air contaminant.

(b) Group B. Except as provided in par. (c), the owner or operator of any facility on which construction or modification commenced after the effective date of this rule . . . [revisor inserts date] . . . and which emits any hazardous air contaminant listed in group B of Table 3 in amounts greater than those listed in group B of Table 3 shall control emissions of

those hazardous air contaminants to a level which is the best available control technology. The best available control technology shall be met by the emissions unit at the facility which emits the greatest amount of the hazardous air contaminant. If application of the best available control technology to this emissions unit does not reduce facility emissions of the hazardous air contaminant to a level less than the rate listed in group B of Table 3 for the hazardous air contaminant, then best available control technology shall be met by other emissions units at the facility which emit decreasingly smaller amounts of the hazardous air contaminant until emissions from the facility are below the emission rate listed in group B of Table 3 or until all emissions units at the facility which emit at least 10% of the rate listed in group B of Table 3 for the hazardous air contaminant have met best available control technology. If application of best available control technology to these emissions units does not result in the control of at least 50% of the potential emissions of the hazardous air contaminant from the facility, then the department may require application of best available control technology on a reasonable array of smaller emissions units which emit the hazardous air contaminant.

(c) Exemptions. The following emissions are exempt from the emission limits for Table 3 substances:

1. Emissions from the combustion of group 1 virgin fossil fuels.
2. Emissions from the combustion of group 2 virgin fossil fuels vented from a stack which has downwash minimization stack height or a height approved by the department.
3. Emissions from a laboratory.

4. Emissions from any gasoline dispensing facility which meets the requirements of s. NR 420.04(3)(b) to (i) and which dispenses less than 2 million gallons of gasoline a year or can otherwise demonstrate to the satisfaction of the department that it will not exceed an emission limitation for a Table 3 hazardous air contaminant.

5. Emissions from any gasoline dispensing facility which does not meet the requirements of s. NR 420.04(3)(b) to (i) and which dispenses less than 1.25 million gallons of gasoline a year or can otherwise demonstrate to the satisfaction of the department that it will not exceed an emission limitation for a Table 3 hazardous air contaminant.

6. Indoor emissions which are exhausted to the ambient air through general building ventilation and which have a threshold limit value established by the American conference of governmental and industrial hygienists and for which the source demonstrates to the department that it is in compliance with applicable occupational safety and health administration requirements.

(4) INCINERATORS. Any owner or operator of a stationary source on which construction or modification commenced after the effective date of this rule . . . [revisor inserts date] . . . and which combusts municipal solid waste as defined in s. NR 500.03(86) or infectious waste shall comply with sub. (1) and shall control emissions of hazardous air contaminants listed in Table 3 to a level which is the lowest achievable emission rate. A source which combusts refuse derived fuel in a boiler and obtains less than 50% of its heat input from the refuse derived fuel is not subject to this subsection.

(5) COMPLIANCE REQUIREMENTS. (a) Compliance timing. Any source which commences construction or modification on or after the effective date of this rule . . . [revisor inserts date] . . . shall meet the emission limitations in this section upon start-up.

(b) Compliance determination. For the purpose of determining compliance with this section:

1. The department shall allow credit for the emission reduction capability of in-place control devices; and

2. The owner or operator of a source may demonstrate compliance with emission limitations of sub. (1), (2) or (4) by demonstrating that the concentration of the substance in Table 1 or 2 in the stack is less than the ambient concentration allowed under sub. (1) or (2).

3. The owner or operator of a source is not required to consider emissions resulting directly from naturally occurring constituents in windblown soil.

(c) Subsequent requirements. The owner or operator of a source which has achieved compliance with this section by installing emission control equipment may not be required to install additional control equipment to achieve compliance with this section for a period of 10 years after the installation of the control equipment or the useful life of the control equipment as determined by the department, whichever is less. For the purposes of this paragraph, increasing stack height, other dilution measures, or material reformulation may not be construed as installation of control equipment. Material reformulation which requires substantial capital expenditures for process equipment which was made with prior department approval and which

results in a reduction of emissions of hazardous air contaminants which is sufficient to comply with the limitations of s. NR 445.04, may be construed as installation of control equipment under this paragraph.

(6) VARIANCE. The owner or operator of a source may apply for and the department may grant a variance from an emission limitation of sub. (3)(a) or sub. (4) if the applicant demonstrates to the satisfaction of the department that compliance with sub. (3)(a) or sub. (4) would be economically infeasible, and that residual emissions of the hazardous air contaminant in question would not cause significant harm to the environment or public health, and the source's emissions are controlled to a level which is the best available control technology. The department shall publish a notice of and hold a public hearing on any preliminary determination to approve a variance request under this subsection. The department shall grant or deny a variance request within 90 business days after the close of the public hearing on the request. The department shall review any variance granted under this subsection on a 5 year basis. Following its review and after notice and an opportunity for a public hearing and public comment, the department may modify, extend or rescind the variance.

TABLE 1

HAZARDOUS AIR CONTAMINANTS WITH ACCEPTABLE
AMBIENT CONCENTRATIONS

<u>Contaminants</u>	<u>CAS Number</u>	Emission Rate in Pounds/Hour*	
		<u>< 25 ft.</u>	<u>≥ 25 ft.</u>
<u>ACIDS</u>			
Acetic acid	64-19-7	2.083200	8.760000
Hydrogen chloride	7647-01-0	0.355200(c)	1.368000(c)
Hydrogen fluoride	7664-39-3	0.127200(c)	0.480000(c)
Nitric acid	7697-37-2	0.417600	1.752000
Phosphoric acid	7664-38-2	0.084000	0.336000
Sulfuric acid	7664-93-9	0.084000	0.336000
<u>CYANIDES</u>			
Acetonitrile	75-05-8	5.829600	24.480000
Cyanides, (inorganics) as CN	151-50-8		
	143-33-9	0.417600	1.752000
Hydrogen cyanide	74-90-8	0.506400(c)	1.944000(c)
Methyl acrylate	96-33-3	2.916000	12.240000
Methylacrylonitrile	126-98-7	0.249600	1.032000
<u>INDUSTRIAL GASES</u>			
Ammonia	7664-41-7	1.500000	6.288000
Arsine	7784-42-1	0.016560	0.067200
Bromine	7726-95-6	0.057600	0.240000
Chlorine	7782-50-5	0.249600	1.032000
Fluorine	7782-41-4	0.165600	0.672000
<u>CHEMICAL INTERMEDIATES</u>			
1,2,4-Trichlorobenzene	120-82-1	2.025600(c)	7.848000(c)
Acetaldehyde	75-07-0	14.990400	62.952000
Acrolein	107-02-8	0.020880	0.086400
Acrylamide	79-06-1	0.024000	0.100800
Acrylic acid	79-10-7	2.498400	10.488000
Allyl alcohol	107-18-6	0.417600	1.752000
Allyl chloride	107-5-1	0.249600	1.032000
Aniline	62-53-3	0.832800	3.480000
Benzyl chloride	100-44-7	0.417600	1.752000
Butyl acrylate	141-32-2	4.581600	19.224000
Butylamine	109-73-9	0.760800(c)	2.928000(c)
Cresol, all isomers	1319-77-3	1.831200	7.680000
Crotonaldehyde	123-73-9	0.672000	2.088000

<u>Contaminants</u>	<u>CAS Number</u>	<u>Emission Rate in Pounds/Hour* w/emission points</u>	
		<u>< 25 ft.</u>	<u>> 25 ft.</u>
Cyclohexylamine	108-91-8	3.3312	13.968000
Diethanolamine	111-42-2	1.250400	5.232000
Diethylamine	109-89-7	2.498400	10.488000
Dinitrobenzene	528-29-0		
	99-65-0		
	100-25-4	0.084000	0.336000
Methyl chloride	74-87-3	8.745600	36.720000
Methylamine	74-89-5	0.998400	4.176000
Methyl isocyanate	624-83-9	0.004080	0.017040
P-Nitroaniline	100-01-6	0.249600	1.032000
Nitrobenzene	98-95-3	0.417600	1.752000
Phenol	108-95-2	1.581600	6.624000
Phosphine	7803-51-2	0.033600	0.139200
Propargyl alcohol	107-19-7	0.165600	0.672000
<u>PLASTICIZING COMPOUNDS</u>			
Dimethylphthalate	131-11-3	0.417600	1.752000
Isophorone diisocyanate	4098-71-9	0.007440	0.031200
Methylene bisphenyl isocyanate	101-68-8	0.010080(c)	0.038400(c)
Toluene diisocyanate	584-84-9	0.003360	0.013920
<u>METALS AND COMPOUNDS</u>			
Aluminum Alkyls	7429-90-5	0.165600	0.672000
Antimony & compounds, as SB	7440-36-0	0.040800	0.170400
Barium sol cmpds as Ba	7440-39-3	0.040800	7.704000 0.170400
Chromium (III) compounds, as Cr	7440-47-3	0.040800	0.170400
Chromium (VI) compounds, as Cr, water soluble	7440-47-3	0.004080	0.017040
Manganese, as Mn dust and compounds	7439-96-5	0.254400(c)	0.984000(c)
Mercury alkyl compounds	7439-97-6	0.000840	0.003360
Mercury all forms except alkyl, vapor	7439-97-6	0.408000 0.004080	0.017040
Mercury (ex. alkyl) Aryl & inorganic compounds	7439-97-6	0.008400	0.033600
Tin Organic compounds, as Sn	7440-31-5	0.008400	0.033600
<u>MONOMERS</u>			
Methyl methacrylate	80-62-6	34.144800	143.400000
Phenylhydrazine	100-63-0	0.87456	3.67200
Styrene, monomer	100-42-5	17.906400	75.192000
Vinyl cyclohexene dioxide	106-87-6	1.50000	6.288000

*Typo - per
Carol Turner
DWE
8/19/88*

<u>Contaminants</u>	<u>CAS Number</u>	<u>Emission Rate</u> <u>in Pounds/Hour*</u> <u>w/emission points</u>	
		<u>< 25 ft.</u>	<u>> 25 ft.</u>
<u>FUMIGANTS</u>			
p-Dichlorobenzene	106-46-7	15.62400	65.7000
<u>SOLVENTS</u>			
1,1,2,2-Tetrachloroethane	79-34-5	0.583200	2.448000
1,1,2-Trichloroethane	79-00-5	3.748800	15.744000
1,1-Dichloroethane	75-34-3	67.456800	283.296000
1,2-Dichloroethylene	540-59-0	65.791200	276.312000
2-Ethoxyethanol	110-80-5	0.748800	3.144000
2-Methoxyethanol	109-86-4	1.332000	5.592000
Carbon disulfide	75-15-0	2.498400	10.488000
Chlorobenzene (monochlorobenzene)	108-90-7	29.148000	122.400000
Cyclohexanone	108-94-1	8.328000	34.968000
Diethyl phthalate	84-66-2	0.417600	1.752000
Dimethylamine	124-40-3	1.500000	6.288000
Dimethylaniline (N,N-Dimethylaniline)	121-69-7	2.083200	8.736000
Ethyl acrylate	140-88-5	1.665600	6.984000
Ethyl benzene	100-41-4	36.228000	152.136000
Ethylene chlorohydrin	107-07-3	0.151200(c)	0.576000(c)
Ethylenediamine	107-15-3	2.083200	8.736000
Ethylene glycol vapor	107-21-1	6.331200(c)	24.552000(c)
Furfural	98-01-1	0.667200	2.784000
n-Hexane	110-54-3	14.990400	62.952000
Isobutyl alcohol	78-83-1	12.492000	52.464000
Isophorone	78-59-1	1.267200(c)	4.896000(c)
Methyl hydrazine	60-68-3	0.076800(c)	0.288(c)
Methyl isobutyl ketone	108-10-1	17.073600	71.688000
Methyl n-butyl ketone	591-78-6	1.665600	6.984000
Methylene chloride	75-09-2	29.148000	122.400000
N-Methyl aniline	100-61-8	0.165600	0.672000
o-Dichlorobenzene	95-50-1	15.192000(c)	58.944000(c)
Perchloroethylene	127-18-4	27.900000	117.168000
Pyridine	110-86-1	1.2504	5.232000
Tetrahydrofuran	109-99-9	49.135200	206.352000
Toluene (toluol)	108-88-3	31.231200	131.160000
Trichloroethylene	79-01-6	22.485600	94.416000
Xylene	1330-20-7	36.228000	152.136000

<u>Contaminants</u>	<u>CAS Number</u>	<u>Emission Rate</u> <u>in Pounds/Hour*</u> <u>w/emission points</u>	
		<u>< 25 ft.</u>	<u>≥ 25 ft.</u>
<u>GENERAL USE CHEMICALS</u>			
n-Butyl alcohol	71-36-3	7.596000(c)	29.472000(c)
Chlorine dioxide	10049-04-4	0.024000	0.100800
Fluorides, (inorganics) as F		0.208800	0.864000
Naphthalene	91-20-3	4.164000	17.472000
Pentachlorophenol	87-86-5	0.040800	0.170400
Selenium compounds	7782-49-2	0.016560	0.067200

SUPPLEMENTAL LIST OF CHEMICALS

Biphenyl	92-52-4	0.124800	0.504000
1,3-Butadiene	106-99-0	4.16400	17.472000
Dichloroethyl ether	111-44-4	2.498400	10.488000
Diglycidyl ether (DGE)	2238-07-5	0.040800	0.170400

* The notation (c) indicates those contaminants with ceiling limits which are emission rates averaged over a one-hour period. Those contaminants without such a notation are emission rates per hour averaged over a twenty-four hour period.

TABLE 2

HAZARDOUS AIR CONTAMINANTS WHICH ARE
PESTICIDES, RODENTICIDES, INSECTICIDES,
HERBICIDES OR FUNGICIDES WITH
ACCEPTABLE AMBIENT CONCENTRATIONS

<u>Contaminants</u>	<u>CAS Number</u>	<u>Emission Rate</u> <u>in Pounds/Hour</u> <u>w/emission points</u>	
		<u>< 25 ft.</u>	<u>> 25 ft.</u>
Aldrin	309-00-2	0.020880	0.086400
Amitrole	61-82-5	0.016560	0.067200
ANTU	86-88-4	0.024000	0.100800
Atrazine	1912-24-9	0.417600	1.752000
Azinphos-methyl	86-50-0	0.016560	0.067200
Benomyl	17804-35-2	0.832800	3.480000
Bromacil	314-40-9	0.832800	3.480000
Captafol	2425-06-1	0.008400	0.033600
Captan	133-06-2	0.417600	1.752000
Carbaryl	63-25-2	0.417600	1.752000
Carbofuran	1563-66-2	0.008400	0.033600
Chlordane	57-74-9	0.040800	0.170400
Chlorinated camphene	8001-35-2	0.040800	0.170400
1-Chloro-1-nitropropane	600-25-9	0.832800	3.480000
Chloropicrin	76-06-2	0.057600	0.240000
Chlorpyrifos	2921-88-2	0.016560	0.067200
Crufomate	299-86-5	0.417600	1.752000
Cyhexatin	13121-70-5	0.417600	1.752000
Demeton	8065-48-3	0.008400	0.033600
Diazinon	333-41-5	0.008400	0.033600
Dibutyl phthalate	84-74-2	0.417600	1.752000
Dichloropropene	542-75-6	0.417600	1.752000
2,2-Dichloropropionic acid	75-99-0	0.499200	2.088000
Dichlorvos	62-73-7	0.084000	0.336000
Dicrotophos	141-66-2	0.020880	0.086400
Dieldrin	60-57-1	0.020880	0.086400
Dinitro-o-cresol	534-52-1	0.016560	0.067200
Dioxathion	78-34-2	0.016560	0.067200
Diquat	85-00-7	0.040800	0.170400
Disulfoton	298-04-4	0.008400	0.033600
Endosulfan	115-29-7	0.008400	0.033600
Endrin	72-20-8	0.008400	0.033600
EPN	2104-64-5	0.040800	0.170400
Ethion	563-12-2	0.033600	0.139200
Fensulfothion	115-90-2	0.008400	0.033600
Fenthion	55-38-9	0.016560	0.067200
Fonofos	944-22-9	0.008400	0.033600
Heptachlor	76-44-8	0.040800	0.170400

<u>Contaminants</u>	<u>CAS Number</u>	<u>Emission Rate in Pounds/Hour w/emission points</u>	
		<u>< 25 ft.</u>	<u>> 25 ft.</u>
Hexachlorobutadiene	87-68-3	0.010520	0.048000
Hexachlorocyclopentadiene	77-47-4	0.008400	0.033600
Methomyl	16752-77-5	0.208800	0.864000
Methyl bromide	74-83-9	1.665600	6.984000
Methyl demeton	8022-00-2	0.040800	0.170400
Methyl parathion	298-00-0	0.016560	0.067200
Mevinphos	7786-34-7	0.008400	0.033600
Monocrotophos	6923-22-4	0.020880	0.086400
Naled	300-76-5	0.249600	1.032000
Paraquat (respirable sizes)	1910-42-5	0.008400	0.033600
Parathion	56-38-2	0.008400	0.033600
Phenothiazine	92-84-2	0.417600	1.752000
Phorate	298-02-2	0.004080	0.017040
Pindone	83-26-1	0.008400	0.033600
Propoxur	114-26-1	0.040800	0.170400
Pyrethrum	8003-34-7	0.417600	1.752000
Quinone	106-51-4	0.033600	0.139200
Rotenone (commercial)	83-79-4	0.417600	1.752000
Sodium fluoroacetate	62-74-8	0.004080	0.017040
Stibine	7803-52-3	0.040800	0.170400
Strychnine	57-24-9	0.012480	0.050400
Sulfotep	3689-24-5	0.016560	0.067200
Sulfuryl fluoride	2699-79-8	1.665600	6.984000
TEPP	107-49-3	0.004080	0.017040
Thiram	137-26-8	0.417600	1.752000
Warfarin	81-81-2	0.008400	0.033600

* The notation (c) indicates those contaminants with ceiling limits which are emission rates averaged over a one-hour period. Those contaminants without such a notation are emission rates per hour averaged over a twenty-four hour period.

TABLE 3

HAZARDOUS AIR CONTAMINANTS WITHOUT
ACCEPTABLE AMBIENT CONCENTRATIONS
REQUIRING APPLICATION OF
A. LOWEST ACHIEVABLE EMISSION RATE FOR SOURCES OF
GROUP A HAZARDOUS AIR CONTAMINANTS,
B. BEST AVAILABLE CONTROL TECHNOLOGY FOR
SOURCES OF
GROUP B HAZARDOUS AIR CONTAMINANTS¹

<u>GROUP A CONTAMINANTS</u>	<u>CAS Number</u>	<u>lbs/year²</u>
4-Aminobiphenyl	92-67-1	25.0
Arsenic and inorganic compounds	7440-38-2	25.0
Asbestos	1332-21-4	25.0
Benzene	71-43-2	300.0
Benzidine	92-87-5	2.0
Bis (chloromethyl) ether(BCME) and technical grade	542-88-1	0.10
Chloromethyl methyl ether(CMME)	107-30-2	0.10
Chromium (VI), water insoluble compounds	7440-47-3	2.0
Coke oven emissions		25.0
2-Naphthylamine	91-59-8	25.0
Nickel subsulfide	12035-72-2	25.0
Vinyl chloride	75-01-4	300.0
<u>Pharmaceuticals (A total of all listed compounds)</u>		25.0
Azathioprine	446-86-6	
N,N-Bis(2-chloroethyl)2-naphthylamine (chloronaphazine)	49-40-31	
1,4 Butanediol dimethanesulphonate(myleran)	55-98-1	
Chlorambucil	305-03-3	
Cyclophosphamide	50-18-0	
Diethylstilbestrol (DES)	56-53-1	
Melphalan	148-82-3	
Mustard Gas	505-60-2	
<u>GROUP B CONTAMINANTS</u>		
Acrylonitrile	107-13-1	25.0
Aflatoxins	1402-68-2	25.0
2-Aminoanthraquinone	117-79-3	250.0
o-Anisidine and o-anisidine hydrochloride	29191-52-4	250.0
Benzotrichloride	98-07-7	250.0
Beryllium and beryllium compounds	7440-41-7	25.0
Cadmium and cadmium compounds	7440-43-9	25.0

<u>GROUP B CONTAMINANTS</u>	<u>CAS Number</u>	<u>lbs/year²</u>
Carbon tetrachloride	56-23-5	25.0
Chloroform	67-66-3	250.0**
p-Cresidine	120-71-8	250.0
Di (2-ethylhexyl) phthalate	117-82-7	250.0
2,4-Diaminoanisole sulfate	39156-41-7	250.0
2,4-Diaminotoluene	95-80-7	250.0
1,2-Dibromo-3-chloropropane(DBCP)	96-12-8	250.0
1,2-Dibromoethane (EDB)	106-93-4	250.0
3,3-Dichlorobenzidine	91-94-1	250.0
1,2-Dichloroethane(EDC)	75-34-3	25.0
Diethyl sulphate	64-67-5	25.0
3,3-Dimethoxybenzidine(ortho-dianisidine)	119-90-4	250.0
1,1-Dimethylhydrazine	57-14-7	250.0
4-Dimethylaminoazobenzene	60-11-7	250.0
3,3-Dimethylbenzidine	119-93-7	250.0
Dimethyl sulfate	77-78-1	25.0
Dimethylcarbamoyl chloride	79-44-7	250.0
1,4-Dioxane	123-91-1	250.0
A-Epichlorohydrin	106-89-8	300.0
Ethylene oxide	75-21-8	25.0
Ethylene thiourea	96-45-7	250.0
Formaldehyde	50-00-0	250.0**
Hexachlorobenzene (HCB)	118-74-1	25.0
Hexamethyl phosphoramidate	680-31-9	250.0
Hydrazine and hydrazine sulfate	302-01-2	250.0
Hydrazobenzene	122-66-7	250.0
Lindane and other hexachlorocyclohexane isomers	58-89-9	25.0
4,4'-Methylenebis(2-chloroaniline) (MDCA)	101-14-4	250.0
4,4'-Methylene-dianiline (and dihydrochloride)	101-77-9	250.0
Methyl iodide	74-88-4	250.0
Nickel compounds other than nickel subsulfide	7440-02-0	250.0
2-Nitropropane	76-46-9	250.0
Polychlorinated biphenyls (PCB)	1336-36-3	0.10
1,3-Propane sultone	1120-71-4	250.0
β-Propiolactone	57-57-8	250.0
Propylenimine	75-55-8	250.0
2,3,7,8 tetrachlorodibenzo-para-dioxin	1746-01-6	0.0001
o-Toluidine	95-53-4	25.0
Thiourea	62-56-6	250.0
Urethane (ethyl carbamate)	51-79-6	250.0

<u>Group B Contaminants</u>	<u>CAS Number</u>	<u>lbs/year²</u>
<u>Polycyclic Organic Matter (A total of all listed compounds)</u>		250.0
Benz (a) anthracene	56-55-3	
Benzo (a) pyrene	50-32-8	
Benzo (b) fluoranthene	205-99-2	
Dibenz (a,h) acridine	226-36-8	
Dibenz (a,j) acridine	224-42-0	
Dibenz (a,h) anthracene	53-70-3	
7H-Dibenzo (c,g) carbazole	194-59-2	
Dibenzo (a,h) pyrene	189-64-0	
Dibenzo (a,i) pyrene	189-55-9	
Ideno (1,2,3-cd)-pyrene	193-39-5	
<u>Pharmaceuticals (A total of all listed compounds)</u>		250.0
Adriamycin	23214-92-8	
Bischloroethyl nitrosourea	154-93-8	
1-(2-chloroethyl)-3 cyclohexyl-1-nitrosourea (CCNU)	1301-47-4	
Dacarbazine	4342-03-4	
Iron dextran complex	9004-66-4	
Mestranol	72-33-3	
Nitrogen Mustards	51-75-2	
Oestradiol	50-28-2	
Oxymetholone	434-07-1	
Phenazopyridine and phenazopyridine hydrochloride	136-40-3	
Phenytoin and sodium salt of phenytoin	57-41-0	
Procarbazine and procarbazine hydrochloride	366-70-1	
Propylthiouracil	51-52-0	
Reserpine	50-55-5	
Streptozotocin	18883-66-4	
Tris (1-azirindinyl) phosphine sulfide	52-24-4	
<u>Nitrosoamines (A total of all listed compounds)</u>		250.0
N-Nitrosodi-n-butylamine	924-16-3	
N-Nitrosodiethanolamine	1116-54-7	
N-Nitrosodiethylamine	55-18-5	
N-Nitrosodimethylamine	62-75-9	
P-Nitrosodipeptylamine	156-10-5	
N-Nitrosodi-n-propylamine	621-64-7	
N-Nitroso-n-ethylurea	759-73-9	
N-Nitroso-n-methylurea	684-93-5	
N-Nitrosomethylvinylamine	4549-40-0	
N-Nitrosomerpholine	59-89-2	
N'-Nitrosornicotine	53759-22-1	
N-Nitrosopiperidine	100-75-4	
N-Nitrosopyrrolidine	930-55.2	
N-Nitrososarcosine	13256-22-9	

1. List of Group A and Group B substances taken from Fourth Annual Report on Carcinogens -- 1985 National Toxicology Program (NTP), U.S. Public Health Service, pursuant to Public Law 95-622.
2. U.S. Environmental Protection Agency Carcinogen Assessment Group (CAG) reported unit risk values as of January 1, 1988 were used in assigning the de minimus emission limit.

**For existing sources, see s. NR 445.05(7).

TABLE 4

HAZARDOUS AIR CONTAMINANTS WITH
ACCEPTABLE AMBIENT CONCENTRATIONS

(For existing sources, compliance with the concentrations in this table shall be achieved by [54 months after the effective date of this rule.]

<u>Contaminants</u>	<u>CAS Number</u>	<u>Emission Rate</u> <u>in Pounds/Hour*</u> <u>w/emission points</u>	
		<u>< 25 ft.</u>	<u>> 25 ft.</u>
<u>ACIDS</u>			
Hydrogen bromide	10035-10-6	0.506400(c)	1.944(c)
Oxalic acid	144-62-7	0.084000	0.336000
<u>INDUSTRIAL GASES</u>			
Diborane	19287-45-7	0.008400	0.033600
Hydrogen sulfide	7783-06-4	1.166400	4.896000
<u>CHEMICAL INTERMEDIATES</u>			
1,3-Dichloro-5,5-dimethyl hydantoin	118-52-5	0.016560	0.067200
4,4-Methylene dianiline	107-77-9	0.067200	0.264000
4-Methoxyphenol	150-76-5	0.417600	1.752000
Acetic anhydride	108-24-7	1.012800(c)	3.936(c)
Anisidine	29191-52-4	0.040800	0.170400
Calcium cyanamide	156-62-7	0.040800	0.170400
Cyanamide	420-04-2	0.165600	0.067200 0.672000
Diazomethane	334-88-3	0.033600	0.139200
2-Diethylaminoethanol	100-37-8	4.164000	17.472
Dinitrotoluene	121-14-2	0.124800	0.504000
Ethylamine	75-04-7	1.500000	6.288000
Ethylenimine	151-56-4	0.084000	0.336000
Glycidol	556-52-5	6.247200	26.232000
Hydrogen peroxide	7722-84-1	0.124800	0.504000
Hydroquinone	123-31-9	0.165600	0.672000
Ketene	463-51-4	0.074400	0.312000
Maleic anhydride	108-31-6	0.084000	0.336000
Methyl 2-cyanoacrylate	137-05-3	0.667200	2.784000
N-isopropylaniline	768-52-5	0.832800	3.480000
Nitroethane	79-24-3	25.816800	108.408
Nitromethane	75-52-5	20.820000	87.432
Nitrotoluene	99-08-1	0.916800	3.840000
P-Nitrochlorobenzene	100-00-5	0.249600	1.032000
P-Phenylene diamine	106-50-3	0.008400	0.033600
Phenyl ether vapor	101-84-8	0.583200	2.448000

0.672000
GFP
year
Carol
Turner

<u>Contaminants</u>	<u>CAS Number</u>	<u>Emission Rate in Pounds/Hour* w/emission points</u>	
		<u>< 25 ft.</u>	<u>> 25 ft.</u>
Phenyl glycidyl ether(PGE)	122-60-1	0.499200	2.088000
Phenyl mercaptan	108-98-5	0.165600	0.672000
Phosgene	75-44-5	0.033600	0.139200
Phosphorus (yellow)	7723-14-0	0.008400	0.033600
Phosphorus oxychloride	10025-87-3	0.050400	0.211200
Phosphorus pentasulfide	1314-80-3	0.084000	0.336000
Phosphorus trichloride	7719-12-2	0.124800	0.504000
Phthalic anhydride	85-44-9	0.499200	2.088000
Potassium hydroxide	1310-58-3	0.100800(c)	0.384(c)
Propylene oxide	75-56-9	4.164000	17.472000
Resorcinol	108-46-3	3.748800	15.744000
Sulfur tetrafluoride	7783-60-0	0.020160(c)	0.0768(c)
Trimellitic anhydride	552-30-7	0.003360	0.013920
Trimethyl benzene	2551-13-7	10.411200	43.704000
Vinyl acetate	108-05-4	2.498400	10.488000
Vinylidene chloride	75-35-4	1.665600	6.984000
m-Toluidine	108-44-1	0.748800	3.144000
o-sec-Butylphenol	89-72-5	2.498400	10.488000
p-tert-Butyltoluene	98-51-1	4.996800	20.976000
<u>FUMIGANT</u>			
Methyl formate	107-31-3	20.820000	87.432000
Perchloromethyl mercaptan	594-42-3	0.067200	0.264000
<u>PLASTICIZING COMPOUND</u>			
Camphor (Synthetic)	76-22-2	0.998400	4.176000
Hydrogenated terphenyls	61788-32-7	0.417600	1.752000
Methyl ethyl ketone peroxide	1338-23-4	0.076800(c)	0.288(c)
Methylene bis (4-cyclohexylisocyanate)	5124-30-1	0.005520(c)	0.02136(c)
Tributyl phosphate	126-73-8	0.208800	0.864000
Triorthocresyl phosphate	78-30-8	0.008400	0.033600
Triphenyl phosphate	115-86-6	0.249600	1.032000
<u>METALS AND COMPOUNDS</u>			
Aluminum Pyro Powders	7429-90-5	0.417600	1.752000
Aluminum Soluble Salts	7429-90-5	0.165600	0.672000
Borates, tetra, sodium salts, pentahydrate	1303-96-4	0.084000	0.336000
Borates, tetra, sodium salts, decahydrate	1303-96-4	0.417600	1.752000

<u>Contaminants</u>	<u>CAS Number</u>	Emission Rate in Pounds/Hour*	
		<u>< 25 ft.</u>	<u>> 25 ft.</u>
Chromium (metal)	7440-47-3	0.040800	0.170400
Chromium (II) compounds, as Cr	7440-47-3	0.040800	0.170400
Cobalt, as Co, metal, dust	7440-48-4	0.004080	0.017040
Copper dust & mists, as Cu	7440-50-8	0.084000	0.336000
Indium	7440-74-6	0.008400	0.033600
Manganese tetroxide	0000-00-0	0.084000	0.336000
Molybdenum, as Mo, soluble compounds	7439-98-7	0.417600	1.752000
Platinum metal	7440-06-4	0.084000	0.336000
Platinum soluble salts, as Pt	7440-06-4	0.000166	0.000672
Rhodium metal	7440-16-6	0.084000	0.336000
Rhodium soluble compounds, as Rh	7440-16-6	0.000840	0.003360
Tellurium and compounds, as Te	13494-80-9	0.008400	0.033600
Thallium soluble compounds, as Tl	7440-28-0	0.008400	0.033600
Tin Oxide & inorganic compounds, except SnH4, as Sn	7440-31-5	0.165600	0.672000
Tin (metal)	7440-31-5	0.165600	0.672000
Tungsten - as W, soluble compounds	7440-33-7	0.084000	0.336000
Tungsten - as W, insoluble compounds	7440-33-7	0.417600	1.752000
Uranium (natural) soluble & insoluble, as U	7440-61-1	0.016560	0.006720 0.067200
Zirconium compounds, as Zr	7440-67-2	0.417600	1.752000

*Off
per
Carol
Turner*

MONOMERS

2-Hydroxypropyl acrylate	999-61-1	0.249600	1.032000
2-N-Dibutylaminoethanol	102-81-8	1.166400	4.896000
Caprolactam Vapor	105-60-2	1.665600	6.984000
Carbon tetrabromide	558-13-4	0.117600	0.480000
Carbonyl fluoride	353-50-4	0.417600	1.752000
B-Chloroprene	126-99-8	3.748800	15.744000
Cyclopentadiene	542-92-7	16.656000	69.936000
Divinyl benzene	108-57-6	4.164000	17.472000
Isopropylamine	75-31-0	0.998400	4.176000
Methacrylic acid	79-41-4	5.829600	24.480000
Sulfur monochloride	10025-67-9	0.304800(c)	1.176(c)
Xylidine	1300-73-8	0.832800	3.480000
a-Methyl styrene	98-83-9	19.987200	83.928000
o-Methylcyclohexanone	583-60-8	19.154400	80.448000

<u>Contaminants</u>	<u>CAS Number</u>	Emission Rate in Pounds/Hour*	
		w/emission points < 25 ft.	> 25 ft.
<u>SOLVENTS</u>			
1,2,3-Trichloropropane	96-18-4	24.984000	104.928
2-Butoxyethanol	111-76-2	9.993600	41.952000
2-Ethoxyethyl acetate	111-15-9	2.248800	9.432000
2-Methoxyethyl acetate	110-49-6	1.999200	8.376000
Cumene	98-82-8	20.404800	85.680000
Cyclohexanol	108-93-0	16.656000	69.936000
Diacetone alcohol	123-42-2	19.987200	83.928000
Diisobutyl ketone	108-83-8	12.492000	52.464000
Dimethyl acetamide	127-19-5	2.916000	12.240000
Dimethylformamide	68-12-2	2.498400	10.488000
Ethyl amyl ketone	541-85-5	10.826400	45.456000
Ethyl butyl ketone	106-35-4	19.154400	80.448000
Furfuryl alcohol	98-00-0	3.331200	13.968000
Hexylene glycol	107-41-5	6.331200(c)	24.552(c)
Isooctyl alcohol	26952-21-6	22.485600	94.416000
Isopropoxyethanol	109-59-1	8.745600	36.720000
Isopropyl glycidyl ether	4016-14-2	19.987200	83.928000
Mesityl oxide	141-79-7	4.996800	20.976000
Methyl isoamyl ketone	110-12-3	19.987200	83.928000
Methyl isobutyl carbinol	108-11-2	8.328000	34.968000
Methyl n-amyl ketone	110-43-0	19.572000	82.200000
Methylcyclohexanol	25639-42-3	19.572000	82.200000
O-Chlorotoluene	95-49-8	20.820000	87.432000
Propylene dichloride	78-87-5	29.148000	122.4
Stoddard solvent (mineral spirits)	8052-41-3	43.723200	183.624
Vinyl toluene	25013-15-4	19.987200	83.928000
m-Xylene a, a'-diamine	1477-55-0	0.005040(c)	0.01944(c)
n-Butyl lactate	138-22-7	2.083200	8.736000
sec-Hexyl acetate	108-84-9	24.984000	104.928
<u>CHEMICAL WARFARE AGENTS</u>			
Cyanogen chloride	506-77-4	0.031200(c)	0.12(c)
<u>FLAVORS AND FRAGRANCES</u>			
1,1-Dichloro-1-nitroethane	594-72-9	0.832800	3.480000
n-Valeraldehyde	110-62-3	14.575200	61.200000

<u>Contaminants</u>	<u>CAS Number</u>	<u>Emission Rate in Pounds/Hour*</u>	
		<u>w/emission points < 25 ft.</u>	<u>> 25 ft.</u>
<u>CATALYSTS AND REAGENTS</u>			
Benzoyl peroxide	94-36-0	0.417600	1.752000
Boron tribromide	10294-33-4	0.506400(c)	1.944(c)
Boron trifluoride	7637-07-2	0.151200(c)	0.576(c)
Bromine pentafluoride	7789-30-2	0.057600	0.240000
Catechol (Pyrocatechol)	120-80-9	1.665600	6.984000
Cesium hydroxide	21351-79-1	0.165600	0.672000
Diisopropylamine	108-18-9	1.665600	6.984000
N-Ethylmorpholine	100-74-3	1.915200	8.040000
Phosphorus pentachloride	10026-13-8	0.084000	0.336000
Thionyl chloride	7719-09-7	0.254400(c)	0.984(c)
<u>GENERAL USE CHEMICALS</u>			
Calcium hydroxide	1305-62-0	0.417600	1.752000
Carbon black	1333-86-4	0.290400	1.200000
Chlorinated diphenyl oxide	55720-99-5	0.040800	0.170400
Chlorine trifluoride	7790-91-2	0.020160(c)	0.0768(c)
Chromyl chloride	14977-61-8	0.012480	0.050400
Diethylene triamine	111-40-0	0.333600	1.392000
Ethanolamine	141-43-5	0.667200	2.784000
Ethyl silicate	78-10-4	7.080000	29.736000
Ethylidene norbornene	16219-75-3	1.267200(c)	4.896(c)
Germanium tetrahydride	7782-65-2	0.050400	0.211200
Hexachloronaphthalene	1335-87-1	0.016560	0.067200
Iodine	7553-56-2	0.050400(c)	0.1944(c)
Iron salts, soluble, as Fe		0.084000	0.336000
Morpholine	110-91-8	5.829600	24.480000
o-Chlorostyrene	1331-28-8	23.736000	99.672000
Octachloronaphthalene	2234-13-1	0.008400	0.033600
Pentachloronaphthalene	1321-64-8	0.040800	0.170400
Silicon tetrahydride (Silane)	7803-62-5	0.583200	2.448000
Sodium bisulfite	7631-90-5	0.417600	1.752000
Sodium hydroxide	1310-73-2	0.100800(c)	0.384(c)
Terphenyls	26140-60-3	0.254400(c)	0.984(c)
Tetrachloronaphthalene	1335-88-2	0.165600	0.672000
Trichloronaphthalene	1321-65-9	0.417600	1.752000
n-Butyl glycidyl ether (BGE)	2426-08-6	11.244000	47.208000
tert-Butyl chromate, as CrO3	1189-85-1	0.005040(c)	0.01944(c)

C. D. Turner
per
Carl Turner

<u>Contaminants</u>	<u>CAS Number</u>	Emission Rate in Pounds/Hour*	
		<u>w/emission points < 25 ft.</u>	<u>> 25 ft.</u>
<u>SUPPLEMENTAL LIST OF CHEMICALS</u>			
Calcium oxide *	1305-78-8	0.165600	0.672
Cyanogen	460-19-5	1.665600	6.984000
Dicyclopentadiene	77-73-6	2.498400	10.488000

* The notation (c) indicates those contaminants with ceiling limits which are emission rates averaged over a one-hour period. Those contaminants without such a notation are emission rates per hour averaged over a twenty-four hour period.

SECTION 23. NR 445.05 is created to read:

NR 445.05 EMISSION LIMITS FOR EXISTING SOURCES. (1) TABLE 1

SUBSTANCES. Except as provided in par. (c), no owner or operator of a stationary source on which construction or modification last commenced on or before the effective date of this rule . . . [revisor inserts date] . . . may cause, allow or permit emissions from the source of a hazardous air contaminant listed in Table 1 of s. NR 445.04 in such quantity or duration as to cause ambient air concentrations off the source's property which exceed the limits in par. (a) or (b).

(a) 24-hour. 1. Two and four-tenths percent (2.4%) of the threshold limit value - time weighted average established by the American conference of governmental industrial hygienists in the threshold limit values and biological exposure indices for 1987-1988, incorporated by reference in ch. NR 484, for any consecutive 24-hour averaging period; or

2. Ten percent (10%) of the threshold limit value - time weighted average established by the American conference of governmental industrial hygienists in the threshold limit values and biological exposure indices for 1987-1988, incorporated by reference in ch. NR 484, for any 24-hour averaging period if the hazardous air contaminant is emitted no more than 5 days in any consecutive 30-day period and if the department determines after complying with s. NR 445.06(1) that such limits will not pose a threat to public health or welfare.

(b) One-hour. Ten percent (10%) of the threshold limit value - ceiling established by the American conference of governmental industrial hygienists

in the threshold limit values and biological exposure indices for 1987-1988, incorporated by reference, in ch. NR 484, for any one-hour averaging period.

(c) Exemptions. The following emissions are exempt from the emission limits of Table 1 substances:

1. Emissions from the combustion of group 1 virgin fossil fuels.

2. Emissions from the combustion of group 2 virgin fossil fuels vented from a stack which has downwash minimization stack height or a height approved by the department.

3. Emissions from a laboratory.

4. Indoor fugitive emissions.

(2) TABLE 2 SUBSTANCES. Except as provided in par. (c), no owner or operator of a stationary source on which construction or modification last commenced on or before the effective date of this rule . . . [revisor inserts date] . . . and which manufactures or processes pesticides, rodenticides, insecticides, herbicides or fungicides may cause, allow or permit emissions from the source of a hazardous air contaminant listed in Table 2 of s. NR 445.04 in such quantity or duration as to cause ambient air concentrations which exceed the limits in par. (a) or (b).

(a) 24-hour. Two and four-tenths percent (2.4%) of the threshold limit value - time weighted average established by the American conference of governmental industrial hygienists in the threshold limit values and biological exposure indices for 1987-1988, incorporated by reference in ch. NR 484, for any 24-hour averaging period.

(b) One-hour. Ten percent (10%) of the threshold limit value - ceiling established by the American conference of governmental industrial hygienists

in the threshold limit values and biological exposure indices for 1987-1988, incorporated by reference in ch. NR 484, for any one-hour averaging period.

(c) Exemptions. The following emissions are exempt from the emission limits of Table 2 substances:

1. Emissions from a laboratory.
2. Indoor fugitive emissions.

(3) TABLE 3 SUBSTANCES. (a) Group A. Except as provided in par. (c), the owner or operator of any facility on which construction or modification last commenced on or before the effective date of this rule . . . [revisor inserts date] . . . and which emits any hazardous air contaminant listed in group A of Table 3 of s. NR 445.04 in amounts greater than those listed in group A of Table 3 of s. NR 445.04 shall control emissions of those hazardous air contaminants to a level which is the lowest achievable emission rate. The lowest achievable emission rate shall be met by the emissions unit at the facility which emits the greatest amount of the hazardous air contaminant. If application of the lowest achievable emission rate to this emissions unit does not reduce facility emissions of the hazardous air contaminant to a level less than the rate listed in group A of Table 3 of s. NR 445.04 for the hazardous air contaminant, then the lowest achievable emission rate shall be met by other emissions units at the facility which emit decreasingly smaller amounts of the hazardous air contaminant until emissions from the facility are below the emission rate listed in group A of Table 3 of s. NR 445.04 or until all emissions units at the facility which emit at least 10% of the rate listed in group A of Table 3 of s. NR 445.04 for the hazardous air contaminant have met the lowest achievable emissions rate. If application of lowest achievable

emissions rate to these emissions units does not result in the control of at least 50% of the potential emissions of the hazardous air contaminant from the facility, then the department may require application of lowest achievable emission rate on a reasonable array of smaller emissions units which emit the hazardous air contaminant.

(b) Group B. Except as provided in par. (c), the owner or operator of any facility on which construction or modification last commenced on or before the effective date of this rule . . . [revisor inserts date] . . . and which emits any hazardous air contaminant listed in group B of Table 3 of s. NR 445.04 in amounts greater than those listed in group B of Table 3 of s. NR 445.04 shall control emissions of those hazardous air contaminants to a level which is the best available control technology. The best available control technology shall be met by the emissions unit at the facility which emits the greatest amount of the hazardous air contaminant. If application of the best available control technology to this emissions unit does not reduce facility emissions of the hazardous air contaminant to a level less than the rate listed in group B of Table 3 of s. NR 445.04 for the hazardous air contaminant, then best available control technology shall be met by other emissions units at the facility which emit decreasingly smaller amounts of the hazardous air contaminant until emissions from the facility are below the emission rate listed in group B of Table 3 of s. NR 445.04 or until all emissions units at the facility which emit at least 10% of the rate listed in group B of Table 3 of s. NR 445.04 for the hazardous air contaminant have met best available control technology. If application of best available control technology to these emissions units does not result in the control of at least

50% of the potential emissions of the hazardous air contaminant from the facility, then the department may require application of best available control technology on a reasonable array of smaller emissions units which emit the hazardous air contaminant.

(c) Exemptions. The following emissions are exempt from the emission limits for Table 3 of s. NR 445.04 substances:

1. Emissions from the combustion of group 1 virgin fossil fuels.
2. Emissions from the combustion of group 2 virgin fossil fuels vented from a stack which has downwash minimization stack height or a height approved by the department.
3. Emissions from a laboratory.
4. Emissions from any gasoline dispensing facility which meets the requirements of s. NR 420.04(3)(b) to (i) and which in 1986 dispensed less than 2 million gallons of gasoline a year or can otherwise demonstrate to the satisfaction of the department that it did not exceed an emission limitation for a hazardous air contaminant contained in Table 3 of s. NR 445.04.
5. Emissions from any gasoline dispensing facility which does not meet the requirements of s. NR 420.04(3)(b) to (i) and which in 1986 dispensed less than 1.25 million gallons of gasoline a year or can otherwise demonstrate to the satisfaction of the department that it did not exceed an emission limitation for a hazardous air contaminant in Table 3 of s. NR 445.04.
6. Emissions from the combustion of wood by combustion units which operate with good combustion technology. Good combustion technology means that technology which provides for a minimization of emissions of hazardous

air contaminants listed on Table 3 of s. NR 445.04. Good combustion technology will be determined on an individual case-by-case basis by the department, taking into account the fuel to be burned, the economic and environmental impacts of the combustion, and other costs related to the source. Good combustion technology may include, but is not limited to, consideration of such factors as temperature, residence time, carbon monoxide emissions, excess oxygen, and turbulence.

7. Indoor emissions which are exhausted to the ambient air through general building ventilation and which have a threshold limit value established by the American conference of governmental and industrial hygienists and for which the source demonstrates to the department that it is in compliance with applicable occupational safety and health administration requirements.

(4) TABLE 4 SUBSTANCES. Except as provided in par. (c), as of 36 months after the effective date of this rule . . . [revisor inserts date] . . . no owner or operator of a stationary source on which construction or modification last commenced on or before the effective date of this rule . . . [revisor inserts date] . . . may cause, allow or permit emissions from the source of a hazardous air contaminant listed in Table 4 of s. NR 445.04 in such quantity or duration as to cause ambient air concentrations which exceed the limits in par. (a) or (b).

(a) 24-hour. 1. Two and four-tenths percent (2.4%) of the threshold limit value - time weighted average established by the American conference of governmental industrial hygienists in the threshold limit values and biological exposure indices for 1987-1988, incorporated by reference in ch. NR 484, for any consecutive 24-hour averaging period; or

2. Ten percent (10%) of the threshold limit value - time weighted average established by the American conference of governmental industrial hygienists in the threshold limit values and biological exposure indices for 1987-1988, incorporated by reference in ch. NR 484, for any 24-hour averaging period if the hazardous air contaminant is emitted no more than 5 days in any consecutive 30-day period and if the department determines under s. NR 445.06(1) that such limits will not pose a threat to public health or welfare.

(b) One-hour. Ten percent (10%) of the threshold limit value - ceiling established by the American conference of governmental industrial hygienists in the threshold limit values and biological exposure indices for 1987-1988, incorporated by reference in ch. NR 484, for any one-hour averaging period.

(c) Exemption. The following emissions are exempt from the emission limits for the hazardous air contaminants listed in Table 4 of s. NR 445.04:

1. Emissions from the combustion of group 1 virgin fossil fuels.
2. Emissions from the combustion of group 2 virgin fossil fuels vented from a stack which has downwash minimization stack height or a height approved by the department.
3. Emissions from a laboratory.
4. Indoor fugitive emissions.

(5) INCINERATORS. Any owner or operator of a stationary source on which construction or modification last commenced on or before the effective date of this rule . . . [revisor inserts date] . . . and which combusts municipal solid waste as defined in s. NR 500.03(86) or infectious waste shall comply with sub. (1) and shall control emissions of hazardous air contaminants listed

in Table 3 of s. NR 445.04 to a level which is the lowest achievable emission rate. A source which combusts refuse derived fuel in a boiler and obtains less than 50% of its heat input from the refuse derived fuel is not subject to this subsection.

(6) COMPLIANCE REQUIREMENTS. Any source whose allowable emissions of any hazardous air contaminant in Table 1, 2, 3 or 4 of s. NR 445.04 is equal to or greater than the emission rate listed in the table for the hazardous air contaminant for the respective stack height and any incinerator subject to sub. (5) shall achieve compliance with the emission limits of this section according to the compliance schedules in this subsection.

(a) Compliance schedule for Tables 1, 2 and 3. 1. The owner or operator of any facility whose actual emissions of volatile organic compounds or particulate matter for calendar year 1986 exceeded 100 tons shall:

a. Notify the department's bureau of air management in writing by 3 months of the effective date of this rule . . . [revisor inserts date] . . . which of the hazardous air contaminants in Tables 1 to 3 of s. NR 445.04 the source is capable of emitting and the allowable emissions of each hazardous air contaminant in the tables by the source;

b. Submit to the department by 6 months of the effective date of this rule . . . [revisor inserts date] . . . a compliance plan for achieving compliance with subs. (1) to (3); and

c. Achieve final compliance with subs. (1) to (3) by 18 months of the effective date of this rule . . . [revisor inserts date] . . . if compliance consists of measures other than installation of control equipment (e.g., material substitution), or by 30 months of the effective date of this

rule . . . [revisor inserts date] . . . if compliance requires installation of control equipment.

2. The owner or operator of any facility whose actual emissions for calendar year 1986 of volatile organic compounds and of particulate matter were less than 100 tons for each of the 2 air contaminants, but whose annual allowable emissions of any air contaminant for which an ambient air quality standard has been promulgated under section 109 of the federal clean air act exceeds 100 tons shall:

a. Notify the department's bureau of air management in writing by 8 months of the effective date of this rule . . . [revisor inserts date] . . . which of the hazardous air contaminants in Tables 1 to 3 of s. NR 445.04 the source is capable of emitting and the allowable emissions of each substance in the tables by the source;

b. Submit to the department by 12 months of the effective date of rule . . . [revisor inserts date] . . . a compliance plan for achieving compliance with subs. (1) to (3); and

c. Achieve final compliance with subs. (1) to (3) by 24 months of the effective date of this rule . . . [revisor inserts date] . . . if compliance consists of measures other than installation of control equipment (e.g., material substitution), or by 36 months of the effective date of this rule . . . [revisor inserts date] . . . if compliance requires installation of control equipment.

3. The owner or operator of any facility whose annual allowable emissions of each air contaminant for which an ambient air quality standard has been promulgated under section 109 of the federal clean air act is 100 tons or less shall:

a. Notify the department's bureau of air management in writing by 14 months of the effective date of this rule . . . [revisor inserts date] . . . which of the hazardous air contaminants in Tables 1 to 3 of s. NR 445.04 the source is capable of emitting and the allowable emissions of each substance in the tables by the source;

b. Submit to the department by 18 months of the effective date of rule . . . [revisor inserts date] . . . a compliance plan for achieving compliance with subs. (1) to (3); and

c. Achieve final compliance with subs. (1) to (3) by 30 months of the effective date of this rule . . . [revisor inserts date] . . . if compliance consists of measures other than installation of control equipment (e.g., material substitution), or by 42 months of the effective date of this rule . . . [revisor inserts date] . . . if compliance requires installation of control equipment.

(b) Compliance schedule for Table 4. The owner or operator of any source subject to sub. (4) shall:

1. Notify the department's bureau of air management in writing by 18 months of the effective date of this rule . . . [revisor inserts date] . . ., which of the hazardous air contaminants in Table 4 of s. NR 445.04 the source is capable of emitting and the allowable emissions of each hazardous air contaminant in the table by the source;

2. Submit to the department by 42 months of the effective date of this rule . . . [revisor inserts date] . . . a compliance plan for achieving compliance with sub. (4); and

3. Achieve final compliance with sub. (4) by 54 months of the effective date of this rule . . . [revisor inserts date] . . . if compliance consists of measures other than installation of control equipment (e.g., material substitution), or by 66 months of the effective date of this rule . . . [revisor inserts date] . . . if compliance requires installation of control equipment.

(c) Department review. The department shall review any compliance plan submitted under par. (a) to determine whether the control technology is adequate. Department approval, conditional approval, or disapproval of any compliance plan shall be completed within 6 months after the applicable deadline date provided in par. (a)1.b., 2.b. or 3.b. If the department does not complete its review and approve, disapprove or conditionally approve a source's compliance plan within 6 months after the applicable deadline date provided in par. (a)1.b., 2.b. or 3.b., the source's compliance requirements under par. (a)1.c., 2.c. or 3.c. shall be extended by 6 additional months.

(d) Demonstration of compliance. For the purpose of demonstrating compliance with this section:

1. The owner or operator of a source may rely on information on an approved material safety data sheet if the approved material safety data sheet lists a hazardous air contaminant listed in Tables 1 to 4 of s. NR 445.04 and the hazardous air contaminant listed in Table 1, 2 or 4 of s. NR 445.04 constitutes 10,000 parts per million or more of the material or the hazardous air contaminant listed in Table 3 of s. NR 445.04 constitutes 1,000 parts per million or more of the material. If an approved material safety data sheet for a material is not classified as proprietary and does not list a hazardous

air contaminant in Tables 1 to 4 of s. NR 445.04 at or above the amounts listed in this paragraph, that material will be presumed not to result in emissions of a hazardous air contaminant unless a hazardous air contaminant is formed in processing of the material.

2. The owner or operator of a source may rely upon mass balance or other use, consumption and analytical methodologies for calculating potential emissions. However, the department may require that a stack test be conducted to affirm the accuracy of emission estimations.

3. The owner or operator of a source is not required to consider indoor fugitive emissions in calculating emissions of any hazardous air contaminant in Table 1, 2 or 4 of s. NR 445.04.

4. The department shall allow credit for the emission reduction capability of in-place emission control devices.

5. The owner or operator of a source may demonstrate compliance with the emission limitations of sub. (1), (2) or (4) by demonstrating that the concentration of the hazardous air contaminant in Table 1, 2 or 4 of s. NR 445.04 in the stack is less than the ambient concentration allowed under sub. (1), (2) or (4).

6. The owner or operator of a source is not required to consider emissions resulting directly from naturally occurring constituents in windblown soil.

(e) Subsequent requirements. The owner or operator of a source which has achieved compliance with this section by installing emission control equipment may not be required to install additional control equipment to achieve compliance with this section for a period of 10 years after the installation

of the control equipment or the useful life of the control equipment as determined by the department, whichever is less. For the purpose of this paragraph, increasing stack height, other dilution measures, or material reformulations may not be construed as installation of control equipment. Material reformulation which requires substantial capital expenditures for process equipment which was made with prior department approval and which results in a reduction of emissions of hazardous air contaminants which is sufficient to comply with the limitations of s. NR 445.05, may be construed as installation of control equipment under this paragraph.

(f) Compliance extensions. 1. The department may, at the request of the owner or operator of a source, grant an extension of any compliance deadline in par. (a) for a period not to exceed 6 months.

2. The owner or operator of a source which has achieved compliance with the emission limits for the hazardous air contaminants in Tables 1 to 3 of s. NR 445.04 under subs. (1) to (3) by installing emission control equipment, may apply for, and the department may grant, an extension of the schedule for submitting a compliance plan and deadline for achieving compliance with an emission limitation in par. (b) for the earlier of 102 months after the effective date of this rule . . . [revisor inserts date] . . . or the useful life of the control equipment installed to meet the provisions of subs. (1) to (3), as determined by the department. For the purposes of this paragraph, increasing stack height, other dilution measures, or material reformulation may not be construed as installation of control equipment. Material reformulation which requires substantial capital expenditures for process equipment which was made with prior department approval and which results in a

reduction of emissions of hazardous air contaminants which is sufficient to comply with the limitations of s. NR 445.05, may be construed as installation of control equipment under this subdivision. An extension may be granted under this subdivision if the applicant demonstrates to the satisfaction of the department that compliance with par. (b) would be economically infeasible and the department finds that the residual emissions would not pose a threat to public health and would not cause significant public harm.

3. Notwithstanding the compliance deadlines in par. (a)1.c., 2.c. and 3.c., if the department is required to review a source's compliance plan under par. (c), the source shall achieve final compliance with subs. (1) to (3):

a. Within 12 months after the department completes its review of the source's compliance plan under par. (c), if compliance consists of measures other than installation of control equipment; or

b. Within 24 months after the department completes its review of the source's compliance plan under par. (c), if compliance requires installation of control equipment.

(g) Compliance schedule for wastewater treatment facilities. The owner or operator of any wastewater treatment facility shall:

1. Notify the department's bureau of air management in writing by 14 months of the effective date of this rule . . . [revisor inserts date] . . ., which of the hazardous air contaminants in Tables 1, 3 and 4 of s. NR 445.04 the source is capable of emitting and the allowable emissions of each hazardous air contaminant in the table by the source;

2. Submit to the Department by 42 months of the effective date of this rule . . . [revisor inserts date] . . . a compliance plan for achieving compliance with subs. (1), (3), and (4); and

3. Achieve final compliance with subs. (1), (3), and (4) by 54 months of the effective date of this rule . . . [revisor inserts date] . . . if compliance consists of measures other than installation of control equipment (e.g., material substitution), or by 66 months of the effective date of this rule . . . [revisor inserts date] . . . if compliance requires installation of control equipment.

(7) CHLOROFORM AND FORMALDEHYDE STUDY AND COMPLIANCE REQUIREMENTS.

(a) The department staff shall, after consultation with the department of health and social services within 24 months of the effective date of this rule . . . [revisor inserts date] . . ., undertake and complete a study of the emissions of chloroform and formaldehyde. The study shall include an inventory of sources and amount of emissions of chloroform and formaldehyde in Wisconsin, and the control technologies available to control emissions of chloroform and formaldehyde. The department staff shall submit a report of its study to the natural resources board within 27 months of the effective date of this rule . . . [revisor inserts date]

(b) The owner or operator of any source subject to sub. (3) which emits chloroform or formaldehyde in amounts greater than those listed in Group B of Table 3 of s. NR 445.04 for chloroform or formaldehyde shall:

1. Notify the departments' bureau of air management in writing by 14 months of the effective date of this rule . . . [revisor inserts date] . . . that the source is capable of emitting chloroform or formaldehyde and the allowable emission of chloroform or formaldehyde by the source;

2. Submit to the department by 42 months of the effective date of this rule . . . [revisor inserts date] . . . a compliance plan for achieving compliance with the emission limits under sub. (3) for chloroform and

formaldehyde; and

3. Achieve final compliance with the emission limits under sub. (3) for chloroform and formaldehyde by 54 months of the effective date of this rule . . . [revisor inserts date] . . . if compliance consists of measures other than installation of control equipment (e.g., material substitution), or by 66 months of the effective date of this rule . . . [revisor inserts date] . . . if compliance requires installation of control equipment.

(8) VARIANCE. The owner or operator of a source may apply for and the department may grant a variance from an emission limitation of sub. (3)(a) or (5) if the applicant demonstrates to the satisfaction of the department that compliance with sub. (3)(a) or (5) would be economically infeasible, and that residual emissions of the hazardous air contaminant in question would not cause significant harm to the environment or public health, and the source's emissions are controlled to a level which is the best available control technology. The department shall publish a notice of and hold a public hearing on any preliminary determination to approve a variance request under this subsection. The department shall grant or deny a variance request within 90 business days after the close of the public hearing on the request. The department shall review any variance granted under this subsection on a 5 year basis. Following its review and after notice and an opportunity for a public hearing and public comment, the department may modify, extend or rescind the variance.

SECTION 24. NR 445.06 is created to read:

NR 445.06 HAZARDOUS AIR CONTAMINANT REVIEW. (1) The department staff shall consult with the department of health and social services prior to incorporating an emission limit under s. NR 445.04(1)(a)2. or 445.05(1)(a)2.

in an order or a permit.

(2) The department shall, after consultation with the department of health and social services, submit a report to the natural resources board which contains recommended acceptable ambient concentrations for the hazardous air contaminants listed in Table 4 of s. NR 445.04 by 2 years of the effective date of this rule . . . [revisor inserts date] Unless a specific acceptable ambient concentration is recommended for a hazardous air contaminant, the acceptable ambient concentration for each hazardous air contaminant shall be the limits specified in s. NR 445.05(4)(a) and (b).

(3) The department shall monitor changes in the classifications of hazardous air contaminants in Tables 1 to 4 of s. NR 445.04 as reported by the American conference of governmental industrial hygienists, the United States environmental protection agency, the international agency for research on cancer, and the national toxicology program and shall prepare rule modifications to the tables to incorporate these changes. The department shall presume that any hazardous air contaminant which is included on a list of known or suspected carcinogens by both the international agency for research on cancer and the national toxicology program is a hazardous air contaminant which should be listed in Table 3 of s. NR 445.04. This presumption may be overcome for adding or removing contaminants to or from Table 3 of s. NR 445.04 if the greater weight of the evidence demonstrates the presumption is incorrect.

(4) The department staff shall consult with the department of health and social services prior to establishing an emission limit for any hazardous air contaminant in a permit or order for any hazardous air contaminant which is not listed in Table 1, 2, 3 or 4 of s. NR 445.04 or in threshold limit values

and biological exposure indices for 1987-1988 adopted by the American conference of governmental industrial hygienists, incorporated by reference in ch. NR 484.

(5) The department staff shall with the cooperation of affected industrial and municipal wastewater treatment facilities, within 24 months of the effective date of this rule . . . [revisor inserts date] . . ., undertake and complete a study of the types and quantities of hazardous air contaminants emitted from wastewater treatment facilities and emission control techniques applicable to hazardous air contaminants emitted from wastewater treatment facilities. The department staff shall submit a report of its study to the natural resources board within 27 months of the effective date of this rule . . . [revisor inserts date] . . .

SECTION 25. NR 484.05 is created to read:

NR 484.05 MATERIALS IN CHAPTER NR 445. The threshold limit values and biological exposure indices for 1987-1988 published by the American conference of governmental industrial hygienists (publication ISBN:0-936712-72-4) are incorporated by reference in ss. NR 445.04(1)(a)1. and 2. and (b) and (2)(a) and (b), 445.05(1)(a)1. and 2. and (b) and (2)(a) and (b) and 445.06(4). The materials are available for inspection in the offices of the department of natural resources, secretary of state and revisor of statutes, Madison, Wisconsin or may be purchased for personal use at the following address: American Conference of Governmental Industrial Hygienists (ACGIH), 6500 Glenway Avenue, Cincinnati, Ohio 45211.

The foregoing rule was approved and adopted by the State of Wisconsin Natural Resources Board on May 26, 1988.

The rule shall take effect the first day of the month following publication in the Wisconsin administrative register as provided in s. 227.22(2)(intro.), Stats.

Dated at Madison, Wisconsin August 3, 1988.

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

By Carroll D. Besadny
Carroll D. Besadny, Secretary

(SEAL)

9013S
5/31/88



State of Wisconsin

DEPARTMENT OF NATURAL RESOURCES

Carroll D. Besadny
Secretary

August 4, 1988

1020

Mr. Orlan L. Prestegard
Revisor of Statutes
Suite 702
30 W. Mifflin Street

RECEIVED

AUG 5 1988

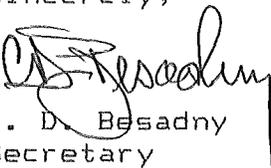
Revisor of Statutes
Bureau

Dear Mr. Prestegard:

Enclosed are two copies, including one certified copy, of State of Wisconsin Natural Resources Board Order No. AM-9-87. These rules were reviewed by the Assembly Committee on Environmental Resources and Utilities and the Senate Committee on Urban Affairs, Energy, Environmental Resources and Elections pursuant to s. 227.19, Stats. A summary of the final regulatory flexibility analysis and comments of the legislative review committees is also enclosed.

You will note that this order takes effect following publication. Kindly publish it in the Administrative Code accordingly.

Sincerely,


C. D. Besadny
Secretary

Enc.